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A Gathering of Forces
| The Pacific Northwest |

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Master of Architecture

In the School of Architecture and Interior Design
Of the College of Design, Art, Architecture & Interior Design, and Planning

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Concealed within architecture is a gathering of time and joining of spaces through the admission of place defining elements. These elements act to preserve the continuous reinterpretation of our being on earth. Man’s current fascination with the growth and limits of our precinct has reduced the home to a mere container for man’s pursuits, forsaking his rich nature among things.

What’s needed is an architecture that questions the nature of our dwelling, preserves and assembles that which is already there, and installs place-defining elements. Toward that end, this thesis seeks an architecture that provides for the synthetic translation of notions expressed by critical regionalism, sustainability, and the prospect of a northwest regionalism.

Drawing from phenomenology and Martin Heidegger toward a fundamental understanding of critical regionalism describes the mode of this discourse. The Pacific Northwestern vernacular traditions combined with contemporary translations, use of colloquial materials and sensitivity to place characterize an ideal venue from which to analyze the state of such architecture. These precedents allow for an architectural image of critical regionalist ideology. Principles and patterns gathered from this analysis are tested with a design proposal for six homes located on the South Umpqua River in Oregon. The self-referential nature of this design will preserve a process through which architecture seeks to question the parochial relationship between man and place.
REGIONALISM & PLACE

Chapter I: Phenomenology & Hermeneutics 1

Chapter II: Toward an Authentic Stay: Interpreting Heidegger 5
  Part I: Dwelling
  Part II: The Bridge
  Part III: Solid Void Plane

CONTEXT FOR A CRITICAL REGIONALISM

Chapter III: The Pacific Northwest 23
  Part I: Tribal Remnants
  Part II: Lifestyle
  Part III: 20th Century Modernism
  Part IV: Design Principles

Chapter IV: Sustainability & Provisions for Place 53
  Part I: Scale
  Part II: Scope
  Part III: Translation

DESIGN SYNTHESIS

Chapter V: Principle Integration 65
  Part I: Site & Program
  Part II: Climate
  Part III: Design Process
  Part IV: Design Conjecture
  Part V: Analysis of Design

APPENDIX A: CASE STUDIES

  Phenomenology: Condensing Time on Nantucket Island 83
  Vernacular Translation: Barnes House, Patkau Architects 90
  Lifestyle: Bender/deMoll Mountain Cottage, Tom Bender 94
  Sustainable Design: Tjibaou Cultural Center, Renzo Piano 99

APPENDIX B: BIBLIOGRAPHY 107
Chapter I: Phenomenology & Hermeneutics
1-1 Diagram by Author

Chapter II: Toward an Authentic Stay: Interpreting Heidegger
2-1 Diagram by Author, Depiction of Martin Heidegger’s Fourfold.
2-2 Blond, Olivier. HOME De Yann Arthus-Bertrand. pg. 29. 12–28–2009.
2-3 Diagram by Author, Bridging the Universal & Circumstantial
2-4 Diagram by Author, Creation of a Thing
2-5 Diagram by Author, Referencing C. Norberg-Schulz’s Gathered Environment

Chapter III: The Pacific Northwest
3-2 Google Image Search, ‘pacific northwest’. Original Distribution of the Coastal Temperate Rainforest. 5–5–2010. http://images.google.com/imgres?imgurl=http://www.inforain.org/rainforestatlas/current.jpg&imgrefurl=http://www.inforain.org/rainforestatlas/rainforestatlas_page4.html&usg=__-pq_1lapXy-wjDt05OB2zf4epLs==&h=770&w=440&sz=85&hl=en&start=22&sig2=PnzmmRbCuhpnSSjd11YrOQ&um=1&itbs=1&tbnid=IL7L8jRF-W-TZM:&tbnh=142&tbnw=81&prev=/images%3Fq%3Dcoastal%2Btemperate%2Brainforest%2Bof%2Bnorth%2Bamerica%2Bmap%26start%3D20%26um%3D1%26tbnid=IL7L8jRF-W-TZM:&tbnh=142&tbnw=81&prev=/images%3Fq%3Dcoastal%2Btemperate%2Brainforest%2Bof%2Bnorth%2Bamerica%2Bmap%26start%3D20%26um%3D1%26hl%3Den%26sa%3Dn%26tbnid=IL7L8jRF-W-TZM:&tbnh=142&tbnw=81&prev=/images%3Fq%3Dcoastal%2Btemperate%2Brainforest%2Bof%2Bnorth%2Bamerica%2Bmap%26start%3D20%26um%3D1%26hl%3Den%26sa%3Dn%26tbnid=IL7L8jRF-W-TZM:&tbnh=142&tbnw=81&prev=/images%3Fq%3Dcoastal%2Btemperate%2Brainforest%2Bof%2Bnorth%2Bamerica%2Bmap%26start%3D20%26um%3D1%26hl%3Den%26sa%3Dn%26tbnid=IL7L8jRF-W-TZM:&tbnh=142&tbnw=81&prev=/images%3Fq%3Dcoastal%2Btemperate%2Brainforest%2Bof%2Bnorth%2Bamerica%2Bmap%26start%3D20%26um%3D1%26hl%3Den%26sa%3Dn%26tbnid=IL7L8jRF-W-TZM:&tbnh=142&tbnw=81&prev=/images%3Fq%3Dcoastal%2Btemperate%2Brainforest%2Bof%2Bnorth%2Bamerica%2Bmap%26start%3D20%26um%3D1%26hl%3Den%26sa%3Dn%26tbnid=IL7L8jRF-W-TZM:&tbnh=142&tbnw=81&prev=/images%3Fq%3Dcoastal%2Btemperate%2Brainforest%2Bof%2Bnorth%2Bamerica%2Bmap%26start%3D20%26um%3D1%26hl%3Den%26sa%3Dn%26tbnid=IL7L8jRF-W-TZM:&tbnh=142&tbnw=81&prev=/images%3Fq%3Dcoastal%2Btemperate%2Brainforest%2Bof%2Bnorth%2Bamerica%2Bmap%26start%3D20%26um%3D1%26hl%3Den%26sa%3Dn%26tbnid=IL7L8jRF-W-TZM:&tbnh=142&tbnw=81&prev=/images%3Fq%3Dcoastal%2Btemperate%2Brainforest%2Bof%2Bnorth%2Bamerica%2Bmap%26start%3D20%26um%3D1%26hl%3Den%26sa%3Dn%26tbnid=IL7L8jRF-W-TZM:&tbnh=142&tbnw=81&prev=/images%3Fq%3Dcoastal%2Btemperate%2Brainforest%2Bof%2Bnorth%2Bamerica%2Bmap%26start%3D20%26um%3D1%26hl%3Den%26sa%3Dn%26tbnid=IL7L8jRF-W-TZM:&tbnh=142&tbnw=81&prev=/images%3Fq%3Dcoastal%2Btemperate%2Brainforest%2Bof%2Bnorth%2Bamerica%2Bmap%26start%3D20%26um%3D1%26hl%3Den%26sa%3Dn%26tbnid=IL7L8jRF-W-TZM:&tbnh=142&tbnw=81&prev=/images%3Fq%3Dcoastal%2Btemperate%2Brainforest%2Bof%2Bnorth%2Bamerica%2Bmap%26start%3D20%26um%3D1%26hl%3Den%26sa%3Dn%26tbnid=IL7L8jRF-W-TZM:&tbnh=142&tbnw=81&prev=/images%3Fq%3Dcoastal%2Btemperate%2Brainforest%2Bof%2Bnorth%2Bamerica%2Bmap%26start%3D20%26um%3D1%26hl%3Den%26sa%3Dn%26tbnid=IL7L8jRF-W-TZM:&tbnh=142&tbnw=81&prev=/images%3Fq%3Dcoastal%2Btemperate%2Brainforest%2Bof%2Bnorth%2Bamerica%2Bmap%26start%3D20%26um%3D1%26hl%3Den%26sa%3Dn%26tbnid=IL7L8jRF-W-TZM:&tbnh=142&tbnw=81&prev=/images%3Fq%3Dcoastal%2Btemperate%2Brainforest%2Bof%2Bnorth%2Bamerica%2Bmap%26start%3D20%26um%3D1%26hl%3Den%26sa%3Dn%26tbnid=IL7L8jRF-W-TZM:&tbnh=142&tbnw=81&prev=/images%3Fq%3Dcoastal%2Btemperate%2Brainforest%2Bof%2Bnorth%2Bamerica%2Bmap%26start%3D20%26um%3D1%26hl%3Den%26sa%3Dn%26tbnid=IL7L8jRF-W-TZM:&tbnh=142&tbnw=81
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ILLUSTRATIONS

