ARCHITECTURAL DESIGN AND THE DEVELOPMENT OF PLACE ATTACHMENT & IDENTITY.

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A thesis submitted for the degree of Master of Design at the University of Otago, New Zealand

10 December 2013
ABSTRACT

This research explores the relationship between domestic dwellings, nature and natural environments. I propose that, in order to develop environmental conservation values, individuals must feel some sense of connection to, or lack of separation from, the environment. The places where people reside is where they likely will have a stronger sense of connection and how they live will further mediate this connection. The research considers how vernacular building styles and construction practices influence engagement with the natural environment.

I begin by identifying design elements of huts and baches within natural environments. These structures are considered as a New Zealand vernacular, and their design language is thought to have potential applications that may provide value in contemporary urban architectural design. The study of predominantly small scaled and modest structures also provides a counterpoint to the large scale dwellings prevalent in many urban subdivisions, where relationships with natural systems often appear diminished. It is here where the issue can be seen as a wicked problem, where the wants and needs of the individual conflict with the preservation of environmental systems, as is evident with uncompromised domestic sprawl.

The most significant observations from this thesis are drawn from a series of case studies with participants who had demonstrated a strong sense of attachment to their homes and their natural settings, and who had been involved in the design and development of these homes.
I found that the case study participants had made specific connections to the natural settings where they had chosen to live and the design and/or construction of their homes had them respond to these settings. Memories and past experiences, which included references to huts and baches, but also to dining and socialising, informed many of their design decisions. The act of designing or conceptualising their homes encouraged them to respond to a range of issues determined by their sites and past experiences. The interview process encouraged them to express these issues and they were able to identify specific choices they had made with respect to a series of influences.

For these participants’ owner involvement in design or development of their home and land helped to reinforce meaningful attachments to the environment, and that this, for some, was a reflection of concern for wider environmental issues. Consequently, the development of tools or practices that encourage deeper participation by owners in the design of their homes may prove effective in shifting views to accommodate new values of environment preservation.
I would like to thank all those who have supported me with this research, in particular the eight case study participants who generously offered their time and experience. They contributed so much to understanding the issues explored in this thesis.

Thank you to my supervisors, Dr Mark McGuire and Associate Professor Sarah Wakes, for their support and guidance in framing the context of this research and for coaching me towards completion.

I would also like to acknowledge the support of the Otago Polytechnic’s School of Design in providing the time and space to carry out this research. Also, thank you for the patience, interest and encouragement I have received from my polytechnic colleagues and students.

Finally, I wish to express my gratitude to my wife, Lynn Taylor, and my daughter, Petra Fersterer, for their unconditional love, support and encouragement.
3.2 Research practice ................................................................. 47
3.3 Ethical approval process ....................................................... 49

CHAPTER FOUR: DWELLING IN NATURAL ENVIRONMENTS ............. 51

4.1 Huts ..................................................................................... 53
  4.1.1 Common Themes .............................................................. 56
  4.1.2 Interactions ................................................................. 58
  4.1.3 Valuing the past ............................................................ 60

4.2 Baches ................................................................................. 63
  4.2.1 Interpretation of data .................................................... 66

4.3 Summary ............................................................................. 68

CHAPTER FIVE: CASE STUDIES .................................................. 71

5.1 Method ................................................................................ 73

5.2 Participant profiles ............................................................... 75
  5.2.1 Participant A ................................................................. 75
  5.2.2 Participant B ................................................................. 75
  5.2.3 Participant C ................................................................. 76
  5.2.4 Participant D ................................................................. 77
  5.2.5 Participant E ................................................................. 77
  5.2.6 Participants F ............................................................... 78
  5.2.7 Participant G & H ......................................................... 78
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.1 Environment</td>
<td>123</td>
</tr>
<tr>
<td>7.2 Place Attachment &amp; Architecture</td>
<td>124</td>
</tr>
<tr>
<td>7.3 Architectural Interventions</td>
<td>128</td>
</tr>
<tr>
<td>7.4 Summary</td>
<td>130</td>
</tr>
<tr>
<td>7.5 Limitations of this research</td>
<td>131</td>
</tr>
<tr>
<td>CHAPTER EIGHT: CONCLUSION</td>
<td>133</td>
</tr>
<tr>
<td>8.1 Recommendations for future research</td>
<td>137</td>
</tr>
<tr>
<td>REFERENCES</td>
<td>139</td>
</tr>
<tr>
<td>APPENDICES</td>
<td>146</td>
</tr>
<tr>
<td>Appendix A: Photographs huts, Kahurangi &amp; Abel Tasman National Parks.</td>
<td>148</td>
</tr>
<tr>
<td>Appendix B: Photographs Otakou &amp; Harrington Point baches</td>
<td>155</td>
</tr>
<tr>
<td>Appendix C: Ethical Approval Forms</td>
<td>160</td>
</tr>
</tbody>
</table>
LIST OF FIGURES

Figure 2.1 A visual metaphor for the nature of places (Canter, 1977, p. 158) .......... 25

Figure 2.2 Fiordland crib built from found materials (Grigor, 2008, p. 144) ............ 30

Figure 2.3 Sectional drawing of the Ta’u demonstration house showing traditional dwelling elements (Hou, 2008, p. 81). ............................................. 36

Figure 2.4 a traditionally built tagakai was a key feature of the demonstration house. 1997 (Hou, 2008, p. 81). ................................................................. 37

Figure 2.5 a new house in Iraralai incorporates a tagakal on the rooftop. 1997 (Hou, 2008, p. 83)....................................................................................................... 37

Figure 2.6 Hedgehog self-build community in Brighton.
http://www.selfbuild-central.co.uk ................................................................. 38

Figure 3.1 Five stage model of the creative process (Lawson, 2005, p. 149)............. 45

Figure 4.1 New Zealand Map - www.backpack-newzealand.com/mapofnewzealand. 52

Figure 4.2 Map showing Kahurangi National Park and Abel Tasman National Park - Kahurangi National Park Visitor Information. Department of Conservation. 52

Figure 4.3 Location map showing Whariwharangi Hut - Great Walks: Abel Tasman Coast Track. Department of Conservation. ............................................................ 52

Figure 4.4 Location map showing Cobb reservoir and Mt Arthur tablelands hut locations. - Cobb Valley, Mount arthur, Tableland : kahurangi national Park. Department of Conservation ................................................................. 52

Figure 4.5 Whariwharangi Hut, Abel Tasman National Park — Photo by author.... 53

Figure 4.6 Trilobite Hut, Kahurangi National Park — Photo by author................... 54

Figure 4.7 Myttons Hut, Kahurangi National Park — Photo by author................... 54
Figure 4.8 Asbestos Cottage, Kahurangi National Park — Photo by author .......................... 54
Figure 4.9 Balloon Hut, Kahurangi National Park — Photo by author ............................... 54
Figure 4.10 Gridiron rock shelter’s water supply — Photo by author ................................. 56
Figure 4.11 Rain water tank supply at Balloon Hut — Photo by author ............................... 57
Figure 4.12 Water supply and sinks at Whariwharangi Hut — Photo by author ............... 57
Figure 4.13 Toilet outhouse at Balloon Hut — Photo by author .................................... 57
Figure 4.14 Scorch marks on dining table at Whariwharangi Hut — Photo by author .......... 58
Figure 4.15 Remnants of meal preparation at Myttons Hut — Photo by author ............... 58
Figure 4.16 Sleeping platform and formed drip line visible at dry rock shelter
— Photo by author ............................................................................................................. 59
Figure 4.17 Carved recesses and graffiti at dry rock shelter — Photo by author .......... 59
Figure 4.18 Henry Chaffey and Annie Fox, Asbestos Cottage — Photo by author .......... 60
Figure 4.19 Sacking and Manuka chair at Asbestos Cottage — Photo by author .......... 61
Figure 4.20 New Zealand Map- www.backpack-newzealand.com/mapofnewzealand. 61
Figure 4.21 Otago Peninsula, Harrington Point & Mission Cove – Aerial Photographs
obtained from Dunedin City Council web maps ......................................................... 62
Figure 4.23 Map comparing structural elements of Harrington Point baches ............... 64
Figure 4.24 Scale and site comparison of a contemporary housing settlement at Mission
Cove and the Harrington Point bach community, both on Otago Peninsula. 65
Figure 4.25 Harrington Point bach — Photo by author .................................................. 66
Figure 4.26 Shiver Me Timbers, Harrington Point bach — Photo by author ................. 67
Figure 4.27 Sketches – simple building forms of traditional baches ............................. 66
Figure 6.1  Bach site analysis .................................................................................................. 103
Figure 6.2  Proposed bach design — elevations ................................................................. 104
Figure 6.3  Proposed bach plans ......................................................................................... 105
Figure 6.4  Small house site analysis .................................................................................. 111
Figure 6.5  Small house site placement concept sketch ..................................................... 114
Figure 6.6  Small house section AA drawing ..................................................................... 115
Figure 6.7  Proposed plan for small house ......................................................................... 116

Table 4.1  Table showing scorch marks at Whariwharangi hut.......................................... 55
Table 5.1  Overview of case study participant’s roles in design or build processes... 81
Table 5.2  Design opportunities identified........................................................................... 98
Table 6.1  Design opportunities identified from table 5.2 applied to small house design brief......................................................................................................................... 108

LIST OF TABLES

LIST OF ABREVIATIONS

ERB  ........................................ Environmentally Responsible Behaviour
DOC  .................................................. Department of Conservation
CHAPTER ONE: INTRODUCTION
1.0 INTRODUCTION

In New Zealand, our connection to wilderness lies deep within our psyche, but this connection is typically moderated by human technology, especially by our need for shelter. The hut, or the bach\(^1\), often provides the destination, and the incentive, for our interaction with natural environments. Their lack of urban sophistication is considered part of the appeal and this enhances the phenomenological experience of the natural environment. In an attempt to reconsider unsustainable architectural norms, an understanding of the development of place attachment and identity within natural settings could provide insights that may help us to bring about psychological and architectural change.

This research begins by exploring how the language of hut or dwelling designs within predominantly natural environments may be reinterpreted in urban dwelling settings to enhance connections with natural systems. This provides a counterpoint to contemporary architectural practices and an opportunity to explore how this might be applied to dwelling solutions that encourage deeper engagement with natural systems. The recognition of place and identity within wilderness settings is explored in an attempt to understand architecture/nature interactions. This knowledge may then be applied to design solutions in order to deliberately enhance connections with nature through architecture. I am interested in how human modified environments and practices can reconnect people to natural environments.

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\(^1\) The term ‘bach’ traditionally refers to a simple New Zealand seaside holiday home typically constructed by the owner from recycled or accumulated material. The name is likely derived from bachelor pad or the verb ‘bachelorize’ referencing its initial development by returned servicemen (Wood, 2000). In the South a bach is also known as a crib.
1.1 **Context**

For me, and I suspect for many others, the natural environments that are contained predominantly within New Zealand’s conservation estate are a monitor of our environmental health as a nation. As a youth, I spent much of my recreational time on family fishing trips to the mid Canterbury lakes Lyndon, Pearson and Monk and skiing trips at Mount Olympus, Mount Hutt and Porter Heights. We often camped overnight and I remember being surprised at how many stars were visible in the night sky that were not seen in Christchurch City, because of light and/or air pollution. In a recent trip to Beijing, China, I was aware that many of the city’s inhabitants would be unlikely to travel beyond the city limits, and their reality was that air is typically brown and, at times, the glow of the sun is diminished to the point where they can look directly at it.

Our annual holidays to my grandparents’ home in Onekaka, Golden Bay, which backed on to the extensive Kahurangi National Park, was an even greater contrast to the urban home environment in Christchurch. On a recent trip back to this area as part of my research for this study, I tramped with my brother into the Cobb Valley. We stayed a night at a dry rock shelter where, early in the evening, we were visited by a weka. This encounter both excited and saddened me, as I was reminded of the abundance of this delightful bird in the
more populated areas of Golden Bay less than 30 years earlier. Such encounters have now been reduced to rare sightings in the back country.

This perceived change over time is something Manning recognises as one of the perceptual barriers for sustainable behaviour. Our human perception through our five senses does not allow us to perceive common pollutants such as carbon monoxide, and distance and time separate us from environmental change. A degraded ecological system may be seen as ‘normal’ by today’s youth, whereas older generations make a comparison to the less degraded ecology of their childhood. She also states that,

It’s not about the environment! When we talk about “environmental” problems, we reinforce the artificial division that we have created between ourselves and the ecological systems we rely upon. In fact, the environment is not something separate from us; humans are an integral part of the environment and significant damage to the environment will ultimately affect human life (Manning, 2009, p. 12).

Former US Senator and Earth Day founder Gaylord Nelson contended that the most important environmental issue is “the lack of a conservation ethic in our culture” (Kopel, 1990). In response to Nelson’s statement, the exploration of cultural practices in New Zealand with regard to dwellings and the natural environment is considered here as an opportunity to understand where or how building and nature relationships may fit within a
contemporary context. The broader issue of environmental conservation or sustainability is not addressed in this thesis.

Michael King describes New Zealand’s relationship with the land through Seddon’s characterization of New Zealand as;

‘God’s own’; the ‘man alone’ ideal, the hunting-shooting-fishing ethic and the solitary bachelor [...] the bach culture based on a strong desire to live simply on the margin between land and sea, or between tamed and untamed places; the determination to preserve access to rivers, lakes and beaches via Jock McKenzie’s [Minister of Lands and Agriculture 1891-1900] highly valued but insufficiently distributed bequest, the ‘Queen’s Chain’; the highly practical do-it-yourself tradition of home maintenance that sets men to work on houses, boats and gardens; [...] (King, 2003, p. 509)

The bach culture that King mentions refers to an architectural style that is, perhaps, less about the physical structure of the dwelling than it is about the activities or practices associated with it that contribute to its vernacular status in New Zealand. Thompson struggles with defining a bach in terms of its structure and notes that within his book, The Bach, some examples are closer to being huts while others are more akin to houses. His definition, instead, is based on the purpose of use and “feel”, he qualifies this by saying, that “baches are places [he] wouldn’t mind spending several summer weeks

2 The term ‘Queens Chain’ describes reserves of publicly owned land along the banks of rivers and the shores of lakes and the sea. In 1840, Queen Victoria was thought to have instructed Governor Hobson to reserve chain wide strips along water margins when the colony of New Zealand was first established (Baldwin, 1999).
in” (Thompson, 1985, p. 3). Thompson aligns the bach with simple living as a holiday retreat, typically located in a remote natural setting and often near the sea and he refers to – “A legendary New Zealand institution – Doing-It-Yourself” as being responsible for many of the early baches “and that in itself was and remains part of the pleasure of the bach” (Thompson, 1985, p. 8).

This culture is one that many New Zealanders relate fondly to but in reality the do-it-yourself approach appears threatened by shifts to new values in contemporary living and greater regulation in the building industry. There are still, however, many New Zealander’s who aspire to living in close proximity to natural settings and integrate the ideals evident in Seddon’s characterization. This perspective of a cultural identity in New Zealand that is tied closely with the land and the natural environment is referred to throughout this thesis.

This research considers the role of place attachment and identity as influential in determining attitudes towards natural environments and also considers the importance of social interaction and practices, such as the experience of making a meal, as significant in the development of place meaning.
1.2 CONTEMPORARY CONTEXT

“A big greedy house on a small piece of land”³

Ever increasing house sizes, alongside falling occupancy rates (Statistics, 2003) go against what appears to be growing interest in space efficient, innovative and compact housing, as evidenced by the abundance of literature now available on the subject. Examples include books such as *Micro, very small buildings* (Slavid, 2007), *Tiny Houses* (Zeiger, 2009) and *Micro Architecture* (Horden, 2008), whose author, Richard Hordon, also runs an architecture course at the Technische Universität München, Germany on the subject. This situation is embedded in our culture, even at legislative levels, with local governments often requiring minimum on-site parking and sealed driveways (DCC, 2011). Some sub-divisions impose minimum house sizes in order to elevate house values. Challenging established attitudes and desires for large inefficient homes and encouraging smaller more resource efficient solutions presents the question, how can new architectural forms or systems be designed and constructed to create more sympathetic interactions with natural environments?

³ Quote taken from a case study interview with participant A.
1.3 **RESEARCH QUESTIONS AND AIMS**

This research considers how architectural practices in New Zealand natural environments may contribute to attachments to place and where these practices may have applications in contemporary urban settings. In this research, I have focused on the following questions and research methods.

**Question 1:** How are perceptions of the natural environment developed, moderated and strengthened?

**Objective:** To identify design opportunities that can be applied to contemporary domestic dwelling.

**Method:** A review of relevant literature, site visits & case studies. To research, observe and document how relationships with natural environments are formed and moderated with architectural designs.

**Question 2:** Can engagement with natural environments be enhanced by architectural design and human moderated environments, and if so, how?

**Objective:** To identify elements of architectural forms, systems and practices that enhance our engagement with, and attachments to, natural environments. To map and understand design elements of New Zealand vernacular buildings and to gain an ethnographic perspective of the culture of users, both from an observational and an activity based perspective.
**Method:** Site visits of dwellings in natural environments, including huts and baches. Photograph, record and compare layout and design features of individual sites including natural landscape features.

**Question 3:** How can reflective architectural practices be used to enhance our connection to natural environments through the design of contemporary dwellings and systems?

**Objective:** To identify design strategies and conceptual tools that could encourage an enhanced connection to natural environments and to apply these in practice.

