AT THE EDGE

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Abstract

New Zealand's long coastline plays an important role in our natural environment and established communities. In recent years, however, there has been enormous urban development and growth at the coastal edge, driven by increased population, growing wealth, and the desire to live by the sea. We are seeing dynamic environments collide with static developments, as contemporary architecture converges on universality – becoming *uniform*, *monotone*, *placeless*.

In response to this, the research seeks to enhance connection between people & place at the coastal edge, basing the research around the specificity of Wellington's South Coast, a dynamic environment undergoing significant urban growth.

The research is centred on an enactive approach, building on the idea of embodied cognition. This approach helps to shape design strategies and practices that are continually refined throughout the design process. The design research sets out to develop a strong understanding of the different factors that contribute to the South Coast's unique identity, using this to inform design decisions that further enrich identity of 'place.' At the same time, it investigates how architecture might engage with the dynamics present at site to both enhance and intensify the human experience.

The research allows design outcomes to emerge, refining the thinking throughout, allowing time to integrate new ideas and discoveries whilst making sure the objectives are addressed. The research ultimately leads to a proposed redevelopment of the Island Bay Marine Education Centre – a design response that negotiates its surroundings, allows for change, and enhances connection to 'place.'

This research begins to challenge the static and permanent norms of architecture, and it provides insight into processes & practices that designers and architects might use to create a deeper level of engagement.

Fig. 01. Photograph of Island Bay

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Problem Statement

With rapid growth and urbanisation, there is an increased pressure to develop and occupy New Zealand's coast. In turn, we are seeing naturally dynamic environments collide with static developments, as contemporary architecture converges on universality – becoming uniform, monotone, placeless. Not only does this highlight a clear 'disconnect' between architecture and place, it also threatens to weaken the very connection formed between architecture and its inhabitants.

- x* To what extent can ‘*sense of place*’ and ‘*identity*’ be enhanced by employing an enactive architectural approach early in the design process?
- x* And what is the role of ‘*site-specificity*’ in such process?

Research Proposition

This research seeks to strengthen the connection between people & place, through an architectural response that helps negotiate a dynamic coastal environment and developing urban context. The method taken will demonstrate both a poetic & pragmatic approach to design, whereby abstracted ideas of ‘embodiment’ and ‘time’ will be tested against more tangible factors relating to coastal change and coastal development.

These terms, as defined, are drawn from the works of key theorists, and the author's own interpretation.

Refer to chapter 02 for further discussion.

The term 'sense of place' derives from the multiple ways in which place functions to provide a sense of belonging, to construct meaning, foster attachment, and mediate change. It is the lens through which people experience and make meaning of their experiences in and with place.

Identity is a broad concept. Aspects of identity linked to place can be described as 'place identity' – which refers to the distinctiveness of a place. The role of the defining characteristics mean that the generally agreed upon distinct identity of a place can be more literally perceived.

Site-specificity refers to the defining character of a place, and is used to emphasise the contextual quality. In this context, site-specificity can be broken into three parts; which include the physical elements of a site, the historical components, and the interactions that take place.

An enactive architectural approach has been proposed as a process that builds on the idea of embodied cognition (gaining understanding through thought, experience, and the senses) by actively seeking out information about the environment – be it physical or social.

Principal Aim

- x *The principal aim is to explore an architectural language and method of designing that strengthens the connection between people and place, basing the research around the specificity of Wellington's South Coast.*
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Research Objectives

- x *To develop an understanding of the tangible / intangible factors that contribute to Wellington South Coasts unique identity, using this to inform design decisions that further enrich identity of 'place.'*
- x *To investigate how architecture might engage with the site dynamics – to enhance and intensify human experience.*
- x *To explore themes of 'embodiment' and 'time' as designable constructs, and to contribute to the architectural discourse within this sphere.*

Scope of Research

The scope of this research has been limited to a selected section of Wellington's South Coast. The final programme, a renewed Marine Education Centre, establishes the scale and specific location for the design outcome. The research uses this programme as a vehicle for *speculative design*.

The research predominantly focuses on the architectural language and method of design. The experiments explore an aesthetic/architectural language that is both visual and spatial. This research does not cover all of the technical and practical dimensions, but these are not required to support the chosen line of inquiry. The final resolution of these gaps would not strengthen the overall research. The structure has been designed to a point where it meets the research needs – enabling exploration and development of design thinking that relates to enactive process and an enhanced 'sense of place' and 'identity.' It has not been resolved from a structural perspective and would require input from a structural engineer and further development. Additionally, the costs associated with the proposed outcome have not been considered. Coastal management strategies have not been considered at a detailed level, just to a point where they have facilitated the research. The research does not set out to make accurate scientific insights through measuring environmental change, but rather focuses on the ways that this might promote engagement between people, place & architecture.

Research Methodology

The research follows a design-led methodology, which is undertaken through a highly iterative process.

Initial research begins with in-depth site analysis and a theoretical review. The scope of the site analysis is limited to Wellington's South Coast, with a specific focus on Island Bay. The literature review determines & compares relevant theory and case studies, establishing existing strategies and principles that can be tested through design experimentation. The research is focused on three theoretical lenses; *place & identity*, *embodiment*, and *time*.

The design phases are predominantly analogue based and exhibit a strong focus on art thinking, installation work, model making, and drawing. Driven by the opportunities and challenges of a dynamic site, the method taken employs both intuitive responses & rational considerations. Design strategies are tested at different scales, using macro and micro small scale experimentation as a means to better understand how people engage with space in the context of the site – extracting the findings and applying them to revised testing strategies and developed design(s). Three sequential design stages have been outlined, providing sufficient structure with room for regular reflection and ongoing dialogue. This facilitates the exploration of new ideas and discoveries & refinement of design thinking and application.

Fig. 03. Research Methodology Diagram

01

Introduction

01.1 New Zealand

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Introduction

This section of the written exegesis details the contextual background and motivations for this research. Whilst the primary focus is on a site-specific response to Wellington's South Coast, the reasoning and driving motivation extends to many of New Zealand's dynamic coastal environments.

In looking at the site and context, the approach taken has been to start wide at New Zealand and regional level, and then to narrow the focus to the area and site.

Fig. 04. Photograph of South Coast

01.1 New Zealand

01.1.1 A Wider Context

There is an inherent relationship between the people of New Zealand and the coast. With approximately 65% of the population living within 5 kilometres of the sea, New Zealand's long narrow coastline plays an important role in both our natural environment and established communities (Stats NZ, 2006).

Māori beliefs emphasise this connection, drawing from a more spiritual relationship with land and sea. The sea is not only a resource but also central to identity and whakapapa (DOC, n.d.). In Māori culture, many tribes are said to “consider water as a source or foundation of all life” (Royal, 2006). This is reflected in traditions that speak of te taha wairua, translated as ‘the spiritual plane (of existence).’

With so much of the country linked to the coastal edge, architects and designers need to acknowledge the challenges this presents for existing and future development;

- x *Climate change is one dimension that poses a serious threat to New Zealand's coastal townships. In areas that experience often abrupt and rapid change - storm surges and sea-level rise are expected to cause tides to rise, land to erode, and shorelines to shift over time (Mitchell, 2018).*
- x *There is increasing pressure to develop the shoreline - highlighting a wider issue of when urbanisation and ill-placed development meet the coastal edge (MFE, 2001).*

01.2 The Coastline

01.2.1 Anchoring Place

In response to the challenges as mentioned, this research explores the design possibilities that lie within the context of Wellington's South Coast – home to one of New Zealand's most exposed coastlines. The South Coast area is highly dynamic, impacted by strong tidal currents from the Cook Strait and large swells from the Southern Ocean (NIWA, n.d.). Rich in history and character, the South Coast forms an integral part of Wellington's identity.

The research focuses the on ways that future growth can reinforce the distinctive characteristics of the South Coast, whilst allowing for sufficient change and adaptation over time.

01.2.2 History of Place

It is well recognised that “iwi have a long history associated with the South Coast” (WCC, 2002, p. 36). Iwi associated with the researched area includes Te Atiawa and Ngati Toa, the current day tangata whenua, as well as Ngati Mamoe, Ngai Tara, Ngati Ira, and Rangitane (WCC, 2002).

Several pa sites can be found along the coast, including Rangitatau Pa, the canoe landing site in Tarakena Bay, Oruaiti Pa on the site that is now known as Fort Dorset, and the Ngati Mamoe pa at Te Rimurapa (WCC, 2002). Over the years, however, many sites of cultural significance have been severely degraded. Few traces remain of early settlement areas, urupa, or oven sites. Though they might not be visible to the eye, these sites hold deep spiritual significance to local iwi (WCC, 2002).

In 1855 a magnitude 8.2 earthquake hit the southern part of the North Island – the most powerful earthquake to be ever recorded in New Zealand (McSaveney, 2006). The coastline, in places, was raised 1.5 metres, permanently altering the landscape of the Wellington region and affecting its subsequent urban development (WCC, n.d.). Along the south coast, the uplift is said to have “manifested itself as a stranded beach and a raised rock platform” (Grapes, 2000).

Te Rimurapa headland (Sinclair Head) was classified as Maori Reserve and an early settlement site (WCC, 2002). The headland was occupied by the military during World War II, and the derelict remains of what was formerly an observation post are still evident today (WCC, 2002).

Since the 1900s, the once isolated coastline has transitioned from a holiday location to one of urban living (WCC, 2002). Many parts of the coast have experienced significant development, including Breaker Bay, Owhiro Bay, and Island Bay. The coastal edge has, in many ways, evolved from a natural state to a more managed one - now contained and influenced by seawalls, roads, and buildings. Despite this, it is still considered by many to be one of the more “organic” coastlines (WCC, 2002).

01.2.3 A Dynamic Coastline

Wellington's South Coast is dynamic and distinctive. It sits at the confluence of three oceanic currents, in an area that experiences often abrupt and rapid change ("South Coast," 2015).

Wellington has a reputation for being one of the windiest places in New Zealand. It is known for the "powerful gusts that rifle through the Cook Strait, the body of water that divides the North and South Islands" (Todras-Whitehill, 2011). North-westerly winds prevail in spring and summer, alternating with harsh southerlies during the winter.

The Wellington region is comprised of greywacke – "a sedimentary rock laid down about 200 million years ago as sands and muds settled at the bottom of deep oceanic troughs" ("South Coast," 2015). Greywacke rock forms are exposed across Wellington's South Coast, revealing traces of age and distinct layers of history.

Waves along the coast cause land and rock to erode with time - continually 'sculpting' and reshaping the shoreline. Waves are influenced by the deep oceanic swells brought in from southerly storms, intensified by the narrowing of the Cook Strait deeps, shallows, and landforms. Such forces are "expected to increase with climate change and sea-level rise" ("South Coast," 2015).

Fig. 07. Photographs of Wellingtons South Coast

Fig. 08. Photograph of Owhiro Bay

Fig. 09. Selected Area of Focus

Fig. 10. Selected Area of Focus

Fig. 11. Site Section 01

Fig. 12. Site Section 02

Fig. 13. Site Section 03

01.2.4 A Shifting Landscape

“New Zealand has a coast that is dynamic, with shorelines that are constantly shifting as a result of changing sediment supply, wave attack, gradual changes in sea level associated with climate change, tectonic movements, and local factors including human intervention” (Blackett, 2010).

The following images help to tell a story of what sea-level rise might look like in the distant future. This visual tool, as provided by Wellington City Council, identifies areas most at risk from extreme sea-level rise due to climate change. Current predictions of sea-level rise in the region are for a 1.0 metre rise over the next 100 years (WCC, 2014).

Fig. 14. Predicted Sea-Level Rise: 1m

Fig. 15. Predicted Sea-Level Rise: 2m

Fig. 16. Predicted Sea-Level Rise: 3m

The future is not someplace we are going, but one we are creating. The paths are not to be found but made. And the activity of making them changes both the maker ... and the destination.

– John H. Schaar, 1981, p. 321

Fig. 17. Shoreline

Fig. 18. Topography

Fig. 19. Building Footprints

Image Redacted

Fig. 20. 2020; Swells Flooded the Area

01.2.5 Occupying the Edge

Development on Wellington's South Coast is impacted by the dynamic influence of its surroundings, and with this comes a unique set of risks and challenges. Where coastal development uses and activities are not compatible, this can result in the sudden loss of property, loss of public values, and unwanted damage to infrastructure (MFE, 2017).

Recent events highlight the risks. In April 2020, the New Zealand Herald reported that "massive waves have caused havoc on Wellington's South Coast" (Nightingale, 2020). The article went on to say that "homes have been evacuated and the public are warned to stay away as large swells crash over the road and footpaths" (Nightingale, 2020).

Wellington City Council recognises such risks within their design guidelines, requiring that "the design of structures proposed for the coastal edge take into consideration the potential for the sea level to rise" (WCC, 2002, p. 46). And that new structures "should be directed at enhancing coastal character" – to be seen as an extension of the character of the immediate area, rather than an intrusion into it (WCC, 2002, p. 46).

01.2.6 Taputeranga Marine Reserve

Taputeranga Marine Reserve occupies a critical section of Wellington's South Coast, situated between Lyall Bay and Te Kopahou Reserve to the west of Ōwhiro Bay (DOC, 2020). Established in August of 2008, the 854 hectares of marine habitat lies in the confluence of three oceanic currents that shape the exposed shoreline and bring a rich mix of plants and animals together (DOC, n.d.) The marine reserve is host to Victoria University's Coastal Ecology Lab and Island Bay's Marine Education Centre - uniting people through education and management.

Living in Wellington means living with the sea ... and the changing moods of the Cook Strait inspire us and shape our lifestyles.

– Marine Reserve Application Document, 2000, p. 2.

Fig. 21. Photograph of South Coast

- 1987 *Idea proposed by DOC*
- 1991 *Forest and Bird starts a group to work on a marine reserve application*
- 1993 *Consultation with tangata whenua begins (until 2000)*
- 1994 *South Coast Marine Reserve Coalition formed to advocate for a marine reserve*
- 1995 *Consultation with fishers, businesses, local authorities, and many others (until 1999)*
- 2000 *Formal application lodged*
- 2002 *Ministers of Conservation and transport accept the application*
- 2006 *Officially announced*
- 2008 *Taputeranga Marine Reserve created (gazetted 31st July) and opened*

Fig. 22. Selected Area of Focus

Fig. 23. Photograph of Tapu te Ranga Island

01.3 The Area

01.3.1 Island Bay: Introduction

Island Bay, measuring 700 metres in length and situated 5 kilometres south of the city centre, is the selected focus for the research, as an area that presents significant opportunity to enhance ‘*sense of place*’ and ‘*identity*.’ Wellington City Council supports future development in this area, provided that the coastal character be maintained and a “minimum impact approach” be adopted (2002, p. 52).

