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Inside Arcadia

An immersive, virtual phantasmagoria

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An exegesis written in partial completion of a PhD degree in Creative Practice at Massey University, College of Creative Arts, 2022.

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Abstract

This research explores Mātiu/Somes Island's colonial past in the context of the Covid-19 pandemic. The exhibition project, *Inside Arcadia*, is a hybrid of sculptural installation, performance design and an immersive virtual reality; the latter a 360° digital scenography of Mātiu/Somes Island's historic quarantine and defence sites. These features are experienced interconnectedly while wearing a stereoscopic Head Mounted Display (HMD). The research underpinning *Inside Arcadia*'s three exhibitions focuses on technological spectralities – the phantom experience of virtual disembodiment wearing the HMD. This discussion relates to defining how these VR digital scenographies comprise a 'quarantine gothic'. The work of noted academics specialising in video game studies ontology is considered, including Espin Aarseth's notion of virtual space as an allegory of space and Grant Tavinor's discussion of IVR as a novel medium. European cultural contexts identify allegory as simply describing one thing by pointing to another, related thing, e.g., Elizabeth M. DeLoughrey's deployment of allegory referencing Walter Benjamin's notions of history and ruin. *Inside Arcadia* recontextualises this in Aotearoa/New Zealand as a gothic mode – a site-specific, digitally layered 360° mediation of historic animal and human quarantine and defence sites. *Inside Arcadia* also references a quarantine gothic, acknowledging the historic exclusion of Taranaki Whānui from cultural and ecological relations with Mātiu/Somes Island. Terry Castle's interpretation of allegory as phantasmagoria or exhibiting ghosts in public is identified as having a key role conceptually and technologically in linking this past with the COVID-19 pandemic. This context is critical to understanding the role of *Inside Arcadia*'s HMD technology mediating a ghostly digital avatar whilst leaving a material trace of footprints on the chalk-floor installation. My argument above is demonstrated through *Inside Arcadia*'s three exhibitions. To help contextualise the field, this research references the works of Lisa Reihana (Ngāpuhi - Ngāti Hine, Ngāi Tu-Te Auru), Brett Graham (Ngāti Koroki Kahukura, Tainui), Sven Mehzoud and Stuart Foster regarding the historical European colonising gaze toward Aotearoa/New Zealand. The installation of my work at separate local sites contributes to understanding spatial porosity and spatial layering wearing the HMD, an action performing a ghostly avatar. These distinctions are demonstrated through extended analysis in the final section to this exegesis. As sustained throughout my creative research, wearing the HMD mediates *Inside Arcadia*'s layers of virtual space within its physical installation. When considered part of this site-specific palimpsest, *Inside Arcadia* emerges as an allegory of Mātiu/Somes Island's colonial past, the haunting echo of a quarantine gothic returned amidst the Covid-19 pandemic.

Introduction

Inside Arcadia: A quarantine gothic



(fig. 1) Doidge, M. (2021). *Inside Arcadia*. Left. 6 x 3 m chalked floor, The Engine Room Gallery. Right, water shader 'wave' from *Phantasmagoria: The bunker*. [HMD screenshot of water shader wave]. Courtesy the artist.

What does it mean to place a box on your head and become immersed as a virtual ghost within an uncanny digital scenography¹? (fig. 1). Essentially, my creative research, *Inside Arcadia*, is an examination of this provocation². The outputs of the PhD are an immersive virtual reality (IVR) installation and public exhibitions in related sites. This exegesis provides context for my research and explains the new contributions my practice has made.

There are three principal contexts underpinning my practice:

1. The representation of a 'quarantine gothic' through a four-part digital scenography in immersive, virtual reality (IVR). This work is based on historic quarantine and defence sites found on Mātiu/Somes Island, located in the middle of Te Whanganui-a-Tara/Wellington harbour.
2. Comprehending a quarantine gothic as a viewer's stereoscopic experience of virtual disembodiment using a Vive Head Mounted Display (HMD).
3. The physical installation and performance of a quarantine gothic exhibited as *Inside Arcadia* across related exhibition sites.

The term 'quarantine gothic' is of central importance. I introduced this term two years into my doctoral studies, when the global Covid-19 pandemic arrived³. The pandemic gave significant impetus to my work's intent and informed my designs for immersive, virtual digital scenography; a creative mode referencing both the pandemic and the ways in which

¹ Scenography is traditionally the stagecraft term for creating an atmosphere and setting a stage scene supporting the text of a play (including actors, props). Digital scenography is part of an expanded field of scenography that dematerialises the stage.

² All images of audiences for *Inside Arcadia* in The Engine Room Gallery Exhibition 5th – 17th August (2021), used in this exegesis, are non-identifying and were made after alerting participants to recording with notices visible throughout the gallery.

³ Although SARS-CoV-2 is the name for this specific coronavirus, Covid-19 has gained wide acceptance. I have used Covid-19 throughout the exegesis to refer to both the virus and the pandemic.

colonialism and quarantine on Mātiu/Somes Island allude to rupture in cultural and ecological relations between the present and the past. There are four scenographies encountered in the IVR. The “Vestibule” hub is the opening scene from which each of the three ‘Phantasmagoria’ scenes are accessed⁴ (fig. 2). Phantasmagoria here is defined as the public exhibition of ghostly images. The four scenographies are:

1. The Vestibule. Animal quarantine pig and deer pen.
2. Phantasmagoria: The human quarantine barracks.
3. Phantasmagoria: Animal quarantine boiler room.
4. Phantasmagoria: The bunker.



(fig. 2) Doidge, M. (2022). Top middle. *The vestibule*. Bottom. Three Phantasmagoria. Left. *The bunker*. Middle. *The human quarantine barrack*. Right. *Animal quarantine boiler room*. [HMD screenshot]. Courtesy the artist.

In what follows, I introduce key terms used in the PhD and explain the evolving phases of the project. I give an overview how my creative research provides a hybrid contribution of new knowledge to the fields of performance and spatial design by developing a digital scenography as an immersive virtual reality and its sculptural installation. This layered project relates to site in a gothic mode, providing a ghostly allegory of the colonial history of quarantine and defence on Mātiu/Somes Island through exhibition at several related sites.

⁴ *The Vestibule* scene model is a digital hub or antechamber for the quarantine gothic. It is the opening scene, wearing the HMD, and the only one which is interactive. By looking at the “quarantine” labels on the *vestibule* pen walls, the viewer activates each one separately to access randomly the three ‘view-only’, non-interactive scenes titled ‘phantasmagoria’. View-only allows for a non-hierarchical spatial focus on all 360° time-based modes, especially audio and animation. Once all are viewed, the ‘Vestibule’ resets and can be viewed again, as in a palimpsest loop but not in the same order as previously (fig. 2).

A quarantine gothic



(fig. 3) Doidge, M. (2022). *Inside Arcadia. Phantasmagoria: The Boiler room* [HMD screenshot]. Courtesy the artist.

A 'quarantine gothic' identifies the gothic as a mode, a way of seeing Mātiu/Somes Island's historic sites⁵. A mode is 'a way of doing and seeing, adaptable across dislocations of culture, time and space' (Lawn, 2006, pp. 14-15). Therefore, I propose a quarantine gothic⁶ is an immersive 360° mode, an allegory of the colonial history of Mātiu/Somes Island's historic quarantine and defence sites. *Inside Arcadia* also offers two critical contexts to interpret these digital scenographies. Firstly, 'Phantasmagoria'—the public viewing of ghosts—engages allegory as a gothic mode for *Inside Arcadia* presented through three exhibitions. Secondly, the 'phantom subjective' in which the uncanny experience of IVR disincarnation wearing the HMD is also one of disembodied viewing, from an unusual virtual position, looking at the digital scenography as a ghost (fig.3).

Throughout Chapter Two, a quarantine gothic is discussed in detail, contextualising this mode as a ghostly allegory or 'phantasmagoria'; literally 'seeing ghosts in public'. This context is emphasised in the creative research exhibitions in Chapter Three that documents and analyses performing a quarantine gothic within public exhibitions of *Inside Arcadia*. Phantasmagoric ghostly illusions were once projected by imaging technologies for public spectacles and theatre. Lens-based technologies, like stereoscopy, mediated ways to make illusion of ghosts visible, seeing spectres the audience could only think of or read about. From this history, mediating phantoms provided visions and visceral experience of what

⁵ Jennifer Lawn in *Gothic N.Z* refers to the gothic as a mode but not a genre. She is adopting Alexandra Warwick's notion in *Feeling Gothicky*, a context later referenced also by Mark Fisher to contextualise *The weird and the eerie*.

⁶ My research from 2020 – 2022 found reference to a 'quarantine gothic' online only in two twitter posts and a deleted Tumblr site. One twitter post was from journalist Cory Doctorow, dated April 5, 2020, referencing abandoned fast-food premises. Neither Google scholar nor Massey University Library searches provided further creative contexts.

ought not to be there. The spectre became a visual allegory for normality being perceived—instead—as a ghostly aberration.



(fig. 4) *Inside Arcadia*. Doidge, M. (2022). Left. The Performance Arcade container chalk tracks. Middle, HMD The Performance Arcade (2022). Right. Vestibule model scaled to container dimensions [GUI screenshot]. Courtesy the artist.

Furthermore, my research identifies an application of this spatial mode as allegory through notions of virtual space like the phantom subjective. Here I also favour Grant Tavinor's notion of IVR, in *The Aesthetics of virtual reality*, wearing the HMD producing a novel form of pictorialism (Tavinor, 2021, pp. 72-75). Performing 360° immersion this way appropriates the lens-based medium of stereoscopy used by the Vive Pro HMD (fig. 4 left, middle). This device is a contemporary digital version of popular 19th century stereoscopic devices, once used to view a succession of ghostly images experienced as a disembodied sensation, a precursor to the phantom subjective. I focus on this sensation of virtual disembodiment when immersed, viewing a quarantine gothic. This is where the HMD deploys the viewer's gaze—experienced as virtual disembodiment—when interacting with or just viewing the digital scenography through a digital avatar, the virtual 'ghost'.

In Chapter Two, I expand on the ghostly avatar as part of a quarantine gothic. In Chapter Three, I situate this context as an original contribution to performance design using IVR to experience and perform phantasmagoric digital scenography. Performance design was first described by Dorita Hannah and Olaf Harsløf's book *Performance Design* (2006) and involves the study of space, body, action, and media. Uniquely, *Inside Arcadia* makes a virtual reality contribution here, experienced as an immersive, 360° digital scenography as exhibited in The Performance Arcade 2022. This involves a notion of spatial layering where the performance of a quarantine gothic at the exhibition site provides an additional layer to this work.

In Chapter Three, 3.4 *A performative palimpsest*. I introduce the concept of ‘the palimpsest’⁷, a metaphor for spatial layering that I also consider a paradigm for allegory⁸. This notion is useful in considering how a quarantine gothic, mediated by the HMD, is manifested via performance action within a sculptural installation in relation to the exhibition site. Immersed viewers of my work leave a trace of their footprints on the yellow-chalked floor of the installation (fig. 4, left). Over time, the accretion of these footprints becomes a collective record, each iteration erasing the trace left by earlier viewers. Such overwriting is a palimpsest record of performing the digital scenography while wearing the HMD: a performance action leaving a trace slowly spreading out, tracked into the surrounding exhibition site. Given yellow is the colour of the international maritime quarantine flag, this collective notion of contamination and spread contributes to a quarantine gothic as allegorical of the Covid-19 virus, its replication, transmission and the subsequent pandemic. Another layered context is the chalked floor area (fig. 4, left) scaled to match the floor area of the interactive opening scene model, including the volume of this vestibule or anti-chamber (fig. 4, right). This scale relationship was adjusted for the Performance Arcade exhibition site, February 2022. As noted, wearing the HMD immersively performs the virtual by leaving a physical trace of footprints. I also argue *Inside Arcadia*’s performance of a quarantine gothic, experienced as HMD-induced disembodiment, is a ghostly allegory for dislocation—both globally and locally—amidst the Covid-19 pandemic. Next, I briefly overview three distinct phases my studies beginning in early 2018 to assist understanding my research process.

Whakawhiti atu rā — moving back and forward

During the pre-pandemic phase through to early 2020 I travelled back and forth by ferry to Mātiu/Somes Island in the middle of Wellington Harbour. I came to know Mātiu/Somes historic quarantine and defence sites and, through representatives of its owners, Taranaki Whānui, those involved with its care. This process of site-specific engagement began with meeting iwi kaitiaki and Department of Conservation (DOC) rangers, then making content for digital scenographies, and experimenting with photogrammetry (a 360° digital scanning technique). This was followed by building 3D digital models from thousands of images of selected locations. I also researched Mātiu/Somes Island’s colonial history of confiscation by the Crown and eventual return to Taranaki Whānui. This research acknowledged those histories as layers of colonisation that I discuss in the Orientation section under Arcadia, a

⁷ The palimpsest as a metaphor refers to a space where incongruous texts coexist in a state of opposition, of collision yet potentially colluding. A palimpsest is an artefact, a surface bearing writing that, when scraped clean and written over, still retains a trace of original script.

⁸ Craig Owens writing in part one of the *Allegorical impulse. Towards a theory of postmodernism* (1980) “the paradigm for the allegorical work is the palimpsest”

trope of the British colonial immigration in the 19th century. My focus then was also on the island's historic human and animal quarantine and defence sites, the latter built against a perceived threat of invasion during the Second World War. This creative research stage generated thousands of digital images for 3D models made with photogrammetry. I also collected 360° audio and video for these digital scenographies. When eventually completed, the digital scenographies formed a 360° mediation of Mātiu/Somes Island's historic built environments. These scenographies were also performed as *Inside Arcadia*, introducing a performance design context that allowed me to interpret exhibition sites with links to Mātiu/Somes Island as site-specific contexts. These were Pukeahu/Mt Cook on Massey University Campus—including the examination exhibition in the Tokomaru Building—and the Performance Arcade site at Waitangi Park on the Wellington waterfront (fig. 5).



(fig. 5) Doidge, M. (2022). Left. Mātiu/Somes Island, seen from Waitangi Park, Te Whanganui-a-Tara/Wellington waterfront. Right. Te Whanganui-a-Tara/Wellington waterfront from Mātiu/Somes Island (2020). Courtesy the artist.

The second phase of my research was triggered by the pandemic. From March to June 2020, I could not access the Island. The pandemic's sudden intrusion on my research felt eerily uncanny, the echo of a quarantine past, historically familiar, now reverberating globally in the present⁹. Lockdown provided a hiatus and, by way of consolation, an opportunity for writing and publication¹⁰. This allowed me to clarify and reframe the creative project research—amidst the strangeness—as a quarantine gothic.

The ghost in the machine

The third research phase from 2020 to the present involved adapting the project to the new pandemic reality. I expanded the idea of viewing a quarantine gothic to become a performative action. Linking local quarantine conditions to performative action led me to think more about acknowledging site-specific contexts Mātiu/Somes Island provided for exhibiting

⁹ Mark Fisher, in *The Weird and the Eerie* questions the eerie in respect of its agency. In this pandemic context, what kind of agent is acting here? The spectre of Covid-19 contributes to Mātiu/Somes Island's eerie pedigree of quarantine.

¹⁰ During this time, I co-wrote a chapter titled, *New faith in fakes, Out-takes from a false scenography*. This was published in the architecture E-book, *Urban Corporis. Unexpected*. This became an opportunity to formally write about ideas which had previously been in note form.

my digital scenography. This reassessment sharpened my focus on the HMD as a digital prosthesis when viewing the quarantine gothic. I was particularly interested in the HMD as a stereoscopic device delivering a single point-of-view experience, accompanied by a profound sense of disembodiment where you can't see your hands, feet, or body (fig. 6, right).



(Fig. 6) Doidge, M. *Inside Arcadia*. (2021) Left. Vive Head Mounted Display. The Engine Room Gallery, 16th August. Courtesy Johanna Mechen. Right. (2021) The Engine Room Gallery. 17th August. Courtesy the artist.

Central questions that arose were: What did virtual disembodiment wearing the HMD entail for the viewer? Did this sensation really disadvantage the immersive experience of a quarantine gothic? Could I re-evaluate HMD-induced virtual disincarnation through its history as a popular medium?

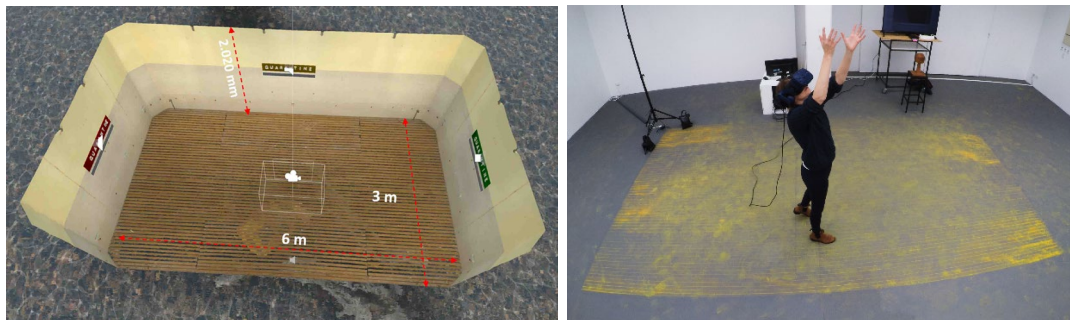
Virtual disembodiment

The sensation of virtual disembodiment while wearing the HMD is often disparaged as a weakness of IVR – a failure of virtual illusionism. This is where success or failure, of an IVR experience, is rated on how conscious the viewer is of the headset's mediation. In other words, IVR is deemed successful when the sensation of virtual disembodiment is suppressed by the viewer responding to an artist's mastery of the immersive experience; similar to psychologist Mihaly Csikszentmihalyi's notion of 'flow state' as a form of intense concentration¹¹. Success for the headset wearer means suspending judgement on the illusion the 360° immersive presents—temporarily forgetting their body—until a glitch occurs or a bored viewer, becoming self-aware of virtual disembodiment, also notices the HMD is intrusive. In this moment experiencing incongruity, the 360° illusion is broken. I write about this as the 'digital sublime'¹² providing more context in Chapters One and Two. The

¹¹ In a digital gaming context, total immersion in a task is called 'flow'. Successful immersion equals almost total absorption in a scripted interactive task. Forgetting the body in a task was influenced by the anthropology of play psychologist Mihaly Csikszentmihalyi.

¹² The digital sublime means feeling the affect of being temporarily overwhelmed when immersed in a virtual, digital artefact. This is a variant of David Nye's *American technological sublime* (1994) derived, in turn, from Immanuel Kant's dynamic sublime in the *Critique of Judgement* (1790).

significance of being conscious of virtual disembodiment, while wearing an HMD, is contrasted here with feeling fully—supposedly successfully—immersed in a 360° illusion. My creative research asks whether the illusion of full immersion—forgetting the body through concentration of scenography— is really essential to wearing the HMD. Can an immersive, virtual experience of a quarantine gothic offer instead a spatial hybrid of physical affect, material context, and virtual reality? This provides an opportunity to expand on making the experience of immersion spatially porous by not problematising wearing the HMD. Instead of concentrating on the imperative of maintaining a virtual illusion, focused on forgetting the body, *Inside Arcadia's* experience of immersion is gaze-based, freeing hands from devices. This facilitates spatial porosity matching the walkable physical installation with the *vestibule* digital scenography. This allows HMD wearers freedom for embodied crouching and gestures in response to the virtual, translated as a material trace on the chalk floor (fig. 7, right).



(fig. 7) Doidge, M. (2021). *Inside Arcadia*. Left. 6 x 3 metre virtual *Vestibule* 3D model [GUI screenshot]. Right. The Engine Room Gallery, 12th August (2021). Courtesy the artist.

Key to this idea meant recasting the HMD experience of disembodiment as a sensation of virtual phantomality—a sensation of becoming a ghost in the machine wearing the HMD while leaving a physical trace. This performance design within the exhibition space of *Inside Arcadia* included putting on and removing the HMD where the viewer could see tracks left on the yellow-chalked floor as traces of this experience. Testing these ideas, I developed an immersive spectral methodology of ghostly viewing in virtual reality. This meant limiting the IVR experience for the viewer, wearing the HMD, to a gaze-based digital avatar interacting with the *Vestibule* digital scenography only. Experientially, wearing the HMD, interaction means looking at the 'quarantine' label hotspots (fig. 7, left) that digitally teleport the viewer to the three view-only scenes. The hotspots become live when the viewer's physical body, entering a designated trigger space, activates a photogrammetry model plumb-bob in the *vestibule* scene. This animated model drops down into the scene activating the 'quarantine' gothic teleport nodes. I discuss this in Chapter One, Section 1.0.

***Inside Arcadia* and phantasmagoria**

As outlined, a phantasmagoria is a methodology of ghostly viewing, a public exhibition of ghostly images. Stereoscopic devices made this popular in the 19th century—the precursors of contemporary gaming HMD used here. These contemporary devices enhance twin-lens stereoscopy by using the game engine to provide two digital cameras at slightly different angles for the illusion of immersion. Performing the HMD for exhibition the first time¹³, I was aware my gaze-based mediation of the 360° digital scenography, when immersed, isolated the single participant wearing the HMD. This isolation became a virtual metaphor of a quarantine gothic. Isolation also enhanced the concept of '*Inside Arcadia*'—as a physical installation—becoming responsive to viewing the virtual quarantine gothic as a spectre. This led me to focus on the floor dimensions of the digital “play space” about which the headset wearer could move freely (fig. 7, right & fig. 8, left).



(fig. 8) Doidge, M. (2021). *Inside Arcadia*. Left, The Engine Room Gallery, 16th August. Right, The Engine Room Gallery, 16th August. Courtesy the artist

For the Engine Room exhibition, I took my cue from yellow being the colour of the maritime quarantine flag and used a yellow chalk line to mark out a 6x3 metre floor area (fig. 8, left). This size matched the virtual slatted floor area of the Vestibule hub. By doing this I reinterpreted the notion of phantasmagoria, viewing a succession of ghostly images using the HMD's stereoscopy as a way of performing a quarantine gothic, as a virtual ghost. Each viewer left a trace of their footprints on the yellow-chalked floor of the exhibition site (fig. 8, right). This opened up the exhibition to a viewing audience looking on from outside the virtual space of the HMD (fig. 9). I realised that the chalk play-space could be spatially layered within the gallery space as yellow chalk spread outward. The different qualities and significance of each of the exhibitions are unpacked in Chapter 2. In my conclusions at the end of this exegesis, I offer critical findings of the project.

¹³ The Engine Room Gallery, August 5th -17th (2021). Massey Pukeahu campus, Wellington

I have consciously left discussing the exhibition title '*Inside Arcadia*' till now in order to first introduce the digital scenography and explain how wearing an HMD performed the digital scenography as a virtual ghost, leaving a physical trace of digital immersion on the exhibition floor. Discussing the exhibition title also requires understanding its site-specific contexts. *Inside Arcadia* is an ironic reference to the British colonisation of Aotearoa/New Zealand. Arcadia was metaphor idealising Aotearoa/New Zealand as a place for British farm workers to colonise, having been dispossessed in a failed agricultural revolt. Immigrants anticipated acquiring cheap land for smallholdings. Much of this land was taken from Māori tribes (iwi) by force (raupatu) or predatory commercial contracts during the 19th century and notably, public works legalisation in the 20th century. I discuss Crown confiscation of Mātiu/Somes Island for human quarantine—begun in the 19th century—throughout the exegesis as this helped to consolidate, in the 19th century, a settler-descended, dominant pastoral economy. The establishment of the maximum security animal quarantine station in the 20th century later contributed to the economic dominance of Aotearoa/New Zealand's agrarian economy. This site helped consolidate the original settler foundation of an extractive, pastoral economy into the 21st century. As noted by the IPBES workshop on biodiversity and pandemics, the pandemic has impacted heavily on the global economy. The pandemic also drastically illustrates the kinds of pressure intensive farming places have on wild spaces¹⁴. I outline these histories in the Orientation and in Chapter One, *Inside Arcadia: Four digital scenographies* as allegories or 'phantasmagoria'.

Site specificity

Here I write about understanding phantasmagoria, as a methodology for *Inside Arcadia*, in the site-specific context of a quarantine gothic. One concept is 'the palimpsest', a metaphor for layering derived from a palaeographic artefact whose text is erased and reinscribed. I demonstrate how exhibiting *Inside Arcadia* at The Performance Arcade (2022) acknowledged that site's Waitangi Park spatially layered history by reconfiguring the Vestibule model as a spatially porous form of spatial layering. I introduce this site-specific palimpsest by exploring the etymology of phantasmagoria, a combination of *phantasma* – 'a ghost', and *agoreuein* – 'to speak in public'. I show how public exhibition modifies the presentation of *Inside Arcadia*, e.g., regarding The Performance Arcade, performing a quarantine gothic—wearing the HMD—within the void of a shipping container.

¹⁴ As noted by the 2020 IPBES Workshop on biodiversity and pandemics executive summary.



(fig. 9) Doidge, M. (2022). *Inside Arcadia*. The Performance Arcade container location, Te Whanganui-a-Tara/Wellington waterfront. Courtesy the artist

Both the chalked floor and virtual *Vestibule* model were framed and contained by the shipping container (fig. 9). This opened outward to an audience-like conduit, channelled in one direction. Understanding this spatially porous interior modified my performance design of *Inside Arcadia* as a form of spatial layering. While I thought of The Performance Arcade 2022 as a site analogous to layers of a palimpsest surface, the spatially porous physical void of the container interior altered this context digitally. I discuss this in Chapter Three, section 3.4 *A performative palimpsest*. Exhibiting *Inside Arcadia*, next to Waitangi Park, I remained in sight of Mātiu/Somes Island. Waitangi Park was once a place where Taranaki Whānui waka or canoes were pulled up on the foreshore near Waitangi stream (fig. 10). As an exhibition of diverse projects, The Performance Arcade curated each by appropriating the volume of a shipping container as a clean slate or *tabula rasa*. Thinking of the shipping container this way positions that void as a spatially porous, palimpsest layer. The idea of the Arcade's shipping containers as a palimpsest affords *Inside Arcadia* a spatial context for further layering which is relevant to the project's creative research and also acknowledges its site-specificity. The container void is a palimpsest site for allegory, embracing the performance of a *quarantine gothic*, an allegory made of Mātiu/Somes Islands historic quarantine and defence sites. Marc Augé in '*Non-places. Introduction to Supermodernity*' (1995) wrote of site as a palimpsest. While Augé wrote of place as being relational or concerned with identity, like Waitangi Park, with a significant historical dimension, he also wrote place was in opposition to non-place. Non-place was a transit area, a site like the shipping container park on the wharf at Wellington's Port Nicholson harbour, not a place for

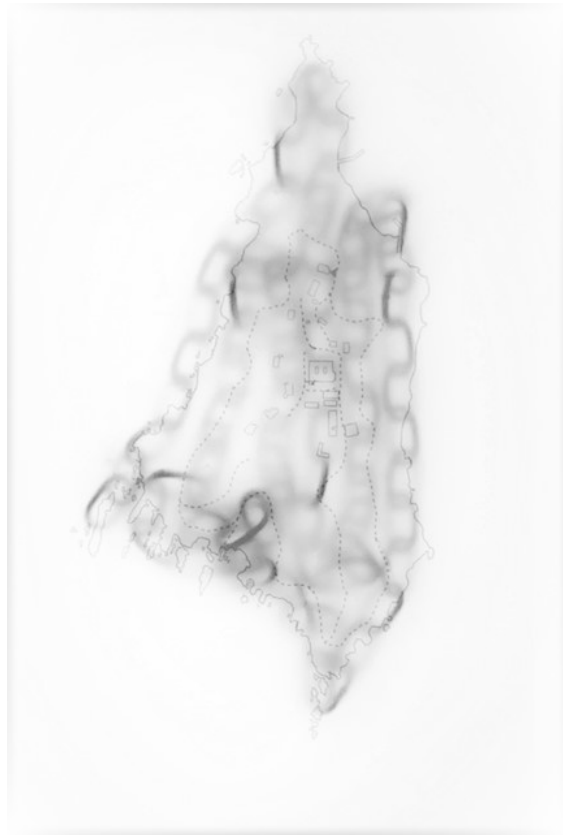
people. The Performance Arcade makes a neat inversion of this dichotomy I consider further in section 3.4 *A performative palimpsest*. Where I interpret these empty shipping containers as voids or cyphers, they now contain and project *Inside Arcadia* outwards—a public exhibition of phantasmagoria—seeing ghosts in public spaces.



(fig. 10) Doidge, M. (2022). *Inside Arcadia*. Performance Arcade location, Te Whanganui-a-Tara/Wellington waterfront. Courtesy the artist

The empty vessel of a container is appropriate to launch this ghostly expression of allegory. Like a parable or folk tale, this mode of quarantine gothic—from a historic context—speaks indirectly to another, that of the Covid-19 pandemic. As I discuss in section 3.4, local histories are layered, like a palimpsest metaphor. The pandemic has dominated much of the last two years and likely beyond. Its discourse is global while being experienced intensely, locally. Mātiu/Somes Island’s quarantine past and colonial history speaks directly to Covid-19 as a pandemic in this respect. *Inside Arcadia* presents a quarantine past experienced in the present but as a spectre, witness to a quarantine gothic in a time of pandemic.

Orientations



(fig. 11) Doidge, M. (2018). *Somes Island palimpsest*. [Digital image. light box, drafting paper, metal chain]. Courtesy the artist.

Her stories impress themselves upon us.
We speak to and acknowledge ghosts of the past,
Island getaway, get away, lock away, stay away, stowaway.
Pa, prison, playground, paradise,
The conflicts of place impress themselves upon us.
We try to envisage such an intimate alienation.

and fail

(Ao & Munnely, 2017)

Mātiu/Somes Island

Mātiu/Somes Island anchors a group of smaller harbour islands within Te Whanganui-a-Tara/Port Nicholson. Here, Aotearoa/New Zealand's capital city, Wellington, is girdled by sandy beaches and the steep cliffs of Pōneke's deep, south-facing harbour (fig. 12).



(fig. 12) Doidge, M. (2020). *Mātiu/Somes Island*. (Panorama looking south towards Wellington from Lighthouse Bay). Courtesy the artist

The mana whenua and kaitiakitanga (Marsden & Henare, 1992)¹⁵ of this Island resides with Māori, the tribal collective Taranaki Whānui ki te Upoko o te Ika a Maui (Kōkōri).

Mātiu/Somes Island's ownership was regained by iwi in 2009 as part of cultural redress (Buchanan, 2011, p. 285) negotiated with the Crown under the Treaty of Waitangi (145, 2003, p. 109). Taranaki Whānui in Wellington comprises hapū (family groups) and iwi (tribes) originating in Taranaki but present in Te Whanganui-a-Tara before 1840 (Libraries). These hapū are Te Āti Awa, Ngāti Tama, Taranaki, Ngāti Ruanui and Ngāti Mutunga (145, 2003, pp. 15-17). Mātiu/Somes Island's 25 hectares is now governed by the Kaitiaki Board—an iwi-Crown partnership—with the New Zealand Department of Conservation (DOC), Te Papa Atawhai.

¹⁵ Mana whenua represents an iwi or tribe's histories, genealogies and prestige associated with land occupied for generations. The land or Earth mother, Papatūānuku, sustains the people and provides hospitality for their guests. Kaitiakitanga represents care or stewardship of Papatūānuku, maintaining the health and wellbeing of plants and animals, including natural features representing ancestors (Marsden & Henare, 1992).

Whakawhiti atu rā: Approaching Mātiu/Somes Island sites

Mātiu/Somes Island has been a location for, and the subject of, a variety of creative practices over decades¹⁶. This tradition—since Te Hokitanga Mai ā Mātiu (The Return of Mātiu) in 2009 (Wallace, 2014)—continues under Taranaki Whānui ki te Upoko o te Ika through the kiatiaki Te Āti Awa. In 2019, I was part of a small waiata (singing) group at Massey University led by Kurt Komene (Ngāti Tawhirikura) and Kura Puke (Te Āti Awa). One verse of the waiata, ‘Ka huri atu au’ written by Kurt for Massey University, highlights the importance of Mātiu/Somes Island for Taranaki Whānui and describes travelling there from Wellington city by the East-West ferry.



(fig. 13) Doidge, M. (2020). *Mātiu/Somes Island*. (Jetty and Tokomanga with verse from ‘Ka huri atu au’) (Komene, K). Courtesy the artist

In translation we sang, “*Whakawhiti atu rā*”—moving to the foreshore. “*Ki Ngati Ira*”—acknowledging predecessor iwi on Mātiu, Ngati Ira¹⁷. “*Ko Ngāti Maru Ki Uta*”—acknowledging the Island and iwi mana whenua when moving through the tokomanga or gateway. “*Ngā Rauru kītahi e*”—acknowledging Mātiu Island whakapapa or the genealogy of Ngā Rauru as descended from an only child (Smith-Komene, 2019) (fig. 13). Having previously been selected to participate in creative research on Mātiu/Somes Island (Preston & Steinmann, 2017), the generous support of Taranaki Whānui for creative projects, past and present is acknowledged, and recognises Mātiu/Somes Island’s significance for tangata whenua (Buchanan, 2011).

¹⁶ More recent examples include Shigeyuki Kihara, her 2021 Quarantine Island series of lenticular photographs featuring Mokopuna Island. Mike Ting’s 2015 *Mokopuna Island Project* a performance piece about the enforced quarantine (1903-04) of Kim Lee on Mokopuna Island (Ting, 2015). Aliyah Winter’s *To represent the sex of angels Trans Poetics* MFA (Winter, 2017, pp. 32-37) featuring *To take the waters* (2017) a 2017 video performance focused on the internment of Dr. Hjelmar von Danneville. A 2018 walking tour of Mātiu/Somes Island’s animal quarantine station was an extension of this.

¹⁷ Ngāti Ira, Ngāti Tara, Muaupoko, Rangitane otherwise known as the Whatonga people also had a presence in Te Whangai-a-Tara before Taranaki Whānui assumed mana whenua before 1840 (Love, 2018).



(fig. 14) Ihaia Puketapu. (2016). *Tāne Te Waiora*. Tokomanga, Mātiu/Somes Island. Courtesy Malcolm Doidge (2020)

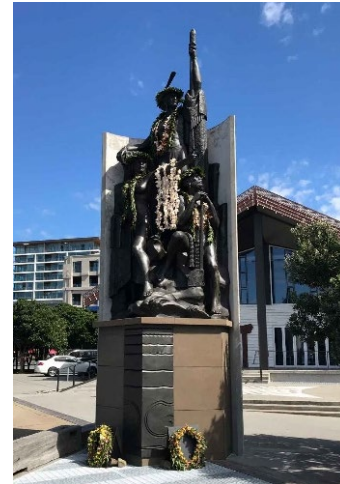
This significance is illustrated by the tokomanga or entrance arch, Tāne Te Waiora (Tāne the life-giver) found near the landing jetty (fig 14). Carved by Ihaia Puketapu (Te Āti Awa), Puketapu states “the kaupapa (foundation) of the Island is to care and protect” (Parry, 2016, p. 1). Tāne Mahuta—atua/God of flora and fauna—stands at the apex of the gateway. At its base are harbour taniwha Ngake and Whaitaitai, the latter now sentinel at the entrance to Te Whanganui ā Tara. Above and below Tāne are island identities—kororā (little blue penguins) and kākārīki (red-crowned parakeets). Importantly, wrapped around Ngake is Te Wheke, the octopus, adjacent to a great white shark. Together, they suggest the whakatauki or proverb “Kaua e mate wheke, kei mate ururoa”: Don’t give in easily like the octopus, fight to the death like the white shark¹⁸. As Supreme Court Justice Sir Joseph Williams (Ngāti Pūkenga, Waitaha, Tapuika) writes in “Lex Aotearoa” (Williams, 2013), for about 700 years Aotearoa was governed by “Kupe’s law” or tikanga¹⁹. Mātiu and Mākaro Island were both named by the eponymous Polynesian navigator Kupe Raiatea for his nieces or daughters (145, 2003, p. 17) when both he and wife Kura-mārotini, sailing Matahourua into Te Whanganui-a-Tara (fig. 15 & 16), chased down Te Wheke, Tumū-Ra’i-Fenna the Queen of the octopi (Ihimaera, 2020, pp. 317-321) (fig. 15 and fig. 16).

¹⁸ This whakatauki also introduces Mātiu/Somes Island’s pre-colonial past, its kaupapa or foundation that Dr Rangihīroa Pānoho (Ngāpuhi, Ngāti Whātua) in his 2015 book, ‘Māori Art. History, Architecture, Landscape and Theory’, calls ‘Te Hana’ or ‘the radiance’—a site-specific notion referencing a ‘printer’s palimpsest’ a palaeographic artefact or surface where one layer of writing is removed and replaced with another. A printer’s palimpsest is where four or more inked plates are pressed into paper one after the other building up a complete, composite image (Rangihīroa Pānoho, 2015, p. 34).

¹⁹ ‘Tika’ means correct, right or just; and the suffix ‘nga’ transforms ‘tika’ into a noun, thus denoting the system by which correctness, rightness or justice is maintained” (Williams, 2013, p. 2)



(fig.15) Left: “The coming of the Māori” 1939-40 William Trethewey at the Centennial Exhibition, Rongotai, Wellington. Ref: 1/2-004298-F. Alexander Turnbull Library, Wellington, New Zealand. <http://natlib.govt.nz/records/23161462>



(fig.16) Right: William Trethewey (2000) *Matahourua te waka, ko Kupe te Tangata, Ko Hine Te Aparangi te wahine*. Taranaki Wharf, Wellington. Courtesy Malcolm Doidge (2022).

Mātiu/Somes Island historic reserves

‘Whakawhiti atu ra’—arriving on Mātiu/Somes Island—after a 20-minute ferry trip allowed three-to-six-hours to visit each day trip. Over three years I came and went thirteen times, including a few three-day stopovers in a DOC-administered ‘hut’ in 2020. These field trips were a core part of my creative project research practice. During this period, I talked with Gemma Wright (Ngāti Maniapoto), iwi Kaitiaki (iwi guardian and DOC ranger) and Jeff Hall (DOC ranger) as well as iwi members from Massey College of Creative Arts staff about the island and my project. Most trips, I visited three sites and collected thousands of digital images. Two of Mātiu/Somes Island’s historic reserves²⁰, the ‘human quarantine barrack’ and ‘maximum security animal quarantine station’ were built over another site, the ancient Ngāti Ira Pā, Haowhenua (145, 2003, p. 29; Walton & Nester, 2001c, p. 2). The following images depict the three historic reserves I visited. Each of these historic reserves contributed interior locations for digital scenographies, including photogrammetry scans, 360° timelapse videos and ambisonic environmental recordings for post-production as binaural²¹ soundscapes. The maximum security animal quarantine station pig and deer pen (fig. 17, middle) contributed the 3D model for the Vestibule, Chapter One, section 1.0. The boiler room interior (fig. 17, right) contributed binaural audio, the 3D model and 360° timelapse for section 1.3 Phantasmagoria. The human quarantine barrack (fig. 18)

²⁰ I believe the description ‘historic reserve’ is not synonymous with ‘heritage’. As Rachel Buchanan writes in ‘Ko Te Taranaki Maunga’ “some Pākehā resent any reminders of contact or conflict that might unsettle cherished stories of faith, heritage or pioneering decency” (Buchanan, 2018, p. 91).

²¹ Binaural audio spatialises recorded ambisonic sound, specifically for headphones to match human ears. It allows for the perception of sound to appear to move about the 360° virtual space seen when wearing an HMD.

contributed the 3D interior model and 360° timelapse for Phantasmagoria section 1.1. Finally, the heavy anti-aircraft gun battery emplacement ammunition magazines (fig. 19) provided 3D models for the bunker Phantasmagoria, section 1.3.



(fig. 17) Doidge, M. (2021). *Mātiu/Somes Island*. Left. Former maximum security animal quarantine station. Middle, pig and deer pen. Right, boiler room interior. Courtesy the artist.



(fig. 18) Doidge, M. (2020). *Mātiu/Somes Island*. Right. Human Quarantine Barrack. Left, human quarantine barrack interior panorama. Courtesy the artist.



(fig. 19) Doidge, M. (2022). *Mātiu/Somes Island*. Left. Heavy AA gun emplacement (Te wāhi o te ahi tipua). Right, ammunition magazine interior. Courtesy the artist.

Of these three sites, two are illustrated in relation to each other.

1. The former maximum security animal quarantine station's pig and deer pen and the steriliser boiler room (fig. 20, right).
2. The human quarantine barrack and adjacent maximum security animal quarantine station (fig. 20, left).



(fig. 20) Doidge, M. (2021). Left, Mātiu/Somes Island looking north to Kaiwharawhara from heavy AA site. Right: maximum security animal quarantine station and human quarantine barrack. Location of sterilising boiler room and the pig and deer pen indicated. Courtesy the artist.

In Chapter Three, section 3.4, I discuss how the act of viewing digital scenographies as phantasmagoria of Mātiu/Somes Island historic quarantine and defence sites activates two public exhibition sites for *Inside Arcadia*. These site-specific exhibition contexts are performative, wearing a VR headset, of the digital scenography of *Inside Arcadia*, a way of 'raising the spectre' of Mātiu/Somes Island historic quarantine and colonial past through the immersive mode of a quarantine gothic. I develop my interpretation of this mode in Chapters Two and Three, framing this context as a 'phantasmagoria' or a succession of ghostly images. The following section introduces the historic, colonial context for *Inside Arcadia*.

Arcadia and the Antipodes

The exhibition's title, *Inside Arcadia*, is in ironic reference to the 19th century colonisation of Aotearoa/New Zealand and establishment of Wellington's European settlement amongst Taranaki Whānui around 1840. To provide historical context for this creative work the following sections introduce the term 'arcadia' and elucidate on the implications of its utopian origins for Aotearoa/New Zealand's colonial history. The subject of Mātiu/Somes Island's

history of animal and human quarantine is examined in this context. Ecologist Geoff Park in *'Theatre country'*, his book on landscape and whenua, argued that Edward Gibbon Wakefield, co-founder of the colonising 'The New Zealand company', spoke directly to the colonial conceit of Arcadian renewal.

Park quoting Wakefield,

"Arcadia is a place where human beings cooperate with nature to produce a richness of ecological variety that would not otherwise exist [...] But it could be that our very instinct for Arcadia misleads us, fools us into thinking that we can recreate the place of our origins"²² (G. Park, 2006, p. 34).

Inside Arcadia inverts the colonising allegory of a pastoral utopia located in the Southern hemisphere (Patrick, 1946, p. 744), exploring it through a 'quarantine gothic' IVR experience as a virtual 'nowhere' comprising four dystopian, digital scenographies. As Sam Trubridge, in *Expanding scenography* writes of *Theatre country* "[...] the book clearly outlines relationships between the colonization of New Zealand and the preoccupations of the theatre with scenic practice" (Trubridge, 2013, p. 2). Trubridge goes on to add, 'the founding relationship between place and space' was settler fear and incomprehension of the densely forested, primordial nature of Aotearoa/New Zealand's ecology. Park also writes of this vanished landscape,

"we are a society whose colonial roots lie in as dramatic a demonstration as any of our species awesome capacity to remove every trace of nature from an ecosystem" (G. Park, 2006, p. 42).

Wellington writer Danyl McLauchlan also identifies a continental gaze, the view from the Northern hemisphere towards Aotearoa/New Zealand, as a cypher or a naught. This is as "an empty signifier, a mysterious and remote utopia for the rest of the world to project its fantasies on to" (McLauchlan, 2021).

Arcadia overview

In the 19th century, New Zealand was cast as a pastoral arcadia, a utopian aspiration remaking British identity in the South Pacific (B. Smith, 1985, p. 253). Aotearoa/New Zealand's modern pastoral economy was established mid-19th century following a dramatic surge in European immigration. With immigration came disease, quarantine, and ecological

²² Originally published in Edward Gibbon Wakefield, *Genius or Charlatan—A Reconsideration*, ed. Andrew Mason (Wellington: Government Print Publishing Ltd, 1997) Wakefield was referencing an idealised vision of English farm workers before the 'revolt of the field' a violent reaction to landowners and increased mechanisation depriving workers of livelihoods (Arnold, 1981, p. 21).

destruction. Land wars and settler avarice violently dispossessed indigenous Māori of iwi land and resources. Mātiu/Somes Island's 19th century history of human quarantine also helped establish a European pastoral economy, reinforced in isolation by the 20th century as The maximum security animal quarantine station. In this context, *Inside Arcadia* is focused on the immersive experience of mediating both Mātiu/Somes Island's historic quarantine locations and defence site as digital scenographies. My creative research project is also concerned with the emergence of the Covid-19 pandemic linking it to this past. I attend both to this history and the contemporary pandemic by inverting colonial arcadian idealism through this contemporary dystopian vision, a quarantine gothic.