**Method:** Case studies and design intervention prototypes – developed design concepts. Document design practices adopted by case study participants and apply these to new designs.

### 1.4 Structure of this Thesis

This thesis is arranged in eight chapters that map the research from a contextual foundation to design concepts and summary.

Chapter one provides the contextual background followed by a developed problem statement, an enquiry process and the outline of the document.
Chapter two reviews the relevant literature exploring the psychological frameworks that are influential on our attitudes towards the natural environment and our sense of place within it.

Chapter three outlines the research methodology and practice to engage with the issues highlighted in the literature.

Chapter four documents a series of field surveys, observations and mapping processes that study existing dwelling types within natural settings. It begins with an examination of huts within the New Zealand Conservation estate and follows with the mapping of a small bach community. The latter is seen as a move, or a short step, from a true wilderness setting towards an urban community.

Chapter five consists of case studies with home owner/builders or designers, and discusses their design development and processes.

Chapter six focuses on design opportunities recognised in the research phase and applies these to two different house designs in different locations.

Chapter seven provides an overall discussion of the research.

Chapter eight provides a conclusion.
CHAPTER TWO: LITERATURE REVIEW
2.0 LITERATURE REVIEW

The initial scoping and contextualising of this thesis outlined in the introduction recognises that a culture exists where engagement with New Zealand’s natural environments and a do-it-yourself ethos combine in the vernacular architecture of huts and baches.

In the literature review, I attempt to understand how this culture fits with contemporary living and try to gain an understanding of how people perceive natural environments. Place attachment is a research field that engages with this foundation research. The concept of place has been explored specifically under the sub-headings of vernacular and participatory design, where examples of architectural applications are common.

2.1 PERCEPTIONS OF WILDERNESS AND LANDSCAPE

The New Zealand Oxford Dictionary’s definitions of wilderness relevant to this study are:

“1. An uncultivated and still wild region of forest, scrub, bush, desert, etc.: a wilderness area. 2. Part of a garden left with an uncultivated appearance” and “3 Wilderness area. A tract of land that is largely undisturbed by humans and where indigenous plants and animals flourish in their natural environment.” The dictionary defines landscape thus: “natural or imaginary scenery as seen in a broad view” ("The New Zealand Oxford Dictionary," 2005).

The relationship between landscape and the social or dwelling interactions within it are acknowledged from an anthropological perspective by Ingold as being continually shaped.
and re-defined by rhythms of life and living. He states that “a place owes its character to the experiences it affords to those who spend time there” (Ingold, 2000, p. 192).

Landscape in effect is an expression of ‘place’, and its interpretation is influenced by and is inextricably linked to, the activities that take place within it. Ingold coined the term ‘taskscape’ to define the activities within a landscape and noted that the relationship between taskscape and labour is akin to the relationship of landscape and land. Consequently, the historical presence of human habitation shapes both the physical landscape and our perceptions of landscape. He further expands this concept of landscape to comprise a seamless or boundary-less construct shaped not only by past activities but also by the moment and the act of viewing.

Ingold’s position is stated within the context of the human modified environment and it recognises people’s relationship with landscape as varying according to their experiences. He cites the sensory perceptions of an experienced hunter drawing visual clues from the landscape that are not perceived by those less attuned. He also notes a difference in our perception of taskscape and landscape:

My conclusion that the landscape is the congealed form of the taskscape does enable us to explain why, intuitively, the landscape seems to be what we see around us, whereas the taskscape is what we hear. To be seen, a thing need do nothing itself, for the optic array that specifies its form to a viewer consists of light reflected off its outer surfaces. To be heard, on the other hand, a thing must
actively emit sounds or, through its movement, cause sound to be emitted by other objects with which it comes into contact (Ingold, 2000, p. 199).

This assertion feeds nicely into Abbott’s perceptions on nature or wilderness as being enhanced by other sensory inputs or, rather, dulled by sensory separation of environmental stimulus through modification of experiences brought about by technology. Abbott, however, recognises all the sensual input that feeds our perception of wilderness experiences, noting that the simple act of lighting a twig stove creates “a more intimate knowing of a specific place (Abbott, 2010, p. 186)” The integration of how space is experienced is illustrated clearly within these two papers by Abbott and Ingold. While both Ingold and Abbott acknowledge the importance of a phenomenological knowing of place, they do so from profoundly different perspectives. Ingold supports the intimate knowing of place through experience, as evident in his hunter scenario, however, he appears not to understand environment as intimately as Abbott does.

Manuel identifies a further difference in environmental perceptions through the eyes of children, whose attention is focused towards what could be termed the microscape as opposed to the landscape or the bigger picture (Manuel, 2007). The child is primarily concerned with the immediate and the tactile, and their engagement with environment is exploratory and active as opposed to contemplative or reflective.

Clearly, the introduction of new technologies has a profound influence on how we perceive wilderness, and these technological advances are broad and diverse. Shultis notes
that technologies introduced barely a few decades ago, such as nylon, freeze dried foods, fibreglass or plastics, are now commonly found in camping equipment. Innovations in personal transport, including mountain biking, watercraft and recreational vehicles, also re-define our perceptions of wilderness (Shultis, 2001).

Ingold and Kurtilla explore the establishment of a traditional knowledge of ‘place’ as something that is shaped by changing technologies and tasks within an environment. The experience of travelling across a challenging environment such as snow clad Northern Finland, requires a different understanding of snow conditions depending on whether you are travelling on skis or by snow mobile (Ingold & Kurttila, 2000). If we apply the same idea within a New Zealand context, the rise of the mountain bike as a recreational alternative to traditional tramping within wilderness environments arguably does not diminish the experience; rather it provides a unique alternative.

In contrast to the role of technology mentioned here and more aligned with Abbott’s views, Bott, Cantrill and Meyers argue that technology creates a separation from daily interaction with nature, shifting from humans being a part of nature to becoming apart from nature (Bott, Cantrill, & Myers, 2003).

In addition, the different tasks undertaken in any environment shape the way we perceive environmental elements, including terrain and weather. From my own experience, I look forward to re-visiting Peat Flat bivvy⁴ which I have visited once in my youth on a deer

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⁴ Sadly on return to this area I have found that this bivvy (bivouac) has been removed.
stalking trip. In that experience, the movement through the wet waist high table lands grasses was tempered by heightened levels of alertness and deliberate stealth. To take the same trip, and assuming weather conditions are similar and notwithstanding changes brought about through time, and by following the more open, less vegetated route, we should arrive both earlier and drier, but will the trip be less memorable or less significant?

Hindmarsh makes a passionate case for the preservation of a wilderness culture that is being tested by legislated safety in the wake of the Cave Creek disaster. He notes a loss of engagement with wilderness within a sanitised and controlled environment. The Department of Conservation, in an effort to minimise risk, have removed a number of remote huts that are deemed to be difficult to maintain and in at least one case have spent large sums of money for helicopter access to remove a single bunk in order that the hut become compliant with the number of exit points to bunk ratio specified in law. Hindmarsh also points out prohibitive costs for park entry (once free) as a barrier for many people and he laments the day when national parks were isolated from the controls evident in non-wilderness habitation (Hindmarsh, 2008).

Higham explores attitudes towards wilderness experiences and documents the development of the conservation estate from “the development of a preservation ethic (1879 -1952)” through to the establishment of “the Department of Conservation and the increase in user pressure on wilderness (1987 – present)” He notes that international visitors have an expectation of a higher level of safety and human intervention than the purist interactions stated in New Zealand’s Wilderness policy (Higham, 1998, pp. 2-3).
In recent times the value of nature as a marketing tool has been recognised and exploited by New Zealand’s tourist industry possibly more so than anywhere else in the world. Apparently this thirst for nature is not confined to our shores as Beardsley highlights the ironic marketing of nature in theme park like experiences within malls. The marketing of products claiming natural qualities or environmentally ethical values has extended to the pretence of natural environments as a marketing strategy (Beardsley, 2000). For me, the concept of a nature simulation presents a dilemma. On the one hand, and clearly in Beardsley’s view, the simulation offers a distorted view of the reality of natural environments and, as such, does not serve nature. On the other hand, it offers city dwellers a perception of nature, however flawed, that may make city dwelling more tolerable. How is the situation different to the planting of an urban flower garden? Our own municipal gardens provide a nature simulation developed from historical traditions that undoubtedly have a positive effect on its patrons.

Beardsley’s example of simulated nature takes another twist with the recent discovery of New Zealand wilderness, by some, through the medium of film in Peter Jackson’s portrayal of *The Lord of the Rings*. Barker and Mathijs researched place association with New Zealand by *The Lord of the Rings* audiences and noted that while many acknowledged the film’s location within New Zealand, a proportion used language that expressed the connection as the reverse, i.e. That New Zealand was part of Tolkien’s fantasy world, that Middle Earth was New Zealand and subsequently visiting New Zealand was a form of pilgrimage to Tolkien’s world. They note a cultural tourism that exists in places such as
Machu Picchu and Tibet because of historic or spiritual associations people make with them (Barker & Mathijs, 2007).

To read these papers together begins to highlight an issue for any design led response. They show clearly that a person’s perception of the environment is linked to both experience and expectation and that design interventions aimed at modifying or enhancing interactions with nature are unlikely to be appropriate for, or appreciated by, all users. The literature demonstrates that, for some, the need for engagement with natural systems requires full immersion in wilderness settings while others can meet their biophilic needs with far more detached engagement. The simulated nature that Beardsley refers to would appear to be a response to biophilic need or at least the recognition of the value people place on nature. *The Lord of the Rings* example demonstrates a separation from authentic wilderness while still providing a connection with natural systems. This situation suggests potential for a shift in perception of nature that may be experienced by those urban dwellers whose complete engagement with natural systems is via remote or simulated methods. The literature research also acknowledges the role of design in mediating authentic nature interactions via new technologies and this may provide a prompt for further considered design interventions. If we accept Ingold’s assertion that perceptions of

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5 Biophilia is recognized as a key theory in connecting people with nature and is a major conceptual tool for restorative environmental design. The term was coined in 1984 by the Harvard biologist Edward O Wilson as referring to connections that human beings seek subconsciously with nature and the rest of life. He argued that this desired connection is determined by a biological need (Wilson, 1992).
landscape are shaped by habitation then the opportunity for architectural design to engage people with nature systems would appear to be a logical extension of this.

2.2 The concept of Place

“The ultimate goal of environmental education is the development of environmentally responsible citizens” according to Vaske and Kobrin’s opening statement in a study that aligns place attachment and environmentally responsible behaviour (Vaske & Kobrin, 2001, p. 16).

As acknowledged by many researchers, the concept of ‘place’ has a multiplicity of meanings that span many disciplines and include psychological, environmental and social aspects.

Bot, Cantrill & Meyers explore the concept of conservation psychology as augmented by a connection to place, and note that “the term ‘place’ denotes humans’ subjective experiences and meanings of the locations they inhabit” (Bott et al., 2003, p. 100).

Vaske and Kobrin’s study examines the relationship between place attachment and environmentally responsible behaviour (ERB) within the subsets of place dependence and place identity. The study involved surveys targeting youth workers undertaking natural resource based programmes and noted that place dependence, as defined by how a physical place met the needs of the users, preceded place identity, as defined by the
extent to which the place defined who they were as individuals. They hypothesised that “place identity with a specific setting mediates the relationship between place dependence and general ERBs. As place dependence increases, place identity will increase [and] as place identity increases, general ERB will increase.” They conclude that while physical and functional attributes of an area may initially attract people to a setting, person-place relationships transcend these (Vaske & Kobrin, 2001, p. 17).

The influence of place attachment in mediating interactions with natural environments is supported with Sharp & Ewerts assertions that;

Place attachments not only augment the wilderness experience, but also can have long-term benefits such as support for resource protection [and that] place-oriented visitors, or visitors whose main motivation for visiting an area is to enjoy the place itself, have been found to have significantly higher levels of place attachment than either activity-focused or social-focused visitors (Sharpe & Ewart, 2000, pp. 220-221).

A distinction needs to be made between place identification and place identity. Place identification is a reflection of membership of a group as defined by a location - for example a person from London may refer to themselves as a Londoner. Place identity, however, is a psychological construct of identity and its relationship with social identity, and this locates place identity alongside, and independent, of self-identity. Uzzell, Pol and Badenas discuss this issue in the context of identity and social cohesion, noting that
“environmental problems are neither invariably caused nor solved by single individuals” (Uzzell, Pol, & Badenas, 2002, p. 49) and that these are problems of a social system. An individual’s willingness to change is also influenced by the extent to which it is perceived that others are willing to address environmental problems (Uzzell et al., 2002).

The creation of ‘place’, according to Brandenburg and Carroll, is defined within social and cultural contexts through the experiences of people, their values, meanings or traditions and through the nature or spirit of a specific physical space. Citing the views of Canter and other contemporary place theorists, they identify three essential components that define place definition within a physical location: the physical setting, human activities and the human psychological processes relating to it. The existence of place is dependent on these human connections and without human meaning space is empty or placeless. In addition, human culture or character develops as a direct result of the influence of a particular place (Brandenburg & Carroll, 1995). These studies point to a symbiotic relationship between place and culture.

Generally, place theorists, such as Canter, identify two components of place attachment. Firstly, place dependence is the perceived strength of the association between an individual and specific locations linked to the ability of these particular places to satisfy needs and wants. The strength of this dependency is also related to the ability of other settings to satisfying these needs. Secondly, place identity is a more emotional person-to-place relationship and is fundamentally related to self-identity with place implications evident in all aspects of identity (Canter, 1977).
Sharpe & Ewert also acknowledge a connection between the formation of place attachment and permitted access. When access to a space is restricted, people are unlikely to form attachments to place, however place attachments can occur where access is granted, even when the individual never sets foot in the place. They note that, although wilderness is open to the public, considering the restrictions placed on visitors within it and the provision of solitude that it affords, it would be an unlikely candidate to form place attachment. However, clearly people do develop attachments to wilderness space, and they suggest a possible reason for this, citing Williams et al, regarding “attachments to wilderness because of its designation” in other words, the development of attachments to the “concept of wilderness” (Sharpe & Ewart, 2000, p. 219).

Adventure and outdoor sporting activities such as mountaineering, fishing, tramping and hunting have been marketed by New Zealand tourism agencies since the 19th century. These activities contribute to defining place and with the reimagining of New Zealand through the 100% pure advertising campaign, thrill seeking and adventure activities have been emphasised. Cloke & Perkins suggest the commodification of particular sites through adventure tourism as creating new interpretations of place with associated cultural, social and physical impacts (Cloke & Perkins, 2002).

Canter provides a useful visual model for creating a sense of place (figure 2.1) which I have touched on earlier in this section through the work of Brandenburg and Carroll. Canter’s model defines the three attributes of creating place as activities, physical attributes and conceptions, and he suggests that the identification of place can begin with any of these.
main constituents. He also notes that “the specification of the physical constituents of a place is a much more significant component of that place than the literature would have one believe.” (Canter, 1977, p. 159)

The three part model makes evident the physical attributes that are most likely to link to other components and, in turn, facilitate the identification of a place in question. The conception element of the model acknowledges the varied views of differing demographics having different relationships to a place. Canter gives the example of ‘downtown’ as consisting of overlapping ‘places’ that vary depending on the group of people being considered. Describing places within any given area requires the identification of the people using the area, and their conceptions and activities.

The useful thing with Canter’s study is that he considers tools for defining place that specifically target environmental design and architecture.

His suggested approaches are:

- **Sketching** - sketch places from memory as a method of mapping the major components of the places of interest. This process also has great potential for exploring future places, or “ideal” places.
- **Descriptions** – ask people to provide an account of the place being studied or designed in their own words.
  
What is evident in the literature is that the concept of place and the meanings that people associate with places is linked to both their sense of identity and their sense of dependence on places to meet both physical and psychological needs. The definition that place is a mix of physical, active and conceptual attributes means that perceptions of places vary amongst individuals. This idea of place meaning being formed by human activity within a physical setting and place in turn influencing culture suggests that people and place relationships are dynamic and changing rather than fixed or static. Logically, the built environment has a profound effect on conceptions of place when architectural spaces express the cultural values, meanings and traditions within social contexts and given that these values are recognised as elements associated with place creation. The relationship between the built environment and natural settings are important because of the role that these settings play in determining much of our cultural identity and in turn the significance of places.

2.2.1 Vernacular Design

If we acknowledge Brandenburg and Carroll’s contention that culture and character are the direct result of place (Brandenburg & Carroll, 1995) then vernacular architecture must be considered as integral to place attachment. Cultural practices that support engagement with natural environments provide a logical platform to model new design solutions and for architecture in New Zealand, its vernacular is keyed to the landscape.
In considering what constitutes a “Complex ecological aesthetic design language for landscape architecture in New Zealand,” Egoz and Bowring recognise an aesthetic vocabulary keyed to a self-image and an economy linked to a rich heritage in rural agricultural landscapes. They note the need to recognise this regionally grounded aesthetic alongside the “sublime natural and primal landscapes” of the conservation estate, those iconic landscapes as commodified in New Zealand Tourism’s ‘100% pure’ campaign. Their description of ‘the vernacular aesthetic’ is an iteration of Ingold’s perception of landscape/taskscape developed through a pragmatic evolution responding to technical advances, cultural values and tempered by natural environmental forces. They conclude that a regional design language developed from this ‘complex ecological aesthetic’ provides designers with rich opportunities to explore sustainable solutions that are not driven by, or supportive of, the globalised approach that presents our New Zealand landscape as commodity (Egoz & Bowring, 2004).

