How do we Sustain Regional Architecture in the Face of Modern Models of Universal Internationalist Architecture?

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ABSTRACT

In the course of twentieth century architecture, like most aspects of culture we have seen an increasing homogeneity between regions. In our present world that has come to accept this concept of ‘blandification’, it is often difficult to tell by architecture alone where a piece of international style architecture might be sited on the earth. This highlights the problem of local stylistic sources of innovation being lost, as universal styles of architecture, art, food, etc., of internationalist culture take over. This creates a tension and sometimes an outright conflict between those who welcome a human universal architecture of modernity and those who deplore it, seeing it as a threat to indigenous cultures, traditions, and to regional architectural character in particular. We love to visit unique cities such as St Petersburg, Paris, Rome, Venice, Bangkok, or wander through towns and villages in Greece, Spain, Italy, Mexico, and Japan. Part of the appeal of all these places is their architecture. They have an uniqueness about them, they are distinct, recognizable, generated by their site, location, climate, and locally sourced materials and construction techniques. Most of the population inhabiting these built environments as well as the people visiting them strive to safeguard their established architecture, culture, and system of settings. They are often integrated systems in which people act, behave and live.\(^1\) It is important for people to value their historic continuity, cultural diversity and preserve their identity in combination with their geography.

Here in New Zealand and for that matter, most countries, whenever someone proposes to design/construct something new or modify an existing building, in particular historic buildings, a debate arises and inevitably the same question and issues get brought to our attention. Will the new building fit within its surroundings, contributing positively to the existing townscape/landscape? Will the aesthetics of the building fit its surroundings? For New Zealand the issue may lie in keeping the right balance between using modern internationalist inspired architectural models and preservation of the, or adaption of the old. Regionalist Architecture is Explored through the design of a fishing lodge in the Bay of Islands in New Zealand.

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1.0 INTRODUCTION

1.1 Research Question

How do we sustain regional architecture in the face of modern models of Universal Internationalist architecture?

1.2 Key Definitions

Definition of Internationalism
Internationalism values the monolithic and homogeneous. *Internationalism is simply the transformation / unification of the divided world into a barrier free one, where ideas and concepts are shared and practiced all over the planet without much interference from particular countries and their systems.*

Universalist internationalism seems to be characterised by respect for the “survival of the fittest”, it ‘champions’ the strongest. Thus if the regional architecture we produce is “fit” enough it will sustain itself in the face of the onslaught of internationalist architecture.

Definition of regionalism
Regionalism values particularity. *It is therefore diverse and differentiated. The characteristics of a region are dependant upon culture, climate, and the nature of available building materials.*

Definition on Emic
“*Studying or describing a particular language or culture in terms of its internal elements and their functioning rather than in terms of any existing external scheme. Often contrasted with etic.*”

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Definition of Etic

“Studying or describing a particular language or culture in a way that is general, non-structural, and objective in its perspective. Often contrasted with emic.”3

1.3 Objectives

The aim of this design research is to counter the ‘Regionless’ lack of meaning or even irrelevance of universalist modern architecture by studying and having a thorough understanding of a region’s history in terms of geography, site, climate, culture as far as it impacts upon defining a system of building. People of a region have developed methods to deal with such aspects which have been adopted and have survived and passed the tests of time. Such methods become practiced unconsciously and are part of everyday living. These methods become the region’s cultural knowledge which is embedded by the force of its traditions. “The modern challenge then becomes to combine function and aesthetic value in-to an “enduring architecture” that cooperates with nature and works in concert with ecological principles.”4 The architecture must utilize a combination of the best ancient/indigenous building approaches that have long track records and the best of today’s technological advances and scientific knowledge. When combining such new design information with traditional design information, to create a modern regional architecture that reflects its place on earth, it is important to respect the ecology of that place, the underlying order of all living things there. “The forms we conceive are really patterns, and patterns are the configurations of relationships between natural systems.”5 “Architectural form is in part a manifestation of energy flows that are always present in a building.”6 For example a regionalist architect has to have a crucial and clear understanding of passive design and can integrate that into the new regionalist architecture. It is not enough to merely overlay these passive systems onto the new

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6 Ibid.
regionalist architectural scheme. The most effective schemes are those that are so carefully woven together that they appear seamless and read as an integrated whole.
2.0 METHODOLOGY

2.1 Research

This project will outline what a region is and how the application of regionalism can be applied to modern architecture. As part of this, appropriate precedents and their elements are analysed. This research is crucial to the design of creating a contemporary architecture that has a sense of belonging to its context/region. It provides an understanding of how the successful elements of architectural precedents affect design and influence form.

2.2 Design

The design development of the fishing lodge is influenced by its region. The form of the lodge therefore reflects the integration of the regions unique characteristics. Establishing the characteristics will include an analysis of the regions climate, topography, culture, traditions, history and materials. This involves travelling to the region and experiencing these characteristics first hand, experiencing the lifestyle of the region. All of this culminates in a mixture of hand and digital drawings, and data presentation describing the final design.

2.3 Program

In order to fully capture the essence of the region/sites sense of place, the choice to design a lodge that caters for fishing took place. In the selection of this program it was first necessary to study and get a full grasp on the region’s culture, traditions, and history as proposed above. The investigation of these requirements with the combined knowledge of what it means to create something that reflects its context will form the foundation of the design.
3.0 CURRENT STATE OF KNOWLEDGE

3.1 Definition of Regionalism

Regionalism is the study of regions but in this research, it is the regional architecture that will be the focus. “Built environments are more than just buildings. They comprise those systems of settings in within which people live act and behave.”\(^7\) The term “regionalism” is used in many different disciplines, and has proved useful in many different disciplines, including economics, planning, ecology, sociology, folklore, history, archaeology, anthropology, marketing etc. but it has remained basic to one; geography, which has been characterised as either dealing with the reality systems or the “regional”. The concept of cultural landscape stems from geography.\(^8\)

Strangely geography is concerned with landscape and geography of culture. Whereas regional landscapes have been neglected, the study of climate, vegetation, and soils and their landscapes related to geomorphology and regional geology has not been integrated with human geography and social science. We shall see that they are important to cultural landscapes. Between 1930 – 1970 the emphasis was mainly based on economic regions and only since the 1970’s interest is shown in social and cultural aspects of regions. This revival of cultural regionalism was useful to define and map regions and sub regions. Attributes of cultures that were mapped, included: settlement forms and patterns, house styles, barns and other structures, ruins, land subdivision, place names etc. How-ever, certain and crucial attributes have been neglected Attributes such as, spatial character of Cities, urban planting, and vegetation. Such planting can lead to very different cultural landscapes in regions and cities for example, Tuscany vs. Phoenix.\(^9\) Since, practically all regions can be mapped, depending on the characteristics used; there is no right or wrong way to define regions. Typically regions have been defined using multiple attributes. It is possible to have total regions, where all attributes are fully congruent, but genuine cultural regions exist where a number of attributes

\(^7\) Markovich, Preiser and Strum. *Pueblo Style and Regional Architecture*. 272.
\(^8\) Ibid.
\(^9\) Ibid.
coincide, for example dialects, place names, religion, ethnicity, architecture, diet and political behaviour.\textsuperscript{10}

\textbf{3.2 Commonalities among the views of different Regions}

All disciplines seem to agree that regions involve diversity confined to a particular area at the areal level, hence distinguishing one area from another. The concepts of regions help describe, understand place to place differences. The idea of ‘regions’ are useful as the world is not uniform despite attempts to ‘blandify’ by universal Internationalism.\textsuperscript{11} “Regionalism as the study of regions, thus involves two ingredients: the intellectual concept of “region” and the concrete manifestations of distinctive areas characterized by relatively uniform homogeneous attributes, so that the differences within a region are less than those between regions.”\textsuperscript{12}

Homogeneity therefore becomes the key idea when dealing with regions as a whole and comparing them with others. Any small internal variables within a region are over-looked as they are understood to be very minor and insignificant. A region is an area reasonably lacking in internal differences with limits/boundaries that are recognizable and able to be mapped differing significantly from other adjacent cultural regions. When crossing regional boundaries one experiences a distinct change in “personality, character and ambience”\textsuperscript{13} in the new region. Amos Rapoport states, “A region is any portion of the earth’s surface that stands apart from others in terms of that set of perceptible characteristics (all sensory modalities) that produce a cultural landscape with a distinct character or ambience.”\textsuperscript{14}

\textsuperscript{10} Ibid.
\textsuperscript{11} Ibid., 274.
\textsuperscript{12} Ibid., 277.
\textsuperscript{13} Ibid., 274.
\textsuperscript{14} Ibid., 275.
Rapoport developed several key points about a region’s character that need emphasis.  