01.3.2 Island Bay: Historical Context

The suburb's name originates from Tapu te Ranga – the island just offshore which dominates the bay (Maclean, 2007). The island was once an important pā site, but now lies uninhabited. Tapu te Ranga holds great cultural significance, and is said to be Patawa – “a point from which the legendary Maori chief Kupe sighted the giant octopus Te Wheke-a-Muturangi” (“Island Bay United”, n.d.). In pre-European times Island Bay was home to several pa, and a succession of iwi occupied the area, including Ngai Tara and Ngati Ira (WCC, 2002).

In the late 18th century, Island Bay was settled by Italian and Shetlander fishermen. The hills provide shelter from behind, and the island offers some protection from the south, making it an ideal location, and a fishing community emerged. In 1905, Wellington's tramline was extended to Island Bay, “increasing the area's popularity and steadily transforming it into a seaside suburb” (“Island Bay United”, n.d.).

Early photographs show how the development of the Island Bay township has significantly altered the beach from its ‘natural state’ (Spence, 2009). The beach originally comprised a dune system that was extensively covered in native sand binding grasses. However, as development progressed through the 20th century the dune system was largely removed (Spence, 2009). In November of 1937, the Island Bay sea wall was constructed - creating a concrete divide between land and water (WCC, 2015).

Fig. 24. *Historic Photograph of Island Bay 1900*

Fig. 25. *Historic Photograph of Island Bay 1900*

Fig. 26. *Historic Photograph of Island Bay 1912*

Fig. 27. Photograph of Island Bay

01.4 The Site

01.4.1 Island Bay: Site Description

Island Bay now has a population of approximately 7000 people and has been identified by the Wellington City Council as an area undergoing “significant urban growth” (WCC, 2013, p. 55). The embayment is orientated south to southeast and exposed to wave energy generated from the Cook Strait, although is partially protected by Tapu te Ranga Island (WCC, 2014). As noted above, the natural qualities associated with the beach zone have been compromised due to coastal development (Spence, 2009). In recent years, native vegetation has been replanted along the western end of the beach (Spence, 2009). Dense plantings of pingao (Pikao) (*Desmoschoenus spiralis*) and spinifex (Kowhangatara) (*Spinifex sericeus*) on the foredune face are “vigorous and expanding” (Spence, 2009, p. 8).

Fig. 28. Photo Montage

+

Fig. 29. Photograph of Island Bay – Bait House

01.4.2 Existing Coastal Structures

Structures are located at numerous points along the coast, many of which add to the set of factors that determine the overall character of the coast. There are two prominent structures located along Island Bay's edge; the Island Bay Surf Club and the Island Bay Bait House.

Fig. 30. Island Bay Surf Club

Fig. 31. Island Bay Surf Club

Island Bay Surf Club

The former surf club building is located within the active foredune zone. Although no longer a surf club, the building remains a public facility – used primarily as the main meeting, function, or exhibition space for the Island Bay Marine Education Centre. In high seas and storms, water inundates the dune areas around the building (Spence, 2009). In the past, this has resulted in damage to the structure and has meant that the building is not always open or safe for public use.

Fig. 32. Island Bay Bait House

Fig. 33. Island Bay Bait House

Island Bay Bait House

The Bait House is considered by many to be “an icon of Island Bay” (WCC, 2002). Built in 1949, the solid metal structure was originally built as a place to store bait for the fishing fleet that moored in the bay. It is sited on land that was later reclassified as a recreation reserve. The building now operates as the Bait House Aquarium and houses a diverse collection of marine life. Inside, visitors have the opportunity to see, learn about, and have up-close encounters with a variety of marine animals and plants.

The research undertaken here provides a useful context for design consideration, highlighting the opportunity and some of the challenges associated with urban development in Island Bay – a dynamic coastal environment. A coastal threshold is a place of immersion and time, and this research centres around the articulation of such experiences.

02

Introduction

02.1 Place, Identity, Architecture

02.1.1 A Review

02.1.2 A Case Study

02.1.3 Critical Insights

02.2 The Embodied Experience

02.2.1 A Review

02.2.2 A Case Study

02.2.3 Critical Insights

02.3 The Notion of Time

02.3.1 A Review

02.3.2 A Case Study

02.3.3 Critical Insights

Conclusion

Introduction

The literature and precedent review aims to establish how the proposed research fits in with the existing body of knowledge through critical evaluation and comparison of relevant theory, text, and architectural works. Gaining a deeper understanding of these theoretical concepts enables key principles to be tested and explored through a process of design experimentation.

This section of the exegesis will therefore follow a three-part structure;

Place, Identity, Architecture

A Review

A Case Study

Critical Insights

The Embodied Experience

A Review

A Case Study

Critical Insights

The Notion of Time

A Review

A Case Study

Critical Insights

02.1 Place, Identity, Architecture

02.1.1 Theoretical Review

The research comes as a response to placelessness – specifically when ill-placed development meets the coastal edge. In response to such concerns, the concepts of ‘sense of place’, ‘place-identity’, and ‘critical regionalism’ will be discussed. The aim here is to decipher these theories in which the research is centred on – determining what they mean, why they are of significance, and how they can be applied and utilised in a design sense.

For John Agnew, the noted theorist and political geographer, ‘sense of place’ can be understood in terms of the subjective and emotional attachments people have to place (Convery, Corsane, Davis, 2012). Place cannot be narrowed by any one definition but must instead be understood as a structure – that comprises of “spatiality and temporality, subjectivity and objectivity, self and other” (Malpas, 1999, p. 11). The term derives from the multiple ways in which place functions to provide a deep sense of belonging, construct meaning, foster attachments, and mediate change. It is the “lens through which people experience and make meaning of their experiences in and with place” (Adams, 2013). In a developing urban context, sense of place is said to “echo the intersections of culture, environment, history, and is impacted by global mobility, migration, and blurred boundaries between the natural and built environment” (Agnew, 2011).

According to Castello (2016), sense of place can be designed for by employing stimuli perceived previously as the most striking in the space where the design is to be developed, using the components of environmental structure – natural, cultural, material, or immaterial. Castello argues that it is also possible to use the tactic of stimulating a certain perception, “intentionally introducing new elements which will integrate and be integrated into the planned environmental structure” (2016, p. 20). Two dimensions of the related perceptual phenomena can be distinguished: from perceived stimuli; and from stimulated perception.

The concept of identity is multi-layered, and all identity theories are not necessarily mutually exclusive. Identity could be described as the distinguishing character or personality of a specific individual – linked to particular aspects of self-definition. Casey suggests that “there is no place without self and no self without place,” arguing “identity is created both internally in the mind, and through the body’s interaction with the outside world” (2001, p. 406).

The aspects of identity linked to place can be described as ‘place-identity,’ said to be the individual’s incorporation of place into the larger concept of self – the “memories, conceptions, interpretations, ideas, and related feelings about specific physical settings” (Proshansky, Fabian & Kaminoff, 1983, p. 60). In an architectural sense, place-identity can be understood as the sum of specific material components and features, which in turn helps to create non-material symbolic meanings – perceived collectively by groups of inhabitants and users (Wennberg, 2015). The existence and role of such components allow the identity of a place to be more literally perceived. Although this has the potential to be interpreted in many different ways, what is clear is that place-identity is a dynamic construct that can evolve and can be shaped over time.

Critical regionalism is one design approach that can be used to establish renewed connection to place whilst still complying with contemporary needs. The theory is centred on the interplay between built form and regional values, based on a dialectical relationship with nature (Frampton, 1983). Critical regionalism emerged as a design approach during the early 1980s. For leading theorists such as Kenneth Frampton, critical regionalism is considered to be an architecture of resistance, said to “mediate the impact of universal

civilisation with elements derived indirectly from the peculiarities of a particular place” (Frampton, 1983, p. 21). Frampton’s intention is not to isolate the local, but rather to engage the critical rebuilding of place – a critical regionalism. This approach permits connections in time and space between the individual and wider patterns of history and culture. Frampton draws on phenomenology for his argument, suggesting that critical regionalism is a concept where the body as a whole is seen as being essential to the manner in which place is experienced (1983).

In his writing, 'Towards a Critical Regionalism: Six Points for an Architecture of Resistance,' Frampton outlines a conceptual framework for establishing good regional practice. Each of his points addresses specific issues that relate to the concept of creating place under contemporary circumstances. For this research, there is particular attention given to points 5. Culture Versus Nature and 6. The Visual Verses the Tactile.

Culture vs. Nature; Critical regionalism should consider the relationship with the site. Frampton writes, "the bulldozing of an irregular topography into a flat site is clearly a technocratic gesture which inspires to a condition of absolute placelessness, whereas the terracing of the same site to receive the stepped form of a building is an engagement in the act of 'cultivating' the site" (1983, p. 26).

The Visual vs. the Tactile; Frampton stresses the importance of tactile design, stating "the tactile resilience of the place-form and the capacity of the body to read the environment in terms other than those of sight alone suggest a potential strategy for resisting the domination of universal technology" (1983, p. 28).

At a strategic level, critical regionalism can be understood in terms of the relationship between built form and the physical environment, cultural context, and the subjective perception. Critical regionalism thus becomes a tool for recognising and revealing place-defining elements – used to strengthen regional identity and enhance sense of place.

02.1.2 Place, Identity, Architecture: A Case Study

Tudela-Culip Restoration Project

EMF + Ardevol

Cadaqués, Spain

2010

The Tudela-Culip Restoration Project showcases landscape-driven design. It identifies, unveils, and transforms the site – revealing and celebrating ‘the real’ landscape and its specificities. This project aligns with Frampton’s theory of critical regionalism. (McDougall, 2013).

In 1961, on the eastern tip of the Iberia Peninsula, Cap de Creus cape, Club Med constructed a private holiday village with 430 buildings to receive up to 900 visitors 3 months a year. It was considered to be “one of the most notorious examples of modern movement settlement on the Mediterranean coast” (EMF, 2011). With the rise of ecological consciousness, Cap de Creus was later declared a Natural Park. The cape, including Club Med surroundings, was provided the highest level of land protection because of its outstanding geological and botanical values (EMF, 2011).

Image Redacted

Fig. 34. *Tudela-Culip Restoration Project*

In the summer of 2003, Club Med was closed for good. Then between 2008 and 2010, Club Med was ‘deconstructed’ - its ecological dynamics revived and a network of paths and viewpoints ‘remade’ for its ‘rediscovery’. The project involved in-depth site analysis and precise on-site cartography making (McDougall, 2013). Over a 5 year period, the designers walked more than 200km on site, took and studied more than 15,000 images, and engaged upwards of 50 specialists in different fields related to nature restoration (McDougall, 2013).

A strong minimalist approach was taken to the construction, reducing total materials on-site and using only a few consistent construction details repeated throughout. Corten steel was incorporated for landscape integration and its resistance to sea exposure. An overall ‘robustness’ for a landscape that accepts little domesticities - “the work distils and enhances the consubstantial values of the site” (EMF, 2011).

The theoretical elements related to '*sense of place*' and '*identity*' provide foundation principles for the design investigation.

The critical regionalism framework can be applied more directly, providing a structure to develop and evaluate different aspects of design.

02.2 The Embodied Experience

02.2.1 Theoretical Review

I am not in space & time, nor do I conceive space and time; I belong to them, my body combines with them and includes them.

– Maurice Merleau-Ponty
Phenomenology of Perception, 1962, p. 162

A phenomenological approach actively promotes the integration of sensory perception as a function of built form. Maurice Merleau-Ponty is one of the leading theorists on phenomenology, defining the theory as the study of the conscious experience as experienced from the first-person or subjective point of view (Merleau-Ponty, 1962). Merleau-Ponty discusses the foundational role perception plays in understanding, engaging, and experiencing the world – arguing that the body is the centre of perceptions and medium of consciousness, believing our body to be “our anchorage in the world” (1962, p. 144).

An enactive-based understanding of architectural experience corresponds to the phenomenological background in architectural theory (Jelić, 2016). More specifically, an enactive understanding of architectural experience emphasises the situated nature of perceptual experience (Jelić, 2016). The body thus has a fundamental role in constituting the way people enact and understand the world. It is the body itself that acts as a vehicle for sense-

making. Such ideas resonate in some way with Juhani Pallasmaa, Peter Zumthor & Steven Holl.

Pallasmaa suggests that “architecture is the art of reconciliation between ourselves and the natural world, and this mediation takes place through the senses” (1996, p. 72). His approach to design is largely centred on a deep understanding and appreciation of sensory perception – “every touching experience of architecture is multi-sensory; qualities of space, matter, and scale are measured equally by the eye, ear, nose, skin, tongue, skeleton, and muscle” (Pallasmaa, 1996, p. 41). He believes that architecture strengthens the existential experience, which is said to be “a strengthened experience of self” (1996, p. 41). This theory speaks to the importance of an all-sensory experience in providing inhabitants with a greater awareness of their surroundings, placing emphasis on the senses as a determining factor in connecting people with place.

'Thinking Architecture', a compilation of essays written by Zumthor, offers critical insight into a phenomenological-based philosophy. Zumthor speaks to the importance of architecture in relation to place, writing "I believe that the question of architecture is not a question of a specific style. Every building is built for a specific use in a specific place for a specific society" (2010, p. 27). It is his belief that architecture should be "grounded by its place, to belong to the landscape" (Zumthor, 2010, p. 17). In doing so, he actively explores the tensions between interior and exterior - creating thresholds, crossings, transition spaces. In this way, Zumthor considers movement to be extremely powerful, suggesting the way that architecture involves movement be like a 'temporal art' (2010).

This thinking aligns strongly with that of Holl, "architecture, with its silent spatiality and tactile materiality, can reintroduce essential, intrinsic meanings and values to human experience" (Holl, 1996, p. 11). Phenomenology, in dealing with questions of perception, encourages the user to experience architecture by walking through it, touching it, and listening to it. Materiality plays an important role in this, stimulating senses beyond acute sight towards tactility. In the perception of details, colours, and textures, psychological and physiological phenomena intertwine (Holl, 1996). Holl's philosophy connects the arts with

the human condition. He promotes architecture apropos art – the expressive link and interpretation of painting, sculpture, music, and poetry in architectural works (Holl, 2019). Holl is also equally concerned with the relationship between architecture and landscape, writing "architecture does not so much intrude on the landscape as it serves to explain it. Architecture and site should have an experiential connection, a metaphysical link, a poetic link" (Holl, 1989).

