

Te Wheiao: understanding experience, isolation, and space through computer graphics.

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An exegesis submitted to
Auckland University of Technology
in partial fulfilment of the requirements for the degree of Master of Design

2023
School of Art & Design

Abstract

Te Wheiao (the dawn light) investigates the global Covid-19 pandemic and the 107-day government-imposed lockdown of Tāmaki Makaurau Auckland through a CG (computer-generated) animated film and virtual reality (VR) experience. This heuristic inquiry argues that lockdowns dramatically affected young adults' mental health within Aotearoa New Zealand and more engaging mediums are needed to evoke an open dialogue and provide catharsis on the subject. This research aims to build commonality and connection by exploring hardships and finding innovative ways to express them. Beyond this, the project's technological significance lies in extending the potential of Unreal Engine 5 (UE5) for CG filmmaking using photogrammetry, simulation, and real-time rendering.

Table of Contents

Abstract	2
Table of Contents	3
List of Figures	5
Attestation of Authorship	7
Acknowledgements	8
Chapter One: Positioning the Researcher	9
Section 1A: Introduction	9
Chapter Two: Contextual Review	11
Section 2A: Introduction	11
Section 2B: Existential Phenomenology	11
Section 2C: Mātauranga Māori	14
Section 2D: Mental Health in Aotearoa	15
Section 2F: Creative Representations	16
Section 2G: Edward Hopper and Todd Hido	16
Section 2H: Contemporary Māori Art	21
Section 2I: Dr David Evan Bailey	24
Section 2J: Artistic Responses to the Covid-19 Pandemic	27
Section 2K: Conclusion	29
Chapter Three: Research Design	30
Section 3A: Introduction	30
Section 3B: Research and Ideation	32

Section 3C: Synthesis	34
Section 3D: Refinement and Evaluation	34
Section 3E: Conclusion	35
Chapter Four: Reflection on Practice	36
Section 4A: Introduction	36
Section 4B: Reflection	36
Section 4C: Conclusion	50
Conclusion	51
Bibliography	53

List of Figures

Figure 1. Spicer, J. (2021). Outskirts. [Screenshot].

Figure 2. Spicer, J. (2021). Main Road. [Screenshot].

Figure 3. Tarkovsky, A. (1979). Stalker. [Film].

Figure 4. Hopper, E. (1942). Nighthawks. [Oil on canvas].

Figure 5. Hopper, E. (1952). Morning Sun. [Oil on canvas].

Figure 7. Hido, T. (2001). #2690. [Photograph].

Figure 6. Hido, T. (2001). #2312-A. [Photograph].

Figure 8. Jahnke, R. (2015). Ripeka Whero. [Wood, paint, neon, one way glass, mirror, electricity].

Figure 9. Jahnke, R. (2019). Whenua Kore. [Lacquer, mild steel, powder coated aluminium, neon, mirror pane, mirror, laminated glass, toughened glass, electrical components].

Figure 10. Reihana, L. (2020). Ihi. [Two-channel UHD-Video, stereo sound].

Figure 11. Bailey, D. (2019). Caravan Reverie. [Photograph].

Figure 12. McGuigan, C. (2020). Lockdown Quilt. [Textile].

Figure 13. Nyman, M. (2020). Galaxies Sugared and Stripped. [Monoprint and hand-lettering].

Figure 14. Spicer, J. (2022). Remains of St. James Theatre. [Photograph].

Figure 15. Spicer, J. (2022). Waterfront. [Photograph].

Figure 16. Bixley, O. (2022). Initial Sketches. [Digital Painting].

Figure 17. Bixley, O. (2022). Road Sign. [Digital Painting].

Figure 18. Bixley, O. (2022). The Loft. [Digital Painting].

Figure 19. Bixley, O. (2022). Inside. [Digital Painting].

Figure 20. Bixley, O. (2022). Durham Street East. [Digital Painting].

Figure 21. Bixley, O. (2022). The Zest. [Digital Painting].

Figure 22. Bixley, O. (2022). Waterfront Light Pole. [Digital Painting].

Figure 23. Bixley, O. (2022). Crane Reflection. [Digital Painting].

Figure 24. Bixley, O. (2022). On the Phone. [Digital Painting].

Figure 25. Bixley, O. (2022). Initial Storyboard. [Digital Painting].

Figure 26. Spicer, J. (2023). Queen Street Bus Stop. [Photograph].

Figure 27. Spicer, J. (2023). Queen Street Bus Stop Photo Scan. [Screenshot].

Figure 28. Spicer, J. (2023). Queen Street Bus Stop Model. [Screenshot].

Figure 29. Spicer, J. (2023). Crane. [Screenshot].

Figure 30. Spicer, J. (2023). The Zest. [Screenshot].

Figure 31. Spicer, J. (2023). The Loft. [Screenshot].

Figure 32. Spicer, J. (2023). VR Testing. [Photograph].

Attestation of Authorship

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.

21/07/2023

Acknowledgements

I would like to first acknowledge my course supervisors Gregory Bennett and Hossein Najafi for their time and input on this research project. The Art & Design Postgraduate team for establishing a programme where we are pushed to think critically about our discipline and its impact on the world. To my iwi for consistent aid over the years. Lastly, thank you to all the friends and family who have supported me in this journey of self-discovery.

Chapter One: Positioning the Researcher

Section 1A: Introduction

Ko Taranaki te māunga

Ko Te Waikoropupū, ko Waiwhakaiho te awa

Ko Tokomaru te waka

Ko Ngāti Tama, ko Te Ātiawa tōku iwi

Ko Ngāti Tawhirikura tōku hapū

Ko Onetahua te marae

Nō Hāwera ahau

Ko Jason Spicer tōku ingoa.

Growing up in a small town in rural Aotearoa New Zealand, I was always interested in expanding my horizons and pushing myself to do something greater when it came to my artistic practice. I had always found myself through expression, whether it was through speeches, drawing, painting, or photography. I found great pleasure in exploring ideas and bringing them to life for people to enjoy, but I thought there must be more. I chose the digital design pathway through the Bachelor of Design at Auckland University of Technology where my understanding of visual arts and media flourished. In retrospect, I chose to become a digital designer for my love of craft, creation, and research.



Figure 1. Spicer, J. (2021). *Outskirts*. [Screenshot].

Now trained as a visual effects artist, my work acts as an extension of myself. I create experiences that are not bound by physical space but by the contexts I choose to give them, so therefore my imagination has no limit. The significance of my practice lies within its experimentation – finding new approaches and methods that yield personal identity within digital media are at the forefront of my mind. My [previous work](#) has been speculative, designed to critique and debate crucial issues such as mental health, nostalgia, and automation.



Figure 2. Spicer, J. (2021). *Main Road*. [Screenshot].

I have gone through a period of significant change, as have many in my position. For 107 days I was confined to my studio apartment in the Auckland Central Business District (CBD), forced to complete my final year university project working with my then partner on one computer. A significant mental strain continues to affect me, and I am still finding ways to deal with it. This lived experience drives my continued exploration of the self. By continuing to create discussions about a sense of place and finding comfort within change, I hope that my designs assist viewers in finding something profound within themselves and if not, something profound within others.

Chapter Two: Contextual Review

Section 2A: Introduction

As I lay in bed within a concrete monolith, beside a concrete monolith, surrounded by concrete monoliths, silence permeated the streets of Tāmaki Makaurau. Light beamed from the sun as it rose down the lane, but it did not enter. I did not feel its warmth or compassion, I simply observed as it painted the world brick by brick. During the global Covid-19 pandemic, this experience is how I came to understand isolation, by being stuck between dark and light – Te Wheiao (the dawn light), where time stagnated and my mental health declined. This review locates a neighbourhood of practitioners whose work influences my digital design practice. Their work communicates, connects, and interprets experience through movement, space and time speaking on the contexts of existential phenomenology in architecture and film, mātauranga Māori (Māori knowledge) in storytelling and deteriorating mental health within Aotearoa.

Section 2B: Existential Phenomenology

Existential phenomenology is a philosophy that encompasses a range of thinkers who describe the subjective human experience as a reflection of a person's values, intentions, emotions, and relationships.¹ American existentialist Rollo May describes the world as “the pattern of meaningful relations in which a person exists and in the design he or she participates”.² An interrelationship is essential in understanding both the self and the world, and this influences my practice. Renowned Finnish architect Juhani Pallasmaa applies this interrelationship to practical fields, believing there is a shared

¹ Richard Thorpe and Robin Holt, eds., *The SAGE Dictionary of Qualitative Management Research* (London: SAGE Publications, 2008), 94, <https://dx.doi.org/10.4135/9780857020109.n43>.