1. Only some of the many attributes used to map regions are relevant: those which directly or indirectly affect cultural landscapes.
2. These attributes need to form sets which describe ambience.
3. Emphasis should be placed on a region’s perceptible character rather than mapping. Implies emic regions, making them part of environmental perception and cognition and the distinctive ambience of regions is a function of noticeable differences. Etic attributes remain useful, and both types of definitions need to be compared. Also, etic attributes, if potentially significant but not noticed, can suggest planning or design interventions to make them noticeable.

With the “integration of natural and human phenomena on a portion of the earth’s surface”, landscapes can be viewed as a system of settings that are intimately related to human life, places for living and working rather than just to be looked at. They can also be symbolic, they have meaning for the people living there. When emphasizing the perceptible character of such landscapes, Rapoport states that the impact of human action is most important and when that occurs over time, a cultural landscape becomes a result of a complex history. The different interactions over time with geographic, social and other opportunities and constraints produce those specific material complexes called cultural landscapes. “It follows that the attributes of cultural landscapes become the property of groups, and are linked to culture; they help identify groups and areas over time and distinguish among them, i.e.; they persist.” Present cultural landscapes are the result of the sum total of human activities over time. When such decisions and choices of activities are made by a particular group, they produce a style/vernacular. But these decisions and choices made must be consistent, systematic and orderly. Firstly the people within the group involved making the decisions must share a specific theme and

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15 Ibid.
16 Ibid.
19 Ibid.
mental framework (schemata, share a common perception of the context, have a body of knowledge that purports to explain the state of affairs around them). Secondly when expressing these schemata, they must occur within a system of rules (traditions that control architectural production for example in this our discipline) providing a framework for these independent decisions to add up into a coherent whole. The system of rules can be formal or informal, written or un-written. In turn the following two aspects schemata and system of rules are linked to lifestyles, values, world views and culture and therefore are the attributes of groups. Thus cultural landscapes are formed by homogeneous groups of humans that have a common schemata that occurs in an area, clearly defined and boundaried, that follow a set of rules that derive from a set of schematic choices. In our present time homogenous groups are dwindling away and are becoming rare. It is more likely to find homogeneity at small scales (rural towns).

3.3 Attributes of a Region

When dealing with the attributes of regions “the concern has primarily been with etic attributes which can be mapped rather than emic, publicly perceptible attributes, potentially noticeable by both residence and visitors.” No single attribute can account for the character of a region. Note that redundancy is important in making things noticeable. It is important to get different multiple attributes working together. In general cultural landscapes are not identified by multiple attributes; usually one perceives a total gestalt or ambience intuitively and affectively. This however can be analysed more deeply and broken into specific attributes. This is important when designing. Only those cultural patterns which have an effect on the perceptible character (directly or indirectly) of a region need to be considered. Rapoport states that this may not be self evident. For example, dance may seem to be irrelevant. It seemed in Barcelona in 1981, it was the almost permanent presence of folk dance on the streets and in the plazas that supported the greater and more general revival of Catalan culture. The accompanying music and

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20 Ibid., 276.
21 Ibid.
audiences became an important part of the regional urban cultural landscape.\textsuperscript{22} Rapoport attempts to define these multiple attributes and suggests a way to organize them, capable of distinguishing between natural components of landscapes and those modified by human action and man made elements. He also distinguishes among fixed, semi fixed and non fixed features.

**Natural**

Fixed feature;
Includes climate (hot, cold; arid, dry; humid, wet; equable, extreme etc.); typography (flat, mountainous, plains, canyons, etc.); soils; geomorphology (e.g. landforms, shapes, slopes, etc. (this ignores erosion and modifications caused by human action)); the proportion of natural vs. manmade (separated, intermingled etc.); visual texture of the landscape; hydrology (oceans or seas, lakes, ponds, creeks, dry rivers, flows, falls and rapids, meanders, pools, etc.); texture underfoot; colour of soil, rocks, mountains etc. (hue, brightness, saturation); variety of colours, absence of colour, etc.

semi fixed;
Comprises vegetation (species, types, height, colour); organisation- single plants, stands, forests, prairies, deserts, etc.; density (opacity of foliage); weather (snow, rain, temperature – hot, cool, cold – and diurnal or seasonal changes in it); light levels, light quality and temporal changes in it; light and shade; air movement (still, breezes, storms, turbulence); humid or dry; water surface (colours, waves, etc.)

non fixed;
Refers to sounds – trees and vegetation in the wind; wind, storms; water; birds, insects (crickets, cicadas, etc.) animals (frogs, jackals, etc.); silence (e.g. of the desert); the periodicity of sounds; smells – of vegetation (flowers, various trees, etc.), animals, of the sea – or absence of smells; dust; atmospherics (fog, mist, drizzle, frost, hail), clear or dull; hazy, overcast; clouds; sky colour; sunsets, etc.\textsuperscript{23}

\textsuperscript{22}Ibid., 277.
\textsuperscript{23}Ibid.
Modified by human action

Fixed feature,
Comprises the structure of the landscape including scale and size of elements and spaces, distance and depth, angles of views, boundaries, directionality, features or foci, linkages or separations etc.; control or order as opposed to picturesque; simplicity vs. complexity; variety vs. unity; vividness.

Semi-fixed;
Includes vegetation – plantings, types and species of plants and their sizes, their variety, their arrangements, etc., the size, shape configuration of patches; the linearity, breaks, widths, nodes and connecting patterns or corridors; the nature, relative area and connectivity of the matrix, etc. Lawns – their presence, absence, upkeep, etc; crops and crop combinations; visual and olfactory aspects of long-term pollution, smog, etc.

Non-fixed;
For example, domestic animals (dogs, cats, horses, donkeys, camels, cows, sheep, goats, chickens and roosters, ducks, etc); caged birds; smells of trees and flowers growing, cut flowers, smog, smoke, burning leaves.24

Man-made

Fixed feature;
Elements include buildings, their scale, size, age, form, shape, morphology, proportions (e.g. horizontal or vertical, height, details, decorations, roof forms, construction methods, origins (built by whom); materials and their combinations, texture; colour of buildings and settlements (hue, brightness, saturation); absence of colour; relative frequency of colour use, different colour use and combinations, different colours in different buildings etc.; three-dimensional quality (massing, volumes, etc.); porches, balconies and other projecting elements; articulation; additive quality or not; interface inside/outside; introverted on the extroverted (inward or outward facing), soft or hard, visible or hidden, front/back; solid-void relationships; presence or absence of fenestration (e.g. blank

