Acculturating Architectural Sublimity

Experimenting with themes of Japanese experientiality within
New Zealand housing.

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New Zealand housing.

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To my grandparents and greater family for their unwavering love throughout the years.

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ABSTRACT

[*wakon yōshi*]

*Japanese spirit combined with western learning*¹

It has been argued that domestic architecture within New Zealand is increasingly dominated by international styles since the rise of modernism. According to Bill Wilson (the Group's leader), there is a lack of understanding of foreign design principle within New Zealand modernist architecture, denying any psychological or spiritual connection within the home. This has caused a shift from what was considered a vernacular architecture to a hybrid of adopted building styles, imitated largely for their aesthetic value rather than any theoretical grounding¹. In New Zealand, a lack of national identity or sense of belonging within a home is said to be problematic². This thesis aims to help redefine a national vernacular and the experience of domestic space through the implementation of experientiality.

The design reconsiders domestic spaces through design-research methodologies derived from two early modernist architectural groups: the Bunriha (co-founded in 1920) with the locality of Auckland's the Group (established in 1946). These were chosen as both groups provided manifestos for reviving each respective nation's architecture (Japan and New Zealand) post war. The Group's work is based purely on functionalism and economically viable solutions. It will provide the basis of architectural thought for the exploration of multiple design strategies within this thesis. While the Bunriha's ideas are utilised for their experiential approach to modernist architecture. As The Groups' Japanese equivalent, the Bunriha provides a successful precedent for mediating between new technology, experientiality and a vernacular style. The Bunriha's design methodologies are extracted and appropriated to the Group's vision for New Zealand modernism through multiple case study houses. The aim here is to introduce a new dimension of domestic architecture within specific sites chosen within Auckland. This intends to strengthen the relationships between inhabitant, home and landscape through several explorations.

The research led design results from a series of architectural strategies that respond to six design theories of shadow, reflection, permeability, materiality, interior/exterior relationship and construction. The first three are derived from the intangible considerations of Japan's Bunriha, while the remaining respond to the tangible considerations of the Group. This is intended to transcend the preconceptions of a contemporary home through the reconsideration of intangible qualities and their value. It is proposed that this strategy will result in a heightened sense of self through the foreign concept of experientialism. The split between the different members of the Group meant a discontinuation of their early explorations of intangible qualities of space within a vernacular architecture. A continuation of their work will be intended through this thesis work.

1 Clark, *Looking for the Local*, 43.

2 Group Architects, *Planning*, 4.

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INTRODUCTION

[Context of Research]

'Auckland grows. Auckland is a respectable city. But behind all the clatter and chatter of the mechanics, technologists and administrators something is missing. That something is an art and architecture of our own within which we remain infantile, and the voice of our nationhood, unheard...'

- Bill Wilson (Leader of the Group) in 'Towards a Metropolis', P.1.

01. According to postmodernist critic, modernism has a lack of any psychological connection between the inhabitant and its' domestic space³.
02. This thesis relieves this through the experientiality of Japanese architecture. Predominately through their ability to manifest intangible ideas through built works.
03. This acknowledges the opportunity to introduce experientialism to the Group's sense of a New Zealand vernacular will aim to re-define how domestic spaces are envisioned. This was beginning to be explored by the Group near the end of their practice.
04. The Bunriha's concept of space implemented within the Group's vision establishes cross cultural architectural ties with NZ and Japan.
05. Such adaption confronts the contemporary condition of New Zealand, domestic space and its potential future for experientiality.

PROBLEM QUESTION

How can the early modernist spirit of Japan's the Bunriha Architects transcend dichotomies of architectural style in order to be synthesised to the beliefs of New Zealand's Group Architects within a contemporary setting?

Methodology

The methodology was derived from a personal interest in vernacular architecture- leading to the manifesto of Auckland's renowned Group architects (originally a student group and eventually a practice in post world war two). This was sourced as a precedent for their approach to appropriating early modernism to New Zealand. However the Group diminished before further exploration of the sublime could be explored. As their focus lay on functional and economically viable solutions. The Group's specialities were narrowed down to the three themes of: materiality, exterior/interior relationship and construction. During the same period- the Japanese equivalent the Bunriha were exploring similar ways to maintain their own vernacular within an emerging modernist era. These were identified as the themes of shadow, reflection and permeability representing the intangible qualities of space. The fusion of these six themes create the basis for all the six design iterations (as outlined in Part Two).

These themes were tested individually and then architecturally composed. Evidently proving, as the combination of themes changed, so did the final design outcome and its evident experientiality. The designs start to initiate a discussion based on the relationships of: form and mind, being and landscape. For example the consideration of shadow rather than the allowance of light, and designing from the inside out rather than the external form dictating the interior space.

Thesis outline

The written text accompanies a series of six final design concepts and is split into two parts: written and design. This intends to ground each design move within its cultural context and architectural discourse.

Part One consists of identifying the problem, the aim, the methodology and theory- including the analysis of the Bunriha and The Groups's design methodologies within architectural discourse. This research indicates the decision of main design themes in order to derive design strategies.

In 'Part Two' site I is introduced. This is followed by several case study houses that have been developed through each design strategy (from A- E) in order to test themes from each group. These indicate the progression of architectural thought altered by the depth of research at each phase. A reflection will be provided after each attempt in order to discuss the concepts perceptive response through both an analytical approach to design and an intuitive one. Within 'Strategy E' site II is introduced, this allows the design to find renewal within a denser urban setting.

There is no final result- only a series of possible solutions. This is in order to evaluate each theme's legibility in producing experiential architecture.

'This elevated state of consciousness is possible when one is simultaneously aware of the physicality and ephemerality conveyed by a work, resulting in a facilitating condition of permanence and impermanence, emergence and dissolution, reality and illusion'.

- B. Brownell in "Architecture in the Floating World", p.11.

01

PART ONE

[Research & Theoretical Basis]

Chapter One

01

The Architectural Problem

This thesis addresses two entwined architectural problems; firstly, the lack of intimacy between the inhabitant and home through no experiential consideration, and secondly, the loss of a national vernacular within New Zealand architecture as indicated by the Group architects.

“We architects are concerned with designing dwellings as architectural manifestations of space, structure and order, but we seem unable to touch upon the more subtle, emotional and diffuse aspects of home”

- Justine Clark in ‘Looking for the Local’, p.4.

New Zealand modern architecture has become an assimilation of international styles and foreign ideas. Contemporary modernism within New Zealand is a melting pot of influences from different cultures, identities and personal preferences, creating its own idiom. Bill Wilson, the proclaimed leader of the Group, thought early modernism denied any exertion or sense of self-identity, as it portrayed a lack of any personal or collective relevance amongst New Zealand society: “New Zealand’s vigorous architectural history is emptied of theory... there are other histories of architecture in New Zealand to be written”⁴. It struggled to co-inside contemporary ideologies with traditional elements through the uncertainty of its own New Zealand vernacular. This lack of any psychological connection with the home, as Karl Marx and Friedrich Engels say, contribute to the loss of architectural meaning- ‘...for any attempt to represent reality in a convincing way is made impossible by the fact that within the rise of industrialisation reality was becoming so complex, infinitesimal and ultimately elusive’⁵. Wilson declared that international solutions will not suffice for New Zealand conditions as *we* must have our own architecture, *our* own sense of what is beautiful and appropriate to our climate and condition- ‘...*we* live in a global village, in an architecture of displacement, shifting image and constantly changing technology. The New Zealand house is currently trying to cope’⁶.

For the purpose of this thesis, it is argued that the West’s translation of Japanese architecture post-world war two fails to depict true architectural meaning. Through the subsequent lack of architectural expression, the domestic space has consequently suffered. It now appears to have lost any psyche or soul to now the considerations of ‘...formal and quantifiable qualities’⁷. Architecture now fails to depict a sense of self but rather encourages the alienation of man and home⁸.

‘Withdrawal into self, contemplation, thought... provided through a space of solitude, seclusion and retreat- the absence of this in contemporary architecture uncovers the almost tragic truth that while he learnt to master the art of building he forgot the art of living’.

- H. Engel in ‘The Japanese House’, p.300.

4 Clark, *Looking for the Local*, 4.

5 Aureli, *The Project of Autonomy*, 45.

6 Group Architects, 4.

7 N.S/ University of Trondheim, “Juhani Pallasmaa: Identity, Intimacy and Domicile - Notes on the Phenomenology of Home.”

8 Harries, *The Ethical Function of Architecture*, 134.

“...To develop as a critical practice architecture must look to art, and move outside the traditional boundaries of its field and into a place between disciplines. As a mode of cultural production that enjoys a greater degree of separation from economic and social concerns, art can offer architecture a chance for critical reflection and action...”

Jane Rendell in ‘Critical Spatial Practice’, p.191.

The aim of this project is a response to the contemporary condition of modernist domestic spaces. The opportunity was seen through the potential of experientiality to be considered within a New Zealand home. It is evident that there is a strong cultural and architectural cross over with Japan. Within this, the potential is seen to re-invent the New Zealand house through Japanese concepts, particularly that of the Buddhist- Zen origin. The designs will serve as canons of theoretical thought based on the introduction of experientiality into New Zealand's domestic space- 'The home is the place to start this challenge. The incorporation of sensory design strategies to domestic language not only enhances the personalisation of these places but also allows occupants of varying abilities to more fully access, be informed by, and enjoy the spaces of their daily lives'⁹.

Design principles of the Bunriha and the Group are adopted to create a hybrid of both tangible and intangible functions. '...Multisensory home environments might increase both physical and psychological wellbeing. Architects are beginning to focus on new strategies that establish greater reciprocity between the home and its occupants'¹⁰. Each iterative case study will explore a different matrix of design ideas (as seen throughout Part Two). This will help encourage the use of sensory design within New Zealand domestic architecture as it is seen as- '...still under recognised is the potential benefit of expanding universal design to more fully engage sensory issues'¹¹.

The aim is for the design to portray a well-balanced medium of both the foreign and the familiar. This will allow for the emotional content found within Japanese architecture to be tested and reformed against the already hybridised modernity of New Zealand. It is therefore of interest how this essence will be obtained architecturally within a local setting without falling into pastiche.

9 Steinfeld and Maisel, *Universal Design*, 27.8.

10 Ibid., 27.1.

11 Ibid.

The Japanese people are the fifth largest Asian ethnic group within New Zealand, increasing 3.4 times between 1991 and 2001¹². The percentage of migrants is increasing throughout the years, with Japanese being the third largest with 83% residing in the Auckland region. Maximising on their relocation to New Zealand would be beneficial for the economy through their skill set and trade, while also certifying the already long existing relationship between the New Zealand and Japan.

Alongside social and economic benefits, New Zealand is a haven for multi-cultural communities and provides an international precedent for the increase in globalisation within the modernist and post-modernist era. This cultural hybrid recognises the importance of attracting skilled migrants to work within NZ and the enabling of families or individuals to settle with stability and safety. Furthermore, a large Asian tourist market sees the welcoming of foreigners everyday, continuously strengthening the recognition of New Zealand's landscape, people, culture and tourism¹³.

Japanese architecture has a rich history of nationalism and strong cultural identity. Similarities can be drawn easily between the architecture of both countries; from the small scale of housing through to the use of local materials. A sense of craftsmanship appears to be an important factor for both cultures, allowing a relationship and a sense of pride be evident towards ones' home.

Japan also serves as a strong precedent to encourage the way New Zealand seeks a new vernacular within a contemporary time¹⁴. Unlike many other countries, Japan sought to maintain its' traditional architecture while infusing the new concepts of a 'modern' lifestyle that the West proposed. The international exchange of architectural styles post world war II saw the crossover of architectural thought. As the West influenced the Japanese, it was the Japanese style that was also often borrowed¹⁵. New Zealand also sought to mimic the ways of the Japanese as later discussed in section 5.2: Japan's Influence on the Group. David Stewart talks of Japan's progression from the traditional vernacular to the modern Japan, starting from 1868 in his book: 'The Making of a Modern Japanese Architecture'¹⁶. Stewart describes the delicate balance between the subtle atmospheres of a Japanese home to the ingenuity of modernist technology.

Acknowledging the introduction of modernism within each country (within Chapters Four and Five) was crucial in understanding the 'common pillars' of understanding between both cultures. These were utilised as a tool to marginalise the unfamiliarity within a foreign ideology of a home- 'Western popular culture has assumed the role of the alpha culture, and its manifestation on a global scale is undeniable'¹⁷.

The Japanese have held close foreign relations with New Zealand predominantly since post world war II. Japan is a 'major bilateral and regional partner of New Zealand's,

12 "Asian Peoples - Statistics New Zealand."

13 Morgan, Pritchard, and Piggott, "New Zealand, 100% Pure. The Creation of a Powerful Niche Destination Brand."

14 Engel, *The Japanese House*, 7.

15 David B. Stewart states that Frank Lloyd Wright and Le Corbusier were strong imitators of Japanese architecture and their concepts.

16 David B. Stewart, *The Making of a Modern Japanese Architecture*.

17 Baumeister and Lee, *The Domestic and the Foreign in Architecture*, 17.

strengthened through an alliance of political ties¹⁸. Alongside these political and business arrangements, there are many cross-cultural and people- to people linkages that can be made between the two countries. Shared cultural and social values can be seen through strong family values, often conveyed through their

homes¹⁹. As the progression of architecture within both countries is sculpted largely through the culture and the routine of everyday life within each home. Similarities can be drawn not only to the people but also to the environment and geography of both Japan and New Zealand. Recent natural disasters, in particular devastating earthquakes in the last half decade, have forced large numbers of people to relocate nationally or abroad. Notably referring to Japan's 9.0 magnitude earthquake on March 11th and Christchurch's (NZ) earthquake on the 22nd February 2011 of 6.3 magnitude. This forced large re-builds within both cities while maintaining a sense of architectural integrity, construction standard and cost control. This also inevitably resulted in the loss of old architecture, important in retaining and re-telling architectural history.

The acculturation of Japan and New Zealand produces an interesting cross-cultural relationship, allowing the borrowing and lending of architectural traditions to push new design ideas.

18 NZ Ministry of Foreign Affairs and Trade, "Bilateral Links."

19 Asia New Zealand Foundation, "Outlook- Edition 16," 5.

Chapter Two

02

Modernity in Japan

Japanese modernism began in Okura instantly demonstrating large differences from the Americanised and European modernist pendant. The closing off of the country, lasting from the 17th century to the second half of the 19th century, saw that Japan was kept as an artistic stasis- 'Japanese thinking allows for a multi-sensory experience rather than a purely attractive and functional built work. It must enable the user to not only awaken their consciousness but also alter their expectations of reality'²⁰. Traditionally the Japanese are bound in theoretical and spiritual meanings, depicted largely throughout their architecture²¹. Stewart describes the Japanese concept of seeing architectural space as a void that filters the building's environment²². As the architecture becomes subservient to nature, framing the exteriors as if photographs on a wall. Providing the body with not only physical shelter but also a spiritual one in order... 'to see architecture not as shelter but environment itself'²³. Creating a new form of architecture between natural phenomena and manmade construction. An architecture that does not alienate the user through the use of the unknown but instead enables us to perceive a sense of reality amongst an unpredictable shift of time and space- 'architecture enables us to place ourselves in the continuum of culture'²⁴.

Influences of Japanese architecture can be traced to all parts of the world. The traditional 'essence' can still be seen through some architects' meticulous execution of architectural space and detailing. In particular, the Buddhist-Zen basic principles of architecture aim to balance the user's cultural identity with meaningful aesthetic and physically encapsulate the user's relationship to nature²⁵. Such housing types descend from the commonly known 'Shoin' and 'Sukiya' styles of Japanese housing (figures 1- 4).

In order to understand the relevancy of these Japanese concepts of architectural space within New Zealand, it is necessary to first define commonalities. It is the preservations of personal relationships within architecture that sees the Japanese maintain a high quality of spatial atmosphere- '... for perception and artistic expression sees reality as the relationship between object and subject, it is this relationship which is the valuable reality, where both have equal power and effect upon each other'²⁶. This aims to connect the user and their home through physically encapsulating the sense of warmth within the architecture itself rather than its contents. The result being pure 'Zen' lifestyle, enabling 'absolute emptiness' and an 'utmost transparency'. Engel describes this as a state of transcending into "physical existence and merges mans' objective world and his subjective mind"²⁷. Japanese traditional domestic spaces are designed through meticulous attention to detail, spiritual meaning, the ritual of daily routine and the preservation of the traditional symbolism through aesthetics.

20 Brownell, "Architecture in the Floating World," 11.

21 Stewart, *The Making of a Modern Japanese Architecture*, 45.

22 Ibid., 4.

23 Pallasmaa, *The Eyes of the Skin*, 76.

24 Ibid.

25 Young, *The Art of Japanese Architecture*, 163.

26 Jale Nejdert Erzen, "Tadao Ando's Architecture in the Light of Japanese Aesthetics," 67.

27 Engel, *The Japanese House*, 257.

Figure 1: Photograph of a 'Shoin Style' house in the 18th century

Figure 2: Photograph of a 'Shoin Style' house in the 18th century.

Figure 3: Photograph of a 'Sukiya Style' house.

Figure 4: Photograph of a 'Sukiya Style' teahouse.

Evidently the Japanese people design each space as proportionate to the activity and scale of man himself²⁸. This ensures a sense of equal importance between man, his natural environment and his built environment- forming a metaphysical sense of space through the commonalities of spatial gestures rather than through ornamentation.

The study of the teahouse is essential to understanding the homeage of the Buddhist- Zen culture. The teahouse originated as an avant-garde display used in an effort to neutralise the rapid adoption of westernised ways. The formation of geometries are based around the orientation and scale of the human body- ‘The Japanese house shows residential architecture in a role of forming rather than of reflecting habits of living, of producing rather than following moral principles, of creating rather confirming physical characteristics’²⁹. This is explored through a creation of spatial atmosphere that reflects the same immateriality and therefore vulnerability that the Japanese home represents³⁰.

2. 1 *The Bunriha Group Architects and their Manifesto*

‘The Bunriha Kenchiku Kai’ (or otherwise known the Bunriha) group’s leader Sutemi Horiguchi first explored the ‘traditional’ Japanese home through the teahouse and in particular the sukiya style. Horiguchi describes his architecture as: “thin, frail planes, advancing and receding in space, create ever-changing relationships and a sense of impermanency, continuity and movement”. This was an expression of the tea masters’ philosophy of life as a mere illusion³¹. The teahouse is interestingly an element that has always been outside the pace of the contemporary economy, standing separate and alone. It is enjoyed as a haven from the world, where the use of emptiness implies minimal needs (the concept of wabi-sabi: the aesthetic of transience) and the void is embraced through the concept of inhabiting space. The built is merely an abstracted narrative embedded within the domestic routine of the Japanese. These ideals are still carried out within the contemporary ideal of a home however have been altered drastically due to westernisation and the confusion with modernist minimalism.

Sutemi Horiguchi (1895- 1984), a doctorate from the University of Tokyo, was an authority on residential dwellings, in particular, within inter-war Japan. On February 3rd 1920. Horiguchi co-founded the secessionist association alongside Yamada Mamoru, Morita Keiichi, Yada Shigeru, Takizawa Mayumi and Ishimoto Kikuji. From within their university (Tokyo Imperial University) they set up the ‘Japanese Secessionist Architectural Association’ or the ‘*Bunriha Kenchiku Kai*’ (the Bunriha) operating between 1920- 1928³². Horiguchi was largely influenced upon his visit to the Viennese Secession in 1923, considered to be around the ‘pivotal interwar decades’ of the 20th century³³. Being artistically inclined they aimed to break free from the regime of the mastering of historical yet expired styles. By doing so, they challenged the very basis of their own education by attacking the ‘...increasing political strength of the structural faction and the historicism of the design faction’ within the university through the promotion of the ‘mastery of the practical and the art of the beautiful’³⁴.

The international pressure and national turmoil saw architects and society a-like turning

28 Ibid., 45.

29 Ibid., 231.

30 Kuma et al., Kengo Kuma, 8– 32.

31 Klanten, Sublime, 42.

32 Ōshima, International Architecture in Interwar Japan, 32.

33 Ibid., 332.

34 Ibid., 42.

to modernism as a remedy of social unrest³⁵. The group bid to uphold the vernacular architecture seen before the Westernisation of Japan and of other Eastern countries.

‘The Bunriha Group’ introduced a new cultural autonomy, encompassing both traditional modern realms of thought. They were considered founders of Japanese modernism but also rebels against formalism. This new style was called *shinkenshiku* or “new architecture”³⁶. The group’s manifesto (figure 5) demonstrates their determination to reinterpret the traditional through contemporary reinterpretations. Intending to awaken the subconscious minds of the Japanese public and counteract the dominating influences of European modernism³⁷. Similar to the beliefs of the the Groupin New Zealand, Horiguchi saw the requirement of engaging local culture and context to influence abstract compositions and proportions³⁸. As an artist he disagreed with a utilitarian approach to architecture and endeavoured to encapsulate emotional content within his architecture as he had done with his interest in painting. There, his drive was to connect the word and the image through a shared emotion ³⁹. The idea stemmed from seeing architecture as art without embellishment as it was becoming easily misconstrued as minimalism. However, Horiguchi’s minimal look aimed at reconnecting the mind and body to its space rather than to things. Sutemi Horiguchi describes this artistic architecture as- “... [Architecture is] truly a matter of infinite relationships between planes, relation of volume to volume, and relation between colors. The sound of a bird can vary on the basis of volume, pitch, and tone. Artistic architecture depends on an empathetic communication from one heart to another. Architecture does not simply resemble nature; it achieves an artistic form through a composition of truly abstract forms”⁴⁰.

In the 1930’s Horiguchi created an ambiguous typology by mixing the East and West’s ideals of both form and construction techniques⁴¹. The international style of the 1930s sought to provide solutions for the post-war devastation that saw cities in ruins⁴². Whilst Horiguchi’s designs applied the modernists take on thin monolithic materials and applied it to the relevancy of Japan’s social, cultural and physical context, representing the nations’ identity carefully. Okada House (1934) epitomises his architectural idealisation within this period (see section 4.6). He recognised the catalyst of international architectural theory within the 1930s that highlighted the confusion of the Japanese ‘minimalist’ typology and that of the Europeans’ modernism- ‘... very little of Japanese culture is truly indigenous’⁴³. Following the works of Vienesse Secessionists, Horiguchi travelled to Europe to witness the modernist structures he had grown to admire. Notably, he drew from the composition, scale and materiality of Olbrich’s Mathildenhoehe Wedding Tower’ (Hochzeitstrum 1907- 08). - ‘...it looked as if bricks had fallen out of the masonry wall in a scattered but unforgettable pattern’ (figure 6)⁴⁴.

Their manifesto proclaimed the mix of art and science in architecture would pay homage to the past whilst still representing the present⁴⁵. It was to bring about a new consciousness to the people of Japan without sacrificing the traditional values they were so accustomed to. He knew Japan’s seemingly simple composition of architectural elements was actually drenched with theoretical complexity, whereby the ‘... cosmos, mysterious, even sublime

35 Isozaki and Stewart, Japan-ness in architecture, 1091.
36 Britannica Online Encyclopedia, “Horiguchi Sutemi (Japanese Architect)”
37 Berman, “Introduction,” 40.
38 Ōshima, International Architecture in Interwar Japan, 46.
39 Berman, “Introduction,” 28.
40 Ōshima, International Architecture in Interwar Japan, 46.
41 Klanten, Sublime, 109.
42 Spier, Urban Visions. Urban Visions.
43 Klanten, Sublime, 109.
44 Ōshima, International Architecture in Interwar Japan, 53.
45 Berman, “Introduction,” 39.

We arise!

To create a realm of new architecture that has true meaning, we secede from the realm of past architecture.

We arise!

In order to awaken all that lies dormant within the realm of past architecture and to e all that is in the process of drowning.

We arise!

In our state of jubilation, we dedicate all our efforts to realizing this ideal, and we expectantly until we collapse, until we die.

We declare the aforementioned in unison, facing the world.⁴⁰

Figure 5: The Bunriha group's manifesto.

Figure 6: Olbrich's Mathildenhöhe Wedding Tower' (Hochzeitstrum 1907- 08).

emotionalism' had been considered entirely from form to detail in Japanese architecture⁴⁶. The importance of site was composed as if the architect with the same emotional investment of that of an artist composing his work. Dutch expressionism, in particular, interested Horiguchi. Their technique of traditional hatch was used to weave materials, creating intricate curved surfaces reminding him of sculpture forms rather than the formalist modernist style that was circling at the time⁴⁷. Applying the same concepts but with completely different techniques or materials inspired Horiguchi. He further found great appreciation of the European styles of architecture, such as the Doric columns of the Greek Parthenon- '...They are beautiful. However, even if I tried to copy it, I could only be like a crow riding on the tail of a peacock'⁴⁸. It was from here that the realisation of '... following ones' own path' was deeply relevant to the Bunriha finding a new typology of modernism. However it was not to be a mimic of something else but rather a different version of western ways adapted to Japanese life.