² Rollo May, *The Courage to Create*, Rev. ed (New York: WW Norton & Company, 1994), 50.

experiential ground between cinema, art, and architecture stating, “both architecture and cinema articulate lived space.”³

Soviet filmmaker Andrei Tarkovsky’s characters echo this notion as they are seemingly etched into their spatial surroundings.⁴ In *Stalker* (1979),⁵ external space reflects characters’ inner mental space, with the erosion and decay of the land mirroring their unpleasant desires. Put simply, “I am the space where I am”⁶ is a phrase that impacts how I understand my experience during the lockdown. Living in the central city I was mentally and physically stuck, which is related to the unmoving concrete monoliths of my surroundings. Knowing this, I would design digital spaces in ways that reflect characters’ feelings, and vice versa, to better portray the mental struggle of the Covid-19 pandemic.

Figure 3. Tarkovsky, A. (1979). *Stalker*. [Film].

³ Juhani Pallasmaa, *The Architecture of Image: Existential Space in Cinema* (Helsinki: Rakennustieto Publishing, 2001), 13.

⁴ Pallasmaa, 29.

⁵ *Stalker*, dir Andrei Tarkovsky (1979, Mosfilm), https://www.youtube.com/watch?v=Q3hBLv-HLEc&ab_channel=Mosfilm.

⁶ Arnaud Noël and Max Bucaille, *L'État d'ébauche* (Paris: Le Messager Boiteux de Paris, 1950).

Revered Swiss architect Peter Zumthor also writes of our spatial connections, constituting quality architecture as an atmosphere.⁷ Zumthor believes that “in a society that celebrates the inessential, architecture can put up a resistance, counteract the waste of forms and meanings, and speak its own language.”⁸ Reading his work, I now ask. Can I feel the intimacy of its wall’s proximity and distance? Does the light hollow out the darkness? Eliciting emotion from space is perceived as an experience rather than an interpretation. Applying this thinking, my practice would be multi-sensory and develop unexpected associations to engage with the audience – I will continue to make connections between isolation, mental health, and relationships within space, but this time think about how these ideas are built, how they are felt, and what conveys them as an experience rather than an image.

American media theorist and cultural critic Vivian Sobchack spoke on this concerning film, arguing that “the film is not, therefore, merely an object for perception and expression; it is also the subject of perception and expression.”⁹ Rather than viewing the film as an object and we the spectator simply there to be influenced, the film is also a spectator, and we are each experiencing an embodied vision. This idea has shifted my perspective. The priority of my work is not to shape the spectator but to use my practice as a lens through which to look. I recognize that this is Tarkovsky’s approach, with his deliberately long takes and slow camera pans, time is his medium and he draws the viewer in by connecting the past with the present, dream with reality, in a completely unbroken stream of consciousness. The artefact I produce would also be embodying the experience of the Covid-19 lockdowns, and this understanding impacts my cinematographic design choices.

⁷ Peter Zumthor, *Atmospheres: Architectural Environments, Surrounding Objects* (Basel: Birkhäuser, 2006), 11.

⁸ Peter Zumthor, *Thinking Architecture*, 3rd ed. (Basel: Birkhäuser, 2010), 26.

⁹ Vivian Sobchack, *The Address of the Eye* (Princeton: Princeton University Press, 1992), 167.

Section 2C: Mātauranga Māori

Mātauranga Māori links to existential phenomenology through te ao Māori (the Māori worldview) which also acknowledges an interconnectedness and interrelationship with the world. When thinking of the Covid-19 lockdowns my perception of it could only be explained through poetic imagery. I felt like I was being crushed between the sky father and earth mother Ranginui and Papatūānuku. This articulation is not unfounded, as tohunga (priest), minister, and philosopher Māori Marsden states Māori myth and legend “were deliberate constructs employed by the ancient seers and sages to encapsulate and condense into easily assimilable forms their view of the world.”¹⁰ Poetic imagery, rather than an empirical approach, allows me to better understand events because existence is fragmentary, paradoxical, and incomplete.¹¹

Māori historian and professor Te Maire Tau expands on this by asking “how is it that a people can talk about their past as if it is in the present or standing in one’s presence?”¹² It is by understanding that Māori accept an eternal present where time is seen as organic and synchronic.¹³ The design of the artefact would follow this notion. By referencing the poetic qualities and attributes of Māori storytelling in my narrative of the Covid-19 pandemic, I may illuminate and emphasize the feelings and experiences that are being contemplated to the audience. Austrian-British philosopher Karl Popper came to the same conclusion when he said, “there can be no history of ‘the past as it actually

¹⁰ Māori Marsden, *The Woven Universe: Selected Writings of Rev. Māori Marsden*, ed. Te Ahukaramu Charles (Ōtaki: Estate of Rev. Māori Marsden, 2003), 56.

¹¹ Marsden, 22.

¹² Te Maire Tau, ‘I-Ngā-Rā-o-Mua’, *Journal of New Zealand Studies*, no. 10 (2011): 46.

¹³ Tau, 50.

did happen'; there can only be historical interpretations, and none of them final, and every generation has a right to frame its own".¹⁴

Section 2D: Mental Health in Aotearoa

In my previous practice, the strain on mental health in Aotearoa has been a consistent theme. I take the position (continued in this research) that it has always been an issue for young adults. We have been warned of a silent pandemic of mental health morbidity among New Zealanders, which has doubled over the last two decades with general mental distress, anxiety, and depression highest amongst young people.¹⁵ The short and long-term impacts of Covid-19 are yet to be fully appreciated but there is already heightened vulnerability within this group. Māori youth forensic psychiatrist Dr Hinemoa Elder believes that "when we are better connected to the world around us, with the community we live in and are supported by and supportive of our neighbours, we are protected from stress and fear."¹⁶ As the government-imposed lockdowns have ended it is important to highlight our need for connection rather than creating self-imposed lockdowns on our mental states. Speaking, reaching out and listening to others are things I want the audience to take away from the artefact. This idea of catharsis, to relieve unconscious conflicts, inspires my practice.

¹⁴ Karl Popper, Alan Ryan, and Ernst Gombrich, *The Open Society and Its Enemies* (Princeton: Princeton University Press, 2013), 473.

¹⁵ Rochelle Menzies, Peter Gluckman, and Richie Poulton, *Youth Mental Health in Aotearoa New Zealand: Greater Urgency Required* (Auckland: Koi Tū: The Centre for Informed Futures, 2020), 2, <https://informedfutures.org/youth-mental-health-in-aotearoa-nz/>.

¹⁶ Hinemoa Elder, *Aroha: Māori Wisdom for a Contented Life Lived in Harmony with Our Planet* (Auckland: Penguin Random House New Zealand, 2020), 13.

Section 2F: Creative Representations

I have spoken on the philosophical landscape that my practice falls within, identifying a range of thinkers who influence my views. Next, I will delve into practitioners who deepen these ideas, analysing their work and finding connections. These creative representations allow me to have a wider understanding of approaches to visualization and the exploration of human experience. This analysis provides insight into methods for translating complex emotions into my own practice.

Section 2G: Edward Hopper and Todd Hido

Edward Hopper was an American realist painter widely known for his oil paintings such as 'Nighthawks' (1942) and 'Morning Sun' (1952). Hopper's work has invited much narrative interpretation. In response to whether his work reflects the isolation of modern life, he said "It may be true. It may not be true".¹⁷ When asked what draws him to the dark scenes he favours, he stated "I suppose it's just me".¹⁸ There is an undeniable feeling of loneliness present, as figures can be seen distanced from others or staring longingly out of windows. Interior and exterior spaces are composed inside the same frame but are separated by, windows, walls, light, and shadow. These artistic choices create scenes where characters seem socially disconnected, pondering their own existence. Hopper's portrayal of modern American life as a crisis of separation does not necessarily need the presence of a pandemic to articulate the experience of isolation and loneliness, however he could be described as a defining artist for the Covid-19 age. His paintings cause immense tension inside of me, I feel like a spectator wanting to interact but am stopped by outside forces and become introspective.

¹⁷ Olivia Laing, *The Lonely City: Adventures in the Art of Being Alone* (New York: Picador, 2016), 11.

¹⁸ Laing, 11.

Figure 4. Hopper, E. (1942). *Nighthawks*. [Oil on canvas]. Retrieved from <https://www.artic.edu/artworks/111628/nighthawks>.

Figure 5. Hopper, E. (1952). *Morning Sun*. [Oil on canvas]. Retrieved from <https://www.columbusmuseum.org/blog/2020/05/12/pocketguide-to-cma-edward-hoppers-morning-sun/>.