24 Ibid.
walls), type of fenestration; entrances; gateways; building types and uses (religious, medical, nursing homes, clubs, shopping (kinds of shops), houses and house types, barns, sheds, windmills, gas stations, etc.; types of drinking and eating establishments; the relation of buildings to the landscape, to roads and streets, to land forms and to man-made typography, to the site (how they meet the ground or the sky); ways of relating to the landscape (contrast, blending, merging); relationships among buildings (e.g. scattered, dispersed, grouped in various ways, nucleated in settlements, freestanding 3-dimensional elements or continuous fabric, “orderly” or “disorderly,” ordered or varied, “tidy” or “untidy”, regular or irregular (i.e. types of order which, in themselves, have many attributes), hence the grain or visual texture of the built environment; density; orientation of buildings; as a result of many of the above – the resulting quality of spaces, their character, scale and width, open-tight, levels of enclosure, contrast, turns, blocked views, simplicity or complexity, sequences of spaces; changes of level – hence kinaesthetics (sharp turns, up/down, movement through space); textures underfoot or on walls; nature of pavement and its texture (visual or haptic), its colour, hardness or softness etc.; how space changes (or not) as one moves through it, hence unfolding, complexity, hidden vistas, etc., hence generally how space is organised; dead or reverberant spaces (acoustics); number and location of tall elements (buildings, radio and microwave towers, stacks, etc.), hence skylines; large scale industry (refineries, steel mills, factories, power stations); dumps; junked cars; presence or absence of private gardens, lawns and their size, etc. and their visibility; composition of private gardens (plants, arrangements, other uses); vegetation all over, occasional or absent; “natural” or controlled; visible or invisible; maintenance (e.g. scruffy or neat); parks and open large areas; bodies of water; fountains; historical monuments and their ages (different periods) vs. new elements, etc., age of environments (newness/oldness; mixture of new and old); variety of ages of buildings and areas; ruins and other traces of the past; perceptible long term changes and rates of change, c.f. revitalisation, “gentrification” etc. vs. deterioration; continuities; new or “instant” landscapes vs. “timeless” landscapes (where “time stands still”); associational qualities of these; historical properties of sites, buildings, neighbourhoods, cities or regions; roadside strips (and their attributes); circulation systems (roads/freeways – dirt lanes, rail-lines, wires, pipelines, etc.); land
subdivisions – field patterns, urban lots, etc., their size (area), shape (depth/width), weather marked or not, if so, how: fences, hedges, walls (dry stone, dressed stone, plastered etc.), type, heights, etc. of all of these; settlements – their sizes (villages-megalopolises), form (linear, rectilinear, irregular), compactness or spaciousness, density, etc.; street and road patterns, their character, variety, etc. (regular, irregular, etc. and their specifics); scale and urban grain; skylines; squares and their location; homogeneous neighbourhoods and clearly recognised districts tourist or residential areas, skid rows, slums, etc., rich or poor areas (each characterised by many attributes); maintenance of areas; ethnic areas or neighbourhoods; cemeteries or their absence, kinds of graves, tombs, etc. (related to burial practices).

semi fixed;
The relative importance of the semi fixed vs. fixed feature elements; open-endedness and visible personalisation, changes, etc.; colours and colour ranges; light and shade; signs (highway, road, building, etc.), their numbers, sizes, types, colours, location, density, languages, names on signs, graphics, etc.; place names; levels of night-time illumination, neons, etc.; number of traces of people visible; segregated or mixed land uses; clustering of trades, shops, restaurants, etc.; window and other displays; the many objects which constitute the “furnishings” of the environment, their nature, shapes, sizes, heights, colours, materials, textures, details, etc. (street signs, lights, mail boxes, kiosks, benches, etc.); maintenance levels, litter, garbage, animal droppings, etc. decorations; graffiti – their presence, absence, numbers, kinds, etc.; posters;

Non-fixed elements;
Largely people and their behaviour. For example, the nature of traffic (cars, bicycles, animals, humans, trucks, buses, etc.); density of traffic; speed of traffic; noisiness of traffic (engines, horns, bells, voices, etc.); types and intensity of activities; density of activities; use vs. non-use of streets and plazas, etc.; types of uses permissible or acceptable, hence the visibility or invisibility of activities; numbers of people visible; temporal aspects – speed of movement, tempos and rhythms of activities, their continuity or periodicity (e.g. pauses (siesta etc.), day/night; days of week; weekends); intensity of
activities over time; cyclicity of activities; segregated or overlapping activities; festivals, fairs, markets, parades, etc. and their specifics; clustering of activities; clustering or clumping of people; density of people and their perceptible homogeneity (e.g. physical type, gender, age, race, ethnicity, religion); recreation (games, sport, etc.), language, costume and clothing styles; behavioural and manners, non-verbal communication (proxemics, kinesics, gestures, etc.). postures (sitting, standing, lounging, lying down, etc.); occupations; sleeping, praying; fighting; vendors, loungers; beggars; craftsmen; street musicians (single, orchestras, singers, etc.); street performers; levels of social interaction; noise levels and their nature; periodicity of noise and temporal changes in noise’ types of sounds: music, radios, fountains or water; traffic noises, church bells, muezzins, praying, etc.; noise levels (high – silence/hush); machinery; contrast noisy-silent areas (e.g. courts); human noises of various sports (infants, school children chattering, amount of talking, yelling, laughing, etc.); vendors’ sounds; smells and their nature (man-made vs. natural; relative proportions man-made to natural smells); the specific of smells – food vendors and shop (related to food preferences), restaurants, bakeries, butchers, markets, flower sellers, cheeses, wines, etc.; incense; traffic fumes (which differ in different countries); smoke (cooking, fireplaces, etc.; fuels used; factories of various sorts); smells of chemicals, industry, garbage, sewers, etc.\textsuperscript{25}

3.4 Vernacular Design

Four attributes are possible when regarding vernacular design, designers can;

1. ignore
2. reject
3. copy
4. or try to learn from them

Rapoport states that ignoring or rejecting such attributes cannot be justified. Copying very frequently fails. Thus such environments and buildings need to be analysed and principals and lessons derived, so that they can be intelligently applied to new planning

\textsuperscript{25} Ibid.
and design. Once a region has been analysed one will have a better understanding of which attributes are usable and stand out better than the rest. Analysing these attributes will involve considerable interdisciplinary research for these attribute to become useful.²⁶

When copying elements from past buildings it is highly likely they will be destined to fail, scale may be wrong, or the relationship among elements, among buildings or between buildings and the larger landscape. We have seen that shared schemata are important in the creation of cultural landscapes, as are the rules used and followed. When schemata are misunderstood or rejected the cultural landscape tends not to survive.²⁷ “Example; the very distant neo-Confucian cultural landscape which survived until recently on Cheju Island Korea, having disappeared in the rest of the country, is now rapidly disappearing. A phenomenon found all over the world.”²⁸

As mentioned above, scale plays an important role. At small scale, schemata tend to be more shared and easier to use therefore such regions will tend to be small. In the city (larger scale) we can only preserve small areas. Example; Rome and Florence etc. emic regions also tend to be smaller than others. The key to retaining regional character is the cultural landscape and it attributes. A designer needs to understand the regional character of its people, their culture, behaviour etc. in order to preserve and develop that character appropriately. (The non fixed attributes).²⁹

“Although people cannot control them, one can plan for their clustering and homogeneity by design and planning of the buildings. More can be done with the semi fixed and fixed feature attributes discussed above and the meaning these have for people. It is also important to understand the relation or cultural landscapes to the cultures that created them, particularly the process that created them, how values, ideals, schemata and rules used in the choice process that is design, led to the systematic choices that produced style or character.”³⁰ So far I have emphasized the need to identify the emic attributes of the cultural landscape. It is also important to rank these in importance and identify critical attributes.

²⁶Markovich, Preiser and Strum. Pueblo Style and Regional Architecture. 281.
²⁷Ibid.
²⁸Ibid., 282.
²⁹Ibid.
³⁰Ibid.
3.5 Internationalism

From the 1920’s to present Internationalism has dictated form, where architects have designed and invented a series of architectural styles. A global view of the world dominated architectural style (because of IT now transmitted world wide the minute the building is photographable), and (now for different "reasons" still) the regional perspective was/is lost. There is an obvious lack of locally based design thinking. Internationalism has presented us with new technological influences, a veneer of modernism has been adopted and in some cases ill digested and bearing no relationship to our (New Zealand) tradition or to the region. A poor attempt, in some cases no attempt, has been made to combine the modern and the traditional. It is essential for us (the new generation) to absorb what we need from new technologies that have sprouted from globalisation, and to learn to keep the best of our own traditional forms. Understandably we must think in order to develop an indigenous contemporary architecture, and not loose the best of the old that has meaning and value. “Our challenge is to integrate function and aesthetic value into an enduring architecture that cooperates with nature and works in concert with ecological principals.”