The concept of an architectural vernacular in New Zealand appears somewhat contentious. Austin explores the recognition of Kiwi architecture amongst influences from overseas with many believing that architecture here is typically a reworking or incarnation of global trends, and that modernist New Zealand architecture is dominated by a culture of following rather than leading innovation. He recognises the impact of imported magazines and, contrary to Douglas Lloyd Jenkins, he believes that people do imagine themselves living the minimalist lifestyles free of financial and familial constraints depicted within them (Austin, 2004).
There is, however, some agreement as to the significance of the archetypal bach\textsuperscript{6} and the post war development by Group Architects towards a New Zealand Modernism. The Group became recognized for the development of small houses that reflected the pragmatism of Seddon’s characterization, seeing themselves as pioneers, builders and fundamentally doers, “the search for New Zealand identity was linked to practical experience of building…” (Gatley & McKay, 2010, pp. 48-49) Gatley & McKay note that many of the Group houses were smaller than the post war size constraints placed on privately built houses and they achieved this through efficiencies in both spatial planning and material usage. Interior/ exterior relationships were expanded and reflected changes towards increasingly relaxed modern living and entertaining (Gatley & McKay, 2010).

Not surprisingly, having gained a reputation for designing small, low-cost houses, the Group designed a number of baches. Early in the 1950s Allan Wild designed a small (less than 25square metres) transportable bach for builder Jack Abbott that was smaller than a standard double garage. Experimentation into prefabrication with off-site factory construction was a logical extension of their modular planning approach to design (Gatley, 2010).

Austin acknowledges that the second of the Group houses, with its low pitched gable similar to a Maori meeting house, was recognised overseas for its difference. He also reinforces the significance of the bach as a minimal New Zealand dwelling attributing its crude pavilion form on scarcity and lack. Austin aligns this with the whare or a primitive
Wigley asserts that New Zealand enters the architectural dialogue from the perception of an uncorrupted paradise. He states that “New Zealand is the tabula rasa, the clean slate. Its tradition is one of building rather than architecture, a tradition of the unadorned hut” (Wigley, 1986, p. 280).

Miles Warren, in his discussion about New Zealand’s architectural style, suggests that if it had any claim to architecture of international quality this would be in the design of small houses. In unpacking the principles of the Group houses, he cites, firstly “that form follows function, or at least that form be symbolic of function.” He goes on to describe a flowing spatial layout, a simple gabled roof referencing rural wool sheds, and a construction process where materials are left natural with structural elements pared back to their minimum dimensions (Warren, 1978, p. 248).

This attitude towards construction and layout was embraced, if subconsciously, by bach builders, where most of the design considerations were dictated by materials at hand and the ability to transport them to the site. A graphic example of this, depicted by Jeff Grigor, exists in a remote coastal location in rugged Fiordland, where the entire structure has been built from material that has been scavenged off the beach. (figure 2.2)

There is considerable agreement as to the significance of the archetypal bach as a uniquely New Zealand architectural expression, and this is defined in no small way by the environment it sits in, with the relationship to landscape contributing to its vernacular status. The bach, more so than the work of the Group, has greater presence within the

Figure 2.2 Fiordland crib built from found materials. (Grigor, 2008, p. 144)
consciousness of New Zealanders as ‘Kiwiana.’ Its role in the creation of place identity is recognized in Woods contention that the architectural significance of the New Zealand bach is not contained within its physical expression. Instead, he suggests, its architectural value is that of a cultural repository housing nationalistic ideals. (Wood, 2000).

The bach was initially developed as a retreat for returning servicemen and some of the earliest, at Taylors Mistake near Christchurch, were acknowledged in the Lyttleton Times in 1917. These baches were literally built out of the landscape; they were natural beach caves with a cottage like façade enclosing the entry (Wood, 2000). (figure 2.3)

Many baches were located by virtue of squatter’s rights and most constructed from the 1920s to the’60s by the owner with the help of a few friends. Building law accommodated this in the housing improvement act of 1945 and its regulations of ’47 by allowing houses not occupied during the winter for more than a month to fall below legal norms.

Thompson makes a distinction between contemporary holiday housing, as being more sophisticated and only slightly smaller than their suburban counterparts and the traditional no frills bach aspiring to different values (Thompson, 1985). Many of the early baches built on crown land or reserves have now been removed and the remaining baches of this era can mostly be found in clusters on private and leasehold land.

The conservation estate’s role in developing a conservation ethic founded on engagement with natural environments is pivotal, and much of this engagement will occur on the public walking tracks and in huts.
Sutton and Cessford, citing Quigg, describe people’s relationship to back country huts as a practical shelter, an incentive to visit, an alternative style of habitation not tolerated in an urban setting and a cultural relic from past generations. They recognise the role that huts and the track network play as fundamental to access into New Zealand’s protected nature reserves, and they are central to how the outdoor recreational community identifies itself. (Sutton & Cessford, 2007).

Biophilic design is expressed through vernacular architecture and landscapes, and Kellert suggests these can foster place attachment within a geographical context by connecting people to culture, history and ecologies. In addition this, integration of nature is recognised as being beneficial to human wellbeing (Kellert, 2005).

The fields of identity, place attachment, wilderness and landscape are integrally entwined, and the potential for architecture to respond to this research is rich. Place attachment and identity are clearly linked; vernacular architecture and landscape are important for both a sense of identity and a sense of place. Logically, if place attachments are formed through interactions commonly occurring in wilderness settings, and place attachment is deemed to have a beneficial effect on attitudes towards the environment, then any design response that encourages interactions should be considered.

The bach and the Department of Conservation (DOC) hut undoubtedly share a common ancestor developed from the optimizing of scarce resources that Austin refers to.
Reference to the bach in this thesis is important, because of its location, often on the cusp of urban and natural environments, and because of its contribution to a sense of place through both place identification and place identity. For New Zealand its vernacular architecture, as represented in the bach and the hut, is expressed not simply by its form but also by its relationship with the natural environment and the participatory or do-it-yourself processes involved in its construction. Engagement with natural landscapes and wilderness are prominent features contributing to our cultural identity and our vernacular buildings reflect this in their relationship to their physical settings.

2.2.2 Participatory Processes

For the conservation estate, participatory approaches historically have been commonplace in the construction and maintenance of huts as deer stalking, tramping and alpine clubs have created structures, shelters and bivvies’ to meet their needs. The early baches share these established participatory practices that have been instrumental in the construction, design and maintenance of many DOC buildings, and these practices can be a key element to an enhanced sense of place and identity.

Hindmarsh draws attention to a community of wilderness users, tramping and hunting clubs, and the adoption of a caretaking role with some huts, as in the case with Myttons hut in the Cobb Valley, which was constructed and maintained by the deer stalking association (Hindmarsh, 2008).
A number of key support huts on the premier climbing peaks were originally built by alpine clubs, and as these huts have required upgrading, the clubs have retained involvement in the planning of the replacement building. Specifically, a coalition of 16 deerstalking and tramping clubs are working with DOC to co-ordinate the on-going management or replacement of the Tararua Aorangi Huts. Additionally, formal volunteer working bees are a common method to rally labour forces for a range of environmental projects. A survey applied to DOC volunteer participation nationwide over a 12 month period in 2003/04 calculated the contribution as equal to 63 full time staff and exceeding 5% of the total permanent ranger staff. In recent years, the management of huts & track networks has become more stable, with formal arrangements made with specific groups to maintain some marginal huts (Sutton & Cessford, 2007).

The introduction of the concept of community involvement by Sutton and Cessford notes that “parks are a social construct and their management is fundamentally a social process.” Key legislation requires the DOC to “. . . advocate the conservation of natural and historic resources [and] promote the benefits to present and future generations of the conservation of natural and historic resources.” Based on this mandate, encouraging community involvement in protected area management to enhance cumulative benefits to conservation has been reflected in the DOC’s strategic planning documents (Sutton & Cessford, 2007, p. 66).

Till notes that while support for participatory approaches is generally enthusiastic, mainstream architecture has typically undermined participation in the formal design
process with the power balance in favour of the expert. Participation threatens architectural values and norms and, consequently, participatory practices may become manipulated. In all participatory processes, there are degrees of involvement ranging from token participation to full control of the process by citizen participants. Collective participatory decision making, however, increases the sense of community belonging amongst individuals. ‘Transformative Participation’ is a suggested shift of the perspective of the architect, predicated on knowing from expertise, to the perspective of the user, of knowing internally through the personal involvement in the spatial, physical and social context. Established architectural practices more used to pursuing the conflicting agendas of innovation and timelessness are challenged by participation. An element of engagement, however, is necessary for architecture to have future relevance to the intended user (Till, 2005).

The collaboration of stakeholders in the decision making processes of their communities is widely recognised as having beneficial outcomes that strengthen attachment to place, community identity and well-being. Ricketts emphasises the importance of social involvement in decision making processes in the design of public spaces above participation in construction or management, using co-operative housing as an example of the latter (Ricketts, 2008).
In recognition of the value of participation, Manzo & Perkins encourage less separation between the research fields of place attachment, citizen participation and environmental psychology, and they believe that a richer perspective may be obtained through a more holistic approach. “For those seeking to foster participation, tapping into emotional bonds to place can help members of a community articulate and act upon place meaning” (Manzo & Perkins, 2006, p. 347). The difficulty of achieving a meaningful participatory design process is highlighted in the building of two Ta’u Houses in Iraralai Taiwan, where residents had a historic mistrust of the Taiwanese government. The island of Pongso-No-Ta’u has traditional linkages to Bataan Islands of Northern Philippines but has been governed by Taiwan since the conclusion of WWII. Traditional Ta’u villages were demolished by the government in the late 1970s and 1980s and replaced with concrete housing. In 1994, under a plan to improve living conditions, due to failure of structural integrity with the concrete housing, a team from the National Taiwan University was commissioned to work with local communities to develop housing. The resultant demonstration house using a community oriented process to carefully design spatial forms and structures was informed by traditional building practices and followed established norms for community design. A typical Ta’u dwelling consists of four seasonally occupied elements, the submerged vahay (main house) protected from strong winter winds, the inaorod, a stone paved open

![Figure 2.3 Sectional drawing of the Ta’u demonstration house showing traditional dwelling elements (Hou, 2008, p. 81).](image-url)
area in front of the *vahay*, the half-submerged *makarang* (tall house) occupied during autumn and spring and the *tagakal* (cool house) elevated above ground for summer living. The *tagakal* is a feature seen in both the demonstration house (figure 2.5 & 2.6) and the homes built by the residents (figure 2.7). However the resident built homes contrasted this approach with their cultural identity, represented in dwellings almost entirely constructed of reinforced concrete (figure 2.7). Surprisingly “the designs [do] have a vocabulary and language of pragmatic ingenuity similar to those of the old homes. In their own way, the new houses embody the evolving cultural practices of the Ta’u” (Hou, 2008, p. 82).

Another significant example of participatory design and construction in practice is that of the Hedgehog Self Build Co-op, Hogs Edge, Brighton, UK. This development, of a collection of ten timber framed houses, utilised an innovative frame system designed by Walter Segal specifically intended for construction by novice builders.
The project featured in the television series Grand Designs, hosted by Kevin McLeod, and involved the collaboration of the eventual tenants, all of who committed 30hrs of their time per week for the entire construction process. It transpired that the participatory process of building in this way was also influential in the development of a strong community. McLeod revisited the community 12 years later and found that not only had all the original inhabitants remained renting their homes, they had become very attached to the community they had created with many going on to other community focused activities (McCloud, 2012). (Figure 2.6)
Participatory design focuses on its use within the social context of a localised community. The users and stakeholders of the conservation estate similarly represent a community albeit dispersed and less formal. It is likely that community and place attachment would occur if the same participatory processes were applied. Many of the early DOC huts involved an informal and participatory design process not manipulated by the expertise of the architect that Till refers to (Till, 2005). Likewise the traditional bach has at its heart the social and communal connections formed through a participatory approach to construction and design; it may be argued that it is this approach to design that creates its vernacular status rather than the design itself.

2.3 SUMMARY

This chapter examined the psychological frameworks that influence our behaviour towards natural environments. It shows that these frameworks are linked strongly to our identity. Identity in turn is developed from the experiences and the unique situations of individuals. The main issues discussed in this chapter, perceptions of wilderness and landscape section 2.1, the concept of ‘place’ 2.2 and participatory processes 2.3) form the foundation for this enquiry towards understanding the role of domestic architecture in connecting people to natural environments. In particular, the concept of ‘place and ‘place attachment’ will be explored in depth with a view to defining architectural practices that may have impact on this. The researched fields of vernacular design and participatory processes appear promising and warrant greater depth of exploration.
CHAPTER THREE: RESEARCH METHODOLOGY
This chapter outlines the methods I have used in structuring a framework for enhanced place attachment or place meaning that may be applied to an architectural design process. It is informed by design thinking and explored through reflective practice as a means to find the ‘placement’ that Buchanan refers to when he discusses where a problem may be positioned or repositioned. He notes that innovation occurs when the area of primary concern in a given design profession is repositioned within a wider framework, which raises new questions and ideas. Buchanan makes this point from the perspective of a “wicked problem” and highlights the need to frame the design position by considering the views and concerns of all participants, thus creating a working hypothesis for further exploration and development (Buchanan, 1992).

Ritter and Webber state that, unlike “tame problems”, where the problem solver can gather all the relevant information to formulate an understanding and solution, the same cannot be said of a “wicked problem.” Understanding a “wicked problem” requires an understanding of additional problems associated with the potential solutions. Therefore, defining a wicked problem requires an exhaustive understanding of conceivable solutions in order to fully appreciate the problem and solicit all relevant information. For this reason, there is no single right answer, no stopping rule. Solutions to wicked problems are typically good or bad, better or worse, not true or false. In addition, “[e]very wicked problem can be considered to be a symptom of another problem” (Rittel & Webber, 1973, p. 165). In the context of this thesis, this statement was reflected in the process of arriving at a point to begin my enquiry. The early question was: How are perceptions of natural environments
formed? This led to: how do we make houses more responsive to the natural environment? This in turn led to: How can we strengthen the connection people have with the natural environment through architectural interventions?

Design thinking processes are useful in gathering and understanding the breadth of issues because, fundamentally, design thinking focuses on the framing of a good question before defining a good solution. Young proposes the following key themes as the constituents of design thinking in practice.

- **Human-centred**: Places people at the centre of the design process, rather than tackling design challenges from internal/organisational or technical frames
- **Research-based**: Qualitative, ethnographic and observational research techniques applied in the aid of responding to design challenges
- **Broader contextual view**: Expanding the design question to a wider frame of reference, to examine the system and context in which design challenges exist
- **Collaborative & multi-disciplinary**: Exploratory, and at times playful, approaches to problem solving, including co-design methods specifically designed to encourage participation from a broad array of stakeholders and multi-disciplinary design teams
- **Iterative delivery & prototyping**: Use of iterative project management approaches and prototyping, incorporating rapid feedback loops from end-users, to evaluate and evolve ideas and prospective designs (Young, 2010).
Bryan Lawson’s model for creative process is an iteration of the design thinking process and the wicked problem scenario and it closely resembles the process used in this thesis. The first insight formulation of the problem, as shown on Lawson’s model (figure 3.1), is developed in the preparation phase. This, however, involves revisiting this first phase numerous times to reformulate or redefine the problem completely as a range of possible solutions are explored. The subsequent incubation, although exploring possible solutions and even refining some of these in the illumination phase, still feeds new information back to the foundation insight (Lawson, 2005). Faste & Faste acknowledge that design practice is a holistic activity, and, as design research uses some aspects of design practice this has led to some universities aligning this ‘research’ with ‘creative practice’ (Faste & Faste, 2012).

3.1 METHODS

The research framework and the methods adopted for this thesis have been informed, in part, by ethnographic research, both in the literature review and the field work, including the case studies. It also includes reflective practice as a tool for understanding past and existing practices alongside proposed concepts. The research process evolved conceptually in two phases that parallel Lawson’s creative process model (figure 3.1). However, this was more cyclic than linear, with the design process re-informing the problem formulation. The first phase responded to the initial reviewed data followed by observations firstly of DOC hut structures and of bach communities. The information gathered had two
objectives: to map and understand design elements of a New Zealand vernacular building style, as defined within the literature review, and to gain an ethnographic perspective of the culture of users, both from an observational and an activity based perspective.

The DOC huts visited were chosen primarily because the two national parks where they are sited are in close proximity and offered a variety of huts that could be visited within a reasonable time frame. The general area provides a good representation of both more isolated back country huts and the more accessible ‘Great Walks’ huts with each providing different levels of engagement with the parks.

The Harrington point and Otakou baches were used in the study because the area is the location of a large number of baches in a well-established community. Their general form appears comparable to baches I have studied in previous work and with those baches appearing in both Thompson and Grigor’s books which have been referenced in the literature review.

Case studies participants were chosen firstly because they demonstrated some of the do-it-yourself culture associated with New Zealand’s architectural vernacular with the design or construction of their own homes. Secondly all of the participants expressed strong connections with their immediate natural environments.

Case studies were used as a tool to better understand a culture of environmental awareness that appeared evident amongst people who had designed or built their own homes. A semi-structured interview process, with a mix of set and open questions, was
chosen as a method to gather qualitative data. Semi-structured interviews are frequently used in qualitative analysis and offer greater freedom to explore issues as they arise. As Hopf notes this extends the possibility of open enquiry exploring situational meanings or motives for action (Hopf, 2000).