A current practising artist who produces similar effects of tension is American photographer Todd Hido. His earlier work involved photographs of urban and suburban houses that culminated in his book 'House Hunting' (2001). Author and collaborator Katya Tylevich defined Hido's work as "a raw look at white paint chipping off of picket fences".¹⁹ Hido shares similar sentiments as Hopper, not defining his work and leaving the narrative open to interpretation, stating "I think the people who really connect with my work see something of themselves in it; they don't necessarily see me".²⁰ He cares less about his relationship with the space and more about the picture connecting with a variety of people. These homes could be placed seemingly anywhere in America and although isolated, share the common element of a window light turned on. He continues: "some people see the most fucked up place they've ever been, while others go back to their wonderful childhoods. I learned early on that ambiguity was one of art's best tools".²¹ While I can recreate spaces that I have a connection to, it is evident that the viewer will project their own meaning onto the work.

¹⁹ Katya Tylevich, 'House Hunting', Todd Hido, accessed 17 April 2023, <http://www.toddhido.com/househunting.html>.

²⁰ Katya Tylevich, 'Between the Two', Todd Hido, accessed 17 April 2023, <http://www.toddhido.com/between.html>.

²¹ Tylevich, 'Between'.

Figure 6. Hido, T. (2001). #2690. [Photograph]. Retrieved from <http://www.toddhido.com/homes.html>.

Comparable to Hopper's paintings, when looking at Hido's photographs I feel like a silent observer. Questions are raised within me about who is present inside these homes and how they are feeling. Perhaps an attitude caused by the Covid-19 lockdowns – viewing people's apartments from the city's empty streets below. Pallasmaa states that "the essence of architecture is not in buildings as physical objects, but in their role as frames through which the world is seen and as horizons of experiencing and understanding the human condition".²² Without human subjects, there is a strong dialogue between the buildings and me, this sensibility turns my attention towards my existence and through this I find myself listening to my being. In the world Hido has created, do I want to be invited in? Is this a need of belonging or to be social? Experiencing Hido's work brings back strong feelings about the pandemic. I feel the cold, the darkness, and a sense of sadness as if I am wandering home alone.

²² Juhani Pallasmaa, *Encounters: Architectural Essays*, ed. Peter B. MacKeith (Rakennustieto Oy, 2005), 343.

Figure 7. Hido, T. (2001). #2312-A. [Photograph]. Retrieved from <http://www.toddhido.com/homes.html>.

Although the intentions of Hopper and Hido's work are left undefined by the artists, narrative interpretations are clearly based on their aesthetic choices which provides me with strong artistic reference. Professor John Gibbs defines *mise-en-scène* as "the contents of the frame and the way they are organised".²³ It encompasses what an audience can see, and the way in which we are invited to see. Examples of *mise-en-scène* previously mentioned include composing a frame within a frame, dark scenes with a singular light source or strong directional sunlight which separates melancholic characters. Our point of view is usually at a distance. By utilising similar techniques, the experience I feel when viewing their work may be replicated within my own practice.

²³ John Gibbs, *Mise-En-Scène: Film Style and Interpretation*, Short Cuts (London: Wallflower Press, 2002), 5.

Section 2H: Contemporary Māori Art

The landmark exhibition 'Toi Tū Toi Ora: Contemporary Māori Art' (2020–2021), curated by Nigel Borell, provided a vast account of contemporary Māori art. It included painting, sculpture, jewellery, film, photography, digital media, and installation art within the framework of the Māori creation narrative. Although there are tribal variations, the narrative describes the movement from Te Kore (the great nothingness) to Te Pō (the perpetual night) to Te Ao Mārama (the world of light and life) and the separation of Ranginui and Papatūānuku by their son Tāne. The ideas present are fundamental to te ao Māori, shaping how we view the natural world, our behaviour, whakapapa (genealogy), and our stories. This exhibition highlights the resonance of the narrative within Māori practice and how it can be interpreted in different mediums.

Professor Robert Jahnke tackles issues of identity, colonisation, cross-cultural exchange, and Māori creation narratives using a variety of mediums in a multidimensional way. His 'Ripeka' (2015) series is a symbolic interpretation of Te Kore, Te Pō and Te Ao Mārama. Here he reflects on whakapapa and continuous time, with the mirrored reflections presenting infinite possibilities.²⁴ 'Whenua Kore' (2019) uses the same idea of neon light and one-way mirrored glass to portray the endless nature of time and space. When we shift our perspective, the neon rings bend and stretch presenting time as a cyclical phenomenon with beginning and end as related concepts. Jahnke creates an open conversation about our notions of time and even wider concepts of existence and consciousness using a Māori lens.²⁵

²⁴ Nigel Borell, *Toi Tū Toi Ora: Contemporary Māori Art* (Auckland: Penguin Random House New Zealand, 2022), 46.

²⁵ Borell, 29.

Figure 8. Jahnke, R. (2015). *Ripeka Whero*. [Wood, paint, neon, one-way glass, mirror, electricity]. Retrieved from <https://www.aucklandartgallery.com/explore-art-and-ideas/artwork/26906/ripeka-whenua>.

Figure 9. Jahnke, R. (2019). *Whenua Kore*. [Lacquer, mild steel, powder coated aluminium, neon, mirror pane, mirror, laminated glass, toughened glass, electrical components]. Retrieved from <https://www.aucklandartgallery.com/explore-art-and-ideas/artwork/31035/whenua-kore>.

Lisa Reihana's practice is a commentary on Māori history and identity. She works with a range of media including film, photography, sculpture, costume, and body adornment. Reihana's 'Ihi' (2020) is a magisterial retelling of the creation narrative through film.²⁶ It explores the relationship between Papatūānuku and Tāne, and the separation that brought Te Ao Mārama into existence. Reihana uses actors to portray these characters, as they move dynamically from scene to scene, it eloquently shows our connection to divinity through whakapapa and our interconnectedness to all realms and all things.²⁷

Figure 10. Reihana, L. (2020). *Ihi*. [Two-channel UHD-Video, stereo sound]. Retrieved from <https://www.aucklandartgallery.com/explore-art-and-ideas/artwork/31084/ihi>.

²⁶ Borell, 50.

²⁷ Borell, 7.

The work of the artists mentioned showcases how looking at the past can create aesthetically varied, yet equally impactful art. Māori lawyer and teacher Moana Jackson states that:

Māori art has a particular 'once upon a time' that captures its own chosen glimpse into what might be called a sense of imagined possibility. Whether it is a poem, a song, or an image, it can draw on the mystery of creativity, which Rangi Chadwick once called 'the quiet space where anything seems possible'.²⁸

This imagined possibility iterates the expansiveness of time, space, and human potential. Exploring the importance of these ideas through my own practice may aid me in understanding my own feelings of the self, in relation to others and our connection to the world. The method of doing so could be found in the whakataukī (Māori proverb) “ka mua, ka muri” – we walk backwards into the future.²⁹ Looking at the past informs the future so, by looking at what I have experienced, I am informed of who I am – as I walk from today, into tomorrow and into the next realm.

Section 2I: Dr David Evan Bailey

Dr David Evan Bailey is an academic researcher and lecturer. Bailey's thesis, 'Synchronous Reality: Place and Memory in Virtual' asks how personal experiences of intimacy and solitude can be evoked and intensified in a virtual space over time.³⁰ Bailey's research culminated in unique methods for effective immersion and storytelling that deviated from traditional VR (virtual reality). VR can be defined as “a three-dimensional simulated environment created by computer software and rendered in real-time according to the behaviour of the user”.³¹ Bailey expands on this by drawing together the virtual immersive

²⁸ Borell, 6.

²⁹ Borell, 7.

³⁰ David Evans Bailey, 'Synchronous Reality: Place and Memory in Virtual Installation' (Auckland, Auckland University of Technology, 2020), 1, <http://hdl.handle.net/10292/13185>.

³¹ Carl E. Loeffler, *The Virtual Reality Casebook*, ed. Tim Anderson (New York: Van Nostrand Reinhold, 1994), xiv.

experience in an HTC Vive and a physical site in a durational art installation, coining the term “synchronous reality”.³² In his work ‘Caravan Reverie’ (2019), Bailey recreates the caravan he spent two years in, isolated in the English Midlands with his two cats. Here, synchronous reality distinguishes itself by removing the reliance on haptic technology, using physical elements such as a seat to create tactile feedback, alongside aural stimuli like soundscapes and olfactory stimuli such as toasting bread and brewing tea.³³ These methods could be incorporated into my work to engage the viewer better.

