The Ecological Touchstones of Our Identity:

*Confronting native landscapes within the
cultural and ecological identity of New
Zealand's society.*

By Jaime Macfarlane

February 2012

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Confronting Native Landscapes with the Cultural and Ecological Identity of New Zealand's Society

By

Jaime Macfarlane

A 120 point thesis

submitted to the Victoria University of Wellington

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Severe salt zone {coastal}

- Calystegia rupestris* – common to bush margins and shaded eastern edges of dune belt
- Muehlenbeckia complexa* – pohuehue – dune – very tangled shrub like masses. On terraces and gravels
- Myoporum laetum* – ngaio

Dune belt

- Aristotelia serrata* – mako mako wineberry
- Leathodes juniperina* – prickly mingimingi – used to be found Waiwiri – undershrub of forest
- Leathodes fraseri* – panakara – turf forming plant in dry open space and under mounds
- Cyathodes fasciculata* – soft mingimingi
- Calystegia rupestris* – common to bush margins and shaded eastern edges of dune belt
- Geniostoma rupestre* var. *ligustrifolium* – hange hange – likes bush margins – used to grow on plains and dune belts
- Muehlenbeckia complexa* – pohuehue – dune – very tangled shrub like masses. On terraces and gravels
- Muehlenbeckia australis* – bush margins in plains and dune areas
- Myoporum laetum* – ngaio
- Polygonum salicifolium* – loves swamps on plain and dune belts space
- Clematis forsteri* – bush margins on dune belts

Semi-swamp forest

- Gnaphalium limosum* – grows in swampy edge of Waiwiri
- Griselinia lucida* – shining broadleaf – nuka
- Hydrocotyle heteromeria* – plentiful in bush in muddy grounds
- Isocarpos micranthus* – mistyrose
- Juncus pallidus* – in small numbers from coast to foothills
- Knightia excelsa* – rewarea
- Laurelia novae-zelandiae* – pukatea
- Macropiper excelsum* – kawakawa
- Metrosideros fulgens* – red rata vine
- Metrosideros periorata*
- Metrosideros robusta*
- Myoporum laetum* – ngaio
- Olearia virgata* – likes open swamp edge and streams
- Passiflora tetrandra* – native passion vine - kohia
- Phormium tenax* – harakeke
- Pittosporum cornifolium* – epiphytic plant
- Plagianthus spectabile* – ribbonwood – used to be common near streams and rivers – and semi swamp
- Polygonum salicifolium* – loves swamps on plain and dune belts space

Plains {nikau belt}

- Carpodacus serratus* – putaputaweta – marbleleaf
- Asperula corymbosa* – kahurangi – found in lowland environments
- Plagianthus spectabile* – ribbonwood – used to be common near streams and rivers – and semi swamp
- Geniostoma rupestre* var. *ligustrifolium* – hange hange – likes bush margins – used to grow on plains and dune belts
- Streblus heterophyllus* – small leaved milk tree – likes damp bush and semi swamp
- Muehlenbeckia australis* – bush margins in plains and dune areas
- Macropiper excelsum* – kawakawa
- Clematis forsteri* – bush margins especially on the plains

Beilsmedia tawa – tawa
Cyathea medullaris – mamaku
Dacrydium cupressinum – rimu
Dicksonia fibrosa – wheki-ponga
Dicksonia squarrosa - wheki
Elaeocarpus dentatus - hinau
Elaeocarpus dentatus - hinau
Griselinia littoralis - breadleaf
Knightia excelsa – rewarewa
Knightia excelsa – rewarewa
Libertia grandiflora – NZ iris
Metrosideros robusta - northern rata
Nestegis cunninghamii - black marie

Foothills

Nestegis lanceolata - white maire
Olearia rani – heketara
Podocarpus hallii - Hall's totara
Prumnopitys ferruginea – miro
Rhopalosiphys sapida – nikau
Schefflera digitata – pōte
Weinmannia racemosa – kamahi
Carpodetus serratus – tūhōtaweta – marbleleaf
Fuchsia excorticata – fuchsia – mostly foothills
Macropus excelsus – kawakawa
Phegnum chamberlainii

Kamahi Country

Mountains (Beech Forest)

Figure 1. Covey (Interior bush of Lake Puponga) (Wairarapa Scenic Reserve June 2011)

Figure 2. (page before) Map V. Penned by Leslie Adkin from Horowhenua. His Maori place names & their topographic & historical background. (1948) Wellington: Department of Internal Affairs.

Figure 3. Sections of the entire lowland plain from coast to the Tararua Ranges with vegetation zones.

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To Cory, for being my high five buddy, listening to my design rants and for not glaring at me (too much) when I would raid his jellybean stash and consume all the black jellybeans. Marita, for always having an intelligent and critical thing to say, the excellent crazy dancing, general love of whiskey and wallet emptying shopping relief. Jeremy, for being my partner in crime when it comes to TWSS and his critical - yet utterly entertaining - proofread, and Trav, for the hugs, chats and his general capacity to make horrendous/awesome calls and always make me laugh.

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Finally, this one’s for you, Dad. You never quite ‘got’ landscape architecture, but I’m pretty sure you’d be proud of this. Time is indiscriminate when it comes to loss, you will always be ‘just’ gone - ‘kua’ - to me. I miss you, and will always love you so much.

Te Reo Māori

The understanding, practice and strengthening of Te Reo Māori is an important component to the theoretical basis of this thesis, but also is a practice which I personally feel, as the author, is important to the whole of New Zealand as we work towards a more knowledgeable society.

With this as a driver I have endeavoured to try to communicate Māori language and structure using correct ‘pronunciation’ through the correct use of macrons. Macrons indicate an emphasis and elongation of the vowel in question, which completely changes the meaning and pronunciation of many words within Te Reo Māori. In other systems, this emphasis is sometimes indicated by doubling the vowel in question (eg. “Maaori”), but more frequently it is left out completely.

After beginning my foray into learning Te Reo, I was quite surprised how often macrons are left out in everyday literature when the removal of the macron utterly changes the meaning of the word. Yet this discrepancy can still be seen in many places, from books through to magazines and newspaper articles, even road signs,

To alleviate any confusion that may have arisen from switching between quoted text which has no macrons with text which does, I have taken the rather presumptuous approach of inserting macrons into Māori words which I know *should* be macroned, but because of societal inclinations and/or technical hindrances, have not been.

To do this I have used my personal knowledge, my trusty ‘Raupō Dictionary of Modern Māori’ by P.M Ryan, and called upon my esteemed Te Reo tutor Rob every so often.

I apologise if placing macrons where necessary, in quoting other peoples’ work, seems cheeky This is not my intention. I do so only to try and help produce some clarity on correct pronunciation and representation of the written (and thereby spoken) word. This is, I hope, a mini contribution to the Māori culture, and the strengthening of Te Reo as a living language within New Zealand Aotearoa.

Mā tou rourou

Mā tōku rourou

Ka ora ai te iwi

{If we share what is ours, together we shall achieve more}

Abstract

'Ecological Touchstones of Our Identity' explores the ways in which the language of New Zealand's landscapes have been transformed by colonisation as New Zealand undergoes transition into a post-colonial era.

This thesis identifies how three uniquely native New Zealand landscapes, the Beach, the Swamp and the Bush, have become lost to New Zealanders, both physically and conceptually, through the gradual transitions of time and contested histories.

Although these landscapes are perceived within New Zealand's culture as uniquely native to New Zealand, their true nature is somehow lost on many. Such unique landscapes coalesce into one very important landscape - the transect of the lowland forest - which has been all but lost from the fabric of our landscapes.

This thesis uses a methodological approach wherein a range of dualities are explored in opposition to each other. The concept of biculturalism between Māori and Pākehā; the orientation between the vertical and horizontal, the gaze versus the object; wetland and bushland versus pastureland; and, most importantly, the perceived duality of nature versus culture. This latter point will be challenged through the theory and design concepts presented in this thesis.

The final design outcome deals with the practicalities of generating a strong knowledge base of eco-sourcing and regeneration of national importance by creating a functioning seedbank between the two sites selected: the Museum of New Zealand - Te Papa Tongarewa and Lake Waiwiri (Lake Papaitonga). The vision is to regenerate the lowland forest transect between Lake Waiwiri and the coastal edge back into the functioning ecosystem once present, while structuring this regeneration to act as a cultural tool for strengthening New Zealand's sense of ecological cultural awareness, and thereby, identity. The role that landscape architecture and architecture play within this system of regeneration is critically explored through form and conceptual process, cumulating to a scheme which presents the educational opportunity of integrating these two different sites into one functioning ecosystem of regeneration.

Figure 4. Canopy of Waiwiri Bush, June 2011

Contents

<u>Introduction</u>	12
12 Discovering Landscape	
12 Culture in Landscape	
12 Tension and Dualities	
13 Aim	
14 Research approach	
 <u>Chapter One:</u>	
<u>Landscape: An Analysis</u>	20
23 Landscape: A Tool of Colonialism	
24 The Economic Gaze	
25 The Aesthetic Gaze	
28 The Act of Naming	
31 Conclusion	
 <u>Chapter Two:</u>	
<u>Landscape as a Cultural Construct</u>	32
34 Mapping: A Method of Discovery	
38 Sense of Place: Genius Loci	
42 Orientation of Culture within Space: The Vertical and The Horizontal	
44 Orientation within Time	
46 The Debate of Identity-Invention as Discovery. What about Re-discovery?	
48 Conclusion	
 <u>Chapter Three:</u>	
<u>The Native Landscapes of Negotiation</u>	50
52 Identifying the Beach, the Swamp, and the Bush.	
57 The Beach	
61 The Swamp	
67 The Bush	
69 Conclusion	

Chapter Four:

Te Papa Tongarewa 70

- 72 Background
- 74 Bush City
- 78 Te Papa as a Cultural Topography: A Metaphorical Landscape
- 82 Object of Pointing
- 84 Pointing within Time

Design Concept 88

- 88 The Axis of Regeneration: The Transect
- 90 The Axis of Orientation: The Core
- 92 Conclusion

Chapter Five:

Lake Waiwiri {Lake Papaitonga} 94

- 104 Background
- 111 Fragmented Landscapes
- 118 The Concept of the Transect
- 121 The Narrative and the Transect

Design Concept 148

- 150 Architectural Pods
- 150 Germination Practicalities
- 152 Viewing: Interior
- 152 Viewing: Exterior
- 153 Vertical Orientation Point
- 154 Temporality and Decay

Layered Architecture 156

Responsive Architecture 164

- 174 The Boardwalk
- 177 Growing Sites
- 180 Conclusion

Chapter Six:

One National Ecosystem 184

Conclusion 187

Figure List 192

Bibliography 196

Appendices 199

- 200 Design Development
- 210 Eco-sourcing and seedbank practices
- 211 Plant Palette of Lowland Forest Transect

Introduction

Discovering Landscape

The various landscapes of New Zealand are both our most celebrated and most contentious spaces. They represent something which all New Zealanders have found a way to identify with. Consequently, there is a degree of fixation on these landscapes, especially in relation to the diverse selection of perceived 'natural' places which we deem so precious. However, because we hold these spaces in such high regard, we are notoriously cautious and careful with them, protecting and regenerating them through the numerous natural parks and scenic reserves scattered around the country yet, not quite, understanding how we can truly integrate our culture with their complex and ever changing systems.

Culture in Landscape

Culture is the lens through which we see and understand our landscape. The careful analysis of these cultural filters, and the way they affect our perception of nature, is important within a country as landscape orientated as Aotearoa New Zealand. Such an analysis can create a more thorough understanding of how to build these cultural cues to work in conjunction with landscapes, not against them will instill respect for nature as a value within our culture, allowing culture and nature to validate one another.

Tension and Dualities

Within New Zealand society the term 'biculturalism' is commonly used to suggest a cultural duality. Often this is interpreted as advocacy for the creation of a unified whole. However, this thesis proposes it is not a unified whole which makes New Zealand what it is, but rather the constant tension and shift between these dual forces. While there is still a need to foster respect and understanding between the two cultures of Māori and Pākehā to place them on an equal footing within New Zealand culture, there is also a need to allow space for these tensions to evolve, change, and shift. This understanding is analysed through the more universal dualities which reside within the New Zealand context.

Aim

By operating within a framework of dualities in opposition to one another, both conceptually and physically, in the manifestation of the dual design sites, the aim is to confront the traditional approach to landscapes within New Zealand which is still entrenched in colonial concepts of space and time. The design will allow society to challenge their existing associations with native New Zealand landscapes, and the contribution of those associations to their individual and collective identity. These associations, and our interactions with these landscapes, will be examined through the exchange of architecture and landscape architecture within time and space. The design aims to re-focus national attention on the cultural importance of these native landscapes; with the intention to stimulate a reevaluation of how architectural design can reside {intervene} within a natural site, and how concepts of landscape can evolve into an urban environment. These aims strongly rely on the understanding that both designs, and the system of regeneration which they create, exist in a state of temporality, that is, to exist within, or in relation to, time.¹ The design is envisaged as an ecological touchstone, an ecological standard or criterion, by which ecological values will be woven into the fabric of New Zealand's cultural topography for future generations to benefit from.

¹ 'Concise Oxford English Dictionary'. (2006) (Eleventh ed.). New York: Oxford University Press. 1483

Figure 5: 'Whole fern canopy',
June 2011

Research Approach

The nature of the thesis means the research spans many disciplines and cultural perspectives. Landscape from a colonial and native perspective is placed in dialogue with architectural concepts; the boundaries of these disciplines are questioned from the analytical position of landscape architecture. Consequently, architecture, landscape architecture, ecology, and education all contribute to an exploration of the role of landscape, both as it has been within New Zealand's society, and as it can become in a post-colonial era.

Chapter One is a historical analysis of the ways in which certain approaches to landscape have acted as tools for the colonial settlers, and how these approaches impacted upon existing Māori concepts of space and time. It provides a brief global overview of the concept of landscape, from which further analysis of landscape concepts within the New Zealand perspective continues throughout the thesis.

Chapter Two deals with nature and landscape as cultural constructs. This considers such concepts, such as; the creation of identity, sense of place, genius loci, orientation within space, time constructs and the importance of language in a society's understanding of landscape.

Chapter Three provides a rigorous analysis of the theoretical, cultural and physical attributes of the three important ‘native’ landscapes (the Swamp, Bush and Beach) which have evolved over time, and how this evolution has affected each landscape’s physical manifestation within New Zealand’s current society.

Chapter Four examines the role and meaning of New Zealand’s national museum, Te Papa Tongarewa, by removing it from its own context and considering it within the theoretical boundaries of landscape architecture. In this sense, Te Papa Tongarewa is explored as a cultural topography, a metaphorical landscape. The identity of this architectural space is questioned through the medium of the three native landscapes identified in the ecological transect found at Lake Waiwiri, with commonalities and differences between the urban and rural explored. The architecture of the museum is explored as an object of ‘pointing’ through the literature of Mike Linzey, which is developed in conjunction with concepts of horizontal and vertical orientations within space. It raises the question, can a museum act as an orientation object both nationally, personally, and conceptually?

Chapter Five examines the rural site of the dual design spaces, Lake Waiwiri. It is structured to introduce the character of the site and its landscape, the lowland forest. It unveils the design components as the theoretical and practical reasoning behind design decisions is explored. The layered history of the site is necessary to understand the design decisions made within the site ecology, as is the concept of the transect, which is defined as “...a straight line or narrow cross section along which observations or measurements are made.”² However, within the discipline of landscape the term transect represents more than simply a connecting line, it alludes to a width of space which is used as a tool for exploring the potential within the site as the design transcends traditional life spans of architecture.

Chapter Six examines the design conclusions for both sites. These conclusions are drawn in conversation with the theory and analysis undertaken in the previous chapters. The two individual design constructs are placed together, creating a dialogue which illustrates the interdependent system of regeneration and education created by the two sites.

2 ‘Concise Oxford English Dictionary’. (2006) (Eleventh ed.). New York: Oxford University Press. 1531.

Figure 6. (left) Abstraction of the conceptual ‘layers’ of landscape - Wellington and Lake Waiwiri (Papaitonga)

The final design occupies both a conceptual position within time and space, and also a physical position. Consequently, the result should not be thought of as two separate physical designs. Rather they should be approached like a system which has evolved from the conditions of temporality and time found within both the metaphorical landscape of the museum Te Papa Tongarewa and the architecture of the lowland transect found at Lake Waiwiri. Both are designed to be understood not as singular moments, but as narratives through landscape and architecture, time and space. This thesis explores the spatial, programmatic and material decisions undertaken, while elaborating on the tensions which are emphasised by smaller and more detailed design moves.

Ultimately the design is conceived as an ecosystem of regeneration and education. This condition is best embodied by the physical reliance each has to the other. The process of eco-sourcing seeds from one site, the lowland forest at Waiwiri, and storing them at the other, the museum Te Papa Tongarewa, creates a fully functional seed bank. Through creating this dialogue between the two sites, and integrating the design concept into two such different environments, the process becomes fully understandable to the public as not only a regenerating memorial but also as a living dialogue of national importance for regenerating the future.

Aotearoa
New Zealand

Rural - Lake Waiwiri

Urban - Te Papa Tongariro

An Introduction of the Dual Sites

Figure 7. Map of North Island -
showing respective locations of
both sites

Figure 8. (page over) Beach area,
sand dune contours. Waiwiri.

A light gray topographic map with contour lines is overlaid on a white background. The map features several peaks and valleys, with the most prominent ones in the upper left and upper right. The word "ONE" is printed in a large, serif font in the upper right area, partially overlapping the map. The page number "-19-" is located in the top right corner.

ONE

-19-

Landscape: An Analysis

23	Landscape: A Tool of Colonialism
24	The Economic Gaze
25	The Aesthetic Gaze
28	The Act of Naming
31	Conclusion

Landscape: An Analysis

landscape/ n. 1 all the visible features of an area of land. 2 a picture representing an area of countryside.

3 the distinctive features of a sphere of intellectual activity.³

Landscape is a complex and value-laden expression of the physical environment that we inhabit.⁴ In short, it is a culturally constructed abstraction which is all too often simplified as a society tries to create a structure by which they can measure, quantify, and qualitatively assess it. Context is brought to landscape through textual and visual representation; we subjectively respond to our surroundings by engaging them with language. This method of approaching landscape is designed to simplify the over-whelming expanse of the concept of 'landscape' into something which can be defined within a human vocabulary, whether a visual, inner or written. As Meinig states in his text *'The Beholding Eye'*, no two people are capable of 'seeing' the same landscape. Agreement can be reached on qualities, numbers and denotions of landscape - objects, colours, angles, and composition - however a deeper agreement is often elusive. The fact is, that landscape is not simply composed of what lies in front of our eyes, it is also composed from what lies within each individual's mind.⁵

By dressing landscape in society's language and in our own words, concepts and personal perspectives, the process of understanding landscape becomes more achievable, or at least *appears* more achievable. As landscape is such an expansive concept, the following two chapters dissect it into its component parts. There is no doubt that landscape is a cultural construct, a concept which will be further expanded upon within Chapter Two; but what is the physicality of landscape? What is landscape without being draped with the cultural, social

³ 'Concise Oxford English Dictionary'. (2006) (Eleventh ed.). New York: Oxford University Press. 801.

⁴ Grant, M. (2003). Landscape, Values, and Laws. Paper presented at the Reclaiming Our Heritage: The Proceedings of the New Zealand Landscape Conference. 191.

⁵ Meinig, D. W. (1979). 'Beholding Eye: Ten Versions of the Same Scene'. In D. W. Meinig (Ed.), *The Interpretation of Ordinary Landscapes: Geographical Essays*. New York: Oxford University Press. 1.

and political constructs which ultimately make it so fraught? And finally, what methods of understanding landscape were brought by Māori and Pākehā from their homelands, and how did they contribute to the basis for how we view landscape in present day society?

First and foremost, landscape is a terrain, a topography; it is a planar reality. It is a physical profile of changing gradients and textures, overlaid by numerous systems which are then, in turn, affected upon by a myriad of processes.

In the 1970s, Meinig's unique approach to the problem of landscape was to acknowledge the complexity of landscape, but to dismiss the need to analyse it through complex theoretical studies, stating that ... "{I}t is far too fascinating and important to be left fragmented and obscured in the jargon of such specialists."⁶ Instead Meinig organises the concept of landscape into ten different ideas, landscape as Nature, as Habitat, as Artifact, as System, as Problem, as Wealth, as Ideology, as History, as Place and as Aesthetic. These ideas are important standards which are referred to both directly and indirectly throughout the discussion of this thesis. However, it is important to realise that while these are clear general standards, this thesis is based within the very unique landscape of New Zealand. So before the dizzying depths of analysis and philosophical debate are reached, it is necessary to gain an understanding of the *native* landscape from the colonial settler perspective, and also the perspective of traditional Māori belief.

6 Meinig, D. W. (1979). 'Beholding Eye: Ten Versions of the Same Scene'. In D. W. Meinig (Ed.), *The Interpretation of Ordinary Landscapes: Geographical Essays*. New York: Oxford University Press. 1.

Figure 9. Fenced farm land with stabilised dune hills in the background, Horowhenua region, 2011

Figure 10. Cows watch State Highway One, Horowhenua region, 2011

Landscape: A tool of colonialism

New Zealand's land has been colonised at least twice. Two successive movements of human and biotic invasion engaged with the land, forever changing the original countenance of the environment.⁷ Firstly, the ancestors of the Māori who arrived from Hawaiki, and secondly, the European settlers. While both migrations brought with them their own cultures, concepts, and biota, it is undoubtedly the Europeans who worked the hardest to bend the land of New Zealand to their will and to their idealistic notions of place and home by “domesticat[ing] the new environment, translating the foreign into the familiar.”⁸

This claiming and taming of the landscape was instigated through several mediums. The Economic Gaze, with its emphasis on land as commodity, the implementation of the settlement grid, and the often ruthless acquisition of land from the Māori; the Aesthetic Gaze, encompassing concepts of the picturesque and panoptic, and their visual translations through art and mapping; and the act of naming, which intrinsically links with more abstract concepts such as time and space, ownership, and how these concepts differentiate between colonial and native perspectives.

These were the intentional modes through which colonisation was acted out. However, it must be noted that there were other acts of colonisation which crept into the antipodean society. Tools such as language (most obvious in the naming of places and the resultant translation difficulties between the cultures), the Christian religion, and also, the European concept of time, which stood in direct opposition to the Māori concept of time.

All of these tools had the effect, both directly and indirectly, of slowly dissociating the Māori from their lands, and over time, dissociating the European settlers themselves from *their* homeland, and coming to understand New Zealand as their own land and home.

7 Dominy, M. D. (2003). 'Hearing Grass, Thinking Grass.' In D. S. Trigger & G. Griffiths (Eds.), *Disputed Territories : Land, Culture and Identity in Settler Societies*. Hong Kong: Honk Kong University Press. 18.

8 Byrnes, G. (2001). 'Boundary Markers: Land Surveying and the Colonisation of New Zealand'. Wellington: Bridget Williams Books. 17.

The Economic Gaze

As discussed previously, the land is never viewed neutrally. People always view and assess land against an inner dialogue of thoughts, experience and memory. This was true for the first European colonials and surveyors of New Zealand. At one level these individuals were exercising a vision which was their own, yet at the same time they were expected to respond to the greater colonial vision of economic viability, which was anchored in a sense of patriotism to their homeland of England.

This meant initial forays into the New Zealand countryside were largely of an economic nature. Surveyors were expected to locate sites of commercial significance, such as rivers, harbours and fertile plains, with flat land being the most sought after for its potential future productivity.⁹ Through the economic gaze of the surveyor, and through the scientific gaze of the various artists and cartographers that collected and catalogued the native flora and fauna using English taxonomic discourses, the landscape was possessed, catalogued, and divided up into neat and definable packages.

Settlers had the expectation that colonising the newly-discovered land would be a profitable and gratifying process. The colonisation was an act of a refabrication of their homeland on what they perceived as the richer and more fertile soils of a previously untouched country. Essentially settlers were “...creating new and imagined landscapes...” through their initial reading of the land, which in turn was an invitation for settlers to place themselves in this newly formed landscape and, in doing so, become a part of it.¹⁰

The European colonisation was viewed in many ways as an economic venture. The empty and uninhabited spaces which were imagined to exist down in our antipodean corner of the world needed to yield returns that could be quickly and economically calculated in advance. In this respect, the grid became the blueprint for

9 Byrnes, G. (2001). 'Boundary Markers: Land Surveying and the Colonisation of New Zealand'. Wellington: Bridget Williams Books. 9.