The primary goal to counter the concept of placeless-ness is to produce sustainable architecture that utilizes a combination of the best ancient, proven building approaches and the best technological advances. Internationally recognised architect Minnette De Silva states: “Accepting the need to synthesize our past with present technology, we need to examine our own roots and understand them before achieving a creative life – in literature, music, painting, education, society, and architecture.” It is crucial that we find the right balance between the two. Regionalist architect Minnette De Silva rejected the idea of using traditional building materials, methods and ornament just for the sake of continuity when these were dysfunctional. She defended this position by saying, “As an architect I believe in and cannot subscribe to copying the architecture of an era that has long past. As an architect I believe in building to suit our living needs in a living way, utilizing the most suitable and modern means at our disposal, and on adopting these sound and fundamental principles of building of the

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past, which are as authentic today as before. It is from that, that a beautiful and satisfying modern architecture can result”.

Example, “The era of the Kandyan style roof is dead. It was achieved in a feudal era with a feudal means”. This is not to say she rejected traditional materials and ventilation techniques in principal.

The phenomenon of Universalisation, as Paul Ricoeur states; “while being an advancement of mankind, at the same time partly causes a subtle destruction, not only of traditional cultures, which might not be an irreplaceable wrong, but also of what he states is the creative nucleus of great cultures.” This nucleus has been referred to by him as the ethical and mythical nucleus of mankind of which life is interpreted. This wave of Universalisation constitutes a wearing away of our cultural resources which shaped and made our great civilisations of the past. This brings forth a problem especially for countries rising from under development. In order to get on the road towards modernization, is it necessary to stray from the old values which have been the building blocks of a nation/region. This brings about the paradox that; “on one hand, it has to root itself in the soil of its past, forge a national spirit, and unfurl this spiritual and cultural revindication before the colonialist’s personality. But in order to take part in a modern civilisation, it is necessary at the same time to take part in scientific, technical, and political rationality, something which very often requires the pure and simple abandonment of a whole cultural past.” Paul Ricoeur states; “it is a fact: every culture cannot sustain and absorb the shock of modern civilisation. There is the paradox: how to become modern and to return to sources; how to revive an old, dormant civilisation and take part in universal civilisation.”

3.6 Critical Regionalism

In Kenneth Framptons essay, ‘Prospects for a Critical Regionalism’ he also identifies this central paradox between tradition and modernity. Regionalism promotes the revival and reinterpretation of tradition as an oppositional strategy toward the concept of

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33 Ibid., 47.
34 Ibid.
36 Ibid.
37 Ibid.
globalisation. For Frampton, regionalism offers “the sole possibility” of resisting that constant spreading of a place-less, alienating consumerism.\(^{38}\) One of the key characteristics of regionalism is the way it attempts to revive and reinterpret local building traditions to achieve a synthesis with modern architectural forms. Liane Lefaivre and Alexander Tzonis use the writings of Lewis Mumford as the source for their concept of ‘critical regionalism’. Mumford’s writings broke with earlier romantic forms of regionalism by advocating an architecture that embraced local traditions while simultaneously engaging with the global, universalising world. Lefaivre and Mumford’s regionalism becomes a constant process of negotiation between local and the global. Critical Regionalism while being critical of modernisation still refuses to abandon the progressive aspects of the modern architectural legacy. Also at the same time critical regionalism’s fragmentary nature serves to distance it both from the utopianism of the early modern movement. One of the main characteristics of critical regionalism is the way it attempts to revive and reinterpret local building traditions to achieve a synthesis with modern architectural form.\(^{39}\)

In “Towards a Critical Regionalism; Six points for an architecture of resistance”. Frampton States Six points of an architecture that resists this global onslaught of the Universal model.

1- Culture and civilisation
2- The rise and fall of the Avant-Garde
3- Critical regionalism and world culture
4- The resistance of place and form
5- Culture versus nature: Typography, context, climate, light and tectonic form.
6- The visual versus the tactile


According to Frampton’s six points of resistance\(^{40}\), as well as achieving a synthesis between local building traditions and modern architecture, emphasis should also be placed on topography, climate, and light. Frampton goes on to say, “It is self evident that the tabula-rasa tendency of modernisation favours the optimum use of earth-moving equipment inasmuch as a totally flat datum is regarded as the most economic matrix upon which to predicate the rationalisation of construction. The bulldozing of an irregular topography into a flat site is clearly a technocratic gesture.”\(^{41}\) This universal culture contributed greatly to this “absolute placeless-ness”, where as one should be more sensitive to the site and work in response to the site, building should engage with site. Frampton states this as cultivating the site. “Terracing of the same site to receive the stepped building form of a building is an engagement in what Frampton calls “cultivating” the site.”\(^{42}\) “What is found evident in the case of topography can also apply to an existing urban fabric, and this carries on through to climate and the temporally inflected properties of local light.”\(^{43}\) In these cases of light and climate control, Frampton states that the most delicate way these two natural forces impact upon a building is the generic window in that building. These openings/windows have the capability to record the regional character of the region architecturally expressing a sense of place. This/our universal culture has come to favour the exclusive use of artificial light. Frampton goes on to state that art galleries are a prime example that encapsulates this use of artificial light. Frampton goes on to say that this obsession begins to render the artwork as a commodity, because such an environment becomes placeless also rendering the art work placeless. Art galleries or any building for this matter must provide naturally lit ambient light conditions that portray a sense of place different conditions that are rendered by time, season, humidity, etc.\(^{44}\) As Frampton states; “Such conditions guarantee the appearance of a place-conscious poetic – a form of filtration compounded out of an interaction between culture and nature, between art and light.”\(^{45}\) Opening types also vary

\(^{40}\) Ibid.  
\(^{42}\) Ibid.  
\(^{43}\) Ibid.  
\(^{44}\) Ibid.  
\(^{45}\) Ibid.
due to different climates presented, some climates favour a recessed glazing line where as others are more appropriately advanced or shielded by louvers. Also the way in which these specific openings provide ventilation reflect the nature of local culture.46

Frampton's interests lie with tectonic rather than scenography. (i.e. Romantic notions and scenery). It should be influenced by the sense of touch rather than sight. Frampton is interested in basing an observer's experience on building materials and their sensory properties. He draws upon phenomenology for his argument.47 Frampton gives examples of this tectonic and tactile strategy. This strategy has the capacity to read their environment in terms other than those of sight alone, suggesting a resistance of universal technology. Frampton calls upon Alvar Alto’s red brick Saynataalo Town Hall of 1952 and points out that there is a resistance by utilising the tactile qualities of building material, for instance, feeling the contrast between the friction of the brick surface stairs and the springy wooden floor of the council chamber on the second floor. Frampton Also quotes the work of film director Luchino Visconti as Frampton states Visconti was well aware of sensory factors when making the film "The Damned," for he insisted that the floor of the main set be paved in real wooden parquet. Visconti believed that without a solid floor underfoot the actors would be “incapable of assuming appropriate and convincing postures.”48

Architecture of today must remove itself from this tendency to fully embrace the optimisation of advanced technology and also steer clear of this ever so present regional misinterpretation of returning to the architectonic forms of the pre-industrial past, regressing architecture to a nostalgic decorative past.49 A type of architecture, namely a Critical Regionalism, has the capacity to form resistance by giving it an identity that allows it to design critically, having a discreet recourse to the local in concert with universal technique. It is important to appropriate the term Critical Regionalism as it is often misunderstood and confused by its ambiguous nature and repressive

46 Ibid.
48 Ibid.
misunderstanding. Alex Tozonis and Liane Lefaivre stated in their essay; “Gird and Pathway” (1981) that; “Regionalism has dominated architecture in almost all countries at some time during the past two centuries and a half. By way of general definition we can say that it upholds the individual and local architectonic features against more universal and abstract ones. In addition, however, regionalism bears the hallmark of ambiguity. On the one hand, it has been associated with movements of reform and liberation; on the other hand, it has proved a powerful tool of repression and chauvinism…. Certainly, Critical Regionalism has its limitations. The upheaval of the populist movement – a more developed form of regionalism – has brought to light these weak points. No new architecture can emerge without a new kind of relations between designer and user, without new kinds of programs…. Despite these limitations critical regionalism is a bridge over which any humanistic architecture of the future must pass”.