Concurrently with the case studies, the first of the design concepts was developed and responded to the unfolding data. Following this first cycle, the initial problem statement was revisited and observations or practices highlighted by the case studies were considered as potential prompts for new designs. This was followed by a second concept that extends from the first but responds to these additional insights gained from the case studies. A process of reflection-in-action, involving the act of designing within the context of the situation, was productive in developing workable solutions. This design process closely replicates the example Schön uses of architectural designing in an education setting where the student and master engage in the language of designing involving both drawing and talking as parallel reflective conversations with the situation. At one point the master states that, “[t]he principle is that you work simultaneously from the unit and from the total and then go in cycles…” (Schön, 1982, p. 81).

3.2 RESEARCH PRACTICE

The literature review identifies DOC huts as central to interactions with New Zealand’s wilderness recreation (Sutton & Cessford, 2007). Two visits to a region containing a variety
of huts or shelters were made in the early stages of this research to experience and observe differences and similarities between the hut locations. Specifically, design solutions that enhanced interactions with the natural environment or modified social practices were observed. A photographic record was kept of these visits and is included in the appendices (appendix A)

Following this, a study of bach communities was carried out to map design elements. This second study was carried out using non-invasive techniques with observations made from within the public domain. A photographic record from street view of coastal baches along the Otago Peninsula was kept (appendix B) and .5km section of this was studied and mapped. Also, satellite images of the area were downloaded, scaled and traced using AutoCAD drawing software and compared with images of a contemporary urban community on the same coastline. These mapping processes provided information on building scale, structure, layout, property boundaries, vegetation, vehicle access, and roof configurations.

Thirdly, case studies were used to identify those elements in dwelling systems that may help develop interactions with natural systems. Interviews were conducted with participants, who expressed strong connections to place and or the natural environment; they were questioned on where and how they chose to live. All of these participants had a significant role in the design and/or building of their homes.
Finally, two design projects were initiated during this research phase that responded to the findings and explored the potential integration of systems or practices informed by both bach and hut dwellings. The first of these was a concept home for one of the case study participants — a very small scale building aligning with values of the bach community. The second was an evolution of this original concept for another site and client with different needs and expectations. Both of these explored eco-friendly design solutions with diminished building scale being a key tool for a reduced ecological footprint.

### 3.3 Ethical Approval Process

In alignment with the University of Otago’s policy involving human participants, Category B ethics approval was sought and approved on 10th April 2013. Prior to this, a meeting with my supervisor was conducted on April 3rd 2013 to clarify the structure of the interview process and key questions were formulated. An information sheet for participants was produced that outlined these questions, the scope of the project and the rights of participants. All participants were given a copy of this document and asked to sign a consent form prior to taking part in the research (Appendix C). All of the case study participants signed the consent form allowing the use of their interview material within this thesis on the understanding that their identities would be protected and anonymity guaranteed. Involvement of participants in this process was voluntary and no remuneration or compensation was offered.
CHAPTER FOUR: DWELLING IN NATURAL ENVIRONMENTS
Figure 4.1
New Zealand Map

Figure 4.2
Map of North West Nelson, New Zealand, showing Kahurangi and Abel Tasman National Parks (Conservation, 2011b).

Figure 4.3
Map showing Separation Point in Abel Tasman National Park and Whariwharangi Hut location (Conservation, 2013).

Figure 4.4
Cobb Reservoir and Tablelands in Kahurangi National Park showing hut locations (Conservation, 2011a).
4.0 DWELLING IN NATURAL ENVIRONMENTS

4.1 HUTS

In a recent publication ‘Huts untold stories from back country New Zealand’, Mark Pickering offers a rich heritage of huts by outlining historic track development, hut construction and maintenance alongside the changing roles and the development of the conservation estate. Pickering’s book is focused strongly on the significance of place, and, although substantial, it deals with a relatively small cross section of huts, mostly from true back country, isolated or remote locations. The book provides little information about hut configuration, layout etc. other than the photographic images provided, but it does deal extensively with their history, how they came into existence and the people associated with that history (Pickering, 2010).

For many, the hut is, as suggested in the title of the book, a Shelter From The Storm (Barnett, Brown, & Spearpoint, 2012). For this study the focus shifts from this provision, afforded to the already environmentally aware outdoor seeker, to the huts role in enhancing outdoor awareness.

I made two trips to North West Nelson’s Cobb Valley and Tablelands in the Kahurangi National Park as well as an overnight excursion to Whariwharangi on the edge of the Abel Tasman National Park and part of the Abel Tasman Coastal Track, one of New Zealand’s Great Walks tracks. The intention was to visit a variety of different DOC shelters that included larger huts, such as the one at Whariwharangi (figure 4.5), and the more basic modified natural rock shelters, such as the Gridiron and Dry Rock Shelter. Photographic

Figure 4.5 Whariwharangi Hut, Abel Tasman National Park — Photo by author.
records were taken of each location and design elements, structures and systems were noted and compared.

Table 4.1 provides an overview of the huts that were visited, their general condition and social encounters we experienced. The trips to Trilobite (figure 4.6), Myttons (figure 4.7) and Asbestos cottage (figure 4.8) were undertaken with a small party of three over a weekend in September 2011. Late snow in the Cobb Valley had limited access, so an overnight trip was made to the coastal hut at Whariwharangi and only a day trip into the Cobb Reservoir, when snow had cleared from the access road. Balloon Hut (figure 4.9) and the rock shelters were visited in a party of two later in the summer.
Table 4.1 Overview of huts visited in 2011 & 2012

<table>
<thead>
<tr>
<th>Shelter type</th>
<th>Bunks or mattresses</th>
<th>heating</th>
<th>Water supply</th>
<th>Walk times from the access road</th>
<th>Location outlook</th>
<th>Occupation during visit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whariwharangi Hut</td>
<td>Former homestead</td>
<td>20</td>
<td>Wood burner</td>
<td>Walk 5hr</td>
<td>Coastal bush</td>
<td>Three couples 3 nationalities</td>
</tr>
<tr>
<td>Trilobite Hut</td>
<td>DOC Hut</td>
<td>12</td>
<td>Wood burner</td>
<td>Rainwater tank</td>
<td>Vehicle Access</td>
<td>Lakeside open</td>
</tr>
<tr>
<td>Myttons Hut</td>
<td>Deerstalkers Hut</td>
<td>4</td>
<td>Open Hearth</td>
<td>Walk 10 min</td>
<td>Closed Bush</td>
<td>One adult four children</td>
</tr>
<tr>
<td>Asbestos cottage</td>
<td>Prospectors hut &amp; Home</td>
<td>4</td>
<td>Open hearth</td>
<td>Walk 1hr 30min</td>
<td>Open Bush</td>
<td>vacant</td>
</tr>
<tr>
<td>Balloon Hut</td>
<td>DOC Hut</td>
<td>14</td>
<td>Gas</td>
<td>Walk 4hr 30min</td>
<td>Alpine bush edge</td>
<td>One Couple + one foreign nationality</td>
</tr>
<tr>
<td>Dry rock shelter</td>
<td>Natural shelter &amp; elevated sleeping platform</td>
<td>4</td>
<td>Open fireplace</td>
<td>Walk 6hr</td>
<td>Open valley bush</td>
<td>vacant</td>
</tr>
<tr>
<td>Gridiron Rock Shelter</td>
<td>Natural rock shelter &amp; elevated sleeping platform</td>
<td>4</td>
<td>Open Fire</td>
<td>Walk 7hr 30min</td>
<td>Riverside bush</td>
<td>vacant</td>
</tr>
</tbody>
</table>
4.1.1 Common Themes

The seven sites visited varied markedly in their scale, design and settings. There were, however, common practices between all sites and in all cases the natural environment was spectacular and dominant. In all of the huts, toilet ablutions were well separated from the main hut or sleeping platform, and in most cases this is likely a pragmatic solution to separate the potential for unpleasant odours from long drop toilets from the living areas (figure 4.13). This was not the case, however, at Whariwharangi which had both flush toilets and cold water showers, but these were still separated from the main hut by twenty metres or so. In addition, this practice is in keeping with the cultural protocols and the sensibilities of the indigenous Maori people.

Apart from the dry rock shelter, all the sites had piped water either from a rainwater tank or a creek fed system. Gridiron rock shelter and asbestos cottage had a simple system where river or creek water continually flowed from a pipe (figure 4.10). The three large huts had water supplied to an undercover sink. At Trilobite and Balloon this was located under the veranda (figure 4.11) whereas at Wharwharangi a completely separate covered structure with two sinks was supplied (figure 4.12). In no case was running water available within the hut itself.

Figure 4.10 Gridiron rock shelter’s water supply — Photo by author.
While all the huts had good views, there was no apparent attempt in the hut design to specifically frame these with window placements, etc. This can largely be attributed to the age of some of these huts, with most being constructed at a time when helicopter delivery of materials was not available and window size was limited to what could be carried by pack. Another likely reason for this is the full immersion of the hut within these natural, spectacular landscapes and the engagement with the environment required to reach the hut. This, perhaps, negates the need to further express this through captured views and instead huts provide a sense of sanctuary or protection from an environment that at times is unforgiving. Orientation towards the sun also appeared not to have been well considered, and in the case of Whariwharangi the main living area faced west and lost light early in the evening while the North facing bunkroom retained the sun for longer.
4.1.2 Interactions

In three of the huts, the space was occupied by other hikers, and the process of making a meal or hot drink was central to social interactions. We enjoyed our overnight stay at Whariwharangi, which we shared with six other occupants. This hut has a free standing and enclosed wood fire, and one of the couples used this to heat their breakfast. The rest of us set up individual stations along a bench and prepared meals or drinks on portable gas cookers. In the centre of the room was a large communal dining table where we ate our evening meal, wearing head mounted lamps and with tea light candles on the table. The use of this type of candle has apparently become more popular and, as the foil bases of the tea lights get very hot, the table had become peppered with the scorched circles from illuminating previous meals (figure 4.14).

During a day trip in the same week, we travelled into Cobb reservoir; we drove to Trilobite hut and made the brief walk along a snow covered track into Myttons Hut. Myttons Hut, was occupied by a group of young children and a parent who had spent the night as a fifth birthday treat for one of the group members. Although we had not witnessed their evening meal, it was evident that they had cooked it on the open hearth fireplace and one could easily imagine the scene (figure 4.15). In addition, their wet clothing was strategically hung in the spaces around the fire.
A return trip, in the summer, was made into the Cobb reservoir where we took a route up through Peat Flat via the Bullock track to Balloon Hut, where we were joined a short time after we arrived by a man from the Ukraine who had travelled via Trilobite and Myttons. Soon after that, an older couple arrived from Salisbury Lodge in the other direction. The encounter was an example of belonging by default to a community of outdoor recreation seekers, and conversation was easy and immediate, with the sharing of experiences of both the current trip and others from the past.

We left Balloon Hut after having had lunch and continued on to Dry Rock Shelter where we camped the night. The site included a simple raised timber sleeping platform beneath a natural rock overhang with a modified mortar drip line to prevent water tracking inwards (figure 4.16). We prepared a meal on our gas cookers and enjoyed an open fire that had been strategically positioned where the shape of the overhanging rock channelled the smoke upwards. This scene had evidently been enacted by visitors before us, as many had carved recesses into the rock to support candles, had left initials engraved on the walls and the rock was carbon black on the smoke path of previous fires (figure 4.17).
4.1.3 Valuing the past

Most of the huts include a visitor book that records both the names and comments about the experiences of those who stay there. While these provide an interesting read, it is perhaps the initials and signatures in the fabric of the building itself that are more engaging. The practice of leaving initials has been commonplace in many of the huts and, as mentioned in Pickering’s book, there is a sense of huts being the property of all users. Even the Governor-General left his pencil signature in Hideaway Biv in Ahuriri Valley in 1932 (Pickering, 2010). In a conversation with a keen tramper, he noted that he liked this practice in the old huts, but when it occurred in the new ones he considered the practice to be vandalism.

Geoff Spearpoint outlines Whariwharangi Hut’s historic beginnings in the 1890s as a pioneer homestead for John and Edith Handcock. It later served as a stockman’s hut and fell into disrepair. The Abel Tasman National Park officially opened in 1942, but Whariwharangi was not included until the land was sold to the Abel Tasman National Park Board in 1974 and it was officially incorporated into the park in 1977 (Spearpoint, 2012). Whariwharangi certainly feels more home-like in its general layout compared to the other huts I visited, because its bunkrooms are separated with a linking hallway and stair well. While the hut has some historic information displayed on the walls, the Hancock’s presence is not felt as strongly as that of the Chaffey’s in Asbestos Cottage. Asbestos Cottage has a unique and engaging history that pervades its structure. It is a weathered hut built in the 1890s by asbestos prospectors, but from 1914 it became the home of

Figure 4.18 Henry Chaffey and Annie Fox, Asbestos Cottage — Photo by author.
Henry Chaffey and Annie Fox (figure 4.18). The hut is imbued with a sense of their history. Two chairs made from sacking and manuka branches are placed around a raised fire hearth and memorabilia of Henry and Annie adorn the walls (figure 4.19). A photograph of the couple and a brief history tells of how they fled Christchurch and Annie’s abusive husband to spend the next 35 years living in the wilderness. Henry was known for making regular trips out to Upper Takaka and the Motueka valley for supplies, carrying huge loads well over 50kg on his back via the Flora Track. In his late 70s he was still carrying 70lb (32kg) loads and, in 1951, aged 83, he collapsed and died in the snow carrying his final load. The hut is a solid three hour return walk from the Cobb Valley road and the history of the former inhabitants leaves you aware of what a soft and sheltered existence we live.

Shaun Barnett notes that, while numerous miners, rabbiters etc. were known to have lived in the isolation of New Zealand’s backcountry, very few huts can claim to be the home of self-exiled lovers escaping unhappy marriages. The personal cost to Annie of going into exile included, the separation from her two teenage sons and concluded with her taking her own life after Henry’s death forced her to return to the town of Timaru (Barnett, 2012).

These physical references to past visitors or inhabitants provided a sense of context with the site, the environment and its history. This reflects Ingold’s proposition (P16) that, our perception of landscape are shaped by the historic presence of human habitation.
Location maps for baches referenced in this chapter

Figure 4.21
New Zealand Map http://www.backpack-newzealand.com/mapofnewzealand.html

Figure 4.22 Otago Peninsula, Harrington Point and Mission Cove.
Photographs obtained from Dunedin City Council web maps.
4.2 **BACHES**

Some of the key reading on both huts and baches recognises the connections between these two dwelling types. During research prior to this study, a photographic record of a large number of baches on Otago and Southland coasts was accumulated and their significance within our culture as vernacular architecture was explored.

For this research, a map exploring the properties of a cluster of baches on leasehold property on Otago’s outer peninsula has been developed to provide comparisons between buildings responding to the same influences, climate, view, orientation and geography. This settlement is a well-established bach community and the research identified which, if any, of the fundamental elements of the simple hut have been retained and which have given way to the luxuries or norms of suburban living.

The map on the following page shows elements that are evident from observations from the street, and the graphic depictions correspond in order to the heavier outlines of buildings in the map below (figure 4.23). This process provided information on general structure, materials, aesthetics and living style, but also provides insights into changes of use and ongoing development. These same buildings also feature on the comparison map (Figure 4.18) shown on page 63.
Bach Structure Map

LEGEND

- Chimney Flue
- Cladding Colour
- Window area relating to street face
- Window Trim colour
- Deck
- Timber window joinery
- Aluminium window joinery

<table>
<thead>
<tr>
<th>CLADDINGS</th>
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</thead>
<tbody>
<tr>
<td>Fibre cement sheet</td>
</tr>
<tr>
<td>Rendered plaster</td>
</tr>
<tr>
<td>Cement sheet tiles</td>
</tr>
<tr>
<td>Weather board</td>
</tr>
<tr>
<td>Corrugated iron</td>
</tr>
<tr>
<td>Plywood</td>
</tr>
</tbody>
</table>

Figure 4.23 Map comparing structural elements of Harrington Point baches.

Photo by author.
The comparison map graphically shows the layout of individual dwellings and associated structures, and has been used here to provide a comparison with contemporary housing layout in one of the most recent of the Otago Peninsula’s developments and one of the earliest peninsula settlements (figure 4.24). It also shows the comparable areas of vegetation between the two settlements. However, what is not clear from this image is that the vegetation surrounding the Harrington Point bach community is predominantly unkempt natural scrub, while the Mission Cove settlement has tended gardens. The map compares relative scale layout and density of the two settlements in a fifty metre band back from the coastal road.
4.2.1 Interpretation of the data

The structure map tells a lot about how the bach designs and the values of the owners that use them have evolved over time. Many do not have formed driveways or garaging, and none have garages with internal access to the house. The Harrington Point settlement is just a few metres above high water with the west face of the buildings towards Harrington Point Road and Te Rauone Beach. Unfortunately, a formal comparison exercise similar to the aerial map is not possible with the contemporary buildings at Mission Cove because the access road for these is to their south east and the buildings are sited well above Portobello Road on the west.

Generally, the baches have simple gabled roofs or single pitch roofs with many having lean-to additions and some showing multiple additions. The use of recycled or scavenged materials is apparent where elements such as windows or claddings are mismatched or inconsistent around the building. This use of recycled materials is illustrated in fig. 4.25 where the building has an awning once belonging to a café & bar and the cladding materials differ from one face to the next.