10 Byrnes, G. (2001). 'Boundary Markers: Land Surveying and the Colonisation of New Zealand'. Wellington: Bridget Williams Books. 1-2.

colonisation, making the process of dividing up land a simple task, with grids “... painstakingly imposed on an unwilling landscape”.¹¹

Ironically, the land was not as hospitable as the New Zealand Company and others hoped. The prefabricated plans for settlements were often found to be utterly unsuitable for their intended location, due to issues such as steep inclines, less than suitable soils and dense forest cover. Wellington’s initial location was intended to be in the Petone region, which at that time was a swamp region prone to regular flooding. After an initial attempt to settle the land there the settlement proposal was wisely moved over the harbour, into Wellington’s current central location.

The Aesthetic Gaze

The panoptic is all about the vantage point of a high location, where the individual can ‘re-make’ foreign objects into familiar ones which can be observed and measured, and thereby controlled...utterly absorbed into ones scope of vision. It reflects towards a certain dominance of the (male) gaze – all subjects are subsumed beneath one gaze, the transformation of place into picture.¹²

¹¹ Ibid, 19.

¹² Byrnes, G. (2001). ‘Boundary Markers: Land Surveying and the Colonisation of New Zealand’. Wellington: Bridget Williams Books. 28.

Figure 11. Aerial photo of the Marlborough region displaying the textured grid common in rural settings. Photo supplied by Cory Manson

The concept of the panoptic gaze is a recoil from the concept of the sublime – of being ‘overwhelmed’ by nature. The panoptic gaze empowered the viewer by allowing the overall concept of the land to be realised – although this overview was always tempered by a degree of imagination and exaggeration. This sense of empowerment was very important for colonial morale, since many still considered the land to be the enemy.

“Men clung together for mere animal warmth in this empty country where the landscape didn’t speak.” –

Charles Brasch – Indirections: A memoir 1909- 1947

The land was silent because there is no feeling of association and communication between the land and the settlers. The use of the word silence in the context of landscape is telling, since the landscape is hardly ever literally quiet. The use of the word is therefore responding to an internal silence; a lack of dialogue between people and place.

This shift of the Western perspective from the sublime to the picturesque and panoptic can still be seen within current day society, with Mike Abbott stating that there is still a strong “...national predilection for viewing landscape as a picturesque backdrop...”¹³ This is not to say that concepts such as the sublime have been lost from society’s vocabulary when dealing with landscapes. These terms have been, and will continue to be, tools with which humans attempt to understand and pin down the often overwhelming concepts of landscape. Such terms also act as tools to legitimise feelings when faced with the sheer variety of landscapes that New Zealand contains. Feelings of awe, distrust or terror as a colonial could be justified by characterising the landscape as sublime and wild. By the same token, possession and a sense of ownership can be linked with the characterisation of landscapes as picturesque, once the act of colonialism was well underway and landscapes had begun to be tamed and labelled.

“The panoptic gaze offers an elevated viewing point, which allows the observer to read the land from a position of omnipotence: to be a solar eye, looking down like a god.”

Giselle Byrnes, in ‘Boundary Markers: Land Surveying and the Colonisation of New Zealand’.

(2001). Wellington: Bridget Williams Books. 24

13 Abbott, M. (2011). ‘Being Landscape’. In J. Ruru, M. Abbott & J. Stephenson (Eds.), ‘Making Our Place: Exploring Land-use Tensions in Aotearoa New Zealand’. Dunedin: Otago University Press. 77.

Composition - viewing the land
within the post-colonial era

Figure 12. Richard Anderson
surveys Lake Waiwiri from
the farm land on the lakes
northwestern edge

Figure 13. Cory Manson surveys
the Wellington landscape from
the highest accessible point of Te
Papa Tongawera

The Act of Naming

The act of giving a name to a place acts as a dialogue between people and place by actively engaging in conversation with the history and/or qualities of the place. Within New Zealand the process of naming was enacted twice, once by Māori, and once by Europeans. This has created an interesting matrix of tension and overlap where places have been named by both cultures. These spaces of overlap represent the overlap of cultures, and often there can be much antagonism stirred up when moves to change the name of a place is made - Whanganui (or Wanganui) is a memorable example. That said, there are some occurrences of balanced duality. The name New Zealand is the best example here, with our society accepting the dual name of 'Aotearoa New Zealand' or even simply 'Aotearoa' as the official name for our country.

The two cultures use very different reasoning when choosing place names. The European approach is based heavily on the colonial history of settlement and control. Geographical features are commonly named after those who settled them first, prominent figures who defined history. Naming was also undertaken as a sign of fealty to Europe by naming geography after prominent Europeans of the time. The first sighting of land by Captain James Cook and his crew was commemorated in the name of that first point. The land was seen by the surgeon's son, Nicholas Young, and so the southern end of Tūranganui is now named 'Young Nicks Head' in recognition of the sighting.¹⁴ Naming also demonstrated the nature of being a settler in New Zealand. With both feet on New Zealand soils, but their minds still in England, settlers recalling their home towns bestowed nostalgic names like Brighton, Richmond, and Nelson. Yet some names were based solely on events unfolding in the new territory. Some of the most colourful examples can be seen in our gold-mining history, with names such as 'Roaring Meg' and 'Dry Bread' emerging in Central Otago in the late 1800s.¹⁵

¹⁴ Carter, L. (2011). 'The Big 'H': Naming and Claiming Landscapes'. In J. Ruru, J. Stephenson & M. Abbott (Eds.), 'Making Our Place: Exploring Land-use tensions in Aotearoa New Zealand'. Dunedin: Otago University Press. 64.

¹⁵ Ibid.

For the colonists, the act of naming could act either as a tool of claiming, tying settlers to memories of their homes, or as a means to encourage a sense of ownership of the land.

The way in which Māori name places, and connect with those names, is rather different. Māori culture does have a tradition of naming after discoverers, but their names often incorporate a more narrative element. Places are associated with a myth, a telling, of how the landmarks which identify a place were created. But there is also a more distinctive way in which names are important to Māori. Landmarks are not simply points of orientation or ways of identifying the land. They are also representations of whakapapa. This connection to one or more landmarks within ones land is the main way of identifying personal and tribal ancestral connections. The maunga, the awa, the roto and the moana all create one's matrix of identity, and this matrix can only be fully recounted in association with the original names of these landmarks, whether they represent ancestors or past events.

Figure 14. 'Papaitonga Lake Road' - typical street sign near Lake Waiwiri - an example of naming to claim. June 2011

Figure 15. The proximity of nature and culture. The coastal edge of Waikanae Beach. June 2011.

Conclusion

These elements of the cultural inhabitation of New Zealand's land set the scene for an understanding of the general placement and impact of culture on all landscapes, not just the landscapes found within New Zealand. An understanding of how settlers saw the landscape is an important reference point from which to understand current approaches to landscape, as these have played a necessary role in the formation of many of society's underlying values and associations which still exist within contemporary society today.

However, as noted in the subchapter *'The Act of Naming'*, while both cultures have very different priorities when choosing place names, the meaning of the act is fundamentally the same. As Lyn Carter writes, naming is indeed claiming. Not only the landscape, 'but the history, the occupation, and the future shaping of the named places.'¹⁶

While there was much 'claiming' of land, this was done without an understanding, without a strong dialogue between people and their association of place. This perceived lack of dialogue, caused by an unease and distrust formed by the inhabitation of an unknown land, eased as the settlers of the past learned to connect with Aotearoa New Zealand as their homeland. Indeed, many people today would argue that this dialogue has been rediscovered. However, there are some dialogues between society and landscape which have either become lost or have been overlooked. These are the dialogues of the Beach, the Bush and the Swamp, which are rediscovered throughout the form of this thesis.

*"When we are not there the landscape doesn't know
that it has quality or that it is being appreciated,
(though you are fully entitled to ask how on earth
or in heaven I know that)."*

James Ritchie, 'Intimate Spaces'

16 Carter, L. (2011). 'The Big 'H': Naming and Claiming Landscapes'. In J. Ruru, J. Stephenson & M. Abbott (Eds.), 'Making Our Place: Exploring Land-use tensions in Aotearoa New Zealand'. Dunedin: Otago University Press. 69.

TWO

-33-

Landscape as a Cultural Construct

- 34 Mapping: A Method of Discovery
- 38 Sense of Place: Genius Loci
- 42 Orientation of Culture within Space
- 44 Orientation within Time
- 46 The Debate of Identity-Invention as Discovery
- 48 Conclusion

Landscape as a Cultural Construct

Mapping, a method of discovery

Mapping is an essential tool for understanding our surroundings, especially as a settler or migrant to a new environment. Typically, within the context of discovery and settlement, mapping is undertaken as an act of tracing the landscape from the physical plane of the topography onto the physical plane of a surface, a piece of paper. As discussed earlier, this type of mapping is more than a simple act of ‘mirroring’ reality. It is an act of re-shaping the world in which people live, through an intentional or unintentional ‘colouring’ of the produced work with an individual or collective perspective. James Corner writes in his essay *‘The Agency of Mapping’* that mapping is not merely a tool for tracing and cataloguing what exists physically, but that it is a means which “... reveals and realises hidden potential.”¹⁷ Through this medium, territories can essentially be re-made over and over again, with new potential unfolding as each mapping is created.

In colonial New Zealand, the first mappings were made by surveyors who were concerned only with the economic viability of the land. This involved mapping flat, accessible land, which was desirable and easily colonised. But these early maps show more than the settlers intended. As the first settlers marked, mapped and transversed the land, they formed a ‘positive’ image of fertile and productive plains – the negative of which marked out all the land which did not interest them. This negative could be argued to be inhabited by the native landscapes of the bush and the swamp, as it was these landscapes which were impenetrable, unknown and largely considered the natural ally to the Māori

When New Zealand was first discovered, there would have been much ‘negative’ space. The basic inaccessibility of these spaces meant that they remained unknown - and it is this aspect of unknown-ness which is important, because it is only by coming to know a landscape that one can understand it. For example, at the rural design site of Lake Waiwiri there is no contour information for the lowland dune systems smaller than 20 metres.

“Nor is one ever alone. The figures of culture are moving about, through, and within one – or rather, one is constituted by the figures of culture’s speech. And vision too is a form of speech – not a passivity, but an act in which our culture leans out of our eyes, as out of a window, to speak nature in its own words.”

Francis Pound, from *‘The Land, The Light and the Nationalist Myth in New Zealand Art’*.

(1987) In J. Phillips (Ed.), *Te Whenua Te Iwi: The Land and the People* (48-60).
Wellington: Allen & Unwin/Port Nicholson Press. 58

17 Corner, J. (1999). ‘The Agency of Mapping’. In D. Cosgrove (Ed.), *Mappings* (pp. 213-252). London: Reaktion Books Ltd, 213.

Dalgarth

pa

und

PL

SHEETS

RELIABILITY DIAGRAM

Aerial photographs
Plotting instrument
Plane Table Survey
Existing Survey Records
Date of photography
Date of field check

A
B
C
1967
Jan 1974

Transverse Mercator Projection, International (Hayfords) Spheroid
Origin of Projection 171°30' E. Long. 44°00' S. Lat.

The grid and graticule on this map are in terms of Geodetic Datum 1949

All grid coordinates on this map are in terms of False Origin

False Origin is { 500,000 yds West
500,000 yds South } of True Origin
True Origin is { 44°00' S. Lat.
171°30' E. Long.

True North { at the West edge of this map is 2°08'43" or 38.1 Mils W
at the East edge of this map is 1°47'18" or 31.8 Mils W }

Height Datum: Mean Sea Level

The representation on this map of a road or track
is no evidence of the existence of a right of way

Contours through bush, forest and ice areas may be of lesser reliability

± indicates a height of lesser reliability

CKSC

interval

Figure 16. (previous) Otaki sand dune farmland with sand dune contours.
Figure 17. Purchase bag (side B) from 'The Map Shop' based in Thorndon, Wellington. A reliability diagram for the original map can be seen visually warning of discrepancies within the mapping process.

This sort of omission could seem immaterial to understanding a landscape; however, within an area such as Lake Waiwiri, the data of 20 metre contours is nowhere near fine enough to communicate the subtle variations which occur across that ecosystem. Only through mapping and knowing the subtleties of these landscapes can one start to appreciate them; it is only once you start to map the area to the depth of one metre contours that you can truly understand how diverse, undulating and changeable these landscapes are. (as shown in Figures 18, 19 & 20)

By looking at Figure 18 one can grasp that there are complex landforms happening along the transect from coast to lake. However, once the one metre contours are added to the image (Figure 19) a whole new scope of knowledge can be gleaned from the image. One can understand the way in which the dunes have slowly been blown back and built up, that they have taken thousands of years to develop. One can see how complex the movement of water to the sea must be, and how these landlocked water table lakes - such as Waiwiri - have formed, with the drainage to the sea so constrained by the build up of dune systems. Figure 20, with its extra layer of colour coded heights gives an image of highs and hollows within the environment, deepening the layers of information connected to the physical site.

Collectively the layers to this mapping build up a knowledge base of this environment, the base for understanding and therefore *connecting* with the landscape. As Corner says, mapping *unfolds* the potential of terrain through “...rendering visible multiple and sometimes disparate field conditions, [it] allows for an understanding of terrain as only the surface expression of a complex and dynamic imbroglio of social and natural processes”.¹⁸

18 Corner, J. (1999). ‘The Agency of Mapping’. In D. Cosgrove (Ed.), *Mappings* (pp. 213-252). London: Reaktion Books Ltd. 214.

Figure 18. Twenty metre contour information for Lake Waiwiri site (lake pictured in centre with general transect space outlined.)
Original 1:100000 @ A4.

Figure 19. One metre contour information is generated through personal knowledge of contouring land, and by using the transect to the south (outlined) which had been surveyed to 1m contour heights as a reference. Information of dunes becomes much more comprehensive and dense at this level. (lake pictured in centre with general transect space outlined.) Original 1:100000 @ A4.

Figure 20. When coloured, information becomes layered even more densely, giving a sense of the height to each dune where there is a large transition through colours. The transect to the south (outlined) was again used as a reference for identifying which contours would respond to which height+colour. (lake pictured in centre with general transect space outlined.) Original 1:100000 @ A4.

A Sense of Place: Genius Loci

genius loci/n. the prevailing character or atmosphere of a place - origin L..lit. 'spirit of the place'.¹⁹

The sense of place, or 'genius loci' is a very philosophical and difficult concept, but is one which forms the basis of most landscape-place-human relationships. To start to understand the concept of genius loci, one must understand the origins of the phrase 'genius loci' and also the use of the word 'place'.

Genius loci is a Roman concept which derives from the belief that every independent being has its genius, its guardian spirit. This spirit gives life to people and places, accompanies them from birth to death, and determines their character or essence.²⁰

Place is defined in the dictionary as first and foremost meaning 'a particular position or point in space; a location.'²¹ Place is a concrete term for environment, and is an integral part of existence within space and often, time. It is more than an abstract location, and is made up of concrete things such as material substance, shape, texture and colour.²² Place is more than just a summation of concrete truths collected in one geographical location. It can refer to the physical spaces of a place and the three dimensional organisation of elements, but also to the character of a place; alluding to the atmosphere and its ephemeral qualities.

Landscapes in particular gain their 'genius loci' through the continuous extension of the horizontal and vertical planes as devices of orientation, a concept which is also theorised by Francis Careri in relation to the mark of the vertical being a cultural way-finding point, a concept explored later in the chapter. In this respect, Menin's acceptance that the "...making of place is simultaneously a material construct and a construct of the mind'..."

*"When surroundings are thought of as stable,
we tend to lose a feeling of responsibility for the
environment in which we move."*

Olafur Elliasson from 'Models are Real'.

(2007) 306090 Books, Volume 11(Models), (18-25) 19

19 'Concise Oxford English Dictionary'. (2006) (Eleventh ed.). New York: Oxford University Press. 594.

20 Norberg-Schulz, C. (1980). 'Genius Loci: Towards a Phenomenology of Architecture'. New York: Rizzoli. 18.

21 'Concise Oxford English Dictionary'. (2006) (Eleventh ed.). New York: Oxford University Press. 1094.

22 Norberg-Schulz, C. (1980). 'Genius Loci: Towards a Phenomenology of Architecture'. New York: Rizzoli. 6.

can be perceived to be partially correct.²³ However it would be prudent to dwell momentarily on the statement that the sense of place is 'made'. When the word 'made' is used, do we speak of a conscious making? Or is it an entirely unconscious act? Certainly it is an unconscious act first and foremost, as through the process of creating ourselves we simultaneously create place, and often vice versa. Places 'insinuate themselves' into our bodies, our consciousness, slowly gathering meaning as time passes and history coalesces. Geoff Park postulates that 'at its most meagre', a sense of place is a fundamental and intuitive human skill we depend on to analyse our surroundings and interpret them. It is about the forces which determine the uniqueness of each place and how we differentiate these places from each other through these uniquenesses.²⁴

The phenomenon of people interacting with that landscape and the forms within it is a dialogue that occurs between land and people, and form and people unconsciously. We have a script that we define for ourselves in relation to our own personality and upbringing; we then use that internal script to interact with the landscape. It is an improvisation of acting, within which all objects, senses, people and forms are players. This 'play' tends to be over-simplified and summarized with picturesque pictures of pure and untouched landscapes; the tourism identity of New Zealand is an especially notorious culprit. However we need to start admitting that our identity is much more complex than that. We have a huge cultural and historical story, one which is often difficult and painful to revisit. But it is ours, and it allows us to re-construct and re-stage our identity as a country into a more complex and exciting concept.

23 Menin, S. (Ed.). (2003). 'Constructing Place: Mind and Matter'. New York: Routledge. 1.

24 Park, G. (2006). 'Looking for Signs of Life - Nature and the genius loci in the Austral City.' Theatre Country: Victoria University Press. 47.

Identity can be translated within Te Reo as 'tuakiri', tua meaning to be on the further side of something, and kiri meaning skin.²⁵ Tuakiri refers to the elements away from the body which help to define the identity of that individual. The idea of the 'further side' means the land, the mountains, the lakes, rivers, oceans and islands, all of which ground one's personality to a place.²⁶

The transferral of concepts and relationships, such as kaitiakitanga, tūrangawaewae, mauri, and manaakitanga, from Māori culture into mainstream society can be identified as an important transition for New Zealand's culture. The understanding of these more conceptual words begets an understanding of the concepts *behind* them. It is concepts such as these which provide the tools for bringing ecological awareness into the forefront of New Zealand's society. To use an earlier metaphor of 'dressing' landscape in language to better understand it, Te Reo provides a much more tailored and suitable fit when dealing with abstract concepts such as ecosystems in flux, and it is a tool which much be recognised and capitalised upon.

25 Mead, H. M. (2003). *Tikanga Māori: Living by Māori Values*. Wellington: Huia Publishers. 273.

26 Ibid.

The concept of *tūrangawaewae* (defined as home, home turf, or domicile)²⁷ is one that Māori identify with strongly, but most importantly, it is a concept that all people can respond to. Te Reo communicates complex concepts of landscape far more economically and accessibly than English. It is often possible to express these concepts in single words, instinctively communicating a layered representation of meanings (as shown in Figure 22).

This accessibility Te Reo offers, creating a framework of language which allows people to explore very complex concepts of time and system within very understandable terms, is essential for placing these concepts of ecology in the forefront of people's minds. Society is prone to dismissing things which are hard to comprehend or far from affecting them on a personal level. Thereby such strong concepts of language, with their heightening prevalence within mainstream society, have the power allow people to transverse the difficulties of comprehending time outside of our own limited life span, connecting us with an understanding of the cyclic time systems of landscapes.

The duality in cultures found within New Zealand has the power to enrich the creation of genius-loci with such communicative terms. Therein lies the power of creating a sense of place which is not simply connected to a place, but creates a sense of place based on the interaction and understanding of that place's innate character and systems.

Figure 21. Map VII penned by Leslie Adkin from 'Horowhenua: Its Maori place-names & their topographic & historical background'. (1948) Wellington: Department of Internal Affairs.

Figure 22. Diagram illustrating the layered meanings behind simple concepts within the language of Te Reo

27 Ryan, P. M. (Ed.) (2008) 'The Raupō Dictionary of Modern Māori'. Auckland: Penguin Group. 350.

Orientation of Culture within Space: The Vertical and The Horizontal

The typical approach to landscape is epitomised through how the landscape is viewed as a horizontal middle horizon; this view dominates the picturesque approach to landscape. Introducing verticality to those horizon-scapes starts to potentially challenge those associations.

This section explores the concept of human situated objects within a landscape, and the relationship between this concept and the nomadic way of life to which many cultures have subscribed throughout history. Careri writes that humanity's first situated objects, menhirs, were placed in an effort to stabilize the vertical dimension of the landscape. The horizontal plane was already prescribed and predictable. It was only the sun's path across the sky, and how the land could relate to that path, which was seen to be unstable. The erection of menhirs represents one of the first transformations of landscape from a natural element to an artificial state. They acted to create points/spaces of meaning, while also providing navigation to those who understood their language of orientation, a guide sculpted in the landscape.²⁸

The vertical intervention on the landscape was used as a method of orientation within the landscape. This combines our most basic and primal instinct within landscape based movements, that of searching out the clearing, with the relatively more sophisticated use of vertical intervention as a orientation point. It must be further noted that within the context of a forest or the New Zealand bush, one loses sight of the horizon - the traditional view of landscape. The horizon as an orientation device becomes irrelevant and lost within the bush, because of this, it becomes necessary to create a space where people have to rely on smaller and more succinct horizons these are the boundaries found within a clearing - the horizon of the bush.

These nuanced variations on traditional orientation lead to the unique approach within the design result, in which the two opposing methods of orientation are melded. The instinctive 'small horizon' orientation is capitalised upon artificially by using the form of the boardwalk to formalise miniature horizons. This approach is integrated with the culturally controlled vertical orientation of the architectural interventions. These work in a temporal way to play off the vertical orientation pods, which are artificial, against the stands of regenerating forest which form natural vertical orientation pieces.

²⁸ Careri, F. 2002 'Walkscapes', Gustavo Gili. 53-54.

Figure 23. Abstraction detailing orientation of vertical versus orientation of the horizontal

Orientation within Time

The cultural construct of time, and the orientation within time is a concept which manifests itself both within the dualities of Pākehā versus Māori, but also of architecture versus landscape architecture. The latter duality will be explored more thoroughly within the design chapters which deal exclusively with the two sites, as the difference in perceptions of architecture between the two cultures revolve around the understanding of time in relation to space.

The concept of time as a colonial tool is examined by Donna Awatere in her book 'Māori Sovereignty'. Within this text Awatere focuses on how the European settlers introduced the desire (and also the means) to measure time passing, which has in turn led to the dimensions of time being 'collapsed into space.'²⁹ This, she argues, has caused Māori to become disconnected from history, not tied to the cyclic nature of the "...intimate, mimetic reciprocal relationship between the human being, nature and the living past of the ancestors..."³⁰ This coalesces with the loss of land demonstrated in the early settler years to mechanically dislocate Māori from their culture of connecting deeply within space and time, and to their land. Bill McKay continues this argument by writing on how Māori traditionally live deeply within time, with everything in their immediate physical world provoking remembering. This is not to say that Pākehā don't have these same capabilities of existing 'deep within time', merely observing that the associations into history with certain landmarks are found deeper in time for Māori, tending towards the spiritual and mythological realms of ancestral stories.

Pākehā - argues McKay - by implication, have a tendency to live more out of time, all too easily forgetting past histories that came before them, often to the detriment of their surroundings and own well being. McKay surmises the difference between the two cultures within this metaphor. He argues that Westerners, or Pākehā, tend to think of their location in time as similar to standing in a stream, backs turned to the upstream of the past, facing the future, and being carried 'relentlessly' forward by the stream of time. Māori time construct, by comparison, should be thought of as a constellation in the way that the constellations of the sky appear to the voyager; surrounding, always in front, yet simultaneously behind, "...forming patterns that can be interpreted in various ways. The past always resonates in the present."³¹

29 Donna Awatere as quoted by Bill McKay in McKay, B. (2004). 'Māori Architecture: Transforming Western Notions of Architecture'. Fabrications, 14(1 & 2), p.7

30 Ibid.

31 Donna Awatere as quoted by Bill McKay in McKay, B. (2004). 'Māori Architecture: Transforming Western Notions of Architecture'. Fabrications, 14(1 & 2). 8.

Figure 24. Abstraction of cyclic Māori associations to time, overlaid with the linear Pākehā structure of time.

The Debate of Identity - Invention as Discovery. What about Re-discovery?

The exploration of the identity of Aotearoa is something which has been conceptualized, pursued and theorized since European settlement in the 1900s. However, it is an ambition which has yet to be truly realized, and never will be as the unavoidable truth with the ‘creation’ of national identity is that it is never a final, attainable, *conclusive and definitive finish line*.

All cultures and societies are constantly changing, moving forward or backwards with time and negotiating with their surrounding environmental, economic, political and social factors which twist and turn the fabric of society. Indeed, the cumulative ‘finish line’ of identity is a constant shifting line in the sand, one which has been documented through the cultural media of literature, language, art, film, photography, and stories. Each of these media, and the process that each have undertaken in the attempt to ‘discover’ this identity, play an important part in reiterating what New Zealand is.