02.2.2 The Embodied Experience: A Case Study

Steilneset Memorial

Peter Zumthor + Louise Bourgeois

Vardø, Norway

2011

In the seventeenth century, a series of witch trials occurred in Norway, of which the Vardø witch trials were among the worst. More than one hundred people were tried for witchcraft, with a total of 77 women and 14 men being burned at the stake (Gardiner, 2018). The trials peaked between the years of 1662-1663, and the memorial was built some 348 years later to commemorate those who were executed (Gardiner, 2018).

The memorial stands as a set of two physical structures – ‘a line and a dot’. One structure (the line) was designed entirely by Zumthor and the second (the dot) an installation by the late Louise Bourgeois (1911-2010) (Gardiner, 2018). The ‘line’ consists of sixty regimented timber frames supporting a tensile membrane cocoon. This tectonic overlap between repetitive vertical structure and suspended fabric creates a powerful moment of rhythmic intensity. The ‘dot’ stands in stark contrast to its companion. Its square exterior shell is constructed from weathering steel and 17 panels of tinted glass, forming walls that stop just short of the ceiling and floor. The glass room structure contains the work of Bourgeois – an endless flame burning a steel chair, nested within a hollow concrete cone (Gardiner, 2018).

Image Redacted

Fig. 35. *Photograph of Steilneset Memorial*

The memorial emerges from the landscape as a pair of ultra-modern constructions. It stands out against the natural environment yet doesn't seem out of place, said to "share a brutal kinship with the vistas" ("Steilneset Memorial," 2015).

02.2.3 Critical Insights

Significance of Research

This section looked to evaluate relevant theorists and theoretical concepts relating to the embodied experience. The research surfaced the following key theorists; Merleau-Ponty, Pallasmaa, Zumthor, and Holl.

These considerations and practices will be taken forward to the next phase of exploration.

Phenomenology promotes the integration of sensory perception as a function of built form. Perception plays an important role in understanding, engaging, and experiencing the world. Enactivism has strong ties to phenomenology, and an enactive understanding of architectural experience places equal emphasis on the situated nature of perceptual experience. Each of these theories act as a vehicle for participatory sense-making. In architectural practice, phenomenology can be approached by considering the following contributing factors:

x designing for an all sensory experience

x exploring tensions between interior/exterior

x involving movement + threshold conditions

x placing emphasis on materiality

x connecting the arts with the human condition

x strong relationship with the natural environment

02.3 The Notion of Time

02.3.1 Theoretical Review

Time and place must follow one another. Time in itself is a material.

– Sverre Fehn (*Fehn and Per Olaf Field*), 1983

Time is inseparably connected with built space. A discussion of architectural permanence begins with the recognition that it is not a dichotomy. Nothing is permanent or impermanent per se, but rather everything exists at varying stages of impermanence, reflecting Hiroshi Ota's idea that design is just a moment within a continual state of material flow (Long, 2016). In the context of this research, the concept of time is to be considered in relation to flux – a condition or state in constant change.

Architecture enables inhabitants to perceive and understand the dialects of permanence and change, to register oneself in the continuum of culture and time. In memorable and powerful experiences of architecture, space and time merge into the basic substance of being. Pallasmaa argues that “we identify ourselves with this space, this place, this moment, and these dimensions become ingredients of our existence” (Pallasmaa, 1996, p. 72). This aligns with the thinking of Marc Treib, who writes “our existential and lived reality is a thick, layered, and constantly oscillating condition. Architecture is an art form of reconciliation and mediation

and in addition to settling us in space and place, landscapes and buildings articulate our experiences of duration and time between the polarities of past, present, and future” (2009).

Time is not only expressed through experiences but also in the physical elements and the building itself. Time brings the space into a place with traces of memories. The overall research agenda aligns strongly with the thinking of Rumiko Handa around the temporality of architecture and its innate ability to change and adapt with time. In her writing, ‘Allure of the Incomplete, Imperfect, and Impermanent’, Handa asks the question; “if changes are the norm rather than the exception of buildings, is it not better for architects to find ways to accept and incorporate them into their work as assets than to consider them outside their realm?” (2015). Handa argues that architects need to acknowledge the nature of viewer involvement when designing structures as the architecture and consider the capacity of the incomplete, imperfect, and impermanent to engage the viewer (2015).

The weathering process cannot exist or occur without time. Weathering can be perceived as a direct reflection of a sense of place when associated with architecture - representing the relationship between the building and the conditions of its surroundings. David Leatherbarrow suggests that the most direct acceptance of time includes the idea of weathering as a “form of completion” (1993). Natural materials express their age and history, as well as the story of their origins and their history of human use (Pallasmaa, 2012). Such materials - stone, brick, and wood - allow our vision to explore their surfaces and enable us to become convinced of the veracity of matter. In quoting Pallasmaa - “all matter exists in the continuum of time; the patina of wear adds the enrichening experience of time to the materials of construction” (1996, p. 31). By allowing the building to deteriorate and regenerate with the conditions of its surroundings, the architecture begins to acknowledge, represent, and reconsider the notion of time.

Trace, as a dimension of time, can be perceived as another important factor in building design. According to Jacques Derrida, nothing can be wholly present or wholly absent at any given time, however, there is always a trace of both presence and absence (1978). From here, Derrida argues that it is the architect’s job to find traces (residues) of a certain presence from which the process of

designing commences (1978). Using the concept of trace in design does not merely attempt to create distinctive architecture as much as it unveils the architect’s desire to draw the audience’s attention to traces - allowing the user to realise, experience, and decipher elements specific to place. This is comparable with the thinking of Christophe Girot, landscape architect and theorist. Girot devised four trace concepts that help enable designers to “come to grips with their intuitions and experiences of place, allowing these impressions to direct the unfolding project” (2009). Girot’s four concepts of trace are as follows; landing, grounding, finding, founding.

02.2.2 The Notion of Time: A Case Study

Stones Sinking in Sand

Andy Goldsworthy

Morecambe Bay, United Kingdom

1976

Andy Goldsworthy is a British artist best known for his site-specific installation works which involve natural materials and the passage of time. Goldsworthy sees beauty in impermanence, viewing temporal objects as a reflection of the everchanging world that we live in. Goldsworthy considers his artistic process to be a “collaboration with nature,” celebrating the essence of his chosen materials and uncovering what they are capable of (Blumberg, 2016). Instead of representing the landscape, he draws on the landscape itself.

Image Redacted

Fig. 36. *Stones Sinking in Sand*

‘Stones Sinking in Sand’ is one of Goldsworthy’s earliest works. The artist uses rocks found onsite to create a straight line in the water, highly contrasted against the more organic forms created by nature. With the changing tides, the line loses its shape and eventually vanishes, a process that triggers a discussion regarding the role of the record in the artwork itself. In Goldsworthy’s own words;

“This is a very physical piece. I had to move a lot of stones in one day, between the tides. It wasn’t even a full day. The lines of stones physically affected the place, and the people who walked along the beach. People had to step over it. A horseback rider jumped over it. I revisited the site several times and saw it sink into the sand and disappear. I often think of it still being there, although I know it isn’t intact” (Goldsworthy, 1976).

These considerations and practices will be also be taken forward to the next phase of exploration.

03

Introduction

03.1 *Theoretical Discussion*
 An Enactive Approach

03.2 *Observing;*
 An Intuitive Response

03.3 *Registering;*
 Establishing Connections

03.4 *Responding;*
 Forming a Strategy

Introduction

These early stages of the design thinking process focus on idea creation from a highly intuitive place. The process taken is iterative and experiential – where one can begin to better understand users, challenge assumptions, redefine problems and create innovative solutions.

03.1 Theoretical Discussion

Girot's 'Four Trace Concepts' provided a starting point for research of place discovery.

Girot's process looks to strengthen connection between people, architecture, and place. As previously discussed, Girot's philosophy is based on an enactive approach to design. His four-part process allows designers to come to grips with their intuitions and experiences of place through participatory sense-making. It is these initial impressions and interactions that trigger the eventual design and form resolution.

Aspects of Girot's theory have been outlined and interpreted for this research, helping to identify relationships, processes, connections, and place-defining characteristics.

Christophe Girot's 'Four Trace Concepts' (2009)

Landing; is the idea of touching ground and reaching the confines of an unknown world. It refers to the moment when a designer reacts to the difference between the preconceived notion and reality of the place.

Grounding; includes the orientation and rootedness, both in the literal and figurative sense of the word. Grounding is more about gaining an understanding of place through repeated visits and studies.

Finding; needs the act/process of searching as well as the outcome. This concept includes the experience of relating and associating ideas, places, and themes.

Founding; may be conservative – referring to a past event and circumstance, or innovative – importing something new to a place. The act of founding is a reaction to something that was already there. It can be understood as bringing something new to a place, something that may change and redirect a particular site.

Direct and immediate engagement remains open and sets the stage for future dialogue.

– Christophe Girot, 2009, p. 59 - 65

While researching Girot, the practices and work of artist and architect Maya Lin surfaced as a similar philosophy. Lin's processes and ideologies have provided inspiration, direction & an ongoing point of reference for the research.

Each of my works originates from a simple desire to make people aware of their surroundings, not just the physical world but also the physiological world we live in.

– Maya Lin (*Boundaries*), 2000, p. 15

In her 2000 publication titled 'Boundaries,' Lin writes in detail about her work and creative processes, offering a unique view into her artwork, architecture, and design philosophy. Lin has moved fluidly between the realms of art and architecture, maintaining a steady focus on the landscape and environment. She reinterprets the world into works that are “visually stunning and intellectually compelling” (Sutton, 2011). Her design process is seemingly organic and differs from project to project. What remains the same is her desire to experience each site first as a way of commencing the creative process – an enactive design approach that starts with a singular visit to site. Lin allows the idea to take shape sub-consciously, examining the context first in order to understand the project as a whole (Lin, 2000). Once an idea is born, the process becomes extremely hands-on. Lin writes, “I think with my hands. These models have a clue that will give me an understanding of what I am trying to do” (2000, p. 36). Lin describes her creative process as balancing analytical study with, in the end, a purely intuited gesture (2000). This design philosophy enables her to successfully connect landscape, language, history, and memory – all with respect to the natural world.

There are numerous links between Girot and Lin's design processes and philosophies, which are both centred around this overarching idea of enactivism. An enactive approach in architecture builds on the idea of embodied cognition – gaining understanding through thought, experiences, and the senses by actively seeking out information about the environment, be it physical or social. Embodied cognition, in its purest form, is participatory sense-making – the idea that the body as a whole plays a fundamental role in constituting the way people understand the world (Di Paolo, 2017). Embodied cognition, closely linked to enactivism, can thus be understood in terms of the following; feeling, thinking, and acting.

In response to the above discussion, this chapter (towards place discovery) will follow a three-part structure;

Part 01; Observing; An Intuitive Response

Part 02; Registering; Establishing Connections

Part 03; Responding; Forming a Strategy

Fig. 37. Diagram Linking Theoretical Concepts & Design Thinking

*Observing;
An Intuitive Response*

Landing, the first of Girot's four trace concepts, refers to the first act of site acknowledgement, where intuitions and impressions prevail, and where one feels before one thinks (2009). Similarly, Lin makes note that most of her works start with an initial visit to site. She writes, "I never know what I am looking for at this point and I never try to focus too directly or self-consciously on the search for an idea for the artwork" (2000, p. 32).

In the context of the research, this section commences the first of the three stages of place discovery; 'observing' – perceiving and experiencing the site for the first time. Observing involves a singular site visit and documentation by way of dialogue, still imagery, and visual expressions of place and experience.

17/03/2020;

I begin my journey at the western end of Wellington's South Coast, at the point where the Owhiro Bay Parade meets the Red Rocks Walkway. The day is wild. The harsh southerly winds cause waves to crash against the rocks with great force. I am cold. The Red Rocks stand tall, and I am struck by how small I feel against my surroundings. The experience is powerful.

Fig. 38. Owhiro Bay Photographic Stills x6

Fig. 39. Island Bay Photographic Stills x6

17/03/2020;

I continue along the coast, reaching Island Bay. I find myself alone as I walk the Esplanade. The growing storm causes sand to sweep across the road, piercing my skin with the force of the wind. I feel it; sharpness. The concrete seawall creates a clear divide between myself and the water's edge. The bay frames the island just offshore. The island becomes a focal point. I am intrigued by the surf club building. The boatshed, another noticeable building, is prominent in most views.

17/03/2020;

My journey leads me to the edge of Houghton Bay, east of Island Bay. The bay is small, the hill is steep. The storm continues to rage. The wind howls relentlessly. The waves crash fiercely; roaring loudly. I notice few buildings and even fewer people. Te Raekaihau Point is in the distance. The place is wild.

Fig. 40. Houghton Bay Photographic Stills x6

Both Girot and Lin align with the thinking of Hauge, who writes “a dynamic and interactive perspective on the environment includes the social, cultural and psychological meanings of a place, which can also be expressed in philosophical and poetic forms” (Hauge, 2007). These such considerations have helped to inform the following segment: ‘Perceptions of Place’ – a series of experimental watercolour paintings which act as visual expressions of site and experience. Though intuitive by nature, the paintings intend to capture and communicate ideas of time and flux; a true reflection of place.

The first series explores the use of watercolour, a medium that I am particularly drawn to. The water-based medium allows the work to fully embrace an ambiguous quality. Ambiguity allows the work to be interpreted in a number of different ways. By reflecting on design processes and design decisions, there are some clear patterns that can be identified – with a specific focus towards composition, stroke, and form.

Fig. 41. 'Perceptions of Place' – Composition

Compositionally, each of the paintings depict a framed centre subject - highly contrasted against the white border. In an abstracted sense, this could be perceived as a framed view, a passage, a threshold condition. Sense of implied movement is another crucial factor, revealing itself as an expression of place.

Fig. 42. 'Perceptions of Place' – Stroke

The process of layering provides an enhanced sense of depth. As the strokes on paper expand organically outward, the overall appearance becomes increasingly diffused. The layered presence of morphing strokes reflect a multitude of influences, a multitude of messages and a multitude of meanings relating to place.