During this time media played a large role in the representation of architectural works changing the way the built and imagined imagery world were represented. Illustrations were utilised to reflect the group's dialogue further- allowing for the aesthetic entice of architecture to satisfy the curiosity of the world. Often through Bunriha's work the old and new was embraced as a reminder of architectural impermanency. The character of these designs came to life through a tension of the unknown and the familiar; allowing the designs to become humanised and relevant, reformulating the new modernist thought⁴⁹

2.2 Local and International Influences

The 'new modern' of 'The Bunriha' aimed at accumulating the ideas of the Japanese culture to the socially appealing aesthetic of modernism, avoiding the ease of imitation or naivety of such concepts- 'the moderns do not result from an avant-garde movement oblivious to the past, as a Western one may be. On the Contrary, almost every step the modern Japanese takes, shows their awareness of tradition and deliberate attempt to rid themselves of any shallow imitations'⁵⁰. This is evident amongst Kengo Kuma's contemporary works as he allows for his own re-interpretation to be tested through the ideas of the physical, the environment and the symbolic. Considering these three simultaneously allows for Ando to make his own 'architectural realm' allowing the architecture to have its' own presence (Case Study Five)⁵¹.

Within the early to mid 20th century domestic housing started to be seen as a mass made product rather than a product of a mans craft⁵². Functionalism saw planning take a priority over style and saw the likes of Le Corbusier's domino system (1922) and the founding ideas of reductionism⁵³. Much earlier, German architect Bruno Taut saw the potential of rationalism for solving the industrial, social and artistic problems of the 1920's in Japan. Taut promoted rationalism and architectural simplicity⁵⁴. He spent three years in exile in Japan as enforced by the National Socialists. It was there that Taut recognised the potential for modifying the West's ideas of a modern lifestyle to suit the climate and lifestyle of Japan⁵⁵. He saw this fusion of the East and West as a 'hybridised modernism' disseminating

46 Klanten, Sublime, 4.

47 Ōshima, *International Architecture in Interwar Japan*, 59.

48 Ibid., 60.

49 Ibid., 132.

50 Tanizaki et al., *In Praise of Shadows*, 4.

51 Jale Nejdert Erzen, "Tadao Ando's Architecture in the Light of Japanese Aesthetics," 169.

52 Lambot/Arcaid, "A Japanese Modernism," 74.

53 Peter Buchanan, "Integral Theory."

54 Isozaki and Stewart, Japan-ness in architecture, 1902.

55 Klanten, Sublime, 109.

and strengthening the 'Japan-ness' within the world's modern vision⁵⁶.

Taut studied the shrines of Ise and Katsura in order to implement the expression of Japanese culture through the physicality of a building. He saw Sutemi Horiguchi's Ise shrine design as an '...unmotivated evolution' but a deliberate integration with the natural elements solidifying native culture⁵⁷ (figures 7 and 8).

The Bunriha focused largely on the dichotomy of art and architecture as it had been previously recognised by Kenchiku Kowō (a Japanese philosopher) in 1888. This inspired AIJ's (Architectural Institute of Japan) Zoka Gakkai to publish his thoughts within the magazine he called 'Kenchiku Zasshi' (now known as JABS). Within this he acknowledged the West's shift to the prioritisation of material and structure, where he opposed any harmony between art and science⁵⁸. As the imperfections of the and were not comparable to that of the machine. He insisted that there was no truth of art without theory and vice versa. Confirming Horiguchi's thoughts two centuries later, was famous Japanese furniture maker Oki Sato designed the 'Cord chair' for Maruni (one of the oldest furniture makers in Japan) in 2009. He explained that remakes do not have to be secondary to the original; iterations can be used as several translations for the difference of each gives personification to an object. In this sense the emotional value is found when one is liberated from the superfluous. Therefore something you see that appears so simple and minimal is always a product of an intense and elaborate process. Imperfection of the design process or even final product gives it a sense of humanism. It also exudes a sense of *sabi* that is connected to the vulnerability of nature and self⁵⁹.

2.3 Form and Mind

Societies' psychological wellbeing within an increasingly dense urban setting is a priority for most contemporary Japanese architects. Attention is paid to how a space is perceived, enabling mental strength and stability through architecture- 'The zen sect denies the efficiency of intellectual and contemplative means to gain salvation and instead maintains that enlightenment can only be directly attained without conceptual medium by one intuitive grasp of reality that underlies life and its multiform appearances'⁶⁰. These emotive feelings can be mediated through a sense of intrinsic aspects of architecture derived from the space that architecture creates rather than its' own form. Family values are integral to a homes' spatial dynamic and the composition of each space, this allows for the nostalgia of a home to be evident through the routine of daily life (reflecting the strong rituals of Buddhist-Zen beliefs). Strong traditional values are usually upheld by a sense of collective spirituality or religion within a home- '...delight [being] an emotion, a feeling, and hence an intangible phenomenon'⁶¹.

The Bauhaus theory has been compared to the perception of Japanese architecture for its' use of a multi-layered system, similar to reading a piece of art⁶². Through multiple layers of meaning the buildings starts to exude a subjective emotional reaction from the viewer or occupier. The building can be read as if a narrative- for it is only at the end that the inhabitant understands its entirety. The architecture is said to be read through both immaterial properties (an intangible happening of space that is a product of the designer) and the material which expresses its' practical use. This architectural narrative can be spilt into a symbolic reading through the immaterial and an aesthetic through the materia, infused within a space and directing the user's behaviour and mental state. This philosophy

56 Isozaki and Stewart, Japan-ness in architecture, 1902.

57 Ibid., 1903.

58 Amanai Daiki, "The Founding of Bunriha Kenchiku Kai: 'Art' and 'Expression' in Early Japanese Architectural Circle, 1888- 1920,"

59 Schmidt and Stattmann, Unfolded, 249.

60 Engel, The Japanese House, 366.

61 Vitruve, Vitruvius, 23.

62 Baumeister and Lee, *The Domestic and the Foreign in Architecture*, 102.

is comparable to the 'culture of consensus' that enraptures every part of Japanese life'⁶³. A lot of architectural work is perceived through the form of photographs or imagery, as media plays a large role in the circulation of architectural thought. According to Panofsky architectural imagery can possess three layers of meaning; firstly, primary meaning of the building due to obvious building function or meaning, the next, is the conventional meaning and therefore learnt by each user subjectively, and lastly, the intrinsic meaning, one that is acquired through a deeper sense⁶⁴. It is believed that the third layer is of interest when discussing the intangible effects of the space of the Buddhist- Zen nature. These layers also relate to the subjective perception of a home and the ability to induce this into a collective sense of identity, creating '...their very existence [as] a manifestation of human spirit and community through overlapping sets of associations and experiences'⁶⁵.

Architectural representation is crucial to the conveyance of architecture and thus its meaning to each individual. It is the dialogue between the architect and the client and the expression of both parties to the rest of the world. In contemporary Japanese architecture, for example in Tadao Ando's work, a psychological connection is achieved through the manifestation of traditional elements within a contemporary Japanese home. This is what creates the 'Japan-ness' of a space that Bruno Taut advocated so strongly. Taut believes if the user does not know what he is looking for he will be unaware of the magic of a Japanese space and instead be occupied by its' beauty rather than its' meaning⁶⁶.

2.4 Form and Being

The Japanese have a special relationship with craftsmanship and a high admiration of the hand-made. A contrast to the attention technology was receiving following the progression of science post-war. The Bunriha saw the inconsistencies of human error giving the material a sense of humanisation or personification whereby the patina is praised rather than hidden. The JIDPO (Japan Industrial Design Promotion Organization) prompted visitors to think about space, form and recycled materials with a renewed perspective. They promoted a playful approach to everyday objects portraying an integrative approach to design, furniture, home and lifestyle. They believed that these objects lent them a sense of personification rather than the standardised pieces of the west's mass production post WWII. Contemporarily demonstrated through Tadao Ando's collaboration with fashion designer Issy Miyake in their '21_21 Design Sight museum' in Japan 2007. Ando enlightens the use of textured concrete to allow popular western material to echo the same visual effect of matte glass. Tamati mats are used in order to determine the size of the concrete panels- displaying his careful process that infuses amongst both western and eastern cultures. The process demonstrates the meaning of the element whilst the material itself is chosen for practicality but dealt with as if a detail (figure 7- 9). The personalisation of industrial materials is often seen as a fusion of this Japanese attention to detail and the industrial tendencies of western modernism. Miyake also complies with the art that is design process, taking an unconventional approach to fabric; he uses industrial polyester, folds it using traditional Japanese craft methods and lastly, heats it to its final form.

"In a society that celebrates the inessential, architecture can put up a resistance, counteract the waste of forms and meanings, and speak its own language. I believe that the language of architecture is not a question of a specific style. Every building is built for a specific use in a specific place and for a specific society..."

Peter Zumthor

63 Amanai Daiki, "The Founding of Bunriha Kenchiku Kai: 'Art' and 'Expression' in Early Japanese Architectural Circle, 1888- 1920, 43.
 64 Karlen, *In-Migration and Integration in a Small Community*, 7.
 65 Nair, *Configuring Community*, 18."publisher": "MHRA", 193.
 66 Whyte, *Bruno Taut and the Architecture of Activism*, 43.

Figure 7: Tadao Ando's collaboration with fashion designer Issy Miyake in their '21_21' Design Sight museum' in Japan 2007.

Figure 8: Tadao Ando's collaboration with fashion designer Issy Miyake in their '21_21' Design Sight museum' in Japan 2007.

Figure 9: Tadao Ando's collaboration with fashion designer Issy Miyake in their '21_21 Design Sight museum' in Japan 2007.

A playful approach on everyday objects is described often through other realms of design. Industrial design saw the need to re-initiate thoughts of ‘...form, space and recycled materials’⁶⁷. The connection to the man-made is considered a speciality of the Japanese, although not always demonstrated within the contemporary urban fabric of Japan. The Bunriha were fascinated with the delights of craftsmanship of sculpture and furniture, and their manual construction. The design process is also epitomised as more important than the final product in some cases- as it again starts to tell its’ own narrative. The hand-drawn is seen to spur a personal relationship with the product and the body. Where the subconscious mind takes over and a design is no longer lineated through a pre-meditated design process, instead it is the intuitive nature of the designer⁶⁸. With the Buddhist- Zen culture, imperfection is encouraged with similarities to nature and life itself. It is perceived as the persistence to be ‘at one’ with these unpredictable qualities of life that manifest into their architecture and accommodate domestic happenings.

The merge of architecture with art is commonly referenced to in Japanese work, similar to that of the Bauhaus ideologies. This is apparent within the physical manifestation of everyday life into the architectural form, executed through both external forms and internal settings- ‘...the interior and exterior spaces are distinctly defined; the space remains, arrested and static in spite of its interior flexibility and openness to the outside’⁶⁹. The ‘Japan-ness’ came from a sense of unity through several differing scales including the internal furnishings, the form, the detail and lastly, the body itself. The scale of the body is used for achievements of proportion. As a more pragmatic set of rules, the Japanese determine traditional rooms around several aspects: the number of people, the sort of activity, the height in which the body would be at and the visual access permeating the room in both directions⁷⁰.

2.5 Form and Landscape

The view on landscape and architecture within modernism is considerably different to traditionalists of Japan⁷¹. M. Senda recognises that the modern interpretation conveys the dominance of manpower over the ‘cultural and natural landscape’ of the occidental. The European concept of nature does not embrace the same sacredness of the traditional Japanese. It is understood that modernists see nature and culture as a binary opposition (revolved around modernist rationalism) rather than as of equal value⁷². The concept of the ‘*Kami*’ (gods) originates from the ideals of a Pantheon in ancient Japan; the gods can be representative of different elements of nature for example; the sun, the mountain spirit and the field’s spirit⁷³. Through this direction of thought, it was the culture that was in the hands of nature rather than them being perceived as opposites.

Within Buddhist Zen beliefs, the garden is seen as an extension of one’s-self, reflecting one’s attitude to nature, life and the universe as a journey⁷⁴. Nature is seen as inhuman, unpredictable and accidental, however in detail it is functional and beautiful⁷⁵. The design of small domestic gardens aim to create a new consciousness of intimacy between nature and man, acknowledging the acceptance of imperfection in daily life- an aspect that differs from the occidental view- ‘...where man power that sees the cultural landscape to be

67 Klanten, *Sublime*, 3.

68 Ibid.

69 Engel, *The Japanese House*, 252.

70 Engel, *The Japanese House*, 142.

71 Senda, “*Japan’s Traditional View of Nature and Interpretation of Landscape*,” 2.

72 Ibid., 4.

73 Ibid., 3.

74 Engel, *The Japanese House*, 254.

75 Ibid., 276.

stronger than the natural⁷⁶

'Our surroundings go through the metamorphosis: the environment changes and transforms the shapes and physicality, and what we have captured with our eyes becomes the past in a moment. Composing the picture is an exercise in re-constructing the narrative story.'

Yukari Kaihori (Japanese artist).

The Japanese garden opposes the functions of a Western lawn, as Horiguchi explores in his Okada House (Case study One). The Japanese garden is seen as a place for contemplation, meditation and reflection, not for any physical activity⁷⁷. Iconographic elements symbolise several different meanings dependant on the intention of the designer, for example the well-known term *wabi-sabi* (used to describe the Japanese world view or aesthetic) or the characterization of such elements often linking back to the Chinese concept of *yin-yang* (term describing expressions of masculine and femininity qualities within a space). The Zen concept was a turning point for the legacies of the traditional Japanese gardens, the Zen temples saw an integration of 'architectural delineations and a new lithic rhetoric'⁷⁸. The most influential example of this slight shift was the Japanese rock garden, intended to mimic the essence of nature but not the appearance. It was intended that the garden was to be viewed through specific seating areas within the home as more of a piece of art than a functional space. It was thought that the simplification of form allowed the mind to easily gain a sense of clarity and contemplation of life itself, heightening the user's own self awareness and consciousness of daily life⁷⁹.

2.6 Extracted themes

In order to articulate ideas, three main themes were extracted from the previous research to represent the intangibility of Japanese architecture, and in particular- 'The Bunriha'. The three themes of: shadow, reflection and permeability start to define the parameters of design conceptually. Manifesting the experiential into the existing pre-conceptions of architectural space provides a precedent for New Zealand's future of domestic architecture. The themes are chosen in order to be tested and implemented in explorations. As a whole, the themes work to create spaces that define the Japanese ideal of seeing a house as shell to live and grow in and a place where the mind and body can rest- '...resulting in a closely synchronized pulse of nature, house and man'⁸⁰.

Theme One: Shadow

A main theme throughout the research is the consideration of shadow, in a direct opposite to the Western concept of shadow. Where the access of light is a priority eliminating shadow in the Western thought. Spurred by Japanese architectures ability to open to the outside without losing a sense of privacy and isolation within the interior setting. It was found that shadow could be utilised in order to create a sense of intimacy within the home. Shadow, as an architectural element, was understood mainly through the text: 'In Praise of Shadows' by Jun'ichirō Tanizaki. It was Tanizaki's perception this 'unknown' space that is seen as a tribute to Japanese virtues-

76 Senda, "Japan's Traditional View of Nature and Interpretation of Landscape," 129.

77 Camelia Nakagawara, "The Japanese Garden for the Mind: The 'Bliss' of Paradise Transcended," 78.

78 Ibid., 84.

79 Ibid., 85.

80 Stewart, *The Making of a Modern Japanese Architecture*, 23.

‘...darkness illuminates for us a culture very different from our own, but at the same time it helps us to look deep into ourselves to our own inhabitation of our world, as [Tanizaki] describes with the traditional Japanese inhabitation of theirs. It could change our lives.’

- Charles Moore (School of architecture, UCLA)⁸¹.

Theme Two: Reflection

The acknowledgement of reflection is through the use of water and glass to utilise features often found within nature. By amplifying the natural beauty surrounding the buildings through their translucent properties. It also manipulates the perception of space, allowing the user to explore the home as if on a journey. As Horiguchi explores (later especially through Okada house in 4.3) there is a great symbolic meaning through the composition of water elements. Indicating boundaries in the breaks of solid ground or wall. These create points of self-contemplation as the effect on the mind is believed to soothe the soul. Subtle yet purposeful interventions into each space allow for a universal understanding of waters spatial ability to create boundaries without being solid. Reflection also runs parallel with the idea of shadow, as a shadow reflects the ever-changing forms of the natural world outside, such as the projecting onto the wall and naturalising the effects of a plain concrete wall (demonstrated within case study one: The Okada House). And lastly, on a purely literal level, the house reflects the notions of a home, one that co-exists through the beliefs of both contemporary and traditional Japan- a notion that home is a place of family and self. As Tanizaki explains, the appreciation from material wealth can only be appreciated with purpose ‘... for gold, in these dim rooms, must have served the function of a reflector’⁸².

Theme Three: Permeability

The idea of a void within architecture can be read through two different ways: cognitive and functional. The first can be achieved in three main ways conceptually, perceptually and sculpturally, whilst the functional voids allow for purposeful spaces of a house e.g. bathroom, kitchen, living and etcetera (figure 10). Space and form have always been considered two separate elements rather than a product one another. In Japanese thinking the space is carved through the architectural form, making form ultimately the negative of what was not inhabitable. However in Western thinking it is the parameters of the form or built that dictate where the spaces lie. Where a void can be interpreted as a place of ‘nullness’, however it is seen as an inevitable result of form within Japanese thought. Through this it is the void that dictates the openings within the built work, connecting the user and building to the outside world at places and allowing solidarity at others. This understanding of permeability reconfigures the importance placed on space rather than the built, allowing the intangible effects to awaken the senses rather than the built form. It intends to de-solidify the buildings state and insinuate a sense of transparency that allows the building to be read from multiple angles from both inside and outside envelope of the building.

81 Tanizaki et al., *In Praise of Shadows*, 2.

82 Ibid., 23.

THE BUNRIHA'S KEY THEMES

1920- 1928

Sutemi Horiguchi (leader) alongside the Japanese Secessionist Architectural Association (or otherwise known as the Bunriha).

experiential themes		
	theory	architectural application
a. shadow	<ul style="list-style-type: none"> exemplifies the void/ space dependant on light source manipulates the appearance of built form hides forms altogether is an immaterial product from absence of light works in contrast with light to create ambiguity 	<p>three types of shadow according to Di Vinci:</p> <ol style="list-style-type: none"> 1. attached 2. shading 3. cast
b. permeability	<ul style="list-style-type: none"> use of carving into solid to create voids within idea of craftsmanship revealing details or textures of materials where necessary. reading the building in multiple layers. room sizes due to activity intended within. 	<ul style="list-style-type: none"> abstraction of building form to change the buildings' proportion composition of symmetrical scheme 'rendered on black background' (like Wagner) permeability is to achieve experientiality through the weave of spaces through solid forms.
c. reflection	<ul style="list-style-type: none"> minimalism is utilised for its lack of ornamentation. moves away from representation to inner contentment and self awareness. serves as a 'total work of art' uses reflection to change the user's perspective of the building itself 	<ul style="list-style-type: none"> use of reflection through water, glass and stone. creating the appearance of immateriality or transience. creating illusion through reflection aims to mimic the ever-changing environment (natural and man made).

Figure 10: Table diagram showing the main points from each theme and how they will aim to be manifested physically (author's own).

2.7 Case Study One:

1943

OKADA HOUSE

Architect: Sutei Horiguchi (the Bunriha's leader)

Location: Oi 6-20-29, Shinagawa-ku, Tokyo, demolished 1995

Design: December 1932– April 1933

Completed in 1933 (Berman 248).

Horiguchi's 'Okada House' was intended to be a 'living synthesis of ideas incorporating intangible and tangible ideas'⁸³. This is reflected both inside and out of the Okada House, evident within its photographic documentary, demonstrating the design as a reflection of cross culturalism between the East and West (figures 11- 17). The juxtaposition of modernist and traditional elements were split right down the middle, with one wing being of a purely Westernised modern style (figures 15 and 16) and the secondary wing depicting Japanese traditions (figures 12- 14). This introduces the traditional Japanese "garden of autumn grasses" (*akikusa no niwa*) intercepting the two styles alongside a typical western lawn (figure 13)⁸⁴. As the two styles meet they start to discover similarities among their cultures as the nature mediates the two together.

The choice of materiality follows the *wayō setchū* model (the blending of the Japanese with the west) that saw a disparity across the two wings of the house, where one was the western equivalent built with concrete and a flat roof and the other was wooden framed representing the Japanese Shoin style of housing⁸⁵. This architectural dichotomy was expressed through a clear distinction of styles yet still harmonious to the ease of daily life that Horiguchi's work abides to. The quality of materials was preserved in its 'authenticity' seen through the use of materials in their natural state; alongside the minimal use of décor, the architecture speaks for itself through detail rather than large expressions.

As the construction of the Western wing was a re-make of a previous model, the building was altered shortly after completion due to the client's orders. Changes were then made to modernise the home further, it was then that Horiguchi added '...steel bolts and five steel beams to the roof to modernize the structure'⁸⁶. The expression used within both wings was a 'crossbred' of both cultures as Horiguchi epitomised a modernist principles and proportions alongside a strong sense of symbolic representation of Japanese principles- e.g the use of tamati mats for room sizes⁸⁷. The modification of both the east and west were translated through the mimicry of form, proportion, size or texture as seen even within the floor plan (figures 17- 18).

Representation of the 'Okada House'

Horiguchi provided two sets of photographs that depicted two opposing narratives based on western and Eastern perspectives. The eastern version saw the photographs take the viewer through the entry, into the tamati rooms (showing the visual access to the garden) and ending in the westernised living room wing. In contrast, the Western (German) version saw the explanation at the front of the book describing the spatial intentions such as

83 Horiguchi, Sutei, *Sutei Horiguchi*, 46.

84 Ōshima, *International Architecture in Interwar Japan*, 141.

85 Ibid., 139.

86 Ibid., 141.

87 Ibid., 143.

the decorative Japanese alcove 'tokonoma' before

narrating the journey visually through the house systematically. The composition of photographs is similar to the conveyance of Japanese paintings showing the traditional perspective and experience of the spaces. The photographs act as frames of the architecture itself. They depict the unruly growth of the garden outside against the foreground of geometric order found within modernism (figure 11)⁸⁸. Horiguchi photographed the house three years later in order to capture the garden in full bloom; this was intended to create a stronger sense of intimacy and beauty between the inhabitant and the external setting. With the introduction of the electric light and the use of raised furniture in the early to mid 20th century, the home was now occupied with mass-made goods. The 'Okada House' publication was often mis-reinterpreted as the circulation of the houses photographs were sometimes found to be published upside-down, reflecting the unfamiliarity the east had with the interior of a Japanese house. Horiguchi states that the differing westernised perception of having the floor darker than the ceiling as it is the opposite in traditional Japanese dwellings⁸⁹.

This first case study is analysed through the outlined parameters of shadow, reflection and permeability in order to articulate the Bunriha's methodology:

2.7.1 Shadow

The concept of shadow is based around Leonardo Di Vinci's three types of shadows as outlined in Jun'ichirō Tanizaki's 'In Praise of Shadows'. These shadow types inflict a sense of transience within the architecture. De-solidifying the appearance of form or casting sun in places to show the time of the day or the ever-changing external conditions. This aims to resonate the sense of relationships within the form itself by becoming relatable to the mind (subjectively experiencing the space), landscape (experiencing the space from the outside or afar) and self (recognising a sense of self-identity and thus cultural identity within the home).

Leonardo Di Vinci's three types of shadow in order to analyse the 'Okada Houses' are:

- Attached shadow- 'falls on the body itself'
- Shading shadow- 'inherent to form dependant on light source'
- Cast shadow- 'high house generating a shadow on the ground below'

The building stands tall and proud as a monument to Horiguchi and the Bunriha's beliefs. The solidity of it has been broken up, an exploration of modernist geometries and accentuation of the seamless edge of the glass 'walls'. The composition of lines and planes plays against the textures of the rough wooden surfaces and the smooth agility of the water outside. It insinuates a sense of dynamics between the living and the man made, '...the real and the abstracted world'⁹⁰. This allowed for a sense of privacy without the complete disconnection from the rest of the world. Horiguchi strongly references the Japanese stone garden through the houses' materiality and continues this strong juxtaposition of old and new throughout the design of the house.

The floor plan sees that the courtyard is centralised surrounded by a series of *rōkas* (intermittent spaces or hallways) as seen in figure 15. This sense of elongated space allows the user to revolve around the central courtyard and be drawn towards the front garden as

88 Ibid., 145.

89 Ibid., 147.

90 Ibid., 152.

Figure 11: Traditional garden meeting the western lawn in the 'Okada house' garden.

more of a place of serenity or place of contemplation rather than a final destination. The garden aims to suggest infinity through the elongated forms, creating large casted shadows that drop below them, in some cases hiding the form completely. From the exterior, the houses mass dissolves into the landscape from all directions of its parameters.