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3-19 Diagram by Author, Form
3-21 Diagram by Author, Bridging
3-23 Diagram by Author, Orientation
3-24 Kennedy, A. The Best of Cutler Anderson Architects. p. 28. Wright Guesthouse in The Highlands, WA.
3-26 Diagram by Author, Earth
3-27 Ngo, Dung ed. Tom Kundig: Houses. p. 130. Delta Shelter in Mazama, WA.
3-28 Kennedy, A. The Best of Cutler Anderson Architects. p. 55. Paulk Residence in Seabeck, WA.
3-29 Diagram by Author, Aperture
3-31 Diagram by Author, Climate Responsive Enclosure
3-33 Diagram by Author, Ecological Planning
3-35 Diagram by Author, Continuity
ILLUSTRATIONS

3–37 Diagram by Author, Stormwater Management
3–39 Diagram by Author, Permeability
3–41 Diagram by Author, Material
3–43 Diagram by Author, Detail
3–44 Kennedy, A. The Best of Cutler Anderson Architects. p. 76. Guesthouse in Medina, WA.

Chapter IV: Sustainability & Provisions for Place

4–2 Diagram by Author, The Reach of Man
4–3 Photo by Author, Oregon Coast.
4–4 Photo by Author, Outside Tacoma WA.
4–5 Photo by Author, Oregon Cascades.
4–6 Photo by Author, East of the Cascade Mountains.
4–7 Photo by Author, Central Oregon High Desert.

Chapter V: Principle Integration

All images by author.

APPENDIX A: CASE STUDIES

Phenomenology: Condensing Time on Nantucket Island

a–1 Foreman, H. C. Early Nantucket an its Whale Houses. Town of Siasconset. Date Unknown.
a–2 Photo by Author, Siasconset. 2007.
a–3 Photo by Author, Siasconset. 2008.
a–4 Photo by Author, Siasconset. 2007.
a–5 Photo by Author, Siasconset. 2006.

Vernacular Translation: Barnes House, Patkau Architects

b–1 Frank, Northwest Style, p. 107.
b–2 Frank, Northwest Style, p. 112.
b–3 Frank, Northwest Style, p. 113.
b–4 Frank, Northwest Style, p. 108.
b–5 Frank, Northwest Style, p. 106.

Lifestyle: Bender/deMoll Mountain Cottage, Tom Bender
ILLUSTRATIONS

c-1 Frank, Northwest Style, p. 117.
c–2 Frank, Northwest Style, p. 116.
c-3 Frank, Northwest Style, p. 118.

Sustainable Design: Tjibaou Cultural Center, Renzo Piano

- d-1 Piano, Renzo. Renzo Piano: Logbook.
- d-3 Chaslin, The Kanak Cultural Centre at Moumea, pp. 41–8.
- d-4 Diagram by Author.
- d-5 Chaslin, The Kanak Cultural Centre at Moumea, pp. 41–8.
- d-6 Chaslin, The Kanak Cultural Centre at Moumea, pp. 41–8.
- d-8 Chaslin, The Kanak Cultural Centre at Moumea, pp. 41–8.
- d-9 Chaslin, The Kanak Cultural Centre at Moumea, pp. 41–8.
- d-10 Piano, Renzo. Renzo Piano: Logbook.
- d-12 Diagram by Author.
- d-14 Piano, Renzo. Renzo Piano: Logbook.
A Gathering of Forces

The Pacific Northwest
A house serves man in two different ways: it offers him refuge where he can feel at home and be at peace with himself, and it serves as a starting-point for his actions in the world. [...] Only when the house creates a sense of belonging and protection does man gain the inner strength he needs to depart. In our open world the latter function seems to be more dominant, and thus the modern house opens up to its surroundings, demanding interaction and response (1).

This proposal seeks to augment the notion of dwelling with place defining design principles for the home that are universally aware, globally responsible, and regionally sensitive. Critical or New Regionalism, Sustainable design, and the peerless translation of place defining elements onto region seen in select works strewn throughout the Pacific Northwest will be the palette from which this thesis composes its findings.

The concept of place lies at the heart of Critical Regionalism; thus notions of place, provided by phenomenology, will be discussed as an introduction to a more thorough investigation. Critical Regionalism will be addressed in terms of writings provided by Martin Heidegger, Christian Norberg–Schulz, Kenneth Frampton, and Tzonis & Lefaivre. Primary focus will be placed on distilling concepts and terminology into operative design principles and diagrammatic abstractions that further clarify those principles. Once established, these principles will be transposed onto a series of precedents touted to exemplify an architectural image of critical regionalist thinking.

The Pacific Northwestern vernacular traditions, contemporary translations, use of colloquial materials, and sensitivity to site characterize an ideal venue for a discourse into the rooted expression of regional forces. In his book, *Toward a New Regionalism*, David Miller attempts to provide us with an architectonic image of critical regionalist theories in the Pacific Northwest. Using his treatise as a departure point, this thesis will gather a series of design preferences from
this research towards an understanding of a regionally sensitive architecture that embodies the notion of place.

These principles will then be translated through corollary design strategies provided with concepts of sustainable design. Sustainable design will first be defined to refine the scope to which its concepts will be considered. Principal focus will be given to formal climatic mitigation strategies that complement a translation of the Pacific Northwestern vernacular in terms of contemporary global concerns under the umbrella of sustainability.

To ensure the integrity of the ideas proposed in this thesis maintain a certain rhythm, the case studies supporting the concepts presented here will be located within the appendix. These case studies act to situate the reader between idea and image. The precedents are chosen to support a concrete interpretation of these theories are not wholly confined to the context of the Pacific Northwest, however, their employ of strategies will be. A phenomenological interpretation of place will be analyzed at the scale of the home and its connections to the community at large on the island of Nantucket. The Barnes House, by Patkau Architects, will be considered in terms of its translation of traditions endemic to the Pacific Northwest; primary focus is given to admitting views and referencing forms. The Bender/deMoll Nehkahie Mountain Cottage, by Tom Bender, will provide a context for discourse into the enduring connection between lifestyle and form in the Pacific Northwest. The final case study will explore the connection between sustainability and tradition through Renzo Piano’s design for the Tjibaui Cultural Center in New Caledonia. Piano’s ability to gather vernacular form, with societal history, and sustainable design strategies evidences this precedent as being worthy of analysis.