Fig. 43. 'Perceptions of Place' – Form

Form presents itself in an obscured manner. When applied to a porous surface, watercolours migrate – defying sense of line and inhabiting space as organic form. This gives form somewhat of an ambiguous sense of character and meaning, which becomes interesting when it is juxtaposed against the definitive edge.

Fig. 44. 'Perceptions of Place' – Texture

The second series was achieved through the use of charcoal, a rich and expressive medium. The process taken was to build depth through layering.

Texture became a key consideration through this series, expressed through the interaction between charcoal and canvas. The orthogonal nature of the artwork (intersecting right angles) is something that I am naturally drawn to, and find myself replicating in later works.

Fig. 45. 'Perceptions of Place' – Charcoal Series

Fig. 46. 'Perceptions of Place' – Charcoal Series

Fig. 47. 'Perceptions of Place' – Watercolour Series

The final mini-series re-explores the use of watercolour. There are a selection of works that remain contained within a set perimeter, whilst the others migrate freely. This results in two very different design outcomes. Such juxtaposition resonates with the idea of ‘the solid’ and ‘the void’ – trying to find a balance between opposing forces, finding the place where opposites meet.

Fig. 48. 'Perceptions of Place' – Dichotomy

Fig. 49. 'Perceptions of Place' – Dichotomy

*Registering;
Establishing Connections*

The process of ‘registering’ begins with reading and better understanding the site through repeated visits and studies. The following section involves a series of site visits & site documentation by way of written dialogue, still imagery, and relational mapping.

Fig. 50. Visual Essay; 03/06/2020

03/06/2020;

Almost three months later and I finally return to site. The world is a different place. The time in isolation is blurred. It feels like a dream; a nightmare. I am grateful to be here. I take it all in.

The journey leads me from Owhiro Bay through to Te Raekaihau Point. The sky and water blend together as one – swirling colours of blue and grey. Waves crash against the beach and the wind blows lightly. The am struck by the taste of salt in the air. Traffic prevents me from crossing the road. Trucks rumble loudly.

Fig. 51. Visual Essay; 10/06/2020

10/06/2020;

I narrow my focus, visiting only Island Bay. It is a calm winter's day – still and picturesque. Colours are vibrant and saturated. The sky is bright and the clear blue water glistens in the sun. The air remains crisp and the light sea breeze chills my body. I listen to the sounds of the waves as they crash lightly against the shore. I find the sound to be soothing. I sit silently in a moment of contemplation.

Fig. 52. Photograph of Timber

I pay attention to the details; materials, patterns, textures, and colours. The materials found on-site directly reflect the rugged nature of the coastal environment. Surfaces tend to be irregular – weathered.

- x rough sawn timbers*
- x unpainted timbers*
- x driftwood*
- x natural brown-grey rock*
- x large rock formations*
- x shell - crushed and broken*
- x aggregate finishes on concrete*
- x stainless steel/galvanised metals*

Fig. 53. *Photograph of Concrete*

Fig. 54. *Photograph of Rock Texture*

Fig. 55. *Photograph of Concrete*

Fig. 56. *Relational Mapping x3*

The following segment gives insight into the way I went about recording my experiences – using relational mapping as a tool to establish existing connections and patterns, coupled with a visual analysis of potential challenges and opportunities.

Fig. 57. Relational Mapping x3

Wider Coastline;

- x existing connections*
- x existing entities*
- x sites of cultural significance*
- x topographic patterns*
- x points of interest*
- x proposed connections*

Island Bay;

x existing connections

x existing entities

x sites of cultural significance

x topographic patterns

x points of interest

x proposed connections

Fig. 58. Relational Mapping x5

Fig. 59. Detailed Site Selection; Establishing Existing Connections & Patterns

Detailed Site Selection;

- x existing connections*
- x existing entities*
- x sites of cultural significance*
- x topographic patterns*
- x points of interest*
- x proposed connections*

Fig. 60. Relational Mapping

Fig. 61. Relational Mapping

Fig. 62. Relational Mapping

***Responding;
Forming a Strategy***

This final section brings together information and insights gained through the research undertaken to date. The aim is to develop a strong conceptual framework from the start, which links back to the proposed research agenda, aims, and objectives.

Macro

At a macro (urban scale) level, the research and subsequent findings helped to uncover the inherent character of the coast and its various parts, with a particular focus on the section of coast between Owhiro Bay and Te Raekaihau Point.

Access; Public access, pedestrian and motorised, already exists along the whole stretch of the South Coast. The continuous link at the coastal edge is joined at several places by other access routes or tracks that provide opportunities for walking and driving. These access routes include:

- x Southern Walkway*
- x City to Sea Walkway*
- x The Parade, Island Bay*
- x Eastern Walkway*
- x Onepu Road*
- x Track from View Road down to the coast*
- x Houghton Bay Road*
- x Happy Valley Road/Ohiro Road*

Although these access routes exist, there is a noticeable disconnect between many of the established connections and the overall user experience. One of the most significant issues revolves around pedestrian usability. Vehicle access is currently prioritised over pedestrian access, as many of the pedestrian walking tracks and pathways remain adjoined to the coastal road. To add to this, there are several barriers – sea walls, embankments, fencing, and other obstructions - that are currently in place along the coastline, creating a divide between the user and the coastal edge. In acknowledging that the improvement of walkways and tracks can also enhance the recreation potential of the coast, access can be improved by redesigning tracks and footpaths. Providing good access along the coast is an important part of supporting the community's ability to use it.

Character; The coastal environment comprises of steep and exposed coastal escarpment and isolated gullies with extensive areas of regenerating coastal scrub. Its ecological context and distinctive features are valuable at the landscape scale. The ridge's steepness in proximity to the coastal edge has limited development to a single strip of two-storey buildings lining the coastal road. Viewed at a distance, this presents a strong horizontal line of development at the base of the escarpment. This perspective serves to accentuate the linear coastal edge and define the escarpment above. Contrasting built forms between vegetated escarpments and the coast's openness gives the area a unique character that contributes to Wellington city's sense of place and its collective identity. It is, therefore, important to ensure that new development along the coastal edge is of high design quality and enhances the area's collective character, amenity value, and public significance.

In response to such findings, a design strategy has been devised that will guide thinking around the planning and redevelopment of Wellington's South Coast. The vision is underpinned by three principles - connectivity, restoration, and enhancement - against which future opportunities and initiatives are to be measured. The themes are lenses through which to understand the selected section of coastline, setting the scene for the implementation and development of designs to come.

Key Principles; *x connect*
x restore
x enhance

Micro

From a micro perspective, the initial stages of the research led to the selection a specific site at the entrance of Island Bay for the installation (micro scale intervention). The site-selection arose as a result of the research investigation and in particular by in-person experience during multiple visits to the South Coast. These early impressions have provided strong direction for design thinking.

The exploration set out to uncover and decipher coast-defining elements, prompting an investigation into various ecological and manmade forms, materials, patterns, textures, and colours. This entailed attention to the materialities and affordances of the boundary conditions between land and water. Such findings resulted in a richer understanding of both tangible and intangible factors that contribute to the South Coast's unique identity. The research also highlighted specific nodes or points of interest along the coastline – narrowing the focus from the wider coastal context through to the specificity of Island Bay.

Such findings led to the eastern entrance of Island Bay, a pocket of land currently occupied by a gravel car park. As it stands, the site lacks any real sense of purpose. There is no visible entrance for pedestrian users, and the car park appears in poor condition, perhaps as a result of disuse and neglect. Beyond the car park, however, lies Tapu te Ranga Island - offering a powerful reference point to the rest of the bay. With this comes an opportunity to improve user accessibility and quality of user experience; an opportunity to strengthen the connection between people and place.

The understanding gained through the chapter into place discovery will contribute to the development of design(s) to come, specifically relating to initial design iterations – the installation (*micro scale*) and the urban design scheme (*macro scale*).

04

Introduction

04.1 Macro

04.1.1 Aim

04.1.2 Method

04.1.3 Creative Process

Urban Design Scheme:

04.1.4 Design Discussion

04.2 Micro

04.2.1 Aim

04.2.2 Method

04.2.3 Creative Process

The Installation:

04.2.4 Design Discussion

04.3 August Review

04.3.1 Conclusion

04.3.2 Critical Reflection

Introduction

The first phase of design focuses on testing different design strategies that can then be used to build a direct relationship with place. A combination of analogue and digital processes have been used, working simultaneously from both a macro and micro perspective. The creative processes, outcomes, and learnings will be carried through to subsequent design phases. The preliminary design investigation considers the following:

- x Design exploration through strategic planning at the urban design scale*
- x Design exploration through model making and installation work at the human scale*

04.1 Macro Design (Urban Scale) Investigation

04.1.1 Aim

The conceptual design of the urban design scheme looks to explore themes and findings discussed in chapters one, two, and three. It builds on research into context and theory to develop a more holistic investigation and understanding of place. As previously strategised, the macro design investigation is underpinned by the following principles: connectivity, restoration, and enhancement. The themes are lenses through which to understand the selected section of coastline, informing the development of designs to come. The key deliverable is a set of design initiatives – a toolbox of instruments for the development of the coastline.

04.1.2 Method

The holistic research method operates between analogue and digital design mediums, navigating design research by bringing together earlier drawings (relational mapping) with digital imagery and illustrative work. By overlaying these different layers, it is possible to register the primary area of impact, existing entities, existing/proposed connections, and specific nodes or points of interest along the coastline.

Analogue Processes *x Drawing*

Digital Processes *x Digital Imagery*

Fig. 63. Macro Scale – Iteration 01

Fig. 64. Macro Scale – Iteration 02

04.1.3 Creative Process

The first iterations use digital imagery to redefine specific elements within the design. The maps begins to break down physical nodes, relational alignments, and pivotal sections located along Wellington's South Coast.

The third iteration, which follows, combines analogue & digital modes of design – building on earlier iterations. This, as a developing masterplan, is intended to reveal a set of initiatives that align to the design strategy identified in the previous chapter, which had three themes: connect, restore, enhance. In doing so, this should provide a sound foundation for subsequent, more detailed design.

Fig. 65. Conceptual Urban Design Scheme

04.1.4 Macro Design Discussion

Connect; *Opportunities for stronger connection reveal themselves as the opportunity to connect people and place, connect land and water, and connect neighbourhood to neighbourhood. For this to be achieved, the following masterplan initiatives are proposed:*

- x Acknowledge historical sites and cultural landmarks*
- x Connect with & improve upon already established walking trails and pathways*
- x Provide a continuous link at the coastal edge*

Restore; *Opportunities for restoration include the restoration of the natural environment, the harnessing of natural processes that shape adaptation to changing coastal conditions, and the rebuilding of amenity value in areas that are currently underutilised or undervalued. To achieve this, the following masterplan initiatives are proposed:*

- x Taking steps toward environmental restoration*
- x Reviewing the Island Bay sea wall and management of road traffic*
- x Establishing stronger links between the coastal edge and Shortland Park*

Enhance; *Opportunities to enhance include orchestrating movement in a way that creates a stronger connection and experience, framing views that accentuate place, and stimulating an experience at the coastal edge. The following masterplan initiatives are thus proposed:*

- x Deliver a collection of diverse spaces linked by a network of paths*
- x Protect and enhance the coastal character*
- x Acknowledge Mana Whenua presence - narratives captured and expressed*

04.2 Micro Design (Human Scale) Investigation

04.2.1 Aim

The micro design investigation uses temporary design as a tool to translate between idea and implementation. The design research investigates the interactions of material and user engagement at the coastal edge. The aim is to use iterative design research – employing art thinking – to shape the design of the micro scale intervention; the installation. Key themes of ‘time’ and ‘embodiment’ are to be tested against more tangible factors relating to coastal change and coastal development. The creative processes, outcomes, and learnings will contribute to the development of parameters and criteria surrounding the refinement of design experiments and interventions to come.

04.2.2 Method

The method chosen for the micro design investigation follows aspects of cognitive thinking – feeling, thinking, acting. Maya Lin’s creative process has provided a strong point of reference. Lin continually blurs the line between art and architecture to arrive at creative and innovative design solutions. “One doesn’t so much as encounter a building or a piece of art by Lin as experience it – physically and in a sensorial way” (Thornton, 2020).

I have a background and strong interest in art – drawing, painting, sculpture – which forms an integral part of my design approach. Thinking about how to apply this in the research, I was excited to see the many similarities between Lin’s creative processes and my own design interests.

This section of the thesis looks to better understand the intersections between design thinking and art thinking – exploring how domain-dominant mindsets and cognitive skills for artists can be transferred and utilised by designers to develop and generate creative and innovative solutions. In an article titled ‘Intersections in Design Thinking and Art Thinking,’ Jacobs discusses the various steps that can be taken toward interdisciplinary innovation – specifically the ways in which “art thinking” overlaps with design thinking (2018). The article highlights a domain-dominant emphasis on the following cognitive strategies;

Cognitive Strategies;

Metacognition

Prolonged research

Use of constraints and generators

Conversation with the work

Delayed closure

Reflection and evaluation of thematic coherence

Mindsets;

Emotional engagement

Intuition

Tolerance of ambiguity

These strategies and mindsets are reflected through my creative process, which oscillates freely between analogue design methods and digital modelling processes. I am continually reflecting on my design research and creative endeavours through an ongoing dialogue – producing experiments and asking questions; What have I done? How is it operating? What is it doing?

Analogue Processes *x Impression Work*
 x Physical Modelling
 x Drawing

Digital Processes *x Digital Modelling*

Image Redacted

Fig. 66. Serpentine Gallery Pavilion

04.2.3 Creative Process

Micro Case Study

Similarly to Lin, Fujimoto has a lifelong interest in blurring the boundaries of established architectural concepts (Hein, 2018). Fujimoto explained that he is inspired by dissolving such falsely dichotomous themes as nature and architecture, the house and the city, complexity, and simplicity, or inside and outside, to examine the new possibilities that exist “in-between.”

The in-between leads to a richness of the experience that allows each user a unique, individual freedom to inhabit his architecture as they like.

– Sou Fujimoto, 2018

Serpentine Gallery Pavilion
Sou Fujimoto
Hyde Park, London
2013

This very attitude toward architecture is exemplified in Fujimoto's 2013 Serpentine Gallery Pavilion. Fujimoto proclaimed this work as the "crystallisation" of his thematic investigations (Hein, 2018). Crafted from 20mm thin steel pipes, the pavilion occupied some 350 square-metres of lawn in front of the Serpentine Gallery. Close-up, the uniform grid appeared "artificial" or "ordered". From a distance, this uniformity gave way to a "beautifully chaotic landscape of possibilities" (Hein, 2018). The rigid, linear pipes transformed into a cloud-like form that users were able to climb, sit on, or simply sit beneath and experience being "in-between" countless dualities – artificial and organic, opaque and transparent, landscape and structure, art and architecture. In Fujimoto's own words, "I propose an architectural landscape, a transparent terrain that encourages people to interact with and explore the site in diverse ways" (2013).