The land of plenty, just not for many

The concept of arcadia was derived from the classical Greek form of utopia, a “place (topos) that is nowhere (outopia) and a good place (Eutopia)” (Johnson, 2006, p. 3). Historically, arcadia became an ideal of an 18th century pastoral paradise where Europeans, and in particular an English gaze, was directed toward the southern hemisphere as ‘the Antipodes’²³ (G. Park, 2006, p. 41). Colonising New Zealand was a private venture undertaken initially by ‘The New Zealand company’. Arcadian idealism was seen amongst some colonists as a settler culture aspiring to achieve innate moderation where political institutions, including self-government, were unnecessary. Wanting for nothing, southern arcadians could live independently, as free agents, without societal injustice (Beattie, 2014). This vision is closer to some contemporary views of Aotearoa/New Zealand beginning in the mid-1980s. Slavoj Žižek in ‘Living in end times’ writes of this other utopia, *The liberal Utopia* (Žižek, 2010, p. 66) where social liberalism and laissez-faire economics are two sides of the same coin²⁴. This view is discernible in recent ‘anti-mandate’ protests and occupations concerned with loss of “Freedoms” (Bollinger, 2022). One colonising legacy of Aotearoa/New Zealand's pastoral economy in the present, relevant to *Inside Arcadia*, is that this country produces enough food to feed 40 million people. “We are a land of plenty, just not for many”—up to 95% of this surplus is meat, dairy, fisheries, viticulture, and forestry (Scott, 2021)—with 99% exported overseas through our ports (Transport, 2019). As a former New Zealand trade minister notes of the Covid-19 pandemic “in the past two years, it has been far

²³ The prime meridian is located at the Greenwich observatory in the United Kingdom and ‘the antipode’ of that pole in Greenwich (the furthest away point) is a spot off the east coast of Aotearoa/New Zealand (Mitchell, 2021). Greenwich Mean Time was established to synchronise the chronometers the Royal Navy used to navigate uncertain longitudes in the 19th century. This Imperial system of relative chronometry allowed ships to accurately plot their location on naval charts, relative to Greenwich, avoiding what was often a common occurrence, shipwreck (Sobel, 1994).

²⁴ The New Zealand Company aspired to the rapacious corporate standards of Robert Clive's notorious East India Company which nearly bankrupted the British Empire and was dissolved in 1858 (Dalrymple, 2019, p. 233). I was startled to see the figure of Robert Clive in the newly restored, stained-glass window of Ōtautahi Christchurch's Art centre ‘Great Hall’ (formerly Canterbury University) celebrated in reference to The New Zealand company's colonisation of Ōtautahi. Unsurprisingly, the capital Wellington is named after Arthur Wellesley aka The Duke of Wellington, of Waterloo fame, who was also The East India Company's most successful sepoy General (Dalrymple, 2019, p. 382).

better to be a large food exporter like New Zealand [...]” but warns if assumptions that Covid-19 variants become milder are wrong then, “the economic impact could be far more severe than the first pandemic” (Norquay, 2022, pp. 8-9). Ironically, Wakefield’s colonising arcadian ‘heritage’ appears susceptible to its ruthless establishment of a pastoral economy both in the past and now in the present. The Covid-19 virus is also associated with the ecological pressure humans place on wild spaces, inducing global heating (Daszak & Amuasi, 2020, pp. 33-40). While the 2019 Parliamentary Commission for the Environment report focused on adapting to long-term ‘climate change’²⁵ and its impact on rural landscapes (Upton, 2019), dairying alone accounts for 20% of Aotearoa/New Zealand’s total methane emissions (Oram, 2021a) and is considered to be Aotearoa/New Zealand’s largest climate change problem (Baskett, 2020). In 2022, climate scientist, Professor Jim Salinger, noted of Aotearoa/New Zealand, “Compared with the 1870’s, temperatures right now are one and a half degrees warmer” (Morton, 2022, p. 4). While not the only source of global heating, global methane emissions have contributed one third of the Earth’s warming since the Industrial revolution (Oram, 2021b). Aotearoa/New Zealand at the 2021 Cop26 UN Climate negotiations in Glasgow—alongside 100 nations—signed the Global Methane Pledge. This is a commitment to reduce emissions of this potent greenhouse gas by 30 percent by 2030. Our present reduction target is only one third of that 2030 goal. The European Climate agency ‘Copernicus’ noted methane emissions in 2021 have ‘surged’ and rated the last seven years globally as the hottest on record (Carrington, 2021). Aotearoa/New Zealand, the land of plenty, has since the 1980’s seen wealth concentrated in fewer hands (Rashbrooke, 2021) severely disadvantaging successive generations (John, 2020) especially during this pandemic (Corlett, 2021). As Chris Trotter observed in *Our dark shadow*, writing about the 2022 ‘Mandate protest’ occupation of Parliament grounds and surrounding streets – the ‘collective good’ of “well-heeled, well-housed, well-educated beneficiaries of neo-liberal capitalism” means nothing to those who have felt no benefit from it (Trotter, 2022). Amidst this Covid-19 pandemic and Government recognition, finally, of climate crisis (Adern, 2021), this pandemic strangely represents a hiatus during which Wakefield’s Arcadian delusion has returned to haunt. I interpret this context as a quarantine gothic, one that *Inside Arcadia’s* IVR mediates as a phantasmagoria²⁶, a spectre of the past seen in the present.

²⁵ I use The Guardian newspaper term ‘global heating’ to refer to ‘climate change’. This avoids confusion around coining that term where an incorrect attribution of it was made to an American Republican party researcher in 2003. (McIntosh, 2019). There is an earlier likely candidate in ‘climactic change’ (G.Wayne, 2013)

²⁶ Tom Gunning’s Essay *To scan a ghost* (Gunning, 2007, p. 107) dissects modern media’s phenomenology of digital reproduction as a metaphor of the ghostly or phantasm. Phantasmagoria in this context is the virtual image as a modern phantom (Maria del Pilar Blanco & Peeren, 2013, p. 202). I develop a more specific notion of phantasmagoria in Chapter 2 after introducing it in Chapter 1.



(fig. 21) Doidge, M. (2020). *Mātīu/Somes Island, August 31st*. [Panorama]. Human and animal quarantine sites looking south to Te wāhi o te ahi tipua (heavy AA battery). Trip # 9. Courtesy the artist.

Chapter 1: *Inside Arcadia*: Four digital scenographies

The phantasmagoric figure is a trace or cypher, a naught or absence made almost present by one's fear projected as virtual illusion. Like Baudrillard's procession of simulacra, a copy destabilises the original's idealism, "to feign to have what one doesn't have" (Baudrillard, 1983, p. 2). These phantasmagoria represent corruptions of colonial arcadian idealism. Gilles Deleuze in *Plato and the simulacrum*—writing of Plato's allegory of the cave—argued against such idealism providing true knowledge residing in 'the idea' (Deleuze, 1983, p. 49), an abstract template for real-world things against which, a good copy—a near likeness of the ideal made by humans—is a useful model (the *eikon* or faithful replica) (C. A. Davies, 2005). The following sections discuss four site-specific scans of Mātiu/Somes Island historic quarantine and defence sites. In each, *Inside Arcadia's* 3D models are not hyper-realist digital copies and assemblages that many photogrammetry practitioners, especially for gaming industries, virtual tours and heritage documentation espouse—ideally—as good copies (Boer, 2020). *Inside Arcadia's* quarantine gothic exhibits weird scale shifts, ruptured surfaces and coarsely rendered volumes. These represent degraded surfaces that feature scrambled texture maps and jagged mesh geometries. Rachel Wells in *Scale in Contemporary sculpture* notes of such distortion that, instead of the one-step difference between the ideal model and its good copy (Wells, 2013, p. 133) there is, as Gilles Deleuze in *Plato and the simulacrum* prefers, an extended range from simple difference to corruption that emerges beyond the ideal model or good copy—a continuum of degraded simulacra. This is where the ghostly spectacle of the phantasmatic takes liberty with both size and scale as a cypher (Deleuze, 1983, p. 52). The copy of a copy that, ad infinitum, regresses with omissions and glitches, becoming less recognisable—open to projection—as is the case where I have deliberately reduced millions of triangles from raw scans to merely tens of thousands. In this process of making the model 'lighter' through decimation,²⁷ some models are deliberately distorted. However, digital degradation and its iterations also serve phantasmagoria by way of allegory where viral mutation is literally a better model for the world of SAR-CoV-2 pandemic than Plato's idealism of a good copy (Iversen, 2013). In the following section, I describe site-specific and poetic contexts for each of these digital scenographies, of which three are specifically "Phantasmagoria". I later enlarge on phantasmagoria throughout Chapter Two but give special mention in 2.1.5 "Phantasmagoria". My digitally degraded simulacra directly inform the appearance of these scenographies. Some models have riven edges, tortured surfaces, or feature a diaphanous

²⁷ Decimation of the 3D model using various software reduces the mapping geometry of 3D models, optimising the time it takes for hardware to process the models viewed in virtual reality, making them 'lighter' using less GPU intensive. This is usually an iterative process however the problem is now being overcome by more recent game engine design.

point-cloud spectrality but, in combination with binaural audio, such degradation is a reminder of colonialism from a pre-pandemic past in this radically pandemic-altered present.

1.0 The Vestibule: Animal quarantine station pig and deer pen

This scene is a staging place, a digital scenography returned to three times during a single viewing loop that resets and then repeats. To begin, wearing the HMD, one emerges into the opening virtual ‘vestibule’ hub, an antechamber to three phantasmagoria. Here, a physical position on the chalked floor of the gallery installation corresponds to a virtual, digital trigger eventually activated by the viewer. After the trigger is tripped in virtual space of the vestibule an animated photogrammetry plumb-bob model drops into the virtual scene. This activates three digital hotspots on the walls of the animal pen model (fig. 23, right). These hotspots are all labelled “QUARANTINE” and are programmed to recognise and track the viewer’s gaze (fig. 22, right). Upon activation, one hotspot opens at a time, tele-transporting the viewer to a fresh scene. A red dot or reticule is positioned in the viewer’s gaze to help them way-find three active hotspots on the vestibule walls. After finishing each new scene, the viewer is returned to the vestibule hub. Transition between scenographies is analogous to a cinematic ‘cut’, a point-of-view cut to black and then teleporting to a new scene. Activation of a hotspot is signalled by a non-diegetic ‘bong’ sound and the appearance of a coloured slider beneath an embossed “QUARANTINE” label referencing plastic embossed labels found in the maximum security animal quarantine station (fig. 22, left).



(fig. 22) Doidge, M. (2022). *Inside Arcadia*. Left, Mātiu/Somes Island maximum security animal quarantine station embossed locker labels (2020). Right, Activated ‘QUARANTINE’ hotspots and sliders with height mapped labels. [HMD screenshot]. Courtesy the artist

Hotspot labels and sliders change colour depending on their status—green/amber/red from the New Zealand Covid-19 traffic light system (Daalder, 2021). If a viewer remains in the night part of the vestibule’s accelerated day/night cycle, these luminescent sliders help them find an activated hotspot (fig. 23, left). Access to scenographies using hotspots is randomised so no one scene corresponds to a particular hotspot ‘quarantine’ label. After

each scene is visited, it cannot be accessed until all three scenes have been visited. Following Brenda Laurel in *Computers as Theatre*, the ‘end cause’ of these interactions, after the duration of a loop, culminates in a ‘quarantine gothic’ experience while immersed in these digital scenographies (Laurel, 2014, p. 57).



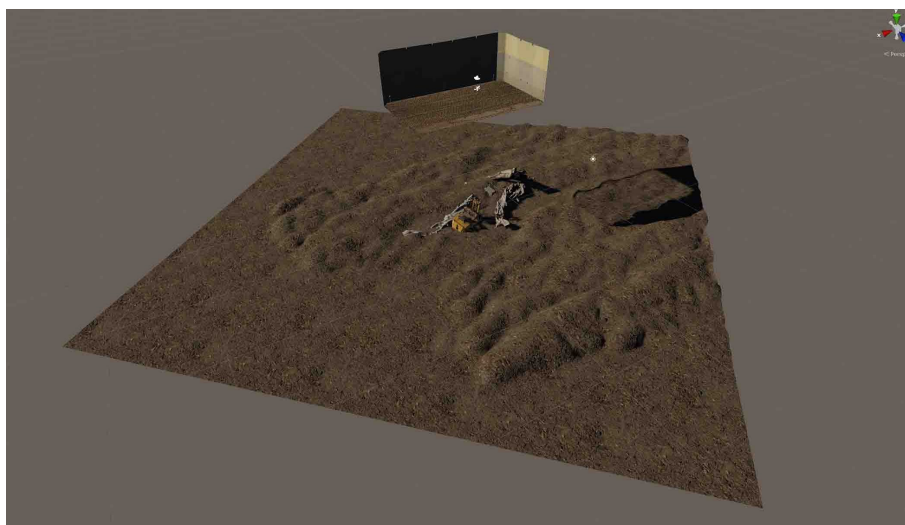
(fig. 23) Doidge, M. (2022). *Inside Arcadia, Vestibule*. Left. Embossed label hot spot activated. Right. Plumb-bob model activated and dropping over digital trigger. [HMD screenshot]. Courtesy the artist.

This non-linear system operates like nodes in a hypertext—referencing Espen Aarseth’s “Textrons” (Ryan, 2015, p. 187)—revealing digital scenographies rather than texts. Exiting immersion after removing the HMD, the ‘end cause’ of the immersive experience of this virtual space is further extended by the physical installation space, the trace left by a viewer’s footprints. As mentioned in section 3.4, emphasis on circularity represents a physical palimpsest with footprint traces as artefacts, slowly erasing the layers of chalked installation play-space but spreading to the floor beyond. Duration for each view-only scene does not provide the viewer agency for interaction. This emphasises the non-hierarchical in reaction to the gaming industry adaptation of Csikszentmihalyi’s psychological study of flow or sustained consciousness focus in a task or flow state. Each non-hierarchical dreamlike phantasmagoria rejects this level design context as a digital space for production, i.e., that the viewer must be engrossed in achieving tasks to progress to the ‘next level’. Instead, the animal quarantine boiler room has a performative duration determining the scene length, where an ambisonic recording of me sprinting around the building begins and ends the scene with physical exhaustion. There was consideration about whether the inclusion of the red dot reticule ‘broke immersion’ in this scene. My view is that wayfinding has long been part of immersion practice outside of gaming contexts where clues are given for viewers to navigate scenographies. Brenda Laurel and Rachel Strickland’s Canadian *Placeholder* (1993) project was equipped with two hand-held devices, each located and identified in virtual space by two dots of light seen through the HMD (Evans, 2018, p. 61). Although Laurel was very particular about the illusion of total immersion, she was pragmatic also

about narrative space. I consider this debate part of an argument about ‘realism’ in IVR and, as Ian Haig notes in *Against realism: The badly rendered potential of VR*,

“VR that has escaped the clutches and more importantly the limitations of conventional [gaming] real estate to take us into even stranger, darker, weirder, unknown, and unseen spaces is a VR world is worth taking the trouble to engage in” (Haig, 2018, p. 50).

Inside Arcadia follows the spirit of this analysis. The *Vestibule* model is a composite made from one corner of the pig and deer pen in the former maximum security animal quarantine station. The top section has windows removed. Under the 3D model floor as mentioned in section 2.0.2, there are 3D models made from a forklift in the building and tree stumps from outside it. The 3D model of the seabed is made from a satellite map of the lower North Island, te Upoko o te ika a Māui, the head of the fish of Māui (fig. 24 and 26, right). The Greywacke texture maps on it are made from scree found on Wellington’s south coast. This *Vestibule* hub in virtual space sits directly above Mātiu/Somes Island on the 3D mesh of Te Upoko o te ika a Māui, referencing Kupe voyaging narratives and British colonisation of the island.



(fig. 24) Doidge, M. (2022). *Inside Arcadia*. 3D model of *Vestibule* and ‘sea floor’ height map in contour relief showing the lower North Island, Te Upoko o te ika a Māui, the head of the fish of Māui. [GUI screenshot]. Courtesy the artist.

Islandness

Passing through the Tokomanga under Tāne Te Waiora, Mātiu/Somes Island is redolent with Taranaki Whānui whakapapa (genealogy) and a way of thinking about tikanga, (what is correct), provides a whakatauki (proverb) that Danny Keenan (Ngāti Te Whiti Ahi Kā, Te

Ātiawa) translates as moving forward while also thinking back, *Haere Whakamua, Hoki Whakamuri* (Keenan, 1994). This circular, palimpsest-like folding of the past into the present (Kimberely, 2015) liberates the past, becoming a pervasive dimension in the present and looking to the future (H. Smith, 2009b, p. 12). This context speaks to Paulette Wallace's work—writing of Mātiu/Somes Island in her post-doctoral research *Approaching cultural landscapes in post settler societies*—when she asked whether there can be a “practice led research, which utilises the heritage realities of a small Island in New Zealand as a way of opening up [...] to questioning and innovation” (Wallace, 2014, pp. 16-17). With intensification of both local and global weather events, signals from the Anthropocene are further amplified by the current pandemic. Destruction of wild spaces and zoonotic transmission²⁸ are linked with an increase in viruses crossing from one species to another, eventually adapting to humans as infectious disease (O'Callaghan-Gordo & Antó, 2020). Like HIV/AIDS, Ebola, hantavirus lung syndrome, and Nipah virus beforehand, these zoonotic diseases are the result of large-scale ecological damage where humans encroach and then decimate natural spaces, leaving mosaics for disease to spread between species (Institute, 2020).

My early thinking about *Inside Arcadia's* digital scenography was influenced by another island undergoing restoration. This was Wareamah (Cockatoo) Island in Sydney harbour, a maritime site and former prison adjacent to a former quarantine station at Car-rang gel (North Head) ("Q-Station," 2021). I visited the island in June 2018 viewing the 21st Sydney Biennale.

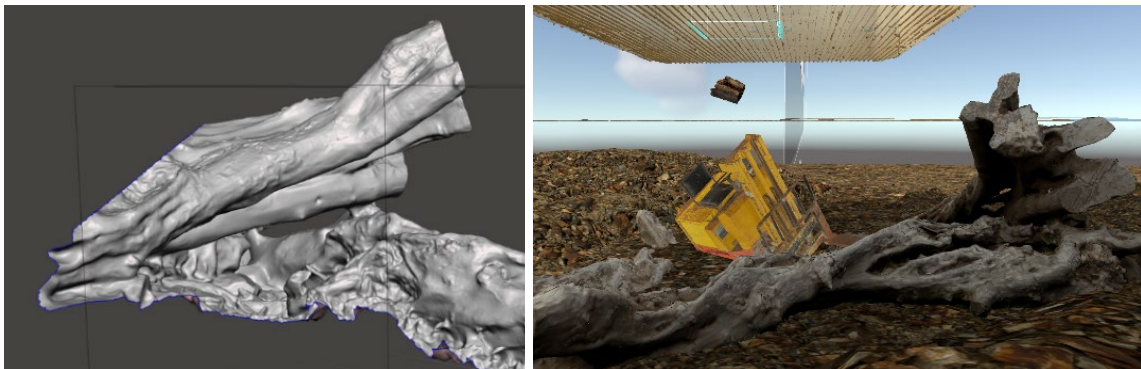


(fig. 25) Smith, Y. (2018). *Drowned river valley*. [Panorama image]. Detail of ceramic mangrove branch installation in Wood Drying Room 19, Cockatoo Island, Sydney. Image Malcolm Doidge (2018). Courtesy Yasmin Smith.

Yasmin Smith's *Drowned river valley* installation was site-specific to Cockatoo/ Wareamah Island's ecological restoration project (Y. Smith, 2018) (fig. 25). Jackie Bowring wrote of

²⁸ Animal viruses adapt to humans through repeated interspecies infection. Zoonosis is where a virus must acquire sufficient mutations to replicate in novel hosts, spreading from one to another then to humans (Sample, 2021).

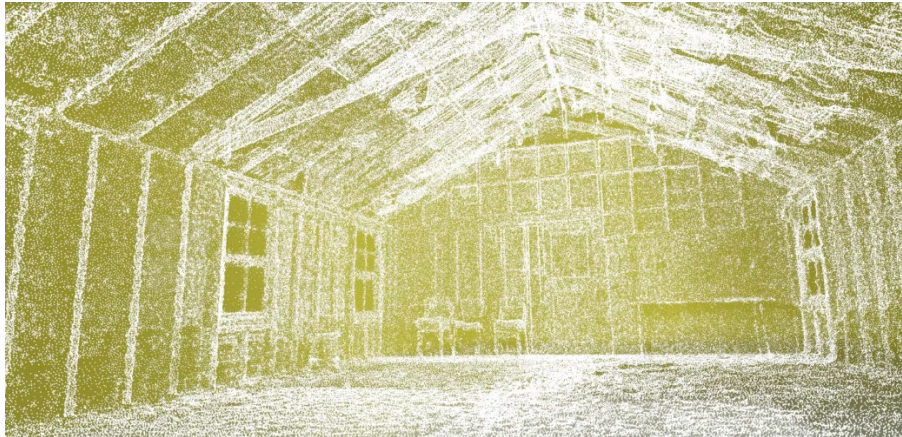
Cockatoo Island holding memories within ‘abandoned hulks’ of the island’s vast naval hangers (Bowring, 2008, p. 198). There is a significant difference in scale of this Australian site relative to Mātiu/Somes Island, with its built environments being much larger. Looking at Yasmin Smith’s slip-cast ceramic simulacra of mangrove branches and timber flotsam, placed on the slats of a huge drying complex. I was reminded of slip-casting porcelain blanks I made when working for my brother, a potter. These exhibited the same bleached bone quality of 3D models I mapped from dead tree trunks (without texture maps). These 3D models were placed under the slats and ‘water-line’ of the digital shader of the vestibule hub also underfoot (fig. 26, left and right).



(fig.26) Doidge. M. (2018). *Inside Arcadia* Left. Mātiu/Somes Island tree trunk. [Photogrammetry model of trunk without texture map] Right. Positioned under vestibule scene model with Greywacke texture of seabed [GUI screenshot]. Courtesy the artist.

Nine months after the 21st Sydney Biennale, Mātiu/Somes Island’s quarantine past and the present came together when the Covid-19 pandemic arrived and national borders closed (Doctor, 2021). When lockdown began on 20th March 2019, I lost access to Mātiu/Somes Island. I had time to rethink my digital scenographies as a quarantine gothic, the idea of these places as industrial monuments to a quarantine past re-imagined in this present pandemic quarantine. Mapping phantasmagoria as digital non-sites echoed Samuel Butler’s *Erewhon* (S. Ballard, 2013), industrial ruins located in a virtual nowhere, like New Zealander Kate Woods’ screen-based animated *non-sites* (Woods, 2012). Her geometries are a non-site homage to the partnership of Robert Smithson and artist Nancy Holt and, in contrast to the wispy point-cloud, site-specific spectrality of University College London’s interactive architecture lab’s immersive urban VR *The palimpsest* (Tveito et al, 2016). The latter is warmly nostalgic, while Woods’ animated geometries infect pictorial tourist landscapes like x-ray crystallography of virus RNA.

1.1 Phantasmagoria: The human quarantine barrack



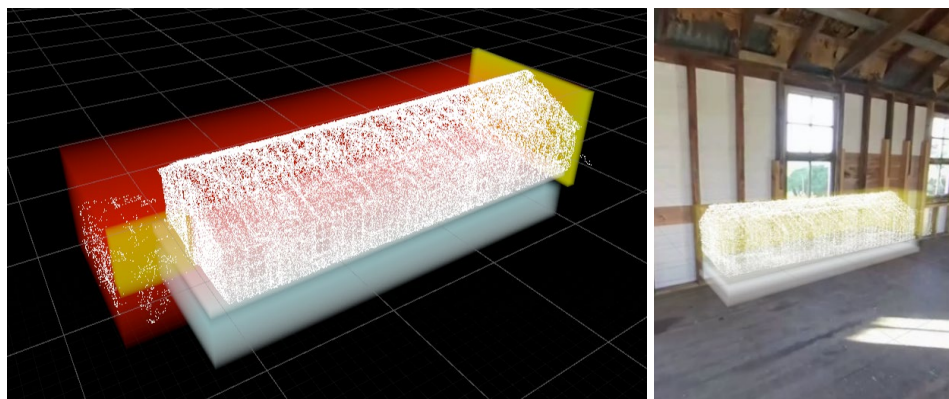
(fig. 27) Doidge, M. (2021). *Inside Arcadia. Phantasmagoria: The human quarantine barrack* digital scenography [HMD screenshot]. Courtesy the artist.

The digital scenographic and allegorical reference here is human contagion, its historic transportation to, and quarantine on, Mātiu/Somes Island. I describe allegory in more detail in sections 2.1.0, 2.1.2 and 2.1.5.

Yellow was once the colour of quarantine, standing for 'Q', an international signal flown from the mast signifying shipboard disease. From December 2021, traffic light red, amber, and green settings have coloured official response to the incursion of Covid-19 and, controversially, the Omicron variant in Aotearoa/New Zealand (McCann, 2021). Yellow is the signifier of quarantine in *Phantasmagoria: The human quarantine barrack* tinting the atmosphere of a quarantine gothic (fig. 28, right), beginning midway through the project (fig. 28, left). Relating to the current pandemic, this fog layer allegorised phantasmagoria as a miasma, drawing attention to a colonial legacy of arcadian delusion beginning in London where, nearly 200 years earlier (1831-1832) fog was mistakenly considered the medium for cholera transmission (in fact a water-borne disease). Earlier epidemics were thought to be spread by 'miasmas', the stench of disease wafting on a smog combining river fog with foul overcrowding and chimney smoke (Souter, 2020), "an atmosphere of disease carried on the wings of wind" (Shah, 2020) (fig. 27). In 1840, 2000 non-Māori lived in Aotearoa/New Zealand but assisted immigration later increased numbers in 'The New Zealand company' settlements of Wellington, Nelson, and New Plymouth, later Dunedin and Christchurch in Te Waipounamu, the South Island (Belich, 1988, p. 20). Although The New Zealand company became bankrupt - wound up by the Crown in 1858 (145, 2003, p. 81), the non-Māori population continued to grow rapidly, from 20,000 in 1853 to over 250,000 in 1870 (History, 2014a). Ironically, these colonies were fed by industrious hapū cash cropping (145, 2003,

pp. 267-268). Pressure from immigrants, seeking to acquire what was unobtainable in Great Britain—private ownership of farm small-holdings in New Zealand (Jackson, 2020, p. 146)—saw Mātiu Island confiscated by the Crown from Taranaki Whānui (Te Ātiawa, Taranaki, Ngāti Ruanui, and Ngāti Tama) in 1841 (145, 2003, p. 480). In 1869, ‘Mātiu Island’ became ‘Somes Island’, Wellington’s quarantine site for shipboard disease (Walton & Nester, 2001b). The practice of quarantine, derived from the Italian *quarantina giorni*, refers to the 40 days ships needed to anchor before landing. This began in Europe in the 14th century, when Mediterranean coastal cities were vulnerable to epidemics from ship-borne disease ("History of Quarantine", 2020). Amidst a burgeoning settler influx, the first quarantine was a shipboard smallpox outbreak onboard the “England” in March 1872 (Walton & Nester, 2001b). Quarantine helped contain epidemics, mainly within the European population²⁹ (Godfrey, 2021), in both the 19th century and the 20th century influenza pandemic. In total, 320 people were interred and forty buried on the island, including six victims (McSaveney, 2007, p. 4) of the 1919 influenza pandemic³⁰. After this, the human quarantine station was closed (Manson, 2018).

Miasma



(fig. 28) Doidge, M. (2020). *Inside Arcadia. Phantasmagoria: The human quarantine barrack*. Left. Coloured fogs and point cloud Barrack scenography in Unity. Right, 2021 model with digital fog and 360 video timelapse [GUI screenshot]. Courtesy the artist.

Michael Buser in *The time is out of joint* writes of atmosphere in IVR environments as the prototypical spatial form of hauntology, “Vague, irrational and indeterminate, they haunt the middle ground between subject and object” (Buser, 2017, p. 6). This apt description is applicable also to this digital scenography as a combination of point-cloud photogrammetry

²⁹ By the end of the 19th century the Māori population had halved due to uncontrolled infectious disease (Petousis-Harris, 2016).

³⁰ During the 1919-20 pandemic, my grandmother was an influenza ward nurse (Wood, 2020) at Thames Hospital in the Coromandel. Isabel caught the virus but recovered—after seeing the curtains drawn around her bed—as she was determined not to die. She recovered in hospital (Ross, 2015), unlike many Māori, who were then without access to health care. Their death rate was seven times that of Pākehā (Steyn & Binny, 2020, p. 29) In 2021, Māori are 17.1% of the population but account for 32% of Covid-related deaths (Xia, 2021), with mortality expected to be four times greater than Pākehā (Steyn & Binny, 2020, p. 34).

scan within a 360° video and binaural soundtrack including other features like fog layers (fig. 28). The 3D model of the human quarantine barrack was enhanced by the point-cloud visualiser plug-in³¹ (fig. 29). Point-clouds take measurements in virtual space (points on a photogrammetry model) and render these as a 3D projection of coloured dots (A. J. Sempere, 2015, p. 49). The visualiser enlarges or accentuates these 'points'. The concept of miasma influenced my decision to use combinations of fog layers to soften the 360° timelapse video of the same interior. This timelapse was a mid-winter dawn-to-dusk procession of light through the windows across the floor. The overall atmosphere of this digital scenography was spectral, including audio, yellow also emblematic of the physical trace of footprints on the yellow-chalked floor. The aesthetic signature of a point-cloud is the conceptual appearance of a ghost or phantasm (A. J. Sempere, 2015, p. 59). The point-cloud visualiser plug-in making this point-cloud more visible (with a larger white dot) also gave the model its 'shimmer' (fig. 27). The digital fogs here are predominantly yellow, with layers of white and blue-grey, and a block of red framing one door at the end of the model, a reference to flesh. The scale of the model in the game engine is slightly larger than life-size. An HMD recording with video and audio showing miasma from 2021 can be found here <https://youtu.be/q&uah6bzZTw>

'Phantomality'



(fig. 29) Doidge, M. (2019). *Inside Arcadia. Phantasmagoria: The human quarantine Barrack*. Point cloud visualiser detail. [GUI screenshot]. Courtesy the artist.

The nesting technique of 360° timelapse video panorama behind a photogrammetry model in virtual space is also repeated within the *Phantasmagoria: The Animal quarantine boiler room*

³¹ 'Plug-ins' are imported coded applications either made commercially or by independent enthusiasts. They can modify existing game engine features, e.g., the 'point-cloud visualiser could make the voxel points (white dots) larger.

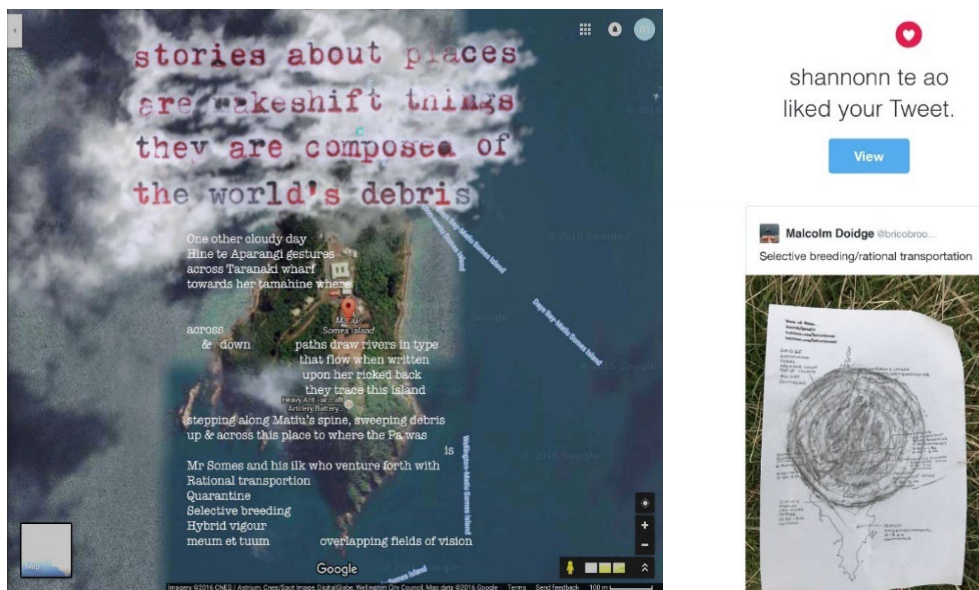
digital scenography. This digital scenography began with my long interest in British hauntology, focused on here through a quarantine gothic, a subset of a New Zealand Gothic mode. “Hauntology refers to spectral traces, phantom voices and palimpsestic discourses that help construct a way of understanding ourselves and the world” (Tavin, 2005, p. 101). The origin of Hauntology was with French philosopher Jacques Derrida who briefly coined the term in *The spectres of Marx* (Derrida, 1994, p. 63) a portmanteau of haunting and ontology describing the lingering ‘spectre’ of European communism after 1989 (Menand, 2018, p. 17). Merlin Coverley in *Hauntology ghosts of futures past* writes that hauntology, since Derrida, became “a shorthand for ways in which the past returns to haunt the present” (Coverley, 2020, p. 7). The dawn-to-dusk 360° timelapses embedded here and in the boiler room scenography also represent a hauntological trope of ‘time out of joint’.



(fig. 30) Doidge, M. (2019). *Inside Arcadia. Phantasmagoria: The human quarantine Barrack*. 360° timelapse video lighting [HMD Screenshot]. Courtesy the artist.

Sarah Blackman writes of hauntology paired with the gothic (Blackman, 2019, p. 35) that hauntological analysis has also entered into the discourses of film, photography, and television (Blackman, 2019, p. 34). Derrida talked of levels of ‘phantomality’ in cinema, its ““grafts” of spectralities” that “inscribes traces of ghosts on a general framework, the projected film, which is itself a ghost” (Baecque & Jousse, 1998, p. 27). In my immersive 360° context, these digital timelapse videos are grafted onto this spectral IVR medium by being projected onto the interior of a panoramic sphere in the game engine (fig. 30). A full description of this process can be found in the Technical Appendix section *360° time-lapse video*. As timelapse represents hauntology analogous with Derrida’s Shakespearean allusion “the time is out of joint” (Derrida, 1994, p. 61), this is a way of directing attention to the past erupting into ‘our’ time. I am thinking here of a 21st century interpretation of 18th and 19th century panoramic technology that Lisa Reihana also referenced and animated with a bank of five serial projections (Thomas, 2017). Appropriating the interior of the quarantine

barracks as an opportunity for a point-cloud treatment of the 3D model created a shimmer that was in sympathy with a binaural soundtrack, unlike the dramatic chiaroscuro lighting of the animal quarantine boiler room scene. The barrack point-cloud is a diaphanous atmosphere with homogenous consistency gently interrupted by a subtle mid-winter/day-night timelapse. This flutters through the interior, a faintly looping palimpsest threading the scene. This treatment of space was discussed earlier in section 2.1.4 and as the phantom subjective, supporting the idea of a quarantine gothic in section 2.1.1, 2.1.3 as a spectral allegory for this Covid-19 pandemic. I refer here to the etymology of phantasmagoria that combines *phantasma* (phantom) and *agoreuein* (to speak in public) based on the model of allegory (Castle, 1988, p. 29). Speaking allegorically and aurally in this scene is the ambisonic soundtrack. This is one of two recorded readings I made with actor/singer Vanessa Stacey (Ngati Kuia/Te Āti awa) using an ambisonic microphone in Massey's voice recording booth. The work Vanessa voiced was a 'viz-po' (visual poetry) work of mine called *Meum et Tuum* (2017) (fig. 31, left). This was originally a contribution to the *Performing, writing symposium* (Ao & Munnely, 2017), on Mātiu/Somes Island, part of the 2017 Performance Arcade.



(fig. 31) Doidge, M. (2017). *Turn Two: Performing, writing Symposium* Left. *Meum et Tuum*. [Adobe photoshop visual poetry]. Right. Tweet of frottage/rubbing from Mātiu/Somes Island fence post on butter paper [cell phone screenshot]. Courtesy the artist.

Meum et Tuum (what is yours and what is mine) is an ancient, medieval English legal phrase at the root of English common law. The writing references the confiscation of Mātiu/Somes Island by the Crown. The typewritten quote from Michel de Certeau in *The practice of everyday life* (Certeau, 2002, p. 107) was digitally transferred to a screenshot from a google satellite map of Mātiu/Somes Island. This recontextualised Neo-geography palimpsest

illustrated the wreckage of colonialism, in line with Craig Owens' observation 'the allegorist does not invent images but confiscates them' (Owens, 1980, p. 69) or adds another layer of meaning. In 2017, my intention was to explore Mātiu/Somes Island as representing a palimpsest, an assemblage with a base layer, the kaupapa of Kupe's Law, the foundation as described by Justice Joseph Williams and Rangīhira Pānoho in the *Orientations* section. The google satellite imagery reflected my then understanding of a palimpsest—similar to Pānoho—where he referenced Mark Graham's use of the palimpsest metaphor for his concept of neogeography concerning appropriating and layering satellite imagery and data (Graham, 2009). Unlike the Vestibule scenography, all three phantasmagoria are 'view only'. This means IVR level design deliberately eliminates virtual interaction like assigning tasks or the option to exit the scene, lest a hierarchy of achievement distracts from the disembodied experience of immersion. I discuss this context in section 2.0.1 *Forget the body, be a ghost instead*. The duration of this *Inside Arcadia* phantasmagoria builds over 170 seconds, and its cessation is abrupt. Two lingering field recordings of metallic clangs, like rattling carcasses of a colonial past, briefly overshoot the fade to black. I structured and filtered Vanessa Stacey's original voice work to produce what David Toop described as a *Sinister resonance* (Toop, 2011). This voice work was digitally layered and 'jittered' (broken up). In filmic terms, a non-diegetic voice recording by Vanessa presents a stutter mix of her reading *Meum et Tuum*, an auditory fragmentation suggesting time, hauntologically speaking, is out of joint. This mix also contains distorted Mātiu/Somes field recordings and a digital synthesiser static 'fuzz' that emulates the scene's atmospheric shimmer (fig. 32)³². The sound of a static build-up and release ending in metallic overshoot was made using a digital synthesiser in Reaper digital audio workstation (DAW).



(fig. 32) Doidge, M. (2021). *Inside Arcadia. Phantasmagoria: The human quarantine Barrack*. [HMD screenshot]. Courtesy the artist.

³² The synthesised electronic 'buzz' woven into a stuttering voice track mimicked the visual digital shimmer of the point-cloud model in the 'human quarantine barrack' scenography. See Chapter One, p. 36 for a link to the recording.

Rather than emphasise the binaural spatial quality of the original ambisonic recordings as multiple ambisonic tracks, I rendered all audio in stereo so that there was a blanket *affect*, i.e., the soundtrack was carefully edited to complement the ‘shimmer’ of the point-cloud in this scene positioned in the middle of the 3D model (fig. 32). My decision to nest a point-cloud 3D model within a 360° panoramic timelapse became especially integrated here when enveloped in this sonic, environmental texture, blanketing the point-cloud’s visual shimmer. One poetic interpretation of this experience, reported to me from a Performance Arcade experience, was a perception of the yellow fog—representing miasma—becoming darkened as the synthesised sound of the electric discharge or ‘buzz’ increased. This was purely an individual, phenomenological interpretation as the colour value of the digital fog did not change. A full description of this audio process can be found in the Technical Appendix.

1.2 Phantasmagoria: The animal quarantine boiler room



(fig. 33) Doidge, M. (2022). *Inside Arcadia Phantasmagoria: The animal quarantine boiler room*. [HMD Screenshot]. Courtesy the artist.

The scenographic and allegorical reference is the colonial establishment and continued dominance of settler pastoralism in Aotearoa/New Zealand. In 2006, Geoff Park in ‘*Theatre country*’ looked with apprehension toward 2020 and mused prophetically on what response “nature’s ruthless laws” might take regarding the global scale of habitat destruction (G. Park, 2006, p. 70). Aotearoa/New Zealand’s short human history of the Holocene (Louys, Braje, & Chang, 2021, p. 1) is one of rapid human encroachment on an oceanic ecology marking the end of seventy million years of isolation and the eventual destruction of most wild spaces (G. Park, 1995, p. 13). Had Park lived another decade, he would have witnessed the abrupt arrival of Covid-19 in 2020. Human quarantine became a collective imperative, revived by a national border closure in March 2020. Restrictions lasted for a sustained period until July

2022 when all borders, including maritime, opened to visa holders. By contrast, border control in the 1870s saw the Crown offer free passage to immigrants including unionised, British agricultural labourers wanting to freehold farms in Aotearoa/New Zealand. Many were escaping deepening economic crisis and a failed 'revolt of the field' fought against increased mechanisation and growing rural impoverishment in Britain (Arnold, 1981, p. 48). Between 1871 and 1880, the total number of assisted immigrants was over 100,000. The highest level of net migration was in 1874 with 32,000 immigrants (History, 2014b). This phantasmagoria is symbolic of that influx, the animation of the photogrammetry ships-chain model in this scene is not so literal. I had read earlier that some iwi considered islands to be umbilically tethered to Papatūānuku', the Māori earth mother, floating on an oceanic amniotic sac. I never could find that reference again. My unreliable narration turned to instead to immigrant ships, tethered to the flooded valley floor of Te Whanganui-a-Tara. Ships also arrived with the infectious, quarantined alongside a prison hulk holding Parihaka prisoners clustered about Mātiu/Somes Island. Immigrants, however, got to 'swallow the anchor' and go ashore, some to settle perhaps on land taken from those same prisoners (fig. 33).

Entering this phantasmagoria wearing the HMD, the ship's chain animation 'weighs anchor' moving slowly upward, an ascent coinciding with the beginning of a single ambisonic recording of running. The animal quarantine boiler room is in the centre of the building complex and the ambisonic recording captured myself sprinting around this internal perimeter, past all the animal pens, until exhausted. My initial idea of for phantasmagoria was of a metaphorical 'crypt', the type associated with 'the palimpsest of the mind' or spectralisation of the self (Dillon, 2013, p. 33). This introduced the idea of running as a performative action, an audio recording of a 'spectral self' determining the duration of the scene. This scene is the only one where the HMD viewer's physical reference to a floor level plane, underfoot, has been removed. This presents a phantom subjective, a point-of-view (POV) floating in virtual space. An important contribution to this scene's gothic atmosphere is a strong directional light, tracking in an infinity loop ∞ . This glitching light and shadow play illuminates a chiaroscuro of scrambled textures mapped onto the model's surface, a gothic mode throwing into relief the fractured, decimated surfaces of bad maps like repressed settler memory. Nikos Papastergiadis, in *Arcadia and imagined histories*, writing of Lisa Reihana and *in pursuit of Venus [infected]* (2017), noted in this vein,

"Between memory and imagination is the difference between excavating the old and bringing forth the new [...] but what if an artist starts making new memories? [...] what if the artist is using their imagination towards a possible past? (Papastergiadis, 2017, p. 23).

The phantasmagoria ‘boiler room’ digital scenography re-imagines animal quarantine and colonisation as industrial ‘ruin’. The site, while preserved as a historic location, is made subject to allegory by 360° mediation of its interior in the context of a zoonotic pandemic. This play of light and dark, a politico/economic chiaroscuro is—in this context—fragmentation and bricolage reminiscent of ruin described in ‘On the possibility of life in capitalist ruins’, where Anna Tsing argued the following in *Mushroom at the end of the world*,

“To write a history of ruin, we need to move broken bits of many stories and to move in and out of many patches. In the play of global power, indeterminate encounters are still important” (Tsing, 2015, p. 303).

Ruin was also a conceit of the British Empire in the 19th century, a cliché that it would one day rise again through colonisation after its eventual demise (fig. 34). In 1870, that meant transplanting a pastoral economy—already traumatised in Britain by industrialisation—elsewhere.



(fig.34) Gustave, D. & Blanchard, J. (1872). *The New Zealander*. [Engraving]. The Auckland Public Libraries Heritage Collections.

Inside Arcadia appropriates this fictional colonising gaze afar from *The New Zealander* by Gustave Doré, an allegory of ruin that, in 1870, emigrants banked on this vision for a colonising future. Empire looking to establish a southern arcadia was then reaching for this antipodean inheritance. Civilisations are “born, flourish and decay” (B. Smith, 1985, pp. 251-252) – an idea expressed by Secretary at War, poet, historian, Thomas Babington Macaulay. He forecast the day when the then newly rebuilt London (1840) would lie in ruin – a view considered clichéd even at the time (Ribner, 2015, p. 84),

“[...] some traveller from New Zealand shall, in the midst of a vast solitude, take his stand on a broken arch of London Bridge to sketch the ruins of St. Paul’s” (Macaulay, 1840).

Jackie Bowring writes of ‘The New Zealander’, ‘he’ is also Māori³³, a context lacking any contemporary respect for gender identity (Bowring, 2008, p. 196). This allegory is a Victorian gothic trope, a (male) beholder confronting the sublime of London as ruin (Woodward, 2001, pp. 1-2) while exhibiting a posture of cultivated awe (Ribner, 2015, p. 76). As Robert Mighall in ‘History as nightmare’ writes, “identified as modern, he is in a position to compare the past with the present” (Mighall, 2003, p. 9). ‘The New Zealander’ was Victorian England’s fantasy of culturally assimilated Māori (B. Smith, 1985, p. 252), a visitor from a fictional New Zealand of the future³⁴. Doré’s engraving portrays ruined London as a monumental sarcophagus to Empire, a ‘tomb with a view’ in some future Grand Tour, like the wealthy of Europe who once toured ancient Greek and Roman ruins and pilfered antiquities they then imitated, cultivating an aesthetic of ruins in their private parks and collections (Stewart, 2000, p. 107). This activity formed a theory of ‘social undulation’ producing this allegory for English colonisers illustrating the end—someday—of England’s (colonising) reach but also foreshadowing its subsequent renewal. This Victorian hubris, casting New Zealand as a southern arcadia, reinvents Māori as the Englishman of the future (fig. 34). The historical reality was instead a programme of cultural erasure and attempted ‘linguistic annihilation’ directed by the Crown towards Te Reo (Māori language) and tikanga Māori (customs) over generations (Kāretu, 2008, p. 90) through to the present day. Haunting is a key word for a quarantine gothic. *The New Zealander* haunts implicitly, the ghost of a remaindered future from a racist past (Coverley, 2020). As Jacques Derrida wrote in *Spectres of Marx*, “haunting is historical” but ‘not dated’ (Derrida, 1994, p. 3). *Inside Arcadia*’s vision of a quarantine gothic for this phantasmagoria returns to haunt the present with decimated fragments, a time-out-of-joint timelapse representing historical slippages/omissions made by the Crown or ‘forgetfulness’ that historian Rachel Buchanan calls, ‘the dementia wing of history’ (Buchanan, 2007).