The large concrete walls are punctured only where necessary, a method Horiguchi employed to distinguish between inhabitable void and solid forms through the change of materiality- ‘...The garden is but an extension or component of the main design, a meditating agent that bridges the enormous gap between the opposites of humanised and natural environment’⁹¹.

The use of the shadow is also employed through the casting of silhouettes upon the building’s edge, creating an impression of the natural environment from beyond. This visual display is as ever-changing as the external environment, a reflection of the intimacy between man and environment in Buddhist-Zen beliefs- ‘...seek[ing] the spiritual elevation of man: creation of an introverted world of purity, separated from the extroverted world of superficiality’⁹².

The *wabi-sabi* concept of imperfection is aimed to be within the deliberate but uncontrollable motion of shadow, done through the careful placement of forms (or wings) as an entirety. This created a sense of solitude through the veiling and unveiling of internal spaces at different points. Horiguchi intended to heighten the consciousness of the user through a contrast of the shadows’ ambiguity and the dominance of the monolithic concrete masses⁹³. His careful consideration of the voids and shadows within the Okada House represent the experiential intention that the Bunriha Group so often envisioned. The intangible properties of Horiguchi’s spaces start to co-inside with the aesthetic composition of both the east and west. It is the co-existence of both a modern existence but also a sense of an embedded notion of shadow that allow for the mental comfort within Horiguchi’s architecture- ‘Zen asserts that perfection of beauty lies in its imperfection... [a] house is only a temporary refuge for the body, as the body is for the soul’⁹⁴.

2.7.2 Reflection

Reflection is an important theme of Horiguchi’s Okada House and Japanese architecture in general. It manipulates the spaces through the play of reflective materiality and in literal sense- is seen as a reflection of ones’ existence in a continuum of time. A centralised issue is one of form and time in motion. The Okada house is seen as a testament to the time period, not opposed to change but instead embraces it. Hengel describes this change as: ‘... the appraisal of the past with the creation of the future’ but also a hint towards the temporality of the natural environment, of which moulds or alters our living conditions and thus ‘tempers mans’ mentality’⁹⁵.

Nothing is more sensitive or exposed to the natural conditions than that that of water- a completely malleable, permeable and uncontrollable substance, and thus the very opposite of architectural form. The element of water is a crux in the Okada House as it symbolises the crossroads of the two styles (figure..). This sense of parallelism is highly appropriate for the understanding of how a hybrid may be proposed in terms of acculturating architectural thought.

91 Engel, The Japanese House, 277.

92 Ibid., 273.

93 Ibid., 277.

94 Ibid., 289.

95 Ibid., 350.

Figure 12: Courtyard of the Okada House

Figure 13: Reflection pool juxtaposed with the western lawn of the 'Okada house'.

Figure 14: Photograph of the Tamati room of the traditional eastern wing.

Figure 15: Interior photograph of western living room.

Figure 16: Photograph of the western swing and entry to house.

Figure 17: Floor plan of the 'Okada house' with the western style wing on the left and the eastern on the right.

Figure 18: Birdseye perspective drawing of the 'Okada house'.

Figuratively Horiguchi reflected the traditional use of raw materials, traditional construction and passive systems within the westernised wing, whilst reciprocating the same ingenuity within the Japanese- inspired wing. The symbolisation of a 'greater world' was undertaken through the representation of the tea ceremony's *mitate* (translated to 'looking through new eyes') practice. Through the incorporation of contemporary household items, such as the telephone and clock, Horiguchi represented a similar concept to the Bauhaus theorem by depicting a 'consensus of community' through the conveyance of social and technological progression.

Through the materiality of the house, Horiguchi utilised reflection through contemporary neon light sculpture cast a checkerboard pattern of yellow, peach and blue, mimicking the *fusuma* patterns found at the Shōkin-tea pavilion at Katsura Villa. While the reflectance pool reflects the house's form within its own surface- now appearing immaterial within its own reflection. Horiguchi utilises the reflectance pool as a subtle indicator of the different uses of the lawn within western and eastern culture. Allowing for both the outdoor space to be functional as a 'lawn' but also as a place of meditation. The thin column that juts out not only provides structure for the roof but also '...symbolically affirms modernity' as the use of water within the garden gives a distorted view of form, distance and scale of the houses greater surroundings⁹⁶.

2.7.3 Permeability

The building envelope was deemed unique for its' ability to appear secluded from the rest of the neighbours yet inclusive by its' orientation both inwards and outwards simultaneously. The floor plan allows for different areas of seclusion and exposure, allowing the house to be able to be experienced through many different ways (heightened through the use of an internal courtyard). Horiguchi insists that the users' freedom throughout the house is evident as the house only indicates viewpoints or thoroughfares through the permeations of solid form (figure 14). The Okada house is lined with a large shoji (the patterns made from the divider screens) grid on the Japanese styled wing, whereby the western wing had similar proportions and sense of symmetry to the eastern. This shift in scale is important, as the body starts to dictate the height of the eaves and the level of the windows, as the Japanese are inclined to sit closer or on the ground⁹⁷. The eaves were employed along the window openings in order to enable the house to be opened to the outside without the threat of rain entering the home. The snow- viewing screens (*yum-kimi shoji*) were allowed to frame the landscape when they were '... elevated within their frames,' comparable to the way Le Corbusier's ribbon windows had worked⁹⁸. Usually the windows would tend to extend from the ceiling to the floor rather than slide horizontally such as a typical western window⁹⁹.

From the outside the traditional wing appears a lot more inverted than the strong outward facing 'modern' wing. The two-square system which is used within both styles contained '... interchangeable rice paper, glass, and metal screen inserts' that could be moved up or down to allow for changes in view, air circulation and temperature¹⁰⁰. The transparency of the house has been considered carefully through the articulated design of each space; both aesthetically and for functional purposes. The building responds to the local needs and contextual understandings of both the old and new, depicting each through the level of understanding of differing cultures. Horiguchi ignited discussions through the Okada

96 Ōshima, *International Architecture in Interwar Japan*, 145.

97 Sutemi Horiguchi, "Okada House," 25.

98 John Peter, *Masters of Modern Architecture*, 89.

99 Horiguchi Sutemi, *Sutemi Horiguchi*, 41.

100 Ōshima, *International Architecture in Interwar Japan*, 143.

house based on the relevancy of modernist thinking in Japan. Implementing the West's foreign ideas in an attempt to heighten the sacredness of the Japanese space without completely combining them nor separating them¹⁰¹.

Conclusively, the Okada House is an appropriate example of Horiguchi's work. It demonstrates the three themes of shadow, reflection and permeability. Clearly seen through the design and representation of the house. The house depicts the cross-cultural history of Japanese culture and Horiguchi's stance of a new direction within old Japan. His design captures a sense of nostalgia within a purely revolutionary style of home. Concepts of the Okada House will be translated through the following designs in Part Two.

Chapter Three

03

Modernity in New Zealand

The modern movement was undoubtedly an era of great growth for New Zealand and one that is treasured as part of our recent history. The essence of a New Zealand home strongly embraced the notion of a house as a 'machine for living in'¹⁰². In the early 20th century New Zealand architecture was seen to have a simplistic and necessity-driven approach, favouring economically viable solutions due to the scarcity of supplies after WWII¹⁰³. A home was designed to facilitate daily functions but also provide a place of comfort that came with the nostalgia of a family home. It was the sense of belonging, within a family or within a community that established this feeling of home. Defining this sense of home can be subjective and dependant on several different design elements- from the orientation of a fireplace, the living spaces that could accommodate several guests, to the openness of the house and to the personalisation of the houses interior. It is known however that the intrinsicity of this sense of a home is embedded epistemologically within each individual. This is seen to be similar to the 'warmth' Pallasmaa attributes to both the physical and mental association with a home¹⁰⁴. This mentality comes from an intangible bond of memories or associations with a place or building. With architectural elements such as a pitched roof reminiscent of an early barn, or the symmetrical design of the 1940's bungalows, elements such as these could bring psychological comfort to New Zealanders even within contemporary times.

The home was seen to be a static entity as it provided a sense of stability for growing New Zealand families. A home was the representation of the 'Kiwi lifestyle', a non-exuberant and modest way of living¹⁰⁵. It was not until the modern movement, emerging from Europe in the 1940s saw a shift to the 'brutal and subversive' approach to aesthetics¹⁰⁶. Mass production and the rise of popular culture saw the turn of New Zealand architecture, as social and technological progression promised a new quality of life. In the early to mid-20th century nations were universally re-assessing their architectural values towards social progression, aiming to exude a 'modern' society while liberating themselves from tradition towards an improved quality of life.

Modernism was critiqued for being '...often reduced to a superficial language which ad

101 Sutemi Horiguchi, "Okada House," 3.

102 Clark, *Looking for the Local*, 45.

103 Cull et al., *Open Home*, 17.

104 Pallasmaa, *The Embodied Image*, 6.

105 Cull et al., *Open Home*, 43.

106 Clark, *Looking for the Local*, 67.

dressed only visual perception and satisfied only the most whimsical sensitivities¹⁰⁷. The rise to rationalism and functionalism through the fundamental beliefs- ‘based largely on economic growth and function’¹⁰⁸. Subsequently, Post-modernism and Neo-modernism were movements spurred through the criticism of modernist architecture and art- ‘...on the grounds that is seemed universal, elitist, and lacked meaning’¹⁰⁹. However despite the rebellion against modernism it continued to grow in popularity as modernity established itself within New Zealand culture, function and art were promoted as separate fields, allowing for the bare minimum of a building to be a sufficient form of housing. Slowly the ‘warmth’ of the home became a minimalistic and standardised version of an international ideal, giving the appearance of a stark reality and exuding a lack of expression. As Bill Wilson (the leader of the Group architects) stated: New Zealand had hardly established, or even defined, the vernacularism of their current architecture before the influences of modernism were adopted¹¹⁰. However it is the lack of experiential consideration that had gone amiss regardless of Edmund Husserl’s phenomenological theory during the early 20th century¹¹¹. An opportunity to create a sense of home through the psychological needs of the user could be essential to re-interpreting a sense of nostalgia within the contemporary New Zealand home.

The increasing availability and circulation of mass media made the aesthetic of early modernism known before its theory was revealed ‘... as the self-conscious search for a modern New Zealand idiom coincided with tight restraints placed on the country’s building industry’¹¹². Architectural imagery gave the opportunity for both European styles and Japanese design to be recognised yet largely misunderstood- ‘The modern man lounges, he is relaxed and carefree, or, at any rate, he pretends to be’¹¹³. It was not until late 20th century that the Japanese beliefs were understood by New Zealand architects. This was largely due to the post-modernist critique, influencing architects, to explore the effects of phenomenology within architecture, widening the understanding of theory critical to good design.

3.1 The Group Architects and their Manifesto

The diasporic ventures of the Phoenix, as earlier discussed, were later carried on by the Group’s manifesto (figures 19 and 20). However, the large effect of the Great Depression and the Second World War was noticeable. The demands of the war had seen the decrease in state house availability, the shortage of building materials, shortage of trained architects and the additional pressure for returning servicemen¹¹⁴. English immigrant Vernon Brown (b.1905) was largely influential on the group and in particular on Bill Wilson. Wilson praised Brown by stating ‘[he was] the only man in New Zealand to have produced a coherent, consistent and liveable canon of domestic architecture’¹¹⁵. Brown was largely inspired through the works of Alvar Aalto, as his own Finnish background was also expressed through his houses- “*Fundamental to this point of view is the belief that architecture cannot be imposed on anybody. It can only arise out of the daily life of everyman, and without everyman there can be no architecture. Building nice houses for nice people is not architecture.*”¹¹⁶.

107 *Invisible Language*, 7.

108 *Ibid.*, 70.

109 Giedion, *Space, Time and Architecture*, 43.

110 Gatley, *Group Architects*, 5.

111 Hauptmann and Neidich, *Cognitive Architecture*, 239.

112 Clark, *Looking for the Local*, 12.

113 Gordon H. Brown, “*The Pursuit of Modernism in the 1940s and Early 1950s.*”

114 Newton, “*With the Back of an Axe,*” 3.

115 *Ibid.*

116 Gatley, *Group Architects*, 4

on the necessity for architecture

- . . . society
- . . . the individual
- . . . techniques
- . . . beauty
- . . . politics
- . . . economics
- . . . philosophy
- . . . the magazine

THE MANIFESTO OF THE ARCHITECTURAL GROUP

architecture and . . .

. . . society

We New Zealanders live in a chaos of unplanned speculative building under an unthinking, self-seeking system of land sub-division. Our suburbias spread their tentacles along all the city traffic routes; our children cross streets to get to school; our wives buy in inadequate and too-distant shops lining the main roadways; our hospitals are overcrowded; our transport system is overloaded; our homes are ill-planned, graceless and monotonous in their petty variety.

We know there is another way of living in which a house is logically contrived for peace and comfort, where the sun brings life without faded carpets, and in which leisure and beauty are not interred in respectable museums. And we mean to find it for ourselves and make it real to everyone who feels as we do.

We shall not be satisfied until this outlook includes our whole environment—the places where we work or play, where our children spend their school days, our streets and parks, our cars and buses, the plates from which we eat, and the chairs in which we relax. Because we want this in New Zealand, overseas solutions will not do. New Zealand must have its own architecture, its own sense of what is beautiful and appropriate to our climate and conditions.

This concept of the whole environment as a planned and pleasant entity is architecture. Only architecture can successfully arrange this background to our daily lives.

. . . the individual

Planning is for the individual the only means by which he can achieve freedom from the petty time-consuming chores of every-day life and gain for himself the joys and satisfactions of a more leisured and cultured existence. If we plan the small things to function almost automatically, we can enjoy freer, fuller and more satisfying lives.

. . . techniques

You will ask how all this is to be done. Are we not aiming too high? We know that these things are physically possible. The means by which they are realisable are the gifts of science and industry.

Science has given us the machine. Industry has shown us mass-production. The machine is merely a better tool than the plane and hammer, as they were better than the flint axe and bone knife. Mass-production is the method by which we utilise the vast powers of

Figure 19: The Group's manifesto, part I.

this bigger tool. It is the only method by which we can do so to the full. Unless we decide what we want produced we shall not realise the potential of our industry through failing to use methods suitable to its capacities. The nature of the machine and the method of mass-production demand standardisation.

Wedded to these new powers, we have a fabulous and ever-increasing wealth of new materials and methods of fabrication. Research is continually presenting us with wider and larger powers. While we must always press on with our search for newer and better ways, we must remember that a denial of the nature of machine-production and its attendant standardisation can only mean a squandering of the possibilities before us.

. . . beauty

We must insist here that standardisation does not mean monotony. The brick is a standard which has been accepted for years. Timber sizes are standardised. Standardisation means merely an increase in the size of the units commensurate with the nature and capacity of this new and more efficient tool.

Standardisation or repetition was, in fact, the earliest principle of design on which all the great masterpieces of Classical and Renaissance times were based.

Choice, then, is necessary, not only for full utilisation of our new powers, but to produce that sense of order and unity which is the basis of beauty. The disciplines according to which we make the necessary choice are (a) the nature of the machine, (b) the functions the building or object is designed to fulfil, and (c) the local physical and social conditions. Physical limitations are not a discipline but a challenge to our ingenuity.

Other countries have to a certain extent solved these problems. Our problem is to develop an answer suitable to our own conditions.

. . . politics

The achievement of these things is a matter of practical politics, for the true concept of politics is "planning." And we believe that "planning is politics." Recent history's drastic cycle of war and slump is a symbol of the failure of our present system. We believe that production must be for use and not for profit; that, therefore, architecture is not possible within a capitalist economy.

Fundamental to this point of view is the belief that architecture cannot be imposed on anybody. It can arise only out of the daily life of Everyman, and without Everyman there can be no architecture. Building nice houses for nice people is not architecture.

To design buildings, cups or motor-cars in the modern idiom while denying the validity of these concepts is surely to perpetuate eclecticism and hypocrisy. For if our logic ends with the "style" we use we are merely substituting the copy-book of steel and glass for

that of column and cornice. The spirit of modern architecture must permeate the whole life of him who practises its skills. He cannot leave it on his drawing board.

We are not forgetful of the dangers inherent in an economy of use or of its concomitant political dangers of bureaucracy and dictatorship. These we regard only as difficulties to be overcome and which we may solve by getting together to work out satisfactory methods of planning and government.

. . . economics

Since the aim of architecture is the satisfaction of human needs and aspirations, and since this planning is now for the first time physically possible, it follows that it must be financially possible. To deny ourselves fulfilment when we have the capacity would be foolish indeed.

Furthermore, efficient planning can effect for us great economies, not only of money, but of our natural resources and of our own time and energies. Only planning can check the widespread squandering of the wealth of our land that is so common a feature to-day.

. . . philosophy

Architecture, then, is neither a livelihood nor a profession, nor even "beautiful building." It is not only an art and a science; it is basically the means to achieve a civilised and cultured society. Only noble human ends produce good architecture. Architecture is the planning of our whole physical environment, and science having given us the chance of fashioning it to our heart's desire, only a vital and communal architecture can seize this chance and by ordering its components build such a world as we know is possible.

Therefore we must, each one of us, forgetting petty gains or differences, sink our skills and energies in the common task.

It is part of this resolution that architecture is possible only where production is for use, and that it can arise only from the main stream of society. A vital architecture springing from the lives of the people represents the integration of all social and political effort, the expression of the culture of our society.

. . . the magazine

In doing our part to further the ideals we have set out in this manifesto, we intend to publish a magazine of social planning. Its aims will be to engender a popular determination to achieve these things and to assist in the development of a sturdy vernacular architecture as the means by which we shall make them possible.

correspondence:
24 brentwood ave.
mt eden, auckland

Figure 20: The Group's manifesto, part II.

The group is renowned for their influence within New Zealand architecture, for not only on its transformation in aesthetics and building techniques but also on society's perspective of domestic space- 'Architectural discourse in this country still feels the effects of the mass of publications that appeared between the late 30s and the mid-50s'¹¹⁷.

Consisting of twelve Auckland University College students, the collective was formed in 1946. Ever-changing memberships and poor documentation, Gatley acknowledges, meant it was sometimes not understood when the group is referred to within the mid-twentieth century, or even more so recently¹¹⁸. However, according to the 2001 New Zealand Institute of Architects (NZIA) gold medal, the group's twelve members were: William (Bill) Toomath (said to be the leader), Campbell Craig, James Hackshaw, Ivan Juriss, Barbara Parker, Breton Penman, Ian Reynolds, Marilyn Reynolds, Bruce Rotherham, Anthony Treadwall, Alan Wild and William (Bill) Wilson¹¹⁹. Their work within the Auckland region is pinpointed in figure 19.

Post war austerity saw the burst of media propaganda. The three documents produced from the Group were: their manifesto in 1946 titled 'On the Necessity for Architecture', secondly their first and only magazine 'Planning I' and lastly Bill Toomath's 'The Small House' article in 1948 (figure 22)¹²⁰. In their first (and only) publication named 'Planning' (August 1946) the Group discusses the 'chaos' surrounding the current architecture scene within New Zealand- 'the idea of function, always separable from sound architecture, has been almost buried under successive eruptions of bad taste...'¹²¹.

Cultural nationalism has been mostly defined through the literary of New Zealand architectural history rather than its built work. Some writers described the national vernacular as the 'barn' or the 'cowshed'. It has also been greatly thought that there is in fact no New Zealand vernacular, a view shared by the Group's leader Bill Wilson- "I take it that the purpose of this journal will be to restore honesty and a sense of responsibility; to expose vulgarity and incompetence; and to make architecture...a public service not a private indulgence"¹²². As believers in a 'modern' New Zealand it was in the Group's interest to maintain a sense of national identity through the architecture of a home. This also meant that it remained relevant in terms of contextual planning and functional value- "They consciously sought a quintessential New Zealand house by attaching the Modernist tenets to specifically New Zealand cultural, social and geographical conditions"¹²³. It was not until the exposure of the Group that the need to retain a New Zealand vernacular was documented within New Zealand amongst architects¹²⁴.

The Group lost momentum before their book could be published within the late 50s. Walker narrows this down to four main reasons: an incomplete set of photographs, a co-publisher could not be secured, no agreed editorial policy and, due to several points of conflicts during their succession, lost enthusiasm¹²⁵. As later discussed, the Japanese had an influence on the Group as seen in a few of their later works. Although this was later rebutted by Hackshaw expressing it was only the proportions, the scale and the revered 'good taste' of the Japanese that had been imitated through a couple of their houses¹²⁶. As

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- 117 Clark, *Looking for the Local*, 15.
 - 118 Gatley, *Group Architects*, 7.
 - 119 Ibid.
 - 120 Ibid., 21.
 - 121 Group Architects, *Planning*, 4.
 - 122 Ibid., 5.
 - 123 Cull et al., *Open Home*, 26.
 - 124 Newton, "With the Back of an Axe," 1.
 - 125 Clark, *Looking for the Local*, 8.
 - 126 Barrie, "Aesthetic Robin Hoods," 74.

Figure 21: Auckland region, scale 1:380,000. Site I indicated as the epicentre of the other Group houses.

Figure 22: Excerpt from 'Planning' article defining the New Zealand vernacular.

previously mentioned, the Group's work serves as a starting point for this thesis.

3.2 Local and International Influences

In the mid 19th century British settlers brought their indigenous building style to New Zealand while migrating¹²⁷. Styles from Europe and America came alongside the import of international art and science as New Zealand aimed to be integrated into global society. 'Pure modernism' (seen as the original founding style in Europe) and regional designs were articulated in various ways once reaching New Zealand, as overseas travel became easier as was the exposure to foreign architectural ideas¹²⁸.

In the mid 20th century New Zealand became increasingly diverse, with a large percentage of that being of Asian decent, so has the extent of cross-culturalism. International influences have been localised to suit the conditions and resources within the Group's work- for example, the use of timber for construction due to the large readily available resource. Aesthetically houses have said to have been said to originate in form from the idea of 'whare' (a Maori house) or the shed, as mentioned earlier, similar to the concept of a 'bach' (or a holiday home)- coined for its small scale and simplistic or informal nature. Helen Gosset described Auckland in the 1940's as:

*"A complexity of motor wheels, iron girders, tall window - dotted buildings, flashing electric signs, vivid shop windows, traffic signals, and as a back drop for all this, the bustle of modern industry. These things make up the lives of moderns. Is it any wonder that they find a certain comfort in straight lines and the absence of ornament?"*¹²⁹

The Group derived their styles from a broad source of international precedents. They were largely inspired by Le Corbusier's strong-willed vision and theory; Wright's use of geometric forms and range of materiality; and lastly Aalto's use of regionalism and a humanist approach through form and detail. The Group also drew influences from countries such as Scandinavia, California and Japan¹³⁰. Although they were only understood through the media's architectural representation, sometimes misconstrued through the incorrect readings of imagery.

Finnish design was distinctly fashionable at this time and was notably favoured by several successful architects during the 1940s. William Toomath's 'Senior House' in 1949 for example demonstrated the use of Finnish details (figures 23 and 24). Toomath was also largely influenced through Browns' teachings. He saw his works as the only exemplar of an accurate canon of domestic architecture within New Zealand- 'its humanity and lack of pretension, remain a model for all of us who are trying to build houses for New Zealanders to live in'¹³¹.

With the mentoring of Vernon Brown, the group set about invigorating the post-war strife of Auckland city. With their focus on small houses it proved challenging for the larger architectural firms to understand the groups non-urgency of intensification- as to some this was absolutely necessary for social progression. Their aspirations for modernist ar

127 Taonga, "History of New Zealand's Architecture."

128 Taonga, "Modern Society."

129 Christine McCarthy, 'From over-Sweet Cake to Wholemeal Bread': The Home & Building Years: New Zealand Architecture in the 1940s,.

130 Gatley, *Group Architects*, 3.

131 Clark, Looking for the Local, 47.

chitecture saw the Group to be '...Fundamental rather than opportunistic'¹³². During the 1940 and 50s, international critiques suggested the modern New Zealand home had similar aesthetics of a cowshed, a reflection of the post-war utilitarian and rational approach towards architecture. The Group's main interest was to apply modernity's progression of technology and construction alongside the local necessities for a New Zealand context- '[the group] developed forms and spaces specifically for New Zealand conditions, climate and lifestyles; that their design language had a local lineage; that their houses responded to the wants and needs of New Zealand families; and that small houses for ordinary families were their express interest'¹³³.

Locally, the Group was inspired through the works of 'The Architectural Review' which advocated the '...conjunction of history and contemporary concerns...' through the exposure of picturesque visuals in order to re-educate society¹³⁴. Of course, the most influential to the group, was the mentor and modernist advocate Vernon Brown (a lecturer at Auckland University during the 1940s). Another important local figure was the work of Ernst Pilschke, an early exponent of modernist thinking in New Zealand architecture. Having working in Vienna for three years Pilschke moved to Wellington when the Nazi regime took over his homeland. During this time he became renowned for his ability to portray the initiatives of modern design through drawings and presentations¹³⁵.