Throughout Frampton's six points for an architecture of resistance, he stresses how necessary it is to distinguish Critical Regionalism from “simple minded attempts to revive the hypothetical forms of a lost vernacular.” Critical Regionalism filters out the universal elements that are derived indirectly from the peculiarities of a particular place, Critical Regionalism depends on high level critical self consciousness as it governs its inspiration for things such as light, the tectonic and topographical, all of which have their own peculiar qualities and ranges derived from their own specific region and all of which give a sense of place and identity. Frampton goes on to outline, “In contradistinction to critical regionalism, the primary vehicle of populism is the communicative or instrumental sign. Such a sign seeks to evoke not a critical perception of reality, but rather the sublimation of a desire for direct experience through the provision of information. It’s the tactile aim to attain, as economically as possible, a preconceived level of gratification in behaviourist terms. In this respect, the strong affinity of populism for the rhetorical techniques and


imagery of advertising is hardly accidental. Unless one guards against such a convergence, one will confuse the resistant capacity of a critical practice with the demagogic tendencies of populism.”

Kenneth Frampton makes this comment; “Modern building today is now so universally conditioned by optimised technology that the possibility of creating a significant urban form has become extremely limited. The restrictions jointly imposed by automotive distribution and the volatile plans of land speculation serve to limit urban design to such a degree that any intervention tends to be reduced either to the manipulation of production, or to a kind of superficial masking which modern development requires for the facilitation of marketing and the maintenance of social control. Today the practice of architecture seems to be increasingly polarised between on the one hand a so called ‘high tech’ approach predicated exclusively upon production and, on the other, the provision of a ‘compensatory façade’ to cover up the harsh realities of this universal system.” This tabula rasa characteristic of modernism/globalism significantly reinforces this problem of lose of place.”

Here in New Zealand, as elsewhere, this flattening of sites ‘starting with a clean slate’ is alive and well. Frampton opposes modernism's utopian pretensions toward a universal architecture. Frampton attempts to counter this lack of place by advocating an adoption of an anti tabula rasa strategy which he terms ‘critical regionalism’. He appropriates the term critical from Alex Tzonis and Liane LeFaivre as stated above. As Frampton points out, “the mediation of the universal technique involves imposing limits on the optimisation of industrial and post-industrial technology. The future necessity for the re-synthesising principles and elements drawn from diverse origins and quite different ideological sets seems to be alluded to by the philosopher Paul Ricoeur, who has advanced the thesis that a hybrid world culture will only come into being through a cross fertilization between rooted culture on the one hand and universal civilisation on the other.”

53 Ibid.
54 Ibid.
The predicament touched on by Tzonis and Le Faivre and posed by Ricoeur of “how to become modern and return to sources” now seems to be circumvented by the apocalyptic thrust of modernisation, while the ground in which mytho-ethical nucleus of society might root, has become eroded by the rapacity of development. “One can hardly describe the present movement in architecture as anything less than a period of rapid change, change being the essence of modernity. Toffler’s famous anti-utopian “future shock” has some relevant in this regard, particularly where he demonstrates the symptomatic escalating rate of change in the field of art from 1870 to the present. The distinction between, then, Critical Regionalism and the evocation of a sentimental or ironic vernacular, is important. For unless a distinction is made, one will end up confusing the resistant capacities of regionalism with the demagogic tendencies of populism.” “As a cultural strategy, the case can be made that Critical Regionalism is as much a bearer of world culture, as it is a vehicle of universal civilisation. And while it is obviously misleading to conceive of our inherited world culture to the same degree, we are all heirs to universal civilisation and therefore it is nonetheless evident that, since we are in principal subject to the impact of both, we have no choice but to take cognisance today of their interaction. In this regard the practice of Critical Regionalism is contingent upon a process of double mediation. In the first place, it has to ‘deconstruct’ the overall spectrum of world culture which it inevitably inherits; in the second place it has to achieve, through synthetic contraction, a manifest critique of universal civilisation. To deconstruct world culture is to remove oneself from the eclecticism of the fin de siècle, which alien exotic forms in order to revitalise the expressivities of an enervated society.”

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56 Ricoeur, Universal Civilization and National Cultures: History and Truth, 276-283.
58 Ibid., 11.
3.7 New Zealand’s current Universalist Impact

In New Zealand we have seen that New Zealand architecture is referential to overseas influences. We are never satisfied with our architecture. One problem being that our architecture is a mere copy, an imitation. Professor Mike Austin of New Zealand says; “We are always disappointed because a copy can never be good as an original”. Furthermore these referential overseas models ignore our values, traditions and practises for settlement and design well being. It is important to seek out and develop our own style. We are a people like all other people, but with our own unique culture, climate, topography and sense of place. Because of New Zealand’s enthusiasm in taking part in this concept of globalisation, we have blurred what is unique to us – the expression of the New Zealand identity. Also a part of this blur was caused by the arrogance of the early New Zealand colonists. They felt that our native architecture wasn’t worthy of being labelled architecture, it was dismissed as merely shelter. So the first colonial buildings were derived almost entirely from European experience which is influenced mainly by the last phase of regency architecture in England. With New Zealand wishing to imitate western prosperity and inappropriate modern architecture instead of looking to their own sound traditions, building skills were lost. In New Zealand our buildings should express part of our history and our society, this is disputable when our buildings are unable to keep us warm in the winter and deny us the relationship we have with the sun, nature and openness, as is evident with the large number of alterations and additions I have seen with large interior walls knocked out, decks, large windows and door openings added. Architecture throughout the world is an important component of people's lives. The types of houses we dwell in reflect our culture and way of life. Kenneth Frampton states; “Modernism has bought us to the threshold of a nuclear war and annihilation of the entire species.” New Zealand expresses its nuclear free policy but also its uniqueness is expressed by an increasing awareness of Taha Maori and the Maori renaissance. Where is

this national self confidence articulated in our architecture, when “what finally decides the form of a dwelling and moulds the space and their relationship is the vision people have of their ideal life?” The answer is being hammered out by politically aware musicians; “We carry in our hearts the true country and it cannot be broken. We follow in the steps of our ancestry and that cannot be stolen”.

Expressing New Zealand as a place is to express its regional identity which is unique to us. Regionalism is a counter trend that attempts to put back into architecture what negative aspects of modernism/globalisation imposed, namely, continuity in a given place between past and present forms of building. This counter trend allows modernism to be altered by injecting a sense of place and continuity without throwing away the spatial advantages that modernism has to offer, so one can see that Regionalism is not a return to traditional forms of the past. It is of the present, though evoking the past as well as expressing the regions current self image and aspirations of the future. But on the same hand we don’t want to create an imitation of the past, an architecture of the past. It should acknowledge traditional form by selecting from the past while using the best the present has to offer, to create a genuine hybrid. The architecture could exploit and/or enhance local typography, climate, lifestyle, history and aspirations. This regional architecture should not try to avoid change but instead continue to elaborate and intensify local flavour. Kenneth Frampton argues “critical regionalism recognises that no vital tradition remains available other than the subtle procedures of synthetic contradiction to condense the artistic potential of the region while reinterpreting alien cultural influences.”

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64 Ibid.
65 Ibid.
67 Ibid.
4.0 ARCHITECTURAL PRECEDENTS

4.1 Universal Architecture

Due to advanced techniques, materials, transport and communication universal concepts of universal architecture have spread throughout most of the world. These advanced concepts include, electric lighting, air conditioning, and the ability to flatten a site as oppose to engaging or cultivating the site, making topographical and climatic conditions less important. This has been enforced by modernist architects which contributed greatly to the spread of placeless architecture (modernism and the international style).