New Zealand tourism and media still insists on portraying itself to the global community as a strangely untouched and pristine wilderness, rather than allowing our national identity to be constructed and influenced through our cultural practices and urban spaces. This myth of ‘100% pure New Zealand’, which continues to be our main slogan for our tourism industry is fantastical in its blind indifference to the fact that New Zealand has to be one of the most ‘comprehensive transformations of indigenous nature the world has ever seen’.³² We are a country building our identity on myth and reinvention. This strategic blindness is further convoluted by our more recent claim of being ‘Middle Earth’, a creation of spectacular scenery and Lord of the Rings fever. New Zealand is currently building its identity on sand, in danger of leaving it to be washed away by each redevelopment of identity.

“...[T]his nation performs its desired identity through images of empty landscapes, staging an unlimited potential.”

Dorita Hannah from ‘Architecture as a Stage’.

(2005) In C. Walkers (Ed.), *‘Exquisite Apart: 100 years of New Zealand Architecture’(184-193): Balasoglou Books*. 193

32 Park, G. (2006). ‘A Moment for Landscape’ Theatre Country: Essays on landscape and whenua (196-204). Wellington: Victoria University Press. 196.

“The sad news is that it confirms New Zealand culture as a sandcastle one: our many small constructions are completed, admired, and then washed away, unknown to those who follow.”³³

The result is that we seem predisposed as a society to repeat actions of the past, thinking that we are doing it for the first time. King calls this a type of ‘cultural amnesia’ which stunts the growth of our relatively young country, because it often prevents us from building on precedents, or from harnessing that experience already provided.

It isn’t sustainable to have our landscape’s identity be one of ‘re-invention’ – the consequence is that the identity of New Zealand is in a mode of constant slippage. New Zealanders can be prone to associating not with the real landscape, but with the fabricated landscape, a situation which is endorsed by the media and tourism entities. This begins with entrenched colonial influences and is further exacerbated by a reluctance to relegate cultural landscapes of New Zealand to our ‘prehistory’ (a general lack of public knowledge about the New Zealand Land Wars is a good example of this). The term ‘ahistory’ or ‘ahistorical’ is of use here, meaning a lack of historical perspective or context. This is a type of selective memory of a country which endeavours to wipe the slate of history clean in an effort to then ‘re-gift’ the land to all the people. While this could be seen as being well intentioned, it is also short-sighted and naive. What needs to occur is a resurgence of knowledge and history of New Zealand’s varied past, so as to stem the creation of identity, instead shifting that energy towards rediscovering a past identity, whether cultural or ecological, and building from that. The past holds the historical roots of what we have become, and what we are moving towards.

33 King, M. (1985). ‘Being Pākehā’. Auckland: Hodder & Stoughton Ltd. 172.

Figure 25. 100% Pure New Zealand advertisement. From <http://envirohistorynz.wordpress.com/2010/03/24/the-eternal-dilemma-development-vs-preservation/100-pure-nz/> (Accessed December 12th 2011)

Conclusion

It is obvious that collectively, these methods of spatial orientation, identity *re-discovery*, genius loci, mapping of landscape and the overlooked role of language all work towards identifying the real relationship New Zealanders have to landscapes. To paint the picture of landscape as nature devoid of cultural intervention is to do the ultimate disservice to our understanding of our intrinsic relationship to our surroundings. To have knowledge of these systems of cultural construction gives strength to the understanding of the *role* culture plays within nature and landscape, rather than considering culture as an entity unto itself and making the assumption that that entity is ‘...necessarily invasive and destructive.’³⁴

Within New Zealand culture there is the added factor of dealing with the constructs of *two* cultures simultaneously, as it has become an inescapable fact that to be Pākehā is to be defined by the cultures interaction with the culture of Māori, and vice versa. When writing from a personal perspective, New Zealand historian, Michael King wrote “{w}hile Māori are Māori and Pākehā are Pākehā, each has been influenced by the other and had his or her culture shaped decisively by the other.”³⁵ While this refers to personal experiences, it is a statement which speaks strongly of society today within the debate of biculturalism. This situation should not be seen as two cultures trying to come to terms with each other as foreign entities, rather it is about the fact that these two cultures have helped to shape what the other has become today. What is most important within this statement is the unspoken understanding that this relationship of mediating, clashing and negotiating between the two cultures will continue, and must continue, as an accepted part of New Zealand life.

There needs to be room for challenge and tension. It is only through these processes that both cultures can continue to learn from each other while retaining unique bases. As King goes on to explain, while it is through

34 Phillips, J. (1993). ‘Love and Affection in the New Zealand Landscape’. Paper presented at the An Opportunity for Landscape: Designing and Managing for Sustainability: NZILA Conference 1993. 41.

35 King, M. (1991). ‘Being Pākehā’. In M. King (Ed.), *Pākehā: The Quest for Identity in New Zealand* (pp. 9-22). Auckland: Penguin Books. p. 19

the Māori inhabitation of New Zealand's shores which has given the land a 'historical echo, a resonance'³⁶ it has now become a land with two peoples on it, and by this token, it is unacceptable to adopt a 'cyclopic' view from either Pākehā or Māori perspective. It is about learning to live with one another, which means we need the benefit of all the perspectives we share.³⁷

It is important to build a strong understanding of the tandem cultural constructs outlined in this chapter, so New Zealand's society can then move towards rediscovering and rebuilding them, to form a context and method for understanding and living with the perceived natural landscape. In this way, conservation, respect and regeneration of these little landscapes can be built into the very soul of our culture, so that these acts and relationships and the defence of them, become '...an act of human self interest.'³⁸

36 Ibid.

37 King, M. (1985). 'Being Pākehā'. Auckland: Hodder & Stoughton Ltd. 172.

38 Phillips, J. (1993). 'Love and Affection in the New Zealand Landscape'. Paper presented at the An Opportunity for Landscape: Designing and Managing for Sustainability: NZILA Conference 1993. 43.

Figure 26. Initial visual cues /swatches into perceived landscapes. The natural versus the cultural.

Figure 27. Swamp land, sand
dune contours, Waiwiri, 2011

The background of the page is a detailed topographic map with contour lines. The map is oriented with North at the top. The contour lines are more densely packed on the left side, indicating a steeper slope, and more widely spaced on the right side, indicating a flatter area. The map is rendered in a light gray color.

THREE

-51-

Native Landscapes of Negotiation

- 52 Identifying the Beach, the Swamp, and the Bush
- 57 The Beach
- 61 The Swamp
- 67 The Bush
- 69 Conclusion

native/nay-tiv/ -n. 1a (usu.foll. by of) person born in a specified place (a native of Invercargill). b local inhabitant. 2 (often offens.) member of a non-white indigenous people, esp. as regarded by colonial settlers. 3 a plant or animal indigenous to a country. b plant or animal indigenous to New Zealand - adj. 1 inherent; innate (native wit.). 2 of one's birth or birthplace (native country; native tongue). 3 born in a place (native New Zealander). 4 of the indigenous people of a place (native costume). 5 a indigenous (the koala is native to Australia). b (in names of plants and animals) indigenous to New Zealand (native beech; native dog)

The Native Landscapes of Negotiation

Identifying the Beach, the Swamp, and the Bush:

The term 'native' is one which has, like the three 'native' landscapes of the Beach, Bush and Swamp, metamorphosed in meaning as the surroundings and context of the culture of New Zealand have transformed. There is evidence that, when used by colonial peoples within the context of New Zealand, the term 'native' had traces of distaste and negative connotations (as noted in the New Zealand Oxford Dictionary.)³⁹ The native forest and the native people were both unknown and foreign, and so were viewed with distaste, even fear.

These negative connotations have occurred because there is so much 'unknownness' within these concepts of native landscape. Each term, while defined in black and white within the context of a dictionary, is still far from being defined and understood by the population. The importance of using the word 'native' landscapes for these three pivotal 'scapes lies in this transformation of the cultural meaning and associations with the word as the surrounding culture changed. As there have been many years of 'miscommunication' with the land, it is of paramount importance to reach an understanding of these unknown landscapes, these native landscapes, so that a dialogue can be reopened.

Within this dialogue of native landscapes, time is a key construct. All landscapes are governed by time. Their life span is much longer than that of humans and is of a cyclic nature, which will go through 100 year, 1000 year, and longer cycles of regrowth, rejuvenation and depletion. What is particularly significant for the three landscapes identified is that while their natural progression through time continues to evolve, all three have been subject to very stringent changes and obvious impacts during the two stage colonisation of New Zealand. All three are arguably in a state of flux, of negotiation, within space and time. Most importantly, that negotiation within time, history, literature and physical boundaries has been documented from the moment culture began its dialogue with the natural landscapes of Aotearoa New Zealand.

And so, within the analysis of the Beach, the Bush and the Swamp lie the markers of change on the land physically; the fence lines, drains, forests and farmlands. Most importantly, through studying these markers, one realises they catalogue the change in cultural approach to these physical negotiations of transforming these native landscapes into the pasture lands of present day society. It becomes more than just rediscovering the physical representation of these landscapes, instead creating an exploration of the conceptual negotiation which operates between each of these landscapes and the way in which they are understood and portrayed within culture.

39 'The New Zealand Pocket Oxford Dictionary'. (1997) (Second ed.). Auckland: Oxford University Press. 692

Figure 28. The three native landscapes of New Zealand. Explored as spaces of negotiation and discovery. The Beach, The Bush and The Swamp. Beach acts as the crux where dualities meet - feeding into the crucial landscapes of the Bush and the Swamp

Figure 29. The Beach. The 'entry' into the transect of the lowland forest found at Lake Waiwiri.

beach - *n.* sandy or pebbly shore esp. of the sea. - *v.* run or haul (a boat etc) on to the beach. {origin unknown}

The New Zealand Pocket Oxford Dictionary'. (1997)
(Second ed.). Auckland: Oxford University Press. 80

The Beach

The Beach, because of its cultural associations and histories within society, is a natural stage for the tensions of New Zealand's society to play out. The main dualities explored within this thesis (those of architecture and landscape; Nature and Culture; Pākehā and Māori; Land and Sea) have all had, and continue to have, an interface and dialogue on these sandy shores. The site of the Beach exacerbates such tensions, with the cyclic rotation between land and sea shifting the very subject of the debate. This has been demonstrated throughout history, right, from the first exchanges between the cultures through to the present day when arguments over Foreshore and Seabed are still hotly debated.

The coastal edge is a landscape in a constant state of change. It is also a landscape which is loaded with memory, history, and nostalgia; and this cultural cargo, too, is in a constant state of change and negotiation. New Zealand is a land with more edge than interior, with a coastline extending for 5650 kilometres⁴⁰, larger than the United States of America. With no inland locality more than 120 kilometres from the sea,⁴¹ it is not unexpected that it is common for most New Zealanders to have strong memories and nostalgia connected with these heavily inhabited edges, which, through the compounding cultural associations found throughout history, is where much of our current day identity is anchored.⁴²

However, to those who arrived here as European settlers, the Beach presented itself only as an uneasy ally within a hostile environment. By default it was these sandy edges which were explored and inhabited first. This occurred for several reasons, firstly, there was a large wealth of resources along these coastal edges, including seals and whales. Indeed, some of the first permanent settler camps were whaling stations. The dense nature of the forest was quite unlike anything the settlers had been prepared for, and of course, within that bush lay the ultimate of unknown, the Māori people. As Jock Phillips proposes in his paper *'Fear and Loathing in the New Zealand Landscape'*, settlers clung to the coastal edges because it was a recognisable ally, a sight which had welcomed them to New Zealand's shores. While it was a temperamental ally, its temperament was familiar, whereas inland lay the unknown: dense forests, high mountains and the 'Natives'. Inland was considered 'Māori Country'.⁴³

40 Temple, P. (2008). 'Presenting New Zealand: An Illustrated History'. Auckland: New Holland Publishers (NZ) Ltd. 11.

41 Ibid.

42 Lucas, D. (2003). Coastal and Southern Challenges in the Protection of Important, Privately-Managed Rural Landscapes. Paper presented at the Reclaiming Our Heritage: The Proceedings of the New Zealand Landscape Conference. 149.

43 Phillips, J. O. C. (1981). 'Fear and Loathing in the New Zealand Landscape'. Paper presented at the NZILA Conference - "New Zealand - Where Are You?". 14.

Nostalgia, the making of myths

The problem with analysing such important landscapes, such as the Beach is that it is all too easy for personal observation and experience to quickly tip over into imperious generalisation. As a result, academic writing on the condition of New Zealander's connection to the Beach is sparse, with writing often sitting firmly at one end, on a very dry and 'quantifiable' Resource Management Act approach, or at the opposite end, where writers wield personal experiences of the coast as proof of nationwide connection. So, briefly, it is necessary to move attention over 'the ditch' to Australia, who, as a society, also have a very strong set of values, associations, and nostalgia connected with their beaches.

In the text '*Myths of Oz*' by John Fiske, Bob Hodge, and Graeme Turner (1987) the Beach is presented as a national institution, along with the pub and the barbecue. Conversely, Stephen Knight's *The Selling of the Australian Mind* (1990) dismisses the Beach as too 'obvious' in its contribution to national identity. While the Beach is indeed 'obvious', both for Australia and New Zealand, why must this be presented as a negative? Meaghan Morris in her text '*On the Beach*' (1992) explains, through her discussion of both texts, how it is not the obvious nature of the beach which makes her uneasy about the theory of beach and identity being inseparable, but the ease in which nations can slip into the myth-making mode⁴⁴ when using the beach as a point of national identification. Here it is important to note that within a post-colonial society, the Beach is a landscape which tends to be inseparable from memories of childhood, and a strong sense of personal and collective nostalgia. Through this nostalgia, past events can often take on a role coloured by positive associations with

⁴⁴ Morris, M. (1992). 'On the Beach'. In L. Grossberg, C. Nelson & P. Treichler (Eds.), *Cultural Studies* (450-478). New York and London: Routledge. 458.

it. This begs the question of how one can act to display such a nostalgia without *inventing* it for an unchanging and static (within one's memories) and potentially imaginary national culture?⁴⁵

Historically within New Zealand, the Beach was quite clearly the physical and cultural entry point into the inner depths of Aotearoa, where the negotiation between cultures and the known and unknown occurred. The Beach is a landscape of constant flux. It is ironic that it was the landscape of the Beach which won over the settlers, and which has now become so iconic, so *fixed* as a concept within society as a nexus to our sense of self, when in fact the physical reality of that concept is so prone to change. The Beach represents itself as an edge in constant negotiation through not only its part in New Zealand nostalgia and history, but also because of its innate nature. The Beach edge is never a defined position, it moves with every tide and is only now starting to be respected as an edge which we can not hinge our habits off, but instead giving it room and space to engage with the range of territorial negotiation in which the Beach and the sea are accustomed to. It is fitting then that the Beach, that constant edge of negotiation, acts as the starting point for traversing the transect of lowland ecology, both physically and theoretically, into even more contentious landscapes. Into the lesser known interior of New Zealand to rediscover the landscapes of the Swamp and the Bush.

Figure 30. Sitting and watching at Golden Bay beach, 2009

Figure 31. Gazing over Wainui Bay, Golden Bay, 2008

Figure 32. 'Inhabiting the beach and dunes'. From David Mitchell's 'The Elegant Shed' 18

45 Morris, M. (1992). 'On the Beach'. In L. Grossberg, C. Nelson & P. Treichler (Eds.), *Cultural Studies* (450-478). New York and London: Routledge. 456.

Figure 33. The Swamp. The landscape of constant flux which shrugs off commonalities shared between 'normal' landscapes.

*swamp /swomp/ -n. (area of) water-logged ground. - v.
1 overwhelm, flood, or soak with water. 2 overwhelm
or make invisible etc. with an excess or large amount
of something (am swamped with paper work). swampy
adj. (-ier, -iest). [origin uncertain]*

'The New Zealand Pocket Oxford Dictionary'. (1997)
(Second ed.). Auckland: Oxford University Press. 1070

The Swamp

The swamp, as a concept, pervades New Zealand culture, but the physical manifestation of the environment is one that hardly exists anymore. It is estimated that there has been around a 85% decline in New Zealand's wetlands. Drainage by European settlers has reduced the original 670,000 hectares of swamp to less than 10,000 hectares.⁴⁶ This huge loss of such a diverse and important ecosystem has led to the swamp and swamp forests becoming almost mythical, 'slid[ing] into the chasms of history and myth'⁴⁷ in their glaring absence from our land's identity.

The swamp of New Zealand continues to exist, but largely out of the public eye. It exists sometimes as the more urbanised version which has begun making its way into cities, the wetland. These two terms are essentially equivalent. However, the connotations of each word retain an important distinction. Wetland is imagined as a wild nature, but swamp has much stronger primitive connotations, just as the concept of the New Zealand bush does.

The swamp is the epitome of indefinable and indescribable landscapes, to the point where it could even be argued that it is a 'non-landscape'. On the cusp of land and water, it is a more unusual form of negotiation, a negotiation which we would normally associate with the coastal edge, and yet here it is found, inland, amongst the trees.

The swamp is a landscape that is in constant negotiation with itself. This is an entirely natural process consisting of the ebb and flow between swamp vegetation and the natural flux of the lake or ground water level on which the whole ecosystem is based. The life cycle of a swamp relies on several key players; harakeke, cabbage trees, kahikatea (or white pine), swamp maire and pukatea, all of which can, over an extended period of time, raise

⁴⁶ Park, G. (2006). 'Swamps which might doubtless be easily drained'. In G. Park (Ed.), *Theatre Country: Essays of landscape and whenua* (180-194). Wellington: Victoria University Press. 180.

⁴⁷ Park, G. (1995). 'Ngā Uruora: The Groves of Life. Ecology and History in the New Zealand Landscape'. Wellington: Victoria University Press. 332.

the ground level through the accumulation of leaf detritus. Initially lake or swamp edges are largely inhabited by harakeke, small shrubs and cabbage trees. As the leaf detritus from the vegetation builds up, effectively raising the soil levels somewhat, the land is colonised by kahikatea forest. This type of forest is known as 'swamp forest' and consists of kahikatea, pukatea, and swamp marie. All of these trees have evolved to exist solely in the wet and unstable environments which swamps provide, with deep and wide ranging root systems, and 'breathing roots' which breach the soil level to provide the trees with enough oxygen. These trees further raise the ground level through leaf detritus and root buildup, until finally the soil is dry and stable enough to sustain the evolved rimu forest.⁴⁸

The other level of negotiation is one that resides in history, with the draining of swamp land for productive and fertile farming land. This process is less of a negotiation, and more of a colonisation by force, forcing the indefinable edges of the swamp into the straight, criss-crossing channels of man-made drains (see Figure 29) which were fundamental to the transplanted Western cultural construction of nature.⁴⁹ Adkin, a settler and then farmer who witnessed the colonisation of the Horowhenua/Levin area was one of the few settlers who saw the lagoons, lakes and swamps of the area as 'picturesque', regrettably noting that "...as a result of drainage operations and the march of civilization...the general tendency is for these picturesque and moisture-providing sheets of water to disappear from the face of the landscape."⁵⁰ The general perspective of the settlers was that such swamp land was only land to dredge, drain or fill in, but rarely places to write about or lament of the loss of.⁵¹

It was the swamp which provided the biggest challenge to the creation of the idealised fruitful pasture lands. Swamps, with their anomalous nature, refused to fit within any traditional concept of land as defined and

48 Dawson, J. (2000). 'Nature Guide to the New Zealand Forest'. Auckland: Godwit. 62.

49 Park, G. (2006). 'Swamps which might doubtless be easily drained'. In G. Park (Ed.), *Theatre Country: Essays of landscape and whenua* (180-194). Wellington: Victoria University Press. 181.

50 Adkin, G. L. (1948). 'Horowhenua: Its Maori place-names & their topographic & historical background'. Wellington: Department of Internal Affairs. 17.

51 Park, G. (2006). 'Swamps which might doubtless be easily drained'. In G. Park (Ed.), *Theatre Country: Essays of landscape and whenua* (pp. 180-194). Wellington: Victoria University Press. 187.

expected by the Crown. Was a swamp to be classified as a river or a lake? Where would the boundaries exist? Furthermore, how was one to classify such a landscape which would temporarily dry up, flood, and then remain ephemerally wet for a duration? Swamp represented a completely ungovernable landscape to a culture which traditionally sought to assert its governance over the land through the placement of survey pegs, fences and legal boundary lines. What's more, the Crown could not comprehend how to divide up a landscape that relied so heavily on an interconnection of processes. These processes and systems railed against being subdivided, refusing to be easily packaged up into individual lots. In a myriad of ways swamps represent the antithesis of the boundary lines and grids that were used to ruthlessly imprint England's stamp of ownership upon the land, and the only way to remedy that was to drain or fill in the offending spaces. Only then could the survey pegs of colonisation be driven into the land.

Even within current day society, where there is a real passion stirring for the conservation of wetlands, there is still a deep-seated reluctance to accept the swamp as a landscape which is worthy of conservation. There is still an element of distrust - why help a landscape which, unlike the Beach, could still turn its back at any time? "...[W]e are a culture with a persistent fear of being lost in swamps, up to our armpits in black water. Perhaps it is instinctive - some coded, memorial nucleic acid."⁵² However, it is this uneasiness society has with the concept of the swamp which gives it a unique strength for capturing people's imagination. It is only "as swamps that these

Figure 34. Artificial drains through farmland. Old sand dunes can be seen in background. Horowhenua region, April 2011

52 Park, G. (1995). 'Ngā Uruora: The Groves of Life. Ecology and History in the New Zealand Landscape'. Wellington: Victoria University Press. 177.

Figure 35. Swampy ground encroaching on farmland. Horowhenua region, April 2011

places have any meaning, the way they appeal to something deep in the reptilian parts of our brains...and feed the imagination and language.”⁵³

I would like to take the argument that swamp could be considered ‘non-landscape’ and consider it for a moment. It becomes a ‘non-landscape’ through three means. Firstly, it has become a ‘non’ through its slip within history, from its slow demolition by the settlers who wished to turn the wilderness and waste into productive and fertile farming land.

The second argument is that swamp is traditionally in such an intense state of flux that it can be difficult to classify it as simply either land or water. It is simultaneously both, and sometimes neither, as demonstrated by the numerous farmlands which are encroached upon by these fluxes (see Figure 35). In fact, the traditional meaning of land as found in the dictionary is ‘the part of the earth’s surface that is not covered by water’⁵⁴ Finally, we need to consider the concept of a swamp, and understand it as not simply a physical presence on the lands surface, but rather as a delicate system, a ‘landscape of interconnection and interaction’.⁵⁵

Park ventures that if wetland drainage quintessentially represents modernity, then perhaps wetland restoration will be the post-modernity.⁵⁶ To give this statement more traction within our society, one could suggest that wetland drainage represented the times of colonialism, whereas, wetland restoration, or even more boldly, swamp restoration, will be the representation of our post-colonial times.

53 Park, G. (1995). ‘Ngā Uruora: The Groves of Life. Ecology and History in the New Zealand Landscape’. Wellington: Victoria University Press. 177.

54 ‘Concise Oxford English Dictionary’. (2006) (Eleventh ed.). New York: Oxford University Press. 800.

55 Park, G. (2006). ‘Swamps which might doubtless be easily drained’. In G. Park (Ed.), *Theatre Country: Essays of landscape and whenua* (180-194). Wellington: Victoria University Press. 189.

56 Ibid. 192.

Figure 36. The Bush. The native representation of New Zealand lowland forest.

*bush*1 /buʊʃ/ -n. 1 shrub or clump of shrubs with stems of moderate length. 2 thing like a bush, esp. a clump of hair or fur. 3 indigenous forest (native bush; virgin bush). 4 country in its natural uncultivated state. 5 (prec. by the) rural as opposed to urban life; the backblocks (life in the bush). -adj 1 of or pertaining to the bush (in senses 3-5 above) (bush plant; bush track). 2 rough-and-ready, unsophisticated (see bush bread, bush carpenter). -v. 1 (usu. foll. by out) spread like a bush. 2 colloq. (usu. as bush it) camp in the bush, sleep rough. go bush 1 leave urban life for that of the country. 2 escape or disappear from one's usual haunts. take to the bush 1 take up life in the bush. 2 escape to, or go to ground in, the bush.