In ‘Caravan Reverie’ (2019), temporality is also important, as the passing of time is suggested by the passage of light within the virtual environment. This does not necessarily relate to real-world time or our own inner sense of time, as the participant could be in the installation for ten minutes, but according to the sun’s light, they may have experienced an entire day.³⁴ French philosopher Henri Bergson defines this as *la durée* (duration) where “time could be enormously and even infinitely accelerated; nothing would be changed for the mathematician, for the physicist or for the astronomer. And yet the difference with regard to consciousness would be profound”.³⁵ He believes that “the duration lived by our consciousness is a duration with its own determined rhythm”.³⁶ This idea could be felt during the pandemic where, to me, a day felt like a week and a month felt like a year. Playing with time in a virtual space could effectively express to others my experience of fatigue.

³² Bailey, ‘Synchronous Reality’, 34.

³³ Bailey, 36.

³⁴ Bailey, 35.

³⁵ Henri Bergson, *The Creative Mind*, trans. Mabella L. Andison (New York: The Citadel Press, 1992), 11.

³⁶ Henri Bergson, *Matter and Memory*, 1st ed. (New York: Zone Books, 1988), 205.

Figure 11. Bailey, D. (2019). *Caravan Reverie*. [Photograph]. Retrieved from https://www.researchgate.net/publication/339674503_Synchronous_Reality_Place_and_Memory_in_Virtual_Installation/figures?lo=1.

Bailey's caravan mirrors my old studio apartment during the lockdown. A confined space where we have felt intense emotion. French philosopher Gaston Bachelard defines "the spaces in which we have suffered from solitude, enjoyed, desired and compromised solitude"³⁷ as indelible within us because we want them to remain so. This space holds great importance, I remember the dust that accumulated on the wooden floorboards of the loft, the proximity of the concrete walls, the heat of the air as it rose to the roof where I resided and the whirring breeze of my fan to cool me down. In my memories, it is where I go to reflect and understand aspects of myself such as how I operate, how I interact, and what routines I need to break out of. Rather than showcasing this specific space to an audience in an animated format and having them be a silent observer, VR and synchronous reality methods may better immerse individuals. I could recreate the materials of the space in a physical installation, reduce the space a participant could occupy, or play ambient street noise. This may produce similar feelings that I had or bring back memories of their own.

³⁷ Gaston Bachelard, *The Poetics of Space*, trans. Maria Jolas (Boston: Beacon Press, 1994), 10.

Section 2J: Artistic Responses to the Covid-19 Pandemic

The artistic theme of the Covid-19 pandemic could be defined as one of personal response and introspection. The works created during this period may not have been made by established artists but if they were, it was with a restricted or alternative medium. American artist and author Shaun McNiff, a renowned figure in creative art therapies states that “a person’s license to create is irrevocable, and it opens to every corner of daily life. But it is always hard to see that doubt, fear, and indirectness are eternal aspects of the creative path”.³⁸ Fears and anxieties caused by the pandemic became apparent in some creative work—expressing these emotions through art was a cathartic process which allowed people to connect or reflect.

During Covid-19, Prime Minister Jacinda Ardern stated that “we are all in this together”³⁹, a blanket statement that highlighted the collective, rather than the individual. The need for individual expression became apparent so that people could see the inequality others faced. An example of a collective artistic initiative can be found in Te Tau Ihu (the top of the South Island) where the Tasman District Libraries invited people across the region to stitch a word or image that related to their lockdown experience. These embroidered pieces were stitched into a patchwork quilt by textile artist Christine McGuigan.⁴⁰ ‘Lockdown Quilt’ (2020) is an impactful piece that represents individual experiences during a time of hardship but also coming together for a common goal.

³⁸ Shaun McNiff, *Trust the Process: An Artist’s Guide to Letting Go* (Boulder: Shambhala Publications, 1988), 1.

³⁹ *COVID-19 (Novel Coronavirus) Update - 19 April, 2020, 2020*, <https://www.youtube.com/watch?v=8rUkVDghtNw>.

⁴⁰ Abi Beatson, ‘Documenting COVID-19: One Year On’, National Library of New Zealand, 2021, <https://natlib.govt.nz/blog/posts/documenting-covid-19-one-year-on>.

Figure 12. McGuigan, C. (2020). *Lockdown Quilt*. [Textile]. Retrieved from <https://heritage.tasmanlibraries.govt.nz/nodes/view/292>.

Finnish-New Zealand novelist, poet, journalist, and editor Mikaela Nyman engaged the 2020 pandemic personally through her writing, creating poems and essays. For Nyman, the process of making became an important part of her ability to cope. She created a series of prints in response to her work, forging an interplay between words and imagery. 'Galaxies Sugared and Stripped' (2020) follows their worries for their family and the world, creating a piece emphasising the abstract qualities of grief and the open-endedness of the pandemic. Responding to her own written work through visual methods, Nyman's is a multi-layered process for personal introspection.

Figure 13. Nyman, M. (2020). *Galaxies Sugared and Stripped*. [Monoprint and hand-lettering]. Retrieved from <https://www.percythomsongallery.org.nz/reflections-the-art-of-lockdown/>.

Artistic expression can bring catharsis and understanding within both the community and the self. For my own practice, the personal journey is just as important as the outcome. McNiff states:

There have been so many times when I have given up, only to go at it again the next day, or the next year, and over the full course of a life all of the moments appear so purposeful or even necessary. The difficulties are always the most important ingredients in the total picture of a creative experience.⁴¹

Although exploring the past may evoke difficult memories and may halt my ability for expression, on reflection they may provide a greater understanding of the final artefact.

Section 2K: Conclusion

I have explored a range of thinkers within the contexts of existential phenomenology, mātauranga Māori and the deteriorating state of mental health in Aotearoa. These philosophical ideas influence how I view my practice, giving me a better understanding of the self and how we relate to the spaces around us. I delved deeper into creative works that connect these ideas, finding methods and approaches for visualising human experience. This analysis of the contextual field will assist me in translating complex emotions into my own practice.

⁴¹ McNiff, *Trust the Process*, 9.

Chapter Three: Research Design

Section 3A: Introduction

This time-based media project takes the position that poor mental health in Aotearoa has been a persistent and worsening issue amplified among young adults in Tāmaki Makaurau Auckland by experiencing the Covid-19 pandemic and extended periods of lockdown.⁴² I ask the question, how can the design of a CG (computer-generated) animated film and VR experience to describe and interpret these experiences engage with young adults – evoking an open dialogue and providing catharsis in the audience of the artefact? This project aims to investigate how the Covid-19 pandemic and the lockdowns of Tāmaki Makaurau have affected young adults and to interpret this experience through practice-based research. As a young adult spending a 107-day lockdown⁴³ in a small central city studio apartment while working on my final undergraduate project, I understand the stresses of being locked inside, facing immense pressure and a lack of connection to the outside world.

I begin the heuristic journey with something that has called me from within my life experience, something to which I have associations and fleeting awareness but whose nature is largely unknown. In such an odyssey, I know little of the territory through which I must travel. But one thing certain, the mystery summons me and lures me to let go of the known and swim in an unknown current.⁴⁴

My deep connection to the Covid-19 pandemic has influenced me to view this inquiry through a heuristic lens. American psychologist Clark Moustakas defines heuristics as:

A process of internal search through which one discovers the nature and meaning of experience and develops methods and procedures for further investigation and analysis. The self of the researcher is present throughout the process and, while

⁴² Menzies, Gluckman, and Poulton, *Youth Mental Health in Aotearoa New Zealand: Greater Urgency Required*, 2.

⁴³ Janika ter Ellen, 'COVID-19: How Auckland Celebrated Its First Taste of Freedom after 107 Days in Lockdown', *Newshub*, 2 December 2021, <https://www.newshub.co.nz/home/new-zealand/2021/12/covid-19-how-auckland-celebrated-its-first-taste-of-freedom-after-107-days-in-lockdown.html>.

⁴⁴ Clark Moustakas, *Heuristic Research: Design, Methodology, and Applications*. (California: SAGE Publications, 1990), 13.

understanding the phenomenon with increasing depth, the researcher also experiences growing self-awareness and self-knowledge.⁴⁵

Heuristics centres on the researcher's experience in understanding the phenomenon, requiring rigorous self-reflection to engage in the issues involved. This authenticity elevates the meaning of the design because it originates within the self. To succeed with this approach, I must be fully committed to the research question and immersed in the subject matter until it is fully understood and resolved, even if this requires confronting and challenging my thoughts. Additionally, applying heuristics to the methodology of this inquiry will help establish effective methods that focus on developing a deeper understanding of the subject and awareness of the human experience.