Image Redacted

Fig. 67. Serpentine Gallery Pavilion

Design Experiment 01

‘Press’

The first design experiment, press, is aimed at registering and exploring the natural rock formations on site. I began by creating six clay modules, measuring 6cm x 6cm x 2cm. The method taken was to press the surface of the clay against the rock face so as to leave behind an imprint of the natural rock formation – a direct translation of place. There is a real emphasis on the physical textual quality, grooved and indented. This process was repeated and integrated as a generator for ongoing design experiments.

Fig. 68. Photograph of Concept Model

Fig. 69. Rock Formations & Surface Texture

Fig. 70. Photographs of Design Experiment

Fig. 71. 6x Clay Modules

Fig. 72. Photograph of Material Experiment

Design Experiment 02

‘Expose’

In response to the earlier findings, ‘expose’ is aimed at investigating the durability and aesthetic value of different material types, specifically recycled native timber (rimu) and concrete masonry – materials that align with the existing coastal palette. My intention was to document the process of weathering to understand better the relationship between the material and the conditions of its surroundings. The method taken was to leave the timber and concrete blocks out on-site, strategically positioned at the intertidal zone. At high tide, the materials are submerged, prompting an investigation into surface appearance/tactility and how this changes with time.

This design experiment spanned over the course of a six-month period; 10/06/2020 – 10/12/2021.

- 01 0 months on site*
- 02 3 months on site*
- 03 6 months on site*

Fig. 73. Photographs of Materials – 0 Months

10/06/2020

10/09/2020

10/12/2020

Even prior to being left on site, the materials express an aesthetic and tactile quality of surface texture. As a natural material, the timber expresses its age and history – the story of its origin and history of human use. I am fascinated by the uniqueness of each piece of wood. The concrete, on the other hand, appears solid and grounded in its place. Its roughness is expressed through the surface of the aggregate grain. The relationship between the two demonstrates an unspoken synergy – a dichotomy between seemingly opposing materials and material properties that brings with it a sense of unity.

Having been left on-site to weather, the materials begin to tell a different story. The timber has changed in colour – lightening through weather and sea exposure. The surface feels smoother to the touch. The concrete shows fewer signs of change, though this was anticipated given the materiality's durable nature. It has, however, picked up sand from the site in the grain of the aggregate surface.

Fig. 74. *Photograph of Materials – 6 Months*

Fig. 75. *Photograph of Materials – 6 Months*

This experiment – 'intersect' – begins to explore design research through analogue model making. The design language builds on prior research and experimentation, contrasting slender tectonic members and cedar planes against more solid materiality (hardened clay). This is just one of many dualities.

In this process, I came across the work of Sidney Gordin – Russian born artist (1918 – 1996). Influenced by earlier examples of constructivist art, Gordin produced purely geometric works. Oscillating freely between art mediums and materials, Gordin worked with ink, watercolour, acrylic paint, timber, bronze, steel, and more ("Sidney Gordin," n.d.).

Fig. 76. Concept Models

Image Redacted

Fig. 77. “Construction, #7” (1954)

Gordin’s work revolves around an assemblage of organised connections – the overlapping and intersecting of various lines, planes, and volumes. I have an appreciation for the way in which he composes these elements; a spatial simplicity. There are aspects of his work that remind me in part of my earlier watercolour paintings and charcoal drawings, which act as visual expressions of site and experience. Overlapping themes are identified as:

x ambiguity

x layering

x modularity

x linearity

x dichotomy

Fig. 78. Photograph of Concept Model

Fig. 79. Concept Model – Intersect

Fig. 80. Concept Model – Intersect

This experiment was successful in several ways, allowing two-dimensional works and abstracted design experiments to evolve into three-dimensional form. Compositionally, I was influenced by Gordin's work – intersecting the elements (timber and clay) in unique and interesting ways. This has resulted in a series of models, neither restricted nor confined by any given orientation. The models can be rotated in a number of different ways, connected together as a cluster of systems, or singled out as an individual component. Although this is an interesting consideration, it becomes a challenge to imagine how such form could be situated in the context of the site.

Fig. 81. Concept Models

Fig. 82. Concept Model – Intersect

Fig. 83. Concept Model – Intersect

Fig. 84. Concept Model – Intersect

Fig. 85. Concept Models – Developing Architectural Language

Design Experiment 04

‘Situating’

Continuing on with analogue model making as my primary form of exploration, this experiment – ‘situating’ – is aimed at exploring the relationship between site and structure. The design language, form, and tectonic construction evolved organically through modular design experimentation. The creative process entailed the use and manipulation of clay, combined with precisely designed laser-cut elements, constructed from black card and timber. Each module explores the relationship between architecture and site, focusing on the following considerations:

x touching the ground lightly (through punctual supports)
x form embedded into the ground

Fig. 86. Photograph of Concept Model

Fig. 87. Concept Models – Situate

During this time, I was asking myself questions;

*How might architecture engage with the site in a manner that
is more meaningful?*

*How can architecture facilitate its dynamic and continuous
transformation?*

Fig. 88. *Photograph of Concept Model*

Fig. 89. Concept Models – Situate

04.2.4 Micro Concept Design

Design Discussion

The Installation

The micro design intervention – the installation – looks to investigate the design potential along Wellington’s coastal edge. Sited at the eastern entrance into Island Bay, the location is both underused and mono-functional. The micro intervention seeks to break the notion of the user as a passive observer. Equally, the investigation aims to facilitate flux – encouraging a more open and receptive response to place. The installation provides a method for testing design principles and processes without being confined by a set programme and its requirements. The design explores the relationship between sculptural expression and architectural intervention, investigating how built form might inhabit and inform the site. The investigation as a whole explores opportunities for facilitating active engagement between place, architecture, and its inhabitants.

The architectural language developed for the installation draws from the earlier design experiments; press, expose, intersect, situate. It is important to note that at this stage, the design remains purely conceptual.

Fig. 90. *Concept Development*

Through sketching, I developed a spatial hierarchy. The initial design took inspiration from the natural environment, mimicking the eroding channels in the rocks. It was essential for me to consider orientation and alignment – providing a continuous link at the coastal edge, connecting the public with cultural landmarks, and highlighting the dynamic relationship between built form and site.

Though I didn't see it at the time, I have since reflected on my process and have come to realise that the design was focused on plan resolution, and I didn't apply the same level of initial design thinking to the elevation or section.

Fig. 91. Site Plan – The Installation

Fig. 92. Line Render – The Installation

Fig. 93. Line Render – The Installation

Fig. 94. Line Render – The Installation

The following design discussion is centred on three key considerations; the relationship between built form and the physical environment, cultural context, and subjective perception. These design considerations mirror Frampton's theoretical approach to critical regionalism, as outlined in chapter two.

Relationship with the Physical Environment

The structure emerges from the land, making a smooth transition from coast to sea. The blurred distinction between the architecture and landscape references the Steilneset Memorial. I focused on how I could craft viewpoints and destinations that would enhance the natural landscape. In particular, I wanted to create a transitional space that would direct users toward Tapu te Ranga Island, encouraging a deeper level of engagement with place.

The design focuses on minimising impact on the physical environment. Elevated from ground, the structure allows the landscape to move freely and organically through the site. This design strategy builds on previous design experiments.

I am particularly drawn to the dualities that come from this; order and chaos, simplicity and complexity, structure and landscape, permanence and temporality. In line with the thinking of Lin and Fujimoto, I see something compelling in the exchange between dual components – navigating the “in-between” through architectural resolution.

Fig. 96. *Elevation & Exploded Isometric*

- 01 PEDESTRIAN WALKWAY
- 02 WATER ENTRY
- 03 LOOKOUT POINT
- 04 OBSERVATION TOWER
- 05 SHELTER
- 06 JETTY
- 07 WATER PAVILION

Relationship with the Cultural Context

Architecture has the ability to simultaneously reflect and influence culture and context in a circle that arcs from national expression through to neighbourhoods, and so on. Rather than employing superficial motifs as a means of engagement, I looked at alternate ways of evoking cultural significance. In doing so, I have embraced principles of orientation, exploration, and discovery.

In relation to place, the micro design intervention – the installation – acts as a transitional space that connects users to historical sites and cultural landmarks, both physically and visually. The body is encouraged to experience space through the sensation of movement and duration. In this way, one can experience the history of place and its meaning through space as a relational concept.

Fig. 97. Longitudinal Section 01

Fig. 98. Longitudinal Section 02

Fig. 99. Longitudinal Section 03

Relationship with the Subjective Perception

Fig. 100. *Indicative of Materiality*

The subjective perception focuses on an individual's raw interpretation and what initiated that response; materials, lighting, spatial composition, and any other eliciting factor by which one might experience space.

The intervention plays on tensions between the interior and exterior, employing phenomenological design thinking to guide the spatial composition. Layered and oscillating conditions invite users to engage and interpret space in their own way, allowing them to apply their own understanding and intrinsic meaning to the architecture.

Materiality is a tool that gives emotion a more tangible reality. At this conceptual stage, I focused primarily on the relational value of the chosen materiality – light timber elements juxtaposed against weighted concrete panels. I considered how such materiality might respond to site, employing ideas of weathering and trace as a means to foster a direct relationship to place. Although this provides a good base for discussion around materiality, I realise that I need to explore this in greater depth.

- x How might the architecture change with time?*
- x How does the idea of cognition come into play?*
- x How does this impact the subjective perception?*

04.3 August Review

13 August 2020

The August Review provided an opportunity to discuss & reflect on the direction of the research. The feedback given by the two critics was beneficial in highlighting parts of the research that were working well and other parts that needed clarification and/or refinement.

04.3.1 Combined Summary

For the most part, the reviewers took a similar stance on my research, and each offered useful insight into ways I could further my design investigation. They appreciated the level of thought that had gone into my thesis argument and congratulated me on the work that I had done to date. Ideas relating to cognition and embodiment were discussed in greater depth, identified as aspects of the research that are particularly interesting. The first reviewer asked; how is this idea of embodiment and cognition brought to life in the design intervention? This led to a conversation on the role of reflection and how I might go about establishing success criteria to better evaluate the validity of the research.

Other significant points of discussion related to disruption and duration. The reviewers suggested that I take a different line in my design enquiry, extending my focus to include less attractive and appealing aspects of the coast. This was seen as providing an interesting point of comparison with the potential to elevate my research further. They also felt that the idea of duration was a crucial aspect of my work and challenged me to think about duration over a long period of time.

The act of making was acknowledged and validated as a strong method of design. The reviewers did, however, emphasise that it is important for me to make clear what it is that links together the different forms of experimentation, as I continue to progress through my research.

04.3.2 Critical Reflection

The research agenda provides a means to assess the validity of the research achieved to date. Both macro and micro scale design concepts set out to work individually & collectively to address the three primary research objectives:

RO1; *To develop an understanding of the tangible / intangible factors that contribute to the South Coast's unique identity, using this to inform design decisions that further enrich identity of place.*

RO2; *To investigate how architecture might engage with the dynamics present at site, in order to enhance and intensify human experience of place.*

RO3; *To explore ideas of embodiment and time as designable constructs, and to contribute to the architectural discourse within this sphere.*

Macro

The macro design investigation has been successful in shaping a design strategy and conceptual framework at the masterplan scale. The design was built on a holistic understanding of the coastline – combining prior research into context and theory with enactivism as a form of participatory sense-making. At this stage, the masterplan is simply a strategic framework. This gives opportunity for designs to be developed through a specific lens; an overall vision toward the development of a future-oriented coastline. But at such a large scale, it becomes difficult to imagine exactly what these interventions might be and in what way they might begin to address the research question, aims, and objectives. This work sets the scene for developing a spatial masterplan but by itself provides insufficient detail to assess the validity of the research.

Micro

The micro design investigation set out to explore various relationships, spatial qualities, and materials. This allowed me to better understand interactions between material and user engagement at the coastal edge. Themes of ‘time’ and ‘embodiment’ were tested against more tangible factors relating to coastal change and coastal development. Initially, time was explored through surface appearance/tactility.

Through a series of analogue model experiments I began to explore an architectural language that contributes to the sense of this place – the Island Bay coastal edge. The work maintained a tactile quality, which continued throughout the various experiments. The digital design outcome explored these themes in slightly different ways. Time becomes an element of user participation; a component of embodiment. The intervention acts as a transitional space, that people experience through the sensation of movement and duration – placing emphasis on the situated nature of the perceptual experience. This was successful to an extent, but the ideas can certainly be pushed further.

I expected art and art thinking to be a key component of the research, but I didn’t necessarily know how it would come together to inform the architectural solution. It was comfortable working at a smaller scale, as the analogue model making and design experimentation enabled me to come to terms with the site and its various specificities in relation to the proposed research agenda. As it stands, I feel that the digital design does not quite capture the spirit of those initial models that really engaged people. The focus from here is on how I can translate that feeling and same

Although the micro design intervention – the installation – is not yet resolved, the investigation has led me toward a particular architectural language and method of design, that I feel will work well with Wellington’s South Coast. This shall be carried through to the next design phase and investigated further.

What's working well:

- x there is strength in materiality*
- x iterative design research – getting involved in the process of making*
- x an enactive approach – based on cognitive thinking*

Opportunities to move forward:

- x the elevation and section offer a key contextual relationship – better utilise this*
- x how can I better capture the essence of the initial analogue experiments through digital development?*
- x find disruptions in the process – how can 'disruption' begin to allow for unexpected discoveries?*

Fig. 101. Photograph of Concept Model

05

Introduction

05.1 Intervention 01

05.1.1 Design Intention

05.1.2 Case Studies

05.1.3 Creative Process

05.1.4 Design Discussion

05.2 Intervention 01

05.2.1 Design Intention

05.2.2 Case Studies

05.2.3 Creative Process

05.2.4 Design Discussion

05.3 Intervention 01

05.3.1 Design Intention

05.3.2 A Case Study

05.3.3 Creative Process

05.3.4 Design Discussion

05.4 Conclusion

05.4.1 Critical Reflection

Introduction

The second design phase builds on research, outcomes & learnings accumulated from the previous chapters. Added as a response to the design discussion at the August review, this chapter provides an opportunity to further test/revise various design strategies and processes. The research is centred around initial concept development across three different areas of focus. The ideas have been explored but not developed.