'The New Zealand Pocket Oxford Dictionary'. (1997)
(Second ed.). Auckland: Oxford University Press. 131

The Bush

In the opening statement of *'Nature Guide to the New Zealand Forest'*, prominent ecologist John Dawson states that most New Zealanders would be surprised to learn that the 'bush' they've grown up with is unique.⁵⁷ What is it about the word 'bush' which exudes a sense of New Zealand? True, Australians also refer to the 'bush', but that paints an entirely different picture to our own concept of Bush, mostly because of the different associations behind each country's landscapes. Within the context of New Zealand, there is a roughness, a density, and a hardiness associated with the term. It is almost an 'in-between' phase. Not quite forest, more lavish than scrub, it starts to allude to the leftovers of our landscape, the spaces which are hard to identify or have been cut off from their original identity. Indeed Dawson continues to comment on how easy it is to "...find the odd patch of bush, even if it's only an untamed area in the city park or a tattered remnant lost up a gully."⁵⁸ The use of the term pervades our language and our culture.

Essentially, the term Bush has unintentionally spawned an entirely different way in which we, as New Zealanders, refer to 'our forest'. Jock Phillips hazards that the word Bush probably originates from the word 'bosch' used by Dutch settlers in South Africa, where it meant uncultivated country.⁵⁹ This meaning has completely transformed into what we now describe as our New Zealand indigenous forest; our Bush.

Yet this simple and unadorned word pertains to so much more than The Bush. It speaks of an approach New Zealanders have to the land, to nature. It speaks of uncivilised spaces, more primitive, and therefore unknown and dangerous, – an interpretation which the word 'forest' would not elicit.

⁵⁷ Dawson, J. (2000). *'Nature Guide to the New Zealand Forest'*. Auckland: Godwit. 10.

⁵⁸ Ibid.

⁵⁹ Jock Phillips. "The New Zealand bush - What is the bush?", Te Ara - the Encyclopedia of New Zealand, updated 17-Sep-09 <http://www.TeAra.govt.nz/en/the-new-zealand-bush/1> accessed 08/06/2011

All this alludes to a certain roughness, a primitiveness, and an untamable element. Indeed, terms such as to 'bush-whack', to 'go bush', the bush shirt (our very own iconic swanndri), the bush carpenter, and bush tucker all speak of rougher, more basic objects, approaches, or actions.

So what is it about this concept, this word and its associations, that has caused it to filter effortlessly into so many facets of New Zealand culture and identity? It is an indication of the words strong cultural presence that within the New Zealand Oxford Dictionary there are two whole pages which are dedicated to words pertaining or relating to the concept of Bush, (especially when one considers that these references are completely absent from the Oxford English Dictionary).

I suggest that the word Bush is one of the most truthful, yet entirely unintentional and unconscious representation of New Zealand as a culture and as landscape. The word Bush makes forest seem inhabitable without stripping it of its inherent emotions (like fanciful terms such as 'picturesque' and 'wilderness' are sometimes in danger of doing.) It is the term Bush which has the hidden potential to represent that middle ground of living within the landscape we behold. It is less majestic than the kauri forests, less sublime and overbearing. It is simply: the Bush.

Conclusion

Understanding how these three native landscapes - the Beach, the Swamp and the Bush - have been represented within the cultural boundaries of Aotearoa New Zealand is essential towards re-discovering these important ecological touchstones and their relevance to our growing society. The exploration of these landscapes through the particular narrative set out in this thesis is important to the overall analysis of the three as an integral whole within the spatial orientation of the transect from the beach to the foothills. This spatial and verbal argument, in conjunction with the variety of cultural cues analysed in respect to each of the highlighted landscapes formulates the basis for the discussion and questioning of both design sites. By using these particular associations and cues in tandem with the cultural constructs explored in the earlier chapter *Landscape as a Cultural Construct*, I have created a system of processes to compare and critique parallel designs in opposing sites.

The three important landscapes coalesce into the landscape of the lowland forest found fragmented at Lake Waiwiri. Through the cultural cues identified within each of those landscapes, it is possible to draw a strong conceptual connection with Te Papa's representations of each of these landscapes.

Te Papa Tongarewa {Wellington}

Figure 37. Te Papa Tongarewa within its urban context, Wellington waterfront 2011. Photograph by author.

Figure 38. Wellington topography map, locating Te Papa site. Not to scale.

FOUR

-71-

Te Papa Tongarewa

- 72 Background
- 74 Bush City
- 78 Te Papa as a Cultural Topography
- 82 Object of Pointing
- 84 Pointing within Time

Museum of New Zealand :

Te Papa Tongarewa

Background

Te Papa Tongarewa is the National Museum of New Zealand, situated in the capital city of Wellington in the spaces between the central urban grid and the waterfront esplanade. It is a museum which was conceived in the early 1980s to respond to the need for a larger space in which to unite and exhibit the National Art Gallery works, and the national museum. In 1989 the firm Jasmax won the right to design and build the museum through a design competition. Their design was developed as a strong conceptual representation of the evolving bicultural society of Aotearoa New Zealand, reflecting the postmodern context in which the design was developed. This representation was key to the building's design and form; it was integrated into the larger language and concept of the building which avoided "...potentially patronising enlargement of traditional-looking forms"⁶⁰ such as Māori waka or the koru.

After Jasmax won the competition, the design had to be re-worked to fit in with the Exhibitions Conceptual Plan (ECP), a design brief which was finalised by a team of museum staff, advisors and conceptual teams. This meant the conceptual basis of Te Papa was transformed to work around the symbolic fault line created by the large axial wall (as seen in Figure 41). This reference was intended to suggest forces greater than the building itself, and imply a flow from land to sea.⁶¹ This design move was teamed with the concept of the 'wedge', a space between the allotted space for Tangata Whenua and Tangata Tiriti. This space was designed to 'cleave' (which, strangely, means to both separate and to adhere) between the two peoples of the land. The wedge creates a space for dialogue and encounter, with flexible boundaries, both conceptually and physically.⁶²

Figure 39. Context map of Te Papa Tongarewa's location within the context of the city and Wellington's waterfront. Original 1:5000 @ A3

60 Bossley, P. (1998). 'Concepts: Concepts in Culture'. Architecture New Zealand, The Designing of Te Papa: Architecture New Zealand examines Te Papa's concepts design structure. 18.

61 Bossley, P. (1998). 'Concepts: Redirect, Redevelop'. Architecture New Zealand, The Designing of Te Papa: Architecture New Zealand examines Te Papa's concepts design structure. 22.

62 Ibid. 23.

CIVIC CENTRE

BUSH CITY

GRADING DOCK

WAITANGI PARK

TE PAPA TONGAREWA

Bush City

'Bush City' is the exterior exhibition space of Te Papa Tongarewa. Lying to the north western side of Te Papa's site the planted and landscaped space was developed as an interpretation of New Zealand's natural environment, and is an important extension of the interior natural history displays. Designed to represent a condensation of New Zealand's native landscapes, it takes visitors to the museum through sections of planted native bush, contrived cave labyrinths, and across swing bridges over trickling streams. The space, and the wall which encircles it, have been critiqued for pushing the public spaces of the waterfront visually and physically away from any engagement with the most striking facade of the museum.⁶³ This wall of bush also means that the 'landscape' part of Te Papa is ironically completely disengaged from the *real* surrounding urban systems which Te Papa Tongarewa operates within.

Bush City was designed to embrace two narratives. Firstly, the origin and character of New Zealand landscape, drawing on New Zealand's distinctive land forms and the forces that created them; and secondly the New Zealand creation story, which touches on several important themes

63 Niven, S. (1998). 'Peninsular and square'. Architecture New Zealand, The Designing of Te Papa: Architecture New Zealand examines Te Papa's concepts design structure. 53-54.

In this respect the 'bush exhibit' fulfils its criteria of representing the New Zealand landscape; it *does* represent a landscape of New Zealand, ironically pointing to the fact that most of our fragmented native landscapes exist just like Bush City, surrounded by walls and fences. Within the urban context one cannot expect this representation of New Zealand's native bush to sprawl out and take over the urban fabric, it is a compression and condensation of our natural identity. The presence of Bush City within the context of Te Papa Tongarewa does give a perfect point of contact to the second site of Waiwiri. However, practically speaking, Bush City does itself a disservice by failing to connect or integrate surrounding landscape topographies or functions. Instead the space becomes a

64 'The Designing of Te Papa: Architecture New Zealand examines Te Papa's concepts design structure' (1998). Architecture New Zealand, Special Edition February 1998. 98.

Figure 40. Initial JASMAX concept for Te Papa Tongarewa design competition (drawing by Pete Bossley)

Figure 41. Developed design concept plan for Te Papa Tongarewa (drawing by Pete Bossley)

Figure 42. Plan of external site works (Bush City), Jasmax Architects, August 1994. Original 1:250 @ A1. Sourced from Wellington City Archives, May 2011

planted wall between the exterior urban space and the open vista of the sea and the interior exhibitions.

The result is a contrived landscape which alludes to imported European concepts of the picturesque with its contained portrayal. It is a token landscape which is represented in conjunction with a 'typical' water feature (the freshwater pool which lies along the northwest wall of Te Papa Tongarewa) that could easily be integrated into most traditional Romantic European gardens. Paul Williams writes in *A Breach on the Beach* that this insertion of natural landscape can be interpreted as a "...corrective to the colonial impulse which saw much of New Zealand replanted in the botanical image of Britain."⁶⁵ Regardless of the interpretation of the intent of Bush City, it cannot be denied that the space is artificial. This artificiality is further heightened by the way in which the exhibition attempts to wind back history, re-envisaging a pre-European purity, cloaking the tracks of colonisation.⁶⁶

It is essentially a construct of the ideal and perceived New Zealand landscape in one defined and confined location. It is a 'boxed' representation which is designed to represent the landscape within the context of a museum exhibition;

⁶⁵ Williams, P. (2005). *A Breach on the beach: Te Papa and the fraying of biculturalism*. *Museum and Society*, 3(2), 81-89. 89.

⁶⁶ Ibid. 90.

it has been made safe, and as a result, has become strangely static - even though it houses flora perceptibly changing with time.

The representation of land and water is too clean, too contrived. Just as is our image of our own country, and therefore the identity of that country which resides within our minds.

Placement of such carefully parcelled landscape, so perfect and precise, mockingly draws attention to our preoccupation with packaging our identity, and its ties to nature, into a easily identifiable and conceivable landscape for overseas consumption. While one could argue that it is the role of the national museum to communicate an engaging concept of New Zealand's simplified identity (the narrative of biculturalism achieves this aim) it should not be lost on us that the result of that narrative of biculturalism produces a rather confusing and divided experience once it is physically manifested into an architectural object.

Figure 43. Swing bridge walk through the contrived Bush City landscape. Wellington, 2011

Figure 44. The artificial water 'feature' runs between Bush City and Te Papa's western wall, Wellington 2011

Figure 45. Elevated walk through the planted canopy of Bush City, Wellington 2011

Te Papa as a Cultural Topography; A Metaphorical Landscape

As architecture, there is a degree of solidity and permanence which is expected from Te Papa as a structure; yet some way must be found for this solid and unbending object to act as the physical representation of an entire nation. Museums are essentially a national mapping device, charged with the task of melding “...ontological meanings with cultural terrains.”⁶⁷ By fulfilling this task museums such as Te Papa Tongarewa have the potential to create cultural templates, cultural touchstones, for New Zealanders to live by. This potential is achieved through striking a balance between describing the (past and present) social and political climate, and helping to actively decide what that climate is.⁶⁸

The concept of national identity is a troublesome one, as it is hard to define, create, or discover. It is such a fluid, complex, and therefore largely indefinable problem from which people within New Zealand have tried to force a solid and definable concept. Therein lies the biggest challenge for Te Papa Tongarewa. This is the challenge of addressing the conflicting societal expectations for the museum to be both a traditional representation of architecture, while making a physical statement on New Zealand’s constantly changing state of nation.

From this problem landscape architecture emerges as a necessary tool for analysing and re-connecting these ambitions. Landscape is something to which everyone can relate. All people have memories, associations and expectations derived from the different types of lands to which we are exposed daily. We imprint our personal identity on the terrain, just as that terrain and land continues to imprint themselves on us, defining us within its larger system.

⁶⁷ Williams, P. (2005). A Breach on the beach: Te Papa and the fraying of biculturalism. *Museum and Society*, 3(2). 83.

⁶⁸ Ibid.

Figure 46. Te Papa as a Landscape. Abstracting the urban system which Te Papa Tongarewa keys into. Using generic landscape terms in the foreign environment of the Wellington urban 'scape - similarities to the Waiwiri environment can be drawn.

Thus Te Papa, in its struggle to remain relevant and important to New Zealand's identity, becomes more than a simple issue of architecture. It starts to function as a continuation of form, a connection of spaces, and a conveyance of multiple ideas.

It is not a case of identifying the problem (lack of identity) and creating a solution. To do so would be foolish, short sighted, and would ignore the basic principles of the systems that formulate and hone the way in which cultural society manifests itself into a concept of 'self' - a concept of national identity. Systems such as these are forever in a state of flux, in negotiation with themselves and their surrounding influences.

By analysing Te Papa in terms of these surrounding influences such as the urban structures and physical elements which form the urban ecosystem which Te Papa sits within, the architecture can start to respond to a fluid concept like national identity. Within the ecosystem of Wellington, Te Papa acts as a catchment for the city, while also acting as the mediator between the urban grid and the waterfront.

However, the combination of poorly considered spaces to the east, the recently developed Waitangi Park, the contrived landscape of Bush City within the walls, the intersection of the city grid and finally the sea-edge puts Te Papa in the uncomfortable position of straddling many types of landscape which have not been designed to work in reference to each other. Even though Te Papa commands attention as a massive object and encroaches on each of these edges, the architecture does not seem to challenge or stand up to any of these outside influences. Instead, in line with typical black box museum design, the interior of Te Papa is viewed as a private domain with a clear intent to maintain a clearly delineated perimeter.⁶⁹

This physical predicament can be seen as a direct metaphor for the fragmentation which has occurred to the majority of New Zealand's protected pieces of native landscapes. To build this analogy, the comparison between the two sites of Lake Waiwiri and Te Papa Tongarewa becomes instrumental. Waiwiri, (as explored in the next chapter) is a fragment of past lowland forest, dislocated within a rural surrounding of farming and

69 Reid, G. (1998). 'Museo-logic'. Architecture New Zealand, The Designing of Te Papa: Architecture New Zealand examines Te Papa's concepts design structure. 34.

Figure 47. Conceptual plan of Te Papa Tongarewa - the axis of regeneration and how this connects to the existing landscape of Waitangi Park.

agriculture. This lowland ecosystem needs to physically connect to surrounding systems through the form of the transect to operate successfully. Much in the same way, it becomes necessary for Te Papa to have one coherent physical form, the transect, to provide a focus for the surrounding physical 'ecosystem' to respond to.

This singular act identifies Te Papa as a metaphorical landscape which is able to physically reorientate within its urban ecosystem (Figure 47) to acknowledge its surrounding landscapes. By opening up the walled off and private interior of Te Papa to the surroundings which it inhabits through the act of connecting the interior and exterior via the transect, the architecture actively becomes conscious of its context. This makes people transversing the urban grid of Wellington more aware of the museum's presence. By placing Te Papa within the theoretical boundaries of landscape and opening up an axis of orientation, the museum becomes less of a static architectural object, and more a space of transition and dialogue, upon which to stage our national identity.

As an Object of 'Pointing'

Norberg-Schulz, well known for his writing on the spirit of a place, uses mathematics as a means of describing space, and therefore landscape and architecture.⁷⁰ With Te Papa Tongarewa, if one considers his concept of triadic symbols within architecture (length, direction, and sense of direction), the museum would be classified as a vector. Within mathematics the three values or spatial properties: length, direction, and sense of direction result in the one coherent and understandable creation. To reorientate these concepts into an antipodean context Michael Linzey's essay *'Making Our Place: The Museum of New Zealand, Te Papa Tongarewa'* explores the concept that Te Papa Tongarewa acts as an architectural signpost through the triadic symbols it creates, creating place through the 'mark', the 'cut' and the 'saying'.⁷¹ That is to say that Te Papa Tongarewa marks its place; physically, within the Pacific realm; time-wise, within the 20th century; and conceptually, within a post-

70 Norberg-Schulz, C. (1980). *'Genius Loci: Towards a Phenomenology of Architecture'*. New York: Rizzoli. 12.

71 Linzey, M. (2003). *Making Our Place: The Museum of New Zealand, Te Papa Tongarewa*. In S. Menin (Ed.), *Constructing Place: Mind and Matter* (p.277-285). London: Routledge. 282.

modern context. The building creates a cut with its main stairwell; the large wall of the stairwell slices its way through the building and physically points towards the greater harbour, symbolically connecting to the openness of the harbour (where both waves of settlers came from) while settling down into the land with the city at its back. Linzey's text argues that architecture works in the same way as what Norberg-Schulz proposes, except the vector towards creating 'place' for the architecture is represented by the mark, the cut and the saying. However, in the context of what has been written in previous chapters, I feel that it is necessary to re-define these terms into more specific and useful concepts for the context so far explored. Thus, I visualise Te Papa Tongarewa as a vector of identity, as shown in Figure 48.

Here the basic spatial and conceptual layout of the proposed design moves within Te Papa Tongarewa is redefined, keeping the initial *axis of physical pointing*, while adding an *axis of regeneration*, an axis which represents Te Papa's link to time and the future through the placement of seed bank facilities along its length; and finally the *axis of orientation*, the vertical axis of the core which is rediscovered and emphasised within the original orientation of the building. Analysing Te Papa Tongarewa in such a fashion links this urban object to the grounded design which develops within the second site of Waiwiri, which will be explained within the following chapter.

This method of contemplating Te Papa Tongarewa as a vector is also useful in contemplating the challenging concept of New Zealand's identity. Similar to the condition of an asymptote, its curve (New Zealanders) always head towards the axis (national identity) but is never able to reach that final destination. Indeed the word asymptote derives from the Greek word asymptotes which means "not

Figure 48. Re-creating Te Papa Tongarewa's 'pointing' within space and time. The axis of pointing and fault line, the axis of regeneration, and the axis of vertical orientation

Figure 49. Neil Paddington, Pacific Store #1 (Samoan Clubs), Museum of New Zealand Te Papa Tongarewa, 2006. Lambda/C-print, dimensions variable. 24

falling together”⁷², and it is somewhat fitting, as the concept of national identity will never ‘fall together’. It may make positive steps towards formulating a true concept of self, but that conclusive point is never to be reached (as theorised in earlier chapters.) A nation’s identity is in a constant state of restructure, negotiation and of flux, much like the native landscapes (the Beach, Swamp and Bush) identified. The process only becomes complete once such a civilisation dies out, only to have their identity finally ‘decided’ upon by those who discover the remains of the culture.

Pointing within Time

Traditionally museums are collectors of the past, acting as educative archives for future generations. This typology has been challenged and pushed by innovative curating for some time, however there is still a general perception of museums which paints them as static collections in time, a terminology of dust and death.⁷³ These spaces are, of course, updated, yet they do not have an active role in time. Neil Paddington’s photographs from his book *The Vault* depict just that. His visual investigation into the normally unseen storage facilities within museums challenges the role of collecting which museums play. This challenging interpretation, combined with the photographs innate ability to touch on cultural and environmental loss both ‘...acknowledges and challenges the role of a museum. With much seeming

72 ‘Concise Oxford English Dictionary’. (2006) (Eleventh ed.). New York: Oxford University Press. 81.

73 Stafford, A. (1994). ‘Cultural Tourism: Issues and Challenges’. Paper presented at the Destination Museum: Issues of Heritage, Museums and Tourism, Wellington. 72.

to being stacked against meticulous acts of protection, remembrance and storage, there also seems an accompanying danger that we make our own history both endangered and obsolete.⁷⁴

The transparency in Pardington's project, which reveals the interior workings of Te Papa, a prominent national object, is also found in the seedbank in my design. Traditionally, within a normal working museum environment, such a storage facility would be curated away from the public eye. But, by opening up this process of storage while connecting (visually and physically) to a working, growing and functioning environment of the implemented nursery (and further afield to the grading dock of Waitangi Park), it connects a typically static exhibition space to a process of growth which is understandable by all.

Locating the core of the seedbank in the lower spaces of Te Papa is an allusion to this common practice of removing certain storage spaces from the public's eye. This is designed to challenge the traditional approach to curating, while strengthening the vertical orientation core, the void, by pulling it down even further into the lower levels of Te Papa; people transition over the storage and stratification space for the seedbank as they enter the museum. The seedbank's location further entices visitors into the depths of Te Papa to see where the future of our regenerating forests is being held.

The importance of this process is not simply in revealing the collection, but in making it *accessible*. This term is used in the sense of creating

Figure 50. Neil Paddington,
'Land Vertebrates Store #2',
Auckland Museum Tāmaki
Paenga Hira, 2008
Lambda/C-print, dimensions
variable. 20.

74 Hall, Ken. 'From the Hidden Places' from Simpson, D. (Ed.). (2009). 'The Vault: Neil Pardington'. Christchurch: Christchurch Art Gallery Te Puna o Waiwhetu. 11.

understanding, creating easily accessible and understandable knowledge of our surrounding environments through linking it to a concrete process of growth and regeneration which people can instinctively understand.

This role of knowledge creating inherent respect for the landscape within the individual and ultimately society is a key issue in Māori culture.

It is made clear within the Historical Places document - '*Tapuwae: A Vision for Places of Māori Heritage*' that historical sites are not to be treated as static objects, as they are in European approaches to history. Rather the history can be approached in a holistic way, stating that it is not merely the physical places which are important, but also the knowledge, stories and the actual experience of being within some of these landscapes.

Through the active integration of a national *functioning* seedbank into the core of Te Papa Tongarewa, the museum, traditionally 'collector of the past', becomes an active participant in time, through engaging with the concepts of landscape, architecture, and our native landscapes.

"Māori heritage is a living spirituality, a living mana moving through generations. It comes to life through relationships between people and place."

New Zealand Historic Places Trust in 'Tapuwae: A Vision for Places of Māori Heritage'

(2009). Wellington. 8

Abstraction of Pākehā concept of time

Figure 51. (opp.) Abstracting the role Te Papa plays within concepts of time - Māori abstraction

Figure 52. Abstracting the role Te Papa plays within concepts of time - Pākehā abstraction

Design Approach

Axis of Regeneration - The Transect

The physical manifestation of the design is based around the concept of the narrative of a transect. This concept has been reappropriated from the Waiwiri site as a term which presents a physical position within time, rather than just physical space.

This transect opens up access to the main orientation core on the second floor, circumventing the weak current entrance at the southern side while connecting the museum to the crucial waterfront space in a more directly and understandable fashion. The main space of Bush City is left untouched to continue to act as a wind break and is added to through the planting of the space under the 1:13 graded ramp with larger trees such as totara, rimu, and kahikatea. This breaks up the large open space of the entrance ramp by growing these species up through the mid section, mimicking the competition for light found within regenerating forest. This space will also act as the holding space for juvenile plants which have been germinated on site before they are transported back to their site of origin, Lake Waiwiri.

The central orientation 'core' which contains the seed-bank storage space is spanned by a boardwalk crossing. This boardwalk is designed to be similar to those found within the Lake Waiwiri site, in size and materials (recycled timbers plus various grades of grided wire fence which act as grip). This is intended to look foreign and out of place, focusing visitor attention to the central core which the boardwalk crosses.

The eastern end of this axis of orientation manifests itself as another ramp, linking up with the city grid and guiding visitors down to the exterior landscaped spaces of Waitangi Park. This procession also leads people over the physical process of regeneration, over the two carefully positioned greenhouse spaces below. These two greenhouses are where the seeds from the seed-bank storage core, after their period of necessary stratification, are germinated and grown until they reach a juvenile stage where they can be transported back to site. This process is designed to be viewed from the access ramp, through the glass roofs of the greenhouses, creating an exhibition space which is in a constant state of growth.

Glasshouses act as nursery space in which seeds are germinated and grown within. This acts as an open exhibition in the context of the museum as people can view the glasshouse activities as they transverse the south-eastern ramp.

5.2 Nursery Spaces

Glasshouse Two

Glasshouse One

4 Seedbank Core

Remnants of Bush City

- 1 Existing entry to Te Papa foyer.
- 2 Ramp entry to new first level Te Papa foyer.
- 3 Cut insert within ramp allows growth of extension of Bush City up through to the thoroughfare level of visitors.
- 4 Seedbank core - this acts as the centre to Te Papa, extending down 3 stories into the base of Te Papa, storing seeds for extended periods of time.
- 5 Two separate nursery spaces are viewed from above - from the eastern ramp up to the new foyer level of Te Papa.
- 6 New eastern entrance/exit ramp, connecting Te Papa out to its landscapes.

Figure 53. Plan of proposed intervention within Te Papa's context. Original 1:300 @ A1.