This heuristic inquiry uses an Action Research methodology influenced by Andrew Pressman's 'Design Thinking'. It incorporates learning through iterative, self-reflective practice⁴⁶ with learning outcomes achieved through developing a plan of action that invokes critical, analytical, and creative reflection to achieve a desired outcome.⁴⁷ Considering both modes of thinking, I emphasise practice as the main method that progresses the research. Pressman's Design Thinking model is five stages: Information Gathering, Problem Analysis and Definition, Idea Generation, Synthesis through Modelling, and Critical Evaluation.⁴⁸ I will simplify this model into a methodology with three phases: research/ideation, synthesis, and refinement/evaluation.

To explore the potential of this methodology, concerning the core focus of the subject, I will create an artefact that serves as an evocative vehicle for unpacking the feelings of living in isolation. These approaches are contextualised alongside filmmakers, architects, writers,

⁴⁵ Moustakas, 9.

⁴⁶ Jean McNiff, *Action Research: Principles and Practice* (Routledge, 2013).

⁴⁷ Andrew Pressman, *Design Thinking: A Guide to Creative Problem Solving for Everyone* (Routledge, 2018).

⁴⁸ Pressman, *Design Thinking*.

and theorists whose work is underpinned by understanding experience – exploring concepts such as existential phenomenology and mātauranga Māori. The projected outcome is to create a meaningful artefact which responds to the Covid-19 pandemic so that we can find commonality and connection through hardship. Beyond this, the project’s technological significance lies in extending the application and potential of Unreal Engine 5 (UE5) for CG filmmaking using photogrammetry, simulation, and real-time rendering in world-building.

Section 3B: Research and Ideation

Research and ideation involve gathering information and critically evaluating its significance and potential for exploration. After identifying key concepts, which could be philosophical, spiritual, or aesthetic, I can define a creative path. This phase is informed by textual analysis and reflexive journaling.

Textual analysis uses various processes to explore, describe and interpret the underlying characteristics of a text. It is used to locate patterns, similarities, analogies, or creative connections which develop into readings grounded by observation and context. I will use textual analysis to explore a variety of possible narrative and thematic meanings within texts that may impact my research. By examining bodies of writing within contextual fields such as existential-phenomenological theory in film and architecture and mātauranga Māori in storytelling, I can inform design choices. By understanding these fields, I may be able to create more effective experiences when applying the knowledge gained to my practice.

My research question informs the direction of what I will focus on in the texts that are under investigation, locating parts of the text that best addresses the question.⁴⁹ I may consider what the meaning is of a particular text, how it connects to other texts at the time or how the text influences, reflects or rejects the views of society. The resulting readings of texts

⁴⁹ Mike Allen, ed., ‘Textual Analysis’, *The SAGE Encyclopedia of Communication Research Methods*, 2017, 1756.

present themselves as propositions, establishing issues that may not have been seen in individual works and which may lead to more refined design thinking and research avenues. The information gained from these texts may be influenced by larger social structures,⁵⁰ so it is important to critically examine sources and understand the cultural, social, and political factors in which they exist. This assists in understanding both the actual meaning and subtextual meaning.

A reflexive journal records the researcher's experiences from their perspective. I will use reflexive journaling to record and reflect on the project's ideas, impact, and analysis over time. Connecting the self and the research is essential because this inquiry inherently delves into the fundamental concepts of meaning, knowledge, and identity.⁵¹ A heuristic inquiry is distinctive; I am as much a participant as I am a researcher therefore, the journey I undertake may be as much an emotional experience as an intellectual one because of its autobiographical nature.⁵² Undoubtedly shaped by previous experiences and current experiences, journaling is not a one-time action but an ongoing process that is self-exposing. It journeys through "internal pathways of the self"⁵³ and is deeper than simply reflecting on actions.

I can reengage with past and present entries, granting insight into my research process and finding ideas for the next steps. Feedback will be drawn back into the self and reprocessed, enabling rigour and fostering awareness and scrutiny of the reasons behind decisions creating an authentic voice.⁵⁴ This ideation can create other avenues of exploration by seeing what I know and how I know it. Self-reflection will be expressed both in writing and

⁵⁰ Allen, 1754.

⁵¹ Welby Ings, 'Managing Heuristics as a Method of Inquiry in Autobiographical Graphic Design Theses', *International Journal of Art & Design Education* 30, no. 2 (2011): 78.

⁵² Ings, 78.

⁵³ Ings, 78.

⁵⁴ Ings, 76.

visually using photography, sketching, and painting. These visual representations may be produced by myself or others. I may analyse the image's construction, aesthetics, and impact to better understand the contextual influences on my practice.

Section 3C: Synthesis

Synthesis takes significant themes and concepts discovered in the previous phase and weaves them through my practice. As I will be working on all stages of development there are areas which will be disrupted by what I don't know, and this will require insightful decision-making to progress. It is important to engage with my practice and efficiently test new ideas and find solutions for issues that may arise. This will be achieved through previsualisation and prototyping. Through these methods, I can then determine if I am effectively portraying feelings experienced during the Covid-19 pandemic in my practice, contributing to the success of the final artefact.

Previsualisation may be defined as anticipating and planning a scene or sequence before it is shot. After writing a script I will visualise the project through storyboarding to test lighting, composition, and narrative progression. This will be followed by an animatic (animated storyboard) to understand the sequence's look and feel with sound, motion, and timing.

Prototyping is creating a preliminary version of a product. I will produce the project's visual elements by taking previous research and ideation and using it within an applied context. For my CG practice, I will be using modelling, animation, photogrammetry, lighting and rendering software, which require testing and iteration to create a refined outcome. I will use prototyping to understand technical constraints and reflect on whether new knowledge is required to understand the tools I employ. From this process, I can create final assets for lit and rendered sequences.

Section 3D: Refinement and Evaluation

Refinement and evaluation involve taking what is created in the second phase and executing it as a final artefact. This stage no longer requires exploration, instead it focuses on refining

and executing plans until the final CG film and VR project is created. Here, there is an opportunity to evaluate the research project and reflect on findings and significance. Peers and supervisors may assist in critiquing and finding improvements in the project. Their feedback would be insightful because their perspective is not my own.

Section 3E: Conclusion

Action Research, influenced by Pressman's Design Thinking, will aid my heuristic inquiry by establishing a methodology to reflect on living through the Covid-19 pandemic. It will help me define and communicate clear themes from my experience in my practice. The research methods mentioned will invoke critical, analytical, and creative reflection which will inform the development of the final artefact.

Chapter Four: Reflection on Practice

Section 4A: Introduction

In this chapter, I will be discussing the development of the [final artefact](#) and its outcomes. As this is a heuristic inquiry, technical approaches are accompanied by deep reflection – providing a critical commentary on the research process and its effects on the self.

Section 4B: Reflection

In the initial stages of research and ideation for this project, I wandered the streets of Auckland CBD with my camera. After the Covid-19 lockdowns I had moved to the suburbs, so I was re-exposing myself to the city. Buildings were shot from a worm’s-eye view, making subjects seem tall and imposing, positioning the city as a dominant force while I as the viewer felt small and powerless. Pallasmaa states that “all artistic effect and impact are based on the identification of the self with the experienced object.”⁵⁵ I identified with the buildings’ unfinished construction and weathering. These characteristics of fragility matched my own sentiments of alienation and a shattered mental space.



Figure 14. Spicer, J. (2022). *Remains of St. James Theatre*. [Photograph].

⁵⁵ Pallasmaa, *Encounters*, 130.

As I moved closer to Waitematā Harbour, I felt more freedom and a connection to the natural world. I was not surrounded by buildings, and I could watch the sunlight as it passed over the water. However, the concrete wharf brought back memories of being trapped within the confines of my apartment, longing to be relinquished from its grasp. I articulated my own feelings of anxiety with the contrast between closed and open space, man-made versus natural, darkness and light with Te Wheiao – a liminal space between Te Pō and Te Ao Mārama. I would do further creative exploration to see how this concept could link and potentially be expressed within my practice.