Architecture became contingent upon economic and political developments shifting it towards a more functional and compact design. This adoption of the universal concept meant that identical buildings were popping up all over the globe. Le Corbusier's designs are a prime example of this universal/international style. They were called ‘machines for living in’ and its roots didn’t reflect any national tradition. It became a neutral form of architecture that ignored regional aspects and conditions. It was difficult to connect any sensibilities, customs, aesthetic awareness, or culture to the open modern internationalist form. This Modern Internationalist movement had many short comings, one in particular was its failed attempt to break down regional tensions and try to make the world conflict free. Architect’s such as Kenneth Frampton and Koolhaus despised the use of air conditioning units as it was used as a tool to design architecture that ignored it regional climate and local conditions. Designing to the climate is one of the main sources which regional architecture is developed.68

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Characteristics of Modernism/international/universal style;

- Minimalist in concept, stresses functionalism, devoid of all regional characteristics, and rejects all non essential decorative elements (ornamentation).  
- Usually characterised by simple geometric forms, often rectilinear, making use of reinforced concrete and steel construction with a non structural skin, smooth surfaces, typically of glass, steel, or stucco painted white.  
- Often a cantilevered upper floor or balcony, open interior spaces, a flat roof, eaves that terminate at the plain of a wall, large area of floor to ceiling height glass or curtain walls of glass, metal window frames often in horizontal bands, sliding windows, glass to glass joints corners, without framing.  
- Houses are commonly asymmetric, but appear as a series of repetitive elements.
- A movement far too narrowly ideological and impersonal – and certainly too self-referential in its inflexible insistence on formalism dictated purely by function and technology. Such a stance could not serve a society in which cultural and economic diversity would only increase.
- Modernist transformations of local spaces into collections of abstract geometric structures tend to overwhelm one with the authority of a single vision. The concern with uniform design extending from city plans to kitchen design demonstrates a desire to regulate human behaviour.

4.2 Resisting Universal Architecture

Architect Alvar Aalto despises the universal strategic of flattening the site, he makes a point in his designs to work with the topography of a site. He describes it as cultivating the site, which in turn reflects the context giving the architecture a sense of belonging. The architecture of Alvar Aalto can be classed as an example of Critical Regionalism.

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His Saynataalo Town Hall in Finland 1948-52 is a prime example of a design that engages with its site. This ‘cultivating of the site’ is portrayed through strategic terracing reflecting the irregular typographies. While resisting common universal techniques, Alvar Aalto refuses the notion that a single universal style is applicable without regional Alteration. But on the other hand Saynataalo Town Hall does not abandon the progressive effects of modern architecture. These words by Alvar Aalto best sum up Saynatslo Town Hall “Regardless of which social system prevails in the world or its parts, a softening human touch is needed to mould societies, cities, buildings, and even the smallest machine made objects into something positive to one human psyche, without bringing individual freedom and the common good into conflict.” These word were in his eulogy for Eliel Saarinen. Saynatsalo Town Hall situated in a Finnish forest, an area that was fought fiercely over in World War II against Nazis. The original plywood factory suffered severe damage during this time effecting the local community greatly. With the given history of the area, it achieves a strong sense of belonging and community. It was very important to respect this sentimental relationship. The result of the design is intimate and unique with its layout that directly responds to the spirit of its site. It is made up of several individual buildings forming a cluster around a centred courtyard that is raised above the surrounding forest by the using material excavated from the old plywood factories foundations. Access to the courtyard is allowed up by terraced steps That reflect the terracing of the surrounding topography. The entries via the stairs provide gaps with one gap allowing the low southern sun to penetrate while also allowing views to the surrounding forest and distant lakes. The main material used are naked free from paint etc. and consist of rusticated bricks, wood and copper combined with abruptly varied roof shapes. The rusticated bricks are stacked in Flemish bond pattern that bring out the organics qualities of the material and reflect the local vernacular. Using the brick also breaks down the abstracted forms of the individual buildings giving them a more humanised scale creating a softening human touch. In addition it is set in a romantic landscape that absorbs the design into the rugged landscape and making it appear as natural part of its context. The staggered heights and shapes of the individual buildings

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communicate with the irregular tree tops surrounding the site, responding to this jagged ambience of the region. The vertically louvered windows reinforce the repetition of the surrounding trees. The individual buildings house different functions from a library to a council chambers, with such building types one would expect monumentally overpowering building masses which would not fit or be very sensitive to the surrounding fabric. Alvar Aalto has countered this and achieved the opposite by breaking the different programs into smaller separate more human scaled buildings that are grouped around the central courtyard/public space. Saynatsalo Town Hall is one of the first examples of humanised post war architecture.73

Figure 4.1: Saynatsalo Town Hall, Informal Entrance

Figure 4.2: Saynatsalo Town Hall, Formal Entrance

Figure 4.3: Saynatsalo Town Hall

Figure 4.4: Saynatsalo Town Hall, Flemish Bond pattern Bricks

Figure 4.5: Saynatsalo Town Hall Floor Plan
“The genius and success of Alvar Aalto’s Säynätsalo Town Hall resides in its understated monumentality, scaled to the common man. Infused with regionalist cues, the entire composition is forthrightly Finnish, while exhibiting a modernist eloquence connecting the work to the wider world. Alvar Aalto may have inadvertently succeeded where other Finnish architects failed; in creating a national architectural style through the practice of critical regionalism. Aalto’s great contribution to architecture is recognized in his advancement of a flexible and adaptable approach to design, which empowers any individual, community, or organization, to express its inherent individuality, while embracing the modernist paradigm.”

4.3 Simon Winstanley Architects – Deepstone Residence

Location – Solway Firth, Scotland.
- The site is a Steeply sloping former quarry.
- The house conceived as a stone plinth which echoes the exposed quarry face.
- The main living space is expressed as a lightweight glazed pavilion sitting on a solid plinth maximizing the sea views.
- Masonry plinth/base is finished in stone from recycled quarry waste.

Figure 4.6: Deepstone Residence, Elevation

Figure 4.7: Deepstone residence, Rear of Pavillion

74 David A. Gross, “Portfolio: Arch + Urban Design.”
Figure 4.7: Deepstone Residence, Showing exposed Quarry face

Figure 4.8: Deepstone Residence, View from road

Figure 4.9: as labeled

Figure 4.10: as labeled
4.4 Herbst Architects – Lindale Bach

Location: Great Barrier Island, New Zealand.

- Resembles New Zealand’s national material timber and the national type “the bach”.
- Lightweight construction typical of New Zealand residential building.
- Sits as a light weight structure on the site.
- Blurred the indoor and outdoor spaces.
- The lounge is the only winter space.
Figure 4.15: Lindale Bach, as labeled
5.0 ENVIRONMENTAL STRATEGIES

From Post-Modernist to Deconstructivist to Minimalist architects blew through a series of styles during the second half of the 20th century where fashion dictated form. A global view of the world dominated architectural style, and the regional perspective was lost. This lack of locally designed based design thinking caused several architectural theorists to write on the merits of regionalism and critical regionalism. Until recent times many architects weren’t aware that this excess of consumer driven economies of the western world were placing undue demands on the planet. It wasn’t till the mid 1990’s, a few architects and environmentalists realised this. From here on a process of sustainable design principals took over and the world was made aware of ‘green building’. New Zealand has always focused its image on keeping green so it is particularly receptive to the idea of sustainable, eco-friendly architecture.76 The form of a building must first of all offer protection against the elements – wind, rain, heat, and cold – but the beauty and design of a building are as important as its usability and function. Again the challenge is to integrate function and aesthetic value into an enduring architecture that cooperates with nature, we must weave the combination of proven ancient building techniques with the best technological advances of today. When integrating new environmental technology we must not look at these systems in isolation and simply overlay these systems onto an architectural scheme. These strategies become most effective when they are carefully woven together and work synergistically. Looking at nature’s elements earth, air, water, and fire, they help architects understand how buildings can function as organic systems, working in harmony with biological cycles and processes of nature. Although these elements will be discussed in isolation they are all interrelated.77 “The parts of a building must create a whole, and this whole must be responsive to environmental conditions. A building affects the environment, just as the environment affects the building.”78

77 Ibid., 35.
78 Ibid.
5.1 Earth
New Zealand has a privileged relationship with the natural landscape, that links to the built environment, cities and buildings. The fundamental ingredients of New Zealand landscapes provide architects with their palette. How a building meets the ground is critical, concepts of earth sheltered design, green roofs, and landscape enhancement are all effective earth related strategies for New Zealand’s climate. When a choice is given for the siting, topography must be considered carefully. Structures may float above the ground on columns (in the case of low lying Flood plains), rest on the land, or be dug into the earth. In either approach one should conceive a building as an interval in the landscape that respects the natural conditions of a place. The topography also has a great impact on a site's microclimate, which has important repercussions for interior comfort. In New Zealand, the top of a slope is the most exposed, both to the sun, wind and rain. The bottom of a slope is often protected by vegetation but subject to cool, foggy night and morning conditions as cool air settles at the base of the slope. Side slopes are the dominant condition in New Zealand and when north facing have 100 times the solar value of south facing slopes. Correct orientation can also minimise the impact the wind has on the structure.79