- 01 x engagement with site; elevated*
- 02 x engagement with site; embedded*
- 04 x engagement with site; submerged*

Fig. 103. Photograph – Wind Patterns Captured

Aim

This chapter looks to bridge aspects of the earlier design investigation(s). Following on from the first design phase, a series of three urban design interventions are to be explored, narrowing the scope from the macro design investigation, whilst expanding that of the micro design investigation. The aim is to harness aspects of the creative processes that are currently working well, while continuing to explore and expand on themes and processes that support the chosen line of inquiry.

Method

The proposed research methodology did not include this phase. It was added as a response to the design discussion at the August review. It was undertaken as a form of rapid design exploration. The conclusions reached in this chapter are based on personal experiences and intuitions, developed through an iterative process employing cognitive strategies and mindsets as outlined in chapter four.

Whilst the previous chapter was predominantly analogue based, this second design phase involved primarily digital investigation. Three different ideas and interventions were designed at the same time, but for ease of interpretation are presented sequentially here. The interventions remain purely conceptual. They have not been fully resolved.

Analogue Processes *x Drawing*

Digital Processes *x Digital Photography*
 x Digital Modelling
 x Digital Rendering

A fundamental design consideration is around the idea of ‘disruption’ – actively seeking out less attractive and appealing areas and aspects of Island Bay’s coastal edge, as opposed to focusing on the parts of the coast that I find myself naturally drawn to.

05.1.1 Design Intention

Pedestrian Overbridge

The first design proposes a pedestrian overbridge, further exploring the physical and metaphysical link between land and water at the coastal edge.

05.1.2 Case Studies

Tintra Footbridge

Rintala Eggertsson Architects

Vossevangen, Norway

2015

In 2015, Rintala Eggertsson Architects won the competition to design and build a pedestrian bridge over the river Vosso. The bridge was built to replace a historic bridge, which had been taken by a flood in the river the previous year (REA, 2015).

The concept for the design stemmed from the idea of a rhythmical play of modules crossing the river, breaking down the timeline into regular intervals (REA, 2015). This play of modules is based on the distance between the existing pillars in the river, the only remains of the old bridge.

The original bridge held a strong sense of identity, an architectural language which has been carried through into the design of the new bridge. The two primary materials, steel and wood, work together to create a clear differentiation between the inside and the outside. Whilst the steel acts as an expression of the raw forces going through the bearing structure on the outside, the timber communicates sensorial information at the human scale from the inside (REA, 2015).

Image Redacted

Fig. 104. *Te Rewa Rewa Bridge*

Te Rewa Rewa Bridge
Novare Design Ltd
New Plymouth, Taranaki
2010

Te Rewa Rewa Bridge was designed by Novare Design to be contextualised to its site (CCD, 2014). The resulting structure has dignity and grace and provides access to the sacred Rewa Rewa pā and urupā sites. Not only is it a functional and durable, but it is considered by many as a “serious work of art” (CCD, 2014). The bridge has an authentic truthful quality, with a purity of line and shape, and absence of all decoration (Mulqueen, 2011). The bridge makes a physical connection between the two banks of the Waiwhakaiho River, but also sets up a more intimate and spiritual connection with the mountain, the sea, and the land.

Fig. 105. Photograph – Vehicle Traffic

06/09/2020;

The investigation begins with returning to site. I have kept in mind the various nodes or points of interest along this section of the coastline, as indicated within the urban design scheme, but remain open to all possibilities. I am not entirely sure what I am looking for. I simply walk and observe.

Standing at the point that Derwent Street, Beach Street & Great Harbour Road collide, I feel out of place. There is a rush of cars that makes it difficult to cross. I eventually reach the other side but am frustrated by the experience, by the cars, traffic, pollution, noise, roads, and road barriers. I remind myself of what was discussed during the August Review, “what does the ugly mean for architecture?”

Questions I ask myself at this point include:

What are the fundamental issues here?

How can architecture improve accessibility at the edge?

Is there an opportunity to expand existing ideas, dialogue, and discussion?

05.1.3 Creative Process

This page exhibits a sample of early sketches and photos produced in a process of rapid design exploration. I found this to be the easiest and most effective way to generate and communicate preliminary design ideas – bringing to light my early creative and decision-making process.

Fig. 106. Traffic at Site

Fig. 107. Traffic at Site

Fig. 108. Digital Process Captured – Form Development

Digital Development

The form is derived from a digital model – an assemblage of pillars, planes, lines, and tectonics. Digital illustrations and simple line rendering allow me to visualise the design more clearly. I treat this process much like I would if I were generating a series of physical models, paintings, or drawings. Through the process of iterative design research, I am able to simultaneously develop the design, address/correct problems, and implement changes. Such an approach allows for new and unexpected ideas and dialogue to emerge and stimulate further discovery.

Fig. 109. Sketch Renders – Pedestrian Overbridge

05.1.4 Design Discussion

The platforms, stairs, and spaces create views beyond and within that make it a place of discovery. As for the micro design installation, the overbridge acts as a transitional space that guides users in the direction of Tapu te Ranga Island, a significant physical and cultural landmark from which the suburb's name originates. It is becoming clear that this will likely be a reoccurring focal point. The overarching idea of connectivity can be considered in a number of ways. Firstly, the intervention acts as a physical link between land and water, permitting easy access to the coastal edge. Connectivity can also be considered in terms of the situated nature of the intervention – what is the physical relationship between site and structure? As an elevated intervention, the overbridge is anchored to the site via four pre-cast concrete pillars, creating the separation needed between road traffic and the user. Hierarchy can be understood through the slope and section. The terracing of each stair and platform is intended to trigger a spatial and bodily awareness, a form of participatory sense-making that encourages the user to truly experience the space, promoting a deeper level of engagement.

The outcome harmonises contrasting planes, pillars, and tectonic members in one continuous form, building on the already established architectural language. The chosen materiality – timber, concrete, and steel – is intended to weather over time. The patina of wear represents the relationship between the intervention and its surroundings. In this way, the materiality and intended response can be compared to the Tintra Footbridge. Time and temporality thus become a material component, prompting a discussion of permanence:

At what rate would each material weather?

Can architecture be both permanent and transformative?

How would the intervention likely look in 100 years?

Fig. 110. Sketch Render – Pedestrian Overbridge

05.2.1 Design Intention

Coastal Walkway

The second design intervention proposes the development of a coastal walkway. Prior research and findings concluded that provision of good access along the coast is important to encourage usage. Connecting and improving established walking trails and pathways was a critical element in the macro design investigation.

05.2.2 Case Studies

Leça Swimming Pools

Alvaro Siza's Vieira

Leça Da Palmeira, Portugal

1966

Built almost half a century ago, the Leça Swimming Pools are recognised as one of Siza's greatest early works – an example of his careful reconciliation between nature and architecture (Souza, 2016). The complex consists of changing rooms, a café, and two swimming pools. It is situated between the Atlantic Ocean and the access road that follows the coastline, positioned almost entirely out of sight. By sinking the building behind the road, Siza promotes separation between the pools and the infrastructure of the city.

Users are guided down a smooth concrete ramp running parallel to the road. As they walk through the corridors towards the changing rooms, the rough concrete walls begin to obscure the views of both the traffic behind and the ocean ahead. With no views, the ocean beyond becomes audible and the transition between the roadway and the ocean is captured in what is said to be “an all sensory experience with the building” (Souza, 2016).

Siza was careful to preserve the existing rock formations. The pools he created reach out into the ocean and blend effortlessly with the natural pool formations along the coast of the Atlantic. The blurring of the ocean's edge enhances users' feelings of the expanse and blurs their understanding of man-made limits. Siza's design connects with the natural and at the same time expresses itself as a contemporary construction.

Image Redacted

Fig. 111. Leça Swimming Pools

Image Redacted

Fig. 112. The Floating Piers

The Floating Piers
Christo and Jeanne-Claude
Lake Iseo, Italy
2016

For more than 40 years, Christo and Jeanne-Claude had the vision of a floating walkway (Bueno, 2017). The project was first conceived in 1970 but not brought to life until 2016 (Bueno, 2017). It was Christo's first large-scale project since Jeanne-Claude passed away in 2009 and was funded entirely through the sale of Christo's original works of art (Bueno, 2017). For sixteen days – June 18 through July 3, 2016 – Italy's Lake Iseo was reimagined (Bueno, 2017). More than 100,000 square meters of yellow fabric, carried by a modular floating dock system of 220,000 high-density polyethylene cubes, undulated with the movement of the waves as The Floating Piers rose just above the surface of the water (Bueno, 2017).

Image Redacted

What is most compelling is the way in which the artist empowered people to take this temporary ‘street’ and make it their own. This project worked to create a different point of observation, a new experience, a new way to contemplate a specific habitat. This walkway enriched the experience of going to Lake Iseo forever, even though, physically – it is no longer there, “that happening will stay on in the collective memory of people” (Bueno, 2017). This project demonstrates how art and architecture can transcend themselves and become part of the landscape and the memory of people.

Fig. 113. The Floating Piers

06/09/2020;

I am already aware that there are significant issues with regard to pedestrian access and usability. I walk back and forth along the existing pathway. Is the trail continuous? Yes. Does it in any way enhance sense of place and identity? No. I feel that there is so much opportunity to improve coastal connectivity.

I focus on a specific section of coastline – Siren Rocks. The area is expansive and inspiring, with views out to the horizon. I want to get closer, to experience more, but am unable to reach the water's edge. I am physically blocked by shrubs, embankments, sea walls, and wire netting.

Fig. 114. Photograph – Concrete Barrier

05.2.3 Creative Process

Photographic Study

Visual Essay

A photographic study & visual essay of early observations and creative outputs reveal how the design has evolved. Materiality is a critical design component, and material quality an essential consideration for this research. The following series of photographs document the interaction between fabric, a more permeable material type, and the dynamic coastal context. Wind in itself is not visible but, through interaction with its surroundings, its patterns and behaviours can be captured.

Fig. 115. Photographs – Wind Patterns Captured

05.2.4 Design Discussion

In establishing a cohesive material palate, the intervention uses pre-cast concrete pillars and timber framing elements. The tone of the concrete used is slightly lighter than that of the rocks, differentiating between the built form and the natural environment. There is a deliberate contrast between the organic rock formations and the sharp geometry of the architecture. The timber elements create a sense of structural repetition and actively function as a framing device. Woven fabric can be seen draped between each timber module, exploring possible effects of using a more permeable material type. Users are invited to interact with and move between wind and fabric, creating a dialogue between people and nature; connecting place, architecture, and inhabitants.

The walkway leads to Island Bay via the western entrance, situated along a 500 metre stretch of coast. It runs parallel to the road, leaving the horizon unobstructed from all perspectives. The low-long profile is intended to accentuate the coastal edge and help define the escarpment above.

The walkway is embedded into the land, hiding it and, at times, framing it. The line between structure and setting is blurred; new and natural materials have a continuity of texture, composition, and colour – revealing a common language and careful reconciliation between architecture and the conditions of its surroundings.

Fig. 116. Sketch Render – Coastal Boardwalk

05.3.1 Design Intention

Floating Pavilion

The final design intervention explores the idea of a floating pavilion. The research to date explores an architecture that is, in some way, connected to land. This design idea looks at the possibility of detachment from land, that creates a new, interesting way of understanding and perceiving one's relationship to their surroundings; from beyond & beneath the waterline.

Image Redacted

Fig. 117. Case Study – 'Under'

05.3.2 Case Study

Under
Snøhetta
Lindesnes, Norway
2019

'Under' is situated at a unique confluence, the place where sea storms from the north and south meet (Snøhetta, 2019). The building functions as a restaurant and as a research centre for marine life. (Snøhetta, 2019).

'Under' is a story of contrasts – the contrast between the landscape and the sea; the contrast between the above and below. The project underscores the delicate ecological balance between land and sea and draws our attention to sustainable models. Under offers a unique perspective and way of seeing the world (Snøhetta, 2019).

Image Redacted

Fig. 118. Case Study – ‘Under’

In Norwegian, “under” is said to have the dual meaning of “below” and “wonder” (Snøhetta, 2019). The roughness of the concrete shell functions as an artificial reef, a structure designed to fully integrate and adapt to its context (Snøhetta, 2019). The restaurant’s grand window offers a view of the seabed – witnessing a habitat in continual flux.

Fig. 119. Author's Photograph

06/09/2020;

Standing at the point that links Island Bay with Houghton Bay, I am again blocked, with my view obscured by plants and shrubs. I make my way down to the rocks and see the potential for a pavilion-like structure that extends beyond the coast. I tried to imagine the user experience above and below the water edge.

05.3.3 Creative Process

Photographic Study

Visual Essay

Fig. 120. *Compilation of Creative Process – Analogue & Digital*

Digital Development

I found this to be the most challenging of the interventions. Unlike earlier design iterations, I restarted the digital model several times before settling on a direction and design strategy. The way that the structure might work weighed on my mind and interrupted my creative flow. On reflection this was consequence of time constraints and moving too quickly to detail the design without taking enough time to consider the overall vision at a conceptual level.

05.3.4 Design Discussion

From above water, the pavilion can be seen extending out beyond the coast, inviting users to walk towards the ocean. The architectural expression is a simple roof over a deck. Vertical elements are essential for structural purposes, but the architecture reads more as two singular planes; floor and ceiling. The intervention acts as a structure with no beginning or end, at a scale and with deliberate simplicity that fits well with its environment.

From beneath the waterline, users are able to observe and explore the marine environment from an entirely different perspective. The submerged structure acts as an underwater aquarium space, facilitating more intimate encounters with a highly biodiverse marine life.

Fig. 121. *Sketch Render & Early Concept Comparison – Floating Pavilion*

Fig. 122. *Sketch Render – Floating Pavilion; From Above*

Fig. 123. *Sketch Render – Floating Pavilion; From Below*

05.4 Conclusion

This second design phase explored three conceptual design interventions in a digital-based design process, building on research, processes, outcomes, and learnings from previous chapters, in order to further develop & expand the derived architectural language and method of design.

01 *x pedestrian overbridge*

02 *x coastal walkway*

03 *x floating pavilion*

05.4.1 Critical Reflection

Critique of Creative Process

The creative process followed an enactive approach that was centred around personal experiences & intuitions. The use of digital tools, illustrations, and simple line rendering, enabled me to simultaneously develop the design, address and correct problems, and implement changes. Such an approach allowed for new ideas & dialogue to emerge. The designs now require a much greater level of detail and development.