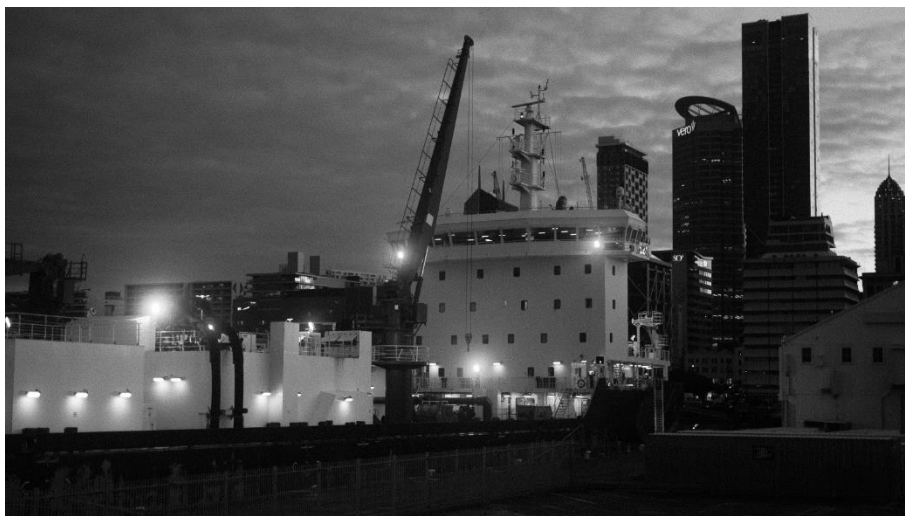


Figure 15. Spicer, J. (2022). *Waterfront*. [Photograph].

Self-reflexive prose aided in upheaving memories and reflecting on being locked inside my apartment. This method allowed me to analyse and understand why I felt the way I did. Reviewing past writing, it is clear the physical/architectural space I was in had a resounding influence on my mental health. I frequently mention feeling alone, trapped, and isolated. It is worth noting however that I did not live alone during the pandemic. McNiff states that:

The people with whom we live are often the ones whose presence arouses the least reaction from us. Although we are intimately accustomed to their expressions, we tend to be less aware of them. This unconsciousness often accounts for the ease of coexistence, but it has its shadow in a lack of appreciation.⁵⁶

⁵⁶ McNiff, *Trust the Process: An Artist's Guide to Letting Go*, 177.

I was supported enormously by my then-partner Oli Bixley who is a frequent collaborator in my creative work. Through conversations about our shared experience and themes drawn from my personal writing and photography, Oli made initial sketches and concept paintings. In my journal, I wrote:

In the darkness, there is a conscious stirring of being, a restless movement – an insomniac. I am in a space that is crushing, longing for freedom, there is an anxious push and pull as I battle my emotions. As dawn breaks, I begin to ruminate on my existence and once the sun has risen and the world is filled with light, I understand that there is a need for change. This cycle happens every day and every night but what is most important is the reflection and incorporation of steps to better my life.

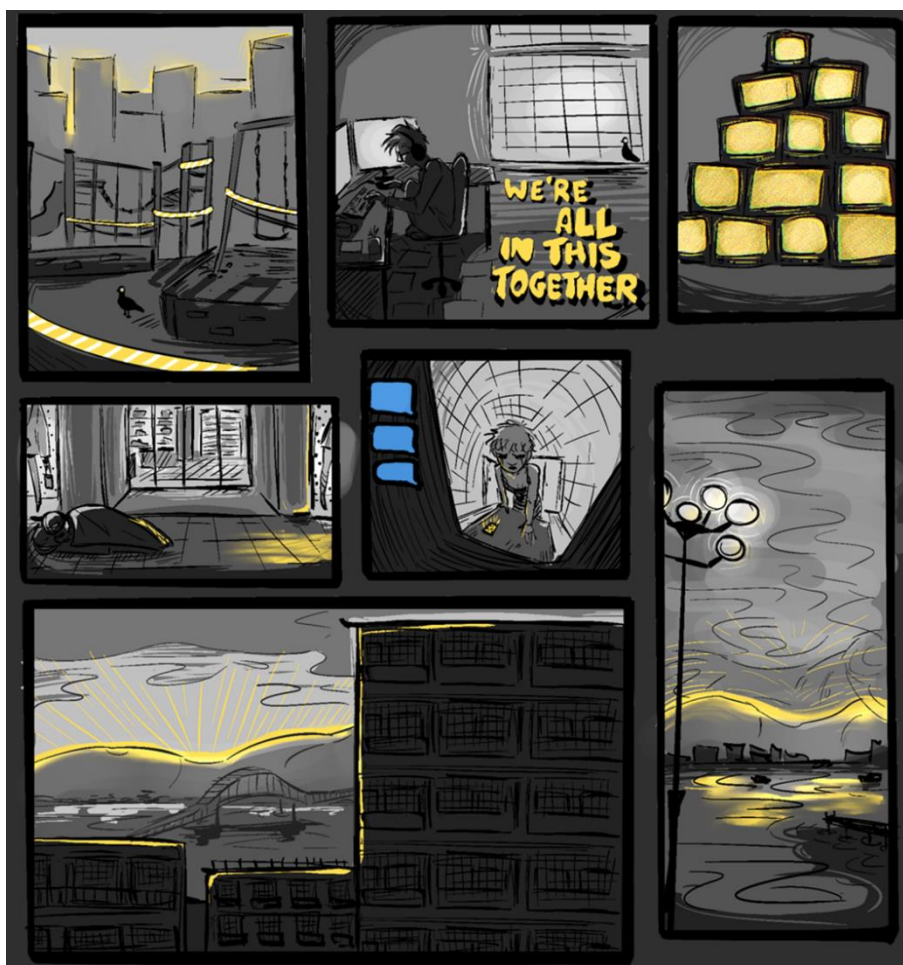


Figure 16. Bixley, O. (2022). *Initial Sketches*. [Digital Painting].

I recall during the COVID-19 pandemic, the city was wounded, left lying, bones exposed, brittle and broken with paused construction projects, graffiti and trash strewn across the streets. I too yearned for connection and empathy from others, but this slowly whittled away, and I lay emotionally crippled in the dark corner of my apartment.



Figure 17. Bixley, O. (2022). *Road Sign*. [Digital Painting].

For 107 days there was an insurmountable distance between friends and whānau – connected only by an artificial glow and disembodied echoes.



Figure 18. Bixley, O. (2022). *The Loft*. [Digital Painting].

Maintaining personal relationships became increasingly difficult as I crawled further back into my consciousness for comfort. Left alone with my thoughts, I felt like a bird in a cage unable to be let free and fly.



Figure 19. Bixley, O. (2022). *Inside*. [Digital Painting].

The apartment received no direct morning or afternoon light as it was between two buildings and there was no real visual indicator of time passing. This space was intensely liminal. I stayed up all night and slept all day because there was nowhere to go, no one to see, and no obligations to curb self-destructive behaviour.



Figure 20. Bixley, O. (2022). *Durham Street East*. [Digital Painting].

When I saw the golden-hour light paint the sides of buildings I felt the lingering presence of its warmth and although I struggled through those 107 days and the experience still lives with me, I now understand the need for staying in the world of light.



Figure 21. Bixley, O. (2022). *The Zest*. [Digital Painting].

Staying in this mentality, in the darkness, is not healthy and moving towards the light plays an important part in my catharsis.



Figure 22. Bixley, O. (2022). *Waterfront Light Pole*. [Digital Painting].

A motif that presented itself was the rising sun, juxtaposed with artificial light from phone screens and computer monitors. Sunlight brings me a sense of peace, its presence on objects giving an almost spiritual quality. I am often reminded of the separation of Ranginui and Papatūānuku and how that first light must have felt to their children. Artificial light presents the opposite effect, associating it with screen fatigue. Screens were used for university work, calls with family and updates from the government. We were in a constant state of exhaustion due to reduced mobility, eye strain and the higher cognitive load required to communicate.



Figure 23. Bixley, O. (2022). *Crane Reflection*. [Digital Painting].

From these sketches, I began crafting a script with the Māori creation narrative as a framework for the writing. In my eyes, the transition from darkness to the dawn light and into a new day (Te Pō, Te Wheiao, Te Ao Mārama) is filled with emotional resonance and has allusions to enlightenment. It followed characters who were living within Auckland CBD during the lockdown and reflected aspects of myself, such as being enveloped by the digital world, longing for emotional connection but ignoring those closest and being crippled by the space they occupy. The sequence moved from night into the early morning with the shift from artificial light to natural light exemplifying the importance of connecting with reality.