5.2 Water
Water is plentiful throughout New Zealand during the winter months, but can become scarce through summer months. New Zealand is known for its cool overcast drizzly days, when the surrounding mountains frequently disappear at unpredictable intervals. Like the sun, the rain is not heavy, nor is it fleeting, it has a gentle omnipresence for the winter months and contributes a softness to our senses. Water is a precious resource and should be conserved and enhanced with every building project. All buildings have a serious impact on water ecology. Rain falls on roofs, decks and patios, parking lots, and roads. As it falls on these manmade elements, it is transformed into storm water, which gets whisked away through gutters, drains, catch basins, and an underground network of storm pipes. The pollutants carried by these systems degrade the quality of our waterways that are so plentiful in New Zealand. When designing there is a need to mitigate storm water's

79 Ibid., 36.
destructive potential, this has given rise to a number of environmental approaches. Most of the approaches are aimed at keeping water on site for a period of time. These holding strategies when designed properly have the potential to express the poetry of water and maximise its innate beauty as a landscape form. Such strategies include planted areas that filter runoff before it enters a storm water drain or water way. In New Zealand we have unique opportunities to exploit the power and poetry of water. Not only are there numerous opportunities to express conservation, detention, retention, and recycling of water within a structure or site, but there are also many ways in which to express the symbolic relationship between architecture and water that help articulate the spirit of place. New Zealand has the potential to create powerful conceptual architecture with its poetic use of water.  

5.3 Wind

Wind direction, frequency, and speed will influence the design of the building it will determine the bracing systems, roof, wall cladding, weather tightness, building entry locations, window size, and shelter. New Zealand’s sub tropical climate conjures up a mix of both hot humid winds in the summer and cold draughts in winter. The key is to find the right balance and be able to control and adjust the building environment to establish comfortable living conditions depending on the season. We must design passively to control such conditions, reducing the need to rely on air conditioning units/systems. Assessment of wind effects early in the design process will be mandatory. This should include peak and average wind speeds, wind direction, and how it affects the site at different times of the year. Also any large expanses of water nearby should be taken into account as, during the day, solar gain will heat the land mass, resulting in an increase in temperature relative to the adjacent body of water. As air by the land rises, cooler air from over the water will replace the rising air, resulting in the generation of on shore breezes in the afternoon. Any adjacent buildings or vegetation will have an impact upon the wind conditions. For example wind speed is lower when surrounded by taller buildings, wind speed will increase with funnelled through openings and in the presence of vegetation wind speed is slowed. Most importantly the prevailing wind condition must

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80 Ibid., 47-51.
be seriously considered, in relation to placement of the design and its openings and spaces.\textsuperscript{81}

5.4 Sun

Due to New Zealand’s clean atmosphere and Antarctic ozone hole the sun is very strong in summer months. New Zealand’s sun angle varies from a high angle sun in summer 72 degrees decreasing to a lower angle of 27 degrees in winter. By critically analysing the sun effect on a particular site a buildings location, spatial arrangement, orientation, window placement can be determined. It is crucial to take full advantage of passive solar design to maximise energy efficiency and control comfort levels within the building. When assessing a site for sun one must consider the times during the day when each part of the site sees sunlight. Also sun paths at different times of the year will need to be determined and analysed. The topography of the site and orientation will affect solar access, obstructions such as adjacent buildings, trees, and terrain will also have an impact on the site and design. Program, lifestyle and layout of the design will be determined by the above factors. When protecting a building from the sun careful consideration needs to be taken of the choice of materials. Materials need to be able to withstand UV radiation emitted by the sun. UV radiation causes colours to fade, plastic based material become brittle, timber moves and twists, and expansion and contraction from heating and cooling takes place causing stress in joints etc. Thus the consideration of UV radiation must be considered over a buildings lifetime. In the summer months shade is often required especially in the Northland region. When designing for a site it is important to assess the impact of obstructions in the way and also recognising that any vegetation or forestry may have a future impact. For example a small tree on a site may grow into a large one that restricts the sunlight from reaching the building. Or alternatively the existing trees may help aid with shade in future. The New Zealand latitudes make for a limited solar access to south and east facing slopes. It is difficult to produce any significant solar gain with developments on such site. Thus when developing try to avoid placing buildings in

\textsuperscript{81} Level the Authority on Sustainable Building. “Site Analysis.” http://www.level.org.nz/ (accessed May 6, 2011).
such sites unless there is a great reason example, you may want to maximise the great views. 82

82 Level the Authority on Sustainable Building, “Site Analysis.”
6.0 PROJECT DEVELOPMENT

This chapter will present a brief view of the design process which has been utilised, resulting in the final design scheme. To validate the research which has been performed during the course of this project, a design scheme (Fishing lodge) has been developed on the chosen site of which the document is based. This design proposal supports this document and acts as an experiment to test the hypothesis stated at the beginning of this paper. As the chosen site is up for development it is at risk to falling victim to a universal architecture seeking to maximise profit and thus not reflecting the regions unique culture ambience and sense of place.

6.1 Brief

The chosen site, through regional, cultural and historical investigations has been selected on the basis that it is an ideal location to reflect the above factors emphasising the areas regional characteristics thus bringing an architecture that fits within its context/region. A brief has been proposed that creates a lodge that caters exploits the regions vast marine history.

6.2 Key Planning issues

The development of this project is broken down into sections. These sections act as steps in the design process carried out to produce the final scheme. The key planning and design issues as they have been named, act as an exploration into design possibilities. The issues include, program, Context and climate, site, building technology and sustainability.

6.3 History

The Bay of Islands is an area situated on the East coast in the Northland region of New Zealand. The region is renowned for its fishing. The Bay of islands has a rich Maori history, many Maori settled throughout the region on many of its islands and bays. Many prominent Maori were born in the Bay of Islands, including Hone Heke who cut down
the flag pole at Kororareka now known as Russell and started the Flagship war. The region houses many historically significant New Zealand Settlements such as Okiato (the nations first capital), Waitangi (where the treaty of Waitangi would later be signed), and Kerikeri (which was an important departure point for inland Maori going to sea, and later the site of the first permanent mission station in the country). The Bay of Islands was the first region in New Zealand to be settled by Europeans. It was first discovered by Captain Cook, who named the Region in 1769. Kerikeri is home to the oldest wooden structure that still stands in New Zealand. It is also the home to the oldest stone building in New Zealand, it was constructed in 1832. Throughout the 18th century the Bay of Islands was home too many whalers, sealers, sailors and missionaries. It was once a bustling seafaring and political base fusing Maori and European culture. Through the period of the 18th century the Bay of Islands was described as the lawless state and branded ‘the hell hole of the Pacific’. 83

6.4 Site context and climate

The site is approximately 15 acres of coastal land with jetty and roading in a safe and private location opposite the Opua Marina in the picturesque marine playground of the Bay of islands in New Zealand. Opua Marina is a seaside port town in the Bay of Islands and the first port of call for most leisure vessels arriving in New Zealand. The chosen site is a point located at the end of Waikino road which adjoins Waikere road off State Highway 1 which used to be the main route to Russell. It is directly across from the port of Opua. With the advent of the vehicle ferry crossing from Opua, traffic along Waikere Road has dissipated, making this a peaceful and untouched area of natural beauty with farms and life style blocks maintaining its country feeling. Waikino Road itself is a private road. The nature of the site is where country meets the beach, it is very private yet accessible to the marina and main highways. The site includes a small bay to the south east point of the section and has an exposed northerly facing point looking down the Opua Harbour and across to Opua Marina where various boats are moored and anchored. The hillside vegetation is made up of native and non-native tress. A clump of mangroves

is located on the foreshore to the south east of the point. The surrounding areas are mainly made up of national parks, forestry and farms. The harbour provides for a large range of marine activities; various types of fishing, various water sports, swimming, shellfish gathering, marine farming, whale watching etc.\textsuperscript{84}

\begin{figure}[h]
\centering
\includegraphics[width=\linewidth]{figure61.png}
\caption{Northland, New Zealand}
\end{figure}