The principles gathered in this thesis will provide an armature toward designing homes in the Pacific Northwest that preserve tradition by gathering forces unique
to the region. Ultimately, these principles will manifest in form on a site in Roseburg, Oregon, along the South Umpqua River. The design proposal will include six single-family homes located on a 3.5-acre lot bound by the river to the south, and the public thoroughfare to the north. The homes range in size from 1500 to 2000 square feet. The design proposal will be accompanied with an analysis of its application of the design principles gathered from the preceding chapters of this thesis.

NOTES:
Norberg-Schulz, Principles of Modern Architecture, p. 49.
Critical Regionalism is one “that is self-examining, self-questioning, self-evaluating, that not only is confrontational with regard to the world but to itself” (1).

This characterization of Critical Regionalism stresses its introspective nature. Such a state of examining, questioning, and evaluating begets an interpretive, or hermeneutic, reading of place. Towards that end, how can phenomenology help us define the notion of place? In other words, how is it that architecture engages the imagination?

“Space calls for action, and before action, the imagination is at work” (2). This oneiric, dreamlike state Gaston Bachelard supposes describes the plight of phenomenology; a stirring of the imagination toward a hermeneutic reading of truth. Resolution of the experience is the truth sought and that truth cannot be without imagination. Taken this way, “there can be nothing to legitimize its claims” (3).

This much is true; phenomena occur and take place in time. The very nature of phenomena, though, cannot be quantified, objectified, rationalized or repeated. This can be credited to the ambiguity of interpretation inherent to ones experience of some given phenomena. We can deduce then, that phenomena activate our imagination and as such, phenomenology can be thought of as the study of self-referential interpretation of experience.

Surely we have all come across a moment in time whence we have been empowered by some emergence of truth—a moment when seemingly disparate ideas suddenly coalesce to become indistinguishable from a new and greater whole. These experiences are characteristic of a phenomenological event. Lefebvre describes these moments as points in time “which reveal the emancipatory capacity of potential situations” (4).
So we understand that phenomena are scalar. Reading a book, peering through a window, taking a walk or sitting at the river’s edge could trigger such an event. Further, phenomena are multi-sensory; a sound or smell, something touched or seen could induce such a state. What’s more, phenomena are events that take place in time while its determinants are often independent of it. By extension of the latter, Bachelard premises his notion of “space as compressed time” (5).

So how do the exploits of a phenomenological pursuit find themselves reflected in built form? Just as phenomena take place in time implying ephemerality, phenomena have the characteristic of occurring in a particular location or place. So what of place? We can define it much as we did in the previous discussion on phenomena. It is scalar, multi-sensory, and exists in—and—at a particular point in time. Norberg-Schulz describes the concept of place as “a qualitative, total phenomenon, which cannot reduce to any of its properties, such as spatial relationships, without losing its concrete nature out of sight” (6). By ‘concrete’ he is referring to the “intuitive three-dimensional totality of everyday experience” (7).

So we can say that place is a scalar whole whose elements gather time and our senses, it harbors phenomena and is at the same time redefined by them ‘taking place.’ In many ways it is its own beginning and its own end. Accompanying this view into phenomenology, I have included an analysis within the appendix
that translates the principal notions discussed here onto Nantucket Island, specifically the small town of Siasconset. My goal is to link the character of its built form with principles of phenomenology in hope of augmenting my design approach to engage the imagination.

NOTES:
2 Leach, Rethinking Architecture, p. 91. Poetics of Space by Gaston Bachelard.
3 Ibid., p. 84.
4 Ibid., p. 83.
5 Ibid., p. 89.
6 Nesbitt, Theorizing a New Agenda for Architecture, p. 414. The Phenomenon of Place by Christian Norberg-Schulz.
7 Ibid., p. 418

ILLUSTRATIONS:
1–1 Diagram by Author
CHAPTER II TOWARD AN AUTHENTIC STAY
Interpreting Heidegger

DWELLING
THE BRIDGE
SOLID–VOID–PLANE
New [Critical] regionalism implies something which goes beyond the demand for “context;” primarily it means to become part of a tradition, in the sense of offering a new interpretation of certain objects of human identification (1).

The notion of a place becoming part of tradition assumes an understanding of the nature of our dwelling on this earth. How can we augment the notion of place thru Heidegger’s contributions? More specifically, what are things and how is it that we gather them within a built thing?

As one of the fathers of phenomenology whose ideas have made an indelible impact on critical regionalists, a discourse into Martin Heidegger’s writings are paramount to this thesis. Here, the focus will be on the concept of man’s authentic being on earth and what is incumbent upon us being faced with the prospect of built form. Part I of this chapter will ask, what is the nature of our dwelling on this earth? Part II asks, how is it that we build given the nature of our dwelling?

The mode of discourse used in part one and two will be an interpretive dialogue with Heidegger. I will pose a question and quote his writings towards the end of answering them. Following each quote, or answer, I will attempt a more concrete answer via abstraction in hopes of uncovering operative design principles. Each abstraction of Heidegger’s answer will be immediately followed by another question. Many of his contentions will remain in tact for the purpose of maintaining the integrity of his carefully chosen words and allowing the reader of this thesis to be critical of the interpretations I have drawn. As Heidegger maintains, “man acts as though he were the shaper and master of language, while in fact language remains the master of man” (2).

Following this dialogue, I will translate my findings onto a series of precedents located in the Pacific Northwest. This analysis will diagrammatically abstract Heidegger’s concept of the fourfold, earth–sky–divinities–mortals, providing in
its stead, a notion of man’s being through the relationship between solid, void, and plane. These abstractions will then be the means through which several built works are analyzed.
PART I: DWELLING

What is dwelling?

*The Old English and High German word for building, buan, means to dwell. This signifies: to remain, to stay in a place. [...] [Dwelling is] the way in which you are and I am, the manner in which we humans ‘are’ on the earth, is Buan, dwelling. To be a human being means to be on earth as a mortal. It means to dwell (2).*

So it seems that human beings, as mortals, dwell, and the word building has the same roots as dwelling. What then, are the primary characteristics of dwelling?

*To dwell, to be set at peace, means to remain at peace within the free, the preserve, the free sphere that safeguards each thing in its nature. The fundamental character of dwelling is this sparing and preserving (2).*

It is clear that this sparing and preserving constitute the mode through which we attain peace within the free. What are the components of the free? In other words, what is it that we are to spare and preserve as dwellers?

*[The free] pervades dwelling in its whole range. [...] [We understand that] to be a human being means to be on earth as a mortal. [...] But on the earth already means under the sky. Both of these also mean remaining before the divinities and include a belonging to men’s being with one another. [...] By a primal oneness of four – earth and sky, divinities and mortals – belong together in one. [...] This simple oneness of four we call the fourfold (2).*

So the free comprises the earth, sky, divinities, and man’s being amongst men. For mortals to attain peace, our task is to spare and preserve the nature of each. That is, to spare and preserve the fourfold. How is it then that mortal’s achieve this?

*In saving the earth, in receiving the sky, in awaiting the divinities, in initiating mortals, dwelling occurs as the fourfold preservation of the fourfold. [...] Dwelling preserves the*
fourfold by bringing the presencing of the fourfold into things. But the things themselves secure the fourfold only when they themselves as things are let to be in their presencing.” […] [This is done when] mortals nurse and nurture things that grow, and specially construct things that do not grow (2).