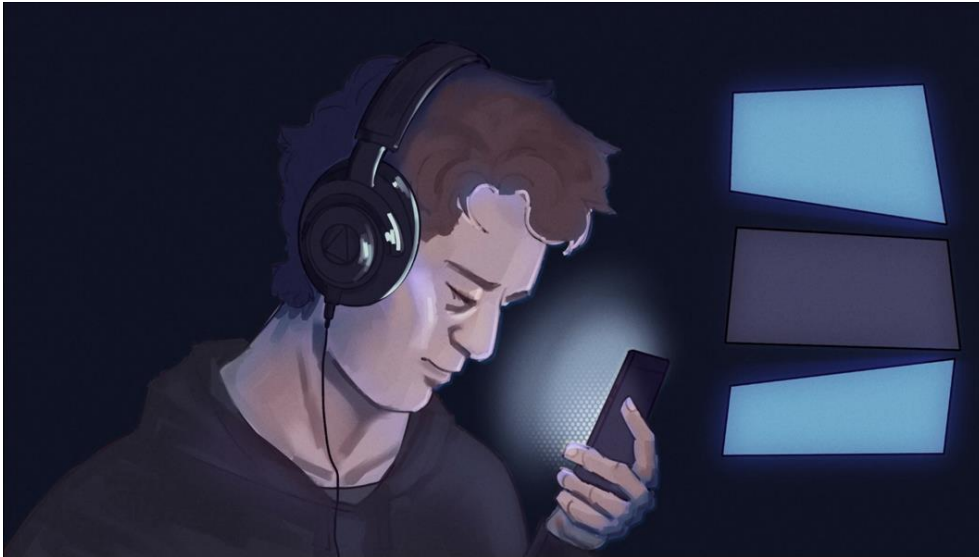


Figure 24. Bixley, O. (2022). *On the Phone*. [Digital Painting].

The script was visualised with storyboards to determine whether the themes presented themselves effectively in a sequence. Through multiple iterations and a strong focus on *mise-en-scène*, I could identify shots that validated my intentions, creating informed decisions on how to improve the visual identity which continued into the animatic. Scenes were composed in the dark with artificial light sources shaping the characters – using long focal lengths to create an enclosed feeling. Comparatively structures in the urban environment, also shaped by artificial light, are shot wider and framed at a low angle to emphasise their size and dominance. As the sequence progresses and the day breaks, sunlight falls onto the structures and eventually the characters. Upon reflection, I felt the characters were not needed in the final shots because the spaces they occupied produced a sense of loneliness and isolation irrespective of their presence. Pallasmaa states that “in the reality of emotive experience, that which is absent is as important as that which is present.”⁵⁷ Shifting focus and having viewers identify themselves with the architectural object may create a more impactful experience; the characters were therefore removed and the creation of the environments took priority.

⁵⁷ Pallasmaa, *Encounters*, 94.



Figure 26. Spicer, J. (2023). *Queen Street Bus Stop*. [Photograph].



Figure 27. Spicer, J. (2023). *Queen Street Bus Stop Photo Scan*. [Screenshot].

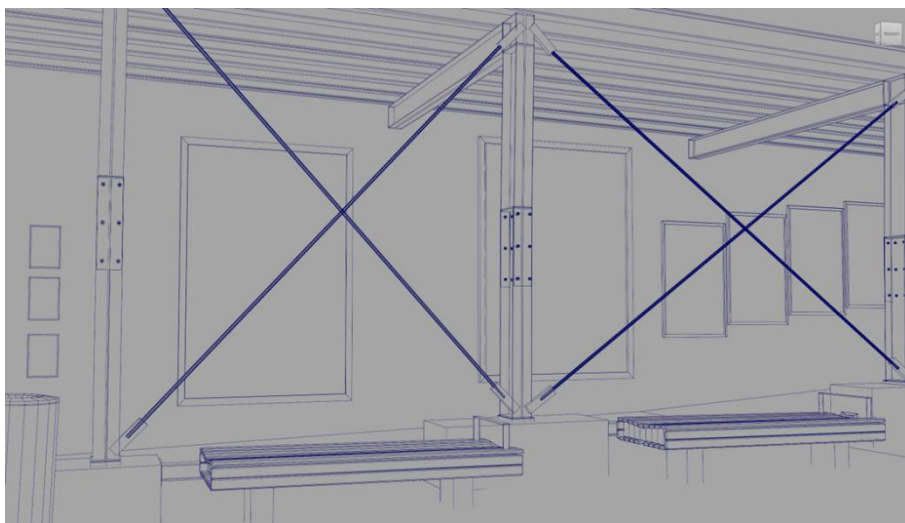


Figure 28. Spicer, J. (2023). *Queen Street Bus Stop Model*. [Screenshot].

As a technical method, photogrammetry allowed for a more intimate relationship with the subject. I could explore physical and textural details with greater nuance and continually engage with the space. Using orthographic and photo references made the modelling process feel more emotionally distant and inherently harder to achieve complete accuracy of the subject. However, the intention is not to necessarily recreate something exactly, nothing can ever be perfect, but to use these methods to approximate and let memory be the guide. These models represent a captured moment in time and, as it may be with any city, these spaces were graffitied, damaged or reworked days later. During the Covid-19 pandemic, they would have appeared slightly different as well.

In the case of my studio apartment, I lacked quality photos of the space. I could not physically revisit the apartment subsequently and relied upon mental recollections. Recreating this space was unique compared to the outdoor locations because of my strong emotional attachment. McNiff states that “spaces are forever acting on us and stimulating a creative range of expressions.”⁵⁸ Architecture is infused with trauma and through the process of making I am re-exposing myself to feelings I have long tried to forget. Upon reflection, I see why this apartment had such an effect on my mental health. The loft is where I resided to do university work, the ceiling in this area was so low I had to crouch when walking up there because I was too tall. The walls were bare white concrete, and no direct light entered this space, so it was very dim. The bed was below me and for many days I could not bring myself to get out of it and make my way up the stairs to work. As this was a studio, there was no real separation of life’s activities; eating, sleeping, working, and recreation all melded into one. The apartment’s design seemed to increase my sense of alienation, rather than offer a sense of home.

⁵⁸ McNiff, *Trust the Process: An Artist’s Guide to Letting Go*, 149.

After 3D modelling, I began texturing the objects. The process of texturing involves wrapping a 2D (two-dimensional) image around a 3D object and defining how light affects it. They are created by combining multiple elements such as colour, roughness, and normal image maps within a material. Parameters can be altered to make, for example, objects appear shinier, transparent, or emissive. The amount of sophistication and detail increases the level of realism, depending on the artist's intent. Pallasmaa believes that "abstraction and perfection transport us into the world of ideas whereas matter, weathering, and decay strengthen the experience of time, causality, and reality."⁵⁹ I followed a more realistic art direction, employing textures from Quixel Megascans which is a photogrammetry library with thousands of photorealistic 3D and 2D assets. These assets have life and history to them and as mentioned previously, ground the objects in a moment in time.

The models were imported into UE5, a game engine that uses real-time rendering which allows for the immediate rendering of 3D images and animations, making it ideal for VR and video games. Working inside this tool allows for exceptionally fast iterations, refining composition and lighting. Here I could focus on executing the final artefact. Zumthor states that you should "plan the building as a mass of shadow then, afterwards, to put in light as if it were hollowing out the darkness, as if the light were a new mass seeping in."⁶⁰ I took this notion into consideration when lighting my scenes, starting at night and deliberately placing strong points of light. As the virtual sun rises it spills over the environment, shifting the qualities of the materials and producing a sense of radiance as they react with one another.

⁵⁹ Pallasmaa, *Encounters*, 323.

⁶⁰ Zumthor, *Atmospheres: Architectural Environments, Surrounding Objects*, 56.

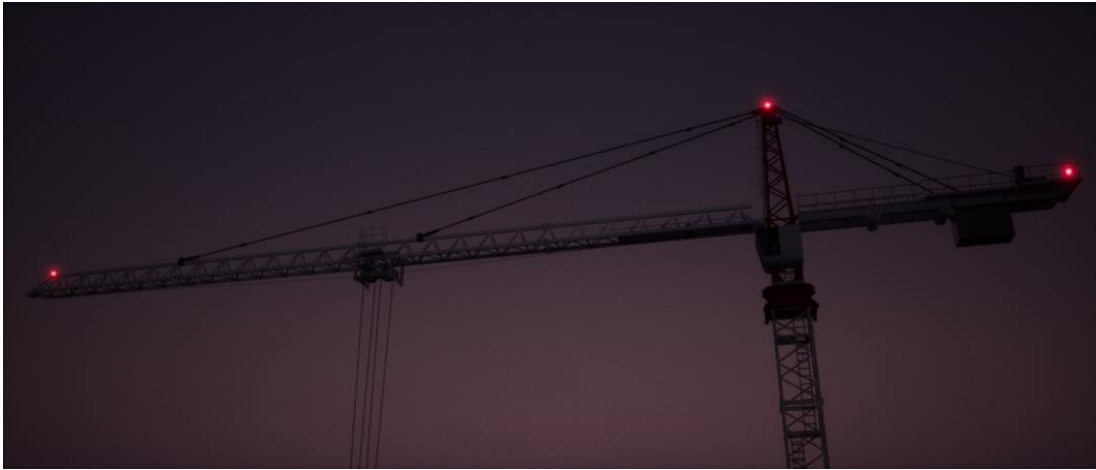


Figure 29. Spicer, J. (2023). *Crane*. [Screenshot].