3.3 Japan's Influence on 'The Group'

'... a number of the Group's houses do make use of unambiguously Japanese elements, although these were Kiwi-fied and sometimes given an oddly nautical twist. The Catley House included 'sliding Japanese -type wooden screens', but instead of rice paper these were to be lined with translucent nylon sailcloth. Similar sliding wooden screens were used in the Sumpter House, this time covered with opaque parchment. The Juriss House also fixed screens, but these were filled with woven cane. The Mallitte House included a large sliding door decorated with an image, strongly reminiscent of the painted fusuma sliding screen found in the interiors of aristocratic Japanese residences from the eighth century onwards'.

- Excerpt from Julia Gatley's: 'The Group Architects', p211.

With the mentoring of Vernon Brown, the group set about invigorating the post-war strife within Auckland City. Being amidst a surge of international precedents to contend with, it was the Japanese who were influential even within 'The Groups' early years. Eventuating in a hybrid of both new and old techniques, of which both appeared as 'new' to the New Zealand public at this time. The group was highly influenced by the World's Columbian Exhibition in 1893, the year Ho-o-den (A famous reproduction of a temple near Kyoto, Japan by the Japanese government was rebuilt). This exhibition was prolific in publicising the ideas of international architects- '...There existed a set of universal principles of functionalist architecture that went beyond historical and geographical particularities-... summarised briefly as standardisation, variety in unity, conformity to a mode of living, connection with nature, simplicity, and of course, usefulness to purpose'¹³⁶.

The limited amount of literature that was available to 'The Group' at this time was indicative of the little knowledge they had on the Japanese theory. Meanwhile in Japan, an all-time high of the conformists sought to implement the modernist architecture ap

132 Cull et al., *Open Home*, 27.

133 Gatley, *Group Architects*, 2.

134 Clark, *Looking for the Local*, 27.

135 Taonga, "Plischke, Ernst Anton."

136 Barrie, "Aesthetic Robin Hoods," 209.

Figure 23: Toomath's 'Senior House', Lower Hutt, Wellington.

Figure 24: Toomath's 'Senior House', Lower Hutt, Wellington. Showing the Finnish details

pearing in Europe in the 1930s, against the conservative nationalists that maintained the traditionalist approach¹³⁷. Japanese architecture was seen as proto-modern by the prolific German architect- Bruno Taut (as earlier mentioned). His three influential books unravelled the notions of Japanese architecture beyond its aesthetic value to the world. The simplicity and elegant lines of form were similar to reductionism found within modernism. Initiatives in Japanese modernist architecture saw the reformation of open plan homes, split levels, exposed rafters, indoor-outdoor flow and outdoor living- ‘This canon feels both monolithic and ephemeral, inescapable and diffuse, pervasive but hardly there at all’¹³⁸. These similarities to the Japanese were still drawn upon although not fully grasped by the Group.

The Group imitated the make of Japanese sliding doors and motifs throughout the Catley House, Sumpter and Juriss houses- ‘...They would likely to have been horrified, then, to understand the nature of the Japanese buildings whose forms they were imitating’¹³⁹. Communication errors within the Group themselves was seemingly apparent, as Hackshaw claims there was no influence from the

Japanese whatsoever albeit being seemingly rather obvious within the three previously mentioned houses¹⁴⁰. The geometric massing of these houses appears to be slightly more complex than the Group’s previous projects. Perhaps it was the intricacy of the Japanese detail that they sought inspiration from, or the complexity of co-existing space within the Japanese house.

Similarities could be drawn through the intentions of both the Bunriha and the Group through their provision of an internal environment requiring man’s presence and participation to fill¹⁴¹. Ultimately, the Group emphasised their view for good design to be judged on the fulfilments of need and purpose¹⁴². The logistical and careful planning tools were implemented in order to arrive at several possible solutions for the house, one that responded on both an international and local stage.

3.4 Form and Mind

The Group started to explore the psychological effect on users through architectural design towards the end of the 1940s- a new era of metaphysical exploration began. The subconscious world of the child, for instance, as it finds expression in his art; and the metaphysical speculations of ancient and modern thinkers are no longer smiled away as childish and superfluous¹⁴³. Looking towards the ‘metaphysical’ was the start to theorizing the designs they were producing instead of as purely standardised and functional buildings. The increase of mass-production saw the popularity of modular designs as prototypes, no longer individualising each house. This sense of ‘expression’ was lost for the importance of an economical solution for housing. The humanisation of architecture due to its’ imperfection, as the Japanese saw, was now lost through the accuracy of the machine- ‘...home is an expression of personality and family and their very unique patterns of life. Consequently, the essence of home is closer to life itself than to artefact’¹⁴⁴. Regardless the Group’s houses still insinuated a sense of craftsmanship and materiality through their use of local resources. Clark saw the need for New Zealand to start forward- thinking as he tried to define a vernacular in the mid 20th centu-

137 Ibid.

138 Gatley, *Group Architects*, 225.

139 Barrie, “*Aesthetic Robin Hoods*,” 203.

140 Gatley, *Group Architects*, 43.

141 Ibid., 374.

142 Group Architects, *Planning*, 5.

143 Ibid., 10.

144 N.S/ University of Trondheim, “*Juhani Pallasmaa: Identity, Intimacy and Domicile - Notes on the Phenomenology of Home*.”

Figure 25: Peter Zumthor's 'Therme Vals, Switzerland. Interior view.

Figure 26: Peter Zumthor's 'Therme Vals, Switzerland. Exterior view.

ry- '[New Zealand] needs to explore modes of thinking which move beyond both the a-theoretical stance of critical regionalism and the stylistic diffusion of conventional history'¹⁴⁵.

The perspective of the user within the house was mainly seen through a pragmatic response to a person's needs and wants rather than towards an ontological approach. 'The Group' perceived modernity as a means of a more rational and productive method of architecture, it was seen as a physical product of social progression. Epistemological and phenomenological values were either not considered, not documented or not of high priority for the Group architects. Instead a sense of nostalgia was invested through family values rather than architectural pleasure. Quite a contrast to the Japanese 'spiritual environment' that the Bunriha was so accustomed to dealing with, an 'environment' that saw the inhabitant's surroundings as an extension of itself opposed to a very conventional space of inhabitation. It is this perspective of domestic space that differentiates between the two groups' psychological perspective. By continuing the Group's work, it is to look beyond the physical and create a spiritual dimension to the houses we live in. Peter Zumthor describes this concept through his architectural methodology- 'Architecture is exposed to life. If its body is sensitive enough, it can assume a quality that bears witness to the reality of past life'¹⁴⁶. Zumthor's work is precedential to the experiential nature of the architecture within contemporary architecture (figures 25 and 26).

3.5 Form and Being

Form was largely dictated through the scale and proportion of the 'vernacular' style they were informed by. The small scale was early established within New Zealand, often being referred to as a form of meeting house, tent or woolshed¹⁴⁷. This sense of space was dictated by the function it was intended for it. In that sense it was the movement of the body that derived a standard measurement for each room. To live in ease was a high priority for the Group. It was the function of the house that was to be of great importance, reflecting the productivity of modernist thought. The client was also considered through the Group's strenuous planning procedures, as they took into accounts their families' lifestyle, their individual needs and the way it could be improved architecturally.

Similar to that of the Bunriha, the Architectural Group maintained the importance of national identity within the new architecture of the 1940s. The foreign concepts of modernism were to be personalised to fit the New Zealand criteria, or the specific daily functions of a New Zealander. This came from multiple references and was largely debated within the Group itself. Through the use of local initiatives, compositional pieces of architecture were carefully planned in order to provide prototypes of appropriate solutions. The Group's houses were usually facing outwards towards the view and the living area was fitted to entertain a small number of people as well as a family, reflecting the sense of community and tendency to entertain. The bedrooms were minimal and served the basic needs containing a bed, storage units and occasionally a desk for children. The small scale was important through the building form as it exuded a sense of modesty that was often a trait given to New Zealanders. Heightened ceiling spaces gave a feeling of height rather than an elongated design that would cover a copious amount of land (figure 27). A sense of space was also accommodated through the introduction of open-plan living, where several functions of the house could be played out at once. This created an aura of 'togetherness' as families were able to cook, eat and play all within view of one another. In this sense, the home became a framework for the typical New Zealand family to live rather than the haven of seclusion that the Japanese pursued¹⁴⁸. These flexible, multi-use spaces enabled elements such as light and visual access to penetrate each room easily from several directions. This also complied with one of the primary modernist principles of

145 Clark, *Looking for the Local*, 80.

146 Zumthor, *Thinking Architecture*, 46.

147 Clark, *Looking for the Local*, 8.

148 Cull et al., *Open Home*, 43.

Figure 27: Photograph of the living space in 'First House', Takapuna (est. 2010).

‘multi-use rooms.’

The Group’s houses were extremely responsive to the social values of their specific time. It responded to economical and practical issues of post world war two, taking into account the needs of the body and its’ daily routine¹⁴⁹.

3.6 Form and Landscape

The site was greatly important to the planning of the Group’s houses; it served as the starting point of most designs. They saw the site as a means to inform the internal spaces and the orientation of the house itself. As New Zealand is home to some of the most unique and diverse vegetation, it has long been a priority for New Zealand architects to maintain a sense of green space even within the cities. The Group saw architecture as a form of *total* design, one that should be thought of as an extension of the natural environment¹⁵⁰. W D Wilson sees the value of long lasting architecture that can be savoured for years to come, she states- ‘an object which is, because we will it, and may be, because we hope and desire it, and must be if succeeding generations of the enlightened sincerely and earnestly seek it’¹⁵¹.

Amongst such a beautiful and vast landscape of New Zealand, it was hoped that its’ built environment would heighten this natural wealth rather than compromise it through additional built work. As Barbara Stewart said in the ‘With the Back of an Axe’ article- ‘Architecture, the story goes, needs to rediscover the honesty, the functionalism, the responsiveness to climate and conditions of Maori housing, the pioneer shack and the first settler homes’¹⁵².

Their response to the land was a purely pragmatic approach to design while there was no thought to the potential psychological effects landscape can have on an inhabitant. Seen on a spiritual level, similar to the way the Japanese view their rock garden, it could be utilised for its meditative qualities. This could potentially start to inform the architecture not just on a functional level but also through a psychological connection or form, landscape and user. By emphasising this connection to the land it acknowledges New Zealand’s strong association with its farming and agricultural reputation-‘reflecting New Zealand’s legacy of a hardworking settler mentality’¹⁵³. ‘Landscape architecture’ was not officially recognised until the LI (Landscape Institute) was founded in 1929- “a fundamental part of design, planning and conservation profession, and a conscious departure from its former largely horticultural and remedial role”¹⁵⁴. This indicated a shift in societies view of architecture. Having been determined to re-build after the war, priorities were being shifted towards the maintenance of these untouched sites- ‘Auckland the rhetoric of Brown and the Group permitted little deviation from an agenda that argued for a nationalist, regionalist Modernism: acclimatised to this country, reflecting vernacular structures, suiting the local climate, built of indigenous materials, and with social concerns framed around the needs of the New Zealand family. Simple, straightforward, even raw.’¹⁵⁵.

149 Group Architects, *Planning*, 4.

150 Ibid., 3.

151 Ibid., 30.

152 Newton, “*With the Back of an Axe*,” 3.

153 Egoz, Bowring, and Perkins, “*Tastes in Tension*,” 4.

154 The new specialisation of landscape architecture saw the introduction of natural sciences, environmental policies and planning regulations be combined purely for the purpose of retaining and creating landscapes. . The NZILA (New Zealand Institute of Landscape Architects) was established in 1969. During this time ‘The Group’ was seeing their ideas on landscape having a fundamental role in the design of architecture, being shared. As the institute stated during their first meeting in November 1973 (Ibid 4-7).

155 Block Digital, “*Itinerary n.13*,” 1.

National culturalism proved to be popular in the following decades as demonstrated in the 1980s New Zealand documentary series 'The Elegant Shed' by David Mitchell. Mitchell gives insight into the architectural perspective of the early 80's within New Zealand. He describes the Group's houses to be "brilliant, spare, athletic art works"¹⁵⁶. Exploring his personal view on contemporary New Zealand architecture, he explores several of the nations iconic bi-cultural homes. In the documentary, Roger Walker explains his vision of a house to be diverse as the activities and happenings are within the home- '... The exact opposite to an industrial building' he says¹⁵⁷. Walker talks of suburban housing, voicing his drive to be different and daring, without compromising the client's brief. Gaining a feeling of space through the ability to look out to the harbour and gardens allowing for the view to be framed through his architectural ingenuity¹⁵⁸.

3.7 Extracted Themes

The following extracted themes from the Group research are defined in order to strategise a design methodology from their work. By reading through these three themes it is intended that the design-research is clearly defined and approached through the iterative case studies in Part Two.

The three themes have been acknowledged as: materiality, interior/exterior relationship and construction. These three will endeavour to maintain the ventures of the Group's work and their ideal of modernism within NZ, however they will also be contemporised to the 21st century.

Theme Four: Materiality

The materiality of the building was impertinent to the Group's designs. Considered separately from the idea of form, it was its surface that was of true value. The surface of the buildings' materiality can instantly change how the building is read and how the building is experienced from within. The use of colour throughout, in particular J. Hackshaw's (a 'group' member) house in Mount Roskill, sees the geometric appearance of the building be highlighted through the use of colour (figure 28- 31). Even through these recent photographs, taken when the house was for sale in July 2013, the sense of colours, bright wooden grains and patterned floors can be seen in their original composition (figure 28). The landscape is also another element of colour, as the house frames the surrounding greenery making it a dominant feature of the houses internal setting, as seen in figure 29.

The surface treatment insinuates as to what function the element serves; for example, the tiles indicate the function of eating or preparing food whilst the carpet gives the warmth to the living areas. Materials were also kept true to their natural state following Le Corbusier's theory of the value of aged materiality¹⁵⁹. This 'honest' materiality was typical of the modernists' work as they preferred stripping down the detailing and instead focused on the functionality of the element¹⁶⁰. The Group often chose to use timber as their primary choice due to the sustainable and local source being in New Zealand. The materials they used adhered to the minimal necessities that the Group and international modernist principles preferred, allowing for no decoration or waste of construction materials. The 'informal way of living' was a reflection of the exposed structural elements- 'showing

156 David Mitchell with NZ On Screen, "NZ On Screen - The Elegant Shed - 'The Extroverts.'"

157 Ibid.

158 Ibid.

159 Gössel, "Architecture in the 20th Century," 321.

160 Le Corbusier describes the rough surface of a concrete slab as a comparison of age on an aging person, describing the patina of a material as one that bears a sense of wisdom through age. This sense of 'honest' materiality was typical of the modernists' work as they preferred stripping down the detailing and instead focused on the functionality of the element- Susan Macdonald, "Materiality, Monumentality and Modernism: Continuing Challenges in Conserving Twentieth-Century Places," 4.

Figure 28: Photograph of the ‘Hackshaw house’ in 2013.

Figure 29: Photograph of the living space in ‘Hackshaw house’ in 2013.

Figure 30: Photograph of the kitchen in ‘Hackshaw house’ in 2013.

how the house was actually made' says Alan Wild (member of the Group architects)¹⁶¹. The adaption to local conditions was expressed as a strong precedent for small housing solutions. Julia Gatley states that the success of their architecture was through the careful planning of these small houses within her documentation of the Group¹⁶².

In 1992, Rainer Maria Rilke describes in the notebooks of 'Malte Laurids Brigge' the intimacy that can be found within the materialisation (or dematerialisation) of a home through an experiential view: 'but the walls themselves were the most unforgettable. The stubborn life of these rooms had not allowed itself to be trampled out. It was still there; it clung to the nails that had been left in the walls; it found a resting-place on the remaining handbreadth of flooring...'¹⁶³. Rilke captures through her work, the same nostalgia of materiality that Le Corbusier had previously admired. This admiration of the imperfect material captured a sense of its previous occupation while also maintaining the modernist style that these architects, and 'The Group', were so enthralled by.

Theme Five: Interior/ Exterior Relationship:

The sense of permeability from the inside to the outside of the house is evident throughout all the Group houses. Having identified the 'open-plan' as a method of combining the multiple functions within the Group's houses co-exist with the site and greater context is undoubtedly strong¹⁶⁴. This promoted a sense of freedom within the house as an 'in-between' space that connects the interior with its' external setting. By challenging the transparency of the traditional enclosed house, the Group started to re-negotiate this notion of a home being purely private.

They achieved this by opening the house up and out through a series of clerestory openings and large glass panels that frame the perimeter of the house. The houses took advantage of the typically larger section of the New Zealand home. By allowing the landscape to create boundaries of the house the walls were no longer relied on to create privacy¹⁶⁵.

The design process, as previously discussed in 'form & landscape', entails the Group's attention to contextualising their houses. By allowing the houses surrounding parameters to define the orientation and permeability of the house. In the manifesto they state: 'architecture is the planning of our whole physical environment... a vital architecture springing from the lives of the people represents the integration of all social and political effort, the expression of the culture of our society'¹⁶⁶. This lifestyle of engaging with the outdoors was reflected through the designs ability to engage with its surroundings. As the shift in indoor/outdoor living occurred, so was the efficiency of the house. It appears to have morphed from the internalised setting of even their 'First House' to the full transparency of the 'Rotherham House'. This portrays not only the increasing confidence of their design of thought-provoking buildings but also the popularity from the New Zealand public. By personifying the house to its surroundings and the brief of the users' lifestyle it enabled the building to take on a persona of its' own, one that has been adopted from the clients own way of life. The architect was now seen as the enabler of allowing this relationship and co-existence to occur between the indoor and outdoors.

Interestingly, the Group sought direction from Jiro Harada's 'Lesson' (a Japanese architect

161 3 News, "3 News on *The Nation*."

162 Ibid.

163 The Architectural thesis: Waterloo Journal of Architecture, "Robert Jan van Pelt, *Letter from Kolbenz*," 113.

164 3 News, "3 News on *The Nation*".

165 Barrie, "Aesthetic Robin Hoods," 48.

166 Group Architects, *Planning*, 5.

and author within the early to mid 20th century)¹⁶⁷. Harada describes his 'defined additive spaces' as part of the internal setting of a house, allowing the personal exploration of each space to give a subjective meaning of its' own to each explorer¹⁶⁸. While he describes the garden as the apparent opposite: that of 'undefined garden space', this he says allows for the interior to be defined through function of daily routine and the exterior to reflect the uncontrollable circumstances of nature¹⁶⁹.

Theme Six: Construction

The Group was consistent with their prioritisation of economically viable solutions when it came to construction. Typically using mainly timber construction framing, aluminium roof and joinery, concrete/brick foundations and timber cabinetry¹⁷⁰. This saw the use of local resources alongside with ease of quick construction as the assemblage of standard timber sizes was usually symmetrically arranged. By making the form of the house form a series of geometrical spaces with pitched or gabled roofs, traditional construction methods were often utilised. Creating a series of case studies that could start to be adopted by the average New Zealander.

Theoretically, the ideas of the Bauhaus were apparent through the building not only being based on function and ritual, but through the building as a blank canvas, one that starts to only take on a life of its' own once being inhabited. Their buildings resemble an aesthetic that resonates the designs of the Bauhaus movement. As the architectures' own form also demonstrates a degree of expressionism through the use of abstracted colour and spatial understanding¹⁷¹. Experimental in the way it provoked design thought and refining the ideas of functionalism into architectural spaces. The elimination of décor and the minimal amount of furniture meant that the houses appear to be a piece of art rather than the functional entities they were designed to be. This saw the configuration of the building as a whole through its construction, allowing for spaces to morph into one another through the permeability of its' barriers. This method of building construction saw that their architecture was a reflection of societies progression towards a more integrative approach to art and architecture and thus, theory and practice.

Conclusion

The Group provides an appropriate precedent for a typical New Zealand home. It provides a series of themes that are consistent with the architecture of early modernist work while still providing a platform of a New Zealand vernacular. Personally, their work is admirable for the contribution to New Zealand architecture. This was seen through their courage to adopt new styles without disregarding their own local heritage. The methodologies the Group employed in order to derive this typology of architecture will be implemented into the design phase of this thesis in order to continue their work and test its relevancy within today's era. The three main themes that will be focused on in order to secure a sense of accuracy are as follows (figure 31). The case studies will then start to analyse how these themes have been manifested within the Group's work in order to pinpoint their design decisions.

167 Barrie, "Aesthetic Robin Hoods," 74.

168 Soper and Harada, "The Lesson of Japanese Architecture.," 5.

169 Ibid., 65.

170 Gatley, *Group Architects*, 1–45.

171 Whitford, *Bauhaus*, 5.

THE GROUP'S KEY THEMES

1946

The Architectural Group- Auckland

functional themes		
	theory	architectural application
d. interior/ exterior relationship	<p><i>'...if we may not have space, then. we must be satisfied with the feeling of space. Outside every house there is plenty of it'</i> - the Group.</p> <ul style="list-style-type: none"> open plan living home does not need to be solely private and secluded. unity amongst the neighbourhood, the house and its' owner. 	<p><i>tabula rasa</i>: based largely on agricultural buildings or farmhouse forms.</p> <ul style="list-style-type: none"> engagement with the site: nestled/ perched etc.. all design decisions are based on the surrounding context of the house.
e. materiality	<ul style="list-style-type: none"> main vernacular materials are wood. Concrete is also used. modular and geometric patterns repetition of materials creating coherency and comfort. 	<ul style="list-style-type: none"> immaterialisation of the materials allow it to appear appropriate to its' setting- urban or rural. symbolic gestures of materiality allow function to be insinuated. practicality is crucial. 'consensus of community' (as the Weimar Bauhaus theory states).
f. construction	<ul style="list-style-type: none"> building in modules/ building blocks due to function. linear form. follows Otto Wagner's: 'utility is priority'. protection from elements but not disconnection. united in a single idea of purpose and beauty. 	<ul style="list-style-type: none"> craftsmanship is founded upon the idea of DIY (do- it- yourself). simplicity allows for the everyday man to construct. pure construction allows for beauty to be exuded at the same time. consideration of future re-use of materials.

Figure 31: Table diagram showing the main points from each theme and how they will aim to be manifested physically (author's own).

3.8 Case Study Two:
1953
TREMEWAN HOUSE

Architect: 'The Group' - Bill Wilson
Location: 56 Gloria Ave, Te Atatu, Auckland, New Zealand
Design: 1953- 54

The International style is greatly seen within this area of West Auckland and in particular Titirangi¹⁷². The marginalised style at the time, demonstrated 'largely flat roofed glass pavilions' as a localised version of what was seen of early modernism overseas¹⁷³. The Tremewan House represents a typical Group house demonstrating their methodology through the extracted themes of materiality, interior/exterior relationship and construction. The analysis of these will see the Group's theoretical stance as it is manifested within their architectural works.

Representation of the Tremewan House

The Tremewan house was represented through a series of photographs exemplifying the house nestled in amongst the natural landscape. Situated right next to Gloria Park (a public reserve), the house was photographed with the park shown next door (figure 32). Figures 32 and 33 show the evolution of the house as it is today, from when it was first built in 1953. In the recent photo the natural setting has grown considerably now encompassing the perimeter of the house, consequently juxtaposing the natural against the intricacy of the white joinery of the windows grid pattern. The linear framing that continues from the building form allows for this growth to occur and manifest itself as part of the design.

Theoretically the idea of the courtyard being incorporated to a domestic home was first seen through 'The Demonstration House' by the Group in 1948¹⁷⁴. Said to be inspired by homes seen in Egypt and Palestine whilst the Group. In particular, Hackshaw was heavily influenced by the typologies seen in Italy and Spain during the war period upon his travels (possibly similar to the same styles Horiguchi saw during this same period within Venice). The house demonstrates some of their trademark features such as the symmetrical form, the skillon roof with exposed timber rafters and clerestory windows, as later discussed.

The house reflects the values of the Group's manifesto- creating a sense of warmth through the familiarity and cohesion of elements. Reflecting the lifestyle of the New Zealand domestic appearing to be both inward facing but also exposing itself to the public space it faced. The house distinctly recognizes a shift in the vernacular standardised home towards a new yet primarily functional scheme (figure 34).

3.8.1 Materiality

The fairly blank exterior of the Tremewan house ensures that it appears modestly amongst the quaint setting of Te Atatu. Cladded in weatherboards, the house is experimental of different design schemes for housing. Moving away from the typical rectangular or square shape of the typical bungalow or villa of the 19th century, the U-shaped courtyard house spurred new thought in architecture

172 Block Digital, "Itinerary n.13," 1.

173 Ibid.

174 Architectural Centre (N.Z.), *Demonstration House*, 1-4.

al form¹⁷⁵. Split into 3 parts along the courtyards edge, the living and bedroom wings are connected through the dining space (figure 35). The house was a direct response to the site, intended to be a subtle intervention into the existing landscape.