My digital assemblages reflect the disorientation of being lost on a journey, The most disconcerting affect through immersion in the boiler room scene is how the floor drops away when opening the scene (fig. 35).

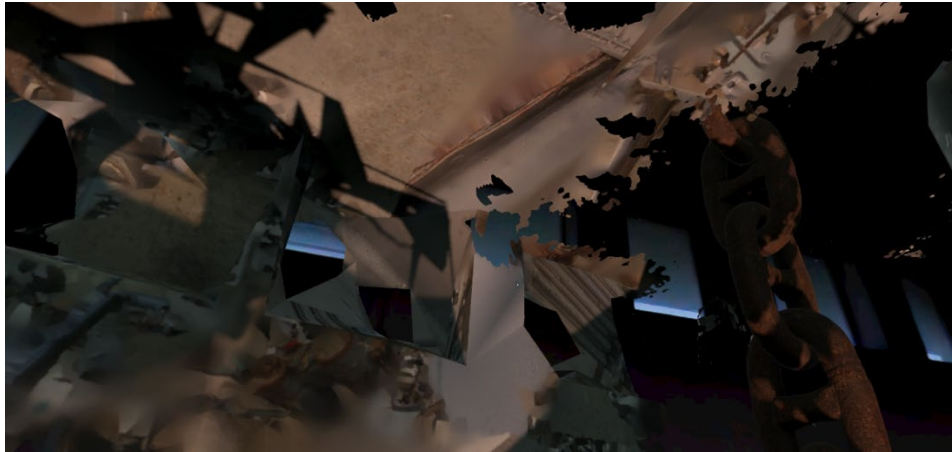
³³ In common use amongst Europeans at the time. After a mutiny aboard the immigrant ship ‘Jane Gifford’ in 1842, a man “tattooed after the Māori style” was identified as “the New Zealander” (Brett, 1984, p. 19).

³⁴ *The imaginary lives of James Pōneke* by Tina Makereti is also a fictional depiction of a ‘New Zealander’ a Māori man in Victorian England where, “I went from the untamed savage land to the great dome of civilisation” (Makereti, 2018, p. 290).



(fig. 35) Doidge, M. (2022). *Inside Arcadia. Phantasmagoria: The animal quarantine boiler room*. [HMD Screenshot]. Courtesy the artist.

This immersive virtual experience is deliberate, emphasising the ‘phantom subjective’ of immersion using an HMD to place the viewer in the improbable position that filmmaker Harun Farocki, in ‘phantom images’ describes as a ‘fly over’ (Farocki, 2004 p. 17). This affect is disorienting in a way that, by analogy, makes a parallel with dementia, a ‘where-am-I’ confusion of the almost familiar emphasising unreadable surfaces in the scene’s visual fragmentation (fig. 35). Heavily decimated models and mis-matched texture maps reinforce bewilderment with a glitching illumination of the 3D model, all set against a panorama looping a dawn-to-dusk 360° timelapse made inside the boiler room. Later I attended a talk by sculptor Brett Graham (Ngāti Koroki Kahukura, Tainui) presenting an edited installation of his extraordinary 2021 sculptural installation ‘*Tai Moana Tai Tangata* abridged for the Wellington City Art Gallery, discussed in section 1.3. I was struck by the care Graham had taken with lighting staging the scale of his monumental works in the smaller City Art gallery spaces, his practice resonated with my own lighting treatment of the animal quarantine boiler room digital scenography. The atmospheric mood emphasised the model’s jagged relief, casting long, drifting shadows as an animated virtual, directional spotlight looped a 360° path in another infinity ∞ shape. A glitching light with shadow play illuminated a chiascuro of scrambled textures contributing to this scene’s quarantine gothic atmosphere punctuated with crepuscular moments (fig. 35 and 36).



(fig. 36) M. (2022). *Inside Arcadia. Phantasmagoria: The animal quarantine boiler room*. [HMD Screenshot]. Courtesy the artist.

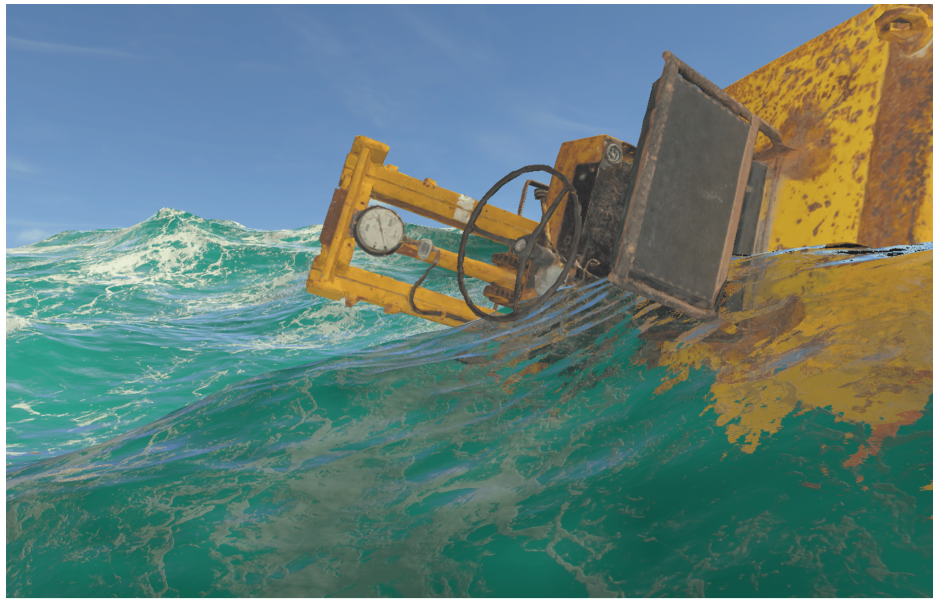
As mentioned, the ship's chain animation 'weighs anchor' (fig. 33 and 36) coinciding with the beginning of a single ambisonic recording. The sense of flight or panicked escape acknowledges a fear of invisible viral pathogens requiring a host in order to replicate. Pathogens may also jump species as in the viral hijack of zoonosis as humans encroach on wild spaces (Eckert & Giger, 2021, pp. 9-16). Zoonosis is an anthropogenic global event (O'Callaghan-Gordo & Antó, 2020) within this pandemic—the culmination of people destroying wild habitats (Services, 2021) then industrially farming that land (Institute, 2020). Geoff Park wrote of the European colonisation of Aotearoa/New Zealand, "Too many settlers, too little flat land" (G. Park, 2006, p. 41). This extractive 'quarry economy' creates rapid ecological depletion over time (Easton, 2020, p. 133). Covid-19 arrived at a time when global humanity—despite clear and early warnings (Ribeiro, 2020)—is beset with not only suppressing Covid-19 mutations globally but is hampered by a malaise of inaction concerning global heating (Monbiot, 2021). Human quarantine was integral to supporting rapidly increasing 19th century European immigration to Aotearoa/New Zealand. In 1968, a century after Mātiu/Somes' quarantine designation, the legacy of settler pastoralism re-emerged with a unique maximum security animal quarantine station built on the island (Walton & Nester, 2001a). This station protected a now mature national pastoral economy that historian Vincent O'Malley writes of in *Remembering raupatu: A forgotten anniversary* (O'Malley, 2021). The animal quarantine station was also established over a century after The New Zealand Settlements Act of 1863. This legislation consolidated the invasion and confiscation of iwi land in the Waikato that same year. O'Malley writes, "a few Pākehā got very rich off the back of confiscated land as New Zealand's pastoral economy boomed" (O'Malley, 2021), adding that land confiscations were a plantation formula adopted from

centuries of English colonisation in Ireland³⁵. Similarly land confiscations were implemented here by civilian militias in the 19th century, especially in Taranaki (Tribunal, 1996, pp. 216-220). O'Malley also wrote the gains secured by settler militia—occupying Māori land—established Pākehā farms that stayed in families for generations, something acknowledged by some descendants of those first settler militia members (Shaw, 2021). These encroachments were also fuelled by a European presumption of 'fatal impact' (Matthews, 2021, p. B2). Here Māori were thought destined for extinction, 'he iwi pahemo' (Renwick, 2004, p. 100), a Social Darwinian trope, popular amongst colonists, of 'a dying race' (Rangīhiroa Pānoho, 2015, p. 147). This was in seeming contradiction with policies of cultural assimilation where Māori were also thought of as "future sons of Britain" contributing to Empire (Keenan, 2012a, pp. 200-202). The notion that Māori were to be assimilated as English-speaking British citizens (Kāretu, 2008, p. 90) was very much connected to the idea of a southern arcadia becoming the destination for a 'better Britain'. The extent to which indigenous culture and legal rights were ignored by duplicitous land acquisition (Belich, 1988, p. 21) is evidenced by Sir William Molesworth of The New Zealand company who, in 1840, made this testament to English exceptionalism declaiming,

"We are by nature a colonising people. God has assigned to us the uninhabited portions of the globe and it is our duty to take possession of them" (Simpson, 1979, p. 1).

³⁵ I was born into a Catholic community in South Otago, New Zealand. My mother's Irish family had emigrated from Northern Ireland in the 1860's, 10 years after the famine. I grew up with 'the troubles' still a cause of resentment, along with sporadic hostility from a local sectarian form of Scottish Presbyterianism that, while waning, was still evident in the community.

1.3 Phantasmagoria: The bunker



(fig. 37) Doidge, M. (2019). *Inside Arcadia. Phantasmagoria: The bunker*. [HMD Screenshot]. Courtesy the artist.

The scenographic and allegorical reference is to Mātiu/Somes Island's historic defence sites, in relation to both human and animal quarantine and Aotearoa's colonisation and, a future with global heating.

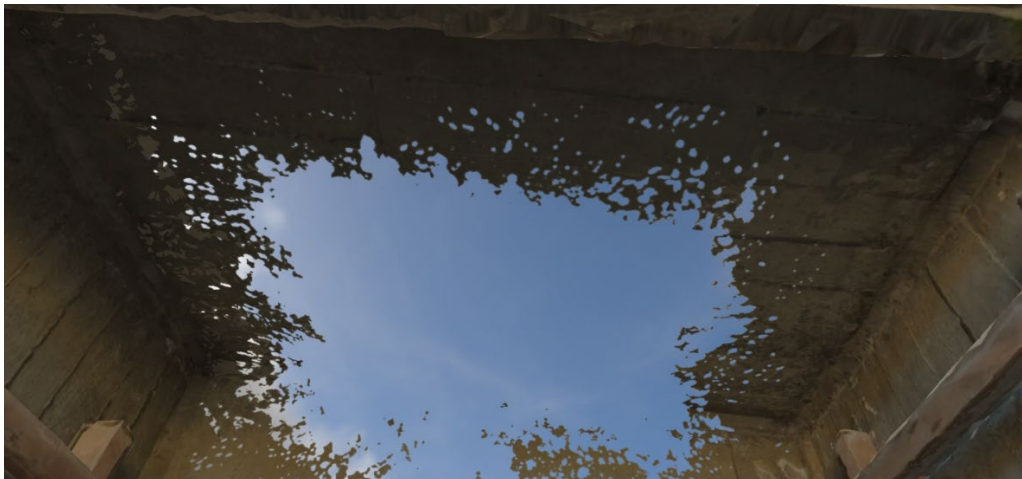
Walking backwards into the future

J.G. Ballard's *The drowned world* (1962) seemed like a useful place to start discussing *Phantasmagoria: The bunker*. However, this comparison intersected with another uncanny space, that of Brett Graham's (Ngāti Koroki Kahukura, Tainui) sculptural installation *Tai Moana Tai Tangata*. James Ballard's fictional drowned world shared a dark vision of rising sea levels engulfing London. What Graham's installation had in common was a plot line that speculated about declining human population, "The genealogical tree of mankind was systematically pruning itself" (J. G. Ballard, 2012, p. 23). This combination of rising sea and prophecies of 'human retreat' is a theme Graham uses with a tidal metaphor in his extraordinary 2021 sculptural installation *Tai Moana Tai Tangata*, a portion of which was shown at the Wellington City Gallery. Graham referenced Taranaki Whānui histories of colonisation with an allegorical reference to the impact of climate induced sea level rise. In August 2021, curator Anna-Marie White (Manukorihi, Te Āti Awa) discussed the relationship of Graham's project to global heating and sea level rise. The kaupapa or foundation of *Tai Moana Tai Tangata* begins with another relationship—a pact of political solidarity, 'Te Kīwai o te Kete'—arising from The New Zealand wars and conflict between

Taranaki and Tainui iwi. Graham's choice of title for this show originated in a prescient comment made then by Ngāti Toa Rangatira, Te Rauparaha, to Pōtatau Te Wherowhero (later the first Māori King of the Kīngitanga movement): 'Ka pari te tai moana, ka timu te tai tangata'— 'When the ocean tide rises, the human tide recedes' (Gallery, 2021).

Graham's installation, like Ballard's apocalyptic context, adopts 'incursion' as a metaphor for both global heating and colonisation—once familiar things becoming strange, again.

This digital scenography, *Phantasmagoria: The Bunker*, has a scenographic composition and atmosphere that deploys allegory in a way similar to Graham's *Tai Moana Tai Tangata*. Both installations reference historic colonial sites as allegories of global heating while focusing on the Covid-19 pandemic as a zoonotic symptom of global heating. Some of the formal language of sculptural scale and size used by Graham is deployed as a mode of quarantine gothic for this digital scenography. The bunker models in these scenes have been painted using 'Substance Painter' software with a digital brush, similar to the treatment of the model in the animal quarantine boiler room. The alpha channel in the Unity game engine renders digital painting transparently, giving the illusion of a feathered edge (fig. 38), frayed like the trailing edge of a flag whipped by a gale. In this section I explore uncanny encroachment as a metaphorical context, including the animation of 3D models made from machines found inside the animal quarantine station (fig. 37).



(fig. 38) Doidge, M. (2019). *Inside Arcadia. Phantasmagoria: The bunker*. [HMD Screenshot]. Courtesy the artist.

Referencing the violence of Taranaki colonial history, Graham elevates Te Rauparaha's comment—in a context of global heating—to a prophetic utterance. Graham's installation memorialises a past of Māori resistance to Pākehā colonial incursion by also appropriating its military architecture then positing another future of incursion, this time from rising sea levels. In one room of Graham's City Art Gallery installation in Wellington,

2021 there was a hulking monolithic and site-specific reference to settler militia blockhouses (McKay, 2021) (fig. 39). This was juxtaposed with grainy drone footage on a panoramic screen, a 3-metre-long luminous strip like a monochrome post-box slot, in the dark of the gallery showing an aerial drone's looped phantom view of the Taranaki coastline (fig. 40). Along with another similar coastline screen, these panoramic slots present a spectral 'phantom subjective' (Farocki, 2004, p. 13), ancestral testimony providing an impossible view looking into a future of global heating from the vantage of the near past.



(fig. 39) McKay, G. (2021). *Cameron Blockhouse panorama (1868)*. Kaitoke, Whānganui. [digital panorama]. Creative Commons.

The Blockhouse gallery room video was augmented by an eerie cadence, the rising and falling rhythm of filtered ancestral whakapapa³⁶ (genealogy), a reference to the interconnectedness of things seemingly disparate. Graham's installation presents a 'weird' juxtaposition in the City Galleries two exhibition spaces, weird in the sense Mark Fisher in *The weird and The eerie* uses to bring to the familiar that which ordinarily lies beyond it (Fisher, 2016, p.10). Strange floating panoramic screens frame a post-box coastal horizon, a slot shot emblematic of firing slits embedded in the exaggerated, monolithic slabs of Graham's sculptures (fig. 40).



(fig. 40) Graham, B. (2021). *Tai Moana Tai Tangata*. Wellington City Art Gallery. Image M. Doidge. Courtesy Brett Graham.

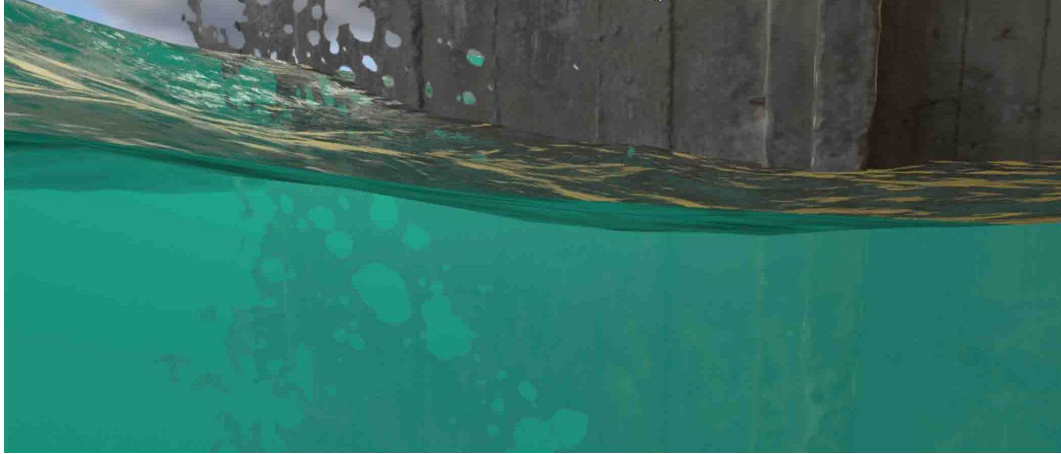
³⁶ I asked Anna-Marie White about the audio for the large digital panels. She said a recording of an ancestral speech had been digitally abstracted, slowed down so that, in her understanding, this programmed a cadence for a looping audio 'drone'. White thought 'cadence' was a useful noun to describe this.

This juxtaposition suggests beleaguerment as part of the show's title, a reference to the past seen through the present, a prophecy of a future with sea level rise. This touch of allegorical prophecy is similar to Walter Benjamin's allegory—the angel of history or 'Angelus Novus'—a figure walking backwards into a future of calamity and ruin (Symons, 2013, p. 25). Graham's installation and the foresight of Te Rauparaha likewise propels us backward—from a faded paradise—into a future of global heating. Historian Danny Keenan wrote of Taranaki and this period of colonial history, referencing the whakatauki, 'Haere Whakamua, Haere Whakamuri' or 'Going forward, thinking back' (Keenan, 1994). The past and tikanga, custom, is before us as we walk backward into a future. This palimpsest circularity in Graham's *Tai Moana Tai Tangata* considers walking backwards into the future from a quite different place—that of whakapapa—with a hostile tide threatening the interconnection of all things, human and non-human.

The rising tide

In this context, before and after the New Zealand wars of 1845-1872, the tide of human immigration to Aotearoa/New Zealand from Britain and her other colonies rapidly rose. As described in *Orientations. Arcadia and the antipodes*, between 1831 and 1881 the Pākehā population increased dramatically whereas the Māori population fell from 45,470 in 1874 to 43,595 in 1878 (Keenan, 2012b, p. 158). This situation was well beyond earlier disquiet some Rangatira had expressed about The New Zealand company settlements (Belich, 1988, p. 20). Historian, Rollo Arnold, writes of this in the '*Farthest promised land*' quoting flattering reports from 1873 written to prospective immigrants. These were posted in the British "Labourers' Union Chronicle" by scouts for unionised agricultural workers in search of land. In glowing, bold type, these endorsed emigration to New Zealand for union members with article headings such as, "Labourers, away to New Zealand" and, "Not a farm labourer in England but should rush from the doomed old country to such a paradise as New Zealand [...] the Eden of New Zealand [...] the land of promise; — [...] A LAND OF OIL, OLIVES AND HONEY; - A LAND WHERE IN THOU MAY'ST EAT BREAD WITHOUT SCARCENESS: THOU SHALT NOT LACK ANYTHING [...]" (Arnold, 1981, p. 51). The New Zealand portrayed to impoverished but unionised farm labourers was that of a lifeboat for [Methodist] salvation, a vessel on which a struggling Victorian working classes could, in desperation, escape the "doomed old country". Their enthusiasm directed acquisitive gazes toward colonising New Zealand as a classless arcadia. Subsidised mass migration realised that vision (King, 2003, p. 229). Such enthusiasm, when flipped, was as malign as the contagious diseases carried aboard those immigrant ships, blind to mortal consequences for Māori increasingly dispossessed then, and over subsequent generations (Ngata, 2021). The bunker scene positions the HMD-wearing viewer about to be swamped by an animated wave

shader, a digital sublime affect discussed from section 2.0.2 to section 2.0.4. This experience (fig. 41) was mentioned by many as suddenly making the viewer aware of their body was overwhelmed, a combination of body memory anticipating physical affect, which was then unfulfilled – submersion without buoyancy.



(fig. 41) Doidge, M. (2019). *Inside Arcadia. Phantasmagoria: The bunker*. [HMD Screenshot]. Courtesy the artist.

Speaking of deferral in conjunction with submersion, Moana Jackson (Ngāti Kahungunu, Ngāti Porou, Rongomaiwahine) reflecting on the 1918 influenza epidemic and writing about the Crown’s slow response to vaccinating Māori and Pacific Island citizens noted, “Everything has a context or whakapapa” (Jackson, 2021). This was a history of a ‘lack of care’ and semi-official racist segregation of Māori from Pākehā (Bartholemew, 2021, p. 25) making the neglect Māori received often more lethal (Hart, 2021). Settlers also felled lowland forests and drained wetlands (H. Smith, 2009a) places that Māori, iwi and hapū—all whāunau (family)—customarily relied on not only for sustainable resources but for commercial cropping agriculture producing a surplus for iwi (Petrie, 2002). These habitats were important to Māori for maintaining ancestral connections to natural features (Jackson, 2020, pp. 136-137) and to Papatūānuku—the land—sharing in her bounty that, traditionally, sometimes needed protecting from exploitation by imposing customary rāhui or restricted use (Marsden & Henare, 1992, pp. 68-69). Settler rapacity for land clearance (H. Smith, 2009a, p. 184) hugely degraded the capacity of iwi and hapū to protect ecosystems, and devastated mana Motuhake (self-determination) (Oram, 2020) essential for independence or tino-rangitiratanga (Bargh, 2019, p. 43) for the generations yet to come (Simpson, 1979, p. 7). In the words of this whakataukī, “Tukua mai he kapunga oneone ki ahau hei tangi māku” (send me a handful of soil so that I may weep over it) (Pihama, Greensill, Manuirirangi, & Simmonds, 2019, pp. 11-12).

Papatūānuku

In 1975, a land hikoi or march, *Te Rōpū o te Matakite* led by Dame Whina Cooper (Ngā Puhi), walked from Hapūa in Northland to Parliament grounds, Wellington. By this time, less than two million acres of land was in Māori hands (eight hundred and nine thousand hectares) of sixty-six million acres (two hundred and sixty-seven million hectares) prior to colonisation. This march was the origin of the love poem ‘Papatūānuku’, written by Hone Tuwhare (1922-2008) (Ngā Puhi, Ngāti Korokoro, Ngāti Tautahi, Te Popote and Uri-o-Hau) celebrating both this march and love for the land as the source sustaining human life (Hunt, 1998, p. 131). With permission from Rob Tuwhare and whanau, actor and singer Vanessa Stacey (Ngāti Kuia/Te Āti awa) and I recorded *Papatūānuku* at Massey University Creative Media Production Studios, Toi Rauwhārangī, in July 2021. *Te Rōpū o te Matakite* (those with foresight) was a hikoi specifically responding to the Māori Affairs Amendment Act (1967) (King, 2003, p. 487) and local body statutes that continued land alienation into the 20th century. Māori land legislation—previously prohibiting land from being developed, sold, or improved—was now threatening that same land with re-designation under the Act. Without protest, this would have eventually led to further loss. That echo of creeping confiscation still lingers. In 2021, the Far North District Council proposed mapping and restricting use of ‘Significant Natural Resources’, a designation largely involving Māori-owned land. The protests, and a subsequent local body re-evaluation, illustrates that foresight requires perpetual vigilance (Driver, 2021).

For this *Phantasmagoria*, Vanessa and I listened to Hone’s original voice recording and discussed how to approach her voice work. Kozel, Gibson and Martelli in *The weird giggle. Attending to affect in virtual reality*, note spatialising audio combined with IVR provides for a deeper phenomenological and spatial appreciation of virtual space (Kozel et al., 2018, p. 16). Regarding this affect, Vanessa remembered the warmth of her father’s voice when speaking of his home marae, his tūrangawaewae, his standing place. Vanessa focused on this emotion over a series of takes, later mixed with several other ambisonic environment sounds recorded on Mātiu/Somes Island. I included one additional recording in the mix – the ‘Wellington hum’. This low frequency sound has been noted for half a century: some scientists thought it might be caused by tiny vibrations in the earth called “free oscillations” (Pettit, 2017). Recording the ‘hum’ at 3am one hot, sleepless night in Wellington, its low diesel engine thrum added to Venessa’s throaty caress of *Papatūānuku*. In accordance with my decision not to choose ersatz 3D models from an online library discussed in Section 2.1.1 *Making a quarantine gothic*, these field recordings are deliberately site-specific. Beneath these tracks, a heavily filtered banging metal plate formed a metronome ‘bong’ over which—part-way through—the shuddering sound of the Island’s wind turbine announces a

southerly gale with staccato rattling. The banging from animal quarantine roller-doors in the gale coincided with the animated 'rising' of the plug-in digital moon in the game engine zone³⁷ (fig. 42) signifying a rising tide.

A scale for colonisation



(fig. 42) Doidge, M. (2019). *Inside Arcadia. Phantasmagoria: The bunker*. [HMD Screenshot]. Courtesy the artist.

My choice to exaggerate the 1:1 scale of the original photogrammetry scans for IVR disrupted the idea of a simulacrum being a faithful reconstruction (fig. 42). This choice resisted industry driven homogenisation; ersatz solutions supplied for a dominant (gaming) culture. Rachel Wells in *Scale in contemporary sculpture* writes exaggerated scale can be darkly comic (Wells, 2013, p. 105). As an example, in *Phantasmagoria: The bunker*, I exaggerated the scale of the bunker 3D model where the IVR 'phantom subjective' experience of the scene takes place³⁸. At twice the size of the original, these dimensions produce the point-of-view affect of feeling diminished. All around this position, 3D models of the chain, the plumb-bob, wool press, and a forklift copied from animal quarantine station originals bounce, or slither, weirdly obeying the physics of the wave shader animation script. The animal quarantine station fork-lift and wool press became an animated display of Freud's uncanny of self-moving machines. This scene also brackets the uncanny with another accelerated dawn-to-dusk simulation. Henri Bergson in *Laughter: An essay on the meaning of comic* wrote that "exaggeration is always comic when prolonged and systematic" (Bergson, 1913, p. 90). The deployment of exaggerated scale for a quarantine gothic is systematic, especially as these models collide eccentrically like strangely buoyant jetsam

³⁷ An audio file attached to an empty game object

³⁸ Scale and sizing of the models can be measured and changed within the Unity game engines settings then made proportional with the virtual 'world'.

and flotsam. Other examples are the animated ships anchor chain in ‘The animal quarantine boiler room’ scenography or the outsized plumb-bob in the *Vestibule* scene. Thinking back to Graham’s sculptural blockhouse bunker, I interpret his monolithic treatment of blockhouses as allegories, referencing an acquisitive colonising gaze defensively framed behind firing slits. Exaggerating the size and a scale of a copy of an original degrades³⁹ or satirises the original. ‘The Bunker’ models are churning around the anti-aircraft battery magazine bunker 3D model, all together a silly animation, one subject to an abject animus that, looming closer, threatens the viewer in the bunker refuge with sudden collision (fig. 37 and 42). Bergson identified this affect as ‘transposition’ or the comic in a particular mode,

“[...] the transposition from the solemn to the trivial, from better to worse, is comic, the inverse transposition may be even more so” (Bergson, 1913, pp. 89-90).

The darkly comic mode of a quarantine gothic is abject, with *The bunker* model’s appearance digitally feathered by shrapnel-blasted edges (fig. 38 and 41). These were digitally painted in software to appear transparent in the Unity game scene using an alpha channel. While the HMD wearer emerges at ‘sea level’ – standing inside and on top of two separate scans of Mātiu/Somes Island artillery magazines. The actual battery site is located just beneath the trig station, the highest point above sea level on Mātiu/Somes Island.

As noted, the viewer in this phantasmagoria is often swamped with a digital sublime affect of water shader immersion. While not feeling buoyed, such uncanny physics however provide the illusion of buoyancy for the animated industrial tools and machines in scene copied from the animal quarantine station to the phantasmagoria. The experience of being swamped by the animated wave was often felt as an embodied sublime affect in sharp contrast to the disembodied experience wearing the HMD⁴⁰. The bunker’s peppered, frayed look opened the structure to the digital seascape and horizon. The historic bunkers were built early 1940, part of a defensive ring around Te Whanganui-a-Tara at the beginning of the Second World War, defending against a possible Imperial Japanese maritime invasion (Walton, 1999). This association references New Zealand’s defence of a then beleaguered British Empire (Wilkins, 2016, pp. 11-12), a time when Aotearoa/New Zealand’s armed forces were fighting in North Africa and America had not entered the war (King, 2003, p. 393). Aotearoa/New

³⁹ Bergson used this definition to mean something formerly dignified becomes demeaned (Bergson, 1913, p. 89).

⁴⁰ Comments from conversations with viewers from The Engine Room Gallery show in 2021 were noted alongside views expressed at The Performance Arcade 2022. The synthetic wave swamping their vision had a variety of digital sublime affects from feelings of drowning to feeling recentred suddenly in their corporeal body. None of these interrupted the experience of disincarnation.

Zealand, part of the British Commonwealth, had established a national farming economy after 1882. By the second world war it supplied Great Britain with cheap primary produce through the Vestey family freezing work cartel (Condon, 2021) as well as co-operative dairying that employed many rural Māori and Pākehā (Society, 2021). In post Second World War years this economic dependence on the UK continued until 1973 (Easton, 2020, p. 135). Linda Tuhiwai-Smith in *Decolonizing methodologies* (2012) wrote of colonisation as a continuum where a past of trade and empire metastasized as globalisation in the present,

“There is a direct relationship between the expansion of knowledge, the expansion of trade and the expansion of Empire. That relationship continues, although in the reframed discourse of globalization it is referred to as the relationship between the expansion of technology/information, the expansion of economic opportunities and the expansion of ‘the market’.” (L. T. Smith, 2012, p. 92)

In this context, Angela Ndalians in *Neo-Baroque aesthetics and contemporary entertainment* (2004) writes of cyberspace as literally ‘a space that is navigated’ (Ndalianis, 2004, p.109). She identifies how immersive digital technologies, commensurate with virtual spaces, have been implicated in globalisation through various entertainment platforms deploying cyberspace. In this section however, outside of commercial platforms, I have focused on how a colonial past can be digitally mediated as digital scenography. As I discuss in Chapter Two, sections 2.1.0 to sections 2.1.5 *Inside Arcadia* and a quarantine gothic are allegorical in a fine arts and spatial design context with a larger concern beyond phantasmagoria as a form of entertainment. This context is global heating and sea level rise. I consider my comparison with Brett Graham’s mediatised installation indicates a similar strategy, one using a palimpsest allegory concerned with rising tide in *Tai Moana Tai Tangata*, a visual and sculptural language also emphasising scale as larger than life-size. Similarly, the digital scenography of *Phantasmagoria: The bunker* deployed a quarantine gothic as an allegory for global heating and sea level rise featuring distorted outsized scale in a maritime context, analogous of Mātiu/Somes Island’s historic quarantine and defence sites in this time of zoonotic pandemic and global heating.

The bunker’s phantasmagoria has a day/night animation accelerating the transition from dawn to dusk bracketed by lingering crepuscular moments. This exaggeration of diurnal duration recycles English hauntology’s Shakespearean catch cry, ‘the time is out of joint’ (Fisher, 2012, p. 18). This loop repeats a crepuscular finale against ruptured crenelations framing that silhouette in a gothic sunset. This immersive, experience of the ammunition bunker is experienced as a virtual ghost. Brett Graham interpreted Taranaki Whānui histories of colonisation with allegorical reference to climate-induced sea level rise. Tai

Moana Tai Tangata—‘When the ocean tide rises, the human tide recedes’. In this view, colonisation is part of a continuum where the past flows into the present while the future stands, unknown, behind us. In a similar way, the zoonotic spread of Covid-19 appears behind us but without certainty it will wane or retreat in the future. Just like the physics of global heating is inexorable, COVID-19 circled the globe impelling us backward towards an uncertain future.

Chapter 2: *Inside Arcadia: The practice*



(fig. 43) Doidge, M. (2021). *Inside Arcadia palimpsest*. [Film still]. Courtesy the artist.

Chapter One introduced four digital scenographies as a quarantine gothic with three phantasmagoria. Chapters Two and Three enlarge on and explain this immersive, virtual context for *Inside Arcadia*, expanding its hybrid practice with two public exhibitions. In this context, by way of transition from Chapter One, I include a link to a 36-second digital animation, *Inside Arcadia Palimpsest* (fig. 43). This show reel includes fragments of a quarantine gothic—woven together in a palimpsest-like manner⁴¹—with images of The Engine Room exhibition (2021) discussed in Chapter Two. This collection of fragments forms a conglomerate of 360° processes, installation and performance practice wearing the HMD. A link to *Inside Arcadia palimpsest* can be accessed here <https://youtu.be/Q1ZmlBsxZ0s>

Overview of Chapter 2

Chapter 2: *Inside Arcadia: The practice* presents two related parts discussing my creative research project. The initial sections, 2.0.1 – 2.0.4, cover wearing the HMD as part of a disembodied experience—an immersive phenomenology as a virtual avatar viewing a quarantine gothic. Sections 2.1.0 – 2.1.5 further contextualise this discussion of immersive, virtual disembodiment as a technologised/spectralised experience within a discussion of virtual space as an allegory of real or phenomenological space. I also emphasise the indigenous, site-specific context of Mātiu/Somes Island, then lead to a discussion of a ‘phantom subjective’—incorporated into a quarantine gothic—as phantasmagoria or allegory expressed by the public, technologised viewing of digital spectres. This discussion leads on to Chapter Three, an overview of *Inside Arcadia*’s public exhibitions.

⁴¹ The juxtaposition of things in collage is called parataxis. Palimpsests are parataxical and represent layers of features together, aligning fragments with potential for meaning (Kjellman-Chapin, 2006, pp. 88-89).

Exhibition and performance design of digital scenographies

My creative practice research project has three components. The first is four digital scenographies viewed in IVR as a ‘quarantine gothic’ described in Chapter One. The second involves the immersive, virtual experience of these scenographies wearing the HMD as performing a disembodied experience of a gaze-based digital avatar. The third context is that of allegory—in the form of a phantasmagoria—the exhibitions of *Inside Arcadia* and its public viewing of a quarantine gothic as a digital spectre. *Inside Arcadia* was exhibited at three different Wellington city sites:

August 2021. The Engine Room Gallery, Massey University Pukeahu campus.

February 2022. The Performance Arcade, Wellington waterfront.

March 2022. *Examination*: Massey University Pukeahu campus. Tokomaru building/Block 10.

The first two exhibitions were open to the public. The August 2021 exhibition narrowly avoided the level 4 lockdown and the February 2022 exhibition was fortunate in being one of the few exhibition venues to open during level 3 pandemic restrictions. The focus of my creative practice-led research here is the public exhibitions. As mentioned in the Introduction, the immersive, virtual experience was part of *Inside Arcadia*’s performance design. As noted in Hannah and Harsløf’s, *Performance Design*’ (2006) this is the study of space, body, action, and media where performance is also a reflective practice. Performance design enables a critical focus on post-colonial contexts (Hannah & Hetzel, 2017). As I discuss in Chapter Three, wearing the HMD is also an exploration of spatial porosity with a digital scenographic focus on a quarantine gothic. For *Inside Arcadia*, performance design was situated between experiencing virtual digital scenographies immersively within a physical installation of a chalked floor. The content of all four digital scenographies was largely recorded on Mātiu/Somes Island, inside both the former maximum security human quarantine complex and human quarantine barrack heritage site, including eight concrete anti-aircraft gun battery ammunition magazines. The collection of 360° recordings includes ambisonic audio environment field recordings converted to binaural soundscapes—in all scenes—with two 360° timelapse videos, each for two of the four digital scenographies. The remaining scenes have compatible commercial water shader and sky plug-ins produced for environment backdrops. Otherwise, with a few exceptions⁴², all 3D models for these digital

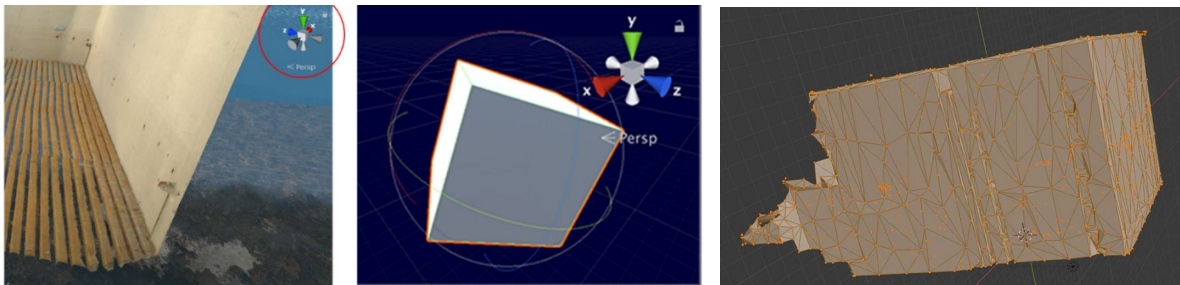
⁴² The ship’s anchor chain was copied from a single link found—along with the plum-bob—at the South Coast Wellington recycling depot. The flotsam tree stump (the model animated to float in an infinity path ∞ under the slats of the *Vestibule* scenography) had washed up close by at Owiro Bay. The ‘seabed’ model under the vestibule model was made from a satellite map of the lower North Island with a local Greywacke scree texture mapped onto it in a repeating pattern.

scenographies were produced from site-specific photogrammetry scans⁴³ of items on the island, e.g., a forklift and wool press in the maximum security animal quarantine station (fig. 44).



(fig. 44) Doidge, M. (2021). Left. Animal quarantine station forklift & wool presses. Middle & right. *Phantasmagoria: The bunker*. 3D models interacting with water shader physics. [HMD screenshot]. Courtesy the artist.

Digital photogrammetry uses 'structure from motion' algorithms to create the polygon geometry of the 3D model from photographs (Markovic, 2018) based on an XYZ axis⁴⁴ (up/down, side-to-side, back-to-front) that locates the camera being used in space – around the subject – for each image (fig. 45). I discuss photogrammetry further, in a site-specific context, in section 2.1.1 *Making a quarantine gothic* and in my technical appendix. For now, I focus on virtual space and disincarnation.



(fig. 45) Doidge, M. (2021). Left, Perspective view of Unity scene. Middle, Unity scene x,y,z perspective co-ordinates. Right Polygon mesh on bunker model [Blender and Unity GUI screenshot]. Courtesy the artist.

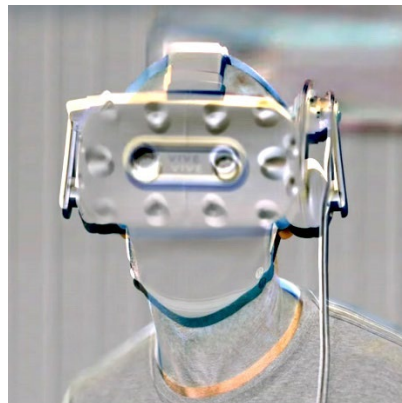
Christiane Paul wrote of such contexts,

“digital media translate the notion of three-dimensional space into the virtual realm and thus open up new dimensions for the relationship between form, volume and space” (2015) (Paul, 2015, p. 60).

⁴³ Modern photogrammetry makes 360° digital meshes from a pattern of multiple photographs taken around an object or within an interior. Colour and texture are included as metadata in the images later projected onto the 3D mesh.

⁴⁴ Metaphors of immersion in VR align the body with a digital void that is organised as a grid. The side-to-side lateral **X**, the vertical **Y**, and the front-to-back sagittal **Z** together co-ordinate a zero point in the RGB (Red/Green/Blue) software void (S. B. Davis, 2012, p. 8). Conventional Cartesian logic applies to virtual space in game engines and associated spatial software and is ubiquitous.

Paul talks of the ‘virtual realm’ as conceptually analogous with physical space. In this context IVR, wearing an HMD, was thought of as spatial illusionism seeking to privilege sight over the immersed body. This is a common view in the literature where Oliver Grau, in *Virtual Art, from illusion to immersion*, argued that IVR offered “the illusion of being in a complex structured space of a natural world” (Grau, 2003, p. 15). Laurel in *Computers as theatre* also argued IVR was about being immersed in a 360° point-of-view experience that is human-centred (Laurel, 2014). Christiane Paul in *Digital art* extended this by arguing such IVR experiences are only convincing when they make us forget the body (Paul, 2015, pp. 125-126). I disagree that successful IVR requires an absolute phenomenological benchmark set by forgetting the body. I take a more nuanced view of disincarnation, especially in relation to digital scenography viewed with an HMD. This is a gap for exploration (Sempere, 2021) in which I reconsider this idea of disincarnation, as a weakness of IVR, by looking to its origins in stereoscopic ‘ghosting’ as a way to mediate this dichotomy.



(fig. 46) Doidge, M. (2022). *Inside Arcadia*. The Performance Arcade. [Photoshop image]. Courtesy the artist.

2.0.1 Forget the body, be a ghost instead

As mentioned earlier, I favour Grant Tavinor’s notion of IVR, in *The Aesthetics of virtual reality*, as a novel pictorialism. This is where the immersive illusion of these digital scenographies represent mathematical models, coded to pictorially represent a spatial equivalent enhanced by the stereoscopy of the HMD. This view also counters a critical assumption of IVR—that it is a substitute for reality—ontologically belonging to a ‘virtual realm’ made clear by Paul’s analogy. Tavinor argues VR is simply a novel form of picturing⁴⁵

⁴⁵ Tavinor argues the term ‘virtual reality’ becomes problematic when defined in contrast with realism as being ‘unreal’ or ‘imaginary’. He advocates a process of ‘remediation’ where virtuality is *not* “non-physical” but instead a physical, technological process where “the function of an *x* is being remediated in a non-customary or unfamiliar form” (Tavinor, 2021, pp. 24-26). I have adopted a philosophical pragmatist (Weeks, 2014, pp. 332-334) approach here also, less concerned with establishing an ontology of what exists or how for IVR. I am concerned with finding explanations for these phenomena in relation to their mediation rather than arguing whether these representations of the world are true or false.

(Tavinor, 2021, pp. 72-75) especially when viewed through the HMD. This is a tradition that Jeffrey Sconce in *Haunted media* identifies with tele technologies using screens (Sconce, 2000, p. 126). This is important to *Inside Arcadia* in that it allows me to progress the idea of *Inside Arcadia* exploring—in a new media context—a virtual, immersive phantasmagoria that is not a substitute for reality but an allegory of it. I also argue ‘forgetting the body’ is not a necessary and sufficient condition for successful IVR experience. Instead, a nuanced performative experience of *Inside Arcadia*’s digital scenographies and physical site-specific installation can be explored as spatial porosity wearing the HMD. ‘What you see’ with the HMD corresponds to a physical experience of the exhibition site and also represents a social interaction between an audience and HMD participant. What is also important to note here is how the HMD mimics human sight or ‘native visual stereopsis’. The HMD’s two Fresnel lenses present two separate, slightly different, computer-generated images from two digital cameras in the game engine scene (Tavinor, 2021, pp. 65-66). The mathematical production of this single point-of-view in the game engine tracks the ‘head-mounted-display’ as a digital prosthesis. This HMD prosthesis co-opts vision and hearing, mediating these spatially through a digital avatar, as discussed in section 2.0.2. This idea aligns conceptually with my approach to a quarantine gothic, treating three of four digital scenographies as phantasmagoria. When discussing ‘virtual space’, Tavinor’s context of virtual pictorialism can be thought of as an allegorical mode following Espin Aarseth’s notion of virtual space. That is, a quarantine gothic digital scenography refers—indirectly—to Mātiu/Somes Island’s quarantine histories in relation to *Inside Arcadia*’s site-specific exhibitions. The viewer does not have to identify with ‘being there’. *Inside Arcadia*’s immersive, site-specific exhibition experience is layered. First, the experience viewing digital scenographies is mediated wearing the HMD. Second, the disembodied experience of the virtual avatar wearing the HMD includes an embodied experience of *affect*, i.e., the immersed perception of overwhelming affect, a digital sublime alongside experience of exaggerated scale. Removing the HMD, an important experiential layer is afforded by the installation space. The chalk floor shows the remaindered trace of footprints, a poetic, collective inscription of the shared, communal experience of the exhibition site and immersed experience.

2.0.2 Simulations, cyborgs, and the digital sublime

This section adopts Tavinor’s view that the practice of ‘virtual reality’ imaging is not well served by discourse focused on metaphysics. I briefly illustrate this with the example of Baudrillard’s 1983 essay *Simulacra and simulations*. Reflecting on co-writing about hyperreality for an Urban Corporis publication *New Faith in fakes: Out-takes for a false*

scenography (Moore & Doidge, 2021) viewed here [UCX e book.pdf \(qut.edu.au\)](#), I introduce phantasmagoria as a discourse for *Inside Arcadia*'s IVR experience.