There is evidence that the west / view facing windows have been upgraded to have larger panes of glass or viewing space, as evidenced by a change in style or framing material. Just under half have decks facing the road and view and over half have an internal fire place as can be judged by the presence of a chimney flue. Claddings vary a little, but most reflect the construction processes typical of the time. Colour choices are a little less conservative.
than would be expected in urban settings and also likely to be influenced by recycling opportunities.

A number of the baches have been uniquely personalised, with some having names such as Dundrivin & Pixies Retreat that reflect the recreational nature and an escape from suburbia. Decoration too is eclectic and bold including one, named Shiver Me Timbers (figure 4.26), that has an additional cloak of driftwood added to the cladding and numerous others are decorated with images or adornments such as butterflies or fish.

The comparison map demonstrates increased complexity with roof forms and far fewer separate structures per site at Mission Cove.

The comparison map between Mission Cove and Harrington Point highlights some differences between the settlements, these include:

1. In the new subdivision all the occupant’s building needs are contained within a single structure, whereas in the bach community often multiple buildings are evident.

2. The combined structures on a given site of the Harrington Point settlement has an average roof area of less than one third that of the Mission Cove dwellings.

3. The roof layout on the baches generally have simple rectangular pitches and very few hips or gullies, whereas, 70% of the contemporary settlement have multi hipped complex roofs.
4. Vegetation on the bach site is at a greater density and closer to the buildings and, as mentioned, largely unkempt, natural or self-established.

4.3 **SUMMARY**

The simple architectural forms of early huts and baches are embedded in our culture as kiwiana and vernacular. Limited resources and difficult site access have contributed to a design aesthetic of pragmatic simplicity, ingenuity and economic use of materials. This, coupled with self or participatory design and/or construction practices has become associated with the aesthetic language of the hut and bach. In addition, the early huts and baches responded strongly to the influences of their natural locations and examples exist where natural features such as caves or rock overhangs have been incorporated into the structure. Because of the unique set of circumstances that influence the form of these building types no one is like another and their common language is that of difference. The character, often associated with these buildings, is this sense of being unique (figure 4.27).

Another common attribute of both huts and baches is how domestic or social activities are connected with the environment. The limitations of their small physical scale are overcome by maximising the use of outdoor spaces. Verandas and decks are extensions of the living spaces and meal preparation, dining and associated chores have symbolic value and spill into these external spaces.

*Figure 4.27 Sketches – simple building forms of traditional huts & baches.*
DOC now has a comprehensive guide to hut procurement (Conservation, 2009) that would appear to have put an end to the collaborative processes that drove the design and construction of huts in the past. With design now in the hands of architects and engineers, Till’s reference to participatory design processes being undermined by experts may prove difficult to overcome (Till, 2005). Opportunities for participatory design may still occur outside the conservation estate, but legislation challenges this and participation may become superficial.

Should we also question the nostalgic attachment to archaic technologies that are less sustainable than contemporary practices, such as the use of tea light candles, inefficient fuel fires and portable gas cookers, or are these fundamental to the experiences these places provide?

The role of the bach is interesting in this discussion, as it appears to straddle the two camps of urban dwelling and wilderness and, as such, its design language is a mix of both. The general form of the bach follows an approach of raw pragmatism born out of forced material efficiency similar to hut design. Many appear to have evolved over time, with lean-to additions and connections to other structures. Generally, however, huts are barren of all but the most basic human comforts, whereas the bach adopts some of the modest comforts of urban living, such as indoor kitchens and bathrooms. Many of the baches were seen to have upgraded the small and insufficient windows to maximise views and sun.
Both the hut and the bach often include a sheltered deck/veranda, which serves both as a transition zone between the natural and the enclosed spaces and as an extension of the living space. Urban dwellings, too, have embraced the deck as an extended living space, but at times a greater physical scale compromises the interaction with the natural spaces. As a result, out-door living can become separated from the experience of natural environments. Can this transition, that appears to have been abandoned in contemporary dwellings, be revived if the passage through the natural environment is implied with visual connections?

Carving initials into the fabric of huts or into rock faces is a practice that is prevalent amongst the culture of hut patrons where it is considered normal practice, as evidenced in accounts in literature such as that described earlier by Pickering in hideaway biv(p??). The practice provides an informal record of those people who have visited and adds a layer of history that not only locates a person in place and time, but records an engagement with the place in the act of inscribing the name. On arriving at such a place you are drawn to search the names for the ones you might recognize or your own name from a past visit. This is more than the act of filling out a visitors book because it records an activity that contributes to the character of the place. For this study, I am interested in how this practice may be replicated in domestic environments to provide a similar opportunity to engage as a visitor to a place.
CHAPTER FIVE: CASE STUDIES
5.0 CASE STUDIES

5.1 METHODS

The case studies included in this thesis are derived from interviews with individuals selected because of their choice to live in settings that have a strong relationship with the natural environment, and who were involved to some degree in the design and or construction of their homes. All were chosen from the general geographic areas of the bach and hut studies in Otago and Golden Bay districts. The participants exhibited some of the ‘do-it-yourself attitude recognised as being part of a New Zealand culture associated with vernacular buildings.

Five of the participants have had almost total control of both the design and construction of their homes, while the other three have had varying levels of involvement in the design concept but have assigned final design and construction to building professionals. All have expressed a strong sense of place attachment or identity related to place and all have some level of experience in creative industries. Participant A, however, is unique amongst these cases as her involvement with this study began with my assistance in helping her to develop a design for a dwelling on a different site. For a number of reasons she opted not to build the new home, instead choosing a major re-construction of an existing bach through a much less formal design process. The design development and concept for the initial dwelling will be discussed in detail later in this thesis.
The intention of the interview process was to identify design elements and common themes that helped to strengthen the relationships of the individuals to their natural surroundings.

The names of those interviewed for the case studies have not been included in order to preserve participant anonymity. The interviews were conversational in style, each participant was asked to respond to the following set questions.

1. How long have you spent in your home?
2. Could you describe your home and its relationship with the location?
3. How important is the natural environment in your choice of the location of your home?
4. To what degree have you been involved in the design, building and/or customization of your home?
5. What other buildings or structures have influenced the design of your home and the way you live in it?
6. What memories do you have of other buildings that have evoked strong connections to their natural settings?
7. How does your home and lifestyle connect you to the immediate natural surroundings?
5.2 PARTICIPANT PROFILES

5.2.1 Participant A

Participant A is an artist and musician and has just completed the construction of a very small home in an established coastal bach community. The construction is a major refurbishment of an existing bach, with a large proportion of the original, unsound, building having been removed and the remainder of the viable structure remodelled without a perceived need for building consents. While the site is in a community of other dwellings, it is rural in nature and lacks the infrastructure and boundary divisions of suburban communities. Participant ‘A’ does not have the physical skills to construct her own house, nor the skills to easily visualise three dimensional space in a typical two dimensional planning process. However, she has found the process of operating within the gutted shell of the original building compatible with her creative process. She noted in her interview that she was unable to imagine herself in the space that I’d helped to design for the other site, although she appeared to have a high level of enthusiasm for the design.

5.2.2 Participant B

Participant ‘B’ migrated to New Zealand from the United Kingdom in the mid 1990s. She is an industrial designer and consultant and, with her partner, is currently overseeing the construction of a new home on a large north facing property with idyllic coastal views. She opted for a departure from a more conservative design outcome in favour of a radical form
that expresses the slope of the land as if it had ‘landed’ on the site with very little ground disturbance. Her skills with 3D CAD software enabled her to model the general form to a point where the architect could interpret the concept, and the resulting design is close to her original concept. Material choices considered issues such as embodied energy and sustainability.

5.2.3 Participant C

Participant C is a designer, entrepreneur and has lived in his house now for twelve plus years. The house is sited on a challenging large property, where vehicle access was difficult and connection to reticulated power would have been costly. Participant C and his partner owned the property for two or more years prior to building, which allowed time to form an increased appreciation of the features the site had to offer and how it responded to seasonal and daily cyclic rhythms. He also did some key reading on architectural design principles and developed a design concept which was largely adopted by his architect. A major development of this property has been a completely self-contained and independent power supply that has largely been designed and developed by him. Apart from this development the owner’s involvement in construction of the house was minimal, and was confined mainly to painting. However, he and his partner have done a considerable amount of work developing the property itself, planting trees and landscaping.
5.2.4 Participant D

Participant D holds a degree in industrial design and is a practicing artist living on a large bush clad site overlooking a river estuary sited in the general location of his birth home. The home on this site that he and his partner have lived in for the past two and a half years was designed and constructed by him without the need for building consent due to its diminutive scale. This was achieved by exploiting a law that allows for buildings less than ten square metres not to require building consent. The design skirted this law by utilising semi outdoor spaces to function as a kitchen and living and by placing two ten square metre structures close together. Participant D is now undertaking the construction of a more conventional scale and consented home that he has designed for the same site. This process has involved testing another point in recent building law that allows for a non-registered building practitioner to design and construct his own home.

5.2.5 Participant E

Participant E is an artist/craftsman living on a large rural property in a coastal setting. His house with attached studio is the second home that he has designed and built and he has lived here for more than fourteen years now. The house and studio are linked with a covered veranda that wraps around a courtyard with construction being a mix of adobe, mud brick to the north courtyard faces and more conventional timber construction to the south. Three bedrooms are separated and elevated behind the house and each is a separate structure sitting at a different level, but linked with a U shaped deck under
individual verandas. Access to the main house is via an enclosed hallway that extends up the hill.

5.2.6 Participant F

Participant F is a builder tradesman and has lived in his uncompleted house for a little over one year, but has lived in the general area for almost 20 years. The house is sited on a large rural, north west facing property with very little flat land between the road and the steep hill that makes up the bulk of the property. The site has a number of large native trees and is peppered with rocky outcrops that are a major aesthetic feature. The general aspect of the land and combined effect of the thermal mass of the rocks makes this area something of a microclimate capable of growing a large variety of plants including many native to more temperate climates. The participant’s relationship to the place includes an historic element, with ancestral ties to the area going back several generations.

5.2.7 Participants G & H

Participants G & H are a couple originally from Australia, where they had also built their first home from rammed earth in the early 1990s. They still owned the house in Australia and return there occasionally as they have strong ties with the community and relationships that had developed through the owner builder process. Their new home, which still requires a little finishing, was a project taken on and enjoyed by the pair equally as was the case with their previous home in Australia. They lived in a small bach on the
current property for five years before embarking on the new build early in 2006 and moved into their new home in the spring of 2007. The site provided some challenges with the slope orientated to the south and harbour views to the east with positioning of the house dictated firstly by solar orientation and secondly by the other activities they had planned for the site.

5.3 **Set Questions**

The individual interviews and the set questions are unpacked in the following responses and discussion section. Question one, how long have you spent in your home? Has been covered in the participant profiles and warrants no further discussion as this question was intended to provide context between the cases. Where time has impacted on attachment, this has been noted in the appropriate discussion section. Generally, question 2, regarding the home’s relationship with the location, began a conversation that merged with question 3, regarding the importance of the natural environment in the choice of the home’s location. This in turn merged, not unexpectedly, with the final question, regarding how home and lifestyle connected the individual participants to the immediate natural surroundings. There were other connections across the question topics, but these three questions generated the bulk of the discussion with all participants.
Question 4, regarding involvement in the design or construction of their homes, is mostly covered in the participant profiles, but this data can be compared using the table (figure 5.1) on the following page.

Question 5, asked what other buildings influenced the design of their home and how they lived. This provided a number of commonalities with only one participant naming a particular building. This question became integrated with question 6 regarding the memories of other buildings that had evoked strong connections with natural settings. Both of these questions were asking participants to draw on their experiences, and, for most, these memories or experiences were highly influential, in both what they liked and what they disliked. These experiences helped form design principles applied to their own home designs, but likely also informed their lifestyle choices and relationship with nature. This line of questioning also generated other influential subjects, including a book, *A Pattern Language*, referenced by three participants. The responses to the set questions and interview discussion are unpacked in greater depth in the following discussion section.
Table 5.1 provides an overview of each participant’s role in the construction of their homes. The blank cells signify the use of a tradesman or professional and the half circles indicate that the role was shared. Interior design, decorating, painting, finishing, gardening and landscaping were roles commonly shared with the participants and their partners.

<table>
<thead>
<tr>
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<th>Concept development</th>
<th>Developed design</th>
<th>Design documentation</th>
<th>Construction</th>
<th>Project management</th>
<th>Interior design</th>
<th>Interior decorating</th>
<th>Joinery construction</th>
<th>Energy system design</th>
<th>Painting &amp; finishing</th>
<th>Garden &amp; Landscaping</th>
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</table>
5.4 RESPONSES AND DISCUSSION

5.4.1 Sun & Views

Participant responses, not unsurprisingly, had some strong similarities with their immediate connection to the environment through orientation of windows towards sun and views. Interestingly, however, the approaches were not unanimous towards this connection nor were scenic features valued equally. Participant A placed little value on the nature views gained through a window from within the house, instead seeing the house as a retreat from the external and as a kind of haven separate from it. She did however place high value on being able to enjoy the outside from an attached north facing and sunny deck or interacting more directly with the environment by walking to the end of the drive to see the harbour and views. The other seven participants all acknowledged both the importance of views through windows and the orientation of their homes to natural light and heat. Most enjoyed the expansive and distant views afforded by their properties, but also valued the connection with more immediate features of trees, rocks, wildlife and gardens.

Participant B’s house design stretches across the face of the property at a single room depth so that all the rooms get excellent views down towards the bay and gain maximum sun through the north facing aspect.
Participant C has spent some years on his property now and noted how the views had changed dramatically over time with trees to the south maturing and blocking most of their southern harbour views. The more open views to the north were also becoming moderated with the native planting done by him and his partner becoming established. This process of evolution of the site added a dimension to their emotional investment in the place, especially with the increased bird life being attracted to the area.

Participant D was challenged by the orientation of his property as the north facing and sunny view, while looking towards some attractive planting and native regeneration, did not include the picturesque view of the estuary and its associated bird life to the south. In an attempt to maximise his connection with the estuary from the decks on the north of the new house, he has been careful to align windows on both sides of the living area so that it is possible to look right through the dwelling towards this picturesque southern view.

Participant E’s house and studio more deliberately focused the public area towards the immediate and human modified natural spaces with the wider views of the estuary etc. being appreciated from the kitchen bench window and from the bedrooms further up the hill. What this does is provide quite unique and different views from different places within the home and property. Participant E noted that as he walked around the property he was presented with glimpses of views, which he enjoyed more than pervasive big views.

While coastal views appeared to be generally revered, participant F expressed a greater appreciation for the mountain, hill and rural views that were features evident from his
property. Key elements included a distant view of a prominent mountain feature that helped to locate him in the landscape and connected him emotionally as a visual reference point to many of the treasured, public walking tracks of the area that he has enjoyed. The property itself is very steep and has numerous outcrops of large rocks; one of these is quite close to the rear of the house. He is pleased that the stair design has allowed for a landing window that looks out upon the rock as you transition between floors and imagines sitting on the upper landing and looking out towards this feature.

Participants G & H primary design goal were for a passive solar efficient home and this dictated the orientation of the building on the site. The view to the east was captured in the main living area with a picture window but southern views were also recognised as important and careful placement of a small window ensures that there is a connection to these. Also a glazed entry door from the western end of the house helped retain a connection with the land and outside spaces in the west through the house to the harbour views in the east. The strategic placement of the south facing window in the study connects the kitchen to the significant features of the water and hills beyond; these sight lines had been carefully considered. Participants G & E referred to Alexander et al’s book, *A Pattern Language* (Alexander et al., 1977) as being their key design text and this encouraged them to consider how spaces feel with different ceiling configurations or how interaction with views need not be expansive and overwhelming. Interestingly, two of the other participants, A and C, also mentioned Alexander’s book as a text that helped them shape their design strategy.
5.4.2 Outdoor living spaces

The other consistent feature across most of the participants was the use of decks, courtyards or veranda spaces to create transition zones between interior and exterior spaces. For participants D, E & F, all who live in a climate that enjoys many warm summer days, they viewed these spaces as an extension of their living spaces. Participant F had romantic memories of his grandparents’ home where tea and conversations were conducted on the veranda and had deliberately designed this space and its proportions with this in mind. Participant C had lived, out of necessity, in his micro home where all the cooking, dining and living had been done in a semi enclosed space that included a covered veranda with external open fire place at its end. While he noted they had enjoyed many summer evenings in this space, and certainly during the warm afternoons when I visited, the space was delightful, in the winter their enjoyment was tested. He did note, however, that the option of dining outside was valued and is a consideration of the new house design.

The more southern participants also were aware of the value of transitional zones between indoors and outdoors, but, understandably, from a less exposed perspective. Participant C spoke of being able to open the front of the house to the northern covered veranda, and, while they didn’t often dine outside, opening these doors blurred the transition between indoors and outdoors. Participant B’s unfinished home appeared to be adopting a similar approach to this, with a veranda zone along the building’s length and fenestration that provided a seamless link between interior and exterior.
Participant A also has an uncovered deck and has plans for a porch moderated entry that perhaps fits more easily with her retreat from the external aspect to her house design. This approach seems understandable given that her home is very small and the outside environment will always play a big part in her lifestyle because of this.