The new materials exude a sense of warmth and the ‘vernacular’ sense that the Group so strongly advocated. The use of white timber accentuates the intricacy of the framework framing each window pane and the overall view from the interior to the exterior¹⁷⁶. The timber is left natural interiorly, contrasting the exterior white painted of the house. This neutral appearance drew focus towards the centre of the house, the semi internal void that created the courtyard. David Mitchell saw the vernacular qualities of the Group through the use of a ‘low mono pitched roof’ and noted the buildings success within its’ context as it had been designed specifically for the family and site¹⁷⁷. It was a minimal and well-considered example of the attention to detail as the furniture matched the interior fit out through the continual use of timber. These details visually run from the top to the bottom of the building, continuing to disappear into the ground level or within the house itself. The Bauhaus theory is evident within the design through the continued use of materials from the exposed rafters, to the furniture and décor. The In-built cabinetry and fixtures encourage the use of natural materials and create the warmth that are exaggerated by the crisp white edges and the deep green landscape beyond, as seen in figure 35.

3.8.2 Exterior/ Interior Relationship

The Tremewan house was built, similar to some of their previous work, around the idea of a centralised courtyard. Evidently similarities are drawn from the ‘Okada House’ (case study one). The concept was said to be reminiscent of a school dormitory as it lacked some of the spatial diversity that the Group’s other experiments had achieved with the same typology. The house expresses both the nine-square floor plan that the Group had been implemented into several homes thus far. This U-shaped floor plan allows for sufficient visual and physical access into both the house and the garden. The use of the courtyard is utilised as the private outdoor space that would usually be the back lawn within a traditional suburban site, without restricting the house from the rest of the surrounding site, this courtyard enabled the users to have a backyard by internalising it within the building form. The introverted nature of the house is counteracted through the high use of glazing on all sides of the wings even exposing the bedroom areas. The increase in glazing within the homes frame emphasizes Wilson’s intent on indoor/outdoor living that was dominating this era. The provocative design started to re-define the use of outdoor space as a secondary living space, allowing the users to occupy this in-between space throughout the year.

As the house has aged, the vines have been utilised in disguising the house from the back and creating privacy from the increasingly popular park and increase of neighbours, as shown in figure #. The house is as vibrant as ever, as it appears in its’ original state, however does not appear dated. The house demonstrates the on-going success of a carefully planned home, one that engages with the site and the user through multiple junctions within the house layout¹⁷⁸.

3.8.3 Construction

The nine square plan of the Tremewan House allows for an efficiency of space through the ease of interconnectivity of all wings. The building sits directly onto the site with no appar-

175 Block Digital, “*Itinerary n.13*,” 3.

176 Gatley, *Group Architects*, 111.

177 David Mitchell with NZ On Screen, “*NZ On Screen - The Elegant Shed - ‘The Extroverts.’*”

178 Newton, “*With the Back of an Axe*,” 5.

ent floor slab form the exterior. This gives a clean line of architectural form expressing the simplicity of the buildings construction, sitting on top of the land as if it was just placed there. The house consists of a U-shaped (in plan) timber frame. The appearance of each wing being extruded from the main living and garage area is created through the depth of the courtyard, appearing to be carved out of the middle of the building.

The linear program is only broken through the slope of the roof plane directing the eye towards the middle of the building where the exterior starts to merge into the interior- 'the skillon roof slopes inwards, towards the courtyard side'¹⁷⁹. The higher edge of the roof also allows for the spaces to seem larger through this verticality. Clerestory glazing runs around the outer walls as it runs from floor to ceiling most of the way, as the double doors open the interior of the house into the courtyard¹⁸⁰. The building envelope is penetrated by light from all directions as the privacy is catered for through the use of curtains, allowing for the user to manipulate the space to its preferred condition. This flexibility of space was revolutionary for this time period. The opening of the windows from the bottom to the top also recognises a potential reference to the Japanese, traditionally creating windows to open vertically rather than from left to right.

Conclusion

In conclusion, the themes explored through the analysis of the Tremewan House will aim to be implemented into the design phase of this design research. It will allow for these themes to be manifested through the architecture it creates. The fusion of these three themes will aim to demonstrate similiar strategies to the Group. It is intended that the nostalgia of a home, as defined by the Group themselves, will be maintained through the considerations of materiality, interior/ exterior relationship and construction. These will be shown, where necessary, through a series of matrixes breaking down the considerations of each theme to co-inside with the design concept at each phase.

179 Gatley, *Group Architects*, 111.

180 Ibid.

Figure 32: The Tremewan house, Te Atatu, in 1953.

Figure 33: The Tremewan house, Te Atatu, in 2011.

Plan of the Tremewan House at 1:200. GP98;
 redrawn by Nick Sayes, © UoA Architecture Archive.

The Te Atatu neighbourhood was undeveloped when the
 Tremewan House was first built. Architectural Centre Collection,
 PA-Coil-0811-12-03-07, Alexander Turnbull Library.

Figure 34: Floor plan of the 'Tremewan House'.

Figure 35: Living room of the 'Tremewan House'.

Chapter Four

04

Limitations and Justifications

In order to implement the research into a design, it was intended that the themes were to represent the strongest elements from both groups. It is however acknowledged that there are numerous amounts of considerations that have been omitted for the purpose of this design-research. The overlapping of these themes (from the Bunriha to the Group) is shown through a series of matrixes that connect the theory to the physicality of the design at each stage (not shown for strategies A and B as the themes were not considered at this point). Intuition is also indicated through the matrix series, as it became evident that through this process there was a play of the subconscious that would sway design decisions following the interest and depth of the research.

A limitation of the project's sense of experientiality is that, of course, it can only be represented through the following imagery rather than actual experience. Therefore it is left to the imagination to experience these designs through one's own subjective perception- 'In the process of assessing the relationship between the domestic and the foreign we must consider the issue of representational value... taking into account what is perceived as popular, beautiful and powerful'¹⁸¹.

The reliance on a purely 'architectural image' has undeniably shaped the perception of domestic architecture within New Zealand. Through an image the realities of a built work can be concealed consequently removing any experientiality of form. Tidwell acknowledges that the image of a place has now become a component of the place itself- '... creating an ambiguous relationship with [our] urban milieu'¹⁸². Post-modernism has influenced society through a string of visual productions- insinuating an experience or phenomena of a place. This disconnected experience has been, at time, destructive to the way we perceive successful built works. No longer is it 'produced, promoted and evaluated' through a subjective personal experience but through the reproduction of essentially the photographer's experience.

As both precedential groups are from the early to mid 20th century, their intentions will need to be contemporised to suit the social and economical issues of today. This will aim to maintain their methodology to ensure the retainment of a vernacular, however will stray from being purely economical within some strategies for the purpose of experimentation. It will instead revolve around:

The need for experiential within a home to personify rather than tangible items.
A series of spaces that create a sense of atmosphere whilst maintaining a vernacular.

The extremities of these themes demonstrate potential design ideas that could be implemented partially or as a whole into a houses design. As the expenditure on architecture within New Zealand is increasing, through both international and local buyers, the house

181 Baumeister and Lee, *The Domestic and the Foreign in Architecture*, 18.

182 Ibid, 45.

typology is becoming experimental again. As people want to have a home that is individualised. This concept can be seen clearly through the typical 'bach' whereby owners are more likely to explore an alternative design to the urban setting of their home. Therefore, 'Case Study D' is not restricted to any average floor area in order to allow a sense of freedom to explore spatial qualities.

Through not having a particular client in mind, it is intended that the design be for an average family of four. This is in order to create a prototype that would be considered to represent a typical family.

The thesis follows a design research structure, where the designs reflect the depth of research and demonstrate a growth of understanding throughout the year. Therefore, there are five design case study houses that showcase different design drivers and considerations at each specific point of the thesis. These present a series of iterations that could continue to be explored, generating a new typology of domestic architecture within New Zealand.

Chapter Five

05

Analysis of Case Studies for Possible Solutions

Analysing precedents that were not the main groups of the Group and the Bunriha was considered necessary for the relevance of contemporary architects. Kengo Kuma demonstrates a similar ideology to the Bunriha through his architectural technique, proving that the building can read with historical reference while still having modern use. Ando sees the functional and the spiritual as impertinent to the building's success. The case study will be analysed through the three main themes as outlined through the Bunriha research, allowing for a contemporary project to demonstrate a similar methodology.

5.1 Case Study Five:

'Noh in the Forest'

Architect: Kengo Kuma

Location: 42 Teraike-kamimachi, Toyoma-machi, Tome-shi, Miyagi, Japan

Date: 1995/96

Square Area: 498.51m²

Kengo Kuma serves as a strong precedent for this work. He allows for tradition to inspire his purely contemporary works through form, texture and colour. He is fascinated by the idea of the 'immaterial', constantly trying to de-materialise architecture itself¹⁸³. Kuma entices the user to be involved with the architecture, by creating a sense of atmosphere- a spatial realm around them. This articulation of boundaries is what sets Kuma apart from architects of today. He is not afraid to be explorative in the way he designs, spurring people to think differently about their built surroundings¹⁸⁴.

'My aim is not to create particle-like works of architecture. I want to create a condition that is as vague and ambiguous as drifting particles'

- Kengo Kuma

A 'Noh' stage was first established in the 16th century within Japan originating from the Edo period (1600- 1868) it was a place intended for the *Toyoma Noh* act (a special dance performance originating from the Tayoma region)¹⁸⁵. Kuma allows for the tradition of the performance space and the site's natural sensuality to be encapsulated within the design. A careful balance of function versus beauty allows for this building to enhance the existing environment rather than compromise it. The use of natural materiality allows the building to be immersed within the surrounding forest (figures 36 and 37). Kuma allows for the materiality of the building to define and disperse the buildings' form- "Their size must be determined in response to the distance between them and the observer, the relative size of other particles and the framing. Selecting particles, their size and details, is the central focus of my designs"¹⁸⁶. The performance stage consists of earth, wood, bamboo, stone and delicate rice paper, making a composition of horizontal and vertical axis that correspond and contradict the earth's surface¹⁸⁷.

183 "AllVoices": Kengo Kuma, "Video."

184 Bognar, *Kengo Kuma*, 36.

185 Kengo Kuma. "Noh Stage in the Forest," 3.

186 Vladimir Belogolovsky, "Elusive Architecture: Interview with Kengo Kuma".

187 Bognar, *Kengo Kuma*, 36.

Shadow

The stage is traditionally a very simple pavilion-like space. A space that is left open to the audience's interpretation whether it be viewing a play or viewing the space as empty. Due to its slender columns and the contrast of its heavy roof, shadow is cast upon only the depths of the roof itself. This is due to the light being easily filtered in from all sides of the structure (figure 38). Having the building raised also allows for the floor plane to be emphasised creating a sense of impermanency. The dramatic performance that is the *Noh* allows for the simple structure to become alive during shows through its own function. As people inhabit the space it casts shadows upon the ground plane

enhancing the effect of the show. As the building is defined through the use of shadow and the contrast with natural light. Where the light hits the grain of the wood it also makes it appear slightly translucent as the surrounding trees cast their silhouettes onto the wooden planes¹⁸⁸. The fluidity of the building is emphasised through the continuation of this shadow, following the roof line and the ground plane as it appears to weave through a series of interconnecting spaces- 'Establishing zones without creating a serious physical spatial barrier'¹⁸⁹.

Reflection

The consideration of reflection again involves the use of the wood as the stages primary material. As both artificial and natural light hit the surface of the grain it becomes accented (figure 39). Allowing the light to amplify within the space explores a sense of intangibility even without the use of glass. Kengo allows for this 'projection' through the use of the long linear floor and roof plates¹⁹⁰. This exaggerates the elongation of the building while simultaneously juxtaposing the verticality of the neighbouring trees. The delineation of these spaces comes from the play on light and shadow, as previously discussed. It allows for the simple form to take on the natural characteristics of the forest, allowing the building to camouflage into its setting.

Theoretically a sense of fragility, similar to many of Kuma's works, is intended for the buildings purpose. As the building is fully exposed to the external conditions of the Toyoma forest, it heightens the users' awareness of the human condition of temporality¹⁹¹. Kuma bases these ideas with the architectural intention of producing spaces of phenomenological value- '...[creating] boundless compositions that have neither hard edges nor a singular focus'¹⁹². He also plays with idea of material perception in order to compose a building that seems to defy gravity in some places yet in others, is slightly submerged within its landscape. This has references to both the traditional Japanese housing method of elevation and also to the early works of Le Corbusier.

Permeability

The *Noh* style of musical intended for the open air is somewhat similar to a pavilion space, Kengo acknowledges his interpretation as his 'preferred' venue. He explores contemporising these spaces through the use of new technologies and materialises, however doesn't

188 Vladimir Belogolovsky, "Elusive Architecture: Interview with Kengo Kuma".

189 Ibid.

190 Ibid.

191 Bognar, *Kengo Kuma*, 37.

192 Vladimir Belogolovsky, "Elusive Architecture: Interview with Kengo Kuma"

lose the essence of the traditional true meaning. By allowing the eastern and western ways of thinking, similar to Sutemi Horiguchi's intentions, he allows a hybrid of theory and aesthetic to be apparent. Incorporating the functionalities of the theatre stage it was to satisfy the humidity, temperature and acoustic levels, achieved through the use of creating an outdoor 'amphitheatre'. Allowing the curvature of the building and the trees embrace to reverberate the sounds. This is compared to the typically western way to create a purely internal space (typically concrete) in order to satisfy these user conditions.

The space between the stage and the audience disappears- the 'emptiness' (*ma*) is the most important concept of Japanese culture (figure 38)¹⁹³. This creates a sense of transparency, of in-between indoor and outdoor. There are many little reminders of this tradition, for example- where the strip of concrete gravel separates the audience from the stage. This implies the removal from the everyday allowing for the line to resemble a sense of reality from illusion. This area is traditionally known as the *shirasu*, a place for the audience to contemplate during the intermission¹⁹⁴.

As the stage is set back and embedded into its' natural setting alongside a small museum below displaying costumes and masks for visitors to explore. Kuma has enabled a new type of public architecture through the involvement of both people and nature- 'If the building as weak as the human body and in proportion to the body then we feel comfortable'¹⁹⁵. "Noh Stage in the Forest" demonstrates the simplicity that Kengo exudes alongside his juxtaposition of encapsulating the unpredictable continuum of human life.

Conclusion

In conclusion, Ando depicts the essence of Japanese architecture through his works. His attention to materiality and the sensual properties of its use allow for a multi-sensory experience. He encourages Japanese tradition by ensuring high attention to detail through a sense of craftsmanship. He narrates his architecture as if it was a piece of art, allowing for the inhabitant to occupy the space and embrace differing perspectives. Ando's work is an important precedent as it is a product of both modern and historical thought. Creating works that pay tribute to the past and the future of Japanese architecture.

193 Kengo Kuma. "Noh Stage in the Forest."

194 Fenollosa and Pound, "Noh" Or Accomplishment, 54.

195 Bognar, *Kengo Kuma*, 43.

Figure 36: Photograph of natural light coming through the trees.

Figure 37: Photograph of the linear forms of 'Noh in the Forest'.

Figure 38: Photograph of 'Noh in the Forest' stage.

Noh in the Forest- Kengo Kuma 1996

Figure 39: Section (left) and photograph (right) of a panel of the facade system.

5.2 Case Study Six:

A second Group house is analysed predominately for its similarity to the 'Tremewan House'. The 'Demonstration House' proves to have a large amount of documentation opposed to the limited amount of information on the 'Tremewan House'. This insight into the design process gives a deeper understanding of the design decisions made within the Tremewan House. Case study six demonstrates this through the consistencies of floor plan, layout, scale and client brief between the two houses. This is analysed through the three main themes extracted from the Group research of materiality, interior/exterior relationship and construction.

1948/49

The Demonstration House

Architect: 'The Group' Architects

Location: Karori, Wellington New Zealand

Following The Group's 'First House' and 'Experiential House' was the design of the 'Demonstration house', designed as part of the Group's participation in the third annual summer school competition at Auckland University (1948-49). As one of the Group's first designs it reflects their belief in encouraging yet restricting the complete turnover to modernism within New Zealand. Exemplifying the students' ability to embrace the international style with local relevance. The group's intention was to create a 'detached suburban home' that showed the possibility of having an affordable and practical modernist home. The spatial arrangement, the flat roof and the U-shaped plan of the house intrigued both the public and the media in the year of 1949. They stated within the documentation that the house would be conducive to the mental wellbeing or of a spiritual nature of the user to assert a sense of 'enlight[ed] living'¹⁹⁶.

The implications of light and form have been taken into account carefully due to the orientation of the house on its site (figure 40). Demonstrating their provision of a practical and sustainable solution to housing rather than an experiential one. The three main elements that are deemed necessary for a New Zealand house as stated by the Group is the need for a feeling of space within the home, design is to be suited to occupants and lastly, there needs to be efficiency of the home- '...because a house is not where a family is imprisoned, but where it lives...'¹⁹⁷. The floor plan and building configuration is largely based upon practicality and ease of the everyday - 'the fireplace is designed to obtain more fuel than the usual 18% efficiency of an open fire'¹⁹⁸. The house was to be 'somewhat non-committal and yet avoid the impersonal atmosphere of a hotel suite; they had to provide an unobtrusive background which would allow full scope for individual expressions of taste when the family took up residence' (figures 41- 43)¹⁹⁹.

Representation of 'The Demonstration House

The Group supplied a pamphlet alongside the completion of 'The Demonstration House'. In this, the Group described the house in 'procreative and familial terms'²⁰⁰. The Group produced a story to describe the conceptual process telling it through narrative form. This expressed the building from being born, to growing, describing the life of the building to

196 Architectural Centre (N.Z.), *Demonstration House*, 6.

197 Ibid., 5.

198 Ibid.

199 Group Architects, *Planning*, 6.

200 Architectural Centre (N.Z.), *Demonstration House*, 3.

be a metaphor in an attempt to humanise the building- ‘...the child grew. At times it was a troublesome little brat- it had a healthy appetite for materials which the market could not always satisfy, sometimes it demanded from its parent a reply to something they had not considered’²⁰¹. The methodology of the building was seen to have incorporated a life of its own. This was their attempt to personalise a building through the process of its design rather than through a subjective sense of style.

The ‘Demonstration House’ outlines the process in a way that is not proclaimed elsewhere. It describes the project as a demanding but fulfilling task of the students and their mentors (figure 44). It tells about the amount of labour and shortage of materiality that the student endeavoured alongside their own university workload once the summer was over. Through a series of views diagonally across the site Wilson suggested that the timber house in the bush had become New Zealand’s architectural identity. This is the theoretical basis that the Group built upon throughout their projects within their short-lived and largely undocumented collaboration- ‘there is no aspiration to attract attention through ostentation, through style, be it classic or “moderne” or through deliberate freakishness’²⁰²..

5.2.1 Interior/ Exterior Relationship

The intended relationship between the indoor and the outdoor was said to embrace the sense of stability, a contrast to ‘Noh in the Forest’. This is an important point that differentiates the meaning of a ‘home’ between the Group and the Bunriha. The pragmatic response of the Group towards a home suggests that the home is a purely static entity, largely reflective of society’s psychological relationship with a home. Within the pamphlet the house is clearly stated as immobile, the Group acknowledges the need for different architectural solutions for each specific site- ‘the house will be wedded to its site- there can be no divorce’²⁰³. They emphasised this point further, stating within ‘Planning’ that the ‘... house is married to the land’ and must be specific to such contextual elements. They state the house must play homage to its’ site and not be designed as competition to its’ surroundings’ (figures 43 and 44)²⁰⁴.

The perspective drawings show the large amount of window area and openings, permitting the permeability between interior and exterior (figures 47- 49). This is heightened through the insinuation of outdoor living space within the courtyard. This starts to blur the boundary and redefine the conceptions of outdoor space being purely public. The U-shape of the house allows for a stronger connection between the inhabitant of the building and nature. Despite traditional concepts of a New Zealand home, the interior space now envelopes the void creating a semi-internal area. This is ensured through the sense of privacy and protection from the natural elements through building form.

The Group appears to have followed Frank Lloyd Wright’s idealisation of the fireplace being the hearth of the home. However, as seen within the ‘Demonstration House’, this ‘hearth’ no longer has to be at the centre of the home. The traditional building plan has been manipulated from its’ original state. It is the void that now fills the ‘centre’ of the house, seemingly a space that is ironically functionless. It is read that this directs this sense of ‘warmth’ to not just the interior of a home but also the space it occupies- ‘...if we may not have space, then, we must be satisfied with the feeling of space. Outside every house there is plenty of it’²⁰⁵.

201 Ibid, 4.

202 Ibid., 8.

203 Newton, “*With the Back of an Axe*,” 8.

204 Architectural Centre (N.Z.), *Demonstration House*, 9.

205 Ibid., 4.

5.2.2 Materiality

The building demonstrates the use of local materials. The shift to vernacular construction already steers the design away from the monolithic nature of a typically modernist building meanwhile determines the internal setting within the house. The framing of Insignis pine is light, strong and easily worked for ease of construction as the same material is used continuously throughout the house for the utility room and other surfaces²⁰⁶. Pine timber was also being implemented largely in Scandinavian and American homes at the time to line internal walls. The design was built specifically with the Wellington conditions in mind- ‘...in any case not every man who builds in Wellington can have level ground, and some must take it sloping away from the sunlight’²⁰⁷. The natural detail of the woodwork grain was kept in its’ original state as the wall finishes were kept to a minimum in order to not force a certain aesthetic onto the user. The materials for the furniture were also largely taken into consideration. The use of light plywood and foam rubber filled upholsteries allow cohesion without distracting the eye from the overall composition of the room.

5.2.3 Construction

‘The Demonstration House’ is built in the same pragmatic way that the design was finalised. The homes’ foundations were primarily a concrete floor, reinforced with steel mesh and poured over consolidated filling²⁰⁸. A flat roof houses passive systems put in place to weather resist proving to eco-inside with their desire to be highly economical. The use of a solid pivoted panel over the windows allowed for maximum uninterrupted window space. The rafters that run between each wall panel were exposed, mainly in an effort to make the housing type cheaper and again viable for an average family. This was reflected through several of their design decisions, as the building code allowed them to space their plywood linings at wider stud spacing’s, minimising the amount of materiality used (figure 47- 49). The building style leans towards an understated but tasteful iteration of a ‘Kiwi home’. It encourages modernist elements where they complement the local contemporary context of New Zealand as well as the traditional values of a home. The building is designed as an asset to the scene, intended through the lack of ostentatious design or overly ornate fittings.

Conclusion

The ‘Demonstration House’ provides evidence of the Group’s methodologies. It showcases a new way of thinking by seeing the building as a living entity that grows with the family it houses. By allowing this new perspective to emerge, a home now appeared to take on its own persona and encouraging the need for quality architecture to be produced within New Zealand. The house emphasises the consideration of the three main themes clearly, allowing a greater understanding of the Group’s decisions and their determination to maintain a vernacular style.

206 Ibid., 8.

207 Ibid., 3.

208 Ibid., 7.

Figure 40: Photograph of the Demonstration House in construction phase (The Architectural Centre Inc. 6).

Figure 41-43: Photograph of the Demonstration House in construction phase (The Architectural Centre Inc. 6).

Figure 44: Floor Plan of the 'Demonstration house'.

Figure 45: Diagram of 'the problem' of the site.

Figure 46: Diagram of 'the Group's the solution'.

Figure 47: Drawing of the children's bedroom.

Figure 48: Drawing of the main bedroom.

Figure 49: Drawing of the living room.

Chapter Six

06

Personal Manifesto & Methodology

It has been established the Japanese way of thinking could relieve New Zealand from its current lack of architectural identity. The proposed strategies ensure the accommodation of the psychological needs of contemporary man, through a sense of self-identity and national identity within domestic architecture. This could play a vital part in the post-modernist movement of New Zealand culture and create a standardised yet unique vernacular to our contemporary nation- ‘...[as] a hotspot of the volatile exchanges and struggles between the domestic and the foreign’²⁰⁹. It is seen that the realm of domestic architecture within New Zealand does not cater to the psychological and thus, the experiential. This will now be considered strongly through the embodiment of meaning rather than just an imitation of international aesthetics stemming from the initial rise of modernism.

Spatiality needs to inform the external form and insinuate a sense of self through the users’ own perception. This acculturation will not only strengthen ties with Japan and its people but also seek to provide a psychological haven for New Zealanders at home. Achieved through the consideration the mental state within domestic spaces, shifting the focus to an experiential purpose of architectural form. A home’s interior should be reflective of the building’s relationship to being, mind and land. These ideas have been generated through the study of the Bunriha’s architectural methodology and are to be localised through the Group’s ideals of practicality. The arrangement of spaces should dictate the form without restricting the inhabitant, aiming to create a set of contrasting spatial conditions that heighten the users’ consciousness within the familiarity of a home. The Bunriha’s principles of traditional Japanese design principles be utilised alongside the necessities of a modern day man. A contemporised hybrid of both groups’ architectural intentions is explored. By mediating the user’s sense of well-being through the physicality of a domestic space it could start to rediscover a sense of self. The manifestation of the Bunriha’s methodology aims to balance the cultural identity, meaningful aesthetic and the users’ relationship to nature.