Axis of Orientation - The Core

The vertical axis of orientation is one which already exists within the current structure of Te Papa. Within the proposed design this axis is 're-discovered', like the three landscapes earlier identified, and emphasised by extending the language of the 'core' down thirteen metres to create the seed-bank storage space (Figures 54 & 55). The upper reaches of this vertical orientation space are already present, with the museum's exhibitions orientating themselves around this open void. By extending this physical orientation structure the design accomplishes two things. Firstly, it places the most important storage unit of the seedbank in the centre of the museum's layout, focusing attention and importance on the structure. Secondly, it allows people to view the storage space; this view from the narrow boardwalk spanning the core's depth generates excitement and curiosity, which entices people to transverse the dual curving staircases past the labelled drawers containing seeds for New Zealand's regenerating future.

Remnants of Bush City

Northwestern ramp

Seedbank Core

Nursery Spaces

Southeastern ramp

Waitangi Park

Figure 54. Diagrammatic section of the transect proposed through the existing Te Papa shell. Original 1:300 @ A1.

Conclusion

As a national museum, the design component of Te Papa Tongarewa does not aim to create a summarised and concluded physical design, as expected by traditional views of architecture. Instead, it is about creating physical references on-site which allow this architecture to act as a set piece within the national 'ecosystem' of regeneration created between the two design sites. Through this approach the expectations of Te Papa, as New Zealand's national museum, have been challenged by physically linking the building to its surrounding urban system and conceptually linking it to the process of regeneration occurring at Waiwiri. Both of these design moves are made towards achieving the greater aim of reconnecting Te Papa, a static architecture, to the process of time.

Seedbank Core

Level One - Shortest seed storage period (1-16 weeks)

Level Zero - Medium seed storage period (16 - 60 weeks)

Level Negative One - Long term seed storage (held as a catalogue of seeds - rejuvenated once seeds become infertile)

Figure 55 Axonometric of new Axis within the shell of Te Papa.
Original 1:300 @ A1.

Figure 56. Gaze across Lake Waiwiri

Figure 57. Topography and waterway mapping of Lake Waiwiri and Locating Lake Waiwiri. Not to scale

Lake Waiwiri {Horowhenua}

FIVE

Lake Waiwiri

- 104 Background
- 111 Fragmented Landscapes
- 118 The Concept of the Transect
- 121 The Narrative and the Transect
- 148 Design Concept
- 156 Layered Architecture
- 164 Responsive Architecture

“...the plain forests were like key pieces in a jigsaw puzzle, a pattern of life available nowhere else on earth...When these pieces were removed and the ecosystem’s birds no longer had access to its rich floodplains and coastal swamps, the hill and mountain forests went silent.

I began writing this book {Ngā Uruora - The Groves of Life} when I realised how vital the coastal lowlands had once been as a piece to this jigsaw. I wanted to find out what might have survived. And why, if the rout was so comprehensive, anything had survived.”

Geoff Park 'Ngā Uruora: The Groves of Life - Ecology and History in the New Zealand Landscape'

(1995) Wellington: Victoria University Press. 14.

Figure 58. Context plan, highlights Lake Waiwiri site transect in relation to the western coast's remaining swamp and temporal lake systems. Original 1:100000 @ A2.

Figure 59. (opp.) Aerial view of the Lake Waiwiri site. Original 1:20000 @ A3.

WAIWIRI OUTLET

THE POT (SEWER TREATMENT
FOR LEVIN)

WAIWIRI STREAM

LAKE WAIWIRI

Lake Waiwiri {Papaitonga}

What is known as Lake Papaitonga Scenic Reserve is one of the last remaining lowland forest remnants within the lower North Island. Located along the west coast, between Otaki and Levin, this little section of preserved bush has been selected as the second design site, and was the major inspiration for this design and thesis.

This environment, despite its protected status, is still very vulnerable to its surrounding systems of farmlands and market gardens. As a water table lake its levels have been receding due to multiple bores draining the underground water levels, and also due to artificial drains put in to drain temporally wet swamp spaces dry.

Even while under such pressures, the surrounding bush has remained virtually untouched, providing a perfect environment for a strong genetic source of plants and trees for the eco-sourcing program proposed. Essentially, the Lake Waiwiri area contains the makings of its own salvation; while providing an essential education opportunity to the national community by linking to Te Papa Tongarewa.

Figure 60. Close-up context plan of Lake Waiwiri's location

Figure 61. Series One, Composition of narrative images through Waiwiri Bush/swamp forest.

'Descending down the terrace line, one starts to understand there is maybe more to this clump of bush than first assumed. It closes in around you. Steeped in life and moisture, the bush filters the soft trills of tui and the crackle of fantail twitter. Even though it rained a full two days ago, every time the wind sweeps the canopy there is a flurry of movement as heavy droplets fall into the undergrowth. There is a constant sound of movement within these dappled and dark spaces, so much that it takes me a while to convince myself that I am not being followed by another explorer. The heavy swoop of the kereru reaches my ears. During fruiting season of the kahikatea, that sound is paired with the constant patter of ripe berries falling to the forest floor, it is one of the sounds of an ecosystem brought to life.'

By Author, personal experience of the lowland forest - Lake Waiwiri

'The layers of sound and movement to such a forest are incredible. Somehow both simultaneously peaceful yet watchful. The wooden boardwalks which provide the necessary access over the nutrient rich swamp soils reverberate deeply as I tread along its length. Everything smells rich and full. There is a scent of decay in the air, but it is a decay of an earthy and non-abrasive nature, which speaks of ecosystems replenished and nutrients released. This combination of water and the deep black mud, paru, brings into focus how overwhelming and terrifying this landscape must have been to the colonial mind. When enclosed within the damp quiet of the towering harakeke one can start to imagine the strength the forest must have exuded when it was whole, when it dominated from shore to mountain.'

By Author, personal experience of the lowland forest - Lake Waiwiri

Figure 62. Series Two,
Composition of narrative images
through Waiwiri Bush/swamp
forest.

Figure 64. Aerial photograph across Lake Waiwiri's eastern edge to the existing forest remnant protected by DOC. The natural island - Papaitonga - once inhabited by the Mūaupoko people, seen be seen mid-shot. The Tararua Ranges can be seen in the background. Waiwiri, 2008

Photograph courtesy of Horizons District Council

Figure 65. Aerial photograph across Lake Waiwiri's northwestern edge. To the right lies a larger area of regenerating harakeke grounds - recently purchased by DOC - who have plans to block the artificial drain on this land which has been lowering the lakes level drastically. Waiwiri, 2008

Photograph courtesy of Horizons District Council

Figure 66. Aerial photograph across Lake Waiwiri's western edge. Image gives an indication of the myriad of land use operating in such close vicinity. The exit point for Waiwiri Stream can be seen to the left of the image, and the island to the right of the image is the island created artificially by the Mūaupoko iwi - known as Papawhaerangi. Waiwiri, 2008

Photograph courtesy of Horizons District Council

Figure 67. Lake Waiwiri - view across entire lake towards the Tararua Ranges. Waiwiri, 2008. Image courtesy of Horizons District Council

These huge expanses of forest are all but gone these days; the lowland forest now belongs to an all but vanished world.⁷⁹ Only scattered remnants remain, put aside as nature walks and scenic reserves. Lake Waiwiri and its surrounding bush is one of these last remnants along the eastern coast of the once beautiful lowland forest. This fenced off reserve has been conserved due to one naturalist by the name of Walter Buller, (a man who wanted to claim ‘the Beauty of the South’) who haggled with local chiefs until he was eventually sold the land in 1891 for his own personal pleasure. It was not until 1901 that it was set formally aside for preservation as a scenic reserve.⁸⁰

This landscape is not just one of idyllic picturesque beauty. Beneath the mantle of the scenic backdrop there are layers of geological, ecological and cultural history, a whole system of history playing into the landscape which remains today. Culturally, this lake marks the spot of one of the most one-sided and bloody events in 19th century New Zealand. It was here that the notorious Te Rauparaha avenged the killing of his children by the Mūaupoko by, in 1823, slaughtering 600 of the Mūaupoko iwi, proving the deadly effectiveness of rifles in a culture which until that point had relied on hand to hand combat.⁸¹

This is but one layer to the story of Waiwiri, but it is a story which has tied the Mūaupoko people closely to this landscape, meaning it is still contested land to this day between the iwi who took over the rich swampy lands after Te Rauparaha’s wrath: the Ngati Kikopiri, and the remaining Mūaupoko descendents. Despite this controversy there is a larger problem which currently draws people from both iwi to rest their differences in the interest of saving the dying lake.

79 Ibid. 206.

80 Department of Conservation, ‘Wellington Conservation Management Strategy. Part Two: Places in Wellington Conservancy. Chapter 7, Kapiti and Horowhenua’. 89.

81 Park, G. (1995). ‘Ngā Uruora: The Groves of Life. Ecology and History in the New Zealand Landscape’. Wellington: Victoria University Press. 187.

Figure 68. Dune movement along the western coast - Horowhenua area. Image by author - Formulated through GIS data of Otaki in conjunction with literature of geo-archeologist, Bruce McFadgen.

Dune movement is important to the processes of the site of Lake Waiwiri. The water table lake was created through the slow build up of dunal sediments as often seen in such a temporal environment. These sequences of dune movement move progressively inland, with the oldest (mainsoil dune series three) being the farthest inland with sequences becoming progressively younger towards the coast.

As a water table lake, Waiwiri is dangerously susceptible to the numerous bores and drains which puncture and criss-cross the plains. The water flowing across the sandplains from the Tararuas forms a life support system for the lake; this life support system has been drawn on so heavily that the lake's levels have dropped considerably since the 1890s.

Lake Waiwiri is a system of cultural history, of water, and of slow moving geological change. And it is a system which relies entirely on the transect between Beach and Bush, from the coast to the mountains.

A large portion of these lands are old dunes, successively blown inland in depositional episodes, starting as far back as 2nd century, and continuing today⁸² as shown in Figure 68. This results in a unique environment which is constantly in flux, where dunal lakes - such as Lake Waiwiri - have formed as the build up of dune sands blocks stream paths to the sea.

Even now, through the rectangular sections, vegetable fields, and newly tilled paddocks, one can perceive that this is a land that is used to being in a perpetual state of change. The multiple sections of marshy lands and swamps are ever-changing. They are the evidence of the continual battle farmers have against this naturally wet land. It is "...a long, relentless war between man and wild things" as Helen Wilson said⁸³, a sentiment that was repeated by many a settler when faced with swampy forest, which they considered an oppressive and wasteful space.

It is within this site and history that the native landscapes of the Beach, the Swamp and the Bush can be connected as one functioning ecosystem along a transect from coast to foothills.

82 McFadgen, B. (1997). *Archaeology of the Wellington Conservancy: Kapiti-Horowhenua. A prehistoric and palaeoenvironmental study (Part 1)*. Wellington: Department of Conservation. 11.

83 Park, G. (1995). 'Ngā Uruora: The Groves of Life. Ecology and History in the New Zealand Landscape'. Wellington: Victoria University Press. 167.

Diagram depicts the traditional types of native vegetations which would have existing before the clearing of the plains and dunelands. Kahikatea/pukatea/ tawa forest is what would have proliferated around the swampy spaces of Lake Waiwiri, kamahi was a species common in this vegetation sequence also.

Figure 70. Past vegetation zones in the Otaki/Horowhenua region.

Figure 71. (opp.) Current landuse zones in the Otaki/Horowhenua region.

Fragmented Landscapes

Once a rich landscape, with multiple layers of cultural and ecological meaning which have condensed as history as transpired, Waiwiri is now strangely static amongst the surrounding farm lands. The isolation forced upon it by the draining and felling of surrounding ecosystems has left Lake Waiwiri without its essential web of systems and mauri (the life principle or essence of a place/character)⁸⁴. This piece of bush has become an island, isolated between farmland and market gardens.⁸⁵ Influenced by European concepts of history and preservation, it sits fenced and protected but not truly growing nor evolving, only standing as a reminder to what was there before.

As demonstrated by comparing Figures 70 & 71 the natural layout of the vegetation types have been drastically changed by pasture and market gardens. Figure 71 especially demonstrates the fragmented nature of these remaining native landscapes; the pasture and farm land are overbearing in their large blocks of area.

Geoff Park argues that with domestication, the native living memory of a place dies.⁸⁶ Such is the case at Lake Waiwiri. All around the lake there is a history of removal. There are only flat lands, pastures and

⁸⁴ Ryan, P. M. (Ed.) (2008) 'The Raupō Dictionary of Modern Māori'. Auckland: Penguin Group. 174.

⁸⁵ Department of Conservation, 'Wellington Conservation Management Strategy. Part Two: Places in Wellington Conservancy. Chapter 7, Kapiti and Horowhenua'. 90.

⁸⁶ Park, G. (1995). 'Ngā Uruora: The Groves of Life. Ecology and History in the New Zealand Landscape'. Wellington: Victoria University Press. 81.

plantations. Partially drained swamps are all that indicate towards a richer past. Buller, after obtaining the land surrounding the lake, forbade all Māori from engaging with the area, essentially severing them from their ancestral lands and main sources of food.⁸⁷ From here he set about ‘correcting’ nature, introducing the more ‘superior’ exotic bird species such as English mallards, and arranging certain Māori treasures he had obtained or bought for viewing pleasure within his landscaped gardens of exotic fruit trees. Within this one site, Buller did what many settlers to New Zealand had already done. He implanted an idealistic scenic image onto the newly shackled land, “...much as one might wallpaper a room.”⁸⁸

What Jackie Bowring argues in her chapter ‘*Eternal Sunshine: The Search for Spotless Landscapes*’ is that in such a situation, where a landscape has its ‘memories’ altered or suppressed by the processes imposed upon it (in this case, the processes of the idealistic picturesque vision) this suppression imposes upon the cultural and personal identities connected with such a site.⁸⁹

The lake is bounded on all sides by pasture lands, with only parts of the northern and eastern edges draped in its natural forest, and several scraps along the southern and western edges. Geoff Park observes that it is “... only at these uneasy, artificial edges between agriculture and forest that we can comprehend what happens ecologically when humans decide to channel a whole ecosystem’s productive energy into themselves.”⁹⁰ While there is a sad similarity to such a unique bit of forest being fenced into a ‘static’ exhibition of nature like Bush City, it is also a necessity. Each fence line keeps the patrolling of cows and mowers at bay. However, this fence line also acts to keep the forest from spreading naturally, restricting the potential ecosystem to operate only within the colonial boundaries set out for it.

87 Bowring, J. (2010). ‘Eternal Sunshine: The Search for Spotless Landscapes’. In J. Ruru, M. Abbott & J. Stephenson (Eds.), *Beyond the Scene: Landscape and Identity in Aotearoa New Zealand* (77-91). Otago: Otago University Press. 79.

88 Ibid.

89 Ibid. 83.

90 Park, G. (1995). ‘Ngā Uruora: The Groves of Life’. Wellington: Victoria University Press. 169.

Even in this state of isolation it is these scraps of bush and forest which help to create for New Zealanders a sense of nature, and of identity. But is it naive to assume these remnants can live on in such a scattered and fragmented manner? Especially when these fragments continue to shrink and disappear as abstracted in Figure 72. Divorced from their original functioning ecosystem can these leftovers ever be considered as a true connection to what was?

Through fencing these landscapes they do become protected in the most obvious way, but this also unconsciously turns our natural spaces into a sideshow, a museum of static exhibition. It is as if, once these spaces are fenced, they are thrust to the side of society's vision, with no further thought for their future.

This is why the comparison between Bush City and Lake Waiwiri's forest is so startling and important. One would not expect to find so many similarities between such seemingly unrelated sites, with such different histories, but peel back the layers and it becomes apparent just how similar they are. Both are fenced, both are classified as bush (though one somewhat ironically, the other more sincerely). One (Bush City) is simply a construct, imposed on the land where such 'nature' would not normally be present; the other is perceived as 'natural', when in fact it is an extremely altered landscape. This is strange reality, because while Lake Waiwiri may be understood as a natural space, it is in danger of coming across as simply a scene. While it is still an ecosystem, it is an isolated ecosystem, which is not how lowland forests ecosystems are supposed to operate. Where there are fences, there should be connections, transects of regeneration and natural corridors between these areas of coastal and hill forest. Instead there is simply this feeling of isolation. An isolated memorial to the lowland forests which used to cover the plains from coast to hill.

Lines denote broad landscape 'types' with the grey portions indicating the remnants of native vegetation.

Figure 72. An abstraction of the slow fragmentation of ecologies. Image by author - redrawn from Geoff Park's diagram which was redrawn from Curtis 1959)

Figure 73. An abstraction of the regeneration process at Lake Waiwiri (dark green transect) being precedent for other lowland transect links to develop (lighter green transects).

Movement of narrative boardwalk through the contoured landscape shown in white. Dotted radius around ten main sites allude to the degrees of regeneration achieved around the said sites.

Figure 74. 3D modelled view of the terrain surrounding Lake Waiwiri and site locations.

Figure 75. The narrative structure of the Lake Waiwiri intervention. Initial exploration of form within site context.

The Concept of the Transect

The form and concept of the transect is a very spatial term associated quite strongly with landscape architecture. The transect provides, as most mappings do, a means of simplifying a landscape. However within the transect, though it is a snapshot, it is a snapshot which can be repeated across territory in an attempt to draw similarity, rhythm and of course, narrative.

A transect is defined as “...a straight line or narrow cross section along which observations or measurements are made.”⁹¹ As mentioned, the use of the transect is prevalent within landscape architecture, as both a term and a method of mapping, because they provide a wider scope for acknowledging and observing working systems from within a set technical space.

A transect differs from a section in that a section is much more concise, dealing with singular cuts across a plane, whether real or imagined. A transect represents a width of space, allowing for more area and its spatial qualities to be recognised as an interwoven snapshot of elements which are at play across such landscapes. Indeed it is still only a snapshot, as the line of a transect cannot hope to cross all the necessary cues and alignments found within the broad spectrum of landscapes. The multiplicity of systems cannot be utterly captured by such a tool, yet, it is one of the more succinct and controlled

91 ‘Concise Oxford English Dictionary’. (2006) (Eleventh ed.). New York: Oxford University Press.1531.

9 SITE NINE: PLAINS + COASTAL GROW SITE
The second main growing nursery site.

8 SITE EIGHT: ARCHITECTURAL POD
In-fill site, implemented in Phase Three as more germination space is needed

7 SITE SEVEN: ARCHITECTURAL POD
In-fill site, implemented in Phase Three as more germination space is needed

6 SITE SIX: SWAMP GROW SITE
Implemented at beginning of phases

5 SITE FIVE: IN-FILL POD SITE
Pod implemented late in Phase Three as demand for germination sites grows

4 SITE FOUR: EXISTING LOOKOUT
Looks out over natural island, Papaitonga.
Also constructed island, Papawhaerangi.

3 SITE THREE: ARCHITECTURAL POD
Germination + Education space

2 SITE TWO: EXISTING LOOKOUT
Looks out over natural island, Papaitonga

SITE ONE: ARCHITECTURAL POD
Germination + Education space

Figure 76. Concept of the elongated transect - restoring the entire length of the lowland transect - from coast to the hill foot. From Beach to Bush. Currently the Waiwiri design only stretches from the coast to the head of Lake Waiwiri (as depicted in Figure 74 & 77)

Figure 77. Plan of narrative journey from the existing bush surrounding the lake to the coast. Lake Waiwiri
Original 1:20000 @ A3

0m CARPARK + ENTRY TO SITE

methods for cataloguing the progression and change of landscape while allowing systems and processes to be examined across many points of reference.

With Waiwiri, the entire site can be simplified down into a progression from Beach, to Swamp, to Bush. Within this are a myriad of changes and spatial progressions. Soils, vegetation types, topography, waterways and salinity, yet the ultimate story of this landscape is tied together by this progression from the sea to the foothills. The Beach, to the Swamp, then the Bush. It is through this simplified methodical condensation that the tool for linking people to the site and its story emerges. The site is a transect, when simplified. Thereby to experience the entire scope and reach of this landscape, people must be led down such an elongated snapshot, along the transect of the narrative of the site.

Transect and the Narrative

So by taking the simplification of the site, the design language emerges. It cannot be a singular moment, instead the design manifests as a series of spaces, each speaking slightly differently in their design language, their restorative purposes and their orientation, but each adding to the narrative which exists within site.

This chapter discusses the design proposal in reference to the theoretical practices within the physical representation proposed and begins to show the path the design takes. The design expresses the movement through the site, exploring the narrative qualities of the landscape observed as one moves through the range of spaces provided. This narrative highlights the range of vegetation in the ecosystem which lies along the way. Unlike a typical section, it is transected to follow the path of the boardwalk. This documents

227m SITE ONE: ARCHITECTURAL POD

Germination + Education space

-122-

PHASE ONE

PHASE TWO

PHASE THREE

457m SITE TWO: EXISTING LOOKOUT
Looks out over natural island, Papaitonga

SITE THREE: ARCHITECTURAL POD 700m

Figure 80. Narrative Section, Part 3. 1:1000 @ A4

the changes the architecture of the pod and boardwalk undergo as the observer moves from Bush to Swamp to Beach. Portions of the narrative section have been extended to transect the passing of time, by visually presenting the three different stages of phasing, discussed in the following chapter *Architectural Pods*. Within this chapter Phase One represents the initial time frame of 1-3 years, Phase Two represents 10+ years, and Phase Three represents 30+ years.

Once again the concept of the transect plays an important role in the creation of this design narrative. As is demonstrated within the system of Te Papa, this concept acts as the central device for organising the space, providing a central focal point around which to formulate the design.

This process allows the narrative section produced (Figures 78-106) to follow the path of the narrative journey. While this only creates a sectional journey, using the term transect allows narrative to allude to surrounding spaces adjacent to the section, encompassing the scope of the regeneration and riparian zones being created.

This method of physically cataloguing a system/space through transects is explored at different scales. Most prominently this occurs

SITE FOUR: EXISTING LOOKOUT 1086m
Looks out over natural island, Papaitonga.
Also constructed island, Papawhaerangi.

EXISTING WAIWIRI BUSH

Figure 82. Narrative Section, Part 5. 1:1000 @ A4.

through the exploration of the transect between the coast and the lake. However, while this is the main physical design site, the entire concept of the design is geared towards enlarging the scope of such a transect so as to create a coherent sequence of joined fragments of landscape, right back to the foothills (Figure 76).

Here the concept of the narrative of a space becomes heavily influential on the sequence of spaces visitors move through when they reach Lake Waiwiri. Mike Abbott discusses the concept of the narrative in the face of the human tendency to connect landscape with the concept of the picturesque - the scene.

It would be a mistake, he writes, to assume that landscape coalesces at the point where such a picture or painting may be taken. Instead he describes landscape as a series of unfolding moments of movements which brings people into the 'scape - an unfolding which will continue even after one has left.⁹²

This is the concept of the narrative in motion, and is another key point for understanding a landscape in flux as it underlies the importance of movements, rhythm and speed to moving through

92 Abbott, M. (2011). 'Being Landscape'. In J. Ruru, M. Abbott & J. Stephenson (Eds.), 'Making Our Place: Exploring Land-use Tensions in Aotearoa New Zealand'. Dunedin: Otago University Press. 75.

PHASE THREE

SITE FIVE: IN-FILL POD SITE 1580m
Pod implemented late in Phase Three as demand for germination sites grows

Figure 84. Narrative Section, Part 7. 1:1000 @ A4

such subtle range of environments. Consequently, it is essential to try to convey the sequence of this design in dialogue to the existing (and regenerating) ecosystem through the narrative section. It is only through these means that the movement which this landscape represents can be conveyed through physical and spatial means.

Figure 85. Narrative Section, Part 8. 1:1000 @ A4

PHASE ONE

PHASE TWO

PHASE THREE

SITE SIX: SWAMP GROW SITE 2308m
Key nursery environment
Implemented at beginning of the three phases

SITE SIX - SWAMP GROW SITE

Implemented during the initial phase of the design's staging. This acts as the primary nursery growing site for germinated seedlings from the architectural pods which are implemented within the first phase. Seedlings are transported to this site (and the other initial grow site further towards the coast) via the network the boardwalk creates. The site also backs onto existing farmland with an access road, allowing an ease of transferral of building materials and labour during construction, but also allowing ease of accessibility after construction for those involved with the tending to the nursery space.

Figure 88. Narrative Section, Part 11. 1:1000 @ A4

Bare spaces of pasture land between regenerating areas allow for the necessary bush edges to develop. This gradient between open environment and the inner, darker bush interior is necessary for starting to develop the bush back to a natural cycle of regeneration which would normally occur if not for the encroachment of pasture lands.

Regenerative zones, whether riparian or not, must be of sufficient size (at the absolute smallest, 30 metres wide) to encourage bird and insect habitat. Most importantly there must be sufficient 'edge' to the areas in question so moist and still forest interior environments can be created to encourage regeneration of successional subcanopy plants such as tree ferns, pate, and canopy trees such as kahikatea and totara.