Slavoj Žižek in *Grimaces of the Real* wrote of VR as a dystopia where,

“It is commonplace to talk of the ‘society of the spectacle’, whose reality is supplanted by the image itself, and where, consequently, individuals lose the “character of social agents and are reduced to external observers of the spectacle” (Žižek, 1991, p. 59)

Žižek was referring to Jean Baudrillard's essay, *Simulacra and simulations* in the *Precession of simulacra* (Baudrillard, 1983). In summary, Baudrillard argued mimetically copying something already existing replaced that thing's use-value—what it was good for—with a facsimile of it. As Wells writes in *Scale in contemporary sculpture*, the basis for Baudrillard's hyperreality is the distinction between use-value and exchange-value which he expanded on by developing a semiotic system (Wells, 2013, pp. 105-106). For Baudrillard, goods exchanged in an open market objectively refer to a third ‘equivalent’, the value represented by paying money. However, money hides another ‘equivalent’, the labour exploited in making that thing for exchange—think ‘fast’ fashion’ exploiting women's labour and finite resources (Thanhauser, 2022). The equivalence in this exchange signifies a cipher disguising capital's grotesque falsehoods and cyclical market excesses, where “to simulate is to feign to have what one doesn't have” (Baudrillard, 1983, p. 2). Tavinor argues the nomenclature of IVR becomes confused when construed metaphysically in this ontological context. This discourse of mediated virtual reality supplanting phenomenological reality can be distracting and also uninformed about how IVR works as a suite of software combined with hardware. As a novel picturing medium, one ontological assumption about IVR is that it represents a perfect worlding (Tavinor, 2021, pp. 133-134) like Christiane Paul's all-or-nothing stance on IVR immersion. The perception is that, for the worlding to be convincing, the HMD technology must envelope our sensorium flawlessly (Paul, 2015, pp. 125-126). Co-writing *New faith in fakes*, Dr Marcus Moore and myself wrote about *Inside Arcadia* and digital faking in the context of Umberto Eco's hyperreality, the “perfect likeness, a real copy of reality” (Eco, 1983, p. 8). The pandemic had just begun, and the film “Avatar” was discussed as an ironic parody, a “kitsch sci-fi version of New Zealand's colonial history” (Moore & Doidge, 2021, p. 320). The point of this conjecture was parody – undue literal regard for hyperreality. Practitioners of IVR who engage with storytelling, presence or empathy sometimes challenge Baudrillard's notion of hyperreality where ‘that simulation involves the construction of its own referential process’ with mixed results (Chan, 2008). Marie-Laure Ryan in *Narrative as virtual reality 2* is an apologist for VR, arguing against

Baudrillard's hyperreal ontology. She confuses this with epistemology by arguing Baudrillard's systemisation of simulations is irrelevant to IVR because his simulations are "static" and "they embody deception as a fundamental cultural and epistemological condition". Ryan also argues IVR simulations are computational processes—not simulated static objects—focused on constructing narrative where "to simulate [...] is to test a model of the world" (Ryan, 2015, p. 48). Ryan is confusing epistemology with ontology: 'Testing a model of the world' is an epistemological position. In short, epistemology is about how can we know and acquire knowledge of something. For example, empiricism argues knowledge is acquired through testing experience (Weeks, 2014, p. 12). Ryan's book is an excellent text by a committed IVR practitioner and academic but her dismissal of Baudrillard provides a succinct example of the confusion created when IVR is discussed as a metaphysical proposition concerning existence and reality⁴⁶. To this end, Mike Gane writing of Baudrillard's hyperreal states in *Baudrillard's bestiary* notes that, "the reality principal" in Baudrillard's writing had disintegrated into a narrative that no longer applied to knowledge of the "social realm". This was also noted by Žižek and referenced by Sconce in *Haunted media* as "destabilizing metaphors of fragmentation" (Sconce, 2000, p. 172). Gane writes that Baudrillard instead relies on a "fiction-theory" of 'Simulations and simulacra' to continue this discourse (Gane, 1991, p. 94). I am selective about other ontological discourse for *Inside Arcadia*. For example, the 'spectral turn' of 'hauntology'—coined by Jacques Derrida as a portmanteau of haunting and ontology—an obvious reference to the spectre as a metaphor caught hovering between life and death, presence, and absence, but does not entail a literal belief in a ghost's existence (C. Davis, 2013, p. 56). My choice has been to focus on the metaphor of the spectre through IVR—via HMD technology and associated software—to contextualise the history of this discourse. I have retained a narrative referring to the Covid-19 pandemic, a gothic mode not a genre narrative. This scenographic focus on *Inside Arcadia*'s wearing the HMD pursues Tavinor's idea of 'virtual reality' immersion where,

"[...] in VR, the technology of the medium—including the computer models used to generate a 3D world, the stereoscopy of the headset, and the motion tracking that allows the display to accommodate the user's changing perspective on the world, and their gestures within it—allows the spatial scene to be encompassing, dynamic and interactive." (Tavinor, 2021, p. 83)

In this context *Inside Arcadia* performance design adopts a gothic mode referencing phantasmagoria. *Inside Arcadia*'s digital scenography foregrounding allegory, rather than

⁴⁶ Ontology is a branch of metaphysics concerned with whether something actually exists or not and, can we identify its properties. It is an examination of the meaning of terms like 'reality' or, existence and being. This might include distinguishing between concrete and abstract objects (Weeks, 2014, p. 14).

ontology. Wearing the HMD as a prosthesis for ‘ghostly’ imaging bends allegory towards phantasmagoria or seeing ghosts in public, a reference to phantasma discussed in sections 2.1.2 and 2.1.5. These site-specific contexts, viewed as a spectral mode, develop a performative role related to digital stereoscopy. This approach locates the sites of the installation in relation to Mătiu/Somes historic reserves when viewing these digital scenographies. In this context, I argue that *Inside Arcadia* also references digital scenography as a ‘porous’ medium (Thornett, 2020). This is where the experience of viewing the digital scenography—while wearing the HMD—and being observed is supplemented by the physical context of the chalk-floor installation and an audience. Standing on this chalk floor makes it a field for digital and physical interaction, a shared exchange articulated through both space and time (Hannah & Harsløf, 2008, p. 4).

2.0.3 Phantasmatic virtual cyborg

Bruno Latour in *Morality and Technology* notes throughout human histories, technology evolved alongside with its cultural use (Latour, 2002, p. 248). Technology facilitating human simulations has also long been part of Western intellectual and cultural narrative from Ovid’s Pygmalion to Mary Shelley’s gothic ‘Frankenstein’. As Jack Burnham in *Beyond modern sculpture* (1975) speculated long ago, sculpture was,

“a preparatory stage representing the steps toward the simulation of biological life [...] when the sculptor begins to imitate the machine maker and the creator of scientific models” (Burnham, 1975, p. 5).

Burnham’s mid-20th century prognosis was concerned with cyborgs as human/machine hybrids (not biological cloning). Donna Haraway in ‘Staying with the trouble’, dismissed this notion of machine-organism hybrid, advocating instead for something more biologically heterogenous, a utopia of “Cyborgs for earthly survival” (D. J. Haraway, 2016, p. 230) while also acknowledging cyborg’s everyday existence through the physical prosthesis of artificial joints, corneal transplants etc. The embodied experience of being cyborg, aided by prosthesis, extends to viewing simulacra within IVR, wearing an HMD. Kathy Cleland in *Prosthetic bodies and virtual cyborgs* introduces the virtual cyborg as an avatar – “a virtual prosthesis that can occupy the online domain of cyberspace” (Cleland, 2010, pp. 77-78). Following Marshall McLuhan’s idea of all media being an ‘extension of ourselves’ (McLuhan, 2013), an avatar is “a perceivable digital representation (in a virtual environment) whose behaviours are executed in real-time by a human being” (Bailenson & Blascovich, 2004, p. 64). As noted earlier, partly as a result of the pandemic lockdown, a filmmaking revolution in

3D montage erupted from inserting images into virtual digital scenographies using game engines (Frater, 2022). Artist Jacolby Scatterwhite records an avatar persona from ‘green-screened’ performances of himself separately composited onto recordings of digital scenographies in the game engine that “are stages for performances” (Noble, 2018). However, the virtual cyborg in *Inside Arcadia* is not composited but a live, immersive, virtual experience wearing the HMD. In a performance context this experience combines in real-time with another less obvious physical prosthesis—walking on the chalked floor while wearing the HMD. In section 3.1 I introduce *Inside Arcadia* in relation to a spatially porous context, which Lucy Thornett—in the *Scenographic potential of immersive technologies*—writes of concerning *Te Āhua tū Wātea* (Foster & Mehzoud, 2019) (fig. 47).



(fig. 47) Foster, S. & Mehzoud, S. (2019). *Te Āhua tū Wātea*. The 2019 Prague Quadrennial, Prague, Czech Republic. Courtesy Hannah Cundy.

I briefly introduce spatial porosity here as an embodied *affect* within perceptual gaps “where sensory information from physical and virtual environments do not align” (Thornett, 2020, p. 104). This is because Cleland’s notion of the virtual avatar in my later discussions will emphasise *Inside Arcadia*’s digital avatar as a single-user, “egocentric” experience of *affect* wearing the HMD. As Britta Timm Knudsen and Carsten Stage in *Affective methodologies* note, affect is a “bodily, fleeting, and immaterial [...] focus on immateriality, flux and bodily engagement” (Knudsen & Stage, 2015, p. 2). In this respect, *Inside Arcadia* deliberately reduces the scope and application of Cleland’s avatar description wearing the HMD. Three of the four scenes of *Inside Arcadia* are “VR experiences” (Tavinor, 2021, p. 79) allowing the

user to look around only. This restraint minimises affordances⁴⁷ available in the environment, restricting interaction to an invisible trigger and a gaze-based mode for hotspot scene selection within the fourth digital scenography, the *Vestibule*. As I discuss later, the immersive performance design of this gaze-based virtual cyborg or avatar for *Inside Arcadia* enhances the experience of being a phantasm or ghost (Sempere, 2016). This also transposes the virtual affect of spectrality—wearing the HMD—to the chalked floor, a cumulative trace of physical footprints also signifying collective experience. I introduce this phantasmic interpretation of *Inside Arcadia*'s avatar here because I draw particular attention to this at the end of this section discussing the digital sublime.

2.0.4 An avatar phenomenology

Before I introduce the digital sublime, I outline a phenomenology of the HMD experience of a digital avatar. Maurice Merleau-Ponty in *Phenomenology of perception* wrote “Our body is not in space like things; it inhabits or haunts space” (Merleau-Ponty, 1964, p. 5). Paul Martin in *A phenomenological account of the playing body in avatar-based action games* (Martin, 2012) writes the HMD or any other prosthesis used to achieve immersive presence represents a broader philosophical and phenomenological position. That is, refocusing the ‘where I am’ of interface transportation to a new sense of ‘how I am’ using an HMD (Martin, 2012, p. 2). This phenomenological approach to immersion, as an embodied experience, also involves suspending judgement on the immersive virtual experience of a digital scenography, including what the immersive, embodied experience of digital simulacra signifies (Holischka, 2019, p. 164). This can be seen as a picturing medium where, for example, gravity can be defied. In this context, I introduce the concept of bracketing or phenomenological reduction to discuss how this affect is perceived when immersed wearing an HMD. This is a method of qualitative research with its origins in philosopher Edmund Husserl’s phenomenology (Casey, 1998, pp. 217-218). It is a methodology of open enquiry, like mind mapping, where nothing is certain, suspending judgement about the world is in order to analyse more closely a subject’s experience (Beyer, 2018). Laurel, writing broadly on design heuristics in *Computers as theatre* notes, “computers, like film, have developed their own unique methods of representation and experience [...] enfolded media like film [...] have given a new twist in terms of authorship [...] and interactivity” (Laurel, 2014, p. 150). Suspension of belief, wearing the HMD, is also called an epoché. As Haraway notes in *A cyborg manifesto*—writing about human/machine cyborg experience—“cyborg imagery can

⁴⁷ Affordance is a term used by Thornett (Thornett, 2020, p. 110) adopted from James J Gibson, *The theory of affordances* (Gibson, 1979, p. 127) meaning what an environment offers any species that occupies a particular niche.

suggest a way out of the maze of dualisms in which we have explained our bodies and tools to ourselves” (D. Haraway, 1991, p. 100). In other words, we accept surprise—in the moment—experiencing IVR by suspending judgement on this experience of immersion and where it might lead. As Kozel, Gibson and Martelli write in *The weird giggle: Attending to affect in Virtual reality*, a combination of phenomenology and affect is valuable for two things when experiencing IVR. Firstly, articulating the experience as being immersed in something disorienting or disembodied, and secondly, expanding on initial surprise through discourse about the attendant affect (Kozel, Gibson, & Martelli, 2018, pp. 10-11). An epoché is one such mode of discourse, focused on IVR’s ‘affect heuristics’—that is, gauging a qualitative response to experiencing simulacra within a 360° VR using an HMD. As Tobias Holischka in *The phenomenology of real and virtual places* writes, since the invention of optics our response to reflected images, thought of as optical illusions, is now translated into virtual content (Holischka, 2019, p. 164). Brian Massumi in *Parables for the virtual* writes that affect is loosely used as a synonym for emotion. Affect refers also to the embodied experience of intensity and within media and art theory, this is central to comprehending ‘image-based late capitalist culture’ (Massumi, 2002, pp. 27-28). Massumi states “Affect is the virtual as a point of view [...] the measure of a living thing’s potential interactions is its ability to transform the effects of one sensory mode into those of another” (Massumi, 2002, p. 35). In this respect, wearing the HMD prosthesis for *Inside Arcadia* folds at least two sensory modes (vision and hearing) into the IVR avatar experience of phantasmagoria, of being a ghost. Where this happens, in relation to digital scenographies, Lisa Blackman in *Haunted data, transmedial storytelling, affectivity* writes,

“digital archives have the potential to re-move, that is put back into circulation, marginal agencies, displaced actors and entities, and temporalities once thought fugitive or fossilized” (Blackman, 2019, p. 33).

Therefore, these site-specific, photogrammetry-based 3D models and 360° media recording form a (sometimes unreliable) phantasmagoric archive of uncanny experiences, fossilised timelapse loops, corrupted models, and audio glitching. Visitors experience of *Inside Arcadia*—at both public exhibitions—consistently identified affect as a response elicited from one particular scenography⁴⁸. This is a feeling of being engulfed by the water shader simulation in *Phantasmagoria: The Bunker* (fig. 48). Referencing my video documentation and, in conversation with participants in the August 2021 exhibition, immersion within this digital scenography produced an uncanny sense of being overwhelmed. A former surf club

⁴⁸ I noted similarities between comments participants made between the August 2021 exhibition and feedback on viewer experience volunteered by guides hosting The Performance Arcade installation in 2022.

lifesaver noted a feeling of drowning “climbing the ladder”—sinking beneath a synthetic ‘wave’ while simultaneously aware of still breathing and standing on a gallery floor. At the Performance Arcade, a ten-year-old boy was observed making swimming motions in the same scene. The uncanny scale of objects in these digital scenographies also contributes to affect. I refer again to Wells’ *Scale in contemporary sculpture* (2016) because, in discussions of copying and simulacra, copying something is sometimes assumed to be life-size, a 1:1 reproduction. *Inside Arcadia* is distinct in acknowledging its relationship to scale, e.g., exaggerating the scale of 3D models within all digital scenographies. I also matched the area of the vestibule model to that of the chalked installation space in a 2:1 ratio, acknowledging the screen ratio of portable devices available for further mediation of *Inside Arcadia* (see Chapter 2: *Inside Arcadia palimpsest*).



(fig. 48) Doidge, M. (2021). *Inside Arcadia. Phantasmagoria: The bunker*. Water shader animation [HMD screenshot]. Courtesy the artist.

As mentioned earlier, another way of thinking about an embodied, immersive experience of simulacra, while minimising investment in Baudrillard’s general theory of consumer capitalism and its simulacra, is through phenomenology “to the things themselves”, in short, direct experience (Steinbock, 1997, p. 1). On the embodied experience of simulacra wearing an HMD Roberto Simanowski in *Digital art and meaning* writes “in interactive art, the interface is no longer exclusively focused on vision but engages the entire body and turns it into a privileged site for experience” (Simanowski, 2011, pp. 124-125). However, as Katherine Hayles in *Electronic literature* states, this privileged site is not always one of unaided bodies but is also the site of embodied interactions with technology (Hayles, 2008, p. 108). This is where the digital sublime, a variant of David Nye’s American technological sublime (Nye, 1994) is useful interpreting the experience of IVR using an HMD. The digital sublime has its origin in enlightenment philosopher Immanuel Kant’s *Critique of Judgement*

(1790) also Edmund Burke's "delightful terror" (Burke, 1998, pp. 101-102). Eugénie Shinkle, in *Videogames and the digital sublime*, summarised Kant's sublime as thinking the sublime affect was a 'problem of the subject', that is, where embodied imagination momentarily overwhelms and disables the intellect. For Kant, the subject is overwhelmed by an encounter, specifically an experience involving nature, i.e., the dynamic sublime. As I discuss later, the enlightenment separation of 'man' from nature was an important feature of the European gaze toward the South Pacific as a new arcadia. The sublime is embodied in emotion and imagination, but not of the intellect. Returning to Kant, the intellect eventually regains control from the body, an act reinforcing the ego's (supposed) intellectual boundary between the self and nature's intrusion through embodied imagination (Shinkle, 2012, p. 2).

Disincarnation again

Christiane Paul in *Digital art* writes "Relatively few virtual-reality environments that completely immerse a viewer into an alternate world have been developed within an art context" (Paul, 2015, p. 125). As discussed earlier, the immersive experience of *Inside Arcadia* is exploring this gap performatively, the experience of disincarnation as a ghostly action wearing the HMD. One aspect of this is the digital sublime experienced viewing digital scenographies. In particular, the water shader simulation of a wave—swamping the HMD's 360° field of vision—embodied a 'wave' affect as the digital sublime (fig. 47). This sensation is of overwhelming 'wave-ness'. Julian Stallabras in *Sublime calculation* (Stallabras, 2021) argues the dynamic sublime is an aesthetic of disorientation, manifested in the rapidity of data flows. For example, the GPU data processing of *Inside Arcadia*'s water shader animation overwhelms the viewer in part because, without glitching, VR computations through my Nvidia 1080Ti graphics card present a (nearly) seamless experience. As Shinkle notes, experiencing simulacra can be analogous with previous experience of reality. Stallabras also writes of the uncanny, combined with the sublime, as a familiar sensation rendered digitally unfamiliar. If overused, repetition destroys epoché or suspension of belief maintaining 'wide-eyed surprise'. The replacement is cynical awareness (Stallabras, 2021). I discuss a phenomenology of wearing the HMD in section 3.2 but for now I note that, participants wearing an HMD sometimes experienced the animated parts of *Inside Arcadia* digital scenographies as an embodied sensation of immersion, similar to a "flow state", a subjective focus absorbed with immersive scripted virtual interactions in a hierarchy of options (Csikszentmihalyi & Csikszentmihalyi, 1998, p. 9). This is where, as Shinkle notes, the digital sublime is similar to but not the same – "a flow state simultaneously is that of release, and of control" (Shinkle, 2012, p. 7).

2.1.0 Mātiu/Somes Island and allegory

Te kete tuatea (The three baskets of knowledge)

Discussing these Western concepts of knowledge regarding virtual immersion I am aware my pākehā gaze is looking towards, but not out from, a place that is Māori (L. T. Smith, 2012, p. 138). For *Inside Arcadia*, this is where the kaupapa or foundation for Mātiu Island was laid by Kupe where Rangīhira Pānoho in 'Māori art' describes diverse Kupe voyaging narratives, 'kōrero tairitenga', as 'allegory' (Rangīhira Pānoho, 2015, p. 35). I make no claim here to address Mātiu Island whakapapa regarding Taranaki Whānui. My creative research practice is focused on mediating a colonial layer of historic quarantine referencing that past in the context of the Covid-19 pandemic. Doing this, I wanted to acknowledge what was before me on Mātiu/Somes Island could become allegorical—as a digital collection—of historic quarantine and defence sites, not simply a collection of 360° digital theatre 'props' referring literally to an existing built environment, like a virtual tour.

As Rev. Māori Marsden (Ngāi Takoto, Te Rarawa) and Te Aroha Henare wrote in "Kaitiakitanga: A definitive introduction to the holistic world view of Māori". 'Te Kete Aronui' is the kete or basket of ritual, literature, and humanities, one of three baskets of knowledge obtained for humanity by the forest deity Tāne⁴⁹ from an eternal realm (Marsden & Henare, 1992, pp. 60-62). *Inside Arcadia*, as a creative research practice, acknowledges a Te Ao Māori ontology⁵⁰, where 'Te Kete Aronui' engages *toi rere hiko*, (the art of the electric brain), a play on the Māori word for computer, "rorohiko" (Randerson, 2008, p. 90) coined by Rachel Rakena (Kai Tahu, Ngā Puhī). This is an indigenous epistemology of digital art and creative technologies, "that which flies, settling momentarily but leaves no trace" (Dietz & Nadarajan, 2006, p. 301). In this context, Caroline McCaw in *The Aotearoa digital arts reader* (McCaw, 2008, p. 15) acknowledges space is socially produced, creatively and actively, referencing Henri Lefebvre's 'The production of space' (Lefebvre, 1991),

"We are confronted not by one social space but by many. [...] Considered in isolation such spaces are mere abstractions. As concrete abstractions, however, they attain 'real' existence by virtue of networks and pathways, by virtue of bunches or clusters of relationships" (Lefebvre, 1991, p. 86).

⁴⁹ Tāne is the deity atop Tokomanga (gateway) Tāne Te Waiora on Mātiu Island. He separated Ranginui the sky father and Papatūānuku the Earth mother, then ascended to the twelfth heaven receiving three Kete of knowledge. Sir Timoti Kāretu lists these as, "Te kete Aronui: incantations, literature, philosophy and ritual; Te kete Tua-uri: the basket of peace, love and all things good; and Te kete Tua-ātea, warfare, black magic, agriculture, tree or woodwork, stonework or earth works (Kāretu, 2008, pp. 86-87).

⁵⁰ Te Ao Māori/The Māori worldview acknowledges the interconnectedness of all living and non-living things (Ruru, 2014). In western philosophy, ontology is a major branch of metaphysics examining reality and what can be said to exist, as distinct from epistemology, which is how 'we' think we know something. Ontology might therefore examine the difference between something concrete and what is abstract (Weeks, 2014, p. 14), e.g., the forklift on Mātiu/Somes Island and one's perception of a photogrammetry digital model of it.

McCaw writes Māori artists have long been engaged with new media in this respect. Janine Randerson notes that, in a sculptural installation context, Dr Maureen Lander (Ngā Puhi, Ngāti Pākehā), art historian Dr Rangihiroa Pānoho (Rangihiroa Pānoho, 2001) and Maree Mills (Mills, 2008, p. 76) considered *Toi Māori* (Māori art) part of a continuum featuring constant innovation. Keziah Wallis and Miriam Ross in *Fourth VR: Indigenous virtual reality practice* identify how indigenous creators develop VR tools and 360° in IVR contexts (Wallis & Ross, 2020). Māori film maker, Barry Barclay's assertion of an indigenous, fourth cinema (Barclay, 2003, pp. 7-11) included Māori film-making as an 'invisible Marae', an idea pursued by Lisa Reihana (Rangihiroa Pānoho, 2004, pp. 2-3) in her 2017 Venice Biennale work *Emissaries: in pursuit of Venus [infected]* (Devenport, 2017, p. 20). Recent examples of Fourth VR from 2021, concerned with the Anthropocene, is the collective production of *Mana Moana* curated by Rakena (Rakena, 2021). Also encompassing the Oceanic potential for IVR to interpolate the physical world, in combination with a porous measure of haptic materiality, is the multi-user project *Tē Āhua Tū Wātea* shown at the 2019 Prague Quadrennial (Foster & Mehzoud, 2019, p. 202). I discuss this in section 3.1.

Te kete aroiti (basket of neglect)

As Rev. Marsden and Sir Tīmoti Kāretu (Ngāi Tūhoe, Ngāti Kahungunu)—in 'Te Kete Tuawhā, Te kete aroiti'—write, there is a fourth basket' that Kāretu calls 'Te kete aroiti'. This contains, Kāretu notes, a treasure once given 'scant regard'. In this kete he includes Te Reo (Māori language)—alongside which I would place honesty in teaching and learning the histories of colonisation. Kāretu goes on to say that, with sensitivity, greater comprehension of both might flourish through mutual understanding and recognition (Kāretu, 2008, p. 88). Marsden writes of this fourth kete, it is also the world of symbol: "symbols must approximate the reality to which they refer before a society will accept and give assent to them" (Marsden & Henare, 1992, pp. 62-64). Speaking to this in allegorical terms,

"The world of symbol is the deliberate creation of the human mind. Man creates symbols to depict, represent and illustrate some other perceived reality. [...] created by the human mind as maps, models, prototypes, and paradigms by which the mind can grasp, understand and reconcile the worlds of sense perception and the real world behind that" (Marsden & Henare, 1992, p. 62).

Huhana Smith (Ngāti Tukorehe, Ngāti Raukawa ki te Tonga), in 'Mana Taonga and the micro world of intricate research' includes both metaphor and allegory as a resource in her summary of aims, theory, methods and resources within a kete methodology (H. Smith, 2009b, p. 30). Kāretu's fourth kete—associated with things overlooked—introduces the

potential for Mātiu/Somes Island's historical quarantine and defence sites to be mediated as an immersive 360° exploration of a 'quarantine gothic', an allegory of the pandemic.

By positioning IVR in relation to mātauranga Māori and Te Ao Māori, my intention is to also navigate the symbolism of *Inside Arcadia* by introducing the concept of allegory, adopted from European critical and art historical discourse. This introduction concerns responding to this pandemic crisis. I am thinking also in terms of the symbolism Kāretu uses to describe neglected knowledge that requires some impetus to lead to meaningful action. I begin by conceptualising the 'virtual space' of *Inside Arcadia*'s digital scenography in terms of allegory. This approach seeks to locate *Inside Arcadia*'s digital scenographies as allegory thought of as phantasmagoria. I then extend this understanding to the immersive experience of a quarantine gothic as a mode in relation to the Covid-19 pandemic.

Inside Arcadia stages four digital scenographies using 360° mediations and scanned objects left over from a quarantine past. These are symbolic of the present pandemic and its ecological origin in a globalised, colonising trauma that Bruno Latour writes of in *Down to Earth, politics of the new climatic regime* (Latour, 2018, pp. 45-46). Later, writing about *Inside Arcadia*, I interpret the immersive work and installation in light of European allegory that, traditionally, was the art of deflection—indirectness revealing the meaning of one thing by pointing to some other, related thing—"to speak otherwise than one means to speak" (Hermerén, 1969, p. 103). Walter Benjamin in *Arcades project* writes of ruin in a European context as "the refuse of history" (Benjamin, 2002, p. 9). Relevant to this project appropriating the imagery historical sites and bunkered ruin, Benjamin's fraught, complex 20th century personal writing and dialectical materialism *The origins of German Tragic Drama* provides a Eurocentric focus for allegory as a melancholic meditation on European ruin (Pugh & Chandler, 2021a, p. 94). This is the annihilation of natural meaning by the allegorical, as Howard Caygill writes in "Walter Benjamin's concept of allegory",

"For Benjamin, the classical trope of such fragmentation is the spatialization of time – temporal meanings are frozen, objects and actions either piled up or stratified according to structures that are indifferent to their natural meaning. It is as if they are words that have been translated into languages that are indifferent to their original meaning." (Caygill, 2011, p. 248)

As Elizabeth M. DeLoughrey in *Allegories of the Anthropocene* writes, "After Benjamin it is generally agreed that allegory signals an era of calamity and a way of responding, inadequately but necessarily to crisis" (DeLoughrey, 2019, p. 10). Frederic Jameson writing earlier in 'From metaphor to allegory' notes that "If the allegorical is attractive for the present day and age it is because it models a relationship of breaks, gaps, discontinuities and inner

distances and incommensurabilities of all kinds” (Jameson, 2001, p. 25). He adds later, in ‘Allegory and ideology’, that “genuine allegory does not seek the ‘meaning’ of a work, but rather functions to reveal its structure of multiple meanings, and thereby to modify the very meaning of the word meaning” (Jameson, 2019, p. 35). Marcia Tucker in *Blasted Allegories* writes, the voice of authority and omnipotence can be replaced by a collective of voices. The viewer, while also a participant, can also then engage in socially constructing space, experienced as allegory (Tucker, 1995, p. 15).

Inside Arcadia references allegory and contingent ruin in a manner that DeLoughrey, writing of allegory, calls ‘a mode’ that, like the gothic as a mode “a way of doing and seeing adaptable across dislocations of culture, time and space” (Lawn, 2006, pp. 14-15). Therefore, I propose for *Inside Arcadia*, following DeLoughrey, “As a mode, allegory can be utilised to comment effectively on the ways in which colonialism has ruptured cultural and ecological relations to the past” (DeLoughrey, 2019, p. 9). This is more than a rhetorical trope. Speaking scenographically, DeLoughrey goes on to write “Allegory stages other worlds to draw parallels and disjunctions between the present and an often-dystopic future” and “It is the animation of universalizing figures such as planet, species, nature and the human into narrative—and thereby into space and time” (DeLoughrey, 2019, p. 5). This holism is similar to whakapapa/the interconnectedness of all things or, considering Mātiu/Somes Island and a past of quarantine and defence preserved in the present, IVR is a way ‘how Islands can be imagined’ (Pugh & Chandler, 2021bxii). This is where Jonathan Pugh and David Chandler in *Anthropocene-Islands* discuss DeLoughrey’s concern with compressing the scale of space (planet) into that of place (islands), a way of disrupting the linear separation of past events from the present (Pugh & Chandler, 2021a, p. 30). I reference some of these Island notions of allegory throughout my writing, e.g., section 2.1.5. My question now, concerning allegory is;

How can *Inside Arcadia* demonstrate its immersive scenographic spaces as an allegory of Mātiu/Somes Island’s historic quarantine and defence sites?

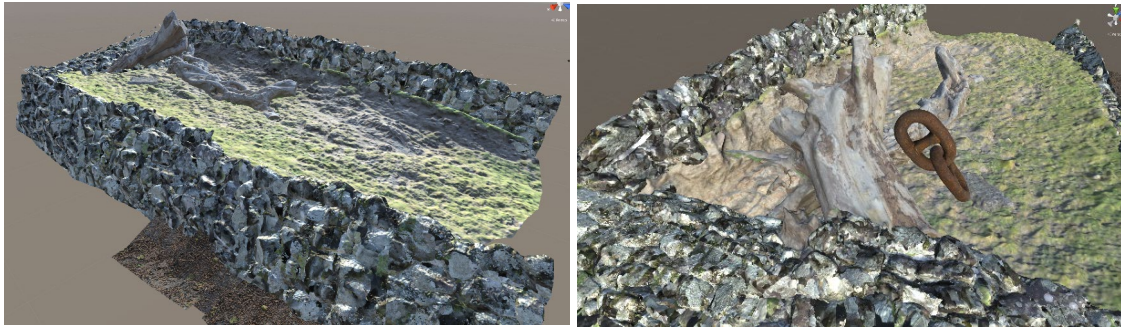
2.1.1 Making a quarantine gothic

Approaching this question of historic sites, I return to a quarantine gothic as a mode whose mediation draws attention to abandoned sites, either commercial or residential, as contexts for melancholy due to enforced isolation or redundancy. As noted in the Introduction, my research from 2020 to 2022 found reference to ‘a quarantine gothic’ in only two Twitter posts and a deleted Tumblr site but no scholarly articles. However, Howard McNaughton in *Reinscribing the urban abject: Ngāi Tahu and the Gothic revival* discusses a ‘postcolonial

palimpsest' that draws attention to the urban, abject nature of the gothic also in the context of tangata whenua, for whom the first trace of a place is sometimes historically preserved (McNaughton, 2009, p. 50). Walter Benjamin in *Passagenwerk* or *Arcades Project* wanted to “educate the image-making medium within us, raising it to a stereoscopic and dimensional seeing into the depths of historical shadows” (Benjamin, 2002, p. 458).

Selecting historic sites to mediate a digital scenography meant making bespoke 3D models of them, with accompanying 360° audio and video recordings from the Island. One site I felt circumspect about was the quarantine grave site and its monument to victims. The cliché of memento mori was too obvious. Instead, a quarantine gothic emerged amidst my 360° mediation of historical sites and abject circumstances. Working this way seemed at first to signify what Park, in *Theatre country*, referencing poet Alexander Pope, called the ‘genius loci’, or singular nature of a place (G. Park, 2006, p. 50). Mātiu/Somes Island’s quarantine ‘genius loci’ (i.e., the establishment and perpetuation of quarantine before Te Hokitanga Mai ā Mātiu in 2009), now looks more like a lightly dusted colonial imprint. Centuries-old evidence of arcadian delusion in the global south points to a difficult future beyond the pandemic (Graeber, 2020). Simply put, the conditions for another zoonotic pandemic are exacerbated while humanity continues to encroach on wild spaces (Institute, 2020). Recalling Wakefield’s musing on arcadia in the previous section, of forgotten or lost innocence, this resonates awkwardly in these pandemic times but also chimes with what Nikos Papastergiadis wrote about Lisa Reihana (Ngāpuhi - Ngāti Hine, Ngāi Tu-Te Auru) and her dissection of arcadia in *pursuit of Venus [infected]* 2017, “The image of arcadia comes back to haunt the victor as it harkens back to an imagined moment of sentimental connection with its own origin” (Papastergiadis, 2017, p. 36).

Photogrammetry camera imaging is time-based but not like a cinematographer’s gaze or film photographer’s frozen instant. Wellington harbour is a windy place, with clouds scudding overhead changing light values in an instant. Rapid fluctuations of light created a digital flicker for 360° timelapse videos that was hard to remove even with sophisticated software. Photogrammetry itself requires thousands of overlapping images to build a 3D model in bespoke software. Such variations in exposure between frames are anathema to good photogrammetry. Recording a 360° timelapse of historic quarantine interiors—as with photogrammetry—is a craft requiring consistent exposure times to form a convincing mise en scène for 3D models, later to be lit inside the game engine (fig. 49). Recording 360° ambisonic audio is more forgiving with a Sennheiser ambisonic mic plus a Zoom F6 with its high dynamic range. With a cover on the microphone, I sought out the banging of roller doors in the wind, the rattle of the wind generator in a southerly gale and clatter of loose grates.



(fig. 49) Doidge, M. (2018). *Inside Arcadia*. Mātiu/Somes Island photogrammetry. Left. Low stone wall and rock bank. Right. log and anchor chain links [GUI screenshot]. Courtesy the artist.

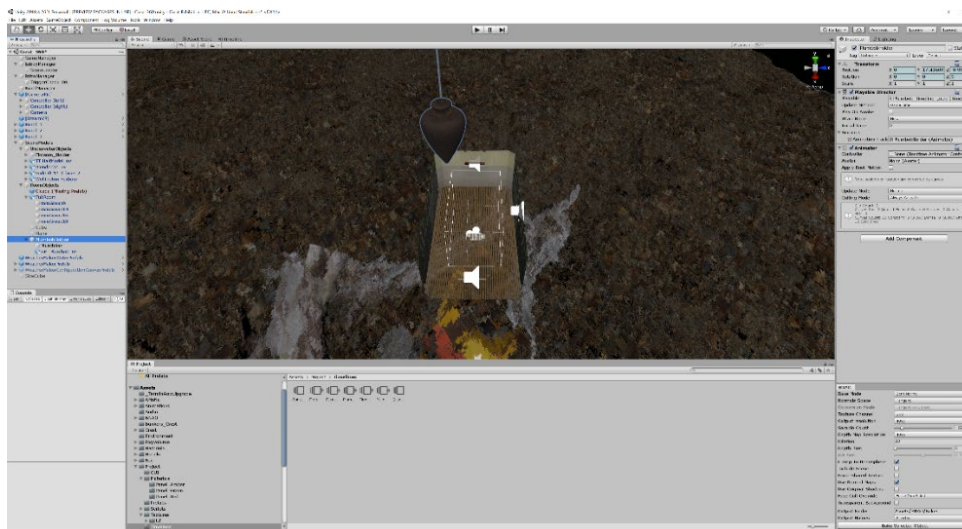
Making this 360° digital collection, I also reflected on Walter Benjamin who wrote in *Arcades Project*, of a sense of presence where, “collecting is a form of practical memory, and of all the profane manifestations of ‘nearness’ it is the most binding” (Benjamin, 2002, p. 205). The ironic difference here is that, as a ‘form of practical memory’, I was prohibited from removing any material thing from the island. As I discuss in section 2.1.5, Walter Benjamin—in relation to *Arcades Project*—referenced ‘phantasmagorias of the interiors’, the impulse to leave an imprint of private, individual existence on the rooms one inhabits (Panfilio, 2013, p. 244). Another important reason for making my own 360° digital recordings and photogrammetry models of Mātiu/Somes Island’s historic spaces was an aversion to the alternative, i.e., choosing generic 3D photogrammetry models unrelated to this site, available from vast online libraries. By ‘collecting’ digital images for digital simulacra (repeating the old conservation trope favoured by Island DOC ranger, Jeff Hall) my choice was to ‘take only photographs, leave only footprints’. This context is echoed by *Inside Arcadia*’s performance design in relation to Robert Smithson’s early ideas of travelling through industrial sites subject to contingency/rapid change (Burrows & O’Sullivan, 2019, p. 130). Smithson documented sites photographically, to produce a single image (Smithson, 1967, p. 51). On Mātiu/Somes Island, my documentation of quarantine and defence sites used photogrammetry (and 360° timelapse video), blending multiple images into a 3D model. This proved difficult as maritime weather constantly changed light levels (fig. 49 and fig. 50). Postproduction could overcome windy/cloudy days before 3D models and videos were introduced to the game engine. Afterward, a quarantine gothic evolved using plug-in software, e.g., the point-cloud visualiser that drew attention to the human quarantine barracks as a veil between the present and a colonial past of sickness and pandemic (fig. 50).



(fig. 50) Doidge, M. (2019). *Inside Arcadia. Phantasmagoria: The human quarantine barrack*. Point cloud visualiser matrix. [GUI screenshot]. Courtesy the artist.

2.1.2 Allegories of space

This is where I introduce a notion about allegory from computer game theory as a provocation. Referencing Lefebvre, space is relational, its construction is shared. People and things interact in space as performers do within a scenography. Space is not a mechanistic box where removing the contents leaves only space, interaction *is* space (Lefebvre, 1991, p. 30). The term ‘virtual space’—in computer game theory—received this early interdisciplinary critique, referencing Lefebvre, by influential hypertext theorist Espen J. Aarseth in *Allegories of space*⁵¹. Aarseth also sought to interpret ‘virtual space’ in a way that provided greater clarity and specificity as to how space could be thought of as “representable” (Aarseth, 1998, p. 154).



(fig. 51) Doidge, M. (2022). *Inside Arcadia*. Virtual space & Unity LTS 2018 GUI interface with world view of ‘Vestibule’ model and environment. [GUI screenshot]. Courtesy the artist.

⁵¹ Stephan Günzel in *The lived space of computer games* described this question as ‘the spatial turn’ (Stephan Günzel, 2008, p. 169). Aarseth was the first to introduce Henri Lefebvre’s theory of spatial production to computer game studies, originally published in Lefebvre’s 1974 publication *La production de l’espace* translated as *The production of space* (Lefebvre, 1991).

Merely naming 'virtual space' as a digital dimension for virtual representation, e.g., a digital landscape, doesn't mean 'virtual space' is simply commensurate with real space (fig. 51 and 52). Aarseth argued spatiality was a defining element in computer games but also asked, "what is "spatial representation" and, what is its relation to "real space"?" (Aarseth, 1998, p. 161). Charlotte Davies in her PhD thesis noted Lefebvre also called for the production of 'counter space', an alternative to the homogenising of space (C. A. Davies, 2005, p. 88). Davies was a significant figure in a nascent VFX industry at the time and argued that IVR was a new kind of space without precedent (C. Davies, 2002, p. 105). Aarseth, also following Lefebvre, argued instead that spatial representation in computer games is symbolic and rule-based, i.e., scripted/coded. The difference between spatial representation and real space is there are no automatic rules in real space (Aarseth, 1998). As Lefebvre noted, real space is socially constructed, only social rules and physical laws apply. Aarseth therefore concluded by theorising 'virtual space'—in spatial terms—as allegorical,

"Computer games, finally, are allegories of space: they pretend to portray space in ever more realistic ways, but rely on their deviation from reality in order to make the illusion playable" (Aarseth, 1998, p. 169).

What Aarseth meant by allegory is the indirect reference to one thing by substituting another related thing. He is also specifically referring to literal modes of digital representation or hyperrealisms. No matter how real digital space looked or felt it's still an illusion. However, there is no mention of Walter Benjamin and allegories, or to the postmodernisms of Frederic Jameson and Craig Owens. This is a useful gap in a fine arts context in which to consider IVR as an allegory of space by also considering its "other speaking" attributes (DeLoughrey, 2019, p. 10). Allegory is derived from its ancient Greek origin *Allos* (other) and *agoreuein* (to speak in public) (Copeland & Struck, 2011, p. 1). Sigrid Weigel in *Body-and image-space: Re reading Walter Benjamin* (Weigel, 1996) notes that "body-and image-space", referencing Benjamin", can be used in relation to virtual space. This is where image and body are a dual, expanded embodiment viewing virtual scenography which, from her reading of ruin as allegory or "the building blocks in the archive of cultural memory" (Weigel, 1996, p. 92) is close to De Loughery's conjunction of Benjamin's allegory and ruin in section 2.1.0. In this respect, 'phantasmagoria' was also coined as the intersection of illusions, of spectres amidst ruins, illusions produced both by theatrical projections and stereoscopic immersion. These 'phantasms' were virtual spectres seen in combination with 'agoria', derived from *agoreuein* representing a ghostly mode of *allégorie* or allegory (Castle, 1988, p. 237).

Decades later, Aarseth in *Define real Moron – some remarks on game ontologies*, also acknowledged the potential for the 'virtual space' of game engine software to hybridise with

other spatial disciplines. As a prominent researcher for the aesthetic and ontological implications of digital games, Aarseth wrote “[...] games in virtual environments; that is, [...] a virtual landscape as a gameplay component [...] typically do not have any other purpose than entertainment” (Aarseth, 2011, p. 55). Adding that gaming is a ‘vague cultural category’ (Aarseth, 2011, p. 51) with interdisciplinary implications, Aarseth wrote,

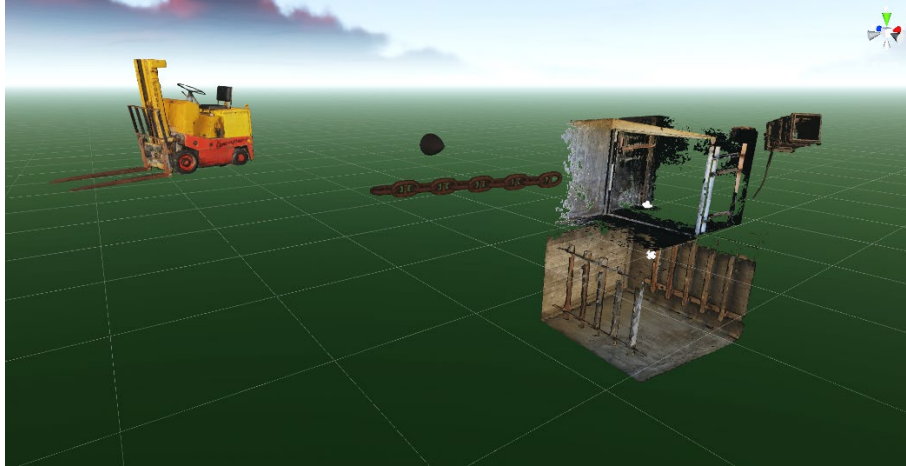
“the rapid evolution in [...] game technology makes our assumptions about their media formats a highly unreliable factor to base a theory on. We simply cannot assume that the parameters of interface, medium structure and use will provide a materially stable base for our observations the way [for example] the codex paperback has remained the material frame [...] for more than five hundred years” (Aarseth, 2011, pp. 57-58).

Aarseth goes on to say, “[...] a trans-material ontology of games may also be used to frame phenomena we don’t normally think of as games, for example, art installations” (Aarseth, 2011, p. 58). What the physical chalk-floor installation of *Inside Arcadia* offers is a socialising of the exhibition space. The footprints are a cumulative physical trace of viewer’s experience wearing the HMD available to a public.

Faye Ran in *A history of installation art and the development of new art forms* writes about IVR, “Because Installation is in and of itself an eclectic, multi-perspectival genre it lends itself perfectly to virtual simulations and representations” (Ran, 2009, p. 203) (fig. 51). Anne Ring Petersen in *Installation art, between image and stage* writes of installation as a practice, its etymology is that of ‘placing something somewhere’,

“Installations have a phenomenological focus on the viewers bodily and subjective experience, and on the temporal aspects of reception” (Petersen, 2015, p. 41).

The immersive experience of a quarantine gothic—wearing the HMD—is phantasmagorical, i.e., an allegory of virtual haunting in pandemic times. The exhibition’s locations contribute site-specificity to contextualising Mātiu/Somes Island’s sites. People, things, and places interact as performers of these digital scenographies. What this discussion leads to is the atmosphere of New Zealand’s colonial past, immersively experienced through these digital scenographies as a spectre in the present (Barrie, 1989, p. 82) or - a quarantine gothic.



(fig. 52) Doidge, M. (2022). *Inside Arcadia*. Unity LTS 2018 GUI scene view of *The bunker* model and environment from scene camera. [GUI screenshot]. Courtesy the artist.