It is argued that domestic architecture should no longer be considered purely as the construction of space, but rather a place for the body and mind to rest and reflect. These spaces should not be designed spaces purely for function’s sake; they should also take on a meditative role, providing a blank canvas for thought. Projecting memories upon these as time passes and collecting a sense of self through the way in which we identify us to the space in which we dwell in rather than the material we are surrounded by. The architecture will be an individualised language that seeks to both negotiate with its historical landscape while also metaphorically displaying a sense of contemporary shift in conventional thinking, one that leans towards a new haptic architecture- ‘Their very existence is a manifestation of human spirit and community through overlapping sets of associations and experiences’²¹⁰.

From a defined but evocative series of spaces, a precedent emerges that can relate to different people on a subconscious level. These will allow a new field of architectural experimentation to be disseminated in further design-research work. All parts of the house will aim to serve purposes of both function and beauty simultaneously. This is the similarity

209 Baumeister and Lee, *The Domestic and the Foreign in Architecture*, 15.

210 Nair, *Configuring Community*, 18.

between the two groups and the modernist ideology. The composition of these spaces will be read as a whole subjectively depending on the users' preconception of a home- '...from the undistracted framework it is possible to appreciate the unsuspected aspects of nature, of place' ²¹¹.

It is intended that this new hybrid of architecture works dynamically in tension through the main themes be discovered. These will all be navigated through the manipulation of architectural form as a response to the socio-cultural context and the physical landscape of NZ. This hybrid will create a new national idiom that transcends the cultural barriers of architectural style and thus works to draw strengths from each respectively. The tension created within the differing perspectives of self, natural and built will initiate discussions of architecture within culture.

The following diagram outlines the parameters of research that has been discovered so far. It differentiates and compares the sense of a home between both Japanese and New Zealand cultures. This is done through the relationships of form and mind, landscape and self. By acknowledging that the perception of a home is largely subjective due to individual experience or cultural values, it starts to indicate what values are important to each specifically.

micro scale- interior- experiential- subjective

mid scale

1/ architecture as organism
Form & Mind

family
space
garden
seclusion

2/ env

looking from inside to out

Japanese

not revolved around the aesthetic but rather the **psychological perception**

purely experiential- based on the sensory elements of the inhabitant experiencing the place

ma- plays a large role in all following paradigms- **acknowledgement of the void** rather than the built

idea of **emptiness** allows for growth and exuding ones' self through the psychological connection rather than a physical ownership.

guests are made to feel welcome through the same sense of **empowerment of familiarity** of architectural elements.

self reflection is re-focused upon the occupant's own perception of themselves rather than others

stripping away the ornamentation and decoration the owner is rewarded through their own satisfaction of morality/values, culture and sense of tradition rather than individual style.

space and time are measured as conditions of each other- moving past each other at different rates.

mind over matter

vulnerability raises wareness of ones'consciousness

vague and ambiguous exterior creates a sense of euphoria

transcience and imperfection are created within each void/ space

Have a very high regard to the land- find the architectural parameters as part of a cultural establishment- common understanding

rituals establish rooms orientation, scale and proportion

garden is an extension of the building and another level of **mental connection** to the exterior.

sense of self is embedded through the everyday activities within the home rather than the home itself.

expression is not displayed- however through contemporary modifications it has been introduced.

New Zealand

not a lot of consideration to the mental well-being of occupants- this mental association develops with time and place (opposed to space).

identity is exuded through a sense of individuality- interior decor, exterior apparence. Personalisation of each room etc..

Houses are designed through a medium of owner and architect

Kiwi culture has started to abolish even the traditional kiwi bach that was once considered iconic

architecture has not yet been considered in terms of **psychologically**

gardens and large properties allow for a sense of space and luxury within an urban setting (low density compared to that of Japan).

buildings are made to appear **sturdy and reliable** from the inside and out

reflect the owner and the genre it was created in (or sometimes contradicts the genre in order to be controversial or reflect fast progression)

Spaces are mapped out due to owners needs- **pragmatic and customised.**

seclusion is not intended- neighbourhoods are usually quite collective- form communities/ social groups

privacy is only intended in terms of sleeping and changing- exposure of ones self due to social acceptance.

a home implies a sense of comfort and ease of function within

there are **no certain parameters for each home owner-** one is flexible with the style, internal design, orientation, materiality etc..
- apart from the district codes outline

there seems to be **no coherence-** not necessarily a negative however.

more of a physical association to where home is- where you grew up, where you spend the most time.

Home is not temporal but can change

Emotional content is yet to be manifested within the physicality of a NZ housing strategy

of a 'home'

micro scale- local context- landscape macro scale- social and cultural influences

close relationship

added- at one- not separately consid-

phy as architecture

able imperfection- represents reality

ollic

otic with nature

lary to landscape- nature over land

ereal- greater forces acting- mythological

sis the use of the ground plane- the

inside the **unknown**- the horizon, the sky
e ground.

the architecture itself as a **representation**
ure rather than just framing the landscape
nding

ilding adds to the landscape.

s the same ideal of **imperfection and un-**
stability.

considered towards the historical nature
lised landscape

a starting point of design rather than an
le to work around

ociation with landscape/ground

ppportunity for built work- views or the water are
igh regard

ade dominates natural

ot represent the tempremental nature of the earth
(natural disasters).

ents the land through local materials but not form

only related through the framing of views- maxim-
value

nt of landscape is considered in terms of how it
work for the building rather than with

ape accomodates the building

andscape *adds* to the building- large use of yards to ac-
late lifestyles- sense of freedom while also
safe

t work **alters the landscape**- retaining walls, change
r sources etc. seen as alterable rather than elements
n't- e.g light and view.

ce is not necessarily seen in context of surrounding
or for the future use of others

rior is seperated from the exterior due to the internal
es within. e.g living room vs. bedroom.

ape is used as the mediator between self and society- 'common ground'

Japanese

ma- measured through time and the per-
ception of space (continuously moving past
one another)

interior and exterior- **blurred boundaries**,
but still insinuation of spaces as a way of
experiencing a conciousness of ones self
and the context of the home.

immateriality and transparency enables
the interior and exterior to interconnect- al-
lowing anture to take on the surroundings

interconnecting spatial aspects to each
house and room

standardized through culture- collec-
tive

makes the guest feel at home through rec-
ognition of elements

exposed structure shows integrity of
building, and thus, self

ethereal space **activates the unconscious**

vulnerability and use of the void are cel-
ebrated as the opportunity inhabit rather
than fill

contemporary is still heavily influenced by
the traditional at times

proportion and scale is based around the
human body- also generated through tradi-
tional geometrics (ie. tamati mats, window
sizes)- this replaces expressionism within
the home.

location of the body in relation to activity
within each room also influences the form

depiction of ones' inner self

NZ

family location/township

mental associations or
memories/nostalgic

local context- neighbours, extended
family

culture, customs and tradition- families
live together: customary to sometimes
live with extended family not so common

exudes a sense of success/wealth/taste
through scale, materiality and style

bach- created upon the same ideals- usu-
ally not far from main family residence.

material items within express individual-
ity and sense of style- **creating a repre-**
sentation of a lifestyle

contemporary constantly tries to re-
make the old. Reflecting the progression
of **technology and science**.

use of **local materials** is common how-
ever is less used within the 'monumental
style'

increasingly facile and flat

locality versus individual- style and taste is
based on external influences.

exposed structure shows honesty and
strength

translation of ones' outer self

Summary

To summarise Part One, this diagram simplifies the main points that will drawn upon for the design part of this thesis. Drawing from both foreign and familiar concepts will allow for a new typology of architecture to evolve, allowing for a intangible experience to be encouraged within New Zealand domestic architecture. The three themes that have already been analysed for each case study, will allow for a clear transition from research to design implementation.

Basic Outline

02

PART TWO

[Testing Design Strategies]

Part Two consists of the design iteratives that have been a result of the ongoing research done in Part One. The research indicated the similarities and differences to the perception of domestic housing in both Japan and New Zealand. It also indicates the shift in social perspective from early modernist days of the Bunriha and the Group groups while narrowing the research done to six main themes, of which three represent each group's typical design methods.

There are six design iteratives within Part Two, assigned from strategies A to E. These respond to the research that was being undertaken over the thesis duration. By allowing for a series of experiments to go from abstract through to architectural form, it allows for an experiential approach to be taken.

Chapter Seven

07

Site I

Site I: Kepa Road, Kohimarama, Auckland, New Zealand.

The site is a large factor of the architectural process, as the research on the Group indicated. They emphasised the importance of a building responding to its site through each project they undertook. The site at the edge of the Orakei Basin was chosen due to several reasons, mainly due to the central location of the site being within a main axis of Auckland City. The site's proximity to my own family home was also of personal interest. The area has been developed greatly in the past decade, however still home to both state owned houses and luxurious high-end houses. The diversity of the site allows for the choice of clientele to be an average family of four. The locality of the site to the city centre and to the Eastern suburbs made it a piece of land that has great potential for demonstrating a new typology of domestic space. It is seen that this location is appropriate for demonstrating the proposed iterations of Part Two.

The last strategy will be tested within a nearby site in order to re-interpret the same ideals within a dense urban setting. This was primarily done as a response to the reflection on strategy D.

Site I Timeline

c. 25000 years ago	- The basin is a young volcanic explosion crater that erupted.
6500 years ago (last Ice Age)	- The lake started filling in with sediment and rotting vegetation and became tidal
1000 years ago	- Humans arrive - The basin was largely intertidal flats fed by several shallow subtidal channels that branched off Purewa Creek.
c.1927	- The main trunk railway was constructed on an embankment through Orakei Basin. - It remained a tidal lagoon. - Sluice gates were constructed.
c. 1930	- Impounded as a salt water lake.
1932	- Project of beautification was undertaken. - Removing a wide stretch of mangroves that lined the southern shore. - Construction of a 90m long rock jetty was introduced in their place. - Thirty relief workers spent 12 months constructing a grassy area on the reclaimed land on the southern end. - 2km of pathways were implanted around the basin.
1933	- It was considered 'the largest controllable swimming pool in NZ' with public bathing sheds at the bottom of Lucerne Road (stated in the NZ Herald 26 Sept. 1933).
1990s	- Water ski club members are the primary users. Having booked out the lake for certain training times throughout the year. - Orakei sea scouts also use the basin often. - Young marine base off Orakei Road (since 1953).
1977	- Introduction of exotic marine organisms.

Figure 50: Outer Auckland region showing the nearby Group houses and Site I and Site II (as indicated).
scale: 1: 8,000

Figure 51: Site plan indicating Sites I and II. Scale at 1: 15,000.

NORTH

Key

- SITE I
- SITE II

Figure 52: Site plan of main region- Orakei, Kohimarama and Remuera suburbs. Scale at 1: 15,000.

Key

- building footprints
- kerb
- land edge
- railway track
- site I
- site II
- water

Figure 53: Site plan of main region and their building and land uses. Scale at 1: 15,000.

Figure 54: Site plan of main region and their housing types. Scale at 1: 15,000.

Key

- building footprints
- kerb
- land edge
- ▨ mixed housing
- ▨ mixed use
- ▨ special purpose
- railway track
- single house
- neighbourhood centre
- ▨ terrace housing/apartments
- ▨ water
- Site I
- Site II

Figure 55: Photograph of site from birds eye view (no scale). Site I indicated.

Site I

Figure 57: Site showing 1m contours and important surrounding features. Sections of site (hand-drawn) used for Strategies A as shown later. Scale at 1: 4,000.

Figure 58: Map showing waterways and underground services existing. Scale at 1: 4,000.

Legend

- Watercourse or Open Drain
- - - Built drainage
- Treated Built Drainage Piping
- - - Abandoned Built Drainage

Site I Photographs

Figure 59: Photograph taken from opposite side of the basin.

Figure 60: Photograph taken from opposite side of the basin (close up).

"This elevated state of consciousness is possible when one is simultaneously aware of the physicality and emphereality conveyed by a work of art."
(Brownwell 11)

Figure 61: Photograph of site.

ck, resulting in a facilitating condition of permanence and impermanence, emergence and dissolution, reality and illusion'

Figures 62 and 63: Drawing on site of the site acting as a juncture between city and suburbs of Auckland City (left). Photograph of site (right).

Chapter Eight

08

Strategies A

Case Study I, II and III (discontinued)

8.1 Aim of Iterations

This first iteration presents a strong set of ideas woven amongst the new research into Japanese architectural thought and an intuitive approach to 'New Zealand architecture'. Derived from the three relationships of mind, body and landscape, it is imperative that these be understood in terms of building form. While it is clear that the context was important to the Group, it was seen as more of a social issue within the manifesto of the Bunriha. The design aims to explore the implications of exterior space and interiority without compromising the land upon which it sits.

8.2 Methodology

Within strategy A the building forms are tested as mass studies within their site (figures 77-78). The forms are influenced through a sense of intuition and response to site factors, for example the slope of the land to the basins edge.

The building forms aimed to achieve:

- a series of emotive spaces that were composed together rather than separately.
- an ease of living through open-plan living spaces and flexible functions assigned to each room.
- privacy within the bedroom space/s as allowed by the slope of the land blocking off the onlook from Kepa Road.
- the building appears to orientate itself and the user towards the water and the city beyond.
- allows for the research of traditional Japanese spaces to influence a personal perception of a New Zealand home (figures 89- 90).

Following the abstracted models and sketches the design starts to take on a shape of its own. By creating simple modular forms the house is configured roughly before precisely through plan. It is acknowledged that these designs would adapt and modify through the research that will continually push the projects direction between both the Japanese style and the New Zealand 'local' style. It is considered that the Japanese will be manifested through the sense of a sensuous and spiritual approach to the interior while the relationship to the landscape was drawn from the contextual nature of the site. The materiality of the structure will conform to both with the use of wood as the primary material alongside concrete and steel members. These materials will intend to activate the multi-sensory experience as well as create a condition of permanence. The blur of reality and illusion is aimed to awaken the unconscious to make the domestic setting a more tantalising experience.

8.3 Experimental work

AUCKLAND MAIN ARTERIAL

JAPAN- SENDAI

Figures 64 and 65: Ink experiments illustrating the urban growth comparison between Auckland and Japan (Sendai).

Figure 66: Emotive drawings showing the inversed protection of the site inspired by 'Architecture as Art' by Philip Jodido. The drawings aimed to portray a delicate and intricate form- encapturing the nature of the site itself.

Figure 67: Sketch exploring boundaries of a space due to the interior and exterior parameters. Looking to oragami for for initial form-making.

Figure 68: Maquette making showing the forms becoming physical.

Figure 69: Spatial abstractions form a symmetrical and ethereal set of 'spaces'. Creating experiential spaces through hand drawing to test the ability of the two-dimensionality of these designs- '...the same way a bird shapes it's nest by movements of the body'- Juhani Pallasmaa in 'Intimacy, Identity and Domicile', p.16.

Figure 70: Continuation of experiment but through a linear form, creating tower-like forms. Considering urban intensification through the same methodology.

Figures 71 and 72: Abstractions of going underground. Displaying the play of light and shadow and testing ideas of experientiality through the use of the void.

Figure 73: maquette making exploring the perceived inverse of space- the land as a solid and the sky as a 'negative' space.

Figure 74: maquette making exploring-

'the building as an organism'

subversive void providing a sense of 'security and comfort' - balancing the natural and the built environment.

- conceptual model shows the relationship to both the sky and the earth. The human body only emphasises this relationship.
- the building expresses the depth of the void and the contrast of the surrounding landscape.
- form is utilised as an expression of 'emptiness'. Allowing the user's psyche to initiate the entrenched rituals and traditions of proportion, scale and size.
- the elimination of materiality creates the minimal appearance of just form. This is based around the idea of *wabi*- reflecting a sense of imperfection and contentment.
- the presence of one's self allows for the spiritual connection between person and self, and furthermore- the universe.

Figure 75: maquette making exploring-

'building as environment'

- seeking imperfection that exists within nature.
- consistency of architectural integrity.
- strong relationship with the garden as the building appears to have been inserted into the ground. The building acts as a facilitator between environment and user.
- order and understanding allows for the home to be understood amongst an urban chaos.
- awakening of the subconscious is intended through the encouragement of phenomenology. Architecture is no longer praised for its' large monumental buildings designed by star-architects but rather for and by the everyday man.
- conceptual model depicts the embedment of the forms and exposure of others.

Figure 76: maquette making exploring-

'building as an aesthetic'

- the form of the building is no longer represented by wealth/taste. It is instead defined by the persons' psychological comfort or experience.
- experience rather than sight.
- placemaking with the architecture's composition. Initiating the effects of inner peace and serenity rather than gaining temperamental happiness through material goods.
- sense of fragility is portrayed through the patina of materials. Allowing a sense of age and evidence of time (and its passing).

Synopsis for maquette testing

Model making from a mixture of cardboard and plaster is experimented through figures 77 to 84. They aim to explore the relationships discussed in 74- 76. They are a physical interpretation of the research findings within part one. The maquettes are a result of the testing of casting and creating plaster forms with simple modular card models. This is interesting to record the effects of the negative and positive spaces due to the perceptions of New Zealand and Japanese architecture. The way they can combine to create a series of spaces within differing scales is seen through this series of photographs.

Figure 77: Model making to test a series of forms and their relationship to the land and one another.

Figure 78: Inverse model making with plaster and the card casts that they were produced with.

Figure 79: Form making.

Spatial Ornament:

Creating new spaces through the formation of symmetries. '...[becoming a] symbol of its own cosmic harmony. At the same time general order can be achieved through the changes in the details of the repeating elements, also bringing in a principle of chaos' (Pallasmaa 8).

Figure 80: The forms were created through the previous research in figures 70- 73. Sitting them on the contour model to test possible relationships, this time with land and water (the basin).

Figure 81: Testing different arrangements of form and land through simple maquettes.

Figure 82: Arranging forms with each other ontop of the construction drawings (drawn onto base of model).

Figure 83: Photograph (close-up) of maquette models, cardboard cast is still evident upon the model- reminiscent of the craftsmanship and praise of the imperfection from Japanese thinking.

Figure 84: Photograph (close-up) of maquette models. Cardboard can be seen to jut into the plaster creating an interesting and beautiful relationship.

Figure 85: Abstracted section taken from the site (section AA in figure 55).

Figure 86: Hand drawn section. Continuation of abstracted section starting to solidify the forms in the landscape. Scale at 1:200.

Figure 87: Testing shadow and the effect on forms, also essentially where light would access as the site is South facing.

Figure 88: Translating the linearity of the case studies to generate the first iterations of strategy A. Revolving around the idea of a continuous void cutting through the building form to allow for a connection of spaces within, and therefore, open plan living.

Figure 89: Conceptual floor plan of level two (entry level). The design reflects multi-story living through a series of subtle split levels, breaking up the floor plane.

Figure 90: Conceptual floor plan of lower level or level one. Geometries are designed through the orientation of the garden and sizes of the tamati mat (dependant on the use of the room).

Figure 91 and 92: Perspective conceptual section (above) and a figurative section (below) showing the differing levels- the start of case study I.

8.4 Case Study House I Synopsis

'The monolithic simplicity of some of these interventions seeks to concentrate expression, contain it in a single eloquent gesture'

Anatxu Zabalbeascoa in 'Miralles Tagliabue: Time Architecture', p.62.

Case Study House I s mainly conceptualises through section and conceptual drawings, as seen in figures 85- 89. This ss in order to explore the mass and scale of the house in conjunction with the sites predominant slope. It ss also to consider the connection from the houses that its behind and down to the waters edge. The site is orientated toward the city skyline, creating an apparent sanctuary between city and suburban life. Through the site analysis and maquette making process it is intended that this house take on a sense of being a piece of sculptural art nestled in amongst its rugged landscape. This is to allow the occupant to live in ease without the restrictions of a rigid composition of functional spaces. Instead the spaces open themselves up to the outside arranged along the linear transitional space leading out towards the basins edge. This idea is explored through the idea of intangibility, and de-materialisation of form inspired through the research of Kengo Kuma's work. The consideration of shadow and reflection in particular is important for creating these emotive spaces. For example the shadow of the surrounding trees permeate the interiors of the house and the reflection of the water are cast upon the house's concrete plinths. This engages with the de-materialisation of the building. The design responds to the change of environment through the unpredictability of the sites setting, creating shadows and movement in different places, evidently providing transience. The consideration of the building's void is through the elongation of internal spaces out towards the water as if they were reaching out to touch it. Characterising the building in these ways experiment with the idea of personifying a building. This allows a sense of intimacy and privacy through the apparent isolation of the building; this is intended to represent the Japanese qualities of *wabi*. Furthermore the sense of imperfection is welcomed to the building no longer appearing to be monolithic and dominating, instead it is an extension of the landscape through the horizontal nature of it.

Figure 93: Exterior rendered view of case study house I.

'This elevated state of consciousness is possible when one is simultaneously aware of the physicality and ephemerality conveyed by a work, resulting in a facilitating condition of permanence and impermanence, emergence and dissolution, reality and illusion'

- Blaine Brownwell in 'The Matter of the Floating World', p.11.

Figure 94: Interior of master bedroom living space of case study house I.

Figure 95: Interior of transition space to level 2.

Figure 96: Section of case study house I. Scale at 1:200.

Figure 97: Level one, top level (entry level) plan. Scale at 1:200.

Figure 98: Level two, bottom level. Scale at 1:200.

Figure 99: Large hand drawn sections (originals were 1:50 on A1s) re-capture a sense of experientiality in the process of testing the building's ability to possess ephemereal qualities. The building acknowledges the relationships to land, self and mind through this exploration as a continuation of the research in part one.

Japanese thinking allows for a multi-sensory experience rather than a purely attractive and functional built work. It must enable the user to not only awaken their consciousness but also alter their expectations of reality'

Brownell in 'Architecture in the Floating World', p.11.

8.5 Case Study II synopsis

Case Study II is similarly conceptualised through the same methodology as Case Study I. However, the building's form is orientated inwards on itself rather than outwards towards the water utilising a raised internal courtyard. This explores the use of a courtyard the same way that is in Case Study One: The Okada House. By orientating the house inwards on itself it no longer relies on the specific site being right along the waters edge. Similar to the Group's 'Tremewan House' and 'Demonstration House' the spaces hug the edge of the courtyard all opening up to it at different junctures. The views are framed through the openings of the building, also allowing the permeation of natural light to enter. The centre point of the house (the courtyard) has a sense of privacy while still being an external space (figure 103- 104). The height of the house is again kept low and the walls frame the perimeter of the house, indicating entries through the obvious puncture to the outside (figure 106). The additional children's bedroom is interesting for its reference to a typical small urban house in today's Tokyo. It creates a novelty for the children (figure 110). The movement through the house allows for the separation of the bedrooms from the main space but still maintaining a sense of collectiveness. Having explored the idea of reflection with the water on site in Case Study House I, a replication of this effect is designed for the courtyard area (figures 107- 108). The series of terraced landings allows for the *genkai* (Group structure) to merge with the site. Again the exploration of dematerialising is continued, as the water, shadow, reflection and light are all utilised and in some places exaggerated to create ambiguity. This is in order to activate the subconscious mind and elevate a sense of spirituality.

Figure 100- 103 (top to bottom): Case study II conceptual floor plans. Designed with the centre point of the house being the void (courtyard space).

Figure 104 and 105: Conceptual sketches showing the development of case study house II, through both perspective (top) and section (bottom).

Figure 106: Perspective of the exterior of case study house II.

"I would have the eaves deep and the walls dark, I would push back into the shadows the things that come forward too clearly, I would strip away the useless decoration. I do not ask that this be done everywhere, but perhaps we may be allowed at least one mansion where we can turn off the electric lights and see what it's like without them".

Tanizaki in 'Praise of Shadows', p.42.

Figure 107: Interior perspective- living space with opening to courtyard.

Figure 108: Perspective of the courtyard and glazing of the living space.

Figure 109: Emotive section of case study II.

Figure 110: Floor plan of top level (entry level with carport). Scale at 1:200.

middle level
1:200

Figure 111 and 112: Floor plan of middle level (top, main living space) and bottom level (bottom, children's bedroom).

Figure 113 and 114: Perspective (top) and longitudinal sectional perspective (bottom) of case study II, hand drawn originally at 1:50 on A1s to develop detail and emotive qualities. The spaces are designed through the consideration of landscape and its relationship to mind, body and building form (as outlined in part 1, p. 72).

8.6 Case Study House III Synopsis (discontinued)

This concept is developed with the intention of becoming a community centre, thought to bring people, not just residents, to the site (figure 115). At this stage it is kept as a purely conceptual form that is designed to navigate a sense of both previous case study houses. With the incorporation of a semi-enclosed courtyard, the building explores a combination of the previous concepts. The juxtaposition of the buildings horizontal form and the landscapes gradient start to merge at points, and at others, pull away as the building hovers above the ground plane. The cantilever creates interesting shadows appearing to become a weightless structure, opposed to the embedded nature of the concepts previously. This was reflective of the lightness of case study five: 'Noh Stage in the Forest', contemporising a simple form through its positioning upon the landscape. As the dramatic light and shadow play a role within the heightened spaces, allowing the distant voids to be filled and highlighted through the use of light.