And so it seems that mortals dwell in that they ensure the presence of the fourfold in things by leaving those things to their own nature. That is, mortals construct things that do not grow but those things we construct, like mortals, are responsible for nurturing things that do. In other words, the things we mortals construct are to preserve and nurture things that grow.
PART II: THE BRIDGE

We understand now that the things we mortals construct are to preserve the fourfold. We have found that to do so, involves the notion of leaving things to their own nature. Put another way, Heidegger contends that it is paramount that we as mortals acknowledge, preserve, and maintain an awareness of earth, sky, divinities, and man’s being among men if we hope to preserve the nature of things. How can these concepts be made to be more concrete? I don’t think Heidegger would have a problem considering a tree to be a thing. A tree preserves and enriches the soil with its roots, receives water from the sky, sun from the heavens, and initiates mortals by providing shade and material with which we can build. But mortals do not design or build trees, so how can we translate these concepts onto a built thing? The following discourse will attempt to answer that question. Heidegger’s analysis of a bridge will be the context through which we will come to understand how design and building can preserve the fourfold. In other words, we will seek out how architecture can maintain the fourfold in built form.

What characteristics of a bridge make it a worthy precedent for the analysis of a built thing that preserves the fourfold?

*It brings stream and bank and land into each other’s neighborhood. The bridge ‘gathers’ the earth as landscape around the stream. [...] The bridge lets the stream run its*
course and at the same time grants their way to mortals so that they may come and go from shore to shore. [...] Gathering or assembly, by the ancient word of our language, is called a ‘thing’ (2).

It is clear that a thing gathers. The bridge gathers the earth from the banks of the stream. It initiates mortals by allowing for their passage. What of it’s receiving of the sky and awaiting the divinities?

Even where the bridge covers the stream, it holds its flow up to the sky by taking it for a moment under the vaulted gateway and then setting it free once more. [...] The bridge gathers, as a passage that crosses, before the divinities – whether we explicitly think of, and visibly give thanks for, their presence, as in the figure of the saint of the bridge, or whether that divine presence is obstructed or even pushed wholly aside (2).

So it seems that the prospect of a bridge, as a thing, gathers the fourfold. What’s the significance of the bridge existing where sky had been before? Have we now created space?

To be sure, the bridge is a thing of its own kind; for it gathers the fourfold in such a way that it allows a site for it. But only something that is itself a location can make space for a site. [...] There are of course many spots along the stream that can be occupied by something. One of them proves to be a location, and does so because of the bridge. [...] Only things that are locations in this manner allow for spaces. [...] A space is something that has been made room for, something that is cleared and free, namely within a boundary. [...] That for which room is made is always granted and hence is joined, that is, gathered, by virtue of a location, that is, by such a thing as a bridge. Accordingly spaces receive their being from locations and not from space (2).

So then, the bridge reaching through the sky is a unique thing because it allows for a site in such a way that is its own. A built thing transforms a spot into a location and it is the nature of a location to allow for spaces. Space is understood
to be cleared, free, and bound by a location. Put another way; let us consider a box of things. Let us also suspend the notion of the fourfold for a moment as we search for an understanding of thing, location, and space. We discussed earlier that origin of the word ‘thing’ implies gathering or assembly. In many ways then, a thing is an assemblage or gathering of parts, which are arguably things themselves. It stands to reason then that we could consider a hammer to be a thing as it can be seen as an assembly of wood and metal. A box is also a thing by itself in much the same way. We can also say of this box that it is empty, that is, it contains no–thing. The empty box creates no boundary because no–thing is bound. Now if we fill the box with hammers, has the box not taken on the identity of a location? The box, as a thing, has now defined a boundary for hammers but it is the hammers that give the box its identity, or being, as a space for hammers, no more a mere thing, thus the box has allowed for space. The box has transformed from a thing in space indistinguishable from itself to a boundary allowing for gathered space. So it seems that a location allows for spaces within its bounds. What can be said of that which lies in proximity to a location?

*The space allowed by the bridge contains many places variously near or far from the bridge. These places, however, may be treated as mere positions between which there lies a measurable distance; a distance, in Greek ‘stadion’, always has room made for it, and indeed by bare positions. The space that is thus made by positions in space of a peculiar sort. [...] [Extending from the Greek stadion to the Latin spatium which we understand to be] an intervening space or interval, [...] the bridge now appears as a mere something at some position, which can be occupied at any time by something else or a mere marker. What is more, the mere dimensions of height, breadth, and depth can be abstracted from space as intervals. What is so abstracted we represent as the pure manifold of the three dimensions. [...] [The nature of this three-dimensional manifold is suited for describing space by extension as opposed to distance, or spatium.] But from space as extensio a further abstraction can be made, to analytic–algebraic relations. [...] [The nature of such,*
begets space described as n-dimensional. This model for describing space reduces the notion of spaces to space where no spaces or places exist, only an n-dimensional infinite set of relationships. As against that, however, in the spaces provided for by locations there is always space as interval, and in this interval in turn there is space as pure extension (2).

And so we understand that locations allow for spaces. Mathematically, how near or remote a space is to a location can be expressed n-dimensionally. That is, this relationship can gather an infinite number of variables. As these variables approach the infinite, we understand now that our understanding of this relationship is reduced to one space as it were. The contention then is that since locations allow for spaces and a mathematical construct leads to an end that contradicts the notion of spaces, the relationship we seek to describe cannot be done in strictly mathematical terms. Further, it is clear that space and location are best described as both interval and by extension. Separately, their ends either reduce location to a mere marker or condense our understanding to one space containing no spaces. Towards an end that maintains the fourfold, the two must work as one. Given this relation that links location and space, what of man and space? What is the nature of this connection?

Space is not something that faces man. It is neither external object nor an inner experience. [...] Even when we relate ourselves to those things that are not in our immediate reach, we are staying with the things themselves. [...] We always
go through spaces in such a way that we already experience them by staying constantly with near and remote locations and things. When I go toward the door of the lecture hall, I am already there, and I could not go to it at all if I were not such that I am there. I am never here only, as this encapsulated body; rather I am there, that is, I already pervade the room, and only thus can I go through it. [...] Man’s relation to locations, and through locations to spaces, inheres in his dwelling. The relationship between man and space is none other than dwelling, strictly thought and spoken (2).

It seems man’s relation to space lies within the character of his dwelling. We understand dwelling to carry the notion of sparing and preserving. The things that provide location and in turn spaces are the same things we, as dwellers, are to preserve in their own nature. Their nature stays with us no matter how near or remote we are from them. In such a way, it is our stay as mortals to be with things. That is, dwelling is a constant staying with, or returning to, things. Etymologically, a thing implies the notion of gathering or assembly. We have discussed that the bridge gathers the fourfold and thus claims its existence as a thing. As such, we understand that the bridge, as a thing, provides for a location, and the location a site to house spaces. What of a building whose character is of man’s labor, an assembling of objects to a greater whole, a built thing?

The making of such things is building. Its nature consists in this, that it corresponds to the character of these things. [...] [This is done when] mortals nurse and nurture things that grow, and specially construct things that do not grow. [...]
To the Greeks techne means neither art nor handicraft but rather: to make something appear, within what is present, as this or that, in this way or that way. The Greeks conceive of techne producing, in terms of letting appear. Techne thus conceived has been concealed in the tectonics of architecture since ancient times. [...] But the nature of the erecting of buildings cannot be understood adequately in terms either of architecture or of engineering construction, nor in terms of a mere combination of the two. [...] The nature of building is letting dwell. Building accomplishes its nature in the raising of locations by the joining of their spaces (2).