2.1.3 A Quarantine gothic

Inside Arcadia's quarantine gothic is a mise-en-scène⁵² of digital scenographies bringing together this present pandemic and Mātiu/Somes Island's quarantine past. Jennifer Lawn writes in *Gothic NZ*, the gothic is less a genre but more like a mode, "a way of doing and seeing, adaptable across dislocations of culture, time and space, rather than a substantive category"⁵³ (Lawn, 2006, pp. 14-15). Throughout my creative research I emphasise this context of a mode for *Inside Arcadia* as distinct from, for example, a discussion of the gothic as a literary genre. Walter Benjamin's philosophy of history was characterised as 'gothic' because of its "heterodox form of the narrative" being "heretical, idiosyncratic, uncharacterizable" (Symons, 2013, p. 25). Lucy Thornett in *Landscape, Place and the Gothic in Contemporary Australian Scenography* (Thornett, 2016) notes there is little writing about Australian scenography relating to an Australian gothic mode as an aesthetic, except that it is an attitude of pervasive isolation and the uncanny. Lawn also touches on the uncanny of Sigmund Freud (Freud, 1919) where a gothic mode is similar to the uncanny, a "shifting warp of the familiar [...] skews the ordinary-world dimensions of domesticity [...] it troubles them with aberration, something that ought not to be there" (Lawn, 2006, pp. 14-15). The animation of machines by 'waves' in the bunker scene reflects this view. British theorist Mark Fisher, writing a decade later of two modes with a similar definition (Fisher, 2016, p. 9) reformulated 'the weird and the eerie' as 'modes of perception'. In this context, Fisher was

⁵² In theatre, this is the contents of a stage, its scenography and its properties, lighting and backdrops and location of actors within this (Kuhn & Westwell, 2012). Digital scenography dematerialises the stage (Aronson, 2014) as a digital construct of 'virtual reality' that can become a 'virtual space' for allegory.

⁵³ Alexandra Warwick in *Feeling Gothicky* notes the Gothic in art and literature is a fluid mode and not a genre. It also has a history of repeated revivals (Warwick, 2007, p. 6).

discussing how experimental, or hybrid interdisciplinary art can appear ‘weird’ when first encountered, an uneasy sense of displacement, where “*this does not belong*” (Fisher, 2016, p. 13). As Misha Kavka notes, haunting may be ontologically nonsensical to some Māori who might consider the deceased to be always spiritually present (Kavka, 2014). Appropriating such a haunting is a sculptural work by Lisa Reihana, *Top hat* (2003) from the granite series *Memoranda*. Reihana references 19th century romantic images of Māori as a ‘dying race’ with this ironic, eerie funeral portrait of a Māori woman (a relative contemporary with Reihana) looking back at the viewer from a water-jet-cut black tombstone granite block (Reihana, 2003). I argue a quarantine gothic can also re-present this pandemic in light of the historic quarantine past, an acquisitive, colonising gaze toward Mātiu/Somes Island. The Crown specifically focused on one context, isolation, a view that embraced quarantine and defence of the realm. Those remains of built environment, historic human and animal quarantine, have been returned to iwi to be conserved. Amidst the Covid-19 pandemic, historic sites linger in the present through restoration, providing the potential for allegory (discussed previously in section 1.3 (fig. 39)). As Nikos Papastergiadis in *Arcadia and imagined memories*, writes of Lisa Reihana and *in pursuit of Venus [infected]* (2017), the ‘former colonial apparatus’ of Aotearoa/New Zealand appears ossified but “the public imaginary in the south is still ‘infected’ and haunted by it’s past” (Papastergiadis, 2017, p. 32).

2.1.4 The ‘phantom subjective’

My claim of a quarantine gothic could be made of just about any medium. What makes IVR particularly novel and applicable to *Inside Arcadia*? Kit Messham-Muir writing in a 2018 Artlink VR feature called *The BADFAITH machine: The phantom point of view in VR*, writes wearing the HMD produces ‘a seemingly invisible third person position’ experienced as ‘eerie uncanniness’. This “phantom subjective” Messham-Muir describes is a quote from artist Harun Farocki who notes the term was used early in cinematography to describe framing a shot “taken from a position that a human cannot normally occupy” (Farocki, 2004, p. 13), a fly on a wall. This experience is well known to VR as disincarnation (Paul, 2015) and vertigo—when wearing the HMD—especially when the HMD’s game engine camera is moving or positioned in virtual space high above the ground plane of a scene (fig. 51). I also think of the phantom subjective as the ‘ghost in the machine’, a philosophical metaphor for disincarnation adopted by spectralities writing (María del Pilar Blanco & Preen, 2013). For *Inside Arcadia*, the phantom subjective occurs wearing the HMD—interacting with digital scenography—because, other than the camera gaze, every other virtual avatar facility has

been stripped out (Messham-Muir, 2018, p. 17). Messham-Muir also speaks directly to the idea that IVR is simply a 360° add-on to the cinematographers frame. This would be to ignore the medium’s anomalies and especially, its “experimental fecundity”,

“For artists, VR’s possibilities (or impossibility) for empathy, it’s phantom subjectivity, its scale crisis, are all grist to the mill. These anomalies of the medium only reveal themselves to us as we experiment and create within VR” (Messham-Muir, 2018).

This is something that Brenda Laurel (Evans, 2018) and other women IVR pioneers from the 1990s, like Char Davies (C. A. Davies, 2005), were well aware of. At the end of the 20th century, both women took advantage of generous commercial sponsorships combined with a solid research foundation in the humanities (Evans, 2018, pp. 63-64) to explore this expensive new field.

The privileging of a camera’s gaze—in relation to digital scenography—interests Lisa Reihana, especially focusing on the fourth wall of the audience. Referencing Barry Barclay’s neologism of indigenous cinema as ‘Fourth cinema’, Reihana notes this was first peoples’ taking back control of the camera as a device for panorama. Rather than being subject to its gaze, she adjusted her audience’s gaze in relation to the scrolling digital scenography of her 26m long, 4m high *in Pursuit of Venus [infected]* (2017) (fig. 53) with sound design by husband James Pinker (Hurrell, 2015).



(fig. 53) Reihana, L. (2017). *in pursuit of Venus [infected]*. 23.5 x 3.3 m, [Ultra-high-definition video]. Te Papa Tongarewa, Wellington. Images Malcolm Doidge (2022). Courtesy Lisa Reihana.

Here the ‘fourth wall’ of the audience and her scrolling panorama moved relative to each other in time and space. First shown at the 57th Venice Biennale (Devenport, 2017, pp. 19-20), this work unsettled a legacy of Europe’s Enlightenment and Victorian gaze towards the South Pacific not least because the second loop features Captain James Cook as a woman.

Between 2015-17 Reihana produced this monumental digital, scrolling, panoramic loop *in pursuit of Venus [infected]*, a 21st century indigenous reclaiming of a panoramic wallpaper *Les Sauvages de la Mer Pacifique* (1804-05). Reihana had earlier seen this 18th century panorama, made by Joseph Dufour & Cie and Jean-Gabriel Charvet, in Australia's National gallery. As Rhana Devenport writes, this wallpaper was “utterly reflective of its time and the ideological aspirations of Enlightenment thought [...] complete with Jean-Jaques Rousseau's notion of the noble savage and societal progress”⁵⁴ (Devenport, 2017, p. 18). Bernard Smith noted in *European vision and the South Pacific 1768-1850*, there was the Enlightenment belief in the renewal of Homeric innocence—elsewhere—one that assumed,

“the decline of societies in one part of the world heralded the rise of new societies elsewhere? And where more likely than the islands and countries of the Pacific [...] that recalled in so many ways [...] the ancestors of the European nations” (B. Smith, 1985, p. 111).

A previous Venice Biennale (2011) recipient, Michael Parakowhai, is also clearly aware of this context through his life-size sculpture of a bronze bull atop a grand piano, whilst appropriating the title to John Keats' poem *On first looking into Chapman's Homer*. It was George Chapman's 1611 publication of Homeric translation that fuelled Keats' romantic presumptions about Polynesia then voiced to “present a new people to the world” (B. Smith, 1985, p. 97) whilst immediately contaminated by the presumption of a loss of innocence and death⁵⁵. Jens Hoffman in the catalogue for the exhibition *Emissaries* wrote Charvet's panorama was “a utopian vision of the region's landscape” (Hoffman, 2017, p. 70). Importantly, when referencing James Cook's death on his third voyage in the South Pacific. Reihana contextualised European contact “as a moment of ‘infection’”, exemplified by Cook releasing European stock on Pacific islands (Subin, 2021), set against the cultural hagiography of the day that elevated Cook to godlike status. As Reihana notes of the Covid-19 pandemic, “It is interesting when thinking about this work and some of the ideas particularly when Europeans were travelling to Aotearoa and some of the flu bugs that travelled with them, we are still in that situation now.” (Heikell, 2022). Hoffman reads *in pursuit of Venus [infected]* as a digital hybrid of theatrical production, noting the ‘expansive views’ of 18th century panorama predated cinema as an early form of VR. Hoffman also writes Reihana presents a dramaturge coordinating complex digital scenographies through an unbroken loop, a digital palimpsest where, “it is really the layering of context, content and

⁵⁴ Tina Makereti in her 2018 Novel *The imaginary lives of James Pōneke*, has a character resembling the real-life artist Augustus Earle say to the orphaned Māori character James Pōneke “Once cannibalism and polygamy are fully driven away by Christianity, and once English education is spread by adventurers like you, James, I suspect the Māori may be the next best thing to an Englishman” (Makereti, 2018, pp. 81-82). This is a clear summary of colonising improvement.

⁵⁵ ‘Et in Arcadia Ego’ “Even in Arcadia, there I am” death is a romantic allegory for lost innocence used by artists to symbolise the transience of life, a haunting self-consciousness in the enlightenment imagination (B. Smith, 1985, p. 115).

container in Reihana’s work that qualifies it as being remarkable” (Hoffman, 2017, pp. 70-72). Reihana separately ‘green-screened’⁵⁶ actors playing roles, digitally composited onto the Arcadian digital scenography of *in Pursuit of Venus [infected]*. Furthermore, Reihana accommodates her audience’s gaze, as mentioned earlier, prioritising the precinct of the gallery space⁵⁷ for communal viewing “watching the foreshore action from behind the flora” (Devenport, 2017, p. 20). As John Hurrell in ‘Eyecontact’ noted, the single point-of-view is where Reihana flips the voyeurism of the original panorama, undermining colonial objectification (Hurrell, 2015). The huge gallery of Te Papa is the link between event and space that is “event-space”. Dorita Hannah in *Performance perspectives*, writes of event-space “operating in the realms of reality and possibility, both actual and virtual” (Hannah, 2011, p. 8), a space that “contains a phantasmatic promise of theatre’s virtuality that troubles architecture’s secure spatiality” (Hannah, 2019, p. 32). What is important here is that Reihana opens event space to the gaze of her audience as an inclusive, democratic voyeurism. *Inside Arcadia* shares similar concerns (on a smaller scale) as a time-based media with looping 360° digital scenographies, with one important exception. The immersed, virtual experience of *Inside Arcadia* privileges just one viewer, but the event space of *Inside Arcadia* installation and exhibition, both ‘actual’ and ‘virtual’, is socially constructed and thus shared (fig. 54).



(fig. 54) Doidge, M. (2021). *Inside Arcadia*. The Engine Room Gallery Opening night, 5th August. Courtesy the artist.

The social space of the chalked floor area translates a private virtual gaze into a public space for viewing by an audience. This private, phantom gaze viewing a quarantine gothic

⁵⁶ Also called chroma key compositing, a now familiar feature of ‘Zoom’ teleconferencing, this is a backdrop against which separately shot footage can be digitally overlaid onto another scene.

⁵⁷ Te Papa Tongarewa gallery floor.

simulates the virtual experience of being a ghost, equivalent to Farocki's "phantom subjective". Unlike Reihana's communal space dominated by the scale of five seamless projections, phantasmatic stereoscopy wraps scale close to your face leaving the body elsewhere. The 'phantasmatic promise' of the HMD engages the body in the event-space of the gallery and the performance design of *Inside Arcadia* supplements this promise with a residue of footprints traced in chalk, witness to a quarantine gothic.

2.1.5 Phantasmagoria



(fig. 55) Doidge, M. (2021). *Inside Arcadia*. Animal quarantine boiler room stereoscopy from 360° dawn to dusk timelapse. [Stitched InstaOneX still]. Courtesy the artist.

Inside Arcadia co-opts the term 'phantasmagoria' for three digital scenographies. The fourth, the Vestibule, also possesses some features, e.g., an accelerated day/night cycle, but acts more like a limbo, an intermediary bardo⁵⁸ opening to the three digital scenes. Angela Ndalians in *Neo Baroque aesthetics and contemporary entertainment* (2004) describes the pre-cinematic origins of phantasmagoria associated with technology conjuring phantasms that influenced early photography and cinema (Ndalianis, 2004, p. 112). Writing in *Phantasmagoria: Spectral technology and the metaphors of modern reverie* (Castle, 1988), Terry Castle introduces the technical origin of spectralisation or "ghostifying" (Castle, 1988, p. 29). While first associated with magic lanterns (the precursor of slide projectors and 'Peppers ghost' illusions) (Castle, 1988, p. 31) in the 18th century this was adopted by stereoscopy, the precursor to HMDs (Castle, 1988, pp. 29, 41) (fig. 55). These 'phantasmagoria' were pay-for-view public "lectures"—light shows of phantasma (ghosts) in

⁵⁸ Bardo is a Buddhist staging post for the dead awaiting judgement. George Saunders in *Lincoln in the Bardo* illustrates this ferociously.

abandoned crypts (Castle, 1988, p. 6)—spectacles of theatrical scenography masquerading as a rationalist debunking of superstition.

Summoning ghosts

Walter Benjamin wrote of “phantasmagorias of the interior” the horror of consumer culture in his *Arcades Project* (Benjamin, 2002, p. 14) while Terry Castle describes this reference to magic lantern spectacles as ‘sepulchral theatre’ conducted in Paris, France in the early 1800s amidst the abandoned crypts of a Catholic order (Castle, 1988, p. 36). She notes later fiction writing had characters dwelling in spectral spaces that often reference “phantasmagoric space” (Castle, 1988, p. 50) being a ‘tomb like chamber’. Kenneth Michael Panfilio writes of Benjamin in *Awakening from the nightmarish slumber of phantasmagoria* that phantasmagoria are associated not only with capitalism through allegorical figures described in the *Arcades Project* (the flâneur, the gambler etc.) but also that “advanced capitalism spectrally infects every social crevice of our lives and the reproduction of the larger world” (Panfilio, 2013, p. 244). This infestation is manifest stereoscopically by gazing through the HMD and listening to 360° audio, representing an immersive experience of multi-sensory phantasmagoria—a 360° ‘summoning of ghosts’ (Camilletti, 2021). A palimpsest of crepuscular moments with accelerated day/night transitions that bracket the ruin of decimated⁵⁹ digital scenographies (fig. 55 and 56). Anna Munster writes in *Materializing new media*, “our bodies, analogue compositions that they are, can [...] transform themselves and become virtual selves” (Munster, 2006, p. 114). Geoffrey Batchen—writing of VR in *The spectres of cyberspace*—notes, that ‘becoming virtual selves’ was a 19th century mania for stereoscopic phantasmagoria, accompanied the widespread distribution of stereoscopy as entertainment in the 1850s when, it “was the most significant form of visual imagery in the nineteenth century, with the exception of photographs”.



(fig. 56) Doidge, M. (2022). *Inside Arcadia. Phantasmagoria: Animal quarantine boiler room*. 360° panoramic video dawn to dusk timelapse. [HMD screenshot]. Courtesy the artist.

⁵⁹ Decimation is the digital process of reducing the size of digital meshes from millions of triangles to tens of thousands. Following fragmentation of this 3D model, incorrect texture maps were deliberately applied to emphasise unreadable surfaces.

Quoting American critic Oliver Wendell Holmes, Batchen writes the experience produced “a dream like exaltation in which we seem to leave the body behind and sail away into one strange scene after another” (Batchen, 2002, p. 239). This embodied/disembodied experience is part of the genealogy of the Vive HMD used in *Inside Arcadia* with its twin Fresnel lenses descended from 19th century stereoscopy. Also, part of this lineage was making stereoscopic, 360° timelapse sequences projected onto a panoramic globe behind 3D models (fig. 55 and 56). Since 2016 and the advent of consumer-grade 360° cameras and much cheaper commercial HMDs (Wallis & Ross, 2020, p. 317), stereoscopic immersion (with inbuilt headphones) is being adopted by artists as an interdisciplinary extension of existing analogue practices. Photogrammetry production of 3D models since 2014 has also become more accessible as a technology (Statham, 2018) for creating immersive digital scenographies (Tricart, 2018, p. 58). For example, Marina Abramović in *Rising* (2017), worked with technicians using 3D photogrammetry to create a full-body animated scan of herself (Pez, 2018), an uncanny body-double of her singular physical presence⁶⁰.

What is a spectre made of?

As Terry Castle noted “ghosts did not exist but, one saw them anyway. Indeed, one could hardly escape them, for they were one’s own thoughts bizarrely externalised.” (Castle, 1988, p. 58). Projecting fears onto a cipher, Giorgio Agamben in *Uses and disadvantages of living amongst spectres*, writes that a spectre—signifying leaving the body behind—is a remaindered gaze, a cipher (Agamben, 2013, p. 474). Jacques Rancière writes in *The politics of Aesthetics*, “the ordinary becomes a trace of the true if it is torn from its obviousness in order to become a hieroglyph, a mythological or phantasmagoric figure” (Rancière, 2013, p. 34). As I wrote in Chapter One, the phantasmagoric figure can be considered a trace or cypher, a naught or absence. Lisa Reihana and fourth cinema allowed the viewer to occupy this space as a voyeur of her panorama, becoming cultural flaneurs, our gaze consumes this looping spectacle while we stroll. Making the installation of *Inside Arcadia* a walkable space was important to performing the POV, immersed experience of phantasmagoria. This experience was mediated through a disembodied digital avatar wearing the HMD. Leaving the body behind in a flow state was not the objective here. I did not want to reproduce the immersive, productive virtual space with gaming affordances. What was important wearing the HMD was the body making a trace on the chalked floor of the exhibition space (fig. 57).

⁶⁰ Abramović’s avatar was at risk of drowning as ‘sea-levels’ rose. The IVR player could save her avatar only if they also pledged to save the planet. Unfortunately for Abramović’s assumptions about virtual presence, in contemporary gaming, role playing rewards doing evil just as much—if not more—that playing nice. Many let Marina drown (Mcknight-Abrams, 2018).

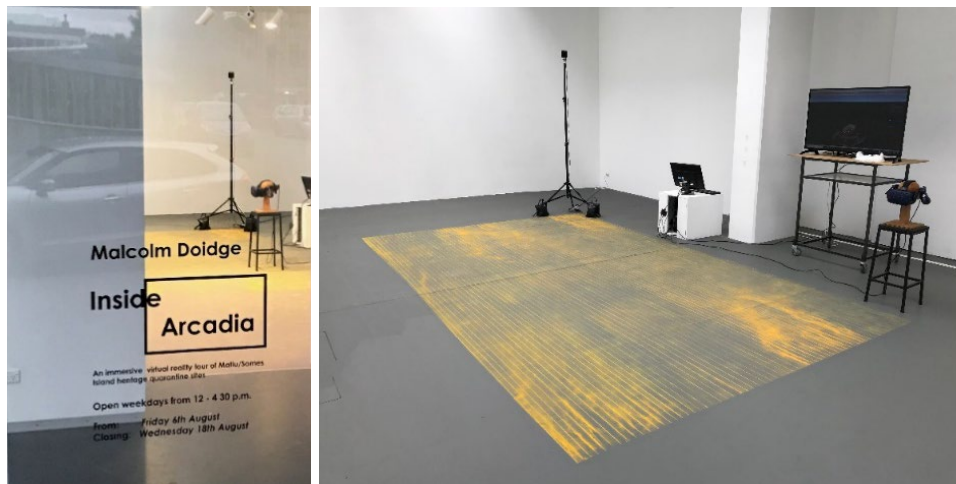
As Faye Ran in *A history of Installation art and the development of new forms* wrote in 2009,

“In installation art the modernist practice of collage has been transformed into postmodern art-historical pastiche and media assemblage, and given way to the prismatic dispersion of space into image fragments, room situations, context events and performance rituals” (Ran, 2009, p. 205).



(fig. 57) Doidge, M. (2022). *Inside Arcadia*, The Performance Arcade (2022). Courtesy the artist.

Chapter 3: Overview of exhibitions – What’s in the box?



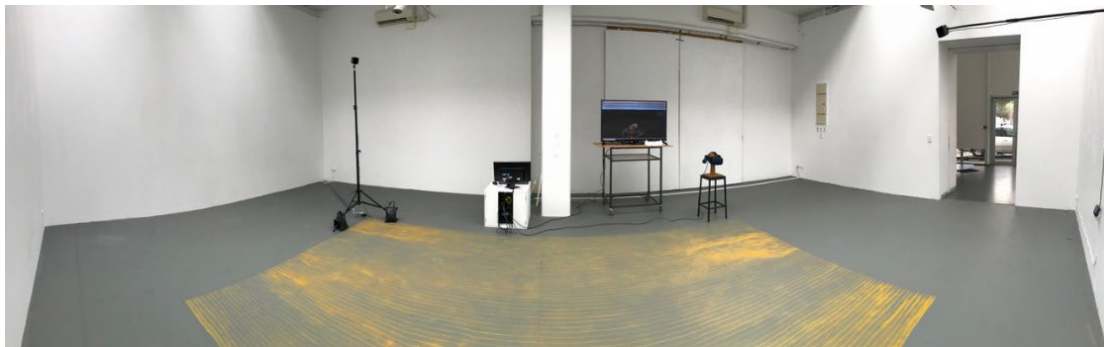
(fig. 58) Doidge, M. (2021). *Inside Arcadia*. Left and right. The Engine Room Opening night, 5th August. Courtesy the artist.

This chapter introduces the two public exhibitions of *Inside Arcadia* in August 2021 and February 2022. In ‘What’s in the box?’ I discuss how the digital scenographies, mediated by the HMD, relate to the exhibition’s installation spaces. In this context I offer a scenographic analysis of performing these physical exhibition spaces—wearing the HMD—in relation to the chalk-floor installation. My analysis in sections 3.0 – 3.2 demonstrates how my practice contextualises wearing the HMD, performing a ghostly avatar, characterising the gaze-based, digital avatar as a VR ghost. Section 3.1 introduces spatial porosity—the mediated relationship between IVR and physical space—as a novel ‘scenographic perspective’ explored by *Inside Arcadia*. Here I provide a case study comparison of *Inside Arcadia* to another scenographic IVR work, *Te Āhua tū Wātea*, from the 2019 Prague Quadrennial (Foster & Mehzoud, 2019). My aim in Chapter 3 is to further argue *Inside Arcadia* is a contemporary expression of technological ‘phantasmagoria’ in relation to the Covid-19 pandemic— a novel digital scenography using stereoscopy and IVR to mediate ‘a quarantine gothic’. In sections 3.3 – 3.4 I discuss the public exhibitions site specificity in the context of the palimpsest, “a space in which two or more texts, often different and incongruous, coexist in a state of both collision and collusion” (Dillon, 2013, p. 52) which I associate with spatial layering. This layered approach to historic colonisation and Mātiū/Somes Island historic quarantine and defence sites, provides theoretical underpinning for *Inside Arcadia*’s quarantine gothic, understood here as an allegory of the Covid-19 pandemic, a phantasmagoria or seeing ghosts in public.

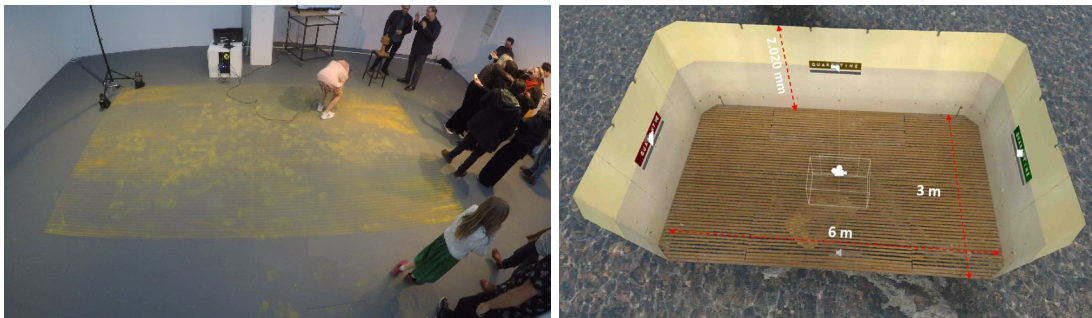
Creative project and exhibition designs

The first public exhibition, immediately before quarantine lockdown, was held in the Massey College of Creative Arts 'Engine Room' gallery⁶¹ between 6th and 18th August 2021 (fig. 58, 59, and 60).

An HMD recording from this exhibition can be seen here <https://youtu.be/kLTdcaWFQbg>



(fig. 59) Doidge, M. (2021). *Inside Arcadia*. The Engine room Gallery Opening night 5th August. [digital Panorama]. Courtesy the artist.



(fig. 60) Doidge, M. (2021). *Inside Arcadia*. Left: 6 x 3 m chalked floor Opening night 5th August [video still]. Right, the 1:2 scale *Vestibule* model. Its area corresponds with the 6 x 3 metre chalked floor [GUI screenshot]. Courtesy the artist.

The second public exhibition was part of The Performance Arcade 14th – 28th February 2022. This showing of *Inside Arcadia* was inside a 5.8m L x 2.3m W x 2.6m H shipping container on Wellington's waterfront (fig. 61). The Performance Arcade was a public exhibition held under Covid-19-mandated traffic light setting 'Red'. For each exhibition of *Inside Arcadia*, the performance design of immersive, virtual digital scenography was experienced wearing an HTC Vive Pro HMD with headphones for listening to 360° binaural soundscapes specific to each scene. The experience of immersion in all exhibitions was performative of the space, in that viewers left an accumulation of footprints—the trace of their virtual experience—on the chalked floor (fig. 60, 61, and 62).

⁶¹ For the first exhibition, August 2021, the show ran 12.00 – 4.30 pm daily for visitors and attracted steady foot traffic. Masks were not yet mandated. On 17 August, level 4 quarantine lockdown closed the show the day before my first Pfizer vaccination.



(fig. 61) Doidge, M. (2022). *Inside Arcadia*. Left. The Performance Arcade site (middle container). Middle. Looking into the container. Right. Looking out. Courtesy the artist.

The third exhibition was in the Tokomaru building (Block 10, the old Dominion Museum), Massey Pukeahu campus, Wellington (fig. 62). This was my final examination installation and was not open to the public due to Massey University's Covid-19 regulations at the time.

Each exhibition showed the HMD view, either on a separate screen or projected. The Performance Arcade made a screen a prerequisite for exhibiting as this allowed an audience access to the HMD view. Audio for the screen was excluded from the space because of feedback into the HMD from the headset mic. This sometimes accidentally switched on in handling. For any future iteration, synced audio using auxiliary Bluetooth headphones could form a split feed from the computer graphics card.



(fig. 62) Doidge, M. (2022). *Inside Arcadia*. Examination installation. Block 10, Tokomaru building. Courtesy the artist.

Introducing the immersant

Until now I have referred to the individual, single point-of-view experience wearing an HMD as that of someone who is 'viewing' or a 'viewer'. From here on, I will use the term 'immersant' (C. A. Davies, 2005, p. 27). This is because I specifically refer to wearing the

HMD as an avatar prosthesis in a performative context, for *Inside Arcadia* and its exhibitions⁶². I would like to add a note on game engine technology and its HMD prosthesis as a ‘symbiotic performance partner’ (O’Dwyer, 2015, p. 35). If the total installation space of *Inside Arcadia* equals digital scenography + immersant + gallery, the installation’s digital scenographies are simulated by the game engine, graphics card and plug-ins accessed wearing the HMD. The four digital scenographies of *Inside Arcadia* are navigated by a gaze-based avatar. This is a disembodied ‘ghostly’ experience, a simulacra in the *Vestibule* model only (opening digital scene), that is reduced to a red dot in the centre of vision for wayfinding. This scene is regulated by a 6m x 3m blue digital ‘chaperone’ grid. It prevents the immersant hurting themselves by walking into something adjacent to the chalked installation area. In The Engine Room show, a 2:1 scaled chaperone—matching the proportions of the digital ‘vestibule’ digital scenography model—was matched with the 6x3m area of the chalked floor installation (fig. 60). This 2:1 ratio was not possible with The Performance Arcade container floor dimensions (5.8m x 2.3m). Here the *Vestibule* model, a digital assemblage made from one corner of the original animal pen space (see technical appendix, ‘Scale and the vestibule’ p. 133) was trimmed further to match the container’s proportions (fig. 63).



(fig. 63) Doidge, M. (2022). *Inside Arcadia*. No arrow. The Engine Room *Vestibule* 6 x 3 metres. Arrow. The Performance Arcade 5.8 x 2.3 x 2.6 square metres. [GUI screenshot]. Courtesy the artist.

3.0 Digital scenography in an expanded field

The traditional art of scenography is “the total sensory engagement of the senses” (Aronson, 2014, p. 14). On a stage, all elements of the *mise-en-scène* are utilised (lighting/sound/animation etc.) to create atmosphere and mood. Spectators face forward as the preferred

⁶² This term is borrowed from Charlotte Davies’ 2005 PHD thesis referencing her 1995 immersive, virtual reality work, *Osmose* (C. Davies, 1995).

direction of attention. This frontal arrangement of props and actors on a stage traditionally supported the play's text. In 360° immersive virtual environments including site-specific performances, fourth wall frontality of this kind becomes unstable (Tricart, 2018, pp. 82-85). In this context, Kathleen Irwin in *Performance design* writes, this scenographic function interpreting the play's text became decoupled from its role supporting an acted manuscript on a 'prescribed stage space'. Instead, scenographers expanded the field to make site-specific adaptations to 'found places' engaging embodied 'liveness' (Irwin, 2008, p. 44) with 'performative works' (Coogan, 2015, p. 15). Both performance and scenography here could also be mediated, recorded, then viewed again. This section explores 'mediation' through the medium of IVR. This is not a discussion about performance as an "essentially contested concept" (Coogan, 2015, p. 9) or a comparison of live performance with its imaged mediation. My interest is mediation via IVR. I use Tavinor's definition of 'medium' in *The Aesthetics of virtual reality*, i.e., "a collection of media [...] bundled together in a suite—that allows for the representation or documentation of real or imaginary worlds" (Tavinor, 2021, p. 13). This is where *Inside Arcadia's* digital scenography is in play with the Mătiu/Somes Island quarantine sites, their mediation through one instantiation translated into another medium, the HMD's stereoscopy. The context for *Inside Arcadia* as a performative work is the body (Coogan, 2015, p. 11). Wearing the HMD, the immersant can only navigate virtual space with their gaze. Although the avatar body-double is absent while on the exhibition's chalk floor installation, the immersant's body is present and able to leave a material trace of the experience of virtual absence as footprints. My previous experience of mediation and performance is a hybrid practice borrowing from fluxus intermedia methodologies⁶³, performing sculpture between 2013 and the present. This intermedial approach mediated the liveness of a sweeping performance by attaching a Go Pro camera to a broom. This camera's inbuilt cardioid microphone recorded the vibration of broom bristles translated up the handle when sweeping (fig. 64), documenting the liveness of these performances while the Go Pro camera provided an unusual, disorienting 'fly-on-the-wall' perspective (fig. 64, left and middle).

⁶³ Fluxus artist Dick Higgins coined the term intermedia after the Romantic poet Samuel Coleridge using the term 'intermedium' (Julainne.S.Sumich, 2006, p. 5). The term used here can refer to several sensory modalities being communicated at once. A 1995 intermedia chart by Higgins shows performance art and happenings as 'bubbles' overlapping a larger intermedia circle (Higgins, 2001, p. 50).



(Fig. 64) Doidge, M. (2015). Left, *SWEEP(ing)*. PARK(ing) day performance, Cuba Street. Middle and right. Doidge, M. (2017). *Meum et Tuum*. *Performing, Writing Symposium*, Mātiu/Somes Island. Courtesy the artist & Josh Lewis.

Natilee Harren writing in *The Fluxus virtual, actually* notes fluxus intermedia also influenced early new media experiments by using consumer technologies. These mediated the ‘here and now’ (Harren, 2021, p. 28), performing liveness in ad hoc spaces – locations adapted through performance design. The potential for new media applications like photogrammetry and IVR to produce and mediate digital scenography that articulate found spaces, also involves an aesthetic that adopts a ‘collage-like’, fragmented appearance (Irwin, 2008, p. 44). As David Harvey writes in *Condition of postmodernism*, this is an aesthetic of “imposed quoted images rather than worked surfaces [...] a collapsed sense of time and space” (D. Harvey, 1989, p. 61). The digital scenography of *Inside Arcadia* exhibits many of these attributes, mediating Mātiu/Somes Island as a remote ‘found’ location. Photogrammetry 3D scans in scenes nest within spherical panorama projecting 360° timelapse videos. Nested 3D models interact within environmental plug-ins animated by accelerated day/night cycles. These in turn incorporate layers of binaural environmental audio—often site-specific recordings from Mātiu/Somes Island quarantine sites. *Inside Arcadia*’s performance of these digital scenographies combines Irwin’s context of scenographic realignment—leaving the stage to engaging site-specific liveness—with Arnold Aaronson’s outline of the digital dematerialising the theatre stage as a traditional site of performance in *Stage as a simulacrum of reality*,

“For much of the history of theatre, scenography functions as a means of creating a material reality for the presentation of the immaterial: the mythical, allegorical, and fictional, or perhaps the illusion of an actual locale ... but in a world where so much human interaction is mediated through electronic and digital technologies it is increasingly difficult for the stage to exist meaningfully as a site of physical and tangible interaction ... new technologies are emphasizing the dematerialization of the stage: The stage as a permeable and ephemeral space that more accurately represents our perception of the experiential world.” (Aronson, 2014, p. 15)

Digital scenographer Dr Andrew Sempere writes of this as the “application of new and emerging technologies to the century-old practice of scenography” (A. Sempere, 2015). Dorita Hannah in *Scenographic screen space: bearing witness and performing resistance*

notes this is part of an expanded field of scenography (Hannah, 2017, p. 59). What is important for *Inside Arcadia* is the manner by which the immersant, wearing the HMD, performs its digital scenography. As Laurel writes, “There is always a performative element to headset VR; with our senses elsewhere, our bodies stagger foolishly, often gathering their own audience” (Evans, 2018, p. 63). Game engines provide a medium for dedicated software, adapting digital scenography to performance design and exhibition (Evans, 2018, p. 63). Rachel Hann in *Beyond Scenography* (Hann, 2019, p. 13)—citing Hannah as a co-convenor of Performance Design in Aotearoa/New Zealand and Denmark—specifically noted artists and designers, as critical thinkers, demonstrate “their awareness of how design elements not only actively extend the performing body, but also without and in spite of the performing body” (Hannah & Harsløf, 2008, p. 18) so that Néill O’Dwyer in *The performing subject in the space of technology* writes, together the HMD and the immersant body can,

“explore the innovative idea of elevating the computer to the status of symbiotic performance partner” (O’Dwyer, 2015, p. 35).

facilitating also virtual avatars with the HMD as a digital prosthesis extends the immersant’s body. For *Inside Arcadia*, I regard the HMD as the symbiotic performance partner’s prosthesis, a virtual cyborg with potential for performing a digital spectre that the immersant also vicariously inhabits. I argue that viewing a quarantine gothic wearing the HMD is analogous to Farocki’s “phantom subjective”. Immersants experience something humans normally cannot do (Farocki, 2004, p. 13), e.g., the cinema camera hung under a moving train or, in IVR, the game engine digital camera providing a disembodied experience⁶⁴. Within *Inside Arcadia*, the HMD’s double camera stereoscopy represents a single phantom image, a ghostly avatar conveying the succession of gothic digital scenography to the immersant. The immersant’s avatar, the phantom gaze, represents the game engine software tracking the immersant’s body via the HMD prosthesis. The stereoscopic cameras move because the immersant is wearing the HMD. I have adapted the ‘phantom subjective’ to an avatar context—wearing the HMD—of spectrality and more broadly, a performance design method. My aim is to incorporate the performativity of wearing an HMD with the phantasmagoria of a quarantine gothic. One question is: How does the immersant’s body, performing *Inside Arcadia*’s virtual scenography, become identified with or contest this installation’s exhibition sites? The analogy sought is that of site-specific locations becoming contested sites similar to interpreting and attributing meaning to performative actions bodies make in social contexts. Erik Kristiansen in *Engaging spaces*—writing of Lefebvre—noted

⁶⁴ This is a form of ‘immersive fallacy’ in that using the HMD, as a prosthesis, only provides the illusion of being in virtual space in that manner. The downside is VR nausea which I have largely avoided inducing.

social interaction is shaped by space (Khristiansen, 2015, p. 15). The social performance of space includes the notion of the ‘performative sentence’ (Austin, 1962, p. 6) where John Austin in *How to do things with words* established that ‘speech acts’ translate language into spatial actions (Austin, 1962, pp. 12-13) such as speech that activates a social or legal contract. With respect to the performing body, Judith Butler, in *Performative acts and gender constitution*, cites Maurice Merleau-Ponty in the *Phenomenology of perception* (Merleau-Ponty, 1962, p. 198), stating “the body is understood to be an active process of embodying certain cultural and historical possibilities” namely gender (Butler, 1988, p. 521). Kathleen Irwin, citing Judith Butler in *A case for the spatial performative* writes that, for Butler, the performative meant a range of social action that, when reiterated, reinforced the appearance of and assumptions about gender. Subjects do not expressively perform genders, as normative statements, that outwardly represent some internal essence. From this, Irwin extrapolates Butler’s arguments about assigning gender to be applicable analogously to performance and the performativity of space and place. In other words, Butler’s notion of the body as a contested site for gender can also apply to site-specific locations. Here Irwin states we can “read both performatively and transgressively in relationship to that which is displaced, hidden, buried, erased, and absent, existing only as a palimpsest” (Irwin, 2008, p. 48). For Irwin, found sites are performative fields where gestures or “activities (space-acts)” resist homogeneity (Irwin, 2008, p. 49), providing for both normative and transgressive readings. Returning to *Inside Arcadia* and acknowledging Irwin’s reference to palimpsest layers, the performing body, wearing the HMD, experiences the scenographies’ quarantine gothic through a spectral gaze. This is revealed in a material trace—of footprints—slowly erasing the yellow chalked floor of *Inside Arcadia*’s installation spaces (fig. 65). These yellow chalk lines relate to site-specific built environments and historic locations, both on Mātiu/Somes Island and the exhibition sites for *Inside Arcadia*. This palimpsest trace in chalk inverts Wakefield’s vision of a southern arcadia—a virtual nowhere—that a quarantine gothic becomes a smudged phantom image, peeled from Arcadia’s colonial histories.



(fig. 65) Doidge, M. (2021). *Inside Arcadia* Left. Vestibule and model floor [HMD screenshot]. Right. Chalk floor. The Engine room Gallery (2021). Courtesy the artist.

3.1 *Inside Arcadia* – moving between worldings

The following discussion expands on the HMD as a digital prosthesis. The focus here is on the immersant body performed as a ‘phantom’, leaving a trace underfoot as the immersant responds to viewing digital scenographies with the HMD. Lucy Thornett in *The scenographic potential of immersive technologies* writes that, although immersive technologies have been used in theatre and performance for decades (Thornett, 2020, pp. 102-103), there is a gap in this knowledge (Thornett, 2020, p. 102) including an understudied gothic mode within Australian scenographic practice (Thornett, 2016). The gap Thornett identifies is a scenographic perspective, one that “foregrounds the porous boundaries between different orders of reality or ‘worlds’, and between bodies and worlds” (Thornett, 2020, p. 102). My aim here is to compare selected elements of Thornett’s scenographic perspective with *Inside Arcadia*’s immersive HMD experience.

Moving between worldings – a porosity case study

Thornett discusses Stuart Foster and Sven Mehzoud’s *Te Āhua tū Wātea* (Foster & Mehzoud, 2019), one exemplar for her scenographic perspective shown at the 2019 Prague quadrennial (Brožíková et al., 2019). There are some notable differences in this comparison. *Inside Arcadia* is a single point-of-view, single-user HMD experience. *Te Āhua tū Wātea* has three HMD as multi-user nodes. *Inside Arcadia* restricts interactivity with its avatar to a gaze—the immersant assumes the role of a ghost—a disincarnated phantom. The performance design of *Te Āhua Tū Wātea* is extroverted and generous, treating each of the three HMD prostheses as wardrobe items with ancillary adornment (fig. 66). These enhance the immersant’s experience wearing the HMD through a haptic liaison with dedicated, physical props or the installation space. Porosity is hands-on, literally hands-in felted containers, replicating the corresponding digital scenography seen while wearing the HMD. I interviewed Stuart Foster, 8 December 2020, who said the work’s title loosely translated to “an open space of possibilities and potential” (Foster, 2020). In one example, the HMD was adorned with rods and small globes that extended a metre each side (fig. 66). Foster said this framed the immersant’s body in the installation as part of a spatial choreography adding, “people engaged more directly with the exhibit” because as a collection of three ‘vessels’, people could easily ‘dock and push out’.



(fig. 66) Foster, S & Mehzoud, S. (2019). *Te Āhua tū Wātea* [HMD external prosthesis]. Courtesy Hannah Cundy.

I interpret porosity for *Te Āhua Tū Wātea*'s to be extroverted. *Te Āhua Tū Wātea* creates multi-hulled vessels searching a scenographic horizon. *Inside Arcadia*, by contrast, is introverted: a lean, single-user, ghostly experience wearing the HMD where porosity between the digital and physical corresponds—underfoot—as a sparing trace on a smudged chalk floor. The immersant haunts eerie gothic interiors—a failure of presence—where ‘nothing is present when there should be something’ (Fisher, 2016, p. 61). The following discussion characterises this insubstantial leanness through a discussion of spectral media, the HMD prosthesis performing its avatar as a ‘ghost in the machine’.

3.2 The ghost in the machine – HMD performance design

Thornett promotes her scenographic perspective as ‘foregrounding porous boundaries’ (Thornett, 2020, p. 102). For *Inside Arcadia* this means an introverted retreat from foregrounding physical and digital porosity to considering porosity as backdrop or *mise-en-scène* to the immersant’s spectral role wearing the HMD. Derrida wrote in the *Spectres of Marx*, “The logic of the ghost points toward a thinking of the event that exceeds binary or dialectical logic” (Derrida, 1994, p. 78). In other words, thinking ‘porosity’ this way blurs metaphysical boundaries, the spectre breaching conceptually and phenomenologically stable ontological binaries, e.g., living/dead, presence/absence. For *Inside Arcadia* this means the immersant’s avatar, in the Vestibule scene (Section 1.0), is reduced to gaze-based interaction accessing three of the four scenographies, like a ‘rite of passage’ across a liminal digital threshold (Kristiansen, 2015, p. 167). In the Vestibule, this passage opens to phantasmagoric scenes after the immersant’s body, interacting with an invisible trigger, drops an outsized animated plumb-bob model into the scene. This threshold does not stage the expansive kind of ‘liminal’ or public ritual *Te Āhua tū Wātea* encourages, adornment offering multiple modes through the Quadrennial’s shared public space as individual routes open to collective experience (V. Turner, 1982, pp. 52-54) (fig. 67, left and right).



(fig. 67) Foster, S. & Mehzoud, S. Left. (2019). *Te Āhua tū Wātea*. Prague quadrennial hall. Courtesy Hannah Cundy. Right, Vestibule model with hotspot and plum-bob model [HMD screenshot]. Courtesy the artist.

Inside Arcadia's ritual of passage—entrance into and egress from and between digital scenographies wearing the HMD—is introverted in a way that Victor Turner in *From ritual to theatre* describes as 'liminoid'. Individualised space is characterised by a single-user experience—the HMD point-of-view—a term 'liminoid' specifically denotes the dedicated space of exhibition or stage (V. Turner, 1982, p. 54). In *The Vestibule* scene, "Quarantine" hotspots open to other 'liminoid' virtual spaces, always a solitary experience crossing thresholds, going beyond the walls of the pen. In this way, this performance design of *Inside Arcadia* is phantasmagoric, integrating the solitary immersant experience with a shared, socially constructed space of accumulating footprints, the phantom image and its displacement (fig. 68, left).



(fig. 68) Doidge, M. (2021). *Inside Arcadia*. The Engine Room Gallery opening 5th August 2021. Right, The Performance Arcade (2022) 26th February. Courtesy the artist.

María Del Pilar Blanco and Esther Preen, in the *Spectralities Reader*, refer to a similar threshold where technology blurs mind and body as 'spectral media' or 'the ghost in the machine'⁶⁵, part of the 'spectral turn' (Maria del Pilar Blanco & Peeren, 2013, p. 197). The

⁶⁵ In philosopher Gilbert Ryle's 1949 book *The Concept of the mind*, Ryle argued that mind and body are, contrary to Cartesian thought, dependent upon one another, "Not two worlds, but one world; not a Ghost, but a Body" (S. M. Park, 1994, p. 270).

'ghost in the machine' was adopted as an interdisciplinary metaphor for spectralities and technology, its origin in 19th century spirit photography. As John Harvey in *Ghost in the machine: Spirit and technology* wrote, "spirits are in and of the camera" (J. Harvey, 2013, p. 53). Similarly, this encompasses spectral soundscapes through literature such as David Toop's *Sinister resonance* (Toop, 2011). The context of the trope was 20th century phenomenology and its philosophers, in particular Maurice Merleau-Ponty. The phenomenologists challenged the ancient régime of Rene Descartes' mind/body dualism and its long hold on Western thinking where we experience the material world through rational, disembodied intellect (Casey, 1998, pp. 238-239). Edward S. Casey writing of the mind/body problem in *The fate of place* noted, "For Descartes, the imagination is itself a corporeal faculty, one that is intrinsically allied with the body" (Casey, 1998, p. 399). Casey quotes Descartes on the mind/body split,

"Nothing of this kind can be said about God or our mind; they cannot be imagined, but only grasped by the intellect; neither of them can be distinguished into parts, and certainly not into parts which have definite sizes and shapes" (Casey, 1998, p. 152).