Using my animatic as a reference, I set up virtual cameras and composed each scene in UE5's Sequencer, which allows me to compose shots in a multi-track editor. Here, I can create sequences, add tracks, and place keyframes to animate lights, objects, characters, and cameras. When animating the cameras, I emphasised slow, hand-held movement to allow the viewer time to take in the scene. Final shots were exported from the Movie Render Queue, Unreal Engine's inbuilt offline renderer. This allows me to create high-quality rendered images, in the same way film productions would produce their CG elements. The shots were cut together, and colour graded in Adobe Premiere Pro, a video editing software, to create the final sequence.

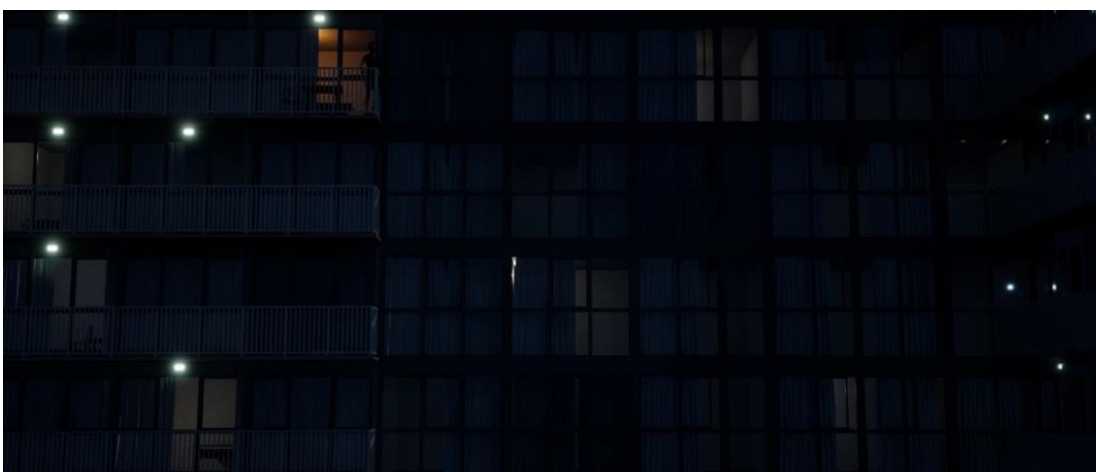


Figure 30. Spicer, J. (2023). *The Zest*. [Screenshot].

I created a soundscape for the animated film by blending and layering recordings from the [BBC Sound Effects Archive](#). I chose this approach over a traditional score because I did not want to distract the viewer with music but rather, immerse them in the world I had created. I used diegetic sounds such as wind, traffic, bird calls and electronic humming to expand the viewer's perception of what lies on and offscreen. The sparseness of the soundscape evokes a sense of loneliness as any sense of life is far in the distance.

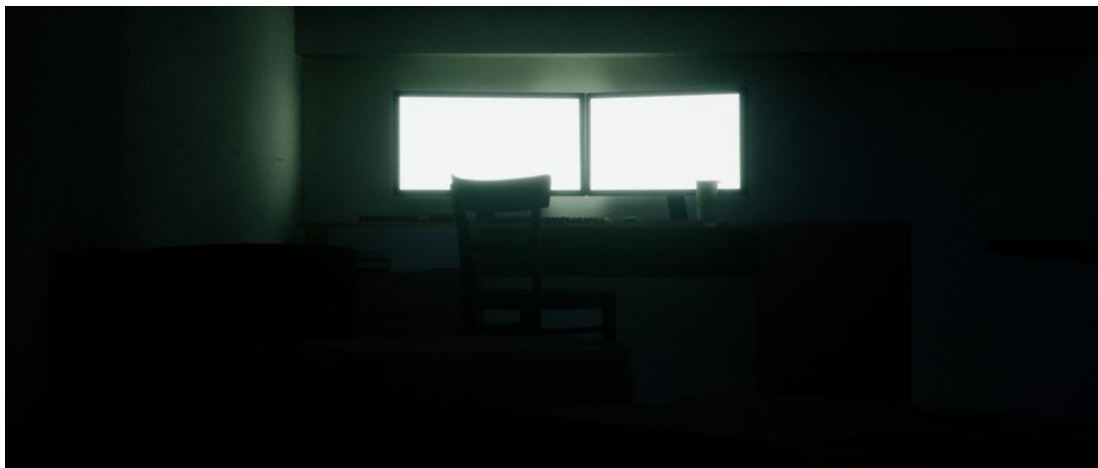


Figure 31. Spicer, J. (2023). *The Loft*. [Screenshot].

For the [VR experience](#), I used the Meta Quest headset, setting up the VR camera for a seated experience. I chose my studio apartment as the environment, optimising lighting to maintain a high framerate, as low framerates can cause simulation sickness which would break immersion. This experience was not interactive, rather it was a new way of viewing and existing in the space compared to the animated film. Pallasmaa states that “an emotional architectural impact is related with an act, not an object or visual or figural element. The phenomenology of architecture is founded on verbs rather than nouns.”⁶¹ Reliving the architecture in such proximity was very impactful for me because of the act of sitting and inhabiting the space. I had spent many hours sitting curled up on the floor of the loft and this VR experience brought back profound memories.

⁶¹ Pallasmaa, *Encounters*, 117.



Figure 32. Spicer, J. (2023). *VR Testing*. [Photograph].

Section 4C: Conclusion

In this chapter, I have discussed the development of the final artefact and its outcomes. I have explained the interrelationship between technical approaches and deep reflection which has provided a critical commentary on the research process and its effects on the self.

Conclusion

Te Wheiao is a creative exploration of my time through the Covid-19 pandemic. It has been contextualised alongside filmmakers, architects, writers, and theorists whose work deals with experience and storytelling. They have offered modes of thinking and making to better understand how we perceive both the world and the self. After undertaking this research, I have found the potential of artistic expression to unpack feelings held deep inside through my CG practice. This expression has allowed me to reflect on being locked inside, facing immense pressure and a lack of connection, and how to move forward.

As a heuristic inquiry, I must highlight the significance of this exploration's effects on the self. Creating work that revolves around past struggles proved to be difficult and many times I felt great distress as I recognised the tragic dimensions of time lost, relationships broken, and energy sapped. The development of objects in CG space was not simply an act of making but an act of therapy as I reflected on memories being reconstructed in front of my own eyes. I'm reminded of the whakataukī "he kokonga whare e kitea; he kokonga ngākau e kore e kitea" – the corners of a house may be seen and examined; not so the corners of the heart.⁶² I have felt deep catharsis and the project has provided me with a greater understanding of the self. I now prioritise my health and wellbeing more than ever.

Through this exploration, I have found the strength of the medium lies in its ability to consistently iterate and experiment. The practice is constantly evolving with new methods and technical breakthroughs occurring with every software update. Through trial and error, an artist can better understand their own thoughts and feelings and how to communicate this to the audience. By looking deep within the self at every stage of production, I have found

⁶² Elder, *Aroha: Māori Wisdom for a Contented Life Lived in Harmony with Our Planet*, 63.

the tools to enable the work to fully reflect my thoughts and feelings. The ability to adapt and tune every parameter of the project shows the potential of CG art for self-expression.

An artefact is indicative of an evolving practice. It can be changed infinitely and indefinitely until one believes it is complete. When looking at this work one can be self-critical in many ways – aesthetically, technically – however what is important is whether it can produce meaning for the viewer and the artist. I would have liked to add more detail and complexity to my work, such as exploring dynamic simulation or animation, but one can only do so much as a sole artist. I had never undertaken VR previously and through the outcomes of this research, I am intrigued by its design potential for self-reflexive inquiries, with the perceived benefits seen in my own introspection. I will continue to finalise the VR component in the future so that other people can participate in the experience.

At the beginning of this research, the projected outcome was to create a meaningful artefact which responds to the Covid-19 pandemic so that we can find commonality and connection through hardship. I have attempted to facilitate this through a medium that may connect with audiences on a personal level. However, the work is up to interpretation and is only a representation of my view on the subject. The hope is that someone may connect with the artefact and find catharsis. The aim is not to produce a definitive example of living through hardship but to express an experience of isolation and loneliness in CG. This exploration may produce thoughts about mental health and create a dialogue that can be extended to others, creating a clearer picture of how our surroundings can affect us and what that may look like to someone inhabiting them.

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