Toward the making of built things, it seems that design ought to let appear the character of that which is present, that is, the fourfold. Built things are to ‘admit’ and ‘install’ this character into their presence. The process through which we accomplish this involves the sparing and preserving of things that grow and the making of (built) things that do not. So it seems that the things become so if they are let into their presencing, which implies that in terms of man’s stay, they become a thing only when they are let be. As such, it seems that man’s building and dwelling puts the ‘let’ in let be. A tree has being without mortals, but it is ‘let be’ only in mortals stay with things, that is, in their dwelling. By extension, it can be said that a built thing provides a location only if it admits and installs the things that came to be things as a result of the prospect of the built thing itself. And so we build in the manner through which we dwell, that is, with things. Toward what end do we dwell?

The real dwelling plight lies in this, that mortals ever search anew for the nature of their dwelling, that they must ever learn to dwell. [...] But how else can mortals answer to this summons than by trying on their part, on their own, to bring dwelling to the fullness of its nature. This they accomplish when they build out of dwelling, and think for the sake of dwelling (2).
TOWARD AN AUTHENTIC STAY

PART III: SOLID–VOID–PLANE

The following provides a precedent analysis of 5 homes designed by Miller|Hull in diagrammatic form. Beside the analysis diagrams I have included several quotes as well as original abstractions of those ideas as they pertain to man’s being on earth in the context of the relationship between solid, void, and plane. This analysis will act as the bridge between the Heideggerian context discussed in this chapter and the notions provided by the Critical Regionalism.
The layering of solid, void, & plane gathers the essence of man’s being in the world.

MARTIN HEIDEGGER
*Poetic creation, which lets us dwell, is a kind of building* (3).

*Poetry is what first brings man onto the earth, making him belong to it, and thus brings him into dwelling* (3).

CHRISTIAN NORBERG-SCHULZ
*It remains a fact that life takes place, and that a site can never die. [...] Any authentic architecture therefore comprises the transformation of a site into a place, and thus possesses a regional aspect* (4).
The void between earth & our being takes us closer to a building less rooted in the tangible & more open to the imaginable.

MARTIN HEIDEGGER
The fundamental character of dwelling is [...] sparing and preserving (5).

Mortals nurse and nurture the things that grow, and specially construct things that do not grow (5).

ALEXANDER TZONIS & LIANE LeFAIVRE
Critical regionalism not only alerts us through the poetics of its forms to the loss of place and community but also to our reflective incapability to become aware of this loss while it is occurring (6).
Often the void acts as a vessel for living, the solid for resting, as the plane lurks above to protect us from that which we must let come to pass.

MARTIN HEIDEGGER
*Man’s taking measure in the dimension [earth | | sky] dealt out to him brings dwelling into its ground plan (7).*
*That for which room is made is always granted and hence is joined, that is, gathered (7).*

KENNETH FRAMPTON
*Critical Regionalism is a dialectical expression. It self-consciously seeks to deconstruct universal modernism in terms of values and images which are locally cultivated (8).*
To expose the connection between earth & sky compels us to gather & join the two. The tension that exists is resolved through the limpidity of the void.

MARTIN HEIDEGGER

*Man’s dwelling depends on an upward-looking measure-taking of the dimension, in which the sky belongs just as much as the earth* (9).

*Man dwells by spanning the ‘on the earth’ and the ‘beneath the sky’. This ‘on’ and ‘beneath’ belong together* (9).

CHRISTIAN NORBERG-SCHULZ

*[Earth & sky] represent a concrete version of the general concepts of space and form. As the language of architecture also has to be defined by means of the same terms, we gain a common denominator which unifies the general and the circumstantial* (10).
The juxtaposition of solid, void & plane acts to question the parochial relation between inside & out, earth & sky, instigating an oneiric state of being.

MARTIN HEIDEGGER

*It is the way of poets to shut their eyes to actuality. Instead of acting, they dream* (11).

*Dwelling occurs only when poetry comes to pass and is present* (11)

ALEXANDER TZONIS & LIANE LEFAIVRE

*The poetics of critical regionalism carry out its self-reflective function through the method of defamiliarization. [Defamiliarization] selects these regional elements for their potential to act as support, physical & conceptual, of human contact & community, what we may call place-defining elements, and incorporates them strangely rather than familiarly* (12).
TOWARD AN AUTHENTIC STAY

NOTES:
1 Norberg-Schulz, Principles of Modern Architecture, p. 90.
2 Leach, Rethinking Architecture, pp. 100–9. Building, Dwelling, Thinking by Martin Heidegger.
3 Leach, Rethinking Architecture, pp. 111–12. Building, Dwelling, Thinking by Martin Heidegger.
4 Norberg-Schulz, Principles of Modern Architecture, p. 91.
5 Leach, Rethinking Architecture, pp. 102–3. Building, Dwelling, Thinking by Martin Heidegger.
7 Leach, Rethinking Architecture, pp. 114 & 105. Building, Dwelling, Thinking by Martin Heidegger.
10 Norberg-Schulz, Principles of Modern Architecture, p. 98.
11 Leach, Rethinking Architecture, pp. 111 & 117. Building, Dwelling, Thinking by Martin Heidegger.

ILLUSTRATIONS:
2–1 Diagram by Author, Depiction of Martin Heidegger’s Fourfold.
2–2 Blond, Olivier. HOME De Yann Arthus-Bertrand. pg. 29. 12–28–2009.
2–3 Diagram by Author, Bridging the Universal & Circumstantial
2–4 Diagram by Author, Creation of a Thing
2–5 Diagram by Author, Referencing C. Norberg-Schulz’s Gathered Environment
CONTEXT FOR A CRITICAL REGIONALISM

CHAPTER III THE PACIFIC NORTHWEST

TRIBAL REMNANTS
LIFESTYLE
20TH CENTURY MODERNISM
DESIGN PRINCIPLES
The previous chapters of this thesis have sought to establish a fundamental understanding of place. But without a bounding region of interest, we are led even further into abstraction. That is, our reach tends away from the concrete. It stands to reason then, that our discourse would be served well by delegating a region through which we can apply these principles. Towards that end, I have chosen the Pacific Northwest as the precinct for analysis.

Primarily through the contributions of David Miller in his book, *Toward A New Regionalism: Environmental Architecture in the Pacific Northwest*, we will come to understand the Pacific Northwest in terms of the nature of man’s dwelling in that region. That is, we will consider the state of our stay with things provided within this region. To accomplish this we need to first establish the ordinary nature of this region in terms of geography, climate, ecology, and vernacular traditions. The synopsis of these conditions will begin our search for principal design considerations that describe the notion of place within the context of the Pacific Northwest.

*All local cultures contain an essence that must be discovered or preserved and which expresses the uniqueness of a place. For architects of the Pacific Northwest, that essence is the fundamental understanding of the conditions of ecology and their effect on architectural values and meaning. Significant aspects of this essence lie in local geography, climate, and customs and involve the use and transformation of local, ‘natural’ materials. While a truly responsible regionalism rejects the mimicking of vernacular forms, it embodies a causal relationship between the environment and architectural forms (1).*
Southeastern Alaska, the Cascade Mountains, Northern California and Pacific Ocean form a loose boundary around the Pacific Northwest. This region gathers mountains, dense forests, rivers and their valleys, as well as tidal waters that reach inland from the ocean. The steep valleys and borderlands surrounding saltwater sounds are characteristic of this rugged topography. Dense forests of hemlock, cedar, and fir occupy the intervening space bound by the ocean and mountains. The land gathers a rich geological history bringing forth rock formations of various compositions and lava flows from volcanic activity that have not only left their mark, but continue to do so evidenced in part by the 1980 eruption of Mount Saint Helens.