This understanding of creative practice will likely deliver a better result.

Intervention 01

The first intervention, the pedestrian overbridge, provides a physical linkage between land and water and prompts a metaphysical link between people and place. This design iteration directly corresponds with RO3; exploring ideas of embodiment & time as designable constructs. Reoccurring themes of participatory sense-making and materiality have thus been established as critical design considerations and should be investigated further.

Intervention 02

The second intervention, the coastal walkway, provides a continuous link at the coastal edge. The low-lying profile merges with its surroundings, accentuating linearity at the coastal edge & helping to define the escarpment above. I was intrigued by the exchange between draped fabric and structural module – this idea of an interchangeable and dynamic system within a modular framing device. How can I continue to explore this?

Intervention 03

The third intervention, the floating pavilion, looks to provide a different way of perceiving & understanding place; from beyond and beneath the waterline. This design concept was easily the most challenging. The outcome represents a structure with no definitive boundaries. The different layers and interconnected spaces aim to generate people's natural curiosity. Though the design helps to shape the present and future, in what way does it address the past?

Fig. 124. *Photograph – Wind Patterns Captured*

What's working well:

- x a modular system – part permanent, part changeable*
- x an enactive approach – based on cognitive thinking*
- x an iterative design process and ongoing dialogue with self*

Opportunities to move forward:

- x part of looking forward is looking back – what could this mean for architecture?*
- x merge creative practices and analytical processes*
- x implement programme – what is the relationship between programme and site?*

06

Introduction

06.1 Design Development

Creative Process

06.1.1 Looking Back

06.1.2 Programme

06.1.3 Programme vs. Site

06.1.4 Landscape, Architecture, Art

06.1.5 The Frame Concept

06.1.6 On Making

06.1.7 Form Finding

06.1.8 Digital Development

06.2 Design Proposal

The final design phase builds on research done prior to this point, expanding on the creative processes, outcomes, and learnings, bringing all of this together into a design scheme. The design scheme proposes a renewed Island Bay Marine Education Centre, supporting existing coastal structures located along Island Bay's coastal edge and provides a flexible facility for future needs. The creative process continues to explore and develop an architectural language and method of design that looks to strengthen the connection between people and place, centred around an enactive approach. The developed design outcome addresses the underpinning notion of the research; to establish an architectural response that helps to negotiate a dynamic coastal environment and developing urban context – enhancing *sense of place* and *identity*.

This section of the exegesis will follow a two-part structure;

x design development

x design outcome

0 6 . 1

D E S I G N D E V E L O P M E N T

Fig. 126. *Photograph of Island Bay – Tapu te Ranga Island*

Fig. 127. *Photograph of Island Bay Towards Bait House*

06.1.1 Looking Back, Looking Forward

24/10/2020;

I return to site & immediately situate myself at the centre of the embayment. The old surf club and bait house have a strong presence on my left. The straight sea wall creates a divide between me and the water's edge. There is something about this separation that has always bothered me. I think back to one of the comments made in the August review, "part of looking forward is linked to looking back." I now see that this level of consideration was perhaps lacking in my earlier thinking. I reflect on what the beach was before any development – it was a large dune system. It is somehow clearer to me just how much this section of the coastline has been altered, and I consider the possibility of relocating or removing the sea wall entirely. How could the architecture be part of the solution?

Fig. 128. *Historic Photograph of Island Bay 1900*

Fig. 129. *Historic Photograph of Island Bay 1912*

Image Redacted

Image Redacted

Fig. 130. Photograph at Island Bay Coastal Edge

Fig. 131. Photograph at Island Bay Coastal Edge

Fig. 132. Photograph at Island Bay Coastal Edge

Fig. 133. Photograph at Island Bay Coastal Edge

06.1.2 Programme

This final design reimagines the new Marine Education Centre. The selected programme supports existing coastal structures located along Island Bay's coastal edge; the Island Bay Surf Club & the Island Bay Bait House. As was discussed in the first chapter on site and context, the former surf club building currently functions as the main meeting, function, or exhibition space for the Marine Education Centre. The issue is that the building is not always open or safe for public use due to ongoing damage. There is an opportunity here to explore an architecture that can instead respond to coastal change, negotiating between a dynamic coastal environment and developing urban context.

It was decided early on that the building would be flexible in function, and though it is designed to be the Marine Education Centre, the organisation and allocated function has the ability to adapt over time with changing needs.

Marine Education Centre in Malmo
Nord Architects Copenhagen
Limhamn, Sweden
2018

The Marine Education Centre in Malmo is a new learning landscape that explores the effects of climate change and promotes sustainable development by the sea (Nord Architects, 2018). Nord Architects has designed it as a low-slung building integrated into the coastal landscape, the goal being to improve the conditions for a viable sea by promoting knowledge, awareness, and responsibility. The single-storey structure includes a number of differently-sized volumes, strung together loosely to form the sheltered outdoor areas between the mainly windowless pavilion-like structures. The building comprises a variety of flexible learning spaces under one unifying roof (Nord Architects, 2018).

Image Redacted

Fig. 134. Marine Education Centre in Malmo

Fig. 135. Planning Process

06.1.3 Programme vs. Site

The research to date has not been defined nor restricted by any given programme or set of requirements. The final design is prompted by the pragmatic need to improve and expand on the already existing Marine Education Centre, and the possibility to strengthen the connection between people and place. This prompts a key line of enquiry for the design research; *what is then the relationship between architecture, programme, and site?*

The following sketches demonstrate the iterative process taken in developing three programmatic and site planning strategies:

Fig. 136. Planning Strategy: Control

Concept 01: Control

The first concept considers the possibility of relocating the sea wall and road further inland to align with the natural contour of the beach. This would require new road and wall alignment and would restore natural 'swash processes' on the beach that reduce the incidence of wave impact (WCC, 2014). But what would this mean for the architecture? The programme can be seen forming a cluster of spaces around the outer perimeter of Shortland Park, creating a clear view out towards Tapu te Ranga Island. The central park space provides further separation from the coastal edge. Though this would control coastal processes, the idea of a controlled retreat does not fit with the chosen line of inquiry.

Fig. 137. Planning Process

Concept 02: Mitigate

The second concept looks to remove a section of the sea wall, close part of the road, and restore the coastal dune system – redirecting road traffic up Reef Street. This would require sand to be re-established between the beach and the new wall. The architecture would be developed alongside the dune, exploring the possibility of an interconnected relationship between the programme and site, mitigating erosion processes and coastal dynamics. The park space to the right of Shortland Park remains as it is, with the opportunity to develop at a later date.

Fig. 138. Planning Strategy: Mitigate

Fig. 139. Planning Strategy: Surrender

Concept 03: Surrender

The third concept proposes that the sea wall be removed entirely, restoring and establishing a coastal dune and linking the beach with Shortland Park. This concept would return the beach to a natural system capable of adapting to high seas, storms, and long-term climate change. Shortland Park would need to be returned to a natural dune system for this option, though it must be noted that southern parts of Shortland Park are already dune. High dunes are not expected to form (based on historical imagery and topographical relief), but rather low, hummocky dunes with a relative height of 3.5 to 5.5m (WCC, 2014). It has been suggested that a dune width of 30m to 50m would be required to efficiently trap wind-blown sand and allow for erosion and future climate change (WCC, 2014).

The blurring of the coastline aligns well with the idea of an architecture and programme that becomes one with the landscape – through a dune-like structure that surrenders to its surroundings. This can be understood in terms of an adaptive management strategy and involves being flexible to changing circumstances. This concept aligns well with the research agenda and has thus been selected for further development.

Fig. 140. Planning Process

- deck / outdoor space
- north facing
- outdoor events & ~~recreational~~ activities.

- public ~~public~~ bathrooms & changing rooms
- outdoor shower
- vacant space & retail opportunities - supporting local business
- aimed at marine life

ground to
multipurpose

beach access
aligns

look at the
plate

link at the
coastal edge

Fig. 141. Early Concept Sketch

06.1.4 Merging Landscape, Architecture, Art

A photographic study, 24/10/2020, and visual essay of early observations & creative outputs reveal how the preliminary design was formed. The following pages exhibit an array of early sketches and paintings involved in the process of rapid design exploration. This highly intuitive, analogue-based process brings to light my early creative and decision-making process.

Fig. 142. Photograph of Tapu te Ranga Island

Fig. 143. Photograph of Island Bay

Fig. 144. Photograph of Island Bay

Fig. 145. Photograph of Island Bay

Fig. 146. Photograph of Island Bay

Fig. 147. Photograph of Island Bay

At the conceptual level, I began by exploring the design possibilities that could come from a restored dune system, purposefully blurring the lines between architecture and landscape. There is a slightly speculative dimension to this that I like, the idea of simultaneously burying and suspending the architecture into the rolling landscape. The section and elevation were key design tools in understanding and developing the relationship between built mass and site.

Fig. 148. Concept Development – Dune-like Structure

Fig. 149. *Concept Development – An Elongated Profile*

Fig. 150. Photograph Compilation at Island Bay x6

Fig. 151. Concept Development – Dune-like Structure

Fig. 152. Concept Development – Dune-like Structure

Fig. 153. Photograph of Island Bay

Fig. 154. Photograph of Island Bay

Fig. 155. Concept Development

Fig. 156. Concept Development

Fig. 157. Concept Development

Fig. 158. Watercolour Painting – Elongated Stroke 01

Fig. 159. Watercolour Painting – Elongated Stroke 02

During this time, I re-explored watercolour as a design medium. I think back to the paintings I produced in the early stages of the design research and can recognise just how pivotal they were for my creative process. Whilst those earlier paintings were done facing portrait, the following paintings are orientated landscape, and are more indicative of an elongated coastal profile.

The first series explores a longitudinal composition. The water-based medium creates a strong sense of continuity, accentuating the horizontality of form. A singular stroke offers a powerful gesture, referencing the low-lying profile that is the coastal edge. The work speaks the same language as the site. An analysis of the art work places emphasis on the tension between uniformity and fluidity. The canvas provides a clear framework that enables the watercolour to migrate freely. This idea of the 'in-between' continues to be a critical design consideration throughout my work – finding the place where opposites meet.

Fig. 160. Watercolour Painting 01

Fig. 161. Watercolour Painting 02

Fig. 162. Watercolour Painting 03

Fig. 163. Watercolour Painting 04

Fig. 164. Watercolour Painting 05

The final series of paintings is centred around a grid-like configuration of work. This idea of modularity follows on from the previous chapter – exploring an organic medium within a modular system. Each of the works was created in a similar way, yet no two pieces look the same. Although I have control over the scale and stroke, it is ultimately the watercolour that takes charge of the canvas. This process allows the paint to have its own autonomy. It chooses where to migrate.

Fig. 165. *Series of Watercolour Paintings*

Fig. 166. Photograph of Concept Model

06.1.5 The Frame Concept

The enquiry into an adaptive strategy revealed with it a publication titled Time-based Architecture. The literature offers insight into specific techniques and theories that allow buildings to adapt to meet the demands made by time, “the new challenge facing architects is to design for the unknown, for the unpredictable” (Leupen, 2005, p. 12). There is a section that discusses in depth what is known as the frame concept. The frame concept allows for the changeability of buildings based on permanent elements. These permanent elements were thus termed the frame. According to this principle, the permanent part of a building serves as the frame, which creates freedom and enables adjustments to be made without requiring such adjustments to be fully determined in advance (Leupen, 2005). Leupen writes, “the frame is not just the permanent part of the building, it also embodies the building’s most important architectural and cultural values, which means that the building can react to changes in the requirements imposed on it without damaging its essential character” (2005, p. 18).

The frame concept has formed an integral part of my design development and outcome which follows – the idea of an architecture that is part permanent & part changeable. What are the design possibilities that exist between the two extremes?

06.1.6 On Making

In considering this negotiation between permanence and changeability, I find myself thinking about Maya Lin and her design philosophy. Lin writes, “I feel I exist on the boundaries,” and it precisely this thinking that prompted the following design experiment (2000, p. 5). This series of conceptual models is aimed at exploring a modular system with interchangeable elements, registering the design possibilities that exist between two extremes. The language and form has evolved from earlier design experimentation. The creative process entailed the use and manipulation of clay, combined with precisely designed laser-cut elements, warped acrylic, and rock fragments found on site.

Fig. 168. Documenting Process – 'On Making'

Fig. 169. Documenting Process – 'On Making'

Fig. 170. Documenting Process

Fig. 171. Documenting Process

I think with my hands ... These models, which I also refer to as sketches, have a clue that will give me an understanding of what I am trying to do.

– Maya Lin, Boundaries, p. 36

Fig. 172. Documenting Process – ‘On Making’

Fig. 173. Documenting Process – Clay, Acrylic, Found Fragments

Fig. 174. Photograph of Concept Model

Fig. 175. Photograph of Concept Model 01

Fig. 176. Photograph of Concept Model 02

Fig. 177. Photograph of Concept Model 03

Fig. 178. Photograph of Concept Model 04

Fig. 179. Photograph of Concept Model 05

Fig. 180. Photograph of Concept Model

These models are designed with a minimal framework of structural order, which is balanced against the organic nature of the warped acrylic and rock fragments. There is a simplicity here that resonates with me, showcasing an honesty in form and composition. How can this then be translated through architectural expression?

Fig. 181. Photograph of Concept Model

I am approaching the idea of simple in my works. I want to understand simplicity not as a rigid minimalist ideal, but as a composition of forms, materials, and textures that is fundamentally quiet.

– Maya Lin, Boundaries, p. 213

Fig. 182. Photograph of Concept Model 01

Fig. 183. Photograph of Concept Model 02

Fig. 184. Photograph of Concept Model 03

*Architecture, with its silent spatiality and tactile materiality,
can reintroduce essential, intrinsic meanings and values to
human experience.*

– Steven Holl, 1996, p. 11

06.1.8 Form Finding
Digital Massing

Fig. 185. Montage of Early Digital Development

Fig. 186. Montage of Early Digital Development

06.1.9 Form Resolution

Fig. 187. Montage of Digital Design

Fig. 188. Montage of Initial Sketches

0 6 . 2

T H E D E S I G N

Fig. 189. Photograph of Physical Model

Fig. 190. Photograph of Physical Model

Design Proposal

The developed design balances and combines successful discoveries from earlier experimentation and planning. The outcome addresses the underpinning notion of the research; to form an architectural response that helps to negotiate a dynamic coastal environment and developing context – strengthening the connection between people and place. Centred around a strategy that simultaneously restores and conserves natural processes specific to place, the design research proposes an adaptive architecture that is designed to respond to *change*.