Figure 6.2: Opua Region, Bay of Islands

Figure 6.3: Site
The surrounding fabric of the area consists largely of forestry and national parks with a natural harbour that has several arms which extend into the land forming points, notably Waikere Inlet. The Climate of the Northland Region in which the site is located can be classed as a sub-tropical climate with warm humid summers and mild wet winters. Due to its latitude and low elevation, the Northland region has the country’s highest annual temperatures. In summer temperatures range from 22 degrees to 26 degrees, occasionally rising above 30 degrees. In winter the maximum temperatures vary between 14 degrees and 20 degrees. Winds are predominantly southwest and occasionally the region faces cyclones which generally are quite weak once they leave tropical latitudes. The climate and context of the site has played an important factor in the positioning of the development. Factors such as the predominant south west wind and sun orientation play key roles and are responsible for strategic moves and placement of buildings. The design problem was how to open the building up to maximize the sun's heat while also sheltering and closing up to protect and prevent the cold south west wind, penetrating the buildings openings etc. With the site/point being orientated to the north with views up the harbour it made perfect sense to orientate the building towards the sun and maximize the harbour views that give one a real sense of where they are while maximizing solar gain. With such factors taken into account the building is situated on the north face of the point below the highest point with the peak of the hill to the south providing protection from the predominant south west wind. It was important not to place the building too low as it would then be susceptible to cold frost from the sea and frost troughs.

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85 Wikipedia the free Encyclopedia, “Bay of Islands.”
A key strategic move in adding further protection at a later stage in the developed design was to crank the building, by making such a move this provided further wind protection from the west and east and by doing so followed the natural contours of the site which in turn would have less effect on water courses making the development relate to the site well (site sensitivity). Burying the western wing provided an indoor communal space that provides protection from winter elements and predominant winds. It provides an anchorage to the development and becomes a place of refuge portraying its protective/sheltering attributes. The strategic crank in the plan of the building also adds extra enclosure to the main deck further sheltering the outdoor deck from cold westerly winds. Surrounding cabins are placed along the contours of the site all lightly placed on the slope with piles to once again minimize the impact the structure has on the sites natural water courses while providing the least amount of site flattening or excavation. Being on piles also provides the cabin with extra height elevating them above the surrounding tree canopy allowing more sunlight maximizing solar gain while also providing adequate ventilation underneath driving away Dampness. The locally sourced timber/treated pine piles reflect the surrounding regions forestry further adding to the character and ambience of the region.
The typography of the site dictates the stepping form of the development. The buildings engage with the irregular contours countering ‘placeless-ness’ and ‘flattening’ of the site as mentioned earlier. Structures holding services such as water tanks, toilets, storage rooms, smoke houses and garages have been placed to the south of the development providing shelter to the more communal and frequently used spaces housed within the two wings. Buildings for storage etc and with such programs are used less frequently and can afford to sacrifice solar gain. With the only access from the south end of the development these service buildings become a buffer between the possibly noisy driveway and the communal wings creating a more private peaceful experience. The boat wash area can be found next the storage rooms and smoke house making washing up, unloading, and preparation quick and easy.
Shelter belts are placed on the west side of the driveway as you enter. The shelter belts are contrived of several graded rows of quick growing shrubs and trees which reduce wind speed near ground level. This strategy protects the lodge’s main entry as well as the approach through the high Wind zone area as shown in fig: 6.6. The strategic positioning of the shelter belt on the south end does not obstruct any potential sunlight or cast any shadow over the lodge denying it from any solar gain. The addition of shrubs and trees replace the vegetation that had been removed to make way for the gravel driveway and turning circle etc. removal of any vegetation can have severe effect on the micro climate of any site, site irrigation can become damaging and watercourses become interrupted greatly. Electing to lay a limestone driveway over a concrete or asphalt one has many positive benefits to a site of this nature. Limestone has greater permeable qualities over a sealed surface. This allows any storm water to be absorbed over the area concerned and prevents copious amounts of runoff and unnecessary erosion excusing the need to install technical drainage systems which are very costly.

Figure 6.8: Lodge Driveway with Shelter Belt  
Figure 6.9: Driveway Connection to Lodge developed

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6.5 Building Technology
Building materials have been selected based on their accessibility, availability and local building knowledge/skill to the region. Timber is the predominant building material used throughout the design and is a renewable resource in New Zealand. New Zealand has a great knowledge and history of timber construction embedded in its culture. Timber portal frame construction and post and lintel construction have been used throughout the development. Timber has also been selected to clad the building protecting it from the weather. Naturally weathered vertical timber weather boards protect the buildings and reflect the verticality of the site and reinforce the repetitious nature of the surrounding forests and trees. The highly glazed northern façade is fitted with timber joinery further reflecting the regions rich history in timber construction. Timber construction has a greater responsiveness to outdoor temperatures which can be beneficial in cooling during the summer months at night. In contrast the southern façades are closed down with solid heavy constructed sandstone walls with minimal openings that minimize heat loss. Sandstone is a readily available material in the Northland Region and also proves to have great thermal mass qualities making it an excellent material to incorporate into the design. The sandstone construction also has excellent durability and is low maintenance. Being sourced locally also cuts down on the embodied energy of the finished product; generally with such heavy weight construction embodied energy is high. The highly glazed northern face allows low angle winter sunlight to penetrate the southern wall through the day storing heat and slowly releasing it at night. Extended eaves on the northern façade double as shelter from the more intense high angle sun of summer and rainfall of winter. Double glazing also helps prevent heat loss and gain in summer and winter months. The western wings solid masonry structure buried into the slope portrays the concept of shelter not only visually but through tactility giving one a sense of enclosure. The solid slab on ground contrasts with the springy timber deck which further emphasizes the contrast between winter and summer spaces. The Lodge development consists of materials that are naked showing their natural textured characteristics giving the lodge a more organic natural feel and adding a more humanized scale to the different
sized buildings. Breaking the buildings into smaller building clusters also reduces any over powering characteristics of large building developments.

Figure 6.10: Winter Communal Wing Section, Passive design Strategies.

Figure 6.11: Winter communal Wing Section, Ventilation Strategy
6.6 Project Concepts & Developed Design

Figure 6.12: Early stage design showing thermal mass design possibilities and building location in relation to the hilltop/peak.

Figure 6.13: Developed design showing Strategic crank in building to the sites natural contour.
Figure 6.14: Addition of Care Takers quarters adding shelter to the communal wings.

Figure 6.15: Exploring Courtyard for Care Takers Quarters + centering fire place.
Figure 6.16: Perspective, Early stage design

Figure 6.17: Perspective, Developed Design
Figure 6.18: Site Layout + Massing
7.0 SUMMARY

The final design project represents an example of architecture which has identified and used regional design tools in the hope of maintaining a site's sense of place by relating to the local environment. The design counters the increasing homogeneity between regions, caused by the wave of Universalist models. The architecture utilises a combination of the best regional building approaches that have a long track record and the best of today’s technological advances and scientific knowledge. The final design is sensitive to the site by working in sync with it. The building engages with the topography, climate, and culture. Each of these aspects had played an important role in the sustainable design of the building. Locally sourced materials, building forms that protect from the environment, design aspects that mimic the surrounding landscape all contribute to the designs context in a sensitive fashion. Analysing the regions climate was very crucial to the design as the existence of regional architecture stems from its local climate. Environmental strategies involving earth, water, wind, and sun have been woven into the design that creates a building that works with and utilises the passive design capabilities that the region offers.
8.0 LIST OF FIGURES

4.5: Saynatsalo Town Hall, Floor plan - http://caad.arch.ethz.ch/aalto/description/townhall/plans/
4.15: Lindale Bach, as Floor Plan - http://www.nzwood.co.nz/case-studies/lindale-bach

6.1: Northland, New Zealand - Google Earth
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