Figure 115: Perspective of case study III.

8.7 Reflection

These designs are indicative of the early stages of this exploration as the iterations were expressive of the simple architectural form taking on emotive qualities. It has been established that these pieces of architecture do not need to be exuberant in order to be considered works of art. Instead they can start to adapt to their landscape and adopt the beauty of its natural surroundings. There was consideration to the need for intensification within this area and also the internal condition of these current concepts. It was noted that the houses were purely uninhabited at this point as there was no furniture or figures within the imagery. However, looking at the framework of the house the concept is starting to evolve. Case Study House III is not continued as the programme is dismissed in order to focus on purely the domestic setting. Narrowing the focus ensures the ability to master specific design elements. It is noted that the Group aspects were yet to become apparent through the design iterations thus far. This is taken into consideration for the next strategy. The form is influential to the rest of the case study houses, mainly for the building's ability to disappear into the land and merge into its own shadows at points. Contextual considerations are highlighted here, including the footprint of the house and the nearby train rail (not considered to be an issue due to inhabitation on the other side of the basin proving to not have any problems with noise).

9.1 Aim of Iteration

For Case Study IV the focus is returned to the internal experience of a home. Having experimented with materiality it has become apparent that the texture of a surface could shift the perceived appearance greatly. Having previously worked from the external form through to the interior spaces it dictated, this case study house's methodology was to do the complete opposite. This concept was to be designed from the envisioning of the interior spaces, now dictating the external form.

The exterior perspective of the internal experience:

- Serves as an exertion of one's self.
- The aesthetic is driven through the building components and the composition of spaces.

Perspective from the interior:

- Form driven- the whole building is broken down into blocks that serve separate or multiple functions connected by a courtyard.
- Insists function and practicality.
- Clearly as a response to site.
- Not driven through a premeditated idealistic outcome.
- Create a continuous narrative.

9.2 Methodology

Using the 'L' shape form is the starting point in order to create an exploded or dispersed set of forms within the ground plane. The arrangement is based around a semi outdoor space that acts as a secondary living area (or the courtyard space). Walkways from each area are purposefully obvious in order to spur interaction amongst the users, similar to that of a 'bach'. The warmth or centre of the house is pinpointed by the use of an outdoor fireplace embedded into a structural wall. The forms are created through an intersection of the standard grid (utilised by the group case studies) and also the diagonal direction towards the city, subtly indicated by the roof plane and the back corner of the 'children' block. The spatial arrangement is designed in order to convey a continuous narrative around the house. As the user is permitted to enter at several points but must cross the internal courtyard in order to get from each point, it starts to navigate ideas of interior and exterior boundaries (or the lack of).

Figure 116: Experimenting with the use of aging or deteriorating materials. Allowing for the texture to exude a sense of personification or to imply prior use.

Figure 117: Continuing testing the appearance of manipulated materials. Intricacy is mimicked through the drawing laid over the top of the original photograph (originally a gold leaf).

Figure 118: Abstract drawing of the 'layers of meaning' an object can possess and how these may be read visually.

Figure 119 and 120: model making of forms to create both micro and macro forms. Insinuating a sense of modularity and layers of these forms that still allow light to enter. The study also revolved around the shadows upon which could be created at this sort of scale.

Figure 121 and 122: Model making- conceptualising the furniture or cabinetry through small maquettes. Utilising the idea of geometric shapes to reinterpret the house's form on a micro scale.

Figure 123- 125 (top to bottom): continuing the experimentation of furniture design through the modular forms of MDF.

Figure 126- 128 (top to bottom): Experimenting with a possible footprint of the house and how this may start to encourage the void to be left behind in order to create a slightly lowered outdoor space. The symmetry and the forms crossover encourage the same ideals of the Bunriha as outlined in Part One.

Figure 129- 131 (top to bottom): Exploration of shadows is continued through the micro models. Ideas for screens and window openings were explored in figures 124- 126, while 127 demonstrates the testing of pavilion- like model that would serve as the beginnings of a building pad for case study IV.

Figure 132- 134 (top to bottom): Sketches developing ideas derived from model-making.

Theoretical Overview

As the design iterations of Part Two overlap with the research done in Part One, it is seem necessary to show the theory at this point in order to understand the design’s direction approaching Case Study IV. The overlap of both design and research show the interconnecting thoughts between the two and the direct correlation of the research and design processes. Below is a matrix demonstrating a breakdown of the theory at this point. The quotes are influential on the outcome of Case Study IV in particular.

Problem

- Increasingly number of new-comers (Japanese increasing 3.4 times within last decade) and continuous negative perspective within NZ of such
- Lack of personal and cultural identity within the adopted (but not adapted) modernism
- ‘There has been an evident loss of material and psychological values due to globalization within the past century’ (Berman 54)
- Lack of relevancy of western (european/american modernist ideals within a New Zealand (and Japanese) culture due to misconceptions or lack of architectural theory (within modernist and post-modern architecture)
- No consideration to the experiential or psychological well-being of an inhabitant within early modernism in NZ.
- ‘.. we live in a global village, in an architecture of displacement, shifting image and constantly changing technology. The New Zealand house is currently trying to cope’ (Cull 31).

Why modernism? (Exemplified through

- Post war groups- Students, rev times within context.
- Modernism is seen as the inter lack of personal/ cultural exper
- Both groups were influenced g Europe- however were based l
- Both appreciate and adopt inte

Remedy

Transience in terms of the exper growth & dissemination.

Melting pot of styles but distinc rchitecture’ (the experiential) an shadow permeability reflectance

exterior/ interior relati materiality construction technique

‘This elevated state of consciousness physicality and ephemerality com permanence and impermanence, e

(Brownwell 11)

The Group Manifesto

- Utility is priority
- Functionable, practical & economical- ‘united in a single idea of purpose & beauty’ (following Otto Wagner)
- Immobile, unwavering, seen to represent the people of New Zealand indefinitely- ‘married to the land’.

The Bunriha Manifesto

- Transience: fleeting, ever-changing.
- Consensus of community (the Bauhaus theory)
- Obvious distinction between the ‘new’ and ‘old’. New takes on direct proportions of the traditional parameters.

Figure 135: Matrix of ideas overviewing the theory in conjunction with Part One.

'the Bunriha' and 'the Group')

olutionary at the time. Adapted western ideals for contemporary

section of great change within architectural perspective- stripped of traditional elements,
ession.

greatly by emerging architectural styles and theories coming from
argely on pure aesthetics rather than symbolic meaning.

ernational styles through completly differening methodologies

iential, perspective of modernism and the concepts' own

tive of origin (Horiguchi method)- reflectant of both 'art as a
and 'a machine for living in' (practical)

onship

e

ess is possible when one is simultaneously aware of the
eyed by a work, resulting in a facilitating condition of
emergence and dissolution, reality and illusion'

Intention of outcome

This is intended to activate and heighten our consciousness and thus strengthen
our ability to articulate a sense of reality from illusion;

*'Thin, frail planes, advancing and receding in space, create ever-changing
relationships and a sense of impermanency, continuity and movement-
expressing the tea masters' philosophy that life, after all, is fleeting and mere
illusion'*

(Carver 145).

*'... reconsider our architectural history as a constructed entity, and to begin
thinking how it might be constructed differently'*

(Walker 9).

Possible methods to implement methodologies

Figure 136 and 137: Diagrams of possible solutions of integrating themes together.

...there existed a set of universal principles of functionalist architecture that went beyond historical and geographical particularities-... summarised briefly as standardisation, variety in unity, conformity to a mode of living, connection with nature, simplicity, and of course, usefulness to purpose'

- Andrew Barrie in "Aesthetic Robin Hoods," an article in Group Architects, p.209.

At this point the theory starts to manifest itself into the design case studies. The specific breakdown of the three themes are analysed in Part One. They have now been researched fully in order to be integrated within the design phase rather than loosely, as in the preceeding case study houses. The red dotted outline explains how this will be done specifically through the physicality of a domestic space. This overview is essential at this point as it starts to dictate the design decisions made for the remainder of Part Two.

Japanese early and contemporary modernists

		Sutemi Horiguchi (1930s) and the Japanese Secessionist Architectural Association' or Bunriha Group 1920- 28	
		Collective architectural theories	Particular Architectural application/ representation
TRANSCIENCE			
experiential	shadow	<ul style="list-style-type: none"> - exemplifys the void/ space - dependant on light source - manipulates the built - forms spatial atmosphere (<i>fukkei</i>) - hides the form altogether - is an reaction/ immaterial product of form in result of light - works in contrast with light to create ambiguity or non-existance 	<p>three types of shadow according to Di Vinci's theory:</p> <ol style="list-style-type: none"> 1. attached 2. shading 3. cast <p><i>transience through movement of shadow in contrast to light through the day. dependant on external factors and user location</i></p>
	permeability	<ul style="list-style-type: none"> - use of carving into solid to create voids within - idea of craftsmanship - revealing details or textures of materials where necessary - reading building in multiple layers - openings are due to activity as size of rooms are to users within 	<p>'abstracted the forms and changed the buidings proportion'</p> <p>'connecting trellis structures'</p> <p>'composition of symmetrical scheme'</p> <p>'rendered on black background' - like wagner</p> <p><i>transience- by experiencing the weave of spaces through a continuity of form and void</i></p>
	reflection	<ul style="list-style-type: none"> - minimalism is utilised for its lack of distraction from self - moves away from the representation of self to the inner happi ness or contentment - reflection of history- is embedded not dismissed - reflection of its time- 'total work of art', reflection of self + literal reflection 	<p>literal use of reflection- through immaterilaity- water & glass</p> <p>manipulation of perceived form/ creates illusion metaphorically-</p> <p>reflectant of ones' self and ones' time within history (<i>transient in terms of evidence of change, growth & movement</i>)</p>
functional	exterior/ interior relationship	<p>the symbiosis of the natural enviroment is bought indoors through the use of experiential narrative and heightening of the sub-concious.</p> <p>the feeling of vulnerability is also implicated within the buildings' form or interior- reflecting the unpredictability of nature.</p> <p>man-made- error of hand shows the craftsmanship and imperfection- com parable to nature also.</p>	<p>modularity- usually utilised throughout the intensified cities</p> <p>multi-stories</p> <p>high use of courtyards to create outdoor/ private spaces</p> <p>lightwells popular due to intensification</p>
	materiality	<p>shows patina of age</p> <p>wisdom within materiality</p> <p>alters the texture/ creates warmth</p> <p>contemporary materials are treated to mimic traditional in scale, appearance, proportion or abstracted form</p>	<ul style="list-style-type: none"> - translation of the traditional into the dimensions/ construction of contempo - rary materiality e.g tadao ando - widespread amongst fashion designers (issy miyake) and furniture designer Oki Sato
	construction	<ul style="list-style-type: none"> - modularity reflects the idea of change - psychologically connects the hands with the built - scale is humanised - furniture and building merge at places 	<ul style="list-style-type: none"> - "way of building"= <i>tsukuri</i> - the constnction of a building also refers to the way it is constructed through projected imagery or readings.

Figure 138: Matrix table of theme and origin of architectural theory.

BOTH	‘The Group’	
	<i>Collective architectural theories</i>	<i>Architectural application</i>
capital atmosphere is continuously alters through physical change of environment and mental subjectiveness	<ul style="list-style-type: none"> - purely a result of form - natural light is usually deemed necessary for interior spaces 	shadow is not considered- rather the fall of light for passive systems is highly considered
dictated largely by surrounding site sense of privacy/ sense of self & family	<ul style="list-style-type: none"> - concrete walls are only cut away to allow access to views or outdoor space. - open plan insinuates liberalised space 	<p>house lends itself to outdoors harmonious living of the natural, human and man-made ‘because a house is not where a family is imprisoned, but where it lives...’</p> <p>open plan use of courtyards use of large walls of joinery or glass: full height access from living spaces</p>
	<ul style="list-style-type: none"> - the home is more of a framework for personalisation to appear within - change is to challenge- iterations are always made for better design - presence of the ‘Bilbao Effect’ from within the group and from other architects at time 	<p>small, simple house house lends itself to the outdoors</p>
	<p>the outdoors has always played a large play in the</p> <p>‘if we may not have space, then, we must be satisfied with the feeling of space. Outside every house there is plenty of it’</p>	<p><i>tabula rasa-</i> based largely on agriculture and farm buildings</p> <p><i>transient through the elongation of spaces and spatial condition being merged with the outside</i></p>
main vernacular material is wood modular in terms of construction (for different reasons) repetition of materials creates coherency and comfort		<p>The Weimar Bauhaus theory</p> <p>immaterial- symbolic- experiential</p> <p>material- context- practicality- aesthetic</p> <p>= consensus of community</p> <p><i>transient through the subjectiveness of the user- will never read the same</i></p>
multi- functional use of building envelope e.g as furniture or decor	<p>Otto Wagner’s theory</p> <ul style="list-style-type: none"> - utility is priority: protection from elements - united in a single idea of purpose and beauty <p>immobile- ‘married to the land</p>	<ul style="list-style-type: none"> - craftsmanship is founded upon the opportunity of DIY - simplicity allows for ordinary man to be able to assemble with some knowledge - pure construction does not suffice without some beauty <p><i>transience through modularity- future re-use or rearrangement of spaces and linking hallways</i></p>

Figure 139: Matrix outlining the approach of experientiality towards each themes manifestation. Continuing the theoretical matrix from figure 138 however, showing how it relates to the three relationships of form to landscape, being and mind.

* *tabula rasa-*
is the epistemological theory that individuals are born without built-in mental content and that their knowledge comes from experience and perception.

9.4 Case Study House IV synopsis

It is important for this case study to exude a sense of the ‘vernacular’ that the Group originally expressed. Focusing on the notions of intimacy through the use of a small single story home, the house is designed for simplicity and function. The roof plane is an important element to the concept as it is envisioned to soar over the tops of the spaces creating a canvas-like structure. This was intended to re-interpret the intended movement of the inhabitants within the house. Elements of the house start to become part of the building for example, the bookcase that appear to peel off the roof and into the floor plane, or the kitchen benches that seem to be extruded from the ground (figure 141). A sense of vulnerability is also introduced at this point, as the roof cowers down on the user at certain points of the house as it cantilevers over the middle. The house merges with nature at points but becomes restrained when reaching the ‘western style’ lawn- an element reflective of Horiguchi’s Okada House. The lawn sits within the concrete plinths as if nestled in the natural landscape and framed by the man-made plinths.

The building itself acts as a whole but is in turn subdivided to create secondary pockets of private spaces that act as bedrooms. The building form is seemingly inward facing similar to the layout of Case Study House III, however the view is still directed towards the front of the house through the large use of glazing along the front contrasting with the dark and solid appearance of the roof. This creates an elongated and whimsical series of spaces without appearing monolithic or out of scale with surrounding buildings.

As seen below in figure 140, Case Study IV was generated primarily through the themes of shadow, interior/exterior relationship and materiality. This was in order to test different themes against each other to find the resulting design. In doing so the design saw secondary themes of permeability and reflection be added to the design, while the construction was the last consideration. By prioritising each theme to a strategy it allowed for each to be manifested carefully.

Strategy B

Figure 140: Matrix of considered themes in case study house IV.

Figure 141: Perspective of internal courtyard looking into living space.

Figure 142: Perspective of internal courtyard looking towards the outdoor fireplace.

Figure 143 and 144: Interior perspectives of childrens living space (the spaces become reflectant of one another).

Figure 145: Perspective of entry to children's block.

Figure 146: Figurative floor plan. Scale at 1:500.

9.5 Reflection

Case study IV is particularly successful in its use of materiality. The change in surface texture allows the houses to evoke a sense of warmth. An aged patina is chosen, inspired by both groups where the use of matured and recycled materials is favoured. It is intended that the natural landscape should always be the backdrop of the house from any point within. Merging in the existing landscape was challenging as the form is intended to be subservient to the landscape. Allowing for the natural beauty to be the focal point.

A sense of 'home' is insinuated through the warmth and centeredness of the fireplace and also the materiality and texture of the timber roof. The concept starts by exploring the house more in detail, shown in the conceptual work phase, the entryways (shown in figure 141) and the incorporation of furniture. It aims to reverse the stereotypical use of timber not being used as ceilings, especially not a curved ceiling. A factor that is yet to be considered for this concept would be cost as, as currently, it is not taken into account. Some design ideas could start to be mimicked through other (and cheaper) uses of materiality; for example the roof could be constructed from canvas or fabric to create the same effect. The success of this element was apparent upon its critique. The continuity of the roof plane echoes the same sense of movement of the inhabitants between buildings- bridging the main living areas; as a re-interpretation of the courtyard.

The themes of shadow and permeability are entwined with one another in Case Study IV. The house aims to be open to its surroundings while still maintaining privacy. The roof plane creates several different conditions of shadow throughout the day. It allows for the house to appear open but maintain privacy through the use of this shadow. The permeability of this canopy allows for light to indirectly shine into the courtyard while the trees above project shadows onto the concrete plinths below (figure 142).

10.1 Aim of Iteration

This concept is derived from designing from the inside out, or from detail to the form, an opposition to the western way of designing. The idea is sought from the Bunriha's way of thinking, opposed to contextual considerations that were essential within the Group's approach. By focusing on a purely experientially based design (rather than practical) it is explorative without considering any contextual or cost factors. This enables the themes to be exaggerated and tested for relevancy within New Zealand. As the idea of a home is a subjective one, the experiential nature of the house aims to be thought- provoking rather than accommodating- for now. The abstracted models explore how a form could be created through a series of minute details. Here it was discovered that the layering of elements, on a conceptual level, gave depth and even personification to the element as a whole (figures 143- 150).

10.2 Methodology

Case study house V is achieved by implementing consideration of each of the three Bunriha themes as researched in Part One. The concept is conceived as a purely Japanese example, expressing the extremity of these foreign concepts. The experiments employ ideas of craftsmanship and expressionism within the case study house as it allows for the materials to take on the aesthetic of being woven or hand-crafted. The process sees the home become a collective entity (similar to the Bauhaus theory), reflecting life as a whole as it portrays a stark yet provocative setting. The outcome of this design experimentation are:

- Test the outcome of no contextual parameters.
- Realise the potential extremities of this architectural typology
- Allow the Japanese spirit to be evident through the exaggeration of Japanese inspired themes.
- Create potential through the experiential nature of the Japanese design.
- Experimenting with perception and how things are viewed as a collective (figure 147).

The themes at this point are well researched, starting to embed themselves even further into the design. This process is broken down and demonstrated through each conceptual theory in order to pinpoint where these were architecturally manifested. The break down of these from each group allow for the matrix to occur- providing a set of themes that exist within each design. Similar to Case Study IV, primary considerations allow for others to become products of the initial design decisions. It is also important to address the inevitable occurrence of intuition. This is acknowledged within the matrix diagrams as outlined previously (figures 135- 137).

Experimenting with detail as form. Repeating the same detail over and over to create the illusion of a form. Seeing the building as a literal sense of 'form' here.

Figure 147: Continuing forming designs through abstracted micro details. Deriving larger forms through detail acquired a sense of depth and personification again, but through the computer.

Figure 148: Forming the rooms through orientation with each other, still maintaining a sense of linearity.

Figure 149: The form appears from a distance to be personified. By manipulating the perspective of the object it explores the sense of interchangeability amongst the parts to create several different outcomes.

Figure 150: The shadow of the abstracted model. The shadows create a sense of depth depending on the distance from the plane.

Figure 151: Abstract model continued. A sense of intricacy is insinuated within the model and the shadow.

Figure 152- 154: A sketching analysis retouching on the floor plans of three influential New Zealand houses. Firstly, case study two: Tremewan house by the Group, Senior house by William Toomath, and lastly, the Okada house by the Bunriha.

Figure 155: Sketches of details from Toomath's Senior house. Said to be inspired from the Flemish.

Figure 156: Abstracted image showing the effects of shadow from above.

10.4 Case Study House V synopsis

In Case Study V the building form is sliced, shifted and punctured in order to let light and people to enter. The water sits right underneath the house exploring the idea of the whole building being vulnerable. The spaces are aligned to point in several directions, as the main focus of the room is in on itself due to the design being site-less. This was the first concept where the interior was the focus. By creating a house through no restraints it was liberating to see the potential of Japanese based design within New Zealand. The materials and room sizes/ functions pay homage to the Japanese tradition as the ground plane is exemplified through its raised height. The house aims to contrast the houses before as it sits proudly above the landscape elevated with no sense of modesty. The interior forms are also drenched in shadow in some places exaggerating the entry of light at others. The additional guesthouse sits at the entry of the house, allowing for their own ground level to feel like the lawn. By changing the levels of the house it creates opportunity for privacy within the house itself. It was imperative that there was a sense of private and communal areas within the home, altered continuously through visual and physical access.

Below are the main considerations through the 'Strategy C' matrix. It shows that the three primary themes were implemented while the three (the Group inspired themes) were by-products of these initial design drivers. The outcome can be read through the series of perspectives produced within figures 158- 161.

Strategy C

Figure 157: Matrix of themes considered.

Figure 158: Exterior of case study house V.

Figure 159: Perspective from the main bedroom block to the front of the main living space.

Figure 160: Interior perspective of the living room.

Figure 161: Interior perspective from the garage space to the living.

10.5 Reflection

This case study is interesting in the way it contrasted with Case Study House IV. The disparities amongst the two are clear when creating a different set of matrix. The results are evidential of the research and indicate the differences between cultures through architecture. The spaces are still yet to be clarified, as focus is placed on the building's overall form and detail. The clarity of the internal spaces will also need to be defined further within the next design iteration. By creating the internal spaces and allowing them to dictate the external it is considered to be an intriguing methodology. One that will be implemented further but with contextual considerations for the following stage. Case Study House V gives a good insight into the research done into contemporary Japanese architecture. It reveals a typology that could be made relevant to a site and social setting within New Zealand. Through the experimentation of a personal interpretation of a traditional yet contemporary Japanese house it has allowed for a foreign way of perceiving and creating architecture.

Figures 162 and 163 show how Case Study IV and Case Study V could be perceived. In figure 162 it shows the viewer looking from within the house towards the city beyond through several levels of meaning dependant on the proximity to the house. However, the building is perceived from a subjective view from within. While figure 163 allows the building (and the user) to perceive themselves and the building through many different layers of meaning. The building allows for self reflection or contemplation in order to allow the user to look at themselves and their surroundings differently. This is taken from the Buddhist-Zen practice as discussed in Part One's research of Japanese culture.

Figure 162: Reviewing the perspective of the inhabitant from beyond.

Figure 163: Reviewing the perspective of the inhabitant from within the house.

Strategy D (Case Study House VI) is derived through the reflection and critique of the preceeding two case study houses. The matrix below shows the successful elements and those that are yet to be improved. Furthermore there is to be more contextual consideration, inhabitation of intermittant spaces (to minimise floor area) and a greater depth of detail. This will ensure that Case Study VI is a result of the previous experiments and design tests.

Developing Strategy D methodology

<i>Analysis of Strategy B</i>	<i>Analysis of Strategy C</i>
<p><i>Strategy B</i></p> <p>Improvements to be made:</p> <ul style="list-style-type: none"> - A clear distinction between areas and the function of each - The connection between the building blocks through the continuation of roof plane - Practicality of exterior activity during winter months/ intersection of exterior and interior may have to be reconsidered for this - Greater communication between the building blocks- facade treatment - Connection to the water/ basin/ cityscape - Merge with nature <p>Successful elements:</p> <ul style="list-style-type: none"> - Entry spaces - Consideration of light within confined spaces - Floor plane interaction with the ground (of the external living space). - Use of dispersed forms to create the building blocks (could be further pushed through differing levels within the blocks themselves) - Materiality is successful within the courtyard space but will be developed through the contained private spaces- in order to insinuate a sense of enlightenment without loss of privacy 	<p><i>Strategy C</i></p> <p>Improvements to be made:</p> <ul style="list-style-type: none"> - The connectivity of each space- especially the courtyard - Context needs to be considered and integrated - Landscape needs to have a better relationship with the building - Warmth of these areas- introduction of more natural materials - Detail needs to be added in order to create a sense of place - Include the basin to the idea of a 'water feature' - More outdoor living <p>Successful elements</p> <ul style="list-style-type: none"> - The forms allowance for interesting spatial arrangements - The incorporation a bamboo pocket into the design - The forms incision into ground plane - Introduction of shadows into the entrance - Extrusion of the light wells and the courtyard - Cutting through void in order to create a sense of openness - arrangement of solids - 'total work of art' - detail and ornamentation is exuded throughout the design

Figure 164: Table showing design reflections and improvements to be made.

Figure 165: Interior of the Catley house, Auckland, New Zealand, by the Group architects.