Fig. 191. Site Plan

At an urban scale, the proposed design addresses the key themes identified in the initial design strategy – to *connect*, *restore*, and *enhance*.

Connect

A network of pathways improves connectivity at the edge. The concept is formed through adjacencies, connecting neighbourhood to neighbourhood, land to water, and people to place. The project facilitates connection to the existing coastal structures. The three buildings collectively form the Marine Education Centre at this time.

Restore

The design proposes the removal of the Island Bay sea wall, re-establishing a coastal dune system, and linking the beach with Shortland Park. Such a response seeks to simultaneously restore and conserve natural processes, and in doing so, actively blurs the line or distinction between the architecture and the conditions of its surroundings.

Enhance

The design outcome looks to enhance coastal character. Orchestrated movement and the use of framing devices form a journey through the site, stimulating an experience at the coastal edge. The user is encouraged to experience space through the sensation of movement and duration, triggering senses beyond acute sight towards tactility.

Fig. 192. Site Plan – 1m Contours

Site Plan

Situated along Island Bay's coastal margin, the building extends across a 75 metre stretch of coast. The architecture integrates harmoniously into the site's topography. It merges with its surroundings by following the terrain's natural forms and through the partial burying of its volume under the slope.

The uninhabited central space acts as an urban park for the restoration of coastal dune vegetation, identified to be pingao (Pikao) and spinifex (Kowhangatara) (Spence, 2009). Dune walkways lifted on piloti allow users to move through the site in a manner that protects the dune and adjoining vegetation – harnessing an environment that is rich in natural and cultural value.

Fig. 193. Ground Floor Plan

- 01. *Public Toilets*
- 02. *Exhibition Space*
- 03. *Observation Tower*
- 04. *External Boardwalk*
- 05. *Learning Spaces*
- 06. *Semi External Pavilion*
- 07. *Circulation*
- 08. *Flexible Space*

The architecture comprises two interconnected volumes & a modular configuration of freestanding walls, which, when articulated, create diverse spaces and situations. The two wings are connected by an observation tower which forms the building's core circulation system. The main programme spans between the first levels. The upper level forms part of the main circulation route, reimagining the flat roof as a walkway and recreation space for users. Crossing the site through the roof becomes an experience in itself, offering a new perspective of place.

Fig. 196. Perspective Section A-A

1:250

Fig. 197. *Photograph of Physical Model*

Part Permanent, Part Changeable

The research proposes an adaptive design response – part permanent & part changeable. The building is designed to respond to change, negotiating between a dynamic coastal environment and developing urban context. As sea level rises and dunes evolve, the seaward walls allow for the architecture to become an embedded part of the dune system, establishing a perceived continuum with the natural surroundings.

Concrete elements are juxtaposed against an otherwise largely timber and steel construction, building on an architectural language that has evolved throughout the research. The building allows for a reduced impact on the environment in the present, whilst allowing for change to occur in the future.

In this way, the proposal begins to challenge the static and permanent norms of architecture.

Fig. 198. Photograph of Physical Model

Physical Model

1:250

The development of a physical model, *1:250*, brought the different parts together through a process of construction that enhanced understanding of the architecture. It reads as a whole, as a continuous complete form that speaks to the impact of the design and its relationship to place. Examined more closely, detailed components can be *perceived* more clearly.

Fig. 199. Photograph of Physical Model

Roof Assemblage Strategy

The roof structure blurs the distinction between architecture and landscape, creating a smooth transition from coast to sea. The slope mimics the adjacent dune in a way which acts as a continuation of the dune face. The roof slants at an angle of 8 degrees, which is less than the critical angle of repose for sand (15-30 degrees) (Beakawi Al-Hashemi, 2018). This behaviour results in a dynamic form that has the ability to seamlessly merge into its rolling site, becoming a synthetic dune, alternately covered and exposed by the shifting sands. Though the roof is a critical part of the design, it remains simple in its form and composition – delivering what can be described as an intuitive sense of purpose.

Fig. 201. Perspective Section B-B

Fig. 202. Roof Structure Exploded Isometric

Fig. 203. Photograph of Physical Model – Roof Structure

Fig. 204. Detail Area – Roof Structure Section

Fig. 205. Detail Area – Roof Structure Plan

Fig. 206. Roof Structure Exploded Isometric

Fig. 207. *Isometric – Roof Assembly Diagram*

Fig. 208. *Exploded Isometric – Roof Assembly Diagram*

Fig. 209. *Exploded Isometric – Roof Assembly Diagram*

Fig. 210. *Pictorial of Parts – Roof Assembly Diagram*

Fig. 211. Photograph of Physical Model – Roof Structure Expressed

*Architectural Expression;
An Adaptive Envelope*

An adaptive building envelope allows the architecture to assume different appearances over time. Rotating timber screens deliver an uncompromising appeal to the design. Timber was selected for its colouration, which continues to develop over time, allowing the architecture to blend with its surroundings. The modularity and linearity of the facade bring a human scale to the design that gives the building direction.

Fig. 212. View Looking Toward Tapu Te Ranga Island

Fig. 213. *Rotating Timber Screens – Elevation 1:100*

Fig. 214. *Rotating Timber Screens – Plan 1:100*

Elevation

Plan

The transition between open & close is seamless, allowing for the relationship between indoor and outdoor to feel less binary and more integrated.

Fig. 215. Rotating Screens from Interior View

Fig. 216. Rotating Timber Screen – Elevation

Fig. 217. Rotating Timber Screen – Plan

Fig. 218. Rotating Timber Screen – Isometric Diagram

Fig. 219. Rotating Timber Screen – Isometric Diagram

***Modular Coordination;
An Adaptive Interior***

The flexible interior configuration allows the design to undergo modifications and accept changes of function with limited structural intervention. The 6m x 6m structural grid acts as the frame in this way, as do the concrete walls, which divide the space accordingly. The structural frame holds within it an interchangeable partition system. The proposal uses a sliding track system that connects to the beams and floor. In these spaces, the idea of a flexible and agile learning environment is most evident, permitting the ability to adapt with changing needs.

Fig. 220. An Adaptive Interior – Render

Fig. 221. An Adaptive Interior – Render

Fig. 222. Adaptive Interior – Diagram

Sliding partition system

Fig. 223. Adaptive Interior Configurations – Plan

Sliding partition system

Fig. 224. *Adaptive Interior Configurations x3*

Concrete walls (orange) contrasted against interchangeable partitions

Fig. 225. Exterior Render

Materiality and Detail

Three primary materials were used in the design: exposed concrete, steel & local hardwoods. These materials speak to the derived architectural language – and were selected because of their aesthetic properties, low maintenance & natural aging ability.

Fig. 226. Exterior Render

Fig. 227. Exterior Render – Indicative of Weathering

Fig. 228. Observation Tower – Light in the Landscape

Fig. 229. Observation Tower – Light in the Landscape

Fig. 230. Rotating Timber Screens – Exterior Perspective

Fig. 231. Vertical Circulation – Observation Tower

Fig. 232. *Flexible Space – Interior Render*

Fig. 233. *Flexible Space – Interior Render*

Fig. 234. Gallery Space - Interior Render

Fig. 235. Architectural Expression; Timber and Steel Materiality

Fig. 236. Basement Lecture Space (Flexible)

Fig. 237. Basement Lecture Space (Flexible)

Fig. 238. *Photograph of Final Physical Model –
Island Bay Marine Education Centre*

07

07.1	<i>Conclusion & Critical Reflection</i>
07.1.1	<i>Research Overview</i>
07.1.2	<i>Summary Conclusions</i>
07.1.3	<i>Limitations of Research</i>
07.1.4	<i>Further Applications</i>

07.1.1 Research Overview

This thesis sought to strengthen the connection between people and place, through an architectural response that helped to negotiate a dynamic coastal environment and developing urban context. The early stages of the research involved an in-depth site and theoretical study, followed by a chapter towards ‘place discovery.’ This resulted in three sequential stages of design. Ultimately, the research led to a proposed redevelopment of the Island Bay Marine Education Centre.

This research set out to ask to what extent can ‘*sense of place*’ and ‘*identity*’ be enhanced by employing an enactive architectural approach early in the design process? And what is the role of site-specificity in such process?

This research defines an enactive architectural approach as a process that builds on the idea of embodied cognition (gaining understanding through thought, experience, and the senses) by actively seeking out information about the environment – be it physical or social.

The questions were investigated through iterative design research, exploring an architectural language and method of design that strengthens the connection between people and place, which focused on a specific area and site on Wellingtons South Coast – the coastal edge of Island Bay. The driving motivation for this for research stemmed from ongoing pressures to develop the coastal edge, a dynamic and culturally rich environment that is changing and will continue to shift & change. Much of the current architecture is static in nature and disconnected with place. The approach taken aligns with the interests of the author – an interdisciplinary approach spanning art and architecture, employing enactive design process, with an emphasis on analogue design experimentation. It draws on the thinking and practices of key theorists in the field, and in particular, Maya Lin. Through this process, themes of ‘*embodiment*’ and ‘*time*’ were explored as designable constructs.

07.1.2 Summary Conclusions

The principal aim and primary research objectives were addressed through an iterative process of exploration and design-led research to derive an architectural language specific to Wellington's South Coast and Island Bay that strengthens connection between people and place.

How the research impacts Island Bay

Initial research focused on developing an understanding of the different factors contributing to the unique identity of Wellington's South Coast, leading to the selection of the Island Bay coastal edge as the site.

The subsequent creative process was then informed by the thinking and practices of key theorists in the field, spending time on site to observe (stimulating an intuitive response), and then register and establish connections. This helped to shape a design strategy that was specific to Island Bay, underpinned by three key principles: connect, restore, and enhance. The design process and outcomes were critically reflected on at each different design phase.

Several conceptual design interventions were explored, concluding with the proposed redevelopment of the Island Bay Marine Education Centre. It was decided early on that the building would be flexible in function, and though it is designed to be the Marine Education Centre, the building has the ability to adapt over time with changing needs.

A minimal and modular structure provides a frame that enables change, and balances uniformity and order with a dynamic shifting site and context. This relationship between opposites contributes to the success of the design. Assessed against the research objectives, the outcome effectively engages with the dynamic surroundings and uses this to inform an enriched experience with place.

In reflecting on the creative process, the use of analogue processes & art practices has proven to be a strong method to facilitate a deeper understanding of place both tangible and intangible, helping to derive an architectural language that ultimately strengthens connection between people and place. The research informed various design decisions, ending with an outcome that negotiates its surroundings, allows for change, and in doing so – *enhances connection to place*.

This is not be the only way that this understanding and connection could be achieved. A process of digital design development supported by ongoing iteration allowed the initial ideas and concepts to be developed into a functional and coherent scheme.

In summary, thinking about the role of site specificity in this process – this research is targeted at a specific place and design parameters on Wellington’s South Coast, and the design responds directly to those factors. The design outcome is not directly replicable elsewhere.

Wider impacts on the coastline/region

The research, processes, findings, and conclusions have had an impact on Wellington’s South Coast as a whole. The research suggests there is scope to think holistically and creatively about how architecture might engage with place to enhance the human experience.

The selection of Island Bay along Wellington’s South Coast provided plenty of opportunity for design, with a rich history and cultural connection – a dynamic coastal environment undergoing significant urban development. Current structures are not taking advantage of these opportunities and do not respond to the inevitable impacts of climate change and sea level rise. These aspects are a key focus for the research, developing an architecture that surrenders to the environment, creating a relationship between the architecture to dunes and the water, in order to enhance and intensify human experience of ‘*place*.’

The research provides a point of reference and impetus for the embedding of an enactive approach early in the design process to deliver an enhanced '*sense of place*' and '*identity*.' Some of the thinking and practices are established, and this research seeks to build on that, contributing to the architectural discourse in this sphere.

Although it was previously noted that the outcome is not directly replicable elsewhere, the process certainly is. In general terms, this research proposes that the approach should be emergent. As applied here, over several stages of design development, it allowed the design outcomes to emerge. The developed design is responsive and specific to its place rather than preconceived and universal. The approach built on the idea of embodied cognition (gaining understanding through thought, experience, and the senses) – actively seeking out information about the environment. An emergent approach does not, however, mean unstructured. The process proposed served its purpose, providing sufficient structure with room for regular reflection and ongoing dialogue. This facilitated the exploration of new ideas and discoveries & refinement of design thinking and application.

Another key consideration that becomes important in a time of rapid change is the idea of an adaptive architecture that can adjust and be reinterpreted to meet the needs of a changing environment and context. Some of perceived disconnect between place and architecture and people and place that motivated this research, stems from static inflexible design that is considered to be final, finished, complete when the initial construction concludes.

In this way, the research begins to challenge the static and permanent norms of architecture, and provides insight about processes and practices that designers and architects might use to create a deeper level of engagement.

07.1.3 Limitations of Research

It is not possible to truly understand the success or impact of the project in an unbuilt state, given that the research is centred around how people connect and engage with the architecture.

The scope of research was limited to those factors that facilitated exploration and development of design thinking related to sense of place and identity, in a dynamic coastal context. Other aspects of design have deliberately been excluded from the scope, as they did not directly address the research aims and objectives. These factors, including cost, structural resolution and coast management practices should be explored as part of the design process in a real-life situation.

Lastly, it is not possible to accurately predict how the coastal environment will change and effect this will have on the architecture. Assumptions have been made based on current knowledge and predictions.

07.1.4 Further Applications

If this research was to be advanced to the point that the architecture could be built, additional and more detailed programme/structural analysis would be required, along with input from external specialists and experts. Before any of that could take place, key stakeholders and the local community would need to be engaged. This would then feed into a final design.

The ideas explored in this thesis could be taken forward independently of any build. The research suggests that a greater emphasis on enactive process, particularly at the early stages of development, would contribute to design outcomes that create stronger connection between people and place.

The research explores an architectural approach and the design possibilities that respond to a dynamic coastal environment and developing urban context. The solution that it arrives at is specific to the place of Island Bay on Wellington's South Coast. The conclusions drawn provide insight about processes and practices that designers and architects might use to create an engaging experience for designers, users and visitors that enhances '*sense of place*' and '*identity*.'

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