In the case of participants G & H, they chose not to have a deck on their house because, typically, a deck would go on the side with the view, in their case the east end, and they did not want their internal view disturbed by a balustrade on what would be an infrequently used deck. They noted that they spend a lot of time outdoors, but usually this has been well up the back of the property in the garden or near the hens. They also took a different approach with the location of the main entry, and this is located through the Laundry area. The reasoning was that, formal entries were only ever used by strangers and this informal approach was more friendly and casual. It provided an opportunity to discard dirty boots or wash hands after working in the garden. As a means of connecting more with the natural systems, the couple had developed a habit of enjoying breakfast and coffee on fine days further up the property where they had strategically placed some outdoor furniture.

5.4.3 Dining

With a number of the participants dining and the processes of making a meal featured as a major design consideration. Participant B spoke of a dislike of many New Zealand house designs, where a kitchen island containing the sink unit faced out towards the living and
guest area, while the cooktop generally had the host with their back to this space. In her design, she flipped this so that she could enjoy socialising with guests or family while cooking, describing the process of cooking as being an optimistic act, whereas doing the dishes did not have this same positive element and, therefore, should not be set centre stage. In addition, she had constructed a table for the new house that used the same design language as the house. Participant D enjoyed dining outside when the weather allowed and made reference to family holidays at the bach where most of the cooking was done outside in a place where family and extended family came together. In their current micro house setting, all of their cooking and dining had been carried out in this hut/bach like setting. Participant E noted that much of their summer dining was outside in a courtyard off the veranda; this space included a park-like bench with table and a wood fired pizza oven. This space had been designed in such a way that the space was visually separated from the public entry space of his art business and had a sense of being an outdoor room with the house veranda closing two other sides. Participant F made a strong case for both cooking process and table location in the design of their house and how they use it. Much of their cooking was done on the wood fire which included an oven beneath. While they also had electric hot plates and oven, they enjoyed the connection with the fundamental processes involved with attending to the fire, the collection and stacking of firewood. There was a sense of tradition and engagement with this process which was pleasurable and fulfilling, and a connection with a pioneering spirit. The fire was central to the running of the household; it heats their water, warms the house and cooks their food. He also noted the importance of the dining table as the place where they spent
most of their time and its prime location which catches the early morning sun and connects with the outside through views down towards the road and entry. For participant F, eating and socialising at the kitchen table with the ever present smells of cooking was an embedded practice stemming from fond memories of past experience and tradition.

Participants G & H also had strong views relating to the central location of their kitchen and dining and used the term ‘the heart of the house’ to describe the location and its function. For them too, the fire was a useful extension of the kitchen’s cooking facility. Participants G & H acknowledged the deliberate connection with the kitchen and the vegetable garden both visually where possible, but also functionally with the laundry entry area providing a space for the cleaning of produce prior to taking it to the kitchen. They had plants such as parsley literally at the doorstep and noted that in a time when they were living in a suburban apartment they were still able to create a visual connection to the vegetable garden with the use of simple planter boxes. The growing of food had been a family tradition, but placing gardens more visibly in front of house, which is what they had done in their former home, had been a change from the tradition of hiding this around the back and was an approach subsequently adopted by participant H’s parents. The site for this home, however, had dictated the placement of the building and the garden and a more direct visual connection to the main garden, sited further up the property, was compromised although a view was present through the laundry.
Participant H noted that the kitchen, dining spaces were the interface where private space is shared, it is the core of the home and they would never have considered having a room for a kitchen, i.e. separation between these spaces.

5.4.4 Biophilic principles

Biophilic principles were strongly represented generally with a connection to the landscape, the flora, the fauna and associated activities, but other biophilic elements were also abundant and expressed by most of the participants with the exception of participant A. Participant B referred to the land dictating the form of the house as if it had ‘landed’ there. However, this was all about respect for the land and a desire not to rupture or disturb it. Participant E loved the natural feel of adobe and wood construction and spoke of materials that melt back into the ground when you have gone. He noted that “these types of buildings grow old gracefully, whereas often new builds with lots of paint and glass etc. are never flasher than the day they are finished and then they gradually deteriorate.” His material choices also were toxin free and low maintenance, the oiled T&G sarking had not required further treatment since it was installed and the adobe walls breathe and contribute to a healthy internal environment. Participant F had also incorporated T&G sarking and other timber, although was less of a purist about material choices. For those that built their own homes, timber was a reliable and user friendly construction material. Whereas with participant B, timber was very much about sustainable practices with its lower embodied energy and light touch on the land.
Participant B also liked that timber had an expected lifespan and would ultimately break down and melt back into the environment after she had gone.

Participants G & H had researched ways of getting the natural adobe look that they had achieved in their Australian rammed earth house with internal clay rendered veneer. The rammed earth technique was not appropriate for the Otago climate of their new home, nor was the local earth suitable. They instead used a mix of a thin rendered wash over recycled carpet and thicker clay, grass and straw panels. Participant H remarked on an embedded understanding of the properties and value of water, having been brought up on a farm where water was stored in tanks and was measured, limited and valued. Reliance on tank water, either rain or creek fed, was a reality for all but one of the participants in this study.

Nearly all of the participants made some reference to natural fauna. Birds, in particular were important and participants B, G & H had noticed increased bird life as the vegetation on their properties had developed. Participants G & H were specifically planting to encourage birds, but spoke also of the link to seasonal changes. They had been told that you are best to plant potatoes at the time of hearing the first shining cuckoo, a seasonal, migratory bird.

In general the adoption of biophilic design principles was a response to an inherent need as expressed in the literature review. People chose natural materials primarily because of
their natural qualities, their look and the way they aged. Qualities they associated with life and living materials.

5.4.5 Modes of attachment

The literature review identified the two main modes of place attachment as place dependence and place identity, and suggested that often place dependence, or the ability of a place to provide for the needs of an individual, would precede place identity, a more emotional place to individual relationship. Some of the case study participants expressed attachments that were emotional. Participant A, while attracted to the larger cosmopolitan area because of a lifestyle dependency attachment, attested to falling in love with the community she now lives in, enjoying the ride on the morning bus with a line of shags keeping pace just off the water. Participant B also experienced a similar emotional attachment when she returned to the United Kingdom after an initial visit and found herself homesick for New Zealand. Participant F also referred to being homesick for the area he now lives while travelling abroad, but felt no such emotion for his birth home where he had spent the majority of his life. The significance of the physical constituents of a place in creating place attachments that Canter referred to appears to be strongly supported in three of the cases and is also a factor in the other five, although it was not as clearly expressed.

For participants G & H they had formed strong attachments to the community associated with the place. They noted that quite a number of their neighbours had been owner
builders and the investment of time in building their house, developing the garden and site was respected by these established residents. For participant A, community attachment was a large factor for her attraction to the area, she enjoyed the scale of the community and that things happened differently within it. She said that you could buy fish directly from a local fisherman and another local would fillet and process them for minimal cost. Also, there is a casual attitude to the undefined boundaries of the leasehold properties, and, when she asked where were the property boundaries she was told that these were as far as you were prepared to mow.

5.5 SUMMARY

The case studies did support much of the reviewed literature, and the interview practice reflected some of the processes that Canter outlined as tools for defining place. Asking people to provide an account of their places and to identify behavioural practices within them appeared to encourage a more considered engagement with their life/home relationship. This was expressed by participant F, when he was asked about other places that had influenced him. Instead of responding with a place, he talked of a client, who lived a reclusive lifestyle in a largely hand crafted home, who pressed him with questions about the design decisions he was making for his new home. This forced him to think more about what he really wanted or needed, and why.
All of the case participants come from what could be described as creative backgrounds, and as such may encounter design thinking approaches as they apply to problem solving within their discipline field. This may have helped them to provide considered responses, both to my questioning and their design decisions. Perhaps, in these cases the process of designing forced a less superficial engagement with their environments. Participant B referred to “ownership in the true sense rather than just paying for something.” Participant D’s statement about the ownership of design had similar overtones, but also that his dwelling was a reflection of him as a designer, he stressed the importance of taking ownership of his design, and this had an implied sense of responsibility.

It was evident with most of the participants that the designing of their homes had involved some research and idea development. The use of Alexander et al’s *A Pattern Language*, as a design text, for some of the participants, demonstrated the value of access to conceptual tools during this important design phase. Alexander’s book provides a series of ‘patterns’ for elements relating to building and the environment that can simply be applied to architectural design problems (Alexander et al., 1977).

Another theme that arose from discussion with two of the participants was an appreciation for the unique and, in the case of participant B, enjoyment at the extremes, within an owner builder culture, particularly where building practices were tested with innovations not always successful. This seems to be the case with many bach and hut structures where building practices have been tested due to limited resources and where conventional design and construction processes are insufficient. The idea that someone
had tested themselves and failed, at least partially, demonstrates a willingness to take risks in order to arrive at a more unique and expressive outcome. A conscious refusal to choose the regimented predictability of suburban houses shows a lack of satisfaction with mainstream design solutions for residential dwellings.

The DOC hut too was a reference point with participant E finding them inspirational in the unusual layout of his bedrooms, with each appearing as a single separate hut-like structure.

While all the participants expressed environmental concerns, in practice, they only applied sustainable solutions to their buildings in the area of energy saving through good insulation or energy gain through water heating, solar thermal gain or power generation. There was some recognition of sustainable material choices and this was often aligned with a preference for natural materials such as timber. With the exceptions of Participant A and participants G & H, they had all designed houses where physical scale was not a major consideration. For participants G & H, they were very aware of building to meet their true needs and recognised that all buildings have some impact that can be reduced with smaller scale simple volumes and less complexity of design. Participant B was also aware of the issue of building scale, but the property they had purchased had a covenant that dictated they had to build a dwelling larger than 240 square metres.

Participant D had built a truly micro house, but this was a stop gap measure to provide a home for him and his partner while saving for a more conventional home to be built on the
same site. The design of this micro dwelling had considered this with its site placement and impact clear of the intended site for the larger home.

Participants G & H had a strong environmental / conservation agenda, they had considered material choices for their home with reduced embodied energy, non-toxicity and their garden was designed on the principles of permaculture. They made an interesting observation of one of their neighbours who, despite being passionate about the general area and concerned about propagating local vegetation, was not adverse to using chemicals or burning toxic materials on the fire. This trait they described as classic Kiwi.

Although generally the case study participants had invested a considerable amount of time and energy into their properties, what appeared most significant was what participant D expressed as ownership of design. This is the point where the property expresses who they are and it may be as simple as individualising a place by making your mark.

I found that, for most of the participants in the case studies, this research was an opportunity for them to express their views and to discuss their ideas and philosophies. They were a resource of information and experiences waiting to be tapped, and their clarity and passion was infectious. The homes of the individuals, physically, had very little in common, they were diverse and unique.

It was clear amongst the participants in the case studies that being involved in designing and/or constructing of their homes, even at a relatively low level, did increase their sense of attachment to their homes and the surrounding areas. It also appeared that with this
increased attachment came an increased sense of value of natural systems and increased environmentally responsible behaviour.

Acknowledgement of the vernacular status of both huts and baches appears to have some validity in the minds of the case participants as both were referenced on more than one occasion. Ancestral and emotional links to architecture too are strong motivators for design intervention, but are open to interpretation as innovation and self-expression are also valued.

For me, as a designer, this research has provided some examples and scenarios that I can use as design tools that I believe will create more meaningful connections with buildings and nature or natural systems. Fundamentally, these are not profound design concepts; rather they are considered and expressed relationships that deserve greater respect when pitted against practices that undermine nature connections. Of these, the importance of designers to engage clients more in the processes of creating a new home would appear to promise a deeper investment and emotional attachment of new owners to their homes. This scenario was observed with participants B & C who considered that their involvement in the design of their homes had been significant but had engaged an architect to develop their designs. I believe now that there is a critical phase in the design process where greater engagement is needed from home owners to address more than just the engineered function of building form. This was expressed by Participant F when he acknowledged the need to look deeper into his design was prompted by a client.
Following the literature research, site visits and case study interviews, some of the key findings were organised and summarised in table 5.2. This provided a useful benchmarking tool for my own design practice. Its value was not that it provided design parameters, but rather it acted as a reference to the previous findings that made me question my design decisions. This also provided in some ways a challenge within my own design process in the same way that participant F was challenged by his client. Being required to justify the design appeared to force greater clarity and depth when defining the design brief.
Table 5.2 Design opportunities identified

<table>
<thead>
<tr>
<th>Identity</th>
<th>Connection to Natural environment</th>
<th>Human activities</th>
<th>The Individual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vernacular building types</td>
<td>Material choices</td>
<td>Interactions with natural environments</td>
<td>Phenomenology</td>
</tr>
<tr>
<td>Help to connect to self-image through a familiarity of building forms.</td>
<td>Biophilic needs can be met through the use of natural materials and the use of materials that mimic natural systems.</td>
<td>The transition zones between buildings or spaces can provide additional engagement with the natural environment.</td>
<td>Framed and open views strengthen indoor and outdoor connections. Interactions are also experienced through sound and smell.</td>
</tr>
</tbody>
</table>

Design Opportunities

| Limit Building Scale, complexity and building form. Use space efficiently. | Exploit natural materials for their values and question material choices that undermine this. | Consider the journeys between spaces as opportunities to reconnect with nature. | Optimise both views and sun paths to maximise positive effects and engagement with seasonal change. | Create opportunities where normal human activities can be carried out in or near natural settings. | Create opportunities in contemporary spaces where leaving a mark is encouraged and valued. |
| Integrate the building with the site’s natural forms and respond to the wider landscape. | Consider natural aging processes and hidden qualities such as breathability. | Explore opportunities to mediate building nature interactions such as with decks. | Consider the integration of both flora and fauna. Create apertures that optimise natural vistas. | Develop adaptive spaces that can respond to changing environmental conditions | Consider solutions that may be customised or individualised. Create innovative and bespoke solutions. |
| Consider established traditions and their values | Understand the concept of embodied energy. | Create activity spaces within natural spaces for dining, socialising etc. | Link design concepts to past and future experiences. | Consider the importance of social spaces – kitchens, dining and entries. | Create opportunities for home owners to engage in design and construction. |
CHAPTER SIX: DESIGN DEVELOPMENT
6.0 DESIGN DEVELOPMENT

6.1 Method

Two design exercises were initiated to explore how themes of place attachment, identity and vernacular could be developed in an architectural concept. The main focus of these design exercises was to develop solutions that reflect vernacular elements evident in hut and bach designs and integrate other systems identified in the research as having a positive influence on place attachment. The table of design opportunities, (figure 5.2) categorizes four elements that are influential in this (identity, connection to natural environments, human activities and the individual) and shows how these elements can be represented. This highlights a series of design opportunities that can then be developed into a design brief. The development of this table followed a reflective process that challenged my design practices. It has proved valuable in developing a design brief that responded to the previous findings in the research.

6.2 Bach Concept

In the earlier phase of this research, and prior to interviewing the case participants, I met with participant A and offered to design a concept home for a section of land she was considering purchasing. This process was undertaken as part of this research and was not a commissioned design or a project that, necessarily, would ever be built. She was, however, seriously considering purchasing the property and the design reflected the type of building she was hoping to build.
6.2.1 The Site

The property is a good sized leg-in section in the coastal settlement of Harwood on the Otago Peninsula and a few kilometres west of the Otakou settlement. Unlike the leasehold properties in Otakou, most of the Harwood properties are freehold title. This variation in property status appears to be reflected in the houses in the area having a noticeable increase in owner investment in building quality, maintenance and gardens. Harwood itself is generally low lying and the council now require that all new buildings are erected two metres above the high water level to compensate for expected changes in sea level due to global warming. Although well back from the beach front, the section is predominantly below this two metre exclusion zone, however, a small area centred against the southern boundary is well above this. I was with participant A when she first visited this property and she appeared to instantly fall in love with it. She liked its secluded aspect, the sense of isolation from the neighbouring properties and its orientation towards the sun. The views did not include coastal vistas, but the property to the north is large and the house is out of view nearer its northern boundary. The back part of this neighbouring property had a substantial buffer zone created by horse paddocks which gave the property a rural outlook. The property itself has some well-established trees to the West and a space that had been fenced for chickens. The building platform was well located to retain privacy from the neighbouring properties while being ideally situated for sun and views. The sit analysis shows surrounding trees, boundary fences, sun paths and the proposed building site (figure 6.1)
6.2.2 The Bach Brief

The design brief was for a very small building with two distinct spaces separated by a covered veranda and responding to the simple aesthetic of a bach, consistent with the dwellings in the general area. The spaces were to include a very rudimentary kitchen and dining space in one area and a multi-use bedroom studio with attached en suite in the other. Initially, a simple pavilion building with a veranda was considered, but this was revised to two separate structures that referenced the multi structure arrangement of many of the baches. This layout provided an opportunity to create an outside living space between the two buildings.
Figure 6.2  Proposed bach design - elevations.