Chapter Eleven

11

Strategy D: Case Study House VI

11.1 Aim of Iteration

Transparency is often utilised to dissolve boundaries between indoor and outdoor within the works of the Bunriha, creating a fluid transition and a seamless co-existence with nature. The same intention was instilled within Case Study VI as it accumulates the ideas of the 'Okada House'. It aims to create a semi-permeable membrane, creating a new housing typology that allows layers of transparency to create several different zones within a building. The need for great privacy within the bedroom zones was acknowledged through the change of levels, while the family share a centralised living space (indoor and outdoor). Secondary spaces allow for the guests and the children to occupy separate living spaces where there can be privacy within the home also.

Case Study VI aims to:

- Create several layers of meaning through the six themes researched in Part One.
- Utilise the Bunriha and Group case studies and their methodologies in particular.
- Build upon the tests that have been done through strategies A and B.
- Create a new typology that represents a modern New Zealand home with experientiality value.

11.2 Methodology

The design started through a series of drawings as each space is designed separately through 'axometric' sketches (figures 171- 180). As a typically Japanese way of drawing, these help to demonstrate the intention of the design before going through the digital process. This method allows the architectural experience to indicate the experiential nature of the house within its landscape. This sees the concentration of some of the earlier key features, for example the internal courtyard, guest house, central fireplaces, materiality and the division of spaces separating the building wings. Key Architectural aspects are drawn directly from both case studies of the Tremewan House and the Okada House. It is the six themes (as researched through Part One) that drive each design decision, creating each space through experiential intention.

The design matrixes allow for each room to be read through the six themes (figures 181- 189). As the house is designed through a series of spaces, deemed necessary to fully demonstrate the layers of architectural elements that have been considered. These matrixes outline where, how and why these architectural elements are composed. The theories are not just limited to how each of the precedent groups dealt with it but also the original source of theoretical thought. For example, one of the influential theories is Di Vinci's three types of shadow: cast, attached and shading. This concept is discussed through 'In Praise of Shadows' by Jun-Ichiro Tanizaki, a book that was influential to the Bunriha's work. By being able to define these specific ways of dealing with the 'types' of shadows it allows for the design to be carefully articulated through each paradigm. These matrix diagrams aim to bridge the gap between the architectural research and the implementation into architectural design.

Figure 166: Sketch of spaces for case study VI (to no scale). Influences of design decisions are as noted.

Figure 167: Abstracted sections showing design decisions starting to be manifested.

walls appear to be permeated as points insinuating a sense of disconnection and hence movement.

partitions break up space without disconnecting user from the activity beyond.

sometimes these partitions have a purpose of their own e.g. bookcase in living room.

perspective sections show consideration to space-attention to detail due to proximity of inhabitant.

nature intercepts building form- looks like the building has been built around the natural and slotted in. Allow them to play off each other and allow future growth.

sin is full

cabinetry

Figure 168: Sketches of abstracted cabinetry designs (as seen in case study V).

furniture design

Figure 169: Sketches of furniture details, taking on an organic form on the right.

permeability from indoor to outdoor

Figure 170: Sketches exploring ideas of permeability through geometric glazing, similar to the Okada house. This enables the natural surroundings be clearly visible from the inside.

Timeline of Methodology

a
b
c
d
e
f

strategy A

reflection

a
b
c

strategy B

reflection

strategy C

reflection

interior/exterior relationship from B to C

floor plan of B into C

materiality of B into C

strategy D

intrusion of light

condition of

internal li

consideration of

Figure 171: Diagram showing theory implementation.

Figure 172: Diagram showing theory implementation.

tegy A

Strategy C

Design Concept

Reflection

Failures and Successes

Strategy D

ip from B to C

practicality of private spaces
detail
surrounding context

intrusion of lightwells and extrusions of counters
in C to B
condition of the external floor plane from C to B
internal living/ bedroom spaces of C into B
consideration of joinery with concrete planes from
C to B

Start of Strategy D

from strategy B → - levels instigated by natural slope

from strategy C → - ground level layout
- walkways

Figure 173: Start of strategy D, planning and designing through a diagrammatic plan.

11.4 Case Study House VI synopsis

The house is designed room by room and is composed to mimic the nature of both case study houses: the 'Okada house' and the 'Tremewan house'. It explores the use of semi-internal courtyards at all ends of the house and allows flexibility from each space to the next. By creating a series of intermittent spaces around the core of the home, the house starts to become a linear (yet continuous) journey throughout. The light fittings and furniture are designed to be inset wherever possible as the fittings aim to be centered within each room. A sense of symmetry is said to bring clarity to the mind within Japanese thought.

Although not small in size, this case study allows for the 'extreme' scenario to occur. By not restricting the project to a budget or specific footprint, it allows for the building to become a catalyst of architectural thought. The house exudes a sense of spatial awareness through implementing each intangible theme of shadow, reflection and permeability. This allows for the house to take on its own persona as a result. In section the design appears to be embedded in the side of the hill at one edge, lengthening out becoming pavillon-like at the waters edge.

This is to leave the land in its natural state as much as possible creating a contrast between the inhabitation of the indoor and outdoor spaces. The interior has a sense of solitude as the inhabitant journeys through the main living space, eventually gaining a sense of enlightenment through the exposure to the water. The intention of light is carefully considered as it plays with the large panels of seamless glazing alongside the timber materiality of the homes private spaces. As seen in figures 199- 200, the linear hallways that align each 'wing' encourage the inhabitant's journey as a series of contemplation points. The children's wing, being at the rear of the house, is slightly separated from the rest of the house as it sits slightly back from the main living block. It is adjoined to its own outdoor patio and encourages the outdoor use of the building while emphasising the view (figure 192). The exterior spaces act as extensions of the building creating a series of differing experiences beyond the house itself. The patio connects the guest, the master bedroom/ living block and the children's wing, allowing for a continuity of space leading the user easily through the use. The intangible themes is intended to heighten the Group's more 'functional' themes through their new emotive qualities, for example the intersection of the homes interior/ exterior spaces play with the Japanese approach to architectural permeability. The use of light and shadow allow for the dark spaces of the buildings envelope to be shrouded with mystery rather than consumed by darkness. A mental shift between acknowledging these spaces as beautiful allow for the functional to still take priority.

Figure 174 and 175: Re-visiting the site. To no scale.

Figure 176: Master plan. Scale at 1: 2,000.

Figure 177: Initial (not final) plan of Strategy D. Scale at 1:200.

Figure 178 and 179: Axometric drawings designing through each space as indicated. No scale.

Entry to children's block

Children's block

Transparent 'bridge' linking child and main living block

Roof concept

Figure 180- 183: Axometric drawings designing through each space as indicated. No scale.

Roof concept

Permeability to exterior

Figure 184 and 185: Axometric drawings designing through each space as indicated. No scale.

*Master bedroom and dressing room
connecting to the linear hallway*

Master bedroom

Figure 186 and 187: Axometric drawings designing through each space as indicated. No scale.

Figure 188: Matrix of design ideas invested within each space.

Figure 189 and 190: Section AA (above) and Section BB (below) as indicated on the floor plan (figure 184). Scales at 1:200.

Figure 191: Section CC as indicated on the floor plan (figure 184). Scales at 1:200.

Figure 192: Floor plan. Scales at 1:200.

Wooden Panel System- Guest dressing room
scale: 1:200

Internally insulated wall to floor detail
scale: 1:10

Guest dressing room
scale: 1:500

Figure 193: Design Details. Scales as stated.

Sliding window detail
scale: 1:5

Sliding window panels with louver screens
scale: 1:5

Figure 194: Design Details. Scales as stated.

Figure 195: Exploded diagram of case study VI.

n matrix

MAIN LIVING SPACE

n matrix

INTERNAL COURTYARD

Figure 197: Section DD as indicated on the floor plan (figure 184). Scales at 1:200.

Elevation of guest house
1:200

Roof detail
scale: 1:10

Sliding door detail
scale: 1:2

Perspective of interior timber joints
scale: No scale

Figure 198: Design details. Scales as indicated.

Figure 199: Contextual perspective

Figure 200: Contextual perspective

Figure 201: Perspective towards entry.

Figure 202: Perspective within guest house.

Figure 203: Perspective of courtyard.

Figure 204: Perspective of living space.

Figure 205: Perspective of courtyard.

Figure 206: Perspective of children's courtyard.

Figure 207: Perspective of glass corridor connecting the living space with the children's.

Figure 208: Perspective of hallway with children's playroom to right.

11.5 Reflection

Case Study VI explores the two methodologies of the precedent groups successfully. By acknowledging the merge of all six themes the building starts to hybridise a typical New Zealand and Japanese home. Incorporating an essence of the New Zealand vernacular as the Group advocated, while also introducing a sense of experientiality inspired from the Bunriha. The themes are composed together in order to exaggerate, or at times dilute, the impact of the site's natural spatial conditions. The house however is large in footprint and would not be suitable for some of the smaller urban lots of Auckland City. This will be taken into consideration through the site change in the last case study house. Case Study VI could also be precededented for a holiday home or bach due to it's sense of intimacy, orientation to the view and the building's one story height. It allows for the themes to be expressed without the restrictions of cost or size while still maintaining a sense of scale. It is acknowledged that this is inconsistent with the functionalities of the Group. However, this will be incorporated within the last strategy to show the two extremities of a large and small home- both demonstrated through the same ideals.

'Authentic architecture is always about life; man's existential experience is the prime subject matter of the art of building. To a certain degree, great architecture is also always about architecture itself, about the rules and boundaries of the discipline itself. But today's architecture seems to have abandoned life entirely and turned into a pure architectural fabrication'

- Juhani Pallasmaa in 'Identity, Intimacy and Domicile, p.96.

Chapter Twelve

12

Site II

The second chosen site is to test an urban site, one that provides as set of contextual restrictions, a common scenario for higher density neighbourhoods within Auckland city (figure 209). This provides a greater set of design parameters to work within in order to refine the design and re-consider a more restrained project outcome.

Remuera is a popular suburban area sitting right on the edge of the city. The site ss chosen due to its history of being Hackshaw's family home back in 1962-72. Site II allows for the new considerations of context to occur adding another layer of consideration to the thesis question. Through the creation of parameters the design starts to be refined towards a more cost- effective solution. The design also follows a more stringent process of space controls as outlined in the standards of the metric handbook by David Adler.

Site II- 93 Arney Road, Remuera, Auckland, New Zealand.

History of site II:

Hackshaw House II (architect's own)²¹²
91 Arney Road, Remuera,
Auckland

'With a low pitched corrugated asbestos roof, and plenty of built in furniture, this house was built across the section with the main room at the north end, an L shape running the full width of the plan. Entering the house through the rear from Arney Road, a hall separated from the dining room by a book case and decorative glass screen brought visitors into what Vernon Brown considered the hub of family life. A large verandah and long thin nursery are at the front of the house to catch the sun.'

- C. Troup in 'The Vernon Brown Architectural Papers', p.3.

Figure 209: Map of outer Auckland region with site II indicated. Scale at 1: 8,000 (further site analysis was in figure 49- 52).

Figure 210: Aerial photograph of Site II (site as indicated by colour).

Figure 211: Aerial photograph of Site II (site as indicated by colour).

Figure 204: Location plan of Site II. Scale at 1,1000.

Figure 212- 214: Site photos of the house (access was not permitted within the house due to privacy reasons).

Chapter Thirteen

13

Strategy E:

Case Study House VII

13.1 Aim of Iteration

“The terms Classical and Romantic will continue to have several meanings in several contexts ... The intellectual grid that the mind imposes through the eye makes the difference between objective and subjective, a bus shelter and a cell...”

- Vernon Brown in the Architectural Archive documentation of Auckland University, p.3.

The strategy of Case Study VII is purely an affordable solution in response to Case Study House VI through both contextual and anthropothic parameters. The design aims to be defined through four accumulated considerations: the site and context; the suggested minimum spaces from specific design guidelines (Anthropothic parameters); and lastly, maintaining the same emotional content found through previous iterations. This enables the design to maintain the same principles outlined in the ‘Personal Manifesto’ to create another prototype of small housing. This will see a series of modular blocks, similar to that of strategy D, however are now modified due to several added restrictions.

13.2 Contextual Parameters

Reviewing the ‘Resource Management Act’ (Part 2): ‘Isthmus Section’:

The Act outlines the following initiatives within the Remuera (Auckland CBD) area:

- Expecting large urban growth
- Quality control
- Regional growth strategy
- Regional land transport strategy

Reviewing the District Code (Part 3): ‘Isthmus Section’

The site lies within the ‘2b’²¹³ section (Appendix A- Contextual parameters).

b) Residential 2a, 2b, 2c Zones

The plan has been implemented in to order ensure that additions, alterations/renovations or new buildings to the area comply with the existing manner of the area. This enables a degree of respect and cohesiveness to the special character of this region. In particular to the ‘period’ housing and landscaping within the zone, as maintaining these aspects are important to retain the architectural history of New Zealand²¹⁴.

213 Residential 2b: Areas included in this sub-zone have higher housing densities and building coverage than areas in the Residential 2a and 2c zones, and generally involve period homes.

214 Auckland Council, “District Plan Text.”

Adherence to these guidelines is stated however not as mandatory although increasingly encouraged. Design quality is controlled through the code, maintaining amenity for both residents and visitors (as reviewed in the Design Residential Guidelines for the area).

Objectives (as outlined by the district code).

- 01 To achieve new residential development that is respectful of any valued and identified character in its neighbourhood.
- 02 To encourage innovative contemporary designs which make a positive contribution to the desired future character of the neighbourhood.
- 03 To ensure that new developments front and overlook the road.
- 04 To incorporate trees/landscaping into developments.

SITE AREA:

600M2 GFA (max)

LEVEL ONE
at road level (top level)

LEVEL TWO

Figure 215: Option A, designing through floor plan for case study house VII. Dimensions are based on the minimum at outline by the 'Metrics Handbook' (see appendix B & C) Scale at 1:100.

LEVEL ONE
at road level (top level)

LEVEL TWO

Figure 216: Option B, designing through floor plan for case study house VII. Dimensions are based on the minimum at outline by the 'Metrics Handbook' (see appendix B & C) Scale at 1:100.

13. 3 Case Study House VII Synopsis

This case study explores a modest exploration of the themes of Case Study House VI. It acknowledges the need for the contextual limits placed on denser urban settings. This allows the design to show its adaptability to several different sites. Testing these interior qualities within substantially smaller spaces was challenging. However, as seen in figure 230-231, the night perspectives indicate this sense of atmosphere that is intended. The house shares some beautiful moments and eloquent gestures throughout the design. It allows for the site to accommodate for its simple yet delicate existence. The house is cantilevered at the entry of the house as it aims to follow the slope of the hill down to the front yard. Elements have been adopted from previous tests such as the use of concrete plinths to allocate walkway through the garden, the grid joinery in the childrens' spaces, and the logn rectilinear spaces broken up through the linearity of the intermittant hallways. The house is drawn towards the north facing side, maximising on the amount of natural sunlight while also taking advantage of the views. Similar to that of Case Study House VI there has been a matrix employed to outline the specific themes manifested into the building concept (figure 219).

Figure 217: Floor plan for case study house VII, top level (entry level). Scale at 1:100.

Figure 218: Floor plan for case study house VII, bottom level. Scale at 1:100.

Figure 219: Matrix indicating how themes have been considered throughout the case house.

Exploded diagram of Strategy E

Figure 220: Exploded diagram of case study VII, strategy E. Scale at 1:200.

Figure 221: Early mass studies showing building programme.

Figure 222: Early mass studies showing configuration of house and relationship to land.

Figure 223: Exterior perspective showing the design in relation to the neighbouring sites.

Figure 224: Perspective a: Showing entry to house from Arney Road.

Perspectives Key.

Figure 225: South Elevation- Scale:1:400

Perspectives Key.

Figure 226: Perspective of the living room.

Perspectives Key.

Figure 227: Perspective from the kitchen to the living room.

Perspectives Key.

Figure 228- 229: Perspective from the hallway space (lower level).

Figure 230: Section AA (as indicated on figures 217 and 219).

Figure 231: Section BB as indicated in figures 217 and 218.

13.4 Reflection

This case study explores a more economic approach to obtaining these experiential spaces. It allows for the design to cater to specifics of both site and cost. Although the design is not as explorative it also demonstrates the need for restraint when considering potential housing solutions. This design serves to disseminate the knowledge gained in order to consider the need for a sense of experientiality. Done within a functional living space and through a methodology that can be employed to suit any brief. The shift to a two story house was challenging to achieve the same sort of elongation of form which allows the house to lie closer to the ground plane (figures 225- 226). As the home does not appear dominating to its surroundings this goal was still achieved through a slightly higher ceiling but low set of rectangular forms from the front and back of the house- allowing for it to appear even smaller (figure 233- 234).

This thesis aims to challenge the preconceptions of modernist architecture through the additional considerations of the Group's Japanese equivalent- the Bunriha. As seen, the Case Studies (I- VII) result in a series of differing results, each spurring its own architectural debate. The outcome of these design strategies provoke a new sense of domestic space and allow the proposals to be direct products of its design-research method, showcasing theoretical thought through the representation of space. This demonstrates architecture's ability to manipulate the perception of internal and external spaces through the careful consideration of 'space'. It awakens the subconscious mind and enhances the experiences of daily life through the new perception of domestic experientialism. The project demonstrates a new sense of vernacular that maintains the nostalgic, yet subjective, meaning of a NZ home while introducing a sense of experientiality through intangible values. Testing through a differing series of theme matrixes, it allowed the building to create its own aesthetic mainly through the spatial features rather than its stylistic features. This proves to be a new and explorative way of approaching architectural design.

The experimental method was utilised in order to re-consider how we see and design domestic spaces and how these reflect our own values in today's society. Through this, there has been several successful cohesions of the six themes derived from Part One. The perception of the domestic house can now be seen as both traditional and contemporary by allowing the nostalgia of a home to be evident within an experiential series of spaces. The thesis aim acknowledges the intent to discover the similarities and differences between both the Group and the Bunriha. The result was that these groups were a lot similar than first thought prior to research. The thesis allows for a union of the two groups manifestos to be evident through each design, however it was challenging at parts to differentiate these design decisions visually.

The number of iterations produced allowed for the process to be renewed through similar ideas but completely different starting points. By acknowledging six main themes it allowed for a consistency between the research made and the design that was carried out. It also made the design seem less final, meaning there was room for trial and error and less hesitancy to brainstorm several ideas. By allowing the critique to be welcomed in order to refine the next iteration the ideas were explored thoroughly. As new ideas start to emerge Case Study VI captures the essence of the thesis in terms of experientiality. It allows for simple forms to be composed together to create a functional and sensory experience. The balance between these two is seen to be important for the future of New Zealand's new housing. Through the thesis's testing it is hoped that the knowledge accumulated will disseminate the unconventional methodologies and architectural thought to architectural practice.

In conclusion, it was seen that this methodology proved successful in creating a hybrid typology of architecture. The experimentation and tests let ideas be manifested through a physical form, turning the written theories of early modernism into contemporary pieces of architecture. Personally, the work is beneficial for the continuation of architectural design practice especially within the domestic field. It is intended that this work be disseminated for future experimentation through architectural works allowing for emphasis to be placed on a multi-sensory experience of space rather than just the aesthetic quality.

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appendix

a small house

charles fearnley a.n.z.i.a.

photograph by fleck

the problem

A low cost house for two people in 1945, when materials, fittings, etc., were most difficult to obtain. The architect-owner naturally wished to put his theories into practice. He and his wife agreed to put most of the space into one large room, leaving bedrooms and kitchen minimum size. One double bedroom and a single guest room were needed.

the site

The site is small; just under one-eighth of an acre, sloping steeply to the west and fronting on to a zig-zag path to the north. From the living rooms is obtained an unobstructed view of a wide valley the bulk of which is permanent bush reserve. This is seen over the top of the existing ngaio trees which obscure the roofs in the immediate foreground.

construction

Foundation: north, south and east, concrete unplastered and white-washed. West wall, timber with rusticated boarding fixed vertically.

Walls: timber frame; rough-sawn weatherboards.

Roof: two layers of three ply American Malthoid laid in hot bitumen and gravel finished.

finishes

Exterior: creosote and white-painted trim.

Interior: walls and ceilings fibrous plaster painted "moon-white" throughout. Splayed wall to bedroom 1 pale blue to tone with the bed-cover.

Floors: all-over carpet in hall and bedroom 1. Bedroom 2 and living area oiled with clear linseed. One-eighth inch granulated cork sheets in bathroom and kitchen.

lighting

Six inch spheres in hall and kitchen. Elsewhere lighting panels recessed and flush with ceiling.

furnishings etc

Satisfactory door-handles being unobtainable roller bolt catches were used with wooden handles. Handles to dressing-table and living room fittings are turned wooden domes halved or quartered as required. Curtains matching the walls are planned for the living-room windows and a richly patterned curtain to separate living and dining areas when necessary.

area

825 sq. feet including the laundry in the basement.

cost

35/- per sq. foot (not including allowance for basement).

general notes

Low sills in living-room (2 feet from floor) give same feeling of space as more costly plate-glass windows. The glazed screen between hall and living-room also opens up the plan and by contrasting light intensities gives a surprising effect of depth. The built-in furniture is well worth-while in both living and bedrooms.

The architect after three months in the house is fully satisfied. The criticisms by his friends have been on minor matters of personal taste which is, after all, personal taste.

entrance hall

APPENDIX B

Anthropothic Parameters Metric Handbook - pages 304- 314

Diagram indicates the suggested measurements for residential housing as by Metric standards.

Dimensional basis

*Table III Dimension co-ordination in the horizontal plane for housing
as outline by Metric standards*

*The dimensional basis is
at a 300 x 300mm grid.*

*The second grid is suited for
second preference and is
subdivided to form a 100 x
100mm grid.*

Table IV Dimensional co-ordination in the vertical plane for housing
To be read in conjunction with 35.1

	F floor-to-floor height	C floor-to-ceiling height	T floor zone thickness	L change of level	D door head height	W window head height	S window sill height
Publicly financed housing							
Mandatory	2600						
First preference		2350	250	600 1300*	2100	2300	
Second preference		2400 2300	200 300			2100	
Other permissible		2100†					0 200 600 800 1000 1400 1800

Housing 305

Table V Aggregate space standards mandatory in public sector housing

Homes built for occupation by:	7 people	6 people	5 people	4 people	3 people	2 people	2* people (old)	1 person
• Should be designed with a <i>net floor area</i> of: (exclusive of general storage and stores for dustbins and fuel, garage and balcony)	m ²	m ²	m ²	m ²	m ²	m ²	m ²	m ²
<i>Built form</i>								
3 storey house, 3 storey house and garage	112	98	98	—	—	—	—	—
2 storey centre terrace	108	92.5	85	74.5	—	—	—	—
Semi or end terrace	108	92.5	82	72	—	—	—	—
1 storey centre terrace	—	84	75.5	67	57	44.5	44.5	30
Maisonette	108	—	82	72	—	—	—	—
Flat	—	86.5	79	70	57	44.5	44.5	30
Flat (balcony access)	—	—	—	67	—	—	—	—
Shared accom*	—	—	—	—	—	—	—	—
Flatlets, Bedsit with shared bath	—	—	—	—	—	—	—	27
1 bed private bath*	—	—	—	—	—	—	39	27
• and should include <i>general storage space</i> (exclusive of stores for dustbin, pram, fuel or through access space (700 mm wide) in terraced houses)								
	7 people	6 people	5 people	4 people	3 people	2 people	2* people (old)	1 person
Houses	6.5	4.5	4.5	4.5	4	4	4 self contained	3
Flats and maisonettes		3.5	3.5	3.5	3	3	3	2.5 (2.6 for old people)
Shared accom*								2.5 (2.6 for old people)
Flatlets: 1 bed private bath								1.9 (2.6 for old people)
Bedsit and shared bath*								1.9 (2.6 for old people)
• as well as fuel storage at the following rates:								
1.5 m ² for 1 appliance only								
2 m ² for 2 appliances or in rural areas								
1 m ² in flats if there is no auxiliary storage								

* Standards for old people and single accommodation were not stated in the Parker Morris report but were provided in later government circulars

Bathroom Dimensions

1:50

Diagram 1: Minimum bathroom including WC (Adler 304).

Diagram 1a: Minimum bathroom with WC adjacent (Adler 304).

Diagram 2: Alternative WCs with washbasins (Adler 304).

Bedroom Dimensions

for 4 people: 850 x 1200 mm (Adler 308)

1:50

Diagram 3: Making a double bed (Adler 308).

Diagram 3a: Circulation around twin beds (Adler 308).

Diagram 3b: Making a single bed (Adler 308).

Diagram 3c: Sitting a dressing table (Adler 308).

Storage Dimensions

1:50

Diagram 4: Storage space (Adler 307).

Kitchen Dimensions

1:50

Diagram 5: Typical Kitchen Layout (Adler 307).

Diagram 5a: Standard kitchen storage units (Adler 307).

Living Room Dimensions

1:50

Diagrams 6a- d: *Living room heights*

Diagram 6a: *Living room furniture*

- a. three- seat settee*
- b. easy chair with arms*
- c. easy chair without arms*
- d. occasional chair*
- e. television*

Diagrams 7: *Living room dimensions*

end.