Figure 89. Narrative Section, Part 12, 1:1000 @ A4

-132-

PHASE ONE

PHASE TWO

SITE SEVEN: ARCHITECTURAL POD 3291m

In-fill site, implemented in Phase Three as
more germination space is needed

PHASE THREE

Figure 90. Narrative Section, Part 13. 1:1000 @ A4

SITE SEVEN: ARCHITECTURAL POD

In-fill site implemented during Phase Three

The space around Site Seven demonstrates the phasing of the boardwalk as an orientation device, indicating the passing of regeneration. In Phase One this is left as only a path with the linear concrete footings set into the ground to provide a route between boardwalks. Only in Phase Two is the boardwalk built to allude to regeneration beginning on the site. During this phase the initial planting of the site with 'nursery' trees such as cabbage tree, manuka, kanuka and mahoe is undertaken. Phase Three sees a germination pod built on site to focus attention on the newly regenerating site, while boosting the number of seedlings germinating for planting.

PHASE THREE

Figure 92. Narrative Section, Part 15. 1:1000 @ A4

These pasture-land spaces between the boardwalk spaces still play a part of great importance. The path laid out with concrete footings provides the base for the fence posts for the fence protecting the riparian zone, with visitors walking on the inside of the fence, next to Waiwiri Stream. This ease of access and fenced protection allows small scale riparian planting to occur along the length of the stream, dealing to the pollution problems from run-off along its length.

Figure 93. Narrative Section, Part 16. 1:1000 @ A4

SITE EIGHT: ARCHITECTURAL POD 4593m
In-fill site, implemented in Phase Three as
more germination space is needed

Figure 94. Narrative Section, Part 17. 1:1000 @ A4

This riparian zone will be bolstered by the regeneration planting feeding out from the central spine of the boardwalk. Initially, this riparian zone will be extended to the bare minimum width necessary, 2-3 metres of planting. As the regenerating spaces grow this riparian zone will expand to at least 15 metres on the southern side of Waiwiri Stream (the side of the boardwalk and design narrative) which is a preferred width for riparian planting, as above 15 metres gives ample width for natural gradients of 'edge' condition to the bush to develop.

Figure 95. Narrative Section, Part 18. 1:1000 @ A4

Figure 96. Narrative Section, Part 19. 1:1000 @ A4

Figure 97. Narrative Section, Part 20. 1:1000 @ A4

-140-

PHASE ONE

PHASE TWO

PHASE THREE

SITE NINE: PLAINS + COASTAL GROW SITE 5720m

The second main growing nursery site.

Because of Site Nine's more coastal location it is designated as the grow site for plants which grow typically grow on the plains; such as kohekohe, mahoe, ngaio, and lancewood. Plants of a more coastal nature are designated to be grown here also, with the coastal architectural pods at the end of the narrative transect taking up some of the growing programme too.

PHASE THREE

Figure 100. Narrative Section, Part 23. 1:1000 @ A4

Manuka and kanuka - the initial colonising plants of pasturelands - will germinate in the thousands in strong sunlight. Other colonising plants include karamu, harakeke and wineberry, all which can tolerate low mineral soils which will normally be found after pastureland has been retired from grazing (prolonged grazing leaches most nutrients from previously rich soils) Most colonising species will form a canopy in 3-5 years if planted at 1.5-2 metre spacing.

PHASE THREE

Figure 102. Narrative Section, Part 25. 1:1000 @ A4

'In a tiny fraction of the landscape's history, we have got into a way of thinking in which the scraps of forest and the sudden flood are the anomalies, not us. Attitudes toward the past revolve around a catalogue of what was absent when colonialism finally came - roads and fences, farms and gardens, town and shops. Ecological capital isn't visible in the market, so the balance sheets of rural economics don't include it. Yet had a moist ancient forest not been here, its myriad plant and animal species constantly crumbling leaves, accumulating nutrients and keeping decay in pace with growth, the market gardens and orchards certainly wouldn't be either.'

Geoff Park in Ngā Uruora: The Groves of Life

From Geoff Park's book 'Ngā Uruora - The Groves of Life. Ecology and History in the New Zealand Landscape' (1993) Wellington: Victoria University Press, 168

Figure 103. Narrative Section, Part 26. 1:1000 @ A4

SITE TEN: INFORMAL GROW SITES + SHELTER SPACE 7484m

Figure 104. Narrative Section, Part 27. 1:1000 @ A4

The three Beach Pod sites curve down the beach front (as seen in Figure 77 & 140) as the cumulative 'end' to the narrative journey through the transect of regeneration of the lowland forest. These pods are versions of the Architectural Germination Pods found along the length of the boardwalk, however, these pods are stripped back of the layers found encasing the germination pods, and do not perform as growing sites. These three structures are placed to act as a focus for a final moment of contemplation in the linking of these three landscapes of the Swamp, Bush and Beach. Here they act as informal nodes which trap sand, creating a build-up to be colonised by native dune plants such as spinafex. The exposed, bare ribs of the pods stand along the Beach, again creating three moments of vertical orientation. The bare nature of their construction allows them to be interacted with by visitors and the community. Standing as informal sites for 'building' huts and shelters on the beach, as so often happens along our coasts, the ribs are left bare to encourage people to make their mark on them, leave their imprint, before moving back along the Boardwalk to the Bush and Swamp.

7548m

7689m

Figure 105. Narrative Section, Part 28. 1:1000 @ A4

Design Concept

The design relies heavily on the narrative power created by the transect of the lowland forest. This allows a rhythm to build and dissipate as visitors engage with each new section of regeneration and architecture. Consequently, the design also relies on the temporality of the site and how the designed interventions interact and respond to the changeable surroundings which are in dialogue with these elements.

A range of spaces have been developed to lead people through the regenerating transect, from lake to coast. Each of these cater for different roles within the transect of regeneration. These spaces all loosely lie within the three following architectural types.

Architectural Pods: These provide key 'beacons' of regeneration within the landscape. Each provides a vertical point of orientation and also acts as a node of on-site germination, focusing regeneration around each object of architecture.

Boardwalks: A traditional set piece within most natural New Zealand environments, the boardwalk is a necessary tool for navigating wet and swampy lands. Its typical role as a horizontal plane of orientation has been challenged within this design by extending its common boundaries and using it as the dialogue piece between architecture and the land.

Growing Sites: These spaces are an extension of the language of the boardwalk. Necessary for the growing and maturing of seedlings on site, these spaces also challenge the role of the boardwalk by undergoing a process of metamorphosis to act as a plant nursery space while still acting within the traditional role of the horizontal orientation.

Figure 107. (opp.) Inspiration for architectural form from kohekohe and kahikatea seeds

Figure 108. Physical exploration of form for the architectural pods through manually carving old totara farm posts.

Further material exploration was used within these models with the addition of copper sheeting and veneers.

Architectural Pods

New Zealand native seeds were studied through drawing and taxonomy, particularly seeds which are important to the unique character of the swamp forest and lowland bush (kahikatea, pukatea, tawa, rimu). The way in which these seeds cases slowly decompose and open, exposing the actual seed, was an essential inspiration for the layered character of these structures.

This was then combined with a modelling exploration using an old totara fence post to carve, (by hand, using chisel and mallet) the forms these pods could naturally start to take within such an environment.

I then combined these approaches through a process of intuitive design which was developed to be conscious of the environment around the architectural forms, and also of the existing 'architecture' on the site - the boardwalk and the canopy - which function as horizontal and vertical orientation devices.

The forms ultimately needed to be functional in nature, have a strong visual association to seeds, and through all of this, be beautiful and enticing to ignite curiosity in visitors about these small statements of architecture.

These two main elements of inspiration were then tempered, honed and reshaped into provocative yet practical moments of architecture through the process of combining them with the practical functions required from these structures. These requirements are;

Germination Practicalities

- Dark interior for germination and seedling growth

During germination the seeds require little to no lighting, but as they grow into seedlings, they require alternating shade and sun to encourage growth. This problem is addressed by keeping the seeds within the germination drawers, and limiting light entering windows through a layering process discussed further in the next chapter.

- Rainwater collection for seedlings

The curved form is designed to draw rainwater down to a catchment at the concrete base at the 'back' of the structure (the side from which the germination draws do not pull out). This is left as a storage unit, with light misting irrigation automatically misting seeds twice daily from this source. The outer layer of slatted wood ensures leaf litter and debris does not end up in the water source.

- Steady climate for germination

All seeds have an ideal germination temperature which usually falls between 15 degrees Celcius and 21 degrees Celsius. To cater for the changing needs of the individual pods depending on what species of seed is being germinated, it is necessary for each pod to have elements which enable the control and creation of a steady growing temperature. As a result, each pod has a partial concrete base which is further strengthened by steel support beams which the germination drawers can sit within. LED lighting is imbedded into the indented underside of each base, (as seen in Figure 112) as LED lights generate a decent amount of heat when in operation. This unorthodox method of heating the germination drawers has the added benefit of highlighting each pod's presence within the landscape, even at night, providing a constant reminder of the regeneration occurring out among the farmland.

- Aeration of growing seedlings

By placing the germinating seeds within pull-out drawers within each pod's base, the drawers encourage visitors to interact with and investigate the germination progress more closely. These drawers are designed to be pulled out from the exterior landing of the boardwalk, encouraging engagement with the germination process from both inside and outside the pod while addressing the need to aerate the germinating seeds regularly to avoid mould and mildew growth.

- Ability to open up the facade to allow more light into growing space and interior. As the seedlings grow, the architecture undergoes a metamorphosis again. Seedlings are grown within the context (confines) of the architecture until they reach the height of 100-150mm with sufficient foliage. Then they will be pricked out of the germination drawers and transplanted into separate planter bags. These will then be moved to the designated 'grow sites' - environments which have more space to operate as a nursery would.

Viewing-Interior

This is one of the driving forces behind creating these architectural pods. It is essential to have the eco-sourced seeds in an environment which is visually accessible. This has been achieved by designing each pod base to have three large industrial drawers set into the concrete, approximately 1000mm by 2000mm which are designed to be rolled out for planting, tending and viewing. The germination drawers are made to be viewed from within the pod structure, through 60mm thick safety glass set into the precast concrete floor above each drawer.

Through this glass a living exhibition is created of the active and *accessible* process of germinating these plants from seeds. Also, because of the various times at which native plants seed and then germinate, this is an exhibition which will be active for the majority of the year. It is a living process which can be followed from seedling to a fully grown tree over a period of 50 or more years, but it is also an experience which, because of the successive context in which it is presented, is completely transparent and therefore understandable and accessible to someone who will encounter it only once.

Viewing-Exterior

Reorganising how views to the exterior are laid out draw attention to important ecological aspects around inhabitants of the pod which would potentially otherwise go unseen. This involves challenging the typical concept of 'viewing' landscape by placing these windows in unusual locations, for instance in the base of the architecture to obtain a view of the swamp surface, leaf litter, or a stream. This act of framing, in conjunction with the framing of the germination drawers, connects two processes; the interior process of the germination, and the exterior process of planting out and natural succession which occurs within the forest surrounding. (see Figures 118, 120, 122 & 124)

Vertical Orientation Point

These structures are designed to work as vertical orientation devices - the cultural orientation point within the vertically dominated bush. This vertical nature has been emphasised to place the architecture in direct conversation with the vertical nature of the canopy. The architectural pods have also been designed to create their own recognisable *architectural* language which denotes regeneration. This act challenges the negative societal response associated with the placement of architecture within natural landscapes, by making the pods symbols of change. These forms need to be accepted and respected by visitors to the site and local communities, so there needs to be a strong connection between the pods and visual indications of regeneration in their vicinity.

By placing these pods within the existing context of the Waiwiri bush they become visually connected with the process of growth and regeneration. This ensures that when the individual pods are placed out in the horizon dominated plains, (where their architectural nature is inescapable) they will be heralded as beacons which are associated with the process of regeneration - an indication of future connected lowland forest spaces.

This act simultaneously places the process of regeneration unavoidably in the midst of farmlands and market gardens, while challenging people's general dislike of architecture and culture 'interfering' with nature.

Temporality and Decay

As discussed within the chapter '*Cultural Constructs of Landscape*' (subchapter - *Orientation within Time*) there is a Western expectation of architecture to be timeless and impervious to decay. This concept is challenged within the Te Papa site from the perspective of reformulating the operation of a museum and how it can respond to time. However, it is within the small architectural context of the germination pod where this temporality is explored, physically, and in-depth.

What is expected from these architectures is a degree of flexibility and fluidity so that, as the focus of their attention - the surrounding ecosystem - grows and regenerates, they too can grow, regenerate, and then decay as the focus of these educational platforms undergoes the process of metamorphosis.

As the regenerating lowland forest grows, the pod is designed to reincarnate itself to respond to the changing needs of its context. This is achieved by abstracting the layers of protection found within a seed into a structural representation which, is designed to strip back these layers in parts to allow for changes in form to occur.

These pods are intended to be constructed as individuals. The design cited here is intended as a guideline only; it is important within a site as transitional as Waiwiri that each pod be subtly changed depending on outside ecosystem factors.

Each pod resides on a base which is one third precast concrete. This concrete form extrudes down into the swampy landscapes to create the main structural footing, while also curving up to create the main orientation device of the pod which is held in compression against the opposite structural beams. This is the only element of the architectural context which is designed to last, and remain as an indication of the regeneration efforts. A hundred years from now, the rest of the less permanent architecture will have disappeared. This is an important point, as the design seeks to leave a celebratory memorial to the role architecture plays within the regeneration of this lowland transect. This act places architecture as a cultural cue to the intent behind these structures, instead of it appearing as if nature has simply taken over by its own accord. It is about continuing to stimulate that dialogue between Nature and Culture, Architecture and Landscape Architecture.

The main vertical spine of the pod is precast concrete as well, and acts as the central support footing. This footing is sunk into the swampy grounds, while rising up the entire 8 metre height of the pod to act as an identifiable vertical axis of orientation within a surrounding of bush.

Access to the pod balances the whimsy of climbing ladders with the practicality of stairs, with 'floating' concrete steel stairs raising visitors up off the traditional boardwalk up the 1-2 metres necessary to enter the interior of the pod.

A further 'layer' to the architecture is shown as the splay of timber posts driven into the swampy grounds. These provide the support for the 'floating' stairway into the pod. However on this model these posts have been extruded up to provide a screen between the interior and the boardwalk space

Figure 109. Architectural pod within the context of the existing Waiwiri Bush.

Layered Architecture

Axonometric Exploration of Architectural Form

Layered Architecture

The pod itself is encased in several layers of differing materials, mimicking the protective layers of the kahikatea and kohekohe seeds.

Starting from the inside, we first encounter the rich inner layer, a totara clad layer with sections of tall yet lean windows reaching right to the ceiling (Figure 113). These are placed with consideration to current and future elements on the outside of the structure (as shown in Figures 118 to 125).

This shell adheres to the 350mm deep curved glue-laminated (glulam) timber structural beams which work in tandem with the main precast concrete spine to provide the strength to the pod's structure (Figure 111). By making the depth of the laminated ribs deeper, it increases the depth of the window frame, thereby limiting sun levels into the pods interior. This is key for germinating seedlings which won't tolerate much light.

The outside cladding on these structural ribs is also a totara (or a red beech depending on availability) encasing the entire structure as both have good natural durability with both reading between H3-H4 for hazard class (Figure 114). A watertight fabric layer lines the whole structure, leaving the windows and openings uncovered.

On top of this exterior cladding there is placed a final layer, the outer 'husk' to the pod (Figure 115). This layer consists of vertically lying each 80mm wide glulam timber slat, which is curved to respond to the pod's form. The entire layer sits out 200mm from the exterior cladding, again deepening the windows threshold.

However, this layer is unusual because it covers *all* the openings and windows, except the entry door and several predetermined lower vantage points. It acts as a sacrificial layer which is cut into as time progresses, revealing the outside regenerative progress as the forest grows in height and density. In this way, the interior of the pod stays reasonably darkened. By the time the upper reaches of this sacrificial layer are opened, there will be forest canopy above to block sunlight. (depicted in Figures 119 ,121 & 123)

Site One Plan: Educational Pod

Figure 110

Original 1:50 @ A2

Pod is accessed via timber steps supported by tall timber poles driven into the ground.

High windows are the southwestern end of the pod create the expected 'gaze' out into the landscape. However, dimensions of the pod (approx. 3500mm wide and 7500mm tall dependent on the structure) make this gaze one of a vertical nature.

Outer Layer - Vertical timber slats

{Inner} Outer Layer - Totara Shell

Structural Beams - Lateral Bracing

Inner Layer - Windows and Totara Cladding

Concrete Orientation Spine: Architectural Pod

Figure 111.

Original 1:50 @ A2

Concrete base sits as counter weight for rest of the structure, allowing the furthestmost end from the entry to be supported by several 70mm radius SHS (structural hollow section). The number required depends on the soil strength at any given location.

Pre-cast concrete spine extrudes from concrete base to act as a clear orientation device.

Additional bracing from timber glulam beams placed on opposite side of the pod's base.

7600mm
high

Structural Beams: Architectural Pod

Figure 112.

Original 1:50 @ A2

Full length glass panes of 1000 x 7500mm allow vertical gaze into surrounding bush - these are set in steel window frames.

Remainder of base is constructed from glulam structural beams and clad in red beech. Steel reinforcing (can be seen through bottom of drawer openings) which is set in the concrete base extrudes to the end of the base - creating the frame which the wooden structural elements attach to.

LED lighting is attached to the underside of these steel reinforcing beams under each drawer. The heat generated by each light allows for the germinating seeds to be kept at a constant temperature, while also making the structures beacons at night.

Interior Cladding: Architectural Pod

Figure 113.

Original 1:50 @ A2

Interior cladding consists of totara (or red beech) panelling. This is sized according to the curve of the structural beams.

Sections of this inner cladding are replaced by glass panels which are placed from floor to ceiling. The placing of these transparent sections allows, firstly, an understanding of the structure of each pod. Secondly, it allows cuts to be made into the outer layers anywhere along that vertical axis, so that the pod can respond fluidly to the slow regeneration occurring in surroundings, exposing certain views of the canopy, or certain trees.

{Inner} Outer Cladding Architectural Pod

Figure 114.

Original 1:50 @ A2

Outer cladding of totara or red beech panels are designed to erode with time.

The steel runners for the germination drawers extrude from the back of the pod, alluding to the drawers function even from at a distance.

Outer Cladding: Architectural Pod

Figure 115.

Original 1:50 @ A2

The final outer layer is considered the 'sacrificial layer' - even though all the layers are designed to erode with time - with the concrete orientation spine and footing to remain as a cultural indication to architecture's role in this regeneration.

This outer layer, comprising of vertical glulam slats 80mm wide is propelled 200mm off the {Inner} Outer Cladding by steel poles set into the timber cladding.

As the surrounding canopy grows higher it is this layer which is designed to be cut into, exposing the interior windows set into the inner cladding (Figure 113) to allow the visual connection to the, now taller, canopy.

Responsive Phasing

Sectional Exploration of Architecture Responding to Surrounding Regeneration

Architectural Pod: Exploration of Size and Scale

Height and dimension of each individual pod depends on the environment which it is designed to be placed within. This creates subtle variances to each structure, that, while allowing the architecture to remain within one coherent design language, also creates small uniquenesses, further endearing the architecture to visitors to the site.

Figure 116. Indicative section of typical pod structure. Heights of pods are designed to vary between 5000mm and 7500mm high

Figure 117. Series of indicative sections demonstrate slight variations possible within pod construction such as dimensions, openings, and angles.

1 Regeneration One Primary Nursery Phase: 1-3 yrs

Initial 1-3 years period of establishment of 'nursery' growing crop.

Pasture lands are scrubbed back to create arable space for initial colonising plants such as five-finger, mahoe, kanuka, manuka and harakeke to be planted and potentially to seed naturally.

Initial regeneration, when viewed from within the context of the architectural pod, is still able to be viewed from a typical horizontal vista vantage. However, this typical vantage of the landscape is subtly challenged by the angling of glassed openings which direct the inhabitants gaze towards the forest floor and lower regeneration cycle, instead of the default wide angle view we typically associate with beautiful landscapes.

Figure 118. (opp.) Diagram of potential 'views' and 'systems' which openings in the pod will focus visitors attentions to - Phase One

Figure 119. Section of typical architectural pod structure responding to surrounding regeneration - Phase One
Original 1:100 @ A4

Regeneration Two: Secondary Regeneration Phase: 10yrs+

Secondary phase around 10 years onwards, where initial nursery crop of manuka and kanuka will die off as they are out competed for sunlight and nutrients by emerging sub-canopy plants and trees. Such as; lancewoods, pigeonwood, rangiora, rewarewa, pittosporums, nikau and other lower level plants such as harakeke and ferns start to establish themselves in the now darker regions of the undergrowth.

Figure 120. (opp.) Diagram of potential 'views' and 'systems' which openings in the pod will focus visitors attentions to - Phase Two

Figure 121. Section of typical architectural pod structure responding to surrounding regeneration - Phase Two. Original 1:100 @ A4

Regeneration Three: Tertiary regeneration phase: 30years+

During this period typical canopy trees found within lowland forest start to dominate the canopy as they grow towards mature height. Trees such as; kahikatea, kohekohe, swamp marie, tawa, rimu and pukatea are present.

Canopy becomes dense, creating a dark and damp forest floor environment, perfect for the emergence of damp loving filmy ferns, mosses and native orchids.

The final upper coverings of the wooden shell of the architectural pod can be removed, drawing the inside inhabitants gaze up into the dense canopy, and extending the vertical vista of the forest upwards.

Figure 122. (opp.) Diagram of potential 'views' and 'systems' which openings in the pod will focus visitors attentions to - Phase Three

Figure 123. Section of typical architectural pod structure responding to surrounding regeneration - Phase Three. Original 1:100 @ A4

REGENERATION 1

REGENERATION 2

REGENERATION 3

Regeneration Three - Interior

Interior view from within the architectural context of the pod.

The vertical nature of the windows allows the emphasis to lie on the vertical growth the surrounding regenerating areas undergo.

As shown, the smaller openings which are cut away as the regeneration evolves subtly draw attention up to the forest canopy - creating a subconscious connection between the germinating seedlings at ones feet in the lower germination drawers, to the encompassing canopy above. This draws them together in one understandable system of growth.

Figure 124. (opp.) Composition diagram of all phases of potential 'views' and 'systems' which openings in the pod will focus upon

Figure 125. Interior view of architectural pod showing view into germination drawers

Figure 126. Composition boardwalk study of texture and rhythm of wooden boardwalk. Lake Waiwiri boardwalk, October 2011

Figure 127. (opp.) Phase One of boardwalk development

Figure 128. (opp.) Phase Two of boardwalk development

The Boardwalk

The boardwalk is a structure which is associated with most natural protected sites, especially those of national parks or Department of Conservation sites. This structure is often overlooked and viewed as simply the method of moving through a space. Mike Abbott, in his essay *Being Landscape* writes that it is these paths and bridges, the boardwalks, which provide an opportunity to “...develop moments, both within time and place, that show sensitivity not only to the qualities of specific places, but also to the experiential and cognitive possibilities that these places afford.”⁹³

These cognitive and experiential possibilities are challenged within the Waiwiri design to become more than the necessary structure for navigating the wet and delicate land of the swamp. Instead the boardwalk takes on the role of the horizontal method of *orientation*. This occurs in two very different ways.

93 Abbott, M. (2011). ‘Being Landscape’. In J. Ruru, M. Abbott & J. Stephenson (Eds.), ‘Making Our Place: Exploring Land-use Tensions in Aotearoa New Zealand’. Dunedin: Otago University Press. 81.

Firstly, the boardwalk changes in width and form to mimic the clearings that people instinctively seek out in the heavily obscured territory of forests. This works in conjunction with the vertical orientation which the architectural pods create with their 'object' nature. This merges the two forms into one coherent language of orientation; thereby making orientation through the landscape easy, with the boardwalk providing a seamless form of orientation regardless of whether pods are visible or not.

Secondly, the boardwalk provides an orientation within the phasing and *time frame* of the regenerative process. This is achieved by staging the boardwalk in reference to the level of regeneration in the surrounding spaces, ramping up as regeneration zones are entered. (Figures 90/91 & 129) Building upon the design language which orients visitors spatially and conceptually, this gives more strength and importance to these stretches of raised boardwalk, as people link the change in surface and elevation to a change in environment; the movement from pasture-lands to regenerating forest.

Figure 129. Phase Three of
boardwalk development

Growing Sites

The importance of the boardwalk becomes obvious here, as it needs to morph in dimension and function to create enough raised growing space to allow the germinated seedlings from the pods to reach a good height (300mm+). Under the protection of the grated boardwalks (which protect from winds and hard weather) the grow sites act as site specific nursery spaces. Such a large project creates certain staffing requirements, but these maintenance requirements also allow for 'bottom up' involvement from community groups and iwi who wish to be involved with the process.

Seedlings, once they reach a particular height and strength, will be hardened off by moving them onto the upper boardwalk platforms, exposing them to the elements. Then one final hardening off is achieved by placing the young plants in their plant site, allowing them to adjust to different saline conditions, temperatures, winds, before they are planted to grow to maturity.