NORTH WEST ELEVATION
Scale 1:100

SOUTH WEST ELEVATION
Scale 1:100

NORTH EAST ELEVATION
Scale 1:100

SOUTH EAST ELEVATION
Scale 1:100
6.2.3 Design Development

The design processes informing this outcome involved generating ideas that followed the forms and scales of bach and hut designs. The brief had budgetary constraints paralleling what may have been the case for the early baches. The ideation phase involved a number of meetings with the client to develop sketch plans that were inspired by the forms of the buildings in the Otakou & Harwood bach communities. The proposed plan and elevations are shown left and on the opposite page (figures 6.2 & 6.3)

Participant A’s enthusiasm and attachment to place appeared to grow during design phase, but fluctuated and ultimately disappeared when she became frustrated with other building professionals, who failed to meet appointments or provide requested information. She found the process of designing a new build to be too unpredictable and threatening, and so she terminated the project.
6.3 SMALL HOUSE CONCEPT

The second design development is a small house for my wife and me on a hilly site on the Otago Peninsula, roughly half way between the two settlements that are compared in the bach mapping exercise. Unlike the previous design exercise, the small house responded to the research that had been undertaken to that point, including the design process of participant A’s initial bach concept. It has been our plan to build on this site for some years now, and this research has been of value in defining a workable design brief. It has always been my intention to build a house that responds to and emphasises the natural features of the property. The initial hut and bach site visits helped to develop an understanding of an appropriate design language, which was applied to the first design concept, and the small house uses a similar language. The case study participants also provided insights into design and sustainability, and some of these concepts have been included in this design. Table 6.1 outlines specific design considerations for the small house in response to the design prompts identified in table 5.2. I found this to be a useful approach in identifying those aspects of the design that held real value for me.
### Insights applied to small house design

<table>
<thead>
<tr>
<th>Identity</th>
<th>Connection to Natural environment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vernacular building types</strong></td>
<td><strong>Material choices</strong></td>
</tr>
<tr>
<td>The small house design is based on two rectangular forms intended to give the structure the appearance of two separate buildings and mimicking the multi building configuration commonly occurring with baches. A low ceiling height in the linking space will serve to separate the internal structures</td>
<td>Kitchen &amp; Living space will have a concrete floor for thermal mass &amp; solar heat storage. The floor surface will be ground back to the natural aggregate and include experiments with shells set into the top surface to mimic a sedimentary rock with shell fossils.</td>
</tr>
<tr>
<td>The main South East entry is tucked against existing vegetation – vegetation and will hide most of the building to create an arrival experience akin to the transition of a DOC huts appearing in a clearing at the end of a track.</td>
<td>Floors – The main entry space will feature recycled T&amp;G flooring run lengthways to direct the view towards the harbour. Lower and upper floors will be plywood with a natural oil finish.</td>
</tr>
<tr>
<td>Roof planes on each of the forms are single pitched and directing rainwater into a visible collection tank. The outdoor structure at the entry, including some site retaining and levelling, are similar to the timber structures seen in DOC buildings.</td>
<td>Walls and main ceilings painted plasterboard. The entry space ceiling will be ply with expressed joints continuing to the outside covered space. The Main living ceiling to be T&amp;G macrocarpa timber.</td>
</tr>
</tbody>
</table>

*Table 6.1 Design opportunities identified from table 5.2 applied to small house design brief*
<table>
<thead>
<tr>
<th>Connection to Natural environment</th>
<th>Human activities</th>
<th>The Individual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenomenology</td>
<td>Opportunities for engagement</td>
<td>Leaving your mark</td>
</tr>
<tr>
<td>Harbour views will be maximized through all the windows facing north west, including the bedroom windows, the living and entry transition space. The north east windows in the living space will have low sills to increase solar gain on the concrete floor.</td>
<td>The space leading on to the deck includes a generous roof overhang to provide additional shelter. The deck is centred between the main structures to maximize wind shelter and increase opportunities for living to extend outdoors.</td>
<td>Owner participation in both design and construction is a priority. The site has been established over many years and planting has been conducted with respect to an identified building site.</td>
</tr>
<tr>
<td>The sliding door leading out on to the pier deck is designed to slide fully out of the way with little or no frame visible. This is intended to integrate seamlessly the transition between internal and external spaces.</td>
<td>The link space is intended to be multi use and connect the kitchen with indoor, intermediate or outdoor dining and socializing.</td>
<td>The design will include unique and bespoke features both in the building and external spaces.</td>
</tr>
<tr>
<td>Native planting close to the house will be increased – Kowhai and food species will be planted to encourage bird life.</td>
<td>An outdoor cooking space including pizza oven will be developed in the paved and sheltered area east of the deck</td>
<td>Planting will include some that are linked with family history and propagated from family sites.</td>
</tr>
<tr>
<td>Vegetable garden and chicken coup will be located north and in clear view. The chicken enclosure is to be shared with neighbour across the property boundaries and will encourage community interaction.</td>
<td></td>
<td>An outdoor table fashioned from heavy macrocarpa sleepers will be located alongside the deck and visitors will be encouraged to carve their initials into this with tools supplied.</td>
</tr>
</tbody>
</table>
6.3.1 The Site

The site is located on the western edge of the residential settlement of Portobello Township on Dunedin’s Peninsula and has a 23 hectare rural forest block adjoining the west boundary. The property is a generous size, approximately 4000 square metres, of which more than half is a small gully tracking west down to the harbour’s coastal road to Portobello. The gully, which includes a watercourse that often dries up during the summer months, supports regenerating native bush on the steep terrain and generally lacks good sun. The remainder of the property is more elevated and slopes down to Portobello Road. This part of the property receives good sun from about 8:00 a.m. until the sun sets behind the hills on the far side of the harbour. Morning sun is delayed a little because of the shade effect of the hill in the southeast where the summer sun rises. This shading effect, however, is less around the north, where the winter sun rises. Generally, the site is protected from the predominant north to northeasterly winds that track up the harbour, and from the cold winds from the south. It is exposed to winds from the north west through to the west and these winds can be strong although fortunately are far less predominant. The property has largely uninterrupted rural and harbour views from the northwest around to the southeast. There are two close residential dwellings on the north east boundary and another house below the property to the northwest. The property includes an existing building - an artist studio approximately thirty square metres in floor plan and sited near the lower south west boundary. The general features of the site are represented in the site analysis (figure 6.4)
Site Analysis

Figure 6.4 Small house site analysis.
6.3.2 The Small House Brief

The house is to be a simple, two bedroom, low environmental impact home, integrated with the site features and providing strong connections with the natural surroundings and outlook. The budget for the project is modest, and will be managed by keeping the scale of the building to a minimum and with construction undertaken by the owner. The following design parameters were defined as a result of this research.

- Internal spatial requirements are two bedrooms, two bathrooms, integrated kitchen, dining and living spaces, study and media spaces.
- Design to be contemporary, but responding to an evolved vernacular developed from hut or bach ideologies.
- Limit floor area to a maximum of 100 square metres.
- Use materials that, where possible, are locally sourced and sustainable.
- Minimise and limit construction waste.
- Provide a strong connection with the site and the natural surroundings. This involves considered transition zones, such as decks, that enhance nature interactions.
- Exploit orientation towards the sun for maximum solar passive gain and provide some thermal mass.
- Provide a high level of thermal insulation.
• Provide additional heating with a highly efficient wood burner.

• Include a rainwater collection and storage system that is integrated with the internal plumbing.

• Consider the roof form for the location of a solar water heater and photovoltaic panels.

• Limit site and vegetation disturbance. Locate the house to preserve the more gentle land contours for outdoor activities.

• Keep house volumes to simple forms and simple roof planes; avoid hips, gullies and envelope complexity.

• General living areas are to be open plan. Avoid redundant hall and transition spaces by making these multifunctional.

• Make explicit connections with outdoor living spaces that can be opened or closed.

• Provide an opportunity for leaving a mark or personalising spaces.

• Create social spaces to connect with kitchen, dining, vegetable garden and outdoor living spaces, including outdoor cooking spaces.

• Provide semi private spaces for study areas etc. that retain a connection with the social spaces.

• Keep vehicle access and/or garaging separate from the dwelling.
6.3.3 Design development

The developed design of the second small house has undergone much iteration in arriving at its current form. As with the Schön example, the site is somewhat “screwy” and creates challenges. The ground slope is predominantly towards the south, while the views are generally west, and the sunny north looks towards neighbouring houses. The design solution is influenced by the multi structure approach evident in bach communities, as was the first design. Working with two separate volumes has allowed for staggered floor levels stepping down the natural terrain of the site as shown in the concept sketch (figure 6.5). This strategy reduced the visual dominance of the two storied wing by placing it lower on the site relative to the single level form. The plane of the shallow roof that connects these forms provides an opportunity for a services deck above, where a solar water heater can be optimally positioned without compromise. This deck also provides a site for a 1000 litre header tank that can supply water to bathrooms without the need for pumping. A solar pump will charge this tank from a larger ground located tank when storm water storage from the highest roof is insufficient.

Figure 6.5
Small house site placement concept sketch.
This intermediary zone is an important part of the ground level transition zones. The ceiling is low, and it separates the two main forms with a glazed slider out to the deck. This slider takes the full size of the gap, floor to ceiling and across the full width, of this link so that, when fully opened, the two wings appear as separate. The deck extends at the same width as the internal transition zone, like a pier stretching towards the harbour and water views. This structure references the memory of fishing off a pier, and will be elevated to half a metre above the surrounding ground level to allow for a secondary use as seating. An outdoor table will be constructed from heavy sleepers alongside this pier deck, and visitors will be encouraged to carve their names into this. The final concept plan is shown on the page opposite (figure 6.7) and the section at right can be referenced in the plan looking southeast (figure 6.6)
Figure 6.7 Proposed plan for small house.
6.4 SUMMARY

The two design exercises were conducted in sequence, rather than in parallel, and have responded to different levels of engagement with the research findings. The design brief for the concept bach was developed with participant A and, while expressing her wants and needs, it did not engage in depth with the issues highlighted by the case studies. The concept saw her develop an attachment to the site during the design phase that was later compromised, when she started to engage with other building professionals. While she had enjoyed the initial phases of managing the project, the risk of unknown costs ultimately terminated the project. This scenario further highlights the importance of a productive design development phase and suggests that, when this is absent the process can have a destructive effect on place attachments.

The small house project differs from the bach concept with the level of existing attachment to the property having been established over a long time. This is comparable to the situations with participants C, D, G&H of the case studies, where long lead-in periods preceded the construction of their homes. The other advantage of this longer time frame is that the design development was not constrained by time pressures and fixed deadlines.

The two design exercises served to highlight different issues in the development of place attachment in the context of building a new home. The levels of attachment to the site with the projects were profoundly different. The bach concept was perhaps a more typical scenario with an owner embarking on a building design process soon after acquiring, or in
this case pre-purchase, of the property. The interesting thing was that upon first visiting the property she felt that the site was perfect and there was a sense of urgency to secure its purchase. The design process began immediately, with regular trips to the site and discussions about the development of the property. As the process progressed and she began consulting with other professionals regarding services, etcetera the outcome started to appear unpredictable. Fear of going beyond her budget and the failure of some professionals to meet appointments or provide requested information created doubt and affected a noticeable detachment from the property. From this point she began to focus on the negative aspects of the property and ultimately decided that Otakou was where she wanted to be and terminated the planned purchase. While a healthy working relationship with building and design professionals has shown to strengthen attachments to place, this demonstrated that the reverse can also apply. A dysfunctional relationship with building professionals was shown to reduce attachment to place with this project. This demonstrated that the connection to place, as with other passions, was not assured long term and circumstances could bring about a disconnection. For the second design of our small house, the relationship with the property has been established over many years and, because of this, the sense of attachment is more robust.

The design brief for the small house evolved and developed during the course of this research, but understanding of the site, which was highly influential, had been developed through the many years of owning the property. It is likely that place attachment occurs when a relationship with the property is developed over time, as is the case with many of
the participants and myself. The design problem then shifts to how the design intervention can enhance the attachment to place. While this last statement would appear to dismiss the design and construction of a home as secondary in the formation of place attachment, it should be noted that the land was purchased initially with the goal of building a home. In effect, the land is as much the home as the building, and this can be enhanced by design and building processes.

The designing of the small house differs from that of the bach concept in another aspect, and that is, its level of engagement with the research in this thesis. In particular the small house design was influenced strongly by the information generated from the case studies and site visits. While a sense of place had been well established, as had prior to design with many of the case study participants, explicit connections with the site were explored as a result of this research. The interviewing of the case participants presented an opportunity to access a wealth of relevant information that could be applied directly to the design.

The development of a design brief for an owner/designer requires a different level of formal articulation through drawings and ideological concepts than for those engaging a design professional. The owner/designer has an innate understanding of their concept and can more easily develop this into a design. For most, however, the engagement of an architect will inevitably present the challenge of communicating a design brief that represents their ideals. As a result of this research, I am more aware of the importance of this phase of the design process, and it is here where I believe that productive opportunities for intervention may exist.
CHAPTER SEVEN: DISCUSSION
7.0 DISCUSSION

This chapter examines how Identity and place attachment can be developed by architectural relationships with natural settings. The aim of this research was to identify opportunities to increase engagement with natural settings that can be applied to architectural design. This involves understanding how architecture may enhance engagement with and attachment to natural environments and identifying strategies or tools that can encourage this. The following research questions were developed as a framework for this research.

1. How are perceptions of the natural environment developed, moderated and strengthened?

2. Can engagement with natural environments be enhanced by architectural design and human moderated environments, and if so, how?

3. How can reflective architectural practices be used to enhance our connection to natural environments through the design of contemporary dwellings and systems?

7.1 ENVIRONMENT

The literature consulted in this research project demonstrates that how we perceive the environment is tied to our experiences or interactions with it and that these perceptions differ accordingly. Ingold and Kurtilla illustrate this from the perspective of travelling across the snow clad landscape of Northern Finland: the experience and perceptions are
different if travelling on skis or on snow mobile (Ingold & Kurttula, 2000). Our attitudes towards environment are continually re-defined by the activities taking place in it and Ingold aligns the character of a place with the experience it provides to people spending time there (Ingold, 2000). These assertions were supported by the case study participants with each having developed their own unique homes that responded to their experiences and attitudes towards the environment. The case study interviews were useful in identifying how the individual’s experiences of places had helped developed their attitudes towards the natural environment. Participant H spoke of how, at her family home in Australia, water was stored in tanks and measured, they had learned to value and protect it. This attitude towards a reliable and sustainable water supply helped form their conservation values in New Zealand.

7.2 Place Attachment & Architecture

Place attachment is a field that has potential for architectural intervention and, as Canter notes, place implications are evident in all aspects of identity (Canter, 1977). In addition the research showed that place attachment is implicated in the development of environmentally responsible behaviour (Vaske & Kobrin, 2001). For this research, identity and place attachment have been at the core of the enquiry and fields such as vernacular architecture and participatory processes form part of this. Vernacular architecture, as recognised in the early huts and baches and, with their association with natural settings, provided a reference point for this research.
Biophilic design elements were shown to create clear connections with nature and natural environments and its application was evident with the case studies. Wilson’s argument that biophilia is a biological need for humans to connect with nature (Wilson, 1992) would suggest that biophilic design elements would help re-connect people with place. Kellert’s assertion that biophilic design as expressed in vernacular architecture can foster attachments to place through culture, history and ecologies (Kellert, 2005), would appear to support this. Examples of biophilia amongst the case studies can be represented in three main forms: relationship to site, references to architectural vernacular and the use of natural materials.

The use of natural materials had clear connections with natural systems and, for some of the case study participants, the use of natural materials was an important consideration. The use of natural materials, although creating strong connections with nature, appeared not to provide the same strength of connection to place as did consideration to site relationships and references to vernacular architecture. For those who used natural materials, none appeared to have specifically targeted materials that were related to the places where they had settled. Participant E, however, had created his home from adobe with the view that it would age and weather, making it blend back into the environment and participant B chose materials that she believed would ultimately degrade back into the land after she was gone.

The case study interviews identified how participation in the design and construction of their homes impacted on participant’s sense of attachment and where influences from
past practices had been instrumental in their design developments. For many, the values represented in baches and huts were replicated in their homes. For some, the developed design brief included elements that provided a connection to past memories and fond attachments to places and situations. These included design references to familiar or comfortable architectural styles such as those of huts or baches and memories of practices such as the making of a meal and hosting social gatherings. In these cases, the memories often had references to nature or land interactions that could be replicated in their contemporary context. The homes of the case study participants were representative of them and their surroundings and, while all had references to other architectural styles, none could be labelled as generic. This is an important observation when we consider values that contribute to creating or expressing an individual’s identity. This is interesting too, as what appears to be appreciated in the vernacular architecture of baches and huts is that sense of every one being unique.

Vernacular architecture has clear links with culture and identity but Wood’s contention that the architectural significance of the bach is that of a cultural repository housing nationalistic values (Wood, 2000) suggests that its conceptual value is greater than its architectural form. The bach represents how New Zealanders see themselves, or perhaps, saw themselves. This idea is further illustrated in Kings recollection of Seddon’s characterization of New Zealand as, among other things, a do-it-yourself tradition (King, 2003). Gatley and McKay’s statement that “the search for New Zealand identity was linked to practical experience of building...”was made in the context of the Group’s pragmatism
(Gatley & McKay, 2010) and aligns with both the bach and Seddon’s characterization. It appeared that these values were alive, at least in part, with most of the case study participants. It was interesting that Participant B, not a New Zealand national, expressed that this do-it-yourself mentality was what appealed to her with baches and it was this thinking that was inspirational in the radical design of her new home.

What became evident in the case studies was that a comprehensive engagement in the design brief and site analysis were key elements in developing a meaningful engagement with the property. For most, site analysis, although not formally expressed through writing or drawings, was intimately understood, due to lengthy lead-in periods to their building projects. For some, the development of the site, including the propagation of trees, commenced well before they began their building project. Where the relationship to site prior to the design process was short, notably with Participant A’s bach concept, place attachment was shown to be weak.