Merleau-Ponty however noted in *The primacy of perception* (1964),

"Our body is not in space like things; it inhabits or haunts space" (Merleau-Ponty, 1964, p. 5).

The philosophy of the mind/body split has long been a focus of artists and writing about IVR, prior to 2016 and the advent of consumer-grade HMD and hardware electronics. Char Davies, writing of *Osmose* (1995), her multi-level, site-specific IVR exploration of a forest she owned, argued "Osmose as an artwork is motivated by the desire to heal the Cartesian split between mind/body" (C. Davies, 2002, p. 101). This was a claim Anna Munster in *Materializing new media* was sceptical of, writing it was "a somewhat haphazard claim" (Munster, 2006, p. 111). Paul in *Digital art* however championed Davies by reframing this claim as "a psychology of disincarnation" (Paul, 2015, p. 125). Broadly speaking, phenomenology reunited intellect with the body and imagination. Thornett emphasises the phenomenology of embodied experiences layered between physical and virtual environments "in terms of providing novel bodily experiences" wearing an HMD (Thornett, 2020, p. 104). She argues such experiences recognise fractures, like the impossible views of the 'phantom subjective', where sensory information doesn't align with what we know. Sita Popat in *Missing in Action: Embodied experience and virtual reality* (2016), writes the immersant body is perceived as 'both absent and present' identifying a particular affordance

using an HMD in such gaps. This perception allows the immersant to “do the undoable, to rehearse the unrehearsable” (Popat, 2016, p. 370). Wearing the HMD and experiencing disincarnation, like a spectral avatar, places the role of ‘the ghost’ or phantasm in a ‘guest spot’. Nick Kaye in *Site-specific art* writes the conjunction of ‘ghost’ and ‘host’ was prominent in the United Kingdom as a site-specific, specifically hybrid performance practice from the 1990s (Kaye, 2000, p. 56). This idea has returned as an iteration of ‘Ghost Hosting’ developed by British artist Sarah Sparkes. Her interdisciplinary visual art research was a programme of performative ‘Ghost Hostings’. Sparkes notes in *The Ashgate research companion to paranormal cultures*, her use of this title references Marcel Duchamp’s work *A GUEST + A HOST = A GHOST* (1953) (Sparkes, 2013, p. 388). While not an IVR project, Sparkes terminology is a play on ‘the guest is a host inside the ghost’, also described by Sarah Blackman in *Haunted data, transmedial storytelling, affectivity*. This is where “many pasts in the present are carried by the figure of the ghost” (Blackman, 2019, p. 38). In the context of *Inside Arcadia*, the past is viewed in the present as if a spectre by putting on the HMD. This action initiates phantasmagoria, the spectral gaze into a sequence of imaginary but seemingly real images in dreamlike crepuscular twilight zones in this quarantine gothic.



(fig. 69) Doidge, M. (2022) *Inside Arcadia*.
The Performance Arcade, 17th February.
Courtesy the artist.

Returning to O’Dwyer in *The performing subject in the space of technology*, through the HMD the immersant body incorporating the virtual can “elevate the computer to the status of symbiotic performance partner” (O’Dwyer, 2015, p. 35).

Inside Arcadia adopts ‘the ghost in the machine’ as its metaphor for the ‘phantom subjective’ (fig. 68). The HMD prosthesis ‘hosts the ghost’ as the immersant/performer’s ‘symbiotic performance partner’. Acknowledging viewing space this way constructs a layered entity that includes an external witness (C. Turner, 2004, pp. 373-374). This is a performance design for digital scenography experienced as phantasmagoria intersecting with Espen Aarseth’s concept of virtual space being also ‘constructed’ as allegory. Andrew Sempere noted of a five-day *Ghosts in V.R.* workshop he ran in 2016, “Strapping a box to your face is an unnatural experience. While the promise is that this will enable an “immersive” experience, this is largely accomplished by dismissing the human body” (Sempere, 2016). That weakness of HMDs is an affordance *Inside Arcadia* flips: a quarantine gothic that brings the corporeal and the virtual together through spectral allegory as a phantasmagoria. The immersant contributes to an accretion of tracks—meandering across the chalk floor—palimpsest traces of the virtual overwriting physical spaces, again and again (fig. 69).

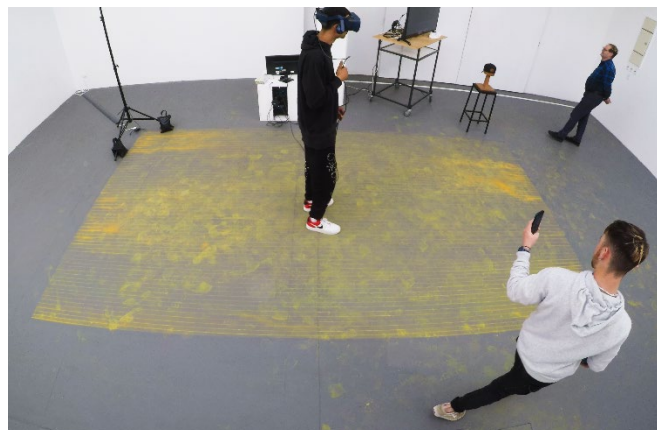
3.3 Site specificity exhibiting *Inside Arcadia*

Staging site-specific immersion

In this site-specific section, I continue to reference the spatial turn as a thread, introducing Miwon Kwon and *One place after another. Site-specific art and locational identity* (Kwon, 2002). Kwon notes that Lefebvre, a Marxist, pursued a dialectical interpretation of space, in other words, that space is socially constructed, interpreted, and thus shared. Kwon argues Lefebvre’s view was in contrast to site-specific theorist Lucy Lippard’s notion of site-oriented artistic practices that sought a nostalgic return to an intimate sense of place (Lippard, 1997, p. 4), a face-to-face experience of the genius loci of place (Kwon, 2002, p. 159). Kwon’s only reference to a spatial theory of digital art, including VR (written in 2002), is to obliquely reference hypertext (Espen Aarseth’s seminal work) noting that “the spatial experience on the computer is structured more as a sequence of movements and passages than as the habitation or durational occupation of a particular ‘site’” (Kwon, 2002, p. 173). Kwon does evaluate digital mediation as telepresence or “the subjective experience of being in one place or environment, even when one is physically situated in another” (Witmer & Singer, 1998, p. 225) but Kwon also argues that experience is not real unless ‘virtual space’ is mediated (Kwon, 2002, p. 162). I argue the mediation of ‘virtual space’, as discussed here, is better defined for *Inside Arcadia* as being allegorical. No matter how real the look of the mediated experience is or feels, it still refers only to an unmediated, phenomenologically experienced reality. Kwon does not appear comfortable with the possibility of a digital

mediation of site as virtual space. Kwon says what unites, at an abstract level, a divergent collection of spatial theorists in relation to site specificity—Henri Lefebvre’s ‘the production of space’; Michel de Certeau’s ‘everyday’ of *Walking in the city*; Lucy Lippard’s *Lure of the local*; even Frederic Jameson’s subject ‘cognitive mapping’ the existential location of ideology—is that these “are all attempts to theorize the transforming nexus between the subject/object and location” (Kwon, 2002). Kwon goes on to include site-specificity as an ‘artistic endeavour’ analogous to theorising this nexus. I claim the HMD, as a digital prosthesis for IVR, also forms a nexus between subject/object and location. I argue specifically for ‘the production of space’ as a ‘transforming nexus’—aligned with Aarseth’s interpretation of Lefebvre, making allegory a mode⁶⁶ for the production of *virtual* space as a site-specific, artistic endeavour shared physically, over time, on the chalked floor of the gallery space.

3.4 A performative palimpsest



(fig. 70) Doidge, M. (2021). *Inside Arcadia*. The Engine Room Gallery 9th August. Courtesy the artist.

The previous sections discussed the IVR experience of the ‘phantom subjective’—wearing the HMD—where impossible perspectives are afforded by a digital avatar. The HMD mediates this phantom perspective as a phantasmagoria—a succession of dream-like digital scenographies experienced through a quarantine gothic. I analysed this performance design through a scenographic perspective focused on the installation’s embodied porosity. I argued wearing the HMD performed *Inside Arcadia*’s spectralised, gothic digital scenography. This experience was contiguous also with leaving foot-print traces of the

⁶⁶ Owens in *The Allegorical impulse*, thought “allegory is an attitude as much as a technique, a perception as well as a procedure” (Owens, 1980, p. 68) or, in other words, a mode.

'phantom subjective' experience on the chalk-floor installation. This foot-print trace of the immersant avatar's phantom gaze should be thought of together with *Inside Arcadia's* digital scenographies in a gothic mode, as a phantasmagoria; the material expression of a dream-like succession of digital images in public space (fig. 70).

The following section extends this understanding of *Inside Arcadia's* as a phantasmagoria to its public exhibition sites. Cathy Turner in *Palimpsest or potential space* wrote of the image of a ghost haunting a site for site-specific performances as thematically a revenant or recurrent practice (C. Turner, 2004, p. 374). In this context, I introduce a selection of palimpsest methodologies as site-specific metaphors to analyse *Inside Arcadia's* exhibition sites. I consider these forms of spatial layering—sites and places that evidence processes of erasure through physical removal, infill or submerging natural features. As noted by Irwin, site-specific performance sites exist as a palimpsest (Irwin, 2008, p. 48).

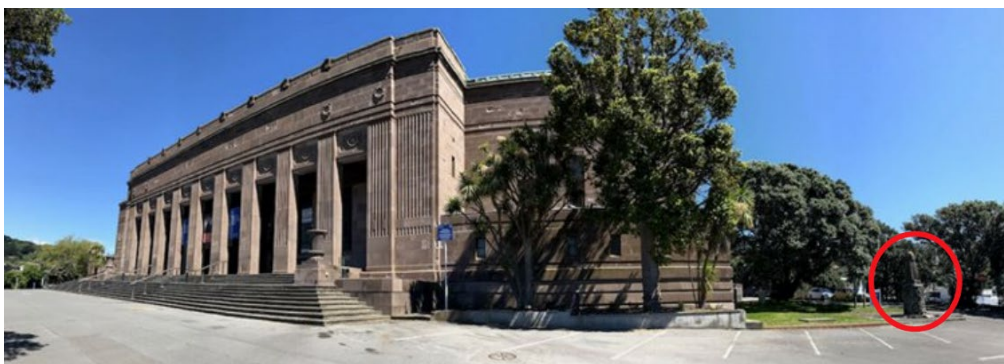
The following section interrogates how the palimpsest metaphor of erasure and re-inscription can be applied as a site-specific methodology appropriate to *Inside Arcadia*. Returning to discussing this work's theme of Arcadian delusion in relation to *Inside Arcadia's* exhibition sites, I interrogate whether chalk-floor traces publicly performed wearing the HMD can embed Terry Castle's etymology of 'phantasmagoria', the combination of *phantasma* (phantom) and *agoreuein* (to speak in public) 'based on the model of allegory' (Castle, 1988, p. 29). This interpretation of allegory references spectres and traces that in turn refer to Mātiu/Somes Island's history of quarantine and defence through 360° site-specific mediation.

Benching: Mātiu/Somes Island, Pukeāhu and Waitangi Park

Lisbeth Thorlacius in *Engaging spaces* writes of non-theatre public locations: "a characteristic of site-specific performances is that they are [...] adapted to the "site" they are performed" (Thorlacius, 2015, p. 111). *Inside Arcadia's* opening digital scenography or *Vestibule* scene was scaled 2:1 in both Pukeahu exhibition sites. Matching the virtual 6x3m floor virtual area of the digital *Vestibule* model with the string-line chalked area of the exhibition floor bridged both scenographies, allowing each to become spatially porous to the other. Likewise, for the Performance Arcade shipping container interior, *Inside Arcadia's* opening *Vestibule* model was adapted along with the chalk-floor area to match the individual proportions of its shipping container interior. This scenographic flexibility, coordinating both digital and physical performance design, colluded with The Performance Arcade's policing of space on its waterfront site required under the 'red traffic light' Public Health setting.

Rachel Buchanan in *Re-making history on Mātiu and other "settlement" sites* notes Te Aro Pa was once at the harbour's edge, "gradually destroyed between 1839 and the 20th century by earthquakes [...] the hostility of government officials" until, after foreshore reclamation, it

became Taranaki wharf (Buchanan, 2011, p. 287). Mātiu/Somes Island also experienced over a century of quarantine and defence discipline, with succeeding layers of Māori habitation erased and homogenised as pastoral landscape. This process was manifest in the physical act of benching and infilling the landscape⁶⁷ including with a bulldozer on Mātiu/Somes Island when the Crown built sites in the 20th century for animal quarantine, POW internment and an anti-aircraft battery. In an eerie echo, the Crown in the 19th century ignored the 'native reserve' status of the site of the Massey campus including the Engine Room Gallery (Buchanan, 2011), 'benching' it out (Shakles, 2017). This work was undertaken by prisoners, with the clay spoil used to make bricks to build the Mt Cook Prison and Alexandra Barracks, later torn down by prisoners ("Brick-making," 2021) (fig. 71).



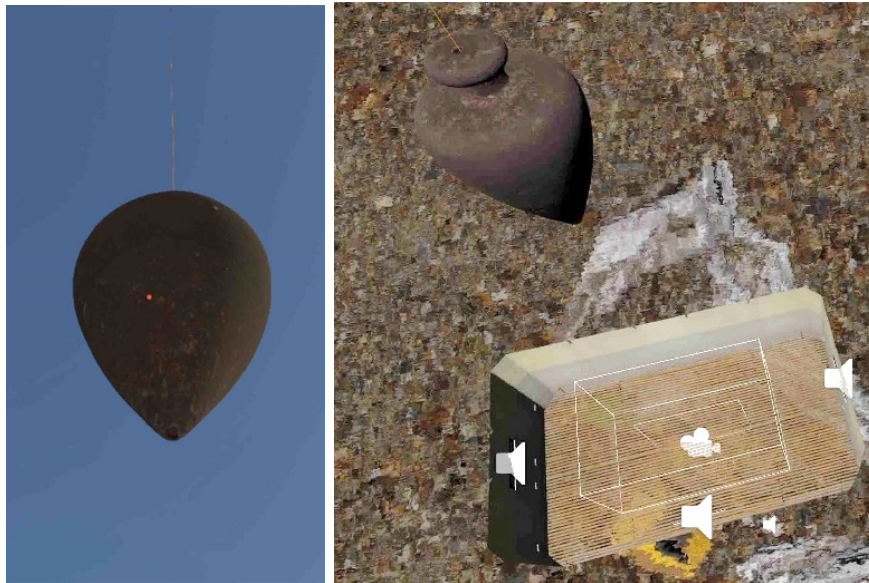
(fig. 71). Doidge, M. (2020). Tokomaru Building, Massey Pukeahu Campus Block 10 (Former Dominion Museum/Tokomaru building) former site of Mt Cook prison. Circled. Monument to Parihaka prisoners Massey Pukeahu Campus. Courtesy the artist.

Spatial layering applied to the Pukeahu context where the size of this colonial monument demonstrates the importance of scale in relation to the importance the Crown placed on what was commemorated. By contrast, as Buchanan notes, there is an implicit disregard when comparing the scale of the Tokomaru building (the former Dominion Museum) to the modest memorial to 19th century Taranaki land war, Parihaka prisoners (fig. 71, circled).

The vestibule plumb-bob and chalk floor

This colonial practice of benching and levelling is referenced in the opening 'vestibule' scene of *Inside Arcadia*. The digital plumb-bob model drops into the scene, triggered by an immersant, who animates this tool once used to survey this site (fig. 72). Before the advent of lasers, survey tripods held theodolites with plumb-bobs underneath to level them. Another surveying tool used for laying out cleared sites is the builder's string chalk-line.

⁶⁷ Benching is the levelling of a hilltop or cutting into a hillside to provide level ground to build on. Mātiu/Somes Island lost its peak to the anti-aircraft gun emplacement by this process, with 7m removed from the summit.



(fig. 72) Doidge, M. (2020). *Inside Arcadia*. Left: Vestibule scene [HMD screenshot]. Right. Game engine camera view of Vestibule scene [GUI screenshot]. Courtesy the artist.

Linda Tuhiwai Smith in *Decolonizing methodologies* refers to ‘the line’, ‘the centre’ and ‘the outside’ as three spatial modes in *The spatial vocabulary of colonialism in nineteenth century Aotearoa*. She states, “The ‘line’ is important because it was used to map territory, to survey land, to establish boundaries and to mark the limits of colonial power” (L. T. Smith, 2012, p.55). Like a ‘scene-of-the-crime’ analogy, the chalk-line floor (fig. 70) references the slatted corduroy-like texture of the animal quarantine pen’s floor, seen in the 3D Vestibule model (fig. 72, right). Mike Pearson and Michael Shanks in *Theatre/Archaeology* contextualise this analogy with the trope of crime-scene chalk outlines where, “the mark on and of the body is always just that – an incidental detail as well as a key to the past, a history, a memory” (Pearson & Shanks, 2001, p. 177). This silhouette trace suggests lingering connections between subject/object through place or location, something Kwon in ‘One place after another’ wrote of as “the homogenisation of places and erasure of cultural differences”, fluctuating between “me” and “not me” (Kwon, 2002, p. 8). This is in contrast with Lippard’s view of site-oriented artistic practices as nostalgic return to an intimate sense of place (Lippard, 1997, p. 4), a face-to-face experience of the genius loci of place (Kwon, 2002, p. 159). *Inside Arcadia* is not concerned with nostalgia, but one IVR project that interpreted the palimpsest as nostalgia was The Interactive Architecture labs work, *The palimpsest* (Tveito, Beaumont, & Torisu, 2016). This project LiDAR-scanned an about-to-be-demolished neighbourhood producing a point-cloud model. This process spectralised the site (A. J. Sempere, 2015, p. 49), presenting nostalgic narrative as a digital trace of an erased, inner-city community. With Pukeāhu in mind, *Inside Arcadia* seeks—through a gothic mode—to mediate the past so it can emerge in the present, read also through its trace on a chalk-line

floor. McNaughton in *Reinscribing the urban abject: Ngāi Tahu and the Gothic revival* cites the abject within a Māori context, associated with a 'colonial palimpsest', described as 'a zone of forgetting' (McNaughton, 2009, p.50) which I associate with a quarantine gothic one. Erik Champion in *The phenomenology of real and virtual places* wrote, "A virtual environment can be a palimpsest ("products of action"), where past social interactions are layered, echoed and carved into the fabric of the environment" (Champion, 2011, p. 78). Champion concludes rhetorically, "But in virtual reality, where are the footprints?" (Champion, 2019, p. 157). I argue these footprints are revealed as a palimpsest trace, a quarantine gothic performing *Inside Arcadia* as a dystopian phantasmagoria.

The Palimpsest

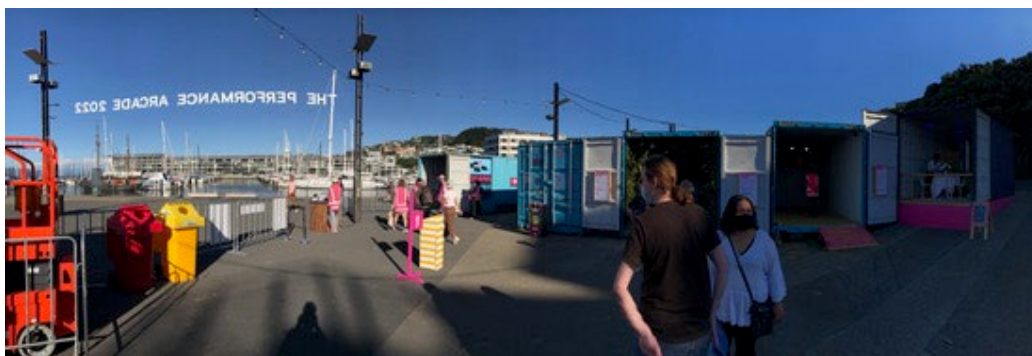
Turner writes in *Palimpsest or potential space*, the palimpsest is a literary trope loosely used by artists, writers, and many other creative practitioners (C. Turner, 2004, p. 373) as a metaphor for a surface inscription, partial erasure and re-inscription on the now-exposed substrate, where a trace of an original mark is still visible. A key text reference for theorising the palimpsest (Richards, 2020, p. 56) is Sarah Dillon's *The palimpsest. Literature, criticism, theory*. Dillon writes, 'a palimpsest' is "a parchment from which one writing has been erased to make room for another" (Dillon, 2007, p. 1). She distinguishes this palaeographic artefact from her interest in the literary metaphor, 'The palimpsest' of which she wrote, "The palimpsest is a space in which two or more texts, often different and incongruous, coexist in a state of both collision and collusion" (Dillon, 2013, p. 52). Gérard Genette in *Palimpsests. Literature in the second degree* makes a further distinction, adopted by Dillon—of 'palimpsestuous'—that is, 'reading two or more texts *in relation* to each other' (Genette, 1997, p. 399). There are also texts that discuss the palimpsest in a spatial, site-specific context. As noted in the introduction, Marc Augé in *Non-places: Introduction to Supermodernity* (1995) describes a palimpsest continuum between place as both historic and relational and non-place, an anonymous site of transit, airports, or fast-food chains. Neither place nor non-place can dominate the other (1995). In my concluding discussion concerning the palimpsest, I reference Augé and also Craig Owens' *The Allegorical impulse. Towards a theory of Postmodernism, part 1* (1980). Owens' claimed the "the paradigm for the allegorical work is the palimpsest" (Owens, 1980, p. 69). I introduce this epithet because, as Wells notes of Owens claim, in *Scale in contemporary sculpture*, under the heading *The sculptural trend as allegory*, Owens made sense of the claim by arguing for a connection between postmodernism and allegory. The connection was appropriation, site specificity and accumulation. However, as Wells notes, Owens does little to explain their connection to allegory (Wells, 2013, p. 172). I re-interpret this context in my concluding discussion in the context of spatial layering for *Inside Arcadia* as a provocation.

The printer's palimpsest, Te hana (the radiance)

One interpretation of the palimpsest as a metaphor, indigenous to Aotearoa/New Zealand, is that of Dr Rangihīroa Pānoho. Pānoho was Curator-Māori at the Whanganui Sargent Gallery (1988-1991) afterward completing his PhD exegesis *Māori Art in continuum* (Rangihīroa Pānoho, 2001). Pānoho referenced a palimpsest metaphor nine times in relation to Māori art. Over a decade later, in *Māori Art. History, Architecture, Landscape and Theory* (2015), Pānoho quotes Mark Graham's *Neo-geography and the palimpsests of place* where "Places have always been palimpsests" (Graham, 2009, p. 422). Pānoho coined the term 'Te hana' (the radiance) making this analogous to 'the printers palimpsest', a metaphor for embedded translucency – "a number of layers to be seen concurrently: each over the other and back to the original *kaupapa* base". This tracing of whakapapa (genealogy) interprets the many relationships, human and non-human, wrapped around an art object – "the landscape and the history to which it belongs, including its many interpretations" (Rangihīroa Pānoho, 2015, p. 30). This is very different to a European palimpsest metaphor of erasure and re-inscription. As Pānoho wrote in his PhD thesis, "Māori art is not some palimpsest, which finds firstly erasure and then re-inscription", making the crucial distinction that, "rather it is a multi-layered, 'wrapped', form with a potential for transparency or Derrida like montage" (Rangihīroa Pānoho, 2001, p. 111). Pānoho had earlier applied his methodology (Rangihīroa Pānoho, 1996, p. 22) in Pōneke (Wellington) at the intersection of Manners, Taranaki, and Dixon Streets where Shona Rapira-Davies made her Te Aro sculptural park work *Te Waimapihi* (1988-1993) (Rangihīroa Pānoho, 2004, p. 8). This landscape monument activates this place still as a living site. Te Aro kainga (village) was once east of Te Waimapihi stream, whose Ngāi Tara and Ngāti Mamoe name references an ancestor "the stream (or bathing place) of Mapihi". Spatial layering is relevant in this context. The Waitangi Stream, whose bed has been restored, flows again to the sea next to The Performance Arcade 2022 site (fig. 73). The Waimapihi Stream flows into the harbour near Taranaki Wharf ("Ngā Kaimanaaki o te Waimapihi / Polhill Protectors focus on stream health," 2021). Stand at this location, face north and then turn east, away from Te Wharewaka o Pōneke (boathouse) 'Te Raukura', towards Te Aranui o Pōneke, the wharf walkway in front of Te Papa Tongarewa, the National Museum. Your gaze falls directly on the Performance Arcade site, also in line of sight of Mātiu/Somes Island. Like so many of the city's watercourses and tributaries, both of these streams had been driven underground. Acknowledging this context as spatial layering for the site of *Inside Arcadia's* exhibition embraces the ongoing restoration of both streams.

In *Māori art in continuum*, Pānoho entered a footnote Oxford dictionary definition of palimpsest, where he directly referenced indigenous Canadian 'museologists', speaking of

their influence in referencing indigenous artwork as layers of meaning being wrapped and unwrapped. Pānoho wrote of wrapping as transparency, ‘the printer’s palimpsest’ potential for ‘Derrida like montage’ and in *Cinema and its ghosts*, Derrida talked of cinematic montage sharing an aesthetic lineage with writing, the shared aesthetic potential of “cutting and pasting” being expanded by the “accelerated possibilities offered by technological renewal (computers, Internet, synthetic images)” (Baecque & Jousse, 1998, p. 33). *Inside Arcadia*’s digital scenographies present a methodology of photogrammetry cut-ups, audio re-mixes, and enigmatic scale shifts. These phantasmagoria involve 360° processes sampling Mātiu/Somes Island’s historical locations, exhibited on spatially layered sites incorporating these site-specific features (fig. 73).

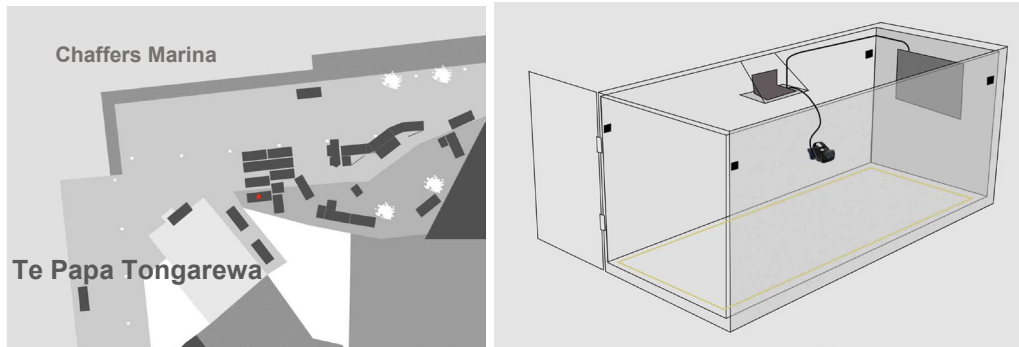


(fig. 73) Doidge, M. (2022). *Inside Arcadia*. The Performance Arcade facing towards Waitangi Park. Courtesy the artist.

Inside Arcadia pays homage to Pānoho and Derrida’s vision of cinematic montage as diaphanous, ghostly layers of technology wrapped up in site-specific human interaction, acknowledging traces of the past forming spatial layers in the present. Derrida notes of the spectre as a metaphysic or ontology, that it is caught between presence and absence, “the thing is to know what to do with it” (Baecque & Jousse, 1998, p. 33). Monica Kjellman-Chapin in *Traces, layers and palimpsests* writes that, like modernist collage, the palimpsest juxtaposes fragments without connective tissue, however, eventually these abut and once together they collude. Sampling site-specific fragments, like Derrida’s equivalence of cinema with writing, can also express a sense of place through paratactical sentences, analogous with the palimpsest (Kjellman-Chapin, 2006, p. 88). For example, (Pukeāhu) *bricked*—(Mātiu) *benched*—(Pōneke) *filled*—(Waimapihi) *covered*⁶⁸. Installing the yellow chalk-line stripes on the gallery floor on Pukeāhu, I had thought of using a red-brick colour—powdering old bricks from this site—signifying a relationship between building and the erasure of Taranaki Whānui sites on Pukeāhu. But my focus remained on Mātiu/Somes’ Island and the

⁶⁸ Parataxis is the combination and juxtaposition of things (collage) or sentences without connective tissue. Such combinations weave the disparate together, aligning fragments with potential meaning (Kjellman-Chapin, 2006, pp. 88-89).

colour of maritime quarantine, the yellow flag raised by an infected ship entering a harbour. The wharf site for the 2022 Performance Arcade (fig. 73 and 74) is near where the Crown, in the 1870's, removed Taranaki Whānui from Te Aro Kainga building over Waimapihi Stream nearby at the intersection of Taranaki and Dixon Streets (Buchanan, 2011).



(fig. 74) The Performance Arcade. (2022). *Inside Arcadia*. Left: The Performance Arcade site map. Right, container installation The Performance Arcade. Courtesy The Performance Arcade.

The palimpsest and allegory

My interest in Craig Owens' writing intersects Pānoho's palimpsest research through Owens' two-part essay *The Allegorical impulse. Towards a theory of post modernism*. Owens states "the paradigm for the allegorical work is the palimpsest" (Owens, 1980, p. 69). In Part one of *The Allegorical impulse*, Owens argued allegory was more of a mode than a genre, "allegory is an attitude as much as a technique, a perception as well as a procedure" (Owens, 1980, p. 68). Through his writing on artist Robert Smithson's site-specific work and discourse on ruins, Owens paraphrased allegory as "its capacity to rescue from historical oblivion that which threatens to disappear" (Owens, 1980, p. 68). Owens was referencing Walter Benjamin's *Theses on the Philosophy of History* where Benjamin stated, "every image of the past that is not recognised by the present as one of its own concerns threatens to disappear irretrievably" (Benjamin, 1968, p. 255). *Inside Arcadia* is also concerned with retrieving a quarantine past of Mātiu/Somes Island in the present as a quarantine gothic. My gothic interpretation of these historic quarantine sites presents a disorienting digital scenography in common with Laurie Anderson's immersive virtual installation of 'Chalkroom' (Anderson, 2017). Laurie Anderson's long performance career recently included the 2017 IVR work, *Chalkroom* where the experience of 'losing one's way' was focused on this experience wearing an HMD. As she said in her online/Zoom *Lecture 2: The Forest: Spending the war without you*, she wanted an immersive, virtual space that was contrary to modes of digital gaming. No first-person shooters, no scoring or 'treasure' appropriation etc. This is a labyrinth; "a space to get lost in" (Anderson, 2021). In Part two of *The Allegorical impulse*, Owens wrote of her performances also as, 'losing one's way in a labyrinth of signs' (Owens,

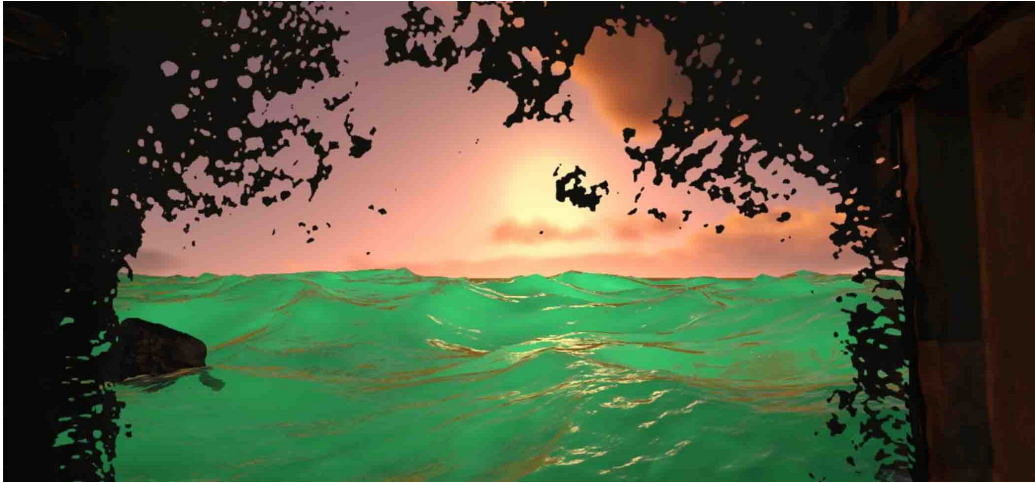
1992, p. 71). As I noted earlier, Owens associated the palimpsest with allegory on the basis of appropriation as well as site specificity. As described in Chapter One, this is a deliberate method for making and collecting *Inside Arcadia's* digital scenographies as a quarantine gothic.

Miwon Kwon writing of nomadism, the itinerant practice of travelling to make site-specific work (Trubridge, 2018, p. 1) notes that travel can mean getting lost but also ending up in the 'wrong place' (Kwon, 2002, pp. 160-164). This echoes the powerful IVR staging of illegal immigration by filmmaker Alejandro G. Iñárritu, of a pre-dawn border crossing simulation called *Carne y Arena* (Glieberman, 2017). This work is set in a cavernous warehouse. Access to the HMD is through a set design of an immigration 'holding-cell', littered with shoes and personal effects. Inside the arena, taking your own shoes off and putting on the HMD, there is sand underfoot. Experiencing naked feet on sand while wearing an HMD box is a visceral, immediate combination. Wearing shoes *Inside Arcadia* softens that visceral, immediate affect, a trace of footprints on a gallery floor is an ephemeral trace that registers a different social context (fig. 75). Iñárritu's IVR performance design also requires the viewer's active, immersive investment in trying to navigate the space as socially constructed. The contexts of these two shows are quite different although reference to border vigilance is very real in both installations.



(fig. 75). Doidge, M. (2021). *Inside Arcadia*. The Engine Room Gallery. Chalk footprints on gallery floor. Courtesy the artist.

Concluding discussions



(fig. 76) Doidge, M. (2021). *Inside Arcadia. Phantasmagoria: The bunker* [HMD Screenshot]. Courtesy the artist.

Inside Arcadia can be understood as a phantasmagoria (fig. 76)—a quarantine gothic—an immersive, virtual *mode*—a way of doing and seeing, adaptable across dislocations of culture, time, and space. The public exhibitions and performance of this immersive, virtual ghostly experience feature a digital scenography directly sourced from Mātiu/Somes Island’s historic quarantine and defence sites. *Inside Arcadia* references colonisation in this context with a novel gothic allegory—a quarantine gothic—a neologism addressing the Covid-19 pandemic upheaval that, alongside global heating, is a consequence of human encroachment on wild spaces.

Returning to my provocation in the introduction: What does it mean to place a box on your head and become immersed as a virtual ghost within an uncanny digital scenography? I reiterate the three principal contexts driving my practice.

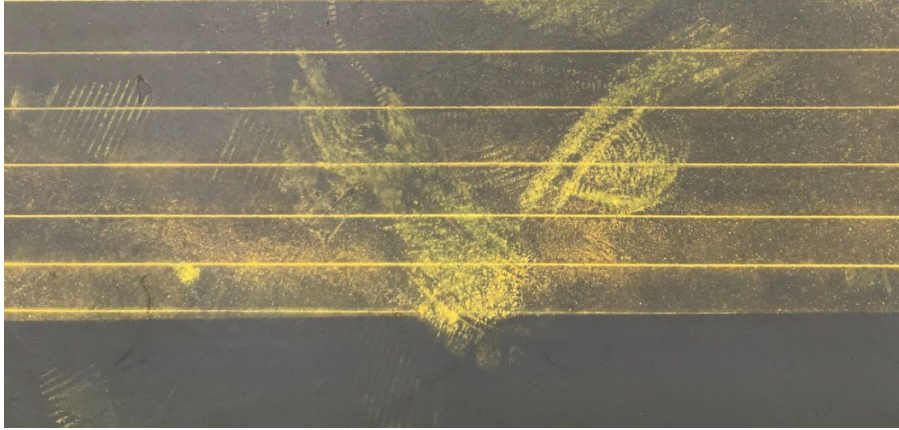
1. The representation of ‘a quarantine gothic’ through a four-part digital scenography in immersive virtual reality (IVR). The work is based on historic quarantine and defence sites found on Mātiu/Somes Island’s historic reserve, located in the middle of Te Whanganui-a-Tara/Wellington Harbour.
2. Comprehending a quarantine gothic as an experience of virtual disembodiment using a Vive HMD.
3. The physical installation and performance of a quarantine gothic exhibited as *Inside Arcadia* across three exhibition sites (two open to the public).

Following from this, *Inside Arcadia*, as a phantasmagoria referencing the Covid-19 pandemic, presents this claim of originality. No other IVR work has directly mediated Mātiu/Somes Island's historic quarantine and defence reserves to produce and perform an immersive 360° digital scenography in this contemporary gothic mode, a quarantine gothic. Six months after the August 2021 Engine Room gallery exhibition of *Inside Arcadia*, the project was again exhibited, this time in a shipping container for The Performance Arcade, February 2022. From these exhibitions and their exhibition sites, I conclude a quarantine gothic—referencing Mātiu/Somes Island—is a distinct site-specific, immersive, virtual contribution to a gothic mode. This immersive virtual reality contribution is specifically allegorical in a phantasmagoric mode. The phenomenon of virtual disembodiment, wearing the HMD, recontextualises the exhibition and installation experience as performative of 'seeing ghosts in public', a quarantine gothic.

Spatial porosity: Space is socially constructed, thus shared

Understanding and applying spatial porosity to *Inside Arcadia* exhibition and performance design is also important. As Espin Aarseth argues, virtual space and its digital scenography exist as allegories of the spaces we live and breathe in. Spatial porosity mediates the virtual and physical spaces of *Inside Arcadia*'s exhibition where Henri Lefebvre and Aarseth both note space, virtual or not, is socially constructed, thus shared. Spatial porosity for *Inside Arcadia* can be interpreted as a singular embodied virtual point-of-view experience of *affect* but with perceptual gaps that share this immersive, virtual space. In other words, a walkable immersive point-of-view dominates wearing the headset, all the while HMD sensors track the head's position in space, experienced underfoot. Sensory information received immersively does not immediately align with this physical context. Unseen while wearing the HMD, non-alignment gathers an accretion of footprints in chalk. Over time—in this physical exchange between doubled virtual and physical areas⁶⁹— this gives rise to a perceptual and temporal gap. A record of collective experience sharing space is thus imprinted. A physical and virtual deposit, underfoot, becomes a poetic collection and record of tracking ephemera seen in the HMD (fig. 76 and 77).

⁶⁹ *The Vestibule* model is scaled to match the chalked floor. The immersant can safely move about this area defined visually in the HMD by a digital chaperone.



(fig. 77). Doidge, M. (2021). *Inside Arcadia*. The Engine Room Exhibition. Chalk footprints on gallery floor installation. Courtesy the artist.

This context is also an original contribution—wearing the HMD—to *Inside Arcadia*'s performance design, public exhibition, and audience experience of this phantasmagoria. Publicly exhibiting *Inside Arcadia* both tested and informed my research focus regarding an immersive, virtual quarantine gothic, a focus informed by my interpretation of wearing the stereoscopic HMD as a phantasmic mode, a ghost in the machine. Resulting adaptations derived from these lessons in turn modified this spectralised immersive experience of a quarantine gothic—performed as a virtual ghost—which is a vital new contribution to the field exhibiting immersive, virtual reality as digital scenography in an expanded field.

My original contribution integrates layers of virtual digital scenography with an installation context and performance practice wearing the HMD. There are two distinct features of *Inside Arcadia* central to this exhibition context and installation. These are:

1. *Inside Arcadia*'s quarantine gothic as a walkable digital scenography and,
2. spatial porosity configured to expand this immersive phantasmagoric experience by leaving a contiguous trace of footprints on the installation's yellow-chalked floor.

Spatial porosity and spatial layering

Spatial porosity for *Inside Arcadia* is the mediated exchange between virtual, immersive space within the physical space of its installation involving the immersant and exhibition audience over time. My application of this context to the creative project's spatial design is both scalable and performative. My application of spatial porosity in this socially constructed context and the related concept of 'spatial layering' are both analysed in relation to The Performance Arcade exhibition of *Inside Arcadia*. I also draw the reader's attention to Chapter 3, section 3.4 where I interpret 'the palimpsest' as a paradigm for allegory while considering 'spatial layering'. The digital and physical layers of *Inside Arcadia*'s exhibition in

relation to appropriating Mātiu/Somes Island's historic quarantine and defence sites through 360° mediation provides spatial layering as a methodology that has a site-specific focus referencing exhibition sites and their associated historical contexts.

The following questions are useful to reveal additional findings in relation to The Performance Arcade exhibition site (2022).

1. Does my research contribution to performance and installation design adequately consider spatial porosity, given the adjustments necessary for exhibiting *Inside Arcadia* in a shipping container for The Performance Arcade 2022?
2. Does the concept of spatial porosity help interpret *Inside Arcadia*'s relationship to Mātiu/Somes island exhibited in a shipping container on the waterfront?
3. Can spatial layering be understood better as a palimpsest metaphor for The Performance Arcade exhibition site of *Inside Arcadia*?

Each exhibition of *Inside Arcadia* relied on negotiating the conditions of the exhibition site. In 2021, The Engine Room gallery presented an orthodox exhibition space measuring in total 11 x 6m, allowing a generous perimeter around the 6x3m floor installation (fig. 78, model to the left in image) with a 5m natural lighting well. The exhibition at The Performance Arcade in 2022 was by comparison a 5.3 x 2.3 x 2.6m shipping container with an open end (fig. 78, arrowed and fig. 78, right).



(fig. 78). Doidge, M. (2022). *Inside Arcadia*. Left. *Vestibule* 3D models in Unity. Arrow. 3D model re-sized to match the container for The Performance Arcade 2022. [GUI screenshot]. Right. Doidge, M. (2022). *Inside Arcadia*. The Performance Arcade container in situ. Courtesy the artist.

In the August 2021 Engine Room show, the HMD viewer could 'clip out' of the virtual space of the *Vestibule*, a video game term that means passing through what seems to be the physical boundaries of the scenography to see the cartesian space of the game engine hosting the digital scenography. The spatially porous design of the *Vestibule* model for the Performance Arcade, matched the size and scale to the container walls, preventing clipping

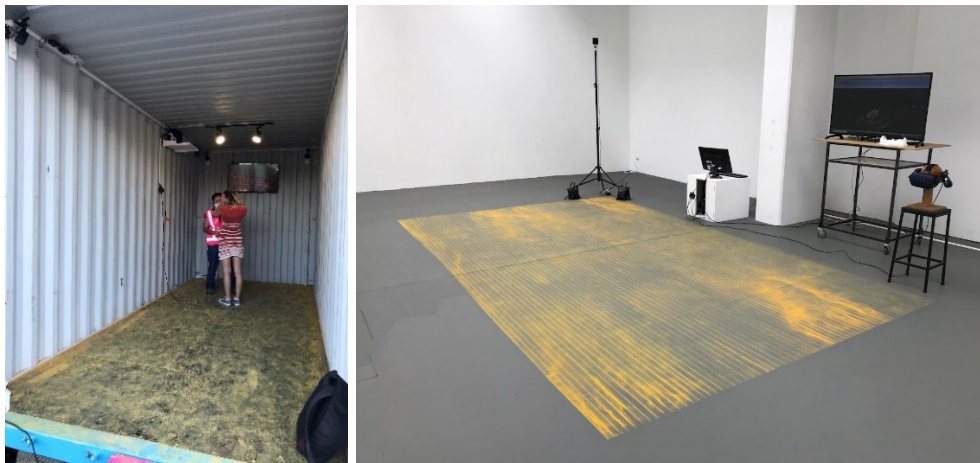
out. However, the narrow confines of the shipping container did bleed outside where chalk was tracked throughout the Performance Arcade, modifying my understanding of spatial porosity. The site outside the container acquired tracks where 'layered space' became associated with palimpsest layers as a metaphor (fig. 78, right). Sam Trubridge, founder, and director of 'The Performance Arcade' wrote of 'layered space' where he discussed "new innovations in container use" being pertinent to exhibiting performance works that "extend out from or reject the closed spaces of the shipping container" (Trubridge, 2018, p. 119). Exhibiting *Inside Arcadia* modified Trubridge's idea of layering space—beyond the container—by considering the palimpsest as a metaphor for layering traversing the site. This metaphor associated with the performance site of the shipping container also included the immersive, virtual space of *Inside Arcadia*'s digital scenographies as allegories of Mātiu/Somes Island, seen across the harbour waterfront from the container.

A related theme regarding *Inside Arcadia* and spatial porosity was ghostly viewing: the disincarnated 'ghost-in-the-machine' experience of a virtual avatar mediated by wearing the HMD. The immersant is situated in-between the virtual and physical installation. To illustrate this with a clear example of spatial porosity, I re-sized the scale of the 2:1 virtual dimensions of the Vestibule (fig. 78, left; fig. 79, right) to match the interior dimensions of the shipping container (fig. 78, right). This accommodation of the container's internal dimensions meant the immersant, putting on the HMD, perceived this careful resizing as a smooth transition from the container void to the virtual model with a 1:1 scaled ratio (fig. 78, left; fig. 79, left). The container floor area matched the 3D model and was marked with a close array of yellow stripes mimicking the 3D model's slatted floor. The key to spatial porosity was the smooth transition from the physical volume of the container to the virtual volume of the Vestibule container—feet still on the ground experiencing both virtual and physical space.

However, having made the volume of the virtual vestibule 3D model align with the container interior, soon a trail of chalky footprints spread outside the container (fig. 78, right). This trace of socially constructed space directed attention beyond the site of the exhibition. The spatially porous context of solid container walls aligned with the positioning of three virtual 'QUARANTINE' teleports in a virtual *Vestibule* or antechamber (fig. 80). Beyond the 1:1 scale match of the vestibule with the container interior is the unscaled virtual space of the three digital scenographies. These layers of phantasmagoria are allegorical of other interiors made from photogrammetry scans and 360 looping videos, a quarantine gothic. In this context, while wearing the HMD, one also steps metaphorically toward Mātiu/Somes Island, with *Inside Arcadia* as a site-specific 360° mediation introducing the palimpsest as a metaphor of virtual, spatial layering to the exhibition site.