Figure 130. Process of germinated seedling being re-potted and transported to the nearest grow site to grow to suitable 'planting out' height

Figure 121. Background image. Time frame of regeneration programme

Boardwalk spaces diverge off the narrative journey, angling down into the exterior nursery space of the growing site. The boardwalk levels angles down and up to create the surface area necessary for a nursery space. Angling of the walking surface (down) and the original boardwalk level up into a bench space creates a clearance of 1000mm between the walking level boardwalk and the 'bench', Here planter bags are stored (Figure 130) as they grow to a suitable height

Figure 132. Plan of Site Six - Swamp Grow Site Original 1:2000 @ A4

Figure 133. (opp.) Approaching Site Six - Swamp Grow Site. Growing boardwalks ramp up on the left as the typical boardwalk continues its narrative path towards the pod

Conclusion

By implementing these structures of regeneration through a narrative sequence of landscapes, a discernible and identifiable language of regeneration has been created. This is the key to creating spaces which people can easily identify with; this accessibility gives the site the potential to become a national precedent for other such regeneration programs.

By harnessing dualities commonly set in opposition to each other, such as horizontal and vertical orientation, or architecture and landscape architecture, the design creates a strong framework for analysing the process of regeneration. It creates a series of spaces along the narrative journey of the lowland transect, allowing people to engage with the history and potential which lies within the lost lowland forest transect.

Figure 134. Pukatea seedlings growing on the forest floor. Waiwiri. 2011.

Figure 135. System processes across both design sites. This cyclic process will repeat as different types of seeds reach their respective seeding time, stratification time, and germination time.

Figure 136. (over page) Foothill contours merge into sand dune contours Waiwiri.

SIX

-183-

One National Ecosystem

184 One National Ecosystem

187 Conclusion

A National Ecosystem

Te Papa Tongarewa Seed Bank and Lake Waiwiri Regeneration Program

The challenge with the design outcome for both these sites was how to create a sufficiently strong connection between them, despite their differences and physical separation. Programmatically this connection occurred naturally, as it became apparent that there was a need for a storage site for the eco-sourced seeds from the Waiwiri site. The greater challenge was linking the two sites theoretically, by dealing with the issues of orientation (both physically and conceptually within the debate of New Zealand identity) and regeneration and education. What has resulted is not a 'whole' system - but rather a system of negotiation. The design creates an ecosystem of dialogue between architecture and landscape architecture, regeneration and storage, education and experience.

This dialogue represents a precedent in which architecture, landscape architecture, education and regeneration all play a role in re-connecting and re-discovering these 'little landscapes'; the fragments of our old Native landscapes which need to be connected, both to each other and to the population of New Zealand.

As New Zealand emerges as a postcolonial society, our judgements concerning what areas of land we deem to be productive or unproductive are changing. As a result society is more willing to consider acting upon more ecologically minded motivations, for instance planting along riparian boundaries; we are beginning to see protected native forest and bush as something of cultural value. Our post-colonial society starts to challenge the colonial labelling of land as productive or unproductive, as we realise that the discussion about productivity needs to be extended. It is becoming plain that when the term 'productivity' is used within New Zealand's society, it needs to encompass not simply economic productivity, but cultural productivity, a

Movement within the system depends on the type of germination the seed undergoes. Seeds requiring immediate sowing are sown in the base of architectural pods on site. Those needing periods of stratification are transported to the storage space in Te Papa where they are stored for the appropriate amount of time in the exhibition space of the Core until they can be germinated in the nursery structures to the south east of the museum

Figure 137. Process of transporting seeds between the site of sourcing (Waiwiri) and the site of storage (Te Papa)

Figure 138. (over page) Explanation of different types of seed germination catalysts/types

Vivipary: germinate on the parent plant so that seedlings are well developed by the time winter occurs.

Recalcitrance: High water content must be kept for these seeds to germinate, even if they are dormant. Must be sown immediately and kept moist for as long as dormancy continues.

Quiescent: Rapid germination process. Must be sown immediately upon collection.

Dormant seeds (low temperature catalyst): Seed must be subjected to period of low temperature (at least a month) to encourage germination.

Dormant seeds (light catalyst): Can stay dormant for long periods of time until they are exposed to light - often opportunistic shrubs

type of cultural capital. The national seed-bank designed within this thesis encapsulates this concept of cultural capital within a system of regeneration.

The transformation of these two sites into one system in dialogue becomes a strong case for creating an exemplary touchstone, an ecological and cultural crux, with which the public can identify. As ecologist Colin Meurk says “If people don’t see something, it becomes irrelevant to them.”⁹⁴ This is a crucial factor when one considers the long-term preservation of our natural heritage. New Zealanders need to have the presence of these native landscapes close at hand, which is impossible while so many of those landscapes are relegated to the fringes of our perceptions as unconnected fragments. By connecting these fragments of lowland forest to one another, and also to the urban environment inhabited by Te Papa Tongarewa inhabits, these landscapes are made *accessible*, not only in the physical sense, but more importantly, in the sense of being understandable.

Generating this conceptual and intellectual accessibility is the primary reason for designing the regeneration system across two sites. Inserting a natural process into the urban environment has the power to spark a dialogue which values these native landscapes as a source of cultural capital; and placing this dialogue within the national museum sets the stage for a discussion of landscape and landscape regeneration’s role within New Zealand.

94 Macfie, R. (2011). ‘Nature Ground Zero’. New Zealand Listener, 34-36. 36.

Such an important undertaking must be conveyed as an issue of national significance, and by placing it within the formal context of Te Papa Tongarewa, such a regeneration program is able to garner the respect it deserves, into a powerful statement about the state of Aotearoa, New Zealand's landscapes.

Conclusion

The preservation of Aotearoa New Zealand's landscapes is an issue central to our identity as a country, and has been since the first national parks were created. Through cultural norms, and introduced notions of landscape, society has made this act of protecting native landscapes into what is seen as a societal urge to package our landscapes into tidy exhibition spaces.⁹⁵

This has created a static and unchallenged approach to landscape, where New Zealanders will often still retain an old-fashioned picturesque view of landscapes.⁹⁶ This view of landscape does not allow for the necessary 'middle landscape' to develop; there is no framework or precedent for living *with* our Native landscapes in any other form than visiting and admiring them.⁹⁷

This predicament demands national attention. As a country, we are dangerously unaware of our own connections to landscape; and are "...yet to define or perhaps even understand what landscape means to us."⁹⁸

Our fumbling through the complexity of landscape is in some ways the result of us being a still relatively young country. This has denied us the opportunity of time to explore our landscape; and we have yet to develop or discover the necessary tools with which to undergo this conceptual exploration.

95 Abbott, M. (2011). 'Being Landscape'. In J. Ruru, M. Abbott & J. Stephenson (Eds.), 'Making Our Place: Exploring Land-use Tensions in Aotearoa New Zealand'. Dunedin: Otago University Press.. 73.

96 Ibid. 77.

97 Park, G. (2006). 'A Moment for Landscape' Theatre Country: Essays on landscape and whenua (pp. 196-204). Wellington: Victoria University Press. 202.

98 Environmental Defence Society. (2002) 'New Zealand Special Character Areas', A discussion paper for Chief Executive of the Ministry for the Environment

What this thesis proposes is that those tools lie within the social and cultural tensions which are so often consciously overlooked or put to one side. Aotearoa New Zealand contains a matrix of tensions and dialogues which have built up through naturally occurring cultural and societal dualities, these tensions only need a stage on which to manifest themselves. The solution is not to create a landscape or design which challenges these typical approaches to the picturesque or neglected landscapes. Instead the design process invites New Zealand's society to take a renewing look at its own approach to landscape, both at an individual and national level.

Just as landscape has indeterminable territories, always in flux, blurring and shifting constantly, the issue of increasing ecological cultural awareness is marked by these same qualities. It is natural that the two should become entwined into one dialogue. Within this dialogue, New Zealand's incomplete exploration of the native landscapes of the Beach, the Swamp and the Bush can come to fruition and so too can the process of improving New Zealand's cultural ecological awareness, so that it becomes a keystone, a touchstone, to the foundations of our society.

It is these three landscapes which have the greatest potential to form part of a more honest national identity for New Zealand; perhaps, subconsciously, they already are. They are landscapes which, through the ebb and flow of time and culture, have become neglected and disused, both physically and culturally. However, it is this neglect which also gives them a certain power, as even though they have been less prevalent, they have remained in the subconscious of New Zealand's society since their cultural conception. Now is the time to bring them, and all their associations, back to the forefront of our gaze. They are landscapes which, because of their strongly indeterminable natures which are constantly changing, can not be disassociated or stood back from, a quality which begets their real strength.

These landscapes have elements of the dark unknown first found within the newly discovered Aotearoa New Zealand, and therefore have a connection to something more primal and mysterious, which draws people in, willing them to learn the history of the land. The constant state of flux and negotiation within these landscapes is what creates and maintains this primal connection, and it is this negotiation which gives these landscapes the

power to demand a constant dialogue from society - if New Zealand would only endeavour to engage in such a conversation.

This is what we need, landscapes which cannot simply be fenced and left, but landscapes which challenge assumptions about nature, and our connection with it, which have become entrenched in our societal values. The creation of this dialogue comes to fruition through the focus of the thesis, the lowland forest. By placing a regenerating system across the two design sites there is born an opportunity to captivate the imaginations of people who would not normally seek out the experience of the lowland forest.

The Beach is already a landscape which is firmly connected to most people's individual identities through their own experiences and memories. However it is the less prominent landscapes of the Swamp and the Bush which need to be drawn, once again, into national significance by linking them to the innate prominence the Beach holds culturally (as abstracted in Figure 28). The strongest connection binding these three pivotal landscapes together is that they are designed to exist as an inter-related system across the lowland transect - a system which has almost completely disappeared within present day society because of our inability to comprehend the interwoven and expansive nature of such as system.

It is this connection between our lost natural landscape of the lowland forest and our forward-looking urban landscapes, which transforms the lowland forest into a national lodestone. An active

Figure 139. Waiwiri Bush Canopy, April 2011

Figure 140. Coastal pods within
the context of the Beach

and magnetic focus of attraction, it is the lowland forest which has the power in its history and collective landscapes to draw society into an ever evolving dialogue with the tensions and dualities which make up Aotearoa New Zealand.

This, when bound in dialogue with the other landscapes and ecosystems of our modern context through architectural and landscape architectural intervention, strengthens our emerging identity as one which is ecologically and culturally aware of its role within landscape . By engaging society in this dialogue of discovery, knowledge and process, the landscapes of the Beach, the Swamp and the Bush prove their national cultural value, and as society moves forward it becomes clear that, within our emerging post-colonial era, it is the process of regenerating these landscapes which can define New Zealand as a country. We should no longer rest on the laurels of protecting landscapes as fragments of a whole, but take on the more difficult responsibility of opening ourselves to a widening national dialogue of regeneration, thus creating the next chapter of our emerging identity as a nation.

Figure List

Figure 1. Cover - Interior bush of Lake Papaitonga {Waiwiri} Scenic Reserve June 2011. Photograph by author.

Figure 2. Map VI penned by Leslie Adkin from 'Horowhenua: Its Maori place-names & their topographic & historical background'. (1948) Wellington: Department of Internal Affairs.

Figure 3. Sections of the entire lowland plain from coast to the Tararua Ranges. Image by author.

Figure 4. Canopy of Waiwiri Bush, June 2011. Photograph by author.

Figure 5. Wheki fern canopy, Waiwiri, June 2011. Photograph by author.

Figure 6. Abstraction of the conceptual 'layers' of landscape. Image by author.

Figure 7. Map of North Island - showing respective locations of both sites. Image by author.

Figure 8. Beach area, sand dune contours. Waiwiri. Image by author.

Figure 9. Fenced farm land with stabilised dune hills in the background, Horowhenua region, 2011. Photograph by author.

Figure 10. Cows watch State Highway One, Horowhenua region, 2011. Photograph by author.

Figure 11. Aerial photo of the Marlborough region displaying the textured grid common in rural settings. Photo supplied by Cory Manson

Figure 12. Richard Anderson surveys Lake Waiwiri from the farm land on the lakes northwestern edge (Part One of Composition - viewing the land in the post-colonial era). Photograph by author.

Figure 13. Cory Manson surveys the Wellington landscape from the highest accessible point of Te Papa Tongawera (Part Two of Composition - viewing the land in the post-colonial era). Photograph by author.

Figure 14. 'Papaitonga Lake Road' - typical street sign near Lake Waiwiri - an example of naming to claim. June 2011. Photograph by author.

Figure 15. The proximity of nature and culture. The coastal edge of Waikanae Beach. June 2011. Photograph by author.

Figure 16. Otaki sand dune farmland with sand dune contours.. Image by author.

Figure 17. Purchase bag (side B) from 'The Map Shop' based in Thorndon, Wellington. A reliability diagram for the original map can be seen, visually warning of discrepancies within the mapping process.

Figure 18. Twenty metre contour information for Lake Waiwiri site (lake pictured in centre with general transect space outlined.) Original 1:100000 @ A4. Image by author

Figure 19. One metre contour information is generated through personal knowledge of contouring land, and by using the transect to the south (outlined) which had been surveyed to 1m contour heights as a reference. Information of dunes becomes much more comprehensive and dense at this level. (lake pictured in centre with general transect space outlined.) Original 1:100000 @ A4. Image by author

Figure 20. When coloured, information becomes layered even more densely, giving a sense of the height to each dune where there is a large transition through colours. The transect to the south (outlined) was again used as a reference for identifying which contours would respond to which height+colour. (lake pictured in centre with general transect space outlined.) Original 1:100000 @ A4. Image by author

Figure 21. Map VII penned by Leslie Adkin from 'Horowhenua: Its Maori place-names & their topographic & historical background'. (1948) Wellington: Department of Internal Affairs.

Figure 22. Diagram illustrating the layered meanings behind simple concepts within the language of Te Reo. Image by author.

Figure 23. Abstraction detailing orientation of vertical versus orientation of the horizontal. Image by author.

Figure 24. Abstraction of cyclic Māori associations to time , overlaid with the linear Pākehā structure of time. Image by author.

Figure 25. 100% Pure New Zealand advertisement From <http://envirohistorynz.wordpress.com/2010/03/24/the-eternal-dilemma-development-vs-preservation/100-pure-nz/> (Accessed December 12th 2011)

Figure 26. Initial visual cues /swatches into perceived landscapes. The natural versus the cultural. Image by author.

Figure 27. Swamp land, sand dune contours.Waiwiri. Image by author.

Figure 28. The three native landscapes of New Zealand. Explored as spaces of negotiation and discovery. The Beach, The Bush and The Swamp. Beach acts as the crux where dualities meet - feeding into the crucial landscapes of the Bush and the Swamp. Image by author.

Figure 29. The Beach. The 'entry' into the transect of the lowland forest found at Lake Waiwiri. Image by author.

Figure 30. Sitting and watching at Golden Bay beach, 2009. Photo supplied by Zara Mann

Figure 31. Gazing over Wainui Bay, Golden Bay, 2008. Photographed by author.

Figure 32. 'Inhabiting the beach and dunes'. From Chaplin, G., & Mitchell, D. (1984). 'The Elegant Shed: New Zealand Architecture since 1945'. Auckland: Oxford University Press. 18

Figure 33. The Swamp. The landscape of constant flux which shrugs off commonalities shared between 'normal' landscapes. Image by author.

Figure 34. Artificial drains through farmland. Old sand dunes can be seen in background. Horowhenua region, April 2011. Photograph by author.

Figure 35. Swampy ground encroaching on farmland. Horowhenua region, April 2011. Photograph by author.

Figure 36. The Bush. The native representation of New Zealand lowland forest. Image by author.

Figure 37. Te Papa Tongarewa within its urban context, Wellington waterfront 2011. Photograph by author.

Figure 38. Wellington topography map, locating Te Papa site. Not to scale.

Figure 39. Context map of Te Papa Tongarewa's location within the context of the city and Wellington's waterfront. Original 1:5000 @ A3. Image by author.

Figure 40. Graphic representation of the initial Jasmax concept for the Te Papa Tongarewa design competition. Image by Pete Bossley from 'Concepts: Concepts in Culture'. Architecture New Zealand, The Designing of Te Papa: Architecture New Zealand examines Te Papa's concepts design structure, 1998, 19

Figure 41. Graphic representation of developed design concept plan for Te Papa Tongarewa. Image by Pete Bossley from 'Concepts: Redirect, Redevelop'. Architecture New Zealand, The Designing of Te Papa: Architecture New Zealand examines Te Papa's concepts design structure, 1998, 23.

Figure 42. Plan of external site works (Bush City), Jasmax Architects, August 1994. Original 1:250 @ A1. Sourced from Wellington City Archives, May 2011

Figure 43. Swing bridge walk through the contrived Bush City landscape. Wellington, 2011. Image by author.

Figure 44. The artificial water 'feature' runs between Bush City and Te Papa's western wall, Wellington 2011. Image by author.

Figure 45. Elevated walk through the planted canopy of Bush City, Wellington 2011. Image by author.

Figure 46. Te Papa as a Landscape. Abstracting the urban system which Te Papa Tongarewa keys into. Using generic landscape terms in the foreign environment of the Wellington urban 'scape - similarities to the Waiwiri environment can be drawn. Image by author.

Figure 47. Conceptual plan of Te Papa Tongarewa - the axis of regeneration and how this connects to the existing landscape of Waitangi Park. Image by author.

Figure 48. Re-creating Te Papa Tongarewa's 'pointing' within space and time. The axis of pointing and fault line, the axis of regeneration, and the axis of vertical orientation. Image by author.

Figure 49. Neil Paddington, Pacific Store #1 (Samoan Clubs), Museum of New Zealand Te Papa Tongarewa, 2006. Lambda/C-print, dimensions variable. From Simpson, D. (Ed.). (2009). 'The Vault: Neil Paddington'. Christchurch: Christchurch Art Gallery Te Puna o Waiwhetu. 24.

Figure 50. Neil Paddington, 'Land Vertebrates Store #2, Auckland Museum Tāmaki Paenga Hira, 2008. Lambda/C-print, dimensions variable. From Simpson, D. (Ed.). (2009). 'The Vault: Neil Paddington'. Christchurch: Christchurch Art Gallery Te Puna o Waiwhetu. 20.

Figure 51. Abstracting the role Te Papa plays within concepts of time - Māori abstraction. Image by author.

Figure 52. Abstracting the role Te Papa plays within concepts of time - Pākehā abstraction Image by author.

Figure 53. Plan of proposed intervention within Te Papa's context. Original 1:300 @ A1. Image by author.

Figure 54. Diagrammatic section of the transect proposed through the existing Te Papa shell. Original 1:300 @ A1. Image by author.

Figure 55. Axonometric of new Axis within the shell of Te Papa. Original 1:300 @ A1. Image by author.

Figure 56. Gaze across Lake Waiwiri. 2011. Photograph by author.

Figure 57. Topography and waterway mapping of Lake Waiwiri area. Locating Lake Waiwiri. Not to scale. Image by author.

Figure 58. Context plan, highlights Lake Waiwiri site transect in relation to the western coasts' remaining swamp and temporal lake systems. Original 1:100000 @ A2. Image by author.

Figure 59 Aerial view of the Lake Waiwiri site. Original 1:20000 @ A3. Image by author.

Figure 60. Close-up context plan of Lake Waiwiri's location. Image by author.

Figure 61. Series One, Composition of narrative images through Waiwiri Bush/swamp forest. Photographs by author.

Figure 62. Series Two, Composition of narrative images through Waiwiri Bush/swamp forest. Photographs by author.

Figure 63. Map penned by Leslie Adkin, (1948) 'Lake Papaitonga showing place-names and sites' Wellington: Department of Internal Affairs. 283.

Figure 64. Aerial photograph across Lake Waiwiri's eastern edge to the existing forest remnant protected by DOC. Waiwiri, 2008. Photograph courtesy of Horizons District Council

Figure 65. Aerial photograph across Lake Waiwiri's northwestern edge. Waiwiri, 2008. Photograph courtesy of Horizons District Council

Figure 66. Aerial photograph across Lake Waiwiri's western edge. Waiwiri, 2008. Photograph courtesy of Horizons District Council

Figure 67. Aerial photograph of Lake Waiwiri. Waiwiri, 2008. Image courtesy of Horizons District Council

Figure 68. Dune movement along the western coast - Horowhenua area. Image by author - Formulated through GIS data of Otaki in conjunction with literature of geo-archeologist, Bruce McFadgen.

Figure 69. Geological layers of western coast, Horowhenua area. Unstable dunes can be seen to extend far back from the coast. Floodplains and peatlands indicate where old swamp lands would have existed. Image by author.

Figure 70. Past vegetation zones in the Otaki/Horowhenua region. Image by author.

Figure 71. Current landuse zones in the Otaki/Horowhenua region. Image by author.

Figure 72. An abstraction of the slow fragmentation of ecologies. Image by author - redrawn from Geoff Park's diagram which was redrawn from Curtis 1959

Figure 73. An abstraction of the regeneration process at Lake Waiwiri (dark green transect) being precedent for other lowland transect links to develop (lighter green transects). Image by author.

Figure 74. 3D modelled view of the terrain surrounding Lake Waiwiri. Image by author.

Figure 75. The narrative structure of the Lake Waiwiri intervention. Initial exploration of form within site context. Photographs & images by author.

Figure 76. Concept of the elongated transect - restoring the entire length of the lowland transect - from coast to the hill foot. From Beach to Bush. Currently the Waiwiri design only stretches from the coast to the head of Lake Waiwiri (as depicted in Figure 64 & 66) Image by author.

Figure 77. Plan of narrative journey from the existing bush surrounding the lake to the coast. Lake Waiwiri. Original 1:20000 @ A3. Image by author.

Figure 78. Narrative Section, Part 1. 1:1000 @ A4. Image by author.

Figure 79. Narrative Section, Part 2. Site One: Architectural Pod. 1:1000 @ A4. Image by author.

Figure 80. Narrative Section, Part 3. Site Two: Existing Lookout and Site Three: Architectural Pod. 1:1000 @ A4. Image by author.

Figure 81. Narrative Section, Part 4. 1:1000 @ A4. Image by author.

Figure 82. Narrative Section, Part 5. Site Four: Existing Lookout. 1:1000 @ A4. Image by author.

Figure 83. Narrative Section, Part 6. 1:1000 @ A4. Image by author.

Figure 84. Narrative Section, Part 7. Site Five: Architectural Pod - In-fill site. 1:1000 @ A4. Image by author.

Figure 85. Narrative Section, Part 8. 1:1000 @ A4. Image by author.

Figure 86. Narrative Section, Part 9. Site Six: Swamp Grow Site. 1:1000 @ A4. Image by author.

Figure 87. Narrative Section, Part 10. 1:1000 @ A4. Image by author.

Figure 88. Narrative Section, Part 11. 1:1000 @ A4. Image by author.

Figure 89. Narrative Section, Part 12. 1:1000 @ A4. Image by author.

Figure 90. Narrative Section, Part 13. Site Seven: Architectural Pod - In-fill site. 1:1000 @ A4. Image by author.

Figure 91. Narrative Section, Part 14. 1:1000 @ A4. Image by author.

Figure 92. Narrative Section, Part 15. 1:1000 @ A4. Image by author.

Figure 93. Narrative Section, Part 16. 1:1000 @ A4. Image by author.

Figure 94. Narrative Section, Part 17. Site Eight: Architectural Pod - In-fill site. 1:1000 @ A4. Image by author.

Figure 95. Narrative Section, Part 18. 1:1000 @ A4. Image by author.

Figure 96. Narrative Section, Part 19. 1:1000 @ A4. Image by author.

Figure 97. Narrative Section, Part 20. 1:1000 @ A4. Image by author.

Figure 98. Narrative Section, Part 21. Site Nine: Plains + Coastal Grow Site 1:1000 @ A4. Image by author.

Figure 99. Narrative Section, Part 22. 1:1000 @ A4. Image by author.

Figure 100. Narrative Section, Part 23. 1:1000 @ A4. Image by author.

Figure 101. Narrative Section, Part 24. 1:1000 @ A4. Image by author.

Figure 102. Narrative Section, Part 25. 1:1000 @ A4. Image by author.