The Pacific Northwest is known for its temperate climate where maritime winds filter through valleys allowing only small variations in temperature, overcast skies admit diffuse light, and intermittent rainfall provides a rich diversity of plants and animals. As Miller notes, “although Cascadia (as it is called by ecologists) represents less than 10% of the North American continent, it contributes 20–25% of the total surface runoff from rain” (2). Water, in many ways, is the lifeblood admitting ecological diversity that demands through its splendor, a character worthy of preservation.
THE PACIFIC NORTHWEST
PART I: TRIBAL REMNANTS

It seems reasonable to reach back into the past toward an authentic state of dwelling where this character was nurtured and preserved within the Pacific Northwest. The extent of man’s stay within this region reaches further back than can be discussed here. Instead, we will suppose that the documentation provided by 18th century colonists, condensed, composed and redelivered by Miller, can at least introduce us to how indigenous people have dwelled in this region in terms of their architecture. That is, this thesis will consider the redefining moments of this region’s vernacular architecture to be condensed within the built form provided by Miller’s research. As Norberg–Schulz contends:

*The quest for a new regionalism has brought about a keen interest in folk architecture. Being so to speak the ‘dialects’ of building, the vernacular has to a great extent preserved man’s immediate reactions to the given natural environment. [...] The simple reason is that the regional character remains in spite of all the changes, and the vernacular discloses its properties (3).*

In this spirit we are given the Northern Haida and coastal Salish tribes. These structures are characterized as elongated in one direction, assembled in rows oriented on their north–south axis and built using post and beam construction. These indigenous dwellings were built almost exclusively out of wood. Often, they are located within valleys in close proximity to bodies of water and dense forests of cedar, fir, and hemlock. Horizontal assemblies of split wood planks overlap and provide a skin for these structures. The planks were often tied to posts allowing the building to breathe and admission of diffuse light within its bounds to support man’s pursuits. The layered construction allowed permanent structures to be easily maintained and for the more nomadic tribes, they could be efficiently disassembled and transported. Depending on the size of the building and roof type, shed or gable, the roof structures often utilize purlins to support
THE PACIFIC NORTHWEST

the span of overlapping planks running parallel with the roof pitch. The buildings were offset from tributaries and depressions, thus they were able to utilize the earth as a floor.

The northern Haida exhibit an artistic expression of their beliefs and experiences through wood carving and painting. It seems that in this way they preserved a connection with what Heidegger might call the divinities. Façades are marked by colorful paintings of plants, animals, and celestial bodies. Just before the entry, a towering totem pole with elaborate carvings of plants and animals signify entry. The entry itself marks a spiritual transition into the lives of the inhabitant’s ancestors. Beyond the entry, an open plan often doubled as shelter and a place of worship and gathering. This connection between architecture and interpretive phenomena condenses time and evidences an enduring connection between traditional dwelling and form in the Pacific Northwest (4).
Within the appendix I have included a case study that approaches a translation of traditions endemic to the Pacific Northwest by giving primary focus to admitting views and referencing forms, such as the totem, over lifestyle. My contention is that the Fran and Dave Barnes House by Patkau fails to employ a rooted expression in terms of engaging the multi-sensory nature of man’s being. That is, while this project is self-referential in terms of gathering the surrounding landscape into sight and referencing its forms, it fails to nurture and preserve the multi-sensory potential that connection allows.
Can we typify a Northwestern style of life or does each built work respond to a lifestyle unique to the client? If the latter is true, are we to admit the lifestyle of, for instance, a client from New York City in the same way we would one from within the Pacific Northwest? My contention is that the answer to all these questions is no. What of lifestyle then? In her book, Northwest Style, Ann Wall Frank states,

*Try to pin a style on us, and the people of the Pacific Northwest will be the first to throw it off.* […] As a cult of leisure and experts in informality, we share a passion for the outdoors and seek endless ways to worship nature: gardening, sailing, hiking, skiing, camping, and fishing (5).

Northwest people are as diverse as the landscape. Perhaps due to the melding of fur traders, fishermen, gamblers, gold seekers, timber barons, and pioneers, the spirit of adventure runs rampant. Innovative, creative, and iconoclastic, we are a study in irreverence. Visitors claim that we are extremely friendly and polite – they just don’t know what we’re impolite about. Oregon’s governor from 1966 to 1974, the relentlessly straight-talking Tom McCall, urged people to visit, adding on, ‘but for heaven’s sake, don’t come to live here’ (5).
As Reima Pietila points out, “A cult is a function. The duty of a cult is to implant. The duty of a cult is to produce a local character, that is, to be something that does not exist elsewhere” (6). Lifestyle here cannot be quantified or categorized in any sort of concrete way. That is, as Neil Leach attributes to the self-referential characteristics of phenomenology, “there can be nothing to legitimize its claims” (7). What’s needed is to abstract behavioral tendencies. But behavior is more consistent than the expression of that behavior. This is to say that people’s lifestyles in the Pacific Northwest are different; but the need for their expression remains constant it seems. How is it that we come to understand the implications of a style of life that we cannot define in any sort of concrete way? According to Frampton, “regionalism, […] is often not so much a collective effort as it is the output of a talented individual working with the commitment towards some sort of rooted expression” (8). Located in the appendix, I have included a precedent analysis that addresses a modern translation of this enduring connection between lifestyle and form. The Bender/deMoll Neahkahnie Mountain Cottage by architect Tom Bender exemplifies Frampton’s notion of rooted expression. The cottage is approximately 1200 square feet and is located inbetween the Pacific coast and Neahkahnie Mountain just north of Manzanita, Oregon.
Change is constant; context is variable. A lot is said about change and that it is taking place at an ever-increasing speed. But it is far more interesting to observe the context of change, the integrated linking of certain epochs, the causality of successful innovations. This profound analysis of causes dependent on a particular time helps us to foresee how future contexts are interconnected with each other. It should help to work out projections for various future scenarios (9).

We have already looked to the greeting party who admitted the late 18th century European colonists to help us draw out the nature of their dwelling. What of the subsequent emergence of a northwest style during the early 20th century? Miller contends that the indigenous architecture of the tribal cultures has not endured and that is wasn’t until after WWII that a regionalist style began to surface.

The Pacific Northwest lacks an enduring indigenous architecture. The coastal Native American longhouses that lined the shores of the Puget Sound and the various sounds of British Columbia and southeastern Alaska were beautiful expressions of environmental conditions and sociological structure, but they did not form an indigenous Pacific Northwest architecture that has carried through to modern times. [...] This writer contends that not until the advent of the early Modernism produced by a post–World War II generation of architects did a Northwest Regional Style emerge (10).
Although he does go to some length towards describing the nature of their tribal dwelling and built forms, he places more emphasis on the well-documented works of architecture that proceeded after the war. These periods include the Arts and Crafts Movement, Modernism and the International Style, the ‘Contemporary’ period, and the plight towards a northwest regionalism (11). In lieu of summarizing the depth of his research into the subject of an Anglo-American architecture within this region, I will provide a synopsis of the principal design implications gathered from these periods and translated into form in the Pacific Northwest.

The Arts and Crafts installed an interest in the unadorned use of materials such as rough sawn lumber. The use of post and beam structural systems gave buildings the quality of lightness in terms of how they met the ground.
The arrival of the Modern Movement in the 1930’s (12) combined talented young designers inspired by the “bold constructional experiments” undertaken in the name of an International Style with a landscape demanding reverence through its magnificence. The proponents of this movement used more glass, embraced an open floor plan, and let their buildings breathe by diffusing the boundary between inside and out. Essentially, “the early modernists established a regionally based version of the International Style” (13).