The Performance Arcade 2022: Spatial layering and spatial porosity

A characteristic of site-specific performances and their exhibitions is how they adapt to their site. For *Inside Arcadia* spatial porosity meant adapting the virtual scale of a quarantine gothic to an empty container as a performative experience. This alteration accommodated variation in the shared experience of space for the immersant and audience. The container provided a gallery view for the audience, a 5.8-metre-long gaze into the length of the container in contrast with The Engine Room gallery open plan where the chalked area was in the centre of the space and an audience could easily move around the HMD wearer (fig. 79, right). The audience view of the HMD wearer at The Performance Arcade, with the video screen behind, was unrelentingly frontal and constricted (fig. 79, left) but from inside the container, removing the HMD, one could look directly toward Mātiu/Somes Island.



(fig. 79) Doidge, M. (2022). *Inside Arcadia*. Left. 5.8 metre long container view, 17th February. Right. 2:1 floor installation, The Engine Room Gallery (2021), 4th August. Courtesy the artist.

I have explained in the body of the exegesis how the palimpsest is useful as a method acknowledging histories of the exhibition sites as layers. I now evaluate how these contribute to contextualising *Inside Arcadia*. Spatial layering deploys the palimpsest as a site-specific metaphor, another way of interpreting a quarantine past in the present pandemic as allegory. By way of provocation, as discussed in section 3.4, *A performative palimpsest*, Craig Owens wrote in the *Allegorical impulse. Towards a theory of Postmodernism, part 1* (1980) that “the paradigm for the allegorical work is the palimpsest” (Owens, 1980, p. 69). As Wells in *Scale in contemporary sculpture* notes, Owens argued the palimpsest was a paradigm for allegory, a mode of appropriation in site-specific contexts. However, as Wells also noted, Owens wrote little to develop his connection of the palimpsest with allegory (Wells, 2013, p. 172). This context allows to me to interpret Owens’ omission with this provocation: The palimpsest is a metaphor for spatial layering, a site-specific interpretation of Owens’ dictum “the

paradigm for the allegorical work is the palimpsest". *Inside Arcadia's* digital scenographies and a quarantine gothic are derived from site-specific imagery, an allegorical mode associated with a contemporary sense of crisis and discontinuity while also acknowledging a quarantine past in the broader context of the Covid-19 pandemic.

Spatial Porosity: Findings

The Performance Arcade exhibit introduced a new Vestibule model, adjusted to the scale and volume of the container. As part of an immersive, virtual phantasmagoria this context for porosity positioned *Inside Arcadia's* contemporary appropriation of older, 19th century stereoscopic technologies phantasmagoria alongside modern digital HMD providing an analogous experience but within the virtual space of game engine software of a computer as a performance partner. *Inside Arcadia* integrated this aspect of research as a performance design feature arguing the phenomenon of virtual disembodiment—wearing an HMD—is also spatially porous in the context of the exhibition. That is, a way of making the IVR experience of a quarantine gothic contribute to a phantasmagoria as a methodology, the presentation of ghosts in public leaving a collective trace in chalk.⁷⁰

Of importance for *Inside Arcadia* is considering spatial porosity as a context focused on the experience of virtual disembodiment, wearing an HMD, being an integrated part of the work's performance design without accessorising the HMD. I remind the reader of another comparison I made with a separate exhibition in the context of spatial porosity—in section 3.0, 'Digital scenography in an expanded field'. This was Stuart Foster and Sven Mehzoud's virtual scenographic practice *Te Āhua tū Wātea* from the 2019 Prague Quadrennial. *Te Āhua tū Wātea* engaged spatial porosity with multiple entrance points for immersion being mediated as virtual disembodiment wearing the HMD.

Foster and Mehzoud's interpretation accessorised⁷¹ the disembodied experience by physically costuming the technology as part of their methodology extending the HMD as a physical prosthesis. Rather than accessorising multiple HMD with hand-held boxes, balls, and rods, *Inside Arcadia's* performance design interpreted spatial porosity focused on the experience of disembodiment as a virtual ghost, leaving only a physical trace of yellow footprints on the floor of the exhibition space. In comparison, I have simply accommodated the disembodied experience, wearing the HMD, creatively interpreting this as an immersive, virtual avatar context for phantasmagoria. Importantly, there is a perceptual gap that

⁷⁰ I also think of this as a kind of 'ruse' taking off-the-shelf technologies and software then adapting them to a performance design context. Nicholas Bourriaud in *Postproduction* argued this type of appropriation referenced Michel de Certeau's notion of borrowing and borrowers as being 'tenants' or renters of culture (Bourriaud, 2010, p. 24).

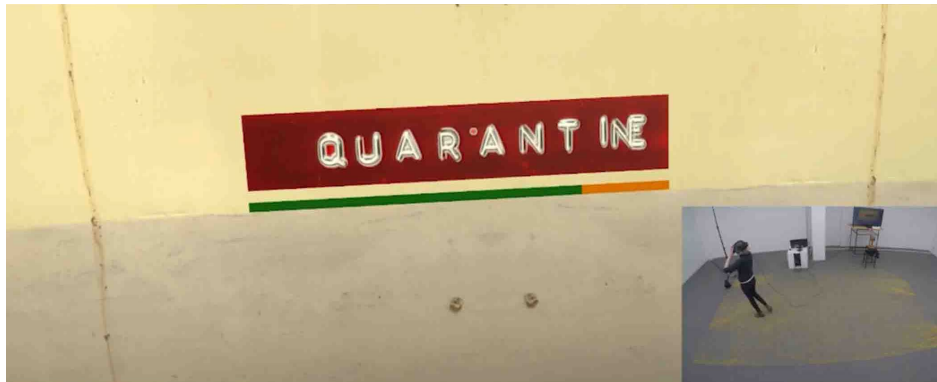
⁷¹ One HMD had metre-long rods attached when worn. Custom-made containers were available to the immersant to put their hands in, affording a haptic correspondence with the virtual experience of the scenography.

emerges viewing the phantasmagoria. This gap acknowledges virtual space together with the exhibition space are socially constructed. Immersive virtual isolation in the exhibition context, a quarantine gothic, is still shared, as evidenced by a trace of footprints (fig. 77).

Restraint was a feature exhibiting *Inside Arcadia* in The Performance Arcade. I chose to leave the container bare (apart from a chalk-line floor). Physically entering the container and placing the HMD on one's head, the uncluttered physical container space produced a physical affect of a smooth transition from a physical volume to a virtual one. Importantly, this maintained the sensation for the immersant of feet firmly on the ground. In order to eliminate clutter in a confined space, I installed the computer box and wiring in the container well above head height. I resisted a curatorial suggestion that I 'activate' the container space with a vinyl-cut text of the *Papatūānuku* recording used in one scene. I wanted to focus on the scale and volume of the physical container matching the opening virtual scene, not reference another scenography. The confined space was a blank slate, a palimpsest ready for inscription. Matching the quarantine vestibule model to the container's dimensions echoed The Performance Arcade itself under rigorous 'red traffic light' quarantine regulation. Access to *Inside Arcadia* was restrained by rigorous vaccination checks of QR codes. The virtual inner world of a quarantine gothic emerged, contiguous with the container interior, enclosing a virtual quarantine gothic within a metal box, itself a carceral allusion.

Spatial layering: Findings

Conscious of exhibiting *Inside Arcadia* for The Performance Arcade 2022 adjacent to Waimapihi Stream and Waitangi Park, I was aware of Mātiu/Somes Island being in sight of *Inside Arcadia*. I argue that the notion of spatial layering can be expanded to a site-specific palimpsest notion for *Inside Arcadia*'s quarantine gothic. Spatial layering in relation to *Inside Arcadia* exhibition can be experienced as an allegory of Mātiu/Somes Island's historic quarantine and defence sites in this pandemic upheaval. As noted, The Performance Arcade site was operated under Government regulations for Covid-19, one of few public events able to do so and thus to stay open under a nationwide 'Red setting'. This was the Covid-19 traffic light regulation that, in the opening vestibule scene, referenced these regulations with digital "QUARANTINE" labels on the wall with red/orange/green sliders as the teleportation hotspots (fig. 80).



(fig. 80) Doidge, M. (2021). *Inside Arcadia. The Vestibule*. 'QUARANTINE' label hotspot for teleporting [HMD screenshot]. Inset. Viewer activating the hotspot [video still]. The Engine Room Gallery (2021). Courtesy the artist.

The “QUARANTINE” labels for *Inside Arcadia* were derived from Mātiu/Somes Island animal quarantine station (fig. 80). I used an embossing label system to replicate the three digital models. These digital labels marked the teleporting hotspots on the virtual model of a former animal pen. The positioning of the virtual labels on the 3D model walls, matching the physical container walls, further suggests spatial porosity matching the physical with the virtual. These labels also highlight a far less literal reference to Mātiu/Somes Island, one beyond the shipping container walls matching the vestibule model as an example of spatial porosity. These three hotspots teleport the viewer into each digital scenography composed of site-specific 360° recordings and scans of island locations.

As my PhD progressed, I became fascinated with Mātiu/Somes Island’s historic sites as virtual allegories. Did this include their exhibition contexts? What environmental affordances enhance or limit immersive, virtual interaction? Do I fly, walk, or move virtual things? Can digital affect be traversed materially? My creative research project is not like an on-line, virtual tour of a kind familiar to 360° tours of remote museums or inside photogrammetry-made 3D models of ancient tombs. *Inside Arcadia*’s experience of virtual teleporting, from the vestibule scene, is a different immersive experience of transportation. It is one that, in Aarseth’s definition of virtual space, is allegorical; with *Inside Arcadia* an allegory of the Covid-19 pandemic and historic quarantine. *Inside Arcadia* is a virtual palimpsest with a footprint trace, where each layer of site-specific, 360° mediated digital scenography—each phantasmagoria—represents virtual space as a mode of digital spatial layering. Important here is the non-hierarchical virtual orientation of *Inside Arcadia*’s quarantine gothic via scenographies in a palimpsest loop. One important time-based reference is Derrida’s hauntology, ‘time being out of joint’, experienced as accelerated day/night cycles—either timelapse 360° video or environment plug-in programming. Disincarnation, leaving the body behind, occurred wearing the HMD. The physical space of the shipping container directs this

experience of the phantom subjective outward—onto Mātiu/Somes Island’s historic quarantine past, out-of-joint in the present.

In this context, I remind the reader of Augé writing in *Non-places: Introduction to Supermodernity* (1995) about place as a palimpsest paradigm. Place was relational, concerned with identity, like Waitangi Park. Place had a significant historical dimension, an echo of Lefebvre where space is socially constructed, thus shared. However, Augé also wrote of place in opposition to non-place as part of a fluctuating continuum. Non-place was a transit area—a site like the shipping container park on the wharf on Wellington’s harbour—not a place for people. In my introduction, I considered The Performance Arcade exhibit in 2022 makes a neat inversion of Augé’s palimpsest dichotomy on its Waitangi Park waterfront site. As I wrote earlier, ‘Red traffic light’ settings under pandemic regulations governed *Inside Arcadia*’s exhibition, as one of very few public exhibitions able to open. In one other respect the shipping container contextualised the immersive virtual experience of a quarantine gothic. At a time when the pandemic shortened global shipping supply chains, an empty container was a reminder of a pastoral economy vulnerable to global shocks, now and into the future.

My final question therefore is, “Can spatial layering be understood better as a palimpsest metaphor for The Performance Arcade exhibition site of *Inside Arcadia*?” I conclude spatial layering acknowledges *Inside Arcadia*’s relationship to site as an extended metaphor of Mātiu/Somes Island’s historic quarantine referencing a quarantine gothic. Interpreting a palimpsest metaphor this way—as a *model* for allegory—relies on allegory as a mode, a form of indirect reference or a way of seeing and doing adaptable across dislocations of culture, time, and space. In this instance, a quarantine gothic, vicariously mediating Mātiu/Somes Island historic quarantine and defence sites, is experienced as a return of the past in the present.

***Inside Arcadia*. A 360° immersive practice adapting between exhibitions**

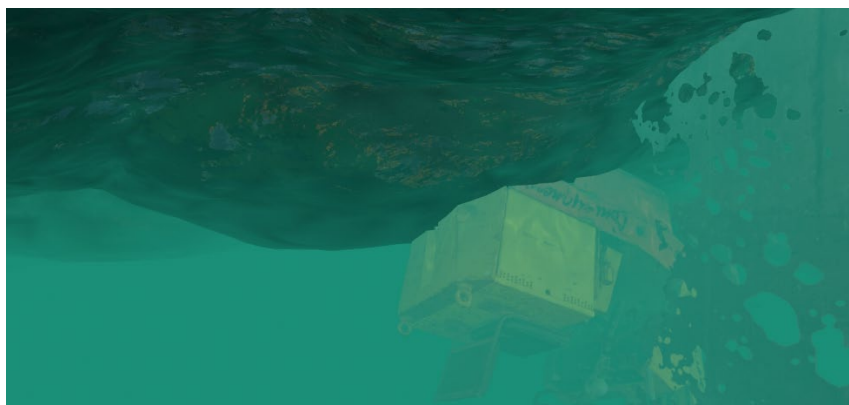
I consider my creative practice research for *Inside Arcadia* an iterative process. Each exhibition context created opportunities for review and customisation. I have set out below examples where rethinking was required, resulting in iterative improvements. Just before the August 2021 exhibition of *Inside Arcadia* in the Engine room gallery I had to make a significant adjustment to the 360° dawn-to-dusk timelapse video. The problem was ‘flickering’ seen wearing the HMD when the timelapse video played. This flickering was caused by shifting light levels between the single-exposure frames that collectively make up a timelapse. When run together as a timelapse video, the variation between lighter and darker exposures creates flickering. I had made two timelapse dawn-to-dusk exposures.

One, for the human quarantine barrack, made on a sunny cloudless day worked well and was included in *Phantasmagoria: The human quarantine barrack*. The other, for *Phantasmagoria: The animal quarantine boiler room*, was made on a windy, cloudy day. Although I anticipated the need to de-flicker and used very good software to do this, I could not overcome pronounced flickering which—while not obvious on a 4K flat screen—was a distraction wearing the twin-lens HMD. To overcome this problem, I stitched 360° images and inserted transitions between groups with stable exposures, giving a timelapse effect. By way of serendipity, this created the intriguing effect of light-rays on the wall appearing to step—rather than progress seamlessly across the surface—while still leaving the timelapse effect intact.

One major adjustment made after the first public exhibition in The Engine Room Gallery, August 2021 was re-examining the project's virtual environments in relation to their audio soundscapes. This involved re-recording and re-mixing 360° ambisonic audio for both stereo and binaural outputs. Following Lawn in a gothic mode (Lawn, 2006, pp. 14-15), this iterative method was also a way of doing and seeing, adaptable across dislocations of culture, time and space. These re-mixes were intended to increase alignment between the audio and digital scenography, e.g., the audio recording of my performative sprint that sets the duration of the scene: *Phantasmagoria: The animal quarantine boiler room*. I refined the audio soundscapes of the other two scenes to enhance sonic sympathy between accelerated dawn-to-dusk cycles (environment plug-in or timelapse) and their hauntological appearance of 'time being out of joint'. This enhanced the gaze-based, immersive virtual 'phantom subjective' experience of a quarantine gothic wearing the HMD.

A key refinement introduced for *Inside Arcadia's* February 2022 Performance Arcade exhibition involved replacing a previously un-mixed reading of *Meum et Tuum* from the 2017 *Performing, writing symposium* (Section 1.1, p.38, fig. 31, left) for *Phantasmagoria: The human quarantine barrack*. Here I had previously recorded myself reading in a single take, outdoors on the island, with environment sound in the background. I later re-recorded this spoken word content with a voice artist, this time using a soundproof recording room on campus, and made another new recording there, of Hone Tuwhare's poem *Papatūānuku*, for inclusion in the *Phantasmagoria: The bunker*. This process of improving audio spatial layering also involved using field recordings of audio fragments of Mātiu/Somes Island environments, e.g., the windmill and quarantine buildings rattling in a gale added layers of ambisonic recording. Also included were recordings of waves at the foreshore and a mysterious auditory phenomenon called the 'Wellington hum'. Details of each step of these two audio mixes are in the Technical Appendix (pp. 135 -140). In developing this immersive audio, I applied a palimpsest paradigm. This method of layering, responding to my

previously nesting 3D photogrammetry models within 360° video timelapses of Mātiu/Somes Island historic quarantine sites, now included a dawn-to-dusk maritime digital plug-in environment. Finding a suitable voice artist was a key improvement that arose from consulting with a musician friend, Justin Firefly Clarke, who recommended the voice work of actor and singer, Vanessa Stacey (Ngāti Kuia/Te Āti Awa). With permission of Rob Tuwhare and the poet's estate, Vanessa and I recorded her interpretation of Tuwhare's poem *Papatūānuku*⁷². This recording enabled me to develop nuanced interpretations of *Papatūānuku*, adding bespoke layers to the evolving soundscape of *Phantasmagoria: The bunker*. In particular I focused on the affect of periodically feeling overwhelmed by the digital wave while immersed in the IVR scene (fig. 81).



(fig. 81) Doidge, M. (2022). *Inside Arcadia. Phantasmagoria: The bunker*. [HMD screenshot]. Courtesy the artist.

I then sought to extend this methodology to *Phantasmagoria: The human quarantine barrack*. This scene required a new audio mix of *Meum et Tuum*, using my recording of Vanessa's interpretation, that resonated with the visual appearance of the scene in which the 3D barrack model's mesh triangle planes are translated into a diaphanous shimmering point cloud, signifying miasma or foul air (fig. 82). What evolved was an audio solution sympathetic to a quarantine gothic scenography of a technologically spectralised virtual environment. Layers of voice recording and environment sound, distorted by a digital synthesiser, build up over 170 seconds and come to an abrupt end with two metallic clangs briefly overshooting the fade to black, the death rattle of a colonial past re-emerging in the present.

⁷² Permission was granted by Rob Tuwhare and whāunau, on behalf of the poet's estate, in July 2021 and later agreed to again for The Performance Arcade 2022 in December 2021.



(fig. 82) Doidge, M. (2021). *Inside Arcadia. Phantasmagoria: The human quarantine barrack.* [HMD screenshot]. Courtesy the artist.

As these soundscapes evolved, I was also focused on a non-hierarchical approach to the experience of each Phantasmagoria scenography as a process of gaze-based navigation between scenes. In this context, sound artist and authority on English hauntology, Mark Fisher, writing in his blog *Phonographic blues*, spoke of avoiding ‘hoky atmospheric’ when applying audio as the technological uncanny. To this end he also wrote of audio layers producing audio wraiths, a hauntological artefact suggesting an “alternative to linear history” (Fisher, 2006), similar to the circularity of the palimpsest and allegory.

Recording *Papatūānuku* recalled Hone Tuwhare being in Wellington in 1975, taking part in *Te Rōpu o te Matakite (Those with foresight)*, a hikoī or march to Parliament grounds in protest of the Crown’s continued creeping alienation of Māori land. My personal homage to Tuwhare and *Papatūānuku* was writing *Meum et Tuum* in 2017 then recording both with Vanessa. *Papatūānuku* was a love poem to walking mother earth during the gruelling hikoī travelling to Wellington, in Hone’s words—‘massaging the ricked back of the land’— “hell, she loves it”⁷³. This recording was conceptually and emotionally a counterpoint to the immersant, wearing the HMD, emerging virtually into ‘The bunker’ scene at ‘sea level’, standing inside and on top of two separate scans of Mātiu/Somes Island artillery ammunition magazines. The turbulence of *Phantasmagoria: The bunker* contrasted with Tuwhare’s love poem to walking the Earth. In general, viewers immersed in this Phantasmagoria reminisced about ocean swimming, worrying about increased pollution in the harbour or, when virtually swamped by a digital wave, felt a moment of fear of drowning while paradoxically standing on the gallery floor. Some thought the 3D model of artillery magazines looked like wrecked

⁷³ Some versions of the Māori creation narrative, Papatūānuku and Ranginui, begin in darkness. Papatūānuku, the land, rises from the water and light enters the world when Papatūānuku, the Earth mother, is separated from Ranginui, the sky father where—emerging from between them—their elemental children, Tane – the forest, Tangaroa - the sea etc., force their parents apart and populate the world.

ship's ribs. This process of casual conversation led to further reflection that contributed to adjusting not only *Phantasmagoria: The bunker* but also *Phantasmagoria: The human quarantine barrack*. These adjustments helped advance my interpretation of *Inside Arcadia* as a phantasmagoria. They also informed the exhibition experience of spatial porosity for The Performance Arcade where the Vestibule model, adjusted to match the container volume, reinforced the blending of physical and virtual space as immersants moved virtually between phantasmagorias. In the August 2021 show, the HMD wearer could 'clip out' of virtual space in the vestibule model. This is a video game term that means passing through the scenography to view the space of the game engine, outside the model. With the Vestibule model matching the volume of container walls in The Performance Arcade, 'clipping out' (fig. 83) was prevented by the container as a physical barrier. Preventing clipping out—a moment of inadvertent revelation—by association with container confinement provided a solid spatial context for a virtual quarantine gothic as an allegory of space.



(fig. 83) Doidge, M. (2022). *Inside Arcadia*. Side of vestibule model being clipped. [HMD screenshot]. Courtesy the artist.

Closing statement



(fig. 84) Doidge, M. (2022). *Clipping out*. [photoshop image]. Courtesy the artist.

Inside Arcadia, understood as a phantasmagoria, is the public exhibition and performance of an immersive ghostly experience, a digital scenography derived from Mātiu/Somes Island historic quarantine and defence sites and a gothic allegory for the Covid-19 pandemic upheaval. Exhibiting with The Performance Arcade in 2022, the shipping container and site both added layers of complexity. I have argued this complexity is useful to interpreting *Inside Arcadia's* relationship to Mātiu/Somes Island by clarifying spatial porosity for this iteration of

Inside Arcadia. The 1:1 correspondence between the physical volume of the container and the scale of the Vestibule 3D model allowed a smooth transition from the container, putting on the HMD, to the virtual space of *The Vestibule*. However, viewing the three other digital scenographies, the phantasmagoria, in this context connecting the Vestibule model and container, I conclude further that spatial layering—in the context of the shipping container—serves best to interpret an immersive, digital 360° layering of scenographic, virtual space. Here, I refer to Espin Aarseth’s definition of virtual space, that is, virtual space is an allegory of space being socially constructed and shared in the context of the exhibition, with the audience over time being included in the history of the site. The contribution of my creative research to new knowledge is that—arriving at a “quarantine gothic” neologism—*Inside Arcadia* developed site-specific, immersive content which was mediated through a range of 360° techniques. Interpreted poetically and performatively, these included field recordings for soundscapes for each digital scenography in the exhibition’s evolving installations. Here I reiterate two critical contexts necessary to interpret a quarantine gothic as an original digital scenography, including installation and exhibition. These contextualise a quarantine gothic specifically as a gothic mode:

Firstly, the ‘phantom subjective’: the uncanny experience of VR disincarnation, e.g., a perception of something that should be there but isn’t – the body.

Secondly, ‘Phantasmagoria’: the public viewing of ghosts, engaging allegory as a gothic mode for *Inside Arcadia* presenting two public exhibitions with immersive, virtual contexts.

As I have demonstrated in my creative research, viewing immersive virtual reality wearing an HMD is a contemporary take on Victorian stereoscopy, as a forerunner of the spectralising technologies. I argue this phantasmagoric methodology for *Inside Arcadia*, exhibiting ghosts in public, is original in the Covid-19 pandemic context. Phantasmagoria has an etymological root in allegory, this helps contextualise Farocki’s ‘phantom subjective’ as a metaphor for virtual disembodiment wearing the HMD, being a virtual ghost. Spatial porosity explains the layers of interaction between the physical and virtual by including the social. Spatial layering happens at a virtual level by recognising the performance site in relation to the installation, its exhibition and the site-specific context. Whether a shipping container or gallery, the prosthesis of the HMD mediating between these environments as a ghostly avatar is an original feature of *Inside Arcadia*. Wearing the HMD extends the spectral symbolism of a quarantine gothic. The experience of a ‘ghost in the machine’ is performance design in a gothic mode with allegorical intent, a methodology of ‘phantasmagoria’, a succession of

ghostly images. As a final point I note that the gothic is a mode, not a genre. It is 'a way of doing and seeing, adaptable across dislocations of culture, time and space'.

The contribution *Inside Arcadia* makes is to mediate Mātiu/Somes Island's colonial past of defence, human and animal quarantine as an immersive virtual reality within the socially constructed space of three exhibitions. It presents a way of doing and seeing across the myriad dislocations imposed by the Covid-19 pandemic. Referencing Mātiu/Somes Island historic sites allegorically—in this pandemic—provides access to a porous palimpsest of virtual and material traces. Regarding a quarantine gothic as a mode, *Inside Arcadia* demonstrates an interdisciplinary form of immersive, virtual mediation as a hybrid mix beyond a genre interpretation of the gothic focused on content and style or one identifying a particular set of characteristics. Modes are fluid, able to identify structural disturbances that, in combination, bring certain kinds of representations together in rapport. This notion of sympathy also informs *Inside Arcadia's* digital scenography, its site-specific focus and 360° mediation. Although similar features occur in other practices, none replicate all these features of collision or collusion, culminating in this immersive, virtual palimpsest practice and its exhibitions. Craig Owen's notion of the palimpsest was as a paradigm for allegory. *Inside Arcadia's* allegory of a quarantine gothic combines with the palimpsest as a site-specific metaphor by way of layers, virtual, temporal, aural, and physical, navigating and acknowledging Mātiu/Somes Island's historic colonisation for quarantine and defence over 150 years. Linda Tuhiwai-Smith wrote of globalisation as the economic and social continuation of colonisation. Global mobility spread the Covid-19 virus rapidly through established trade routes, its zoonotic origin foreshadowed by human encroachment overwhelming wild spaces. Since Te Hokitanga Mai ā Mātiu (The Return of Mātiu), the Island is embraced once again by Tāne Te Waiora (Tāne the life-giver). A 'southern arcadia' was a settler trope, the colonists mad dream of escaping a 'doomed' industrial Britain. This imperial delusion was facilitated historically by human and animal quarantine on Mātiu/Somes Island, plus defence, contributing to a now dominant, modern pastoral economy in Aotearoa/New Zealand (fig. 85). *Inside Arcadia* gestures to that colonial past still lingering in the present, a quarantine gothic or pandemic phantasmagoria.

Phantasmagoria: The bunker features an accelerated day/night cycle, speeding from dawn to dusk over 120 seconds signifying 'time out of joint' and, for this scenographies duration, the immersant stands on a photogrammetry model of ammunition magazines from Mātiu Island. Virtual waves wash over the immersant on a platform model that in reality is te wāhi o te ahi tipua, the historic WW2 heavy anti-aircraft fortification near the Islands highest point. Some versions of the Māori creation narrative begin in darkness. Papatūānuku, the earth mother, rises from the water. Light enters the world when Papatūānuku is separated from

Ranginui, the sky father. At last—emerging from between them—their elemental children populate this world. Alongside Tāne Te Waiora, Tangaroa the sea forms the rising tide. Te Whanganui-a-Tara harbours Mātiu/Somes Island along with a strange vibration, an oscillation recorded by me and mixed with Vanessa’s reading of *Papatūānuku*. This is the ‘Wellington hum’, a low-frequency thrum noted for over half a century, an enigmatic signal that apparently emanates from deep within the Earth. As Covid-19 closed borders, silence elevated the Wellington hum with lockdown ‘clipping out’ traffic noise along with the rest of the world. Clipping out can also mean to remove part of a frequency or barrier, like poking one’s head through the vestibule wall boundary, a new horizon appears. The Covid-19 pandemic and subsequent quarantine confinement figuratively ‘clipped-out’ pre-pandemic boundaries and momentarily, human quarantine opened a gap in which to stop, stand still and wonder at a quarantine gothic. Wonder about ghosts of colonialism, about global pandemic, about global heating, about global sea level rise in a rebooted world unmaking the Holocene, a world continuing to unravel before our eyes.



(fig. 85) Doidge, M. (2020). *Mātiu/Somes Island, 11th August*. Animal quarantine station at dusk. Trip # 8. Courtesy the artist.

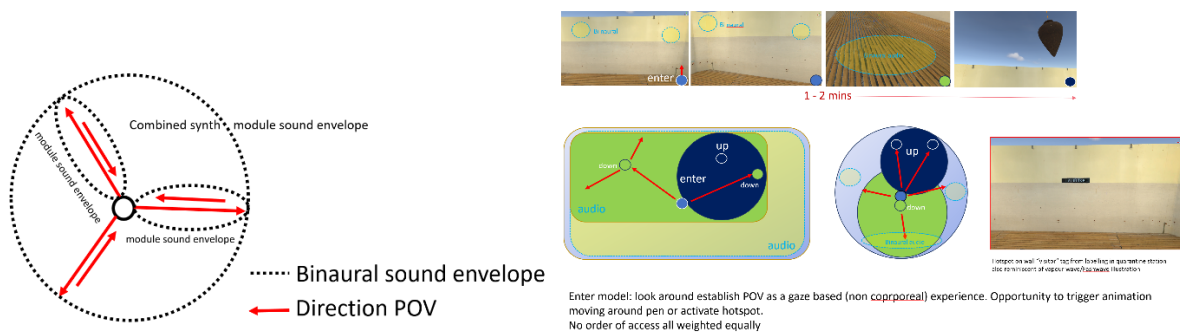
Technical appendix. Overview of 360° mediation

A quarantine gothic and its 360° mediation

The following is an outline of *Inside Arcadia's* quarantine gothic and digital scenography. This section is all about making and shakes down digital modalities, including those used for on-site recording and remix in post-production. This section provides a selective technical overview of the planning that went into assembling *Inside Arcadia* as a 360° immersive, virtual project of phantasmagoria.

Storyboarding

This process began with storyboarding. For 360° time-based content, this process is still in its infancy and idiosyncratic, unlike its cinematic counterpart that relies on the camera frame directed by established storyboarding conventions. The nomenclature of cinema (cut scenes/establishing shots etc.)—used for directing time-based media—clearly relies on the camera frame to direct the viewer's attention. This is not really the case for 360° media (fig. 86). Immersive agency dominates the medium wearing an HMD. Everything is included in the scene, including the 360° camera tripod, which is usually edited out in post-production. The cartesian environment of the game engine might also have a camera or cameras animated to do a fly-through, a phantom subjective perspective, that could be storyboarded. However, immersive, virtual experience wearing an HMD complicates this approach when made interactive.



(fig. 86) Doidge, M. (2019). *Inside Arcadia*. Left. Storyboard diagram of sound envelope in Vestibule. Right. 360 scene interpretation anticipating immersive viewer movements. Courtesy the artist.

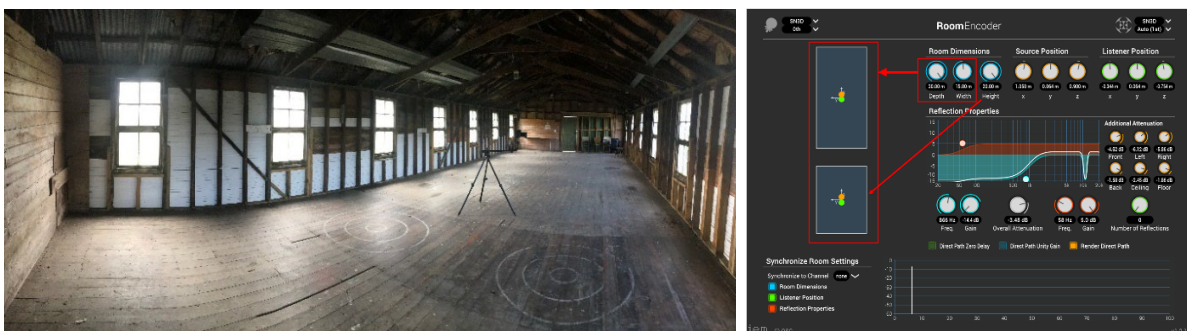
Viewing immersive media from inside a head-tracking stereoscopic headset is dynamic. Generally, the viewer can look where they like and move about the play space, rather than looking at a stable, fixed-frame projection where the camera is moved or a montage presents cut scenes, transitions etc. There are some immersive environments where the

HMD camera is animated through interaction with the virtual environment like a Point-of-View mode popular in first-person shooter gaming. Here, the viewer has an avatar as prosthetic limbs, e.g., digital arms holding a weapon. Within the field of view, animated treasure chests and weapons caches feature as part of the gaming narrative. *Inside Arcadia* is not part of that genre, it operates in a gothic mode without the tropes of genre. The process of storyboarding for this project started with the idea of the viewer being cast as a spectre touring of a series of metaphorical ‘crypts’. Disembodiment is a feature of immersive viewing using an HMD. Although this is considered a weakness with the medium, I adopted this phenomenon as a mode that is anti-solipsistic, antagonistic to the self-centeredness of first-person shooter games involving a gaze-based, immersive approach. HMD viewing restricts interaction within the *Vestibule* scenes, deliberately leaving the viewer floating as a disembodied ghost in the phantasmagoria, only to be overwhelmed by some animated features. In short, the viewer is like flotsam and jetsam.

Scale and the ‘Vestibule’ in the installation

The opening scene model was made from a photogrammetry scan of one corner of the animal quarantine station pig and deer pen. The scan was cropped, multiplied, rotated, and reflected to form the four corners of the *Vestibule* container or portal (fig. 88, left). It is ‘nested’ in a weather and water simulation above other models. This virtual 6 x 3m ‘Vestibule’ or anti-chamber scene shares a 2:1 ratio with the 6 x 3m gallery chalk play-space. An aspect ratio is also the proportions of a screen’s landscape orientation, the width of an image or screen, divided by the height, e.g., 2:1 HD is used by smart phone screens.

When the HMD is removed by the immersant in the digital Vestibule, the chalk-floor space is imbricated in a 2:1 scale relationship with the *Vestibule* scene. The idea of overlapping scale and space extends to the audio soundscapes and archived video recordings, these recordings share the same 2:1 aspect ratio, whether framed at 4KHD (3840 x 1920) or, as a 2:1 ratio soundscape volume generated by the ‘RoomEncoder’ vst plugin in the human quarantine barrack scenography. This setting was 30 x 15 x 20m (fig. 87).



(fig. 87) Doidge, M. (2020). *Inside Arcadia*. Panorama of interior of human quarantine barrack. Right, IEM RoomEncoder plugin matching audio to x,y,z cartesian dimensions of the Barrack interior. Courtesy the artist.

The following describes the programmed, gaze-based interaction within the opening scene of the creative research project, one of four scenes viewed wearing the HMD. This is what Brenda Laurel in *Computers as theatre* describes as ‘formal cause’ – “an extended set of interactions bound together” (Laurel, 2014, p. 56). Access to all three virtual digital scenographies from the *Vestibule* is via ‘hotspots’, i.e., interactive scene changers on the three walls of this model. The immersant is teleported to each scene for a period that eventually times out after a set length of time. The access order is randomised: there is no hierarchy.



(fig. 88) Doidge, M. (2021). Left, Mātiu/Somes Island maximum security animal quarantine station pig and deer pen with red line showing the room corner scanned, reflected, and rotated for the vestibule model. Right, *Vestibule* above a model from a height map of the lower North Island/ Te Upoko-o-Te-ika-a-Māui or the head of the fish of Māui. Courtesy the artist.

Underneath the *Vestibule* are models from the animal quarantine station (the forklift) and ‘drowned trees’ (made from stumps next to the building). These sit on a larger 35m² virtual plane made from a height map of the lower half of the North Island/ki Te Upoko o Te ika a Māui or the Head of the fish of Māui (fig. 88, right). The western half of this plane encompassing the Te Whanganui-a-Tara or Pōneke harbour also approximates the rohe (territory) or area of Taranaki Whānui. The tessellated texture map mosaic is made from a scan of Greywacke scree on Wellington’s south coast.

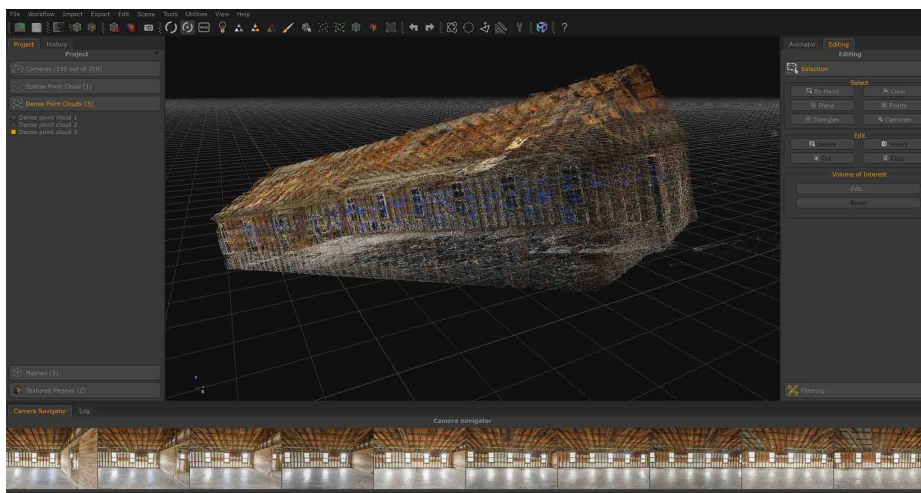
Photogrammetry



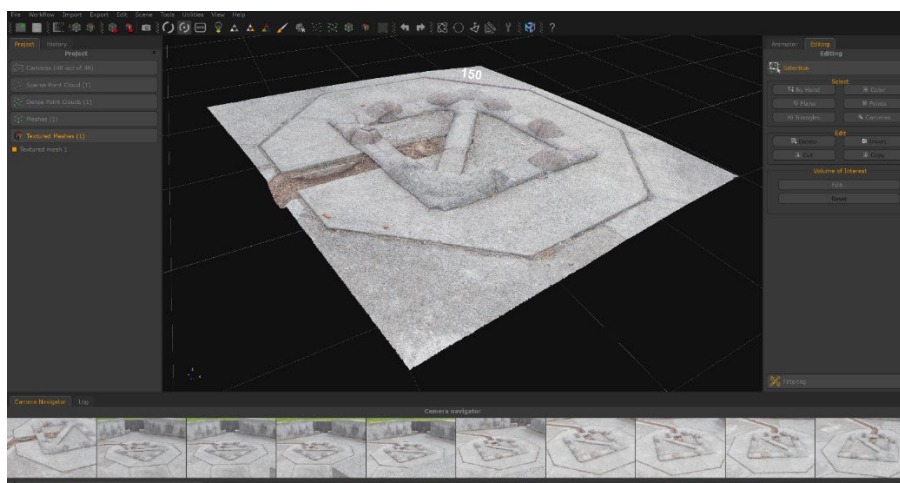
(fig. 89) Doidge, M. (2018). Left. Studio lighting for chain link photogrammetry. Middle, 2D texture map of unwrapped 3D model. Right, frame from 3D animation of the chain link model. Courtesy the artist.

Photogrammetry begins with a camera producing image files, which are imported into software that stitches together hundreds or more photographs into 3D/360° polygon models.

To generate photographs in the field for later use in creating photogrammetry models I used Nikon D850 and Canon EOS5D mk3 DSLR cameras with a range of lenses and a Godox AR400 ring flash for building interiors. A tripod was used for long exposures without the flash, e.g., in the human quarantine barrack for a point-cloud model (fig. 90). Otherwise, LED lights were used for lighting (fig. 89). Thousands of digital images were in turn used to form a 360° photogrammetry model – a 3D digital simulacra with texture maps (fig. 93, middle and right). I used industry standard ‘Reality Capture’ photogrammetry software (fig. 92) for the first two years of my research, then switched to 3DF Zephyr Lite (fig. 90 and 91).

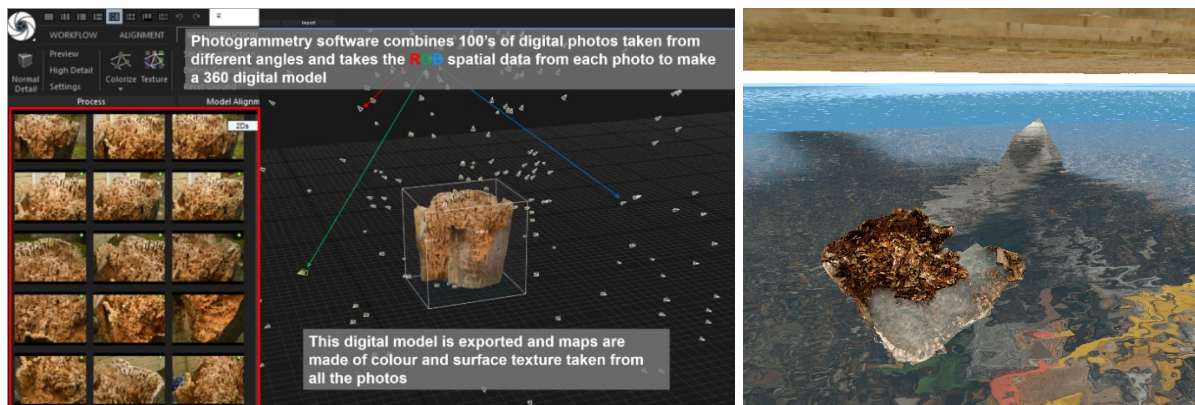


(fig. 90) Doidge, M. (2020). 3DF Zephyr Lite photogrammetry software showing dense point cloud model of the Human quarantine Barrack model assembled from RAW photographs in row below [GUI screenshot]. Courtesy the artist.



(fig. 91) Doidge, M. (2019). 3DF Zephyr Lite photogrammetry model and texture map of gun emplacement. [GUI screenshot]. Courtesy the artist.

These photogrammetry 360° models form the kernel of the mixed-reality scenography within the four digital scenes or levels in the Unity 2018 LTS game engine that structures this project. As Grant Tavinor notes, IVR is a suite of software. The 2018 LTS Unity game engine version was chosen for its stability. In addition, Unity has better resolution for 360° video media than Unreal Engine. In 3DF Zephyr Lite, models are mapped with image metadata. Original subject colours and textures are recreated using other specialised software that make the surfaces of finished models appear like those of the original subject. An example of this photogrammetry process, made using the Reality Capture program, is shown in fig. 92 – a model of a tree trunk stump I found washed up on a Wellington beach. On the left is the textured model in a digital bounding box or cube, the photos that make up the model are to the left side of that cube. On the right of fig. 92 is the exported, textured model placed in a Unity game engine virtual tour scene. This model in the scene has an animated path in an infinity ∞ shape.

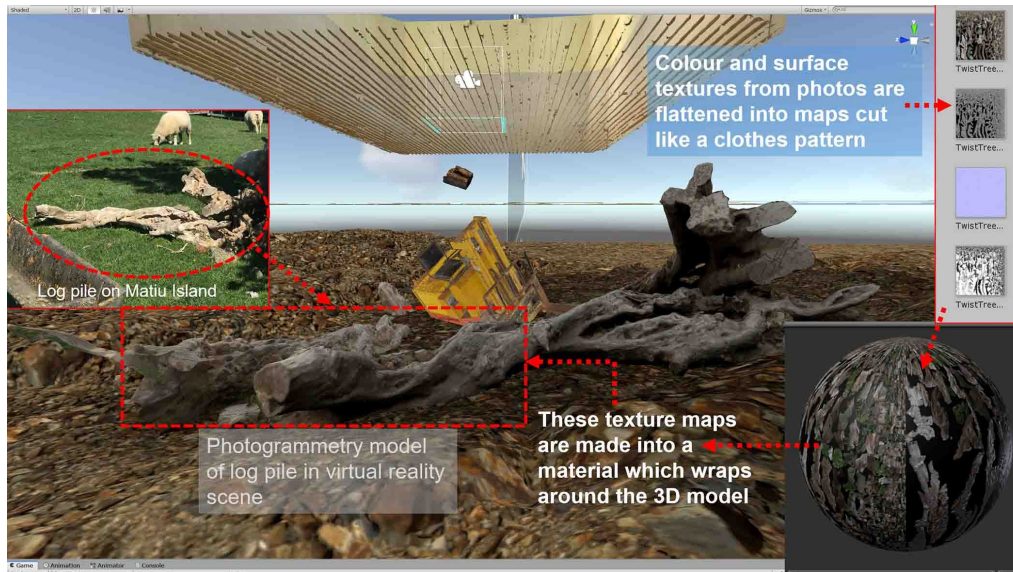


(fig. 92) Doidge, M. (2019) Left. *Reality Capture* Photogrammetry software with 3D model assembled from .jpg photographs [GUI screenshot]. Right. Model 'floating' in Unity scene [HMD screenshot]. Courtesy the artist.

Maps for models

Photogrammetry software assembles a mesh and takes the metadata from the photos to make 'UV' maps. The reader will recall the x,y,z Cartesian co-ordinates of 3D software: vertical, side-to-side and forwards/backwards from Chapter Two, section 2.0. 'UV' is the designation given to maps that unwrap colour/texture and other information from the photogrammetry model. This is like transferring the 3D measurements of a body to a 2D map then cutting a 2D clothes pattern for cloth that will fit back onto the body as a garment (fig. 93). This is an art: different software will make maps, but colour and UV maps are the two essentials. All four virtual scenes contain 360° media production other than photogrammetry. One example is the human quarantine barrack scene in Unity where the model, made in Flow 3D Zephyr, has been modified by a point-cloud visualiser with enveloping digital fog layers (fig. 94 and 105). Behind the model is a sphere against which a

360° timelapse video is playing. The image on the right is the scene (fig. 94) being played on the left, as seen from the interior of the model using the HMD.