- Figure 103. Narrative Section, Part 26. Site Ten: Informal Grow Sites + Shelter Space. 1:1000 @ A4. Image by author.
- Figure 104. Narrative Section, Part 27. Site Ten: Informal Grow Sites + Shelter Space. 1:1000 @ A4. Image by author.
- Figure 105. Narrative Section, Part 28. 1:1000 @ A4. Image by author.
- Figure 106. Narrative Section, Part 29. 1:1000 @ A4. Image by author.
- Figure 107. Inspiration for architectural form from kohekohe and kahikatea seeds. Image by author.
- Figure 108. Physical exploration of form for the architectural pods through manually carving old totara farm posts. Photograph by author.
- Figure 109. Architectural pod within the context of the existing Waiwiri Bush. Image by author.
- Figure 110. Site One Plan: Educational Pod. Original 1:50 @ A2. Image by author.
- Figure 111. Concrete Orientation Spine: Architectural Pod. Original 1:50 @ A2. Image by author.
- Figure 112. Structural Beams: Architectural Pod. Original 1:50 @ A2. Image by author.
- Figure 113. Interior Cladding: Architectural Pod. Original 1:50 @ A2. Image by author.
- Figure 114. {Inner} Outer Cladding - Enclosure: Architectural Pod. Original 1:50 @ A2. Image by author.
- Figure 115. Outer Cladding: Architectural Pod. Original 1:50 @ A2. Image by author.
- Figure 116. Indicative section of typical pod structure. Heights of pods are designed to vary between 5000mm and 7500mm high. Image by author.
- Figure 117. Series of indicative sections demonstrate slight variations possible within pod construction such as dimensions, openings, and angles. Image by author.
- Figure 118. Diagram of potential 'views' and 'systems' which openings in the pod will focus visitors attentions to - Phase One. Image by author.
- Figure 119. Section of typical architectural pod structure responding to surrounding regeneration - Phase One. Original 1:100 @ A4. Image by author.
- Figure 120. Diagram of potential 'views' and 'systems' which openings in the pod will focus visitors attentions to - Phase Two. Image by author.
- Figure 121. Section of typical architectural pod structure responding to surrounding regeneration - Phase Two. Original 1:100 @ A4. Image by author.
- Figure 122. Diagram of potential 'views' and 'systems' which openings in the pod will focus visitors attentions to - Phase Three. Image by author.
- Figure 123. Section of typical architectural pod structure responding to surrounding regeneration - Phase Three. Original 1:100 @ A4. Image by author.
- Figure 124. Composition diagram of all phases of potential 'views' and 'systems' which openings in the pod will focus upon. Image by author.
- Figure 125. Interior view of architectural pod showing view into germination drawers. Image by author.
- Figure 126. Composition boardwalk study of texture and rhythm of wooden boardwalk. Lake Waiwiri boardwalk, October 2011. Photographs by author.
- Figure 127. Phase One of boardwalk development. Image by author.
- Figure 128. Phase Two of boardwalk development. Image by author.
- Figure 129. Phase Three of boardwalk development. Image by author.
- Figure 130. Process of germinated seedling being re-potted and transported to the nearest grow site to grow to suitable 'planting out' height. Image by author.
- Figure 131. Background image. Time frame of regeneration programme. Image by author.
- Figure 132. Plan of Site Six - Swamp Grow Site Original 1:2000 @ A4. Image by author.
- Figure 133. Approaching Site Six - Swamp Grow Site. Growing boardwalks ramp up on the left as the typical boardwalk continues its narrative path towards the pod. Image by author.
- Figure 134. Pukatea seedlings growing on the forest floor. Waiwiri. 2011. Photograph by author.
- Figure 135. System processes across both design sites. This cyclic process will repeat as different types of seeds reach their respective seeding time, stratification time, and germination time. Image by author.
- Figure 136. Foothill contours merge into sand dune contours Waiwiri. Image by author.
- Figure 137. Process of transporting seeds between the site of sourcing (Waiwiri) and the site of storage (Te Papa). Image by author.
- Figure 138. Explanation of different types of seed germination catalysts/types. Image by author.
- Figure 139. Waiwiri Bush Canopy, April 2011. Photograph by author.
- Figure 140. Coastal pods within the context of the Beach, Image by author.

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Appendices

EAST

interior

what is hardy ... matai? can't remember

ONE STATEMENT - concrete

4 and carvable -

200mm gap

region three

region two

region one

Design Development

Developing pod forms through sketching

Developing architectural pod with strong reference to ground-line

Development sketches

Model Iterations One

Model Iterations Two

Model Iterations Three

Axonometric exploration of layered architecture

Eco-sourcing and seed bank practices.

While this is a theoretical design, large effort has been put into collating a foundation of information in terms of good eco-sourcing practices within New Zealand. In light of this it needs to be said that while the appendices dealing with seed collection are designed to be as accurate as possible, through personal experience and talking to personal contacts within eco-sourcing facilities and nurseries it is apparent just how variable the process of collection, germination and growth of New Zealand natives can be.

It is important to note that while there is an 'art' to eco-sourcing correctly and methodically, there is also an element of luck and attention to your surroundings. Eco-sourcing relies heavily on getting to seeding plants when there is still a high amount of seed stock on or around the plant. However, these periods of seeding which are identified for all plants can change slightly or even greatly; depending on the weather and conditions of the environment leading up to seeding, and the location of the plant(s). Plants will often flower and seed in one location at the presumed time, but then one could travel 30km from this site, only to find that plants in that region had already seeded, or were not ready to seed.

The overall conditions of the year can greatly affect the growing and therefore seeding cycles of plants. For example, in Wellington in 2011 there was an unusually cold week where there was snow down to sea-level. A contact from Berhamphore Nursery, Laureen Bamford noted that she had noticed plants flowering earlier, and assumed it was because of the unusual cold earlier in the year. Such factors need to be acknowledged when dealing with such a length of site, especially if this type of project is used as a precedent for similar regeneration projects in other regions along the coast, or even further afield.

This helps to show how attuned individuals and organisations need to be to surrounding environmental conditions, and be thoroughly knowledgeable of plant cycles. We need to be aware of how important it is to assign a 2-3 month period around a plant types normal seeding period within which those plants or areas would be monitored. Practices such as having several people out in the field to check known seed stock locations 2-3 times over this 2-3 month period is the most comprehensive method of attaining a good seed stock yearly.

All collection and germination information has been gathered from Lawrie Metcalf's book *The Propagation of New Zealand Native Plants*. This, in conjunction with the personal knowledge of those at Berhamphore Nursery, has provided the basis of knowledge for this appendix. To anyone interested further in ecosourcing and germination books may find Geoff Bryant's book *The A-Z Propagation Handbook of New Zealand* equally useful.

Plant Palette of the Lowland Forest Transect

Typical regeneration patterns

Coastal forest

Tauhinu and pasture	Tauhin, mahoe, five finger, coastal tree daisy, tree hebe, manuka	five finger, mahoe, heketara, akiraho, mapou, kohuhu, fushsia	kohekohe, ngaio, karaka
rushes, sedges and pasture	Kanuka, mahoe, fivefinger	mahoe, mamaku, kohekohe	kohekohe, titoki, tawa, rewarewa, nikau

Semi-coastal forest

–	kanuka, mahoe, fivefinger	five finger, mahoe, heketara, pigeonwood, lancewood, rangiora, kaikomako, mapou	kohekohe, tawa, hinau, rata, mahoe, pukatea, nikau, rewarewa
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Podocarp-broadleaf forest

tauhinu and pasture	tauhinu, mahoe, karamu, rangiora	mahoe, kaikomako, pigeonwood, kawakawa, rangiora	tawa, hinau, northern rata, podocarp species, rewarewa
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Name	Preferred environment	Description	Seed treatment F/S = friction + sieve S/F/S/D = soak + friction + sieve + dry F/S/S = friction + sand + sieve Stratify at 4C for....weeks	Germination period	Seed collection time	
Alectryon excelsus {Titoki}	Lowland and plains	Abundant in alluvial soils Grows up to 10m tall Furry seed capsules with distinctive flanges which split when ripe	Ripe fruit is red-black F/S 4 week stratification	4 weeks		MARCH FEB
Aristotelia serrata {Wineberry - mako mako}	Lowland forest coastal - moist	Semi-deciduous Leaves are broad and thin Grows to 10m+ tall	Berries are bright red to almost black Flowering occurs spring to early summer with berries from late spring to early summer Very easy to germinate - sow fresh	8 weeks		FEB JAN
Arthropteris tenella	Coastal and lowland forests	Slender branched stems Fronds near the base are smaller than those near the top	spores	8 weeks		N/A
Astelia fragrans	Coastal to lower mountain forests	Leaves are a greenish fawn to dark green	Berries are orange flecked with red. Flowers in late spring with berries present through summer and autumn. Sow immediately or stratify 1-2 months	Can take all year		JUNE MAY
Astelia solandri {kowharawhara}	Epiphytic lowland forest	Leaves are dense drooping tufts up to 1.5m long Silvery undersides	Berries are translucent green to yellowish brown -and are present most times during the year. Sow immediately or stratify 1-2 months	Can take all year		JUNE MAY
Beilsmedia tawa {Tawa}	Lowland and plains	Dominant canopy tree in most lowland forests. Grows up to 30m tall. Slow growing	Ripe fruit is deep purple S/F/S/D 4 week stratification Should sow fresh	2 months +		OCT SEPT

Brachyglottis repanda {Rangiora}		Large thin leaves with white undersides Grows up to 6m tall Small white flowers	Ripe fruit is off-white-brown F/S 4 week stratification {low germination rate}	2-4 weeks		FEB	JAN
Carex testacea	Dune and lowland	Grows 50-60cm tall. Likes dry growing conditions	Sow immediately or stratify 4 weeks	1-7 months			FEB
Carex secta	Swampy	Forms large tussocks of up to 1m. Grows best in water	Sow immediately or stratify 4 weeks	1-7 months			FEB
Carex lessoniana	Swampy	Grows up to 1m tall. Good for wetland planting and will often form colonies	Sow immediately or stratify 4 weeks	1-7 months		MARCH	FEB
Carex virgata	Swampy and lowland	Grows to about 90cm tall with bright green leaves	Sow immediately or stratify 4 weeks	1-7 months		MARCH	FEB
Carynocarpus laevicatus {Karaka}	Lowland and plains	Seeds are poisonous until cooked Dark green and leathery leaves Grows to about 15m tall	Ripe fruit is orange S/F/S/D 4 week stratification Soak to remove flesh	8 weeks		MAY APRIL MARCH FEB JAN	
Collospermum hastatum {kahakaha}	coastal and lowland forest	Epiphytic plant which grows in branches of other trees Leaves are densely tufted and grow up to 1.7m long Hanging yellow inflorescences can reach 30cm long	flower from mid-summer to early autumn with berries from autumn to winter Sow immediately or stratify 1-2 months Sow fresh seed - long germination	Can take all year		AUGUST JULY JUNE MAY APRIL MARCH	

Coprosma lucida {Shining Karamu}	Lowland and plains.	Grows in drier habitats than karamu Leaves are thick and shiny Grows up to 3m tall	Ripe fruit is orange-red S/F/S/D 3 week stratification uneven germination	8 weeks		MARCH APRIL MAY
Coprosma repens {Taupata}	Coastal	Very shiny leaves about 5-8cm long, half this size in coastal environments Grows up to 8m tall	Ripe fruit is orange S/F/S/D 3 week stratification	8 weeks		MARCH APRIL MAY
Coprosma robusta {Karamu}	Lowland and plains	Leaves are dark green Grows up to 6m tall	Ripe fruit is orange-red S/F/S/D 3 week stratification Uneven germination	8 weeks		MARCH APRIL MAY
Cordyline australis {Cabbage tree}	Lowland and plains	Dominant canopy tree in most lowland forests. Grows up to 30m tall	Ripe fruit is cream S/F/S/D 3 week stratification Collect fully ripe seed	2 month		FEB MARCH APRIL MAY
Cortaderia toetoe {toetoe}	Almost anywhere	Nz's tallest grasses, grows up to 4m tall. Dense flowering plumes. Will grow mostly anywhere	One month stratify or sow fresh	8 weeks		JAN FEB
Coriaria arborea {Tutu}	Swamps and lowland margins	Poisonous foliage. Grows up to 4m tall	Purple-black berries Sow fresh. Seeds sown in May can germ. in 1 month	9-12 weeks		JAN FEB MARCH APRIL
Cyathea dealbata {ponga}	lowland to lower mountain prefers drained sites	Also known as silver fern, has very white undersides to its fronds Grows up to 10m tall	vivipary - spores	8 weeks		N/A

Cyathea medullaris {Mamaku}	Lowland	The tallest and most handsome tree fern Frond blades grow up to 6m long Grows up to 20m tall	vivipary - spores	8 weeks		N/A
Cyathodes fasciculata {soft mingimingi}	Lowland and plains	Grows up to 1.5m tall. Likes sunny sites	Ripe fruit is dark red	8 weeks		N/A
Cyathodes juniperina {prickly mingimingi}	Lowland and plains	Grows up to 1.5m tall. Likes sunny sites	Ripe fruit is dark red	8 weeks		N/A
Desmoschoenus spiralis {Pingao}	Coastal	Grows to between 60-90cm tall. Excellent coastal plant - can plant via division	Sow fresh	Erratic germination		FEB MARCH APRIL MAY
Dacrycarpus dacrydiodes {Kahikatea}	Swamp and lowland	Young trees are conical Mature trees have broad and deep crowns Grows up to 50m tall Only one seed matures off each seed cone which grows	Ripe fruit is red-blue S/F/S/D Sow fresh or up to 6 week stratification Easy to raise	2-4 month		MARCH APRIL MAY
Dicksonia fibrosa {wheki-ponga}	Likes alluvial soils - lowland	Dead fronds persist on the trunk giving it a thick skirt Grows up to 6m tall with frond blades up to 2m long	Ripe berry is burgundy S/F/S/D 8-10 week stratification	8 weeks
Dicksonia squarrosa {wheki}	Lowland	Grows in groves Creates thick carpet of orange-brown fallen fronds on the ground beneath	Spores	8 weeks

<i>Dodonea viscosa</i> {Akeake}	Coastal, plains and lowland	Bark separates into thin strips Fruits often mistaken as flowers as they are dry with 3 wings	Ripe fruit is brown F/S Sow fresh or up to 3 week stratification	8 weeks		DEC JAN FEB
<i>Dysoxylum spectabile</i> {kohekohe}	Coastal forests - in exposed sites can dominate low canopy	Large leathery leaves of about 40cm long Becomes covered in inflorescences Grows up to 15m tall	flowers open in may or june seed capsules develop for about a year to look like green grapes, then dry out to brown to split to reveal 3 seeds enclosed by red flesh known as ail Sow fresh - easy germinater	8 weeks		MAY JUNE JULY AUGUST
<i>Elaeocarpus dentatus</i> {Hinau}	Canopy in lowland	Grows up to 20m tall	Ripe fruit is purple black Slow and erratic germination	Can take 3-5 years		FEB MARCH APRIL
<i>Griselinia littoralis</i> {broadleaf}	Lowland, plains and coastal	Grows 3-10m tall. Deep green and shiny leaves which fare well in coastal environments	Reasonably hard to get seed for stocks Easy to germinate	2 months		FEB MARCH APRIL MAY
<i>Griselinia lucida</i> {shining broadleaf -puka}	Lowland forest	Nest epiphyte which sends down roots which grow distinctive longitudinal grooves in them Leaves are bright green, shiny, thick and leathery	Small and green flowers flower from mid-spring to early summer with berries ripening through the following summer autumn and winter. Germination rather erratic. Hard to retrieve seed stocks	2 month		FEB MARCH APRIL MAY
<i>Gahnia xanthocarpa</i>	Lowland and plains	Large sedge which forms large clumps of 1.5 x 2m. Very good for regeneration planting	Fresh seed can take 9-12 month to germinate. Dry store 5-6month	unknown		SEPT OCT NOV DEC JAN
<i>Hedycarya arborea</i> {pigeonwood}	Lowland forest to mountain forest	Smooth bark Flowers are greenish and very fragrant Grows up to 12m tall	Bright orange berries Flowering occurs through spring to early summer with berries forming from mid-spring through summer. Sow when ripe or after 3 months stratification	unknown		MARCH APRIL MAY

Hoheria populnea {Lacebark}	Plains and lowland	Leaves are coarsely toothed White flowers with yellow fruits Grows to 10m+ tall	Ripe fruit is brown F/S Can sow fresh	3-4 weeks		APRIL MAY JUNE JULY
Knightia excelsa {Rewarewa}	Plains and lowland	Columnar shape Often main emergent in regenerating forests Flowers are dense clusters of red petals, fruit is dry and woody Grows up to 30m tall	Ripe fruit is brown F/S Sow when ripe or up to 4 week stratification	4-6 weeks		MARCH APRIL MAY
Kunzea ericoides {Kanuka}	General colonising plant	Initial coloniser of clear soils Bark pulls off in strips Grows up to 15m tall	Ripe fruit is brown F/S Sow fresh - sieve seed onto growing mix	unknown		MARCH APRIL MAY
Laurelia novae-zelandiae {pukatea}	Swamp forest or along streams	Trunk up to 2m in diameter and supported by thin buttresses spreading from its base Bark is pale and smooth Grows up to 35m tall	Ripe berry is greenish Green fruits release seeds which have parachutes of hairs for wind dispersal fruits form from spring to mid-summer. Sow fresh	unknown		OCT NOV DEC JAN
Leptocarpus similis {Oi oi - jointed rush}	Wetland/swamp - but also dry areas	Grows up to 1m tall, grows from rhizome growth. Fine blueish green foliage	Sow fresh Erratic germination	unknown		DEC JAN FEB MARCH
Leptospermum scoparium {Manuka}	General colonising plant	Prickly foliage compared to that of Kanuka Grows in less fertile soils Grows up to 4m tall	Ripe berry is brown-grey F/S Sow fresh - sieve seed onto growing mix	unknown		FEB
Macropiper excelsum {pepper tree}	Lowland and plains - shaded	Densely branched shrub of about 2m tall. Needs good amount of shade.	Sow fresh with sufficient bottom heat	4-6 weeks		JAN FEB MARCH

<i>Melicytus ramiflorus</i> {Mahoe}	Lowland and scrub	Fairly thin leaves with small teeth Small yellow flowers with pleasant scent Grows to 10m + tall	Ripe berry is purple S/F/S/D Sow fresh or 6-8 week stratification	unknown		JAN FEB MARCH APRIL MAY
<i>Metrosideros fulgens</i> {red rata vine}	Coastal or lowland forests	Red-brown flaking bark Bright red-orange flowers	1cm long capsules flower late summer to spring capsules take a year to mature and are released the next year in spring and early summer. Dry store - 3 months	unknown		JULY AUGUST
<i>Myoporum laetum</i> {Ngaio}	Coastal, plains and lowland	Very salt tolerant species Fleshy leaves with prominent oil glands Grows up to 10m tall	Ripe berry is purple Sow fresh	unknown		FEB MARCH APRIL
<i>Myrsine australis</i> {Mapau}	Coastal, lowland and plains	Yellow green leaves with smooth bark which has corky spots Grows up to 6m tall	Ripe berry is black S/F/S/D 2-3 month stratification	2-18 month		MARCH APRIL MAY
<i>Nestegis cunninghamii</i> {black marie}	Canopy in lowland	Grows up to 20m tall Greenish yellow flowers which appear in late spring only to fruit in summer-autumn a year later	Ripe berry is red 2-3 month stratification	low germination rate		JAN FEB MARCH APRIL
<i>Olearia paniculata</i> {akiraho}	Coastal to lowland	Grows up to 4m tall. Wavy edged leaves with tiny flowers. Good shelter but needs good drainage	Lots of seeds but very hard to germinate in nursery environment yet germinate really well in the wild eg. 3-4 plants out of thousands	8 weeks		MAY JUNE
<i>Olearia solandri</i>	coastal	Coastal shrub grows 3-4m tall. Good as quick growing shelter with narrow leaves	Lots of seeds but very hard to germinate in nursery environment yet germinate really well in the wild eg. 3-4 plants out of thousands	unknown		MARCH

<i>Passiflora tetrandra</i> {native passion vine - kohia}	Lowland forests	Mature stems can be 10cm in diameter, these coil on the forest floor then move up into the canopy by means of their tendrils	Orange fruits Spread by bird eating flower from mid spring to summer and fruits from autumn to winter. Sow fresh	unknown		MARCH APRIL MAY
<i>Pennantia corymbosa</i> {kaikomako}	Lowland forest	Grows up to 10m tall	Flowers are small, white and wind pollinated Berries are black and occur from mid- summer through to autumn. Sow fresh	2 month		MARCH APRIL MAY
<i>Phormium tenax</i> {Harakeke}	Swamp and lowland	Hardy plant which grows in most soils Will grow up to 4m tall in swampy fertile sites	Ripe fruit is black F/S Sow fresh or up to 2 week stratification	4 weeks		FEB MARCH APRIL
<i>Pittosporum eugenoides</i> {Tarata}	Lowland	Yellowish green leaves with undulating edges Lemony scent when crushed Grows up to 12m tall	Ripe berry is black F/S/S 2-3 month stratification for all pittosporum	unknown		FEB MARCH APRIL
<i>Pittosporum cornifolium</i>	Lowland to mountain forests	Spindly shrub which will hang below nest epiphytes Small smooth edged leaves with pointy tips	Seeds have open capsules with orange red interior with black seeds embedded in these - eaten by birds Capsules open mid-spring to early autumn. Germination can take wide range of times.	12 months- 2 years		JAN FEB MARCH APRIL
<i>Pittosporum tenuifolium</i> {Kohuhu}	Plains and lowland	Pale green leaves Dark purple-black flowers Grows up to 8m tall	Ripe berry is black F/S/S 5-6 week stratification	unknown		FEB MARCH APRIL
<i>Plagianthus regius</i> {Ribbonwood}	River terraces and lowland forest		Sow seeds fresh	1-2 months		JAN FEB MARCH

Podocarpus totara {Totara}	lowland and plains	Easy wood to work and resistant to decay - used often by Maori Bark is thick and stringy Leaves are small and pointy Grows up to 30m tall	Ripe berry is red S/F/S/D 3-4 month stratification Erratic germination	unknown		MARCH
Prumnopitys taxifolia {Matai}	lowland forest and dunes - alluvial soils	Often grows with totara Distinctive 'hammer-marked' bark Grows up to 25m tall	Yellow pollen cones which as they 'ripen' are wind dispersed Seeds are black, and more or less round. Slow germination, erratic	unknown		FEB MARCH APRIL
Psuedopanax arboreus {Five-finger}	Plains and lowland	Frequent in regenerating forests, but also will epiphyte on tree fern 5-6 leaflets will come off one stalk Grows up to 8m tall	Ripe berry is burgundy S/F/S/D 1-3 month stratification	1-3 month		SEPT OCT NOV DEC JAN FEB
Psuedopanax crassifolius. {lancewood}	Plains and forest	Juvenile stage lasts 10-20 years. Eventually growing to a height of 5m	Ripe fruit is burgundy S/F/S/D 1-3 month stratification	1-3 month		FEB JAN
Rhoplostylis sapida {Nikau}	Plains and forest	Native palm which is reasonably cold tolerant Large leaves of lengths up to 3m are made up of narrow pointed leaflets Grows up to 10m	Ripe fruit is red S/F/S/D Sow fresh	unknown		FEB MARCH APRIL MAY JUNE JULY AUG SEPT OCT NOV
Ripogonum scandens {supplejack}	lowland forest	Strongly jointed like bamboo, but twisted and entangled, sometimes making the ground impenetrable	Bright red berries Flower in early summer with berries present most of the year 2-3 month stratification	unknown		VARIOUS PERIODS DURING YEAR
Rubus cissoides {bush lawyer}	lowland and mountain forest	Stems are 10cm in diameter Leaflets can reach 15cm long and has hooks which are reddish	White grouped flowers Small orange-red berries in clusters. Flowers in spring with the berries ripening through summer and autumn	unknown

Sophora microphylla {Kowhai}	Lowland and bush	Seed pods are extremely tough, resistant to salt water Flowers are yellow and tubular and hang downwards Grows up to 10m tall	Ripe berry is brown F/S Seeds need to have coat nicked, dropped into boiling water and soaked for 24+hours OR sow seeds green	unknown		(GREEN IN JAN) APRIL MAY
Syzygium maire {swamp maire}	Lowland swamp and bog forest	Sends up breathing roots which take in air for the main root structure Grows up to 10m tall	Ripe berry is red Flowering and fruiting occur from mid-summer to mid-winter Sow fresh, keep moist	unknown		MARCH APRIL MAY JUNE JULY
Typha orientalis {raupo}	Swamp and lowland	Vigorous grower - 2-3m tall. Tolerates plenty of moisture and sun. Good for revegetation	Most easily grown by simply dividing existing plants	-
Uncinia uncinata	Lowland and plains	Variable in colour, grows 40-50cm high. Easy to grow.	Sow fresh or dry store 1-2 months	unknown		JAN FEB MARCH APRIL
Weinmannia racemosa {Kamahi}	Lowland	One of the most widespread natives in NZ Smooth and greyish bark, often with several trunks Grows up to 25m tall	Ripe berry is brown F/S 1 month stratification Can sow fresh	unknown		JAN FEB MARCH