The next group of modernists to enter the region and leave their mark occurred following WWII. Miller calls this group “The Northwest School” (14). He lays out for us the architectural devices exploited in this period as follows:

- The use of local natural wood and stone as principal construction materials
- A great concern for blending the building with its site
- The integration of the outdoors with the structure, usually post and beam
- The use of skylights and clerestory windows as a dramatic way of bringing light into the interior
The ‘Contemporary’ period of the 1970’s is said to mark a transition from the exploits of modernism toward a more rooted expression of vernacular traditions. Citing MLTW’s Sea Ranch as an indelible precedent to the works in this period, Miller explains how these architects began employing an additive process of juxtaposing volumes. That is, architects began extending interior spaces outside the geometrically simple forms long withstanding in this region. It seems clear that what compelled these architects to do this lies in their response to mounting concerns of the time regarding the limits of our access to energy. This, in turn, instigated an interest in solar technologies and other climate mitigation strategies such as earth sheltering. With these new techniques came new implications on
form. As such, architects of the region followed suit and a new translation of established traditions was born. As Miller points out, “this was largely due to the region’s cultural values, which embrace the sanctity of the natural environment, as well as the pioneering spirit that fosters willingness to try out new ideas” (15).

The final chapter in the Anglo–American saga of Pacific Northwest architecture considers the 1980’s up to the present time. Miller characterizes this period in terms of a Northwest Regionalism. We gather from him that there were no enduring or redefining architectural design strategies brought forth during the 1980’s and early 90’s within this region. He contends that it wasn’t until the mid 1990’s when a Northwest Regionalism began to emerge from the trail left behind in the 70’s. It is unclear to this writer whether or not any redefining moments have occurred within the architecture of this region at the scale of the home during this time. The case studies Miller uses to substantiate his claims toward a new regionalism focus almost exclusively on small commercial and public works projects, not the home.
Every person has three appraisal systems he or she can use: firstly, gut feeling, which provides information on a very low, almost animal level; secondly, the heart, which represents feelings and convictions; and finally, the head of analytical capabilities. The most intensive moments are those where all three are aligned (16).

An historical perspective on the environmental architecture of the Pacific Northwest reveals an early emphasis on the intuitive, with scientific strategies coming into the picture only after 1970 (17).

So it seems that a marriage between the intuitive and the technical best serves the notion of place creation. Just as Heidegger explains that the relation between location and spaces must be interpreted simultaneously by extension and interval, Miller makes the same analogy using the terms intuitive and scientific. In this spirit, the following principles seek to define the intuitive nature of our dwelling within the Pacific Northwest. Continuing this line of thought, the following chapter will translate these principles derived through intuition and translate them considering the notions provided by sustainability, the goal being to synthesize this marriage between the intuitive and the scientific.

The intuitive mind is a sacred gift and the rational mind is a faithful servant. We have created a society that honors the servant and has forgotten the gift.

Albert Einstein
In terms of form, Northwest Regionalism prefers a rectangular form as it allows for directionality and increases the exposure of the envelope to the surroundings. This propensity to form has emerged through the region's tribal remnants and has been nurtured through time unto the Contemporary period of the 1970's.
Bridging

There is also a preference toward separation and bridging as opposed to a seamless succession of spaces. This principle has grown from Heidegger’s notion on creating space and given an image in more recent works scattered throughout the Pacific Northwest.
Orientation

The orientation of buildings favors views over solar orientation indicating the temperate nature of the climate. Primarily, this principle is rooted in the Anglo-American architecture beginning in the early 20th century and arguably emerged from the Arts and Crafts Movement. It is interesting to note that the tribal cultures that preceded the colonists oriented their buildings with respect to the prevailing maritime winds, not the sun.
Earth

The way buildings engage the earth tends to exhibit a low impact extension of the landscape. This principle has been preserved since the time of the tribal cultures although its meaning and form have been redefined with the exploits of the Northwest School and their expression of post and beam construction.
Aperture

With respect to the admission of light, buildings invite the sun into their bounds from all directions referencing the regions ubiquitous, overcast lighting conditions. It wasn’t until the early modernists that a focus on admitting daylight into buildings became a primary focus. During that time the focus was almost exclusively on welcoming the splendor of the landscape. The departure toward a more scientific approach of admitting daylight didn’t occur until the 1970’s when solar technology became a primary interest, arguably as a result of the energy crisis occurring at that time.
Climate Responsive Enclosure

Buildings tend towards the admission of light and wind evidencing again, the temperate nature of the region’s climate. To be sure, this principle was of the utmost importance to the region’s tribal forbearers. Notable scientific advances did take place in terms of this principle during the Contemporary period. Indelible to these advances was the impact of MLTW’s Sea Ranch.
Ecological Planning

The precinct of built form acts to admit and install the ecological nuances of the site. As one of the more intuitive principles, installing environmental elements close to man has transcended all my research into the architecture of this region. It is clear that the richness of the landscape is such that it cannot be ignored.
Continuity

Further considering the surrounding ecology, buildings exhibit a propensity towards engaging man with ecology through allowing for continuity between inside and out. The notion of continuity has come to be expressed in terms of structure and openness to the outdoors. The use and interpretation of post and beam construction has lent itself to an explicit continuation of structural members from the earth and through the interior space creating a seamless relationship. In terms of openness, we see a propensity to have an abundance of glazing and architectural devices embracing continuity such as removable walls that act to admit the multi-sensory elements of the environment.
Stormwater Management

Buildings tend to provide for stormwater management strategies by design addressing the abundance of rainfall within the region. The expression of these strategies holds both an artistic and technical quality. In terms of the latter, we see advances occurring primarily in modern times.
Swales and permeable surfaces not only allow for resolving this condition of abundant rainfall on site, but also provides for an artistic reinterpretation of this basic condition of our dwelling.
Material

Buildings tend to incorporate a trabeated layering of wood in their construction, which has been preserved through a tradition of dwelling within or around dense forests. Where stone is used, it is generally gathered from the site or relatively nearby in creek beds and lava flows.
Detail

As the nature of our stay has evolved, the propensity to use wood in this region has remained, although the module and manner in which we exploit the joining of these elements exhibits a defamiliarization of traditional techniques evoking an artistic expression and hermeneutic reading of its character. This is to say that where wood remains as the primary building material, architects of this region have questioned the joint and produced elegant detailing combining wood and steel.
THE PACIFIC NORTHWEST

NOTES:
1 Miller, Towards a New Regionalism, p. xv.
2 Ibid., p. 3.
3 Norberg-Schulz, Principles of Modern Architecture, p. 91.
4 Miller, Towards a New Regionalism, p. 7.
5 Frank, Northwest Style, pp. 9 & 10.
6 Norberg-Schulz, Principles of Modern Architecture, p. 93.
7 Leach, Rethinking Architecture, p. 84.
10 Miller, Towards a New Regionalism, p. xi.
11 Ibid., p. 5.
12 Ibid., p. 18.
13 Ibid., p. 23.
14 Ibid., p. 22.
15 Ibid., p. 31.
17 Miller, Towards a New Regionalism, p. 12.