The influences of vernacular architecture and participatory processes hold potential for influencing place attachment and identity. In the literature, participatory practices were shown to strengthen attachments to place. Involvement in design or construction by owners into their homes appeared to strengthen their sense of attachment to their homes. However, the level of input need not be total control. Where individuals had a successful working relationship with an architect or builder that maintained their sense of control, there was a sense of personal investment in the final outcome. The critical element of
building development was shown to be linked to the adherence of a strong owner initiated design brief that included an understanding and connection with the land.

In returning to the question of architecture enhancing engagement with natural environments, the case study participants demonstrated that the development of their homes did reflect their sense of attachment to the environment opportunities to increase connections with the natural environment were exploited. What could not be established with this research was whether an attachment to the natural environment could be established by an architectural intervention alone without prior attachment to the site. However, it was demonstrated in the initial literature research that attachments to a community were created in the case of the Hedgehog, self-build co-operative housing showcased on the television series Grand Designs (McCloud, 2012). A similar attachment to a community formed around the self-build process was expressed by one of the case study participants who had not been able to part with their first self-build home because of attachments they had formed with a community of owner builders in the area.

7.3 ARCHITECTURAL INTERVENTIONS

The site visits and case studies uncovered a number of design elements that made specific connections with the surrounding natural environment. Generally these were not profound design interventions but were simple considerations that could be applied to a design brief. Arranging these into a table format was useful in the development of the
design concept for the small house. Insights gained from the hut and bach site visits and the interviews with case study participants was used to produce a set of condensed criteria (Table 5.2) that could then be applied to the development of an architectural design. While crude in its simplicity, this was a useful tool that reinforced the design decisions I was making in the development of the small house. The value of this table was in the process of developing the table itself as it required that I rationalise the information that I had researched into some form of strategy that could be used to develop a design brief.

The use of the book *A Pattern Language* by several of the case study participants, demonstrated the value of text as a tool for developing a design brief (Alexander et al., 1977). *A Pattern Language* provides a series of patterns or rules that can be applied to individual design elements and this approach of breaking the design into its component parts was appreciated by those who had used it. It also has the additional quality of making design rationale accessible to the layperson which was important for the case study participants. I tested *A Pattern Language* as a guide for my small house design and, while it was useful in some areas, in some aspects I felt it was not relevant. My goal was to reduce the scale of the house to a minimum and this has implications for space efficiency not always compatible with some architectural conventions. An example of this is where *A Pattern Language* suggests entering a room at the corner; I have found that in small rooms it is better to swing the door into the open space, away from the corner, so that furniture can be set behind the door. The redundant space typically required for the door swing becomes part of the functional open space. Participants G&H’s entry through the laundry,
was another example of abandoning an established architectural convention in favour of a functional and efficient common entry.

The potential for architectural practices to create stronger connections with natural environments was evident in the design process, in particular the formation of a strong owner initiated design brief that included the early stages of engaging with the site. While tools, such as *A Pattern Language*, were effective for those motivated and with the appropriate skills, strategies for engaging others in this process require further exploration. An area of huge potential was highlighted while carrying out the case interviews and was with the interview participants themselves. Their collective body of knowledge and experience could, with appropriate mechanisms, potentially, be accessed by others.

### 7.4 SUMMARY

Values of architectural expression are often determined by trends and societal pressures, yet individuals will still embrace concepts that resonate with their own sense of identity. This was demonstrated with one of the case study participants who chose not to include a typical front door in favour of a more friendly and informal entry. Place values can be influenced or manipulated when architecture and practices tap into positive memories or associations that align with how we identify ourselves. In order to address what can be described as a wicked problem, it is important to note that, by definition, there can be no single answer providing a solution to such a problem. The concepts explored in this thesis
provide insights to how interactions with natural systems may be enhanced with architectural interventions.

7.5 LIMITATIONS OF THIS RESEARCH

This research is limited geographically to New Zealand, which enjoys a stronger relationship to its natural environments than many other countries due, in part, to its relatively low population density and easy access to large tracts of wilderness and conservation estate land. In addition, the case study participants represent a minority group within this population and conclusions cannot be drawn that apply to New Zealand or other countries. It should also be noted that demographically the case studies were isolated to New Zealand’s South, and less populated island, and did not include participants from indigenous Maori, Pacific Island cultures or dwellers in high density urban settings. These omissions represent important sectors of New Zealand society, with each having unique and significant perspectives on place, identity and environment. However, the demographic similarities between the case study participants was important in establishing the significance of self-design or build processes on the development of place relationships and, as such, provides a useful foundation for further study. I leave it to other researchers to investigate other ethnic groups with respect to the questions posed in this research.
Another limitation is that design concepts that respond to the issues raised have not been progressed to a building prototype. Even with a complete build, at best they will add to a set of design tools to inform project concepts that strive for better building/nature interactions. Testing the effectiveness of using architectural design as a tool to enhance place attachment raises several questions. This reflects the wicked nature of the problem by leading us back to a base problem. How do we encourage people to want better connections with nature in the first instance? How do we encourage architects and designers to expect more design input from clients, and to engage in more participatory processes? How do we encourage people to desire smaller, not larger, dwellings? Wrestling with a wicked problem, as I have done in this research, inevitably raises issues and questions that may not have been anticipated.
CHAPTER EIGHT: CONCLUSIONS
8.0 CONCLUSIONS

The processes informing this thesis responded to the research findings along the way and the conclusions could not be predicted or anticipated. As an outcome, I had expected to arrive at a design solution, or the beginnings of one. Instead, the process has served to clarify the question and highlight routes for further investigation. Of these, the area of greatest potential in developing buildings that respond to the surrounding natural environment requires individuals to become truly engaged with the relationship between themselves, their dwellings, and the environment it sits in.

I found that perceptions of the environment are linked strongly with both a sense of attachment to place and identity. Place attachment and identity can be expressed through architecture and architectural design processes.

Secondly, some architectural forms, systems and practices that reflect engagement with, and attachments to, natural environments were identified in huts and baches. Mostly this attachment was related to the environments where they were found. However, for those study participants who had experienced these buildings, many retained valued memories and some translated design elements to their homes. In addition, family traditions and practices, especially those relating to social activities, were significant motivators in influencing design decisions.

Finally, some design strategies and conceptual tools that can encourage enhanced connections to natural environments were evident amongst the case studies and explored
with the developed designs. Owner participation in design and/or construction processes provided an opportunity to express and value connections to the site. Owner engagement in design development processes, particularly, in early planning where site and building relationships are formed, demonstrated potential in strengthening connections to natural systems. Specific design features that support familial and social traditions, memories or customs, also have potential in strengthening relationships to place.

This research has been concerned with better understanding the potential for domestic architecture to reconnect people with natural environments and suggests that, involvement in the design or construction processes of developing a home requires an individual to engage with the site and its natural systems. The design, remodelling, or construction of a person’s home is an opportunity to develop this relationship.

The role of architects and designers as form givers needs to be challenged to make clients and potential home owners more actively engaged in, and understanding of design principles at this stage so that they can steer the design towards something that truly expresses their identity and needs. Alexander’s book, *A Pattern Language*, is an example of a tool that helped to facilitate this amongst some of the case study participants. I believe that an opportunity exists for a new stratum of architectural design professionals with resources and tools, not for designing buildings and homes, but for assisting owners to become engaged with key design processes. This observation suggests opportunities for possible future research and for the development of tools that may assist designers, such as the collation of case study participant’s ideas, experience and knowledge. The design
brief and site analysis are the interface, where architectural outcomes are negotiated between owners and designers. This important phase of design development is where owners need encouragement to develop their brief to greater depth and, for many, this may require the advice or assistance of design thinkers.

8.1 RECOMMENDATIONS FOR FURTHER WORK

It would be useful to expand this research to include people who have invested very little in the design or development of their homes, and explore how this impacts on the development of their place attachment. If these people are found to be less attached to their homes, mechanisms that might be effective in changing this could be investigated. Further research could also examine how the separation from nature in many congested urban settings impacts on place attachment with natural settings.

In many countries, including New Zealand, there are segments of society that routinely buy and sell their homes without appearing to become attached to places. Some of these people invest the same time and effort as the case study participants in the restoration or construction of new homes. Do they have a sense of attachment to these places without the need to retain them as their homes? Interviewing these individuals could shed light on this.

Generally, the concept of attachment to place as having a positive influence on environmentally responsible behaviour or a conservation ethic does seem to have some
merit. I believe this warrants greater effort to develop design tools that provide more engagement of end users in the design and construction of their homes, which would, in turn help strengthen this attachment.


APPENDICES
Myttons Hut, Kahurangi National Park
Photos by author
Asbestos Cottage, Kahurangi National Park
Photos by Author
Trilobite Hut, Kahurangi National Park
Photos by author
Otakou & Harrington Point Baches, Otago Peninsula
Photos by author
Otakou & Harrington Point Baches, Otago Peninsula
Photos by author
Otakou & Harrington Point Baches,
Otago Peninsula
Photos by author
HUMAN ETHICS APPLICATION: CATEGORY B

(Departmental Approval)

1. University of Otago staff member responsible for project:
   McGuire, Mark, Dr

2. Department: Applied Sciences

3. Contact details of staff member responsible:
   Dr Mark McGuire mark.mcguire@otago.ac.nz 479-7156

4. Title of project: Architectural design and the development of place attachment

5. Indicate type of project and names of other investigators and students:

   Staff Research   Names   

   Student Research   X  Names   Chris Fersterer
   Level of Study (e.g. PhD, Masters, Hons)   Masters

   External Research/   Names
   Collaboration
   Institute/Company
6. **When will recruitment and data collection commence?**
   
   April 2013

   **When will data collection be completed?**
   
   July 2013

7. **Brief description in lay terms of the aim of the project, and outline of research questions** (approx. 200 words):

   The Masters research investigates the development of sustainable attitudes and ethics relating to the natural environment. This includes the potential of architectural design to develop a sense of place attachment, and the relationship between place attachment and conservation ethics. The research involves case studies of four different environments and architectural designs: 1. Huts in the conservation estate; 2. Bach communities on the Otago peninsula; 3. Small footprint house in Golden Bay designed and built by the occupant; 4. Small house designed for a client in Harwood, Otago Peninsula. These case studies will include interviews with one or two individuals relating to each of these locations to discover how the design of their habitat develops and expresses their relationship with the natural surroundings.

8. **Brief description of the method.** Please include a description of who the participants are, how the participants will be recruited, and what they will be asked to do:

   Participants will include a small number (about 6) adult members of the public aged over 20. They will be selected based on their experience using or living in a specific place that represents a building type (hut, bach, compact house designed by occupant, small house integrated into natural environment). Several fixed questions will be asked of all participants (listed below), followed by an open-ended interview to discover the degree to which they have developed a sense of place attachment through the design and use of their home. Audio recordings will be made of the interviews, however individuals will not be photographed and will not be identified in the Masters thesis. Their home will be photographed, and selected images may be included in the research with their permission.

   1. How long have you spent in your home?
   2. Could you describe your home and it’s relationship with the location?
   3. How important is the natural environment in your choice of the location of your home?
   4. To what degree have you been involved in the design, building, and/or customization of your home?
   5. What buildings or other structures have influenced the design of your home and the way you live in it?
   6. What memories do you have of other buildings that have evoked strong connections to their natural setting?
   7. How does your home and lifestyle connect you to the immediate natural surroundings?
9. **Please disclose and discuss any potential problems**: (For example: medical/legal problems, issues with disclosure, conflict of interest, etc)

   1. The researcher will ask for consent from participants prior to conducting any interviews.
   2. All data will be confidential between the researcher (Chris Fersterer), and the supervisor(s).
   3. No results will be published that would enable any of the participants to be identified.

   **Applicant’s Signature**: .................................................................

   *(Principal Applicant: as specified in Question 1, Must not be in the name of a student)*

   **Signature of *Head of Department*: ....................................................

   **Name of Signatory (please print)**: ......................................................

   **Date**: .........................................................................................

   **Departmental approval**: *I have read this application and believe it to be scientifically and ethically sound. I approve the research design. The Research proposed in this application is compatible with the University of Otago policies and I give my consent for the application to be forwarded to the University of Otago Human Ethics Committee.*

   *(In cases where the Head of Department is also the principal researcher then an appropriate senior staff member in the department must sign)*

   IMPORTANT: The completed form,**together with copies of any Information Sheet, Consent Form and any recruitment advertisement for participants,** should be forwarded to the Manager Academic Committees or the Academic Committees Assistant, Registry, **as soon as the proposal has been considered and signed at departmental level.** Forms can be sent hardcopy to Academic Committees, Room G23 or G24, Ground Floor, Clocktower Building, or scanned and emailed to gary.witte@otago.ac.
Architectural design and the development of place attachment
INFORMATION SHEET FOR PARTICIPANTS

Thank you for showing an interest in this project. Please read this information sheet carefully before deciding whether or not to participate. If you decide to participate we thank you. If you decide not to take part there will be no disadvantage to you and we thank you for considering our request.

What is the Aim of the Project?
This project is being undertaken as part of a Master in Design (MDes) course in the Department of Applied Sciences. The aim of the project is to investigate the potential of architectural design to develop a sense of place within natural settings.

What Type of Participants are being sought?
Adult members of the public aged over 20.

What will Participants be Asked to Do?
Should you agree to take part in this project, you will be asked to either
  * Participate in an interview
  * Allow photographs to be taken of your home
  * The time taken will vary between 30 minutes to one hour.

This project involves a set of fixed questions and an open-questioning technique. The precise nature of the open questions will not have been determined in advance, but will depend on the way in which the interview develops. The general line of questioning relates to attitudes, perceptions and behaviours associated with the design and use of your home and your sense of place, belonging, or connection to the immediate environment. The fixed questions are:

1. How long have you spent in your home?
2. Could you describe your home and its relationship with the location?
3. How important is the natural environment in your choice of the location of your home?
4. To what degree have you been involved in the design, building, and/or customization of your home?
5. What buildings or other structures have influenced the design of your home and the way you live in it?
6. What memories do have of other buildings that have evoked strong connections to their natural setting?
7. How does your home and lifestyle connect you to the immediate natural surroundings?

In the event that the line of questioning develops in such a way that you feel hesitant or uncomfortable you are reminded of your right to decline to answer any particular question(s).

Please be aware that you may decide not to take part in the project without any disadvantage to yourself of any kind.

What Data or Information will be Collected and What Use will be Made of it?
Participants will not be photographed, although audio recordings will be made. Personal identifying information on video recordings will be destroyed at the conclusion of the project. Still photos of your home may also be taken with your permission. If any photos are displayed or published, any aspects that could identify participants will be removed and/or disguised. No names or other personal information will be recorded as part of the interviews.

The results of the project will be included in a Masters Thesis, which will be available in printed form in the University of Otago Library (Dunedin, New Zealand). Every attempt will be made to preserve the anonymity of participants.

You are most welcome to view the data collected that relates to you. You are also welcome to request a copy of the results of the project should you wish.

The data collected will be securely stored in a locked office in such a way that only those mentioned below will be able to gain access to it. At the end of the project any personal information will be destroyed immediately except that, as required by the University’s research policy, any raw data on which the results of the project depend will be retained in secure storage for five years, after which it will be destroyed.

Reasonable precautions will be taken to protect and destroy data gathered by email. However, the security of electronically transmitted information cannot be guaranteed. Caution is advised in the electronic transmission of sensitive material.

This proposal has been reviewed and approved by the Dept. of Applied Sciences, University of Otago.

Can Participants Change their Mind and Withdraw from the Project?
You may withdraw from participation in the project at any time and without any disadvantage to yourself of any kind.

What if Participants have any Questions?
If you have any questions about our project, either now or in the future, please feel free to contact:
Dr Dr Mark McGuire, Dept. of Applied Sciences, U. of Otago, 03 479-7156 mark.mcguire@otago.ac.nz

This study has been approved by the Department stated above. If you have any concerns about the ethical conduct of the research you may contact the Committee through the Human Ethics Committee Administrator (ph 03 479-8256). Any issues you raise will be treated in confidence and investigated and you will be informed of the outcome.
Architectural design and the development of place attachment
CONSENT FORM FOR PARTICIPANTS

I have read the Information Sheet concerning this project and understand what it is about. All my questions have been answered to my satisfaction. I understand that I am free to request further information at any stage.

I know that:

1. My participation in the project is entirely voluntary.

2. I am free to withdraw from the project at any time without any disadvantage.

3. Personal identifying information on audio recordings and photographs will be destroyed at the conclusion of the project but any raw data on which the results of the project depend will be retained in secure storage for at least five years.

4. This project involves several fixed questions and an open-questioning technique. The general line of questioning relates to attitudes, perceptions and behaviours associated with the design and use of my home and my sense of place, belonging, or connection to the immediate environment. The precise nature of the open questions which will be asked have not been determined in advance, but will depend on the way in which the interview develops and that in the event that the line of questioning develops in such a way that I feel hesitant or uncomfortable I may decline to answer any particular question(s) and/or may withdraw from the project without any disadvantage of any kind.

5. There will be no remuneration or compensation for taking part. No external funding is involved, and no commercial use will be made of any data collected.

6. The results of the project will be included in a Masters Thesis, which will be available in printed form in the University of Otago Library (Dunedin, New Zealand).

7. The results of the project may be published and available in the University of Otago Library (Dunedin, New Zealand) but every attempt will be made to preserve my anonymity.

I agree to take part in this project.

.................................................................................................................
(Signature of participant)

.................................................................................................................
(Date)