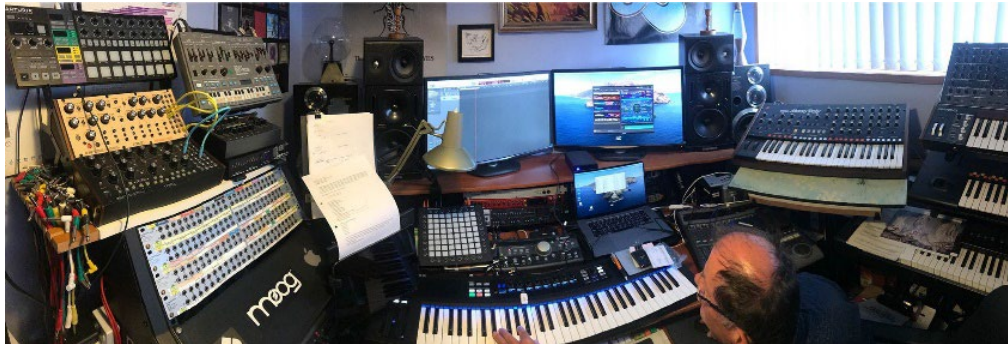
(fig. 93) Doidge, M. (2019). Left. Photogrammetry software workflow illustrated with 3D model assembled from .jpg photographs to make maps. Courtesy the artist.



(fig. 94) Doidge, M. (2021). Left, *Phantasmagoria: The human quarantine Barrack* [HMD screenshot]. Right, photogrammetry software 3D point cloud visualiser model in Unity scene with 360° timelapse video [GUI screenshot]. Courtesy the artist.

There are two 360° timelapse videos that have been stitched and de-flickered and all scenes have 360° ambisonic sound recordings both from the field and studio recorded and all received post-production. The following section describes the processes used to make these digital artefacts.

Sound field design, binaural post-production and ambisonic field recording



(fig. 95) Doidge, M. (2021). Left, Dr Dave Greenwood's Auckland studio for sound design using midi keyboard, synthesiser, Logic Pro DAW. Courtesy the artist.

The Vive HTC headset has built in headphones. Ambisonic AmbiX format and stereo recordings were converted, post-production into binaural, spatialised sound (Rudrich, Zotter, & Frank, 2016). Using ambisonic recording for immersive audio experience, the coordinate system is set so that X is forwards, Y is to the left and Z is upwards. In the field, I used Zoom F8 and F6 and H3 field recorders, the first two had custom settings for my Sennheiser ambisonic microphone with six directional mics inside it. Some of this ambisonic recording was 'bio-phonic' audio (Weston, 2020), that is, of Island environments and building interiors, e.g., the foreshore (fig. 107). I also used a couple of microphones in the 'old but good' category. One was a spectacular Sennheiser 'shotgun' 'T' powered mic with a 30m+ directional range (fig. 96, right). The other was a 1970's Sony ECM-99 condenser mic originally for concert recording. Both were made before 'phantom' power was invented, but produced a very clean sound.



(fig. 96) Doidge, M. (2019). Left, Ambisonic mic and Zoom F8 recorder. Middle Left, Insta Onex 360° 6 k monoscopic camera + 30000 mAh battery. Middle Right, Kandao 8k stereoscopic camera + Zoom H3 ambisonic recorder. Right, Sennheiser T - power shotgun mic. Courtesy the artist.

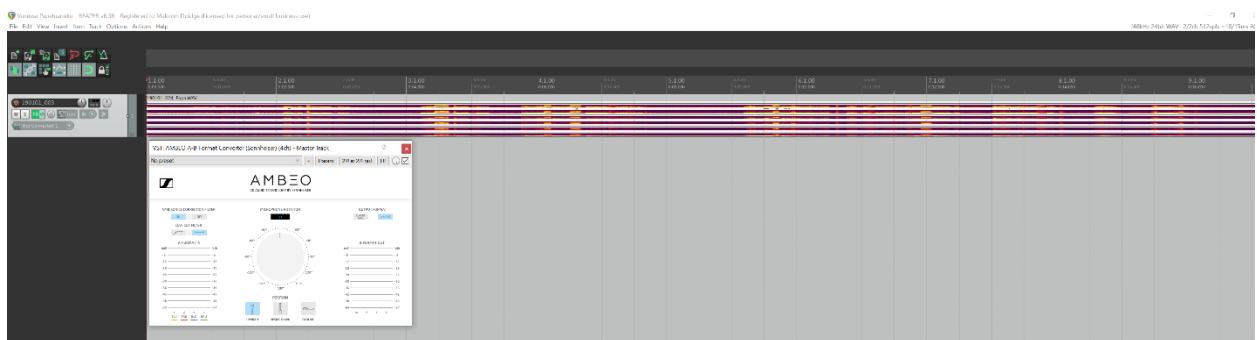
Institute Electronic Music (IEM) (iem, 2021) plugin software was essential to digitally converting recorded stereo and ambisonic input into a binaural audio signal (fig. 97). All audio was spatialised this way for IVR using a combination of Digital Audio Workstations (DAW) namely Reaper and Logic Pro. Both these DAWs are particularly suited to IVR because of the high number of channels necessary for higher order ambisonics. They also adapt well to a constellation of audio software plugins associated with using a midi keyboard (fig. 95).

Audio and the HMD

Wearing an HMD privileges both sight and hearing. Treating the HMD as a digital spectral mode allows this spatialised audio to enhance this spectral association through an embodied response. By embodiment, I mean the extension of proprioception – grounded in the gallery space – through these digital artefacts into the virtual space the immersant inhabits using the HMD. For some of these digital scenographies, I have done very little except ‘clean up’ audio recordings while letting the scenography lead. An example is the bunker scene with the animated water shader or the boiler room. In the absence of a body avatar, I have also been very careful to provide for proprioception wearing the HMD. This is by simply not teleporting the immersant – except between scenes – and even then, taking care to locate them, with one exception, feet first on virtual ‘ground’ at the same cartesian x,y,z ‘zero’ level. Altogether, I have spatialised the audio to match each scene as described below.

A palimpsest audio mix

I used my Zoom F6 and Sennheiser ambisonic mic to make a FuMa ambisonic recording with actor and singer, Vanessa Stacey, reading a visual poetry work that I had written for the 2017 ‘Performing, writing’ symposium on Mātiu/Somes Island (p. 38).



(fig. 97) Doidge, M. (2022). Reaper DAW with AmbiX soundtrack conversion showing six tracks. [GUI screenshot]. Courtesy the artist.

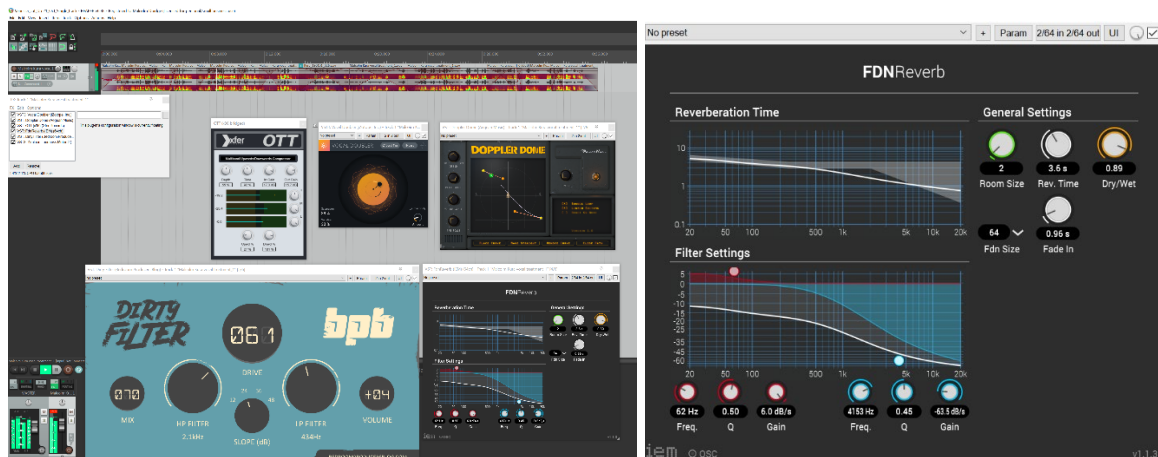
Two versions were mixed from Vanessa’s original ambisonic recordings, before they were brought together in separate final mixes. The first was a binaural mix from the original ambisonic AmbiX format, so I could use particular, non-high order ambisonic plugins in one

of the mixes (sound, 2021). The second was a six-channel high-order AmbiX format mixed directly using SN3D plugins, then rendered in binaural, stereo format (sound, 2021). SN3D is semi-normalisation used in the AmbiX format. When encoding a source, it ensures the levels of all channels won't exceed the one in the first channel. I used SN3D in the mix for the environmental sound of the Vestibule scenography. AmbiX-Format supports full 3D audio, capturing information equally from all directions using an ambisonic mic. It can be rotated easily in post-production, making it useful for VR applications (fig. 97; fig. 98, left).

Ambisonic orders 0-64

Sixty-four channels is a lot, so here is a breakdown. At "zero" order, there is one mono-channel. At "first" order, there are three additional spatial channels (totalling four), each behaving like a figure-of-eight microphone. At "second" order, another five channels are added totalling nine and so on, hence 'higher-order'. The first binaural stereo mix of Vanessa's voice is heard in the human quarantine barrack scene. Step 1 of this post-production is shown in a DAW screenshot (fig. 97). Edited on a single Reaper DAW master routed track, the linear structure of both recordings was kept in the mixes but, phrases were cut up and these segments were overlapped. This is like an audio 'textual collage' or audio trace of the original written 'vizpo', but not jumbled in a 'palimpsest' or 'cut-up' fashion (Richards, 2020, p. 95). The three main steps in recording this track were as follows.

Human quarantine barrack audio, textual collage: Step 1 – Track 1



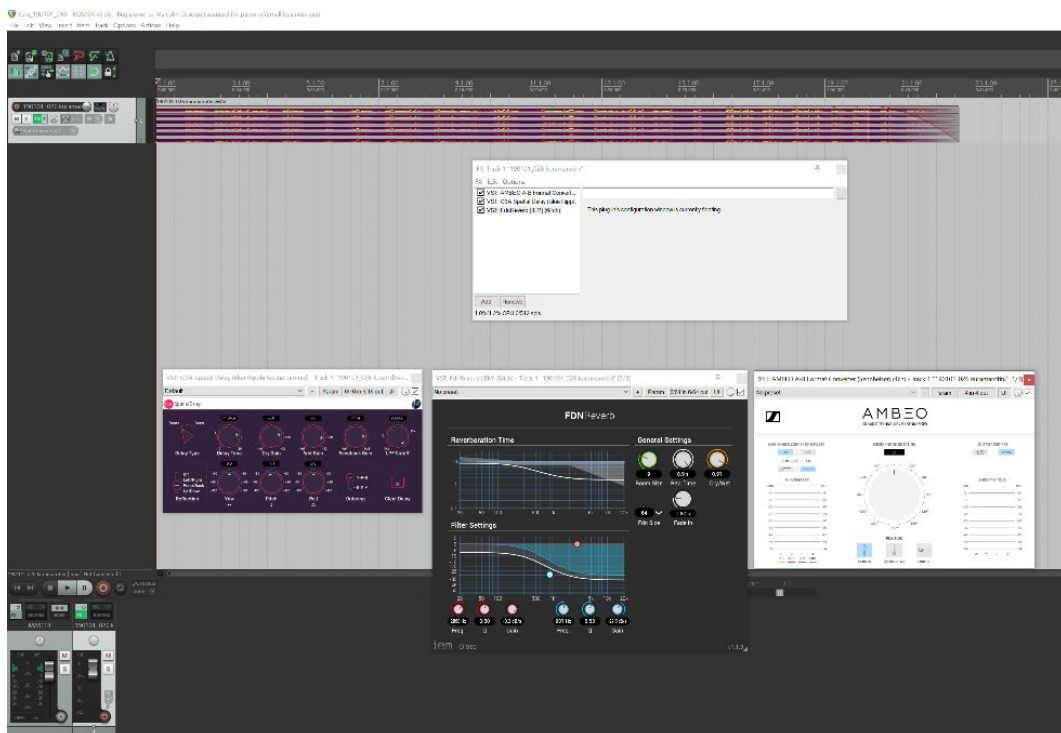
(fig. 98) Doidge, M. (2022). Left. Reaper DAW and VST plug ins editing the first segment of Vanessa Stacey's reading with IEM FDNReverb on the right. [GUI screenshot]. Courtesy the artist.

The voice audio cuts had short fade-in/fade-out transitions for each segment overlap. There were three important plugins here. Firstly, 'Dirty Bedroom Productions' BPB Dirty Filter vst (Blog, 2021) uses a 24 dB per octave cut-off (fig 98, left). This acted as a de facto 'limiter', cutting off frequency before it hit red, i.e., the filter cuts off the track's signal at a specified frequency. Cut-off doesn't happen abruptly, but at a specified slope. I chose, '24', which is

measured in decibels (dB) of gain reduction per octave. How steep the slope or “cliff” is can be defined at the cut-off point. The KVR Audio Xfer OTT multiband compressor (audio, 2021) controlled Low/Mid/High bands and drives this audio. The 150% downward compression in combination with 50% depth and 15.7 dB gain controlled volume, while limiting distortion as the master and track levels dB were set high. Secondly, IEM’s plugin suite FdnReverb vst (Grill, 2021) created the diffuse, wet reverberation with a small room size and RDN size at 64. The FDNReverb is a Feedback-Delay-Network reverberation providing spatial and temporal diffuse reverberation. The overall reverberation time can be set independently of the filter settings which in turn refine reverberation using two shelving-filters (fig 98, right). Fade-in control makes the effect even more diffuse. Thirdly, Aegean music ‘Doppler dome’ (music, 2021) contributed a subtle doppler affect to the recording of Vanessa’s voice, i.e., louder/quieter. I also used ‘iZotope vocal doubler’ (iZotope, 2021) to add a little dub effect to certain phrases in combination with FDNReverb. I deliberately didn’t use a brickwall limiter on this track but relied on the OTT compressor and dirty filter because I had deliberately set up a feedback routing loop with each track sending and receiving from each other before reaching the master track (fig. 98 and 99).

A graphics card recording of this track can be accessed via: <https://youtu.be/JpSnjEq3WU>

Step 1: Audio textual collage – Track 2

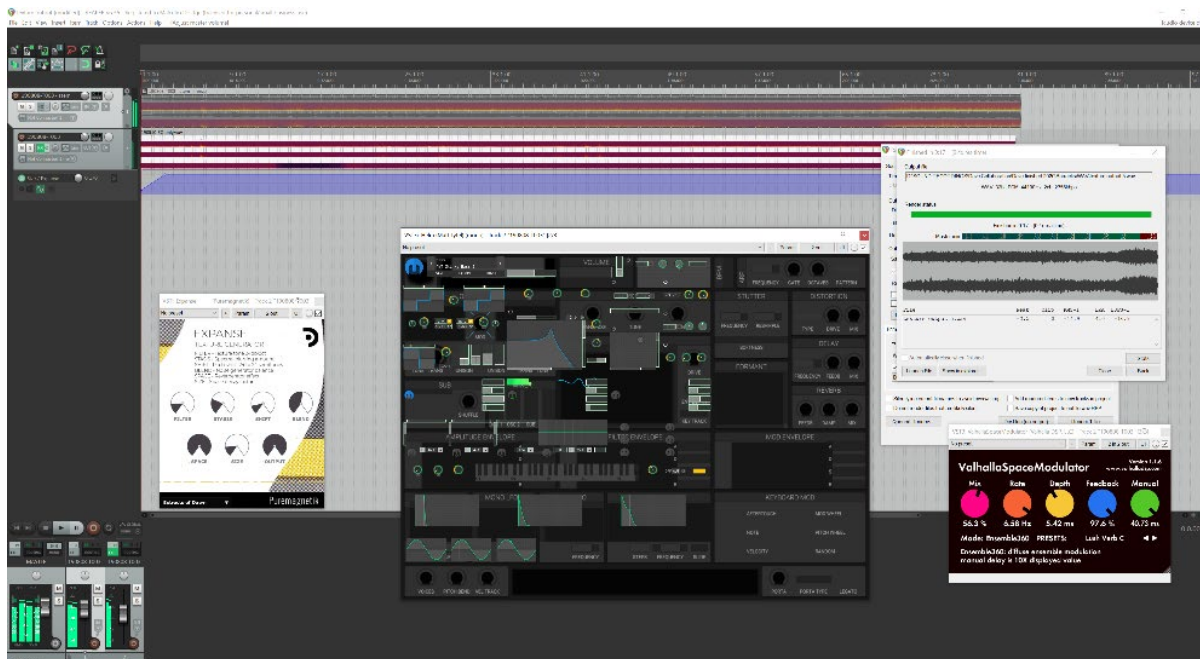


(fig. 99) Doidge, M. (2022). Reaper DAW and VST plugins for editing the second segment of Vanessa Stacey’s reading on the track. The six channels are visible as bands on the Ambix format track. [GUI screenshot]. Courtesy the artist.

The second variation in the scene soundtrack took the same voice work from the original FuMa ambisonic recording of Vanessa’s voice and converted AmbiX format to high-order SN3D using a Sennheiser ‘AMBEO A-B ambisonic converter vst. The plugins used here all process SN3D (6 channels). The transdisciplinary College of Electronic Music (IEM) plugin, FDNReverb is used in combination with Blue Ripples O3A spatial delay to produce a larger, softer and warmer spatialised voice. There is a noticeable delay at the end of the track caused by FDNReverb (fig. 99, middle of image).

A graphics card recording of this track can be accessed via: <https://youtu.be/3FqtKxuMZOs>

Step 2. Audio textual collage – Drone track



(fig.100) Doidge, M. (2022). Top. Reaper DAW and VST plug ins with image of stereo drone profile of render output. [GUI screenshot]. Courtesy the artist.

A separate Reaper DAW render was made to provide a textured drone baseline for the voice tracks. A field recording of a steel shutter door banging in the wind, recorded in the animal quarantine station and spatialised by the Valhalla Space Modulator Vst3, was included here. I used Matt Tytel’s mono-digital synthesiser ‘Helm’ for a midi drone effect using the preset “Stinky Bass 2” (fig. 100). Playing only two notes when the DAW track was rendering, this synth contributed the fizz of an electric discharge, like that between two poles of a tesla coil. The Puremagnetic EXPANSE texture generator, which was unstable (as a free vst tends to be) was used to contribute a steady, unmodified drone using a work-around in the Reaper DAW. I froze the track with EXPANSE applied to it which preserved the “extracts of dawn”

preset setting which could then be rendered using the two midi notes (fig.100). These modifications were then combined as described below.

A graphics card recording of this track can be accessed via: https://youtu.be/S_ojDVcfcLY

Step 3. Combining step 1 & 2 audio, textual collages within a larger mix



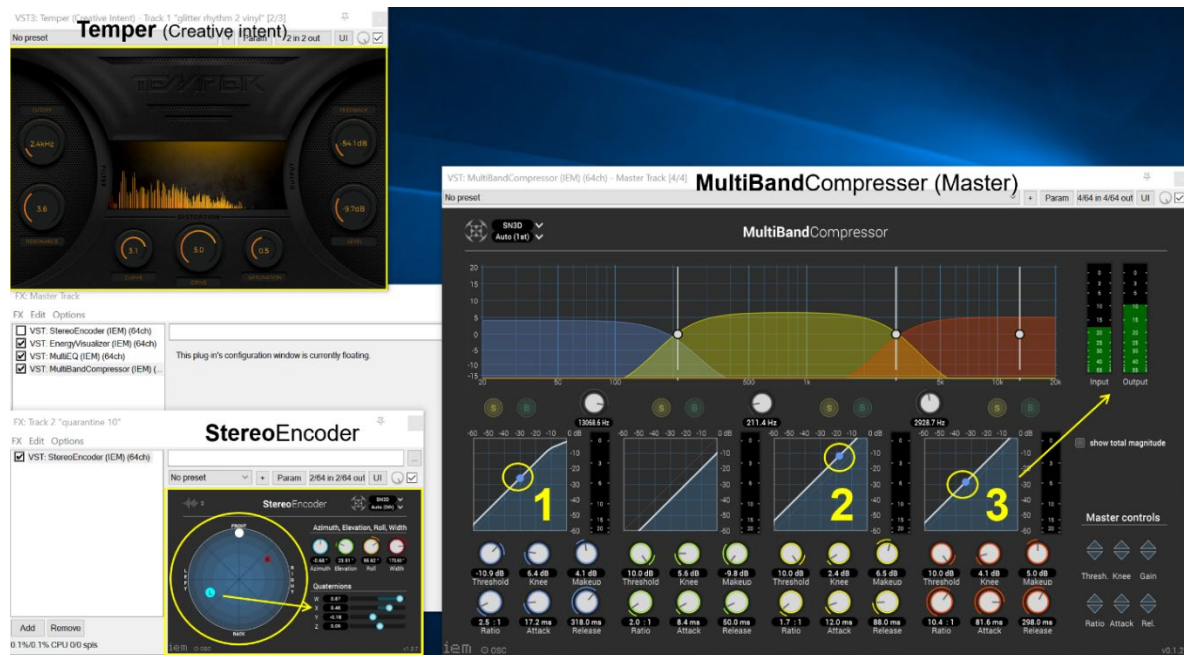
(fig. 101) Doidge, M. (2022). Reaper DAW and VST plug ins. This screenshot image is the first of two screens viewing DAW set up. Pastel-coloured, serrated rows between audio tracks are 'automations' or paths (↔1,2,3). These have moveable nodes to modulate the spatial sound design on track, e.g., the first row governs the Cartesian x,y,z axis of the IEM Room encoder (1). [GUI screenshot]. Courtesy the artist.

Combining the previous tracks was spread across two screens (fig. 101 and 102). The first editing step created two versions of Vanessa's original studio recording. The second step produced the base-line drone for the final mix – the third step that brought everything together in another Reaper DAW. A graphics card recording of the finished mix with these plugins operating can be accessed via: <https://youtu.be/zKik37I6IM8>

The most important plugin in the final mix was IEM's RoomEncoder (fig. 101). This produced a soundscape scaled with a 2:1 ratio (30 x 15 x 20m) representing the barrack's internal soundscape volume. RoomEncoder was paired with Creative Intent's distortion VST3 'Temper' on Track 1 which held the two voice mixes. The reverberation and distortion produced by 'Temper' were fed into 'RoomEncoder'. This interaction with IEM's most complex plugin put the distortion of 'Temper' as the source together with a listener position in a virtual, 2:1 scaled 'shoebox-shaped' room. RoomEncoder can also render over 200 wall reflections, automatically generating a doppler-shift effect, while both listener and source are able to move independently within the virtual room using automations on Track 1. Like IEM's

FbnReverb, the overall reflection coefficient and the low-shelve and high-shelve filters change the character of the room's reflections. It is also possible to add or subtract attenuation for each of the six walls, e.g., I could isolate and modulate, or even eliminate a ceiling plane by turning ceiling attenuation up or down.

Where IEM's RoomEncoder interacted with Tempest's distortion, IEM's multiband compressor kept the three tracks on the DAW from blowing out (fig. 102 1/2/3).



(fig. 102) Doidge, M. (2022). Top. Reaper DAW and VST plug ins. This screenshot image is the second of two screens viewing DAW. The IEM StereoEncoder is automated in track 2 (fig 85) 1,2,3 are the active parameters for the 3 tracks of the DAW. [GUI screenshot]. Courtesy the artist.

The MultiBandCompressor usually splits an ambisonic signal into four bands and compresses them individually. Step 3 on this DAW was not an ambisonic output, but the compressor worked just the same with 3 stereo tracks. The filter's crossover frequencies were adjusted by three of the four compressors (fig. 102, 1/2/3). The three tracks responded to the parameter adjustments for threshold, ratio, knee, release, attack, and make-up gain. The plugin also retained the spatial image of the mix, analysing the omni-channel (W) of each band and applying the same gain reduction to all channels.

The StereoEncoder plugin encoded stereo audio signals in the second track of the DAW where the Azimuth, Elevation and Roll sliders panned the source (fig. 102). I used a quaternion input as an alternative to Azimuth and Elevation and automated these. They can be seen tracking about the spherical soundscape producing a binaural output by providing orientation data for HMD head trackers. The MultiEQ, a simple multi-channel equaliser, can filter ambisonic recordings up to 64 audio channels. Each of the six filters can be switched on or off, and different filter types can be selected.

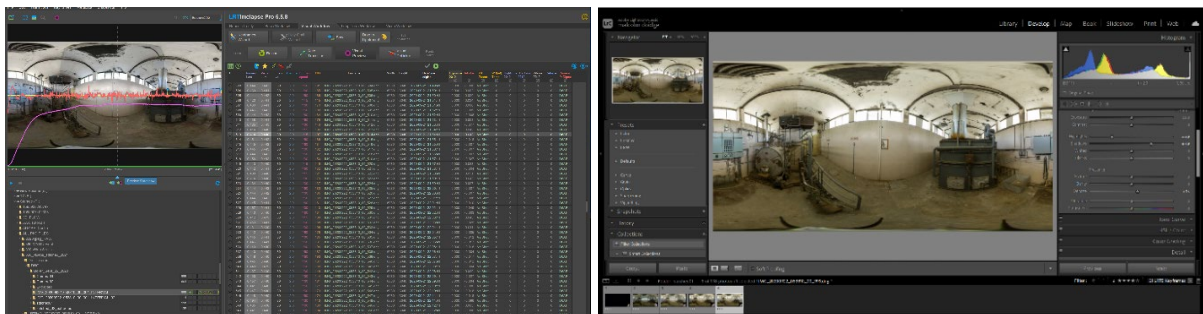
360° Timelapse videos

The 360° videos were made using a 6K monoscopic InstaOneX camera (fig. 96, middle left).



(fig. 103) Doidge, M. (2021). Left. Screen shot of 360° timelapse video of Animal Quarantine Boiler made with InstaOneX 360° camera. Courtesy the artist.

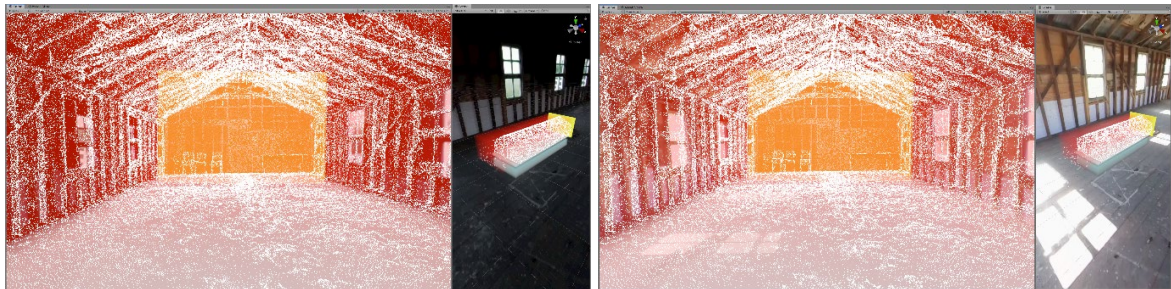
Each session recorded 700-1600 DNG/Raw and .jpeg images as a dawn-to-dusk timelapse. These were later stitched together in a stereoscopic format using Insta Studio (fig. 103). The files were de-flickered by the LRTimelapse (fig. 104), a plugin to Lightroom Classic 10. Once colour corrected, files were exported as a lossless Prores 444 intermediary codec, later compressed into H.264 video in Premiere Pro 2021.



(fig. 104) Doidge, M. (2021). Left. 360° timelapse video of animal quarantine boiler in LRTimelapse 5.5.8 plug-in being deflickered. Right, selected keyframes in Lightroom classic 9.1 colour graded and exposure de-flickered. [GUI screenshot]. Courtesy the artist.

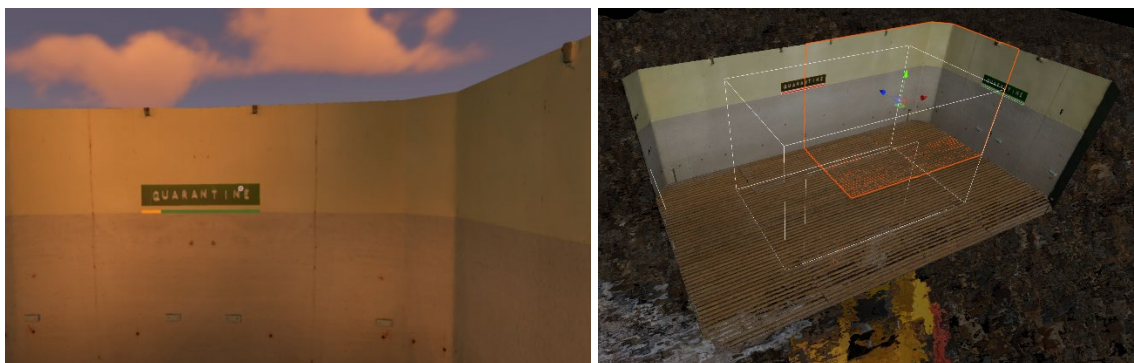
I chose the 6K InstaOneX monoscopic prosumer camera over a professional 8K Kandao Obsidian R stereoscopic camera after testing in the field. The simple reason was that the HMD had a maximum resolution of only 4K and the 8K Kandao stereoscopic camera was kitted out for studio use. When I tested it on Mātiu/Somes Island, where mains power was not available, the camera batteries ran out rapidly. Without the proprietary 2-hour battery, an off-the-shelf 14-volt battery pack with a 5-volt output would have run the camera for the 12 hours I needed. However, for that money I could buy the prosumer InstaOnex and a 3000 amp-hour battery pack to accommodate the 12-hour timeframe.

These MP4 videos were projected onto a spherical panorama that surrounds the photogrammetry models in two scenes: the human quarantine barrack (fig. 105, left and right) and boiler room (fig. 110, right). The boiler room timelapse was a lossless process as described above, but for the barrack I used a lesser quality .jpg wrapped in a .DNG container to colour-correct and de-flicker. This was because the softer image better suited the scene blanketed in spatial ‘fog’ shown in two 2019 screenshots of the Unity GUI (fig. 105).



(fig. 105) Doidge, M. (2020). *Phantasmagoria: The human quarantine barrack* [GUI screenshot]. Right of both images is a 360° timelapse video render, projected on panoramic sphere behind point cloud model. Left, sequence dawn. Right, sequence mid-afternoon [GUI screenshot]. Courtesy the artist.

The following is a brief description of all four scenes. This section *only* provides technical orientation for the reader to the main 360° scenographic features and their spatial design. The thesis Introduction (p. 6) and Chapter One offer an overview of the interactive structure.



(fig. 106) Doidge, M. (2021). *Inside Arcadia*. Left. *Vestibule* in scene [HMD screenshot]. Right 3D model highlighting modular segment in orange. [GUI screenshot]. Courtesy the artist.

Vestibule pen

The Unity environment scene and most of its photogrammetry models were made from within the former Ministry of Agriculture and Fisheries (MAF) maximum security animal quarantine station built over the older Ngāti Ira Haowhenua pa site (p. 22 - fig. 17, fig 18). Replicating part of an animal pen in the former maximum security quarantine station is the model that forms the virtual tour’s *Vestibule*. This antechamber’s digital scenography was

made from images taken in a corner of the deer and pig pen (fig.106, right and fig.107, right). The Vestibule photogrammetry model re-assembles this corner of the pen as a whole by duplicating it three times after being reflected, rotated, trimmed, and stitched.



(fig. 107) Doidge, M. (2020). Left. Mātiu/Somes Island foreshore and Zoom F6 field sound recording with Sony ambisonic mic. Right. *Corner of the pig and deer pen* (2019). Broken red line became the whole photogrammetry model for the vestibule by being duplicated, rotated, and reflected (see fig 103, right). Courtesy the artist.

Within the Vestibule, wearing the HMD, all three scene destinations can be chosen after an interval by gazing at each hotspot in turn on three of the walls. The viewer leaves from the Vestibule to a scene and returns to it after accessing any one of the three scenes in the virtual tour. There is no hierarchy nominating the order of scenes visited. Once all scenes are completed the tour resets. Only in this Vestibule scene does a small reticule or red dot tracked by the HMD help the viewer's gaze hover over each hotspot. All scenes have sky and water generated by compatible weather plugins which also feature a 24-hour day/night cycle. The binaural "soundscape ecology" (Krause, 2019) of water and cicada mating are from Mātiu/Somes Island (fig.107, left). In this scene, an oversized plumb bob is animated to drop into the pen when the viewer trips an invisible trigger in scene. This drop activates the scene's hotspots to receive the HMD gaze.

Human quarantine barrack interior scene

The human quarantine barrack sits on the Haowhenua pa site and is half its original length. The digital scenography was made from a photogrammetry .Obj file model converted into a digital 'point cloud' (fig. 105 and fig. 108, left) in *3D Zephyr*. This was exported as a .ply file to a git-hub plugin inside Unity where the model's polygon mesh appears as a digital dot texture, much like a monochrome pointillist painting. Because of the size and height of the barrack, the entire room was deliberately photographed using only a tripod with an extreme wide-angle, 14mm lens with 60sec plus exposures (fig. 108, middle). By contrast, when photographing the confined space of the gun pits, using the same lens but without a tripod,

the Godox A-400 ring flash recorded a sharper image of the gun pit surface. In both cases a grid pattern was adapted to the space and look of photogrammetry model.



(fig. 108) Doidge, M. (2020). Left. The human quarantine barrack, May 2020. DSLR with tripod. Middle. Point-cloud comparison with photogrammetry software render of barrack. Right. Photogrammetry render showing deliberate mis-alignment effect for later point-cloud conversion shown left. Courtesy the artist.

For the human quarantine barrack, the long exposure due to low light and the scale of the room created minor misalignments (wavey-ness) in the photogrammetry reconstruction so the final point cloud would appear 'softer' in the Unity scene (fig. 108, right). I combined this with a series of translucent, coloured-particle-effect 'fog' planes surrounding the model (fig. 108, left). Behind these is a dawn-to-dusk, looped timelapse video of the barrack interior (fig. 94). As noted, a .Dng/.jpeg timelapse sequence rather than .Dng/RAW file was used to compile the H.264 video, producing a softer image that suited the point-cloud/digital fog atmosphere. Vanessa's spoken word text is spatialised for this interior in a looped, binaural audio featuring a 'vinyl glitch' and 'stutter edit' effect activated using a keyboard and Logic Pro DAW. In the Unity 2018 LTS scene, the photogrammetry model is deliberately mirrored (flipped horizontally) in relation to the original room orientation. The origin of this technique was that of an illustrator making black-line drawings for education publications. A broken-line interior drawing using rub-on 'letraset' dot texture shading energised what would be otherwise a dull, grided perspective.

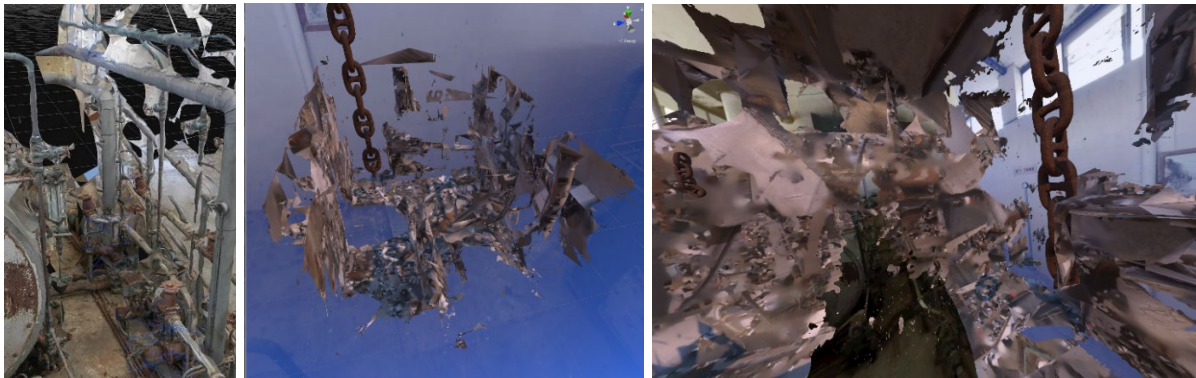
Boiler room interior scene

This digital scenography is made from a photogrammetry scan of the furnace and steam injection boiler within the former MAF maximum security animal quarantine station (decommissioned in 1995). Both were used for sterilising animal effluent (fig. 109).



(fig. 109) Doidge, M. (2019). Left. Sterilising tank in boiler room. Right. Furnace and control panel in boiler room [stereoscopic image]. Courtesy the artist.

The 3D model (fig. 110, left) has been deliberately corrupted for this immersive, virtual scenography, i.e., polygons comprising the model's mesh are heavily 'decimated', making them coarse (fig. 110, middle). The colour and texture maps are scrambled in a 'cubist' collage-like manner. Then a transparent alpha layer was painted on using Allegorithmic Substance Painter to give the appearance of holes and frayed edges in the model's fabric (fig. 110, right).



(fig. 110) Doidge, M. (2019). Left. Unmodified photogrammetry model of boiler room. Middle. Unity scene boiler room model after decimation with purple fog layer. Right. HMD view inside model showing scrambled maps, painted feathered texture with timelapse video playing [GUI screenshot]. Courtesy the artist.

A 360° dawn-to-dusk, 45s timelapse, looped video of the boiler room interior is projected onto a panoramic sphere surrounding the model (fig. 110, right). The timelapse was a lossless process using pre-stitched monoscopic RAW files in .DNG containers. These produced a colour-corrected, de-flickered Prores 444 intermediate codec in Adobe Lightroom Classic plugin, LRTimelapse. That file was then compressed to H.264, imported into the boiler room scene and mapped as a material to the panorama. The lighting design in scene illuminates the model's jagged decimated relief, animating and looping a virtual directional light, tracking along a 360° path in an infinity ∞ shape. A looped binaural

ambisonic recording of myself running around the building interior circuit is the sole audio track.

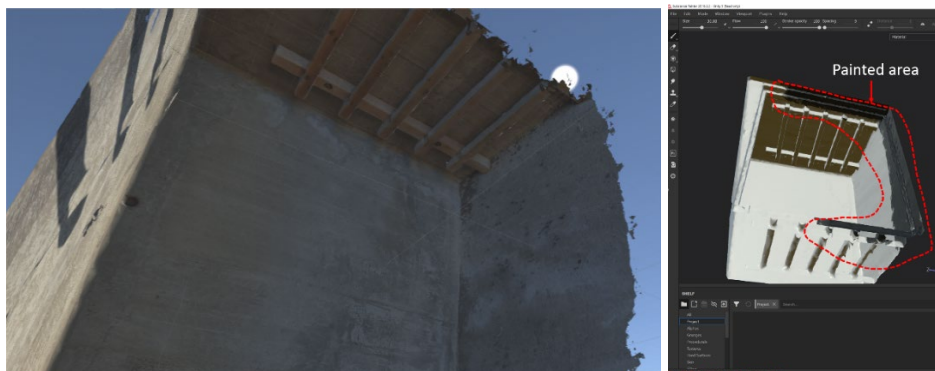
Gun emplacement (Te wāhi o te ahi tipua) anti-aircraft battery site

This site is near the highest point on the Island. In 1942 the peak of Mātiu/Somes Island's ridge was levelled to make way for a heavy anti-aircraft gun installation. Comprising four gun pits and a command post these were part of a ring of similar guns surrounding Wellington harbour (Tony Walton, 1999, p. 2) (fig. 111). The photogrammetry models for this scene were each mapped from eight matching magazine rooms in No. 2 and No. 3 gun pits, fanned around the command post. Like the animal and human quarantine stations, these defensive structures were positioned to contain or repel external threats.



(fig. 111) Doidge, M. (2020). Left. Aerial view of battery site 1995. Courtesy Lawrie Cairns. Middle. No.2 gun pit, Courtesy the artist. Right. Mount Pleasant Heavy anti-aircraft gun, identical to Mātiu/Somes Island. W.Rouse. Courtesy DOC Collection.

The models in these scenes have been painted in 'Allegorithmic' Substance Painter using a digital brush (fig.112), similar to the treatment of the animal quarantine boiler room model, with an alpha channel in Unity providing transparency to the brush effect to give the illusion of a feathered edge. The model illustrating the Urban Corporis X chapter, *New Faith in fakes* (2020) was not given this treatment.



(fig. 112) Doidge, M. (2020). Left. Feathered edge of magazine model with texture map in Unity. Right, model painted in Substance painter. [GUI screenshot]. Courtesy the artist.

In this scene, the sky and sea are animated with procedural rendering from two software plugins, Weathermaker and Ocean Crest. I chose these early on because separate developers were co-operating on making these software packages compatible. The 'sea' is generated by an overlay of maps and has a physics component that allows other photogrammetry models to be included in the seascape then flung about when the scene is activated. These models are of a forklift in the animal quarantine building and a ship's anchor chain made up from a single link found as flotsam near Wellington's south coast. This scene plays a loop of an ambisonic track from recordings of the Mātiu/Somes Island windmill in a strong southerly wind combined with foreshore water and waves.

Technical glossary

Ambisonic audio. Recorded using a single microphone head configured as six omnidirectional microphones-in-one. Six channels record environmental sound as an envelope of six ambisonic tracks. These formats are then digitally decoded. Mostly used for immersive gaming contexts as bi-aural recording for HMD headphones.

Binaural sound. 360° audio spatialised to match the position of human ears wearing headphones. Recorded by a Sennheiser ambisonic mic then brought into Reaper DAW. Multiples of six tracks have different orders making for higher ambisonics up to 64 tracks. These are spatially digitised using IEM software, produced by the Institute Electronic Music, an Austrian digital music school and available as a free download.

Cartesian space. Unity game engine operates in Cartesian space, the x,y,z axis (up/down, side-to-side, back-to-front) see p. 60.

Foveat. A rendering technique using an eye tracker to reduce image quality minimising graphic card load. The full field of view appears blurry at the edges, sometimes sacrificing the area of focus.

Game Engine. A suite of software tools including digital cameras. The dominant game engines at time of writing are Epic Games 'Unreal engine' and Unity technologies. Unity is more open source and used for *Inside Arcadia*.

GUI. Graphic User interface. Visualised control settings – the 'dashboard' for operating Reaper and Unity digital workstations and other technologies discussed in this thesis.

Head Mounted Display (HMD). A stereoscopic headset for virtual reality immersion. It has two Fresnel lens (concave) and takes a feed from two digital cameras (in a Game Engine). The digital cameras are set to slightly different angles (see stereoscopy).

Non-diegetic sound. Any sound that does not exist in a filmed scene to be recorded. 360° video can include diegetic sound, e.g., subject's speech or environment sound. However, modelled world building using photogrammetry etc. in a game engine introduces audio/sound recorded elsewhere because the environment is synthetic. All sound in this context will be non-diegetic, as are all the soundscapes for *Inside Arcadia*.

Panorama. A long, continuous strip containing a single image stitched from separate images. Can be digital or handmade. In Unity, a panorama is stitched in the form of a sphere around the zeroed scene.

Photogrammetry. A process that uses software to stitch or join together hundreds of single digital images to make a digital 3D model.

Stereoscopy. A lens-based system of illusionistic viewing where two lenses, at slightly different angles, give the illusion of three dimensions. (See **HMD**).

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Page 141. (fig. 104) Doidge, M. (2021). Left. 360° timelapse video of animal quarantine boiler in LRTimelapse 5.5.8 plug-in being deflickered. Right. Selected keyframes in Lightroom classic 9.1 colour graded and exposure de-flickered. [GUI screenshot]. Courtesy the artist.

Page 142. (fig. 105) Doidge, M. (2020). *Phantasmagoria: Human Quarantine Barrack* [GUI screenshot]. Right of both images is a 360° timelapse video render, projected on panoramic sphere behind point cloud model. Left, sequence dawn. Right, sequence mid-afternoon [GUI screenshot]. Courtesy the artist.

Page 142. (fig. 106) Doidge, M. (2021). *Inside Arcadia*. Left. *Vestibule* in scene [HMD screenshot]. Right 3D model highlighting modular segment in orange. [GUI screenshot]. Courtesy the artist.

Page 143. (fig. 107) Doidge, M. (2020). Left. Mātiu/Somes Island foreshore and Zoom F6 field sound recording with Sony ambisonic mic. Right. Corner of the pig and deer pen (broken red line) that became a whole photogrammetry model after for the vestibule by being duplicated, rotated, and reflected (see fig 103, right). Courtesy the artist.

Page 144. (fig. 108) Doidge, M. (2020). Left. Human quarantine barrack, May 2020. DSLR with tripod. Middle. Point cloud comparison with photogrammetry software render of barrack. Right. Photogrammetry render showing deliberate mis alignment effect for later point cloud conversion shown left. Courtesy the artist.

Page 145. (fig. 109) Doidge, M. (2019). Left. Sterilising tank in boiler room. Right. Furnace and control panel in Boiler room [stereoscopic image]. Courtesy the artist.

Page 145. (fig. 110) Doidge, M. (2019). Left. Unmodified photogrammetry model of boiler room. Middle. Unity scene boiler room model after decimation with purple fog layer. Right. HMD view inside model showing scrambled maps, painted feathered texture with time lapse video playing [GUI screenshot]. Courtesy the artist.

Page 146. (fig. 111) Doidge, M. (2020). Left. Aerial view of battery site 1995. Courtesy Lawrie Cairns. Middle. No.2 gun pit, courtesy the artist. Right. Mount Pleasant Heavy anti-aircraft gun, identical to Mātiu/Somes Island. W.Rouse. Courtesy DOC Collection.

Page 146. (fig. 112) Doidge, M. (2020). Left. Feathered edge of magazine model with texture map in Unity. Right, model painted in Substance painter. [GUI screenshot]. Courtesy the artist.