ILLUSTRATIONS:
3–6 Ibid., p. 13.
3-12 Miller, David E. Towards a New Regionalism. p. 6.
3-19 Diagram by Author, Form
3-21 Diagram by Author, Bridging
3-23 Diagram by Author, Orientation
3-24 Kennedy, A. The Best of Cutler Anderson Architects. p. 28. Wright Guesthouse in The Highlands, WA.
3-26 Diagram by Author, Earth
3-27 Ngo, Dung ed. Tom Kundig: Houses. p. 130. Delta Shelter in Mazama, WA.
3-28 Kennedy, A. The Best of Cutler Anderson Architects. p. 55. Paulk Residence in Seabeck, WA.
3-29 Diagram by Author, Aperture
3-31 Diagram by Author, Climate Responsive Enclosure
3-33 Diagram by Author, Ecological Planning
3-35 Diagram by Author, Continuity
3-37 Diagram by Author, Stormwater Management
3–39 Diagram by Author, *Permeability*
3–41 Diagram by Author, *Material*
3–43 Diagram by Author, *Detail*
3–44 Kennedy, A. The Best of Cutler Anderson Architects. p. 76. Guesthouse in Medina, WA.
CONTEXT FOR A CRITICAL REGIONALISM

CHAPTER IV SUSTAINABILITY & PROVISIONS FOR PLACE

SCALE
SCOPE
TRANSLATION
Critical Regionalism is a dialectical expression. It self-consciously seeks to deconstruct universal modernism in terms of values and images which are locally cultivated (1).

The fundamental strategy of Critical Regionalism is to mediate the impact of universal civilization with elements derived indirectly from the peculiarities of a particular place (2).

The notion of translating universal concerns onto the peculiarities of a location implies the twofold integration of a particular region and some reflection on the impact of and on universal civilization. I have chosen sustainable design as a means toward mitigating the impacts of built form that billow out beyond the chosen region of concern. The Pacific Northwest will act as the precinct for analysis.

We can gather from this extract and the previous chapters that Critical Regionalism could be thought of as a process through which we install colloquial elements to a region in such a way that the tectonics of their assembly negotiates man’s stay among things. In other words, critical regionalism seeks to admit and install a balance of Heidegger’s fourfold elements into a built thing. Man among men comprises one element of the fourfold and he dwells authentically by preserving the nature of the other three with his stay among men: earth, sky, and divinities. The plight is to reinterpret and redefine the nature of our dwelling in time provided by a condensing of time. Considering that in 2008, as a factor of total energy consumption, residential draws 22% (commercial 19%), one way to question our plight lies in terms provided by sustainability (3).
Anything we find inconvenient will not endure. Eliminating unpleasant conditions appears to have been one of the main causes of innovation in change throughout history. In order to find good ideas for the future, we must watch out for these inconvenient things (4).

A discourse toward the prospect and establishment of a critical/new regionalism in the Pacific Northwest describes the intention behind David Miller’s book Toward A New Regionalism: Environmental Architecture in the Pacific Northwest. Miller suggests that a new regionalism now exists within the Pacific Northwest and the relation between this regionalism and the notions provided by sustainable design “form the underpinnings for authentic and meaningful architectural form” (5).

The impetuous for this book then, is to correlate the notions of an existing Northwest Regionalism with corollary principles of sustainable design suited to the Pacific Northwest. His fundamental supposition is that “the core of sustainable design lies in responding to a ‘spirit of place’” which he borrows from Norberg-Schulz (5). As such, it is said that sustainable design is inextricably linked to the notions of place provided by Critical Regionalism. He presumes that evidence for such a regionalism lies in a trail of completed works within the Pacific Northwest. He contends that these works provide for a translation of local customs and vernacular form, the transformative use of colloquial materials, an architectural reference to the ecological conditions of the region along with an awareness providing for a response to the region’s unique geography and climate. The mode of analysis he imposes on this trail of works is characterized by each precedents response to or admission of: earth, fire, air and water.

Since sustainability addresses the impact of man’s pursuits at a variety of scales, can we draw from its precinct towards redefining the nature of our stay? How does sustainability provide a gathering of devices, formal and material, such that it affords us the ability to mediate our impact on energy consumption within the
reach of the Pacific Northwestern home? To answer this question we will first look into the question of sustainability and scale in Part I. Part II we will gather a fundamental understanding of what constitutes a sustainable design. We will then test the design principles gathered from the previous chapters against the notions provided in the context of sustainable design in Part III.

PART I: SCALE

In nature there are many containers but only people build boxes with walls and lids! For this reason, only people can remove the lids and leave their boxes. Symbolically, this stands for the necessity of thinking in an interconnected way rather than on separate planes (6).

The nature of sustainability transcends scale. That is, it provides for a variety of interpretations and just as many applications. Using a house as an example, sustainability affords us critical inquiry into the means of which it is composed as well as a rubric through which we can criticize the elements of its composition.

What’s more, sustainability admits a consideration of its impact on the health and well being of its inhabitants along with its impact on the greater community. It can be said then that sustainable design permeates the nature of our stay with things. Sustainability operates at a variety of technical scales as well. Its concepts provide active technological devices for gathering energy from the sun, wind, water and earth alongside passive formal devices such as admitting daylight, allowing wind for ventilation, catchments for water, and earth–sheltering for thermal consistency. Both levels, though, describe a propensity to admit and install fourfold elements gathered from a particular place. From the choosing of raw materials and the means thru which we acquire them from the earth to their joining by design, sustainability permeates our stay. From the assembly
processes through which raw materials provide utility to the logistical reach required for the consumer to acquire them implies that sustainability permeates our stay. In this way we understand that sustainability can be discussed in terms of the trail of events that provided and installed the leather on our shoes to the global impacts of the emissions of our vehicles.

So sustainability is scalar in terms of interpretation and implementation within design. It follows that a definition for sustainability toward sustainable design strategies is imperative to the success of its implementation with respect to the Pacific Northwestern home. Towards that end, let us look to what has been said of sustainable design in terms of its goals and character with a particular focus placed on the home wherever possible.

PART II: SCOPE

_We have no choice but to learn how to get along with each other on this planet. Our behavior should therefore support the sustainable use of the Earth’s resources (6)._

_The primary goal of sustainable design is to produce elegant architecture that utilizes a combination of the best ancient, proven building approaches and the best technological advances (7)._

_The core of sustainable design lies in responding to a ‘spirit of place’. Architecture that heals the heart, our biological systems, and the environment is sustainable (8)._

_An environmental architecture provides for humanity’s long-term needs, both physical and psychological, using only those resources the earth can sustainably provide (8)._

_If appropriate strategies are not included during the schematic design phase they will never be included (9)._

So sustainable design condenses man’s building traditions over time towards their redefinition in the present. Further, its principal concern lies in a gathering of place defining elements. Sustainable design gathers our immediate needs
without losing perspective of their greater impact on the ability to sustain those needs. Further, it seems that sustainable design strategies must be considered at the onset of the design process. We discussed how the ‘Contemporary’ period of the 1970’s marked a break from traditional form in the Pacific Northwest. It was said that the reason for this was to lessen our dependency on man-made energy. We can understand then that sustainable design has been a form giving enterprise that acts as a bridge between man and the conditions of his surroundings.
PART III: TRANSLATION

Redefining the design principles gathered from the previous chapters in consideration of the notions provided in the context of sustainable design describes the mode of the following discourse. The elements to be considered here tend toward formal implications as opposed to highly technological climate mitigation strategies such as photovoltaic arrays, energy efficient lighting, wind and water turbines, geothermal mining, and transformative materials, just to name a few. This restriction I have put on the extent to which sustainability will be considered is tailored to the reach of the common man, dwelling within a particular region with a preference towards preserving the notion of place within the home. That is, a man of average means in the Pacific Northwest whom embraces the notion of authentic dwelling through the admission and installation of place defining elements.

The emphasis will be on sustainable design strategies that augment form. Moreover, this thesis is geared toward establishing design principles and implementing their use; not documenting, analyzing and exhausting all possible connections between sustainability and the home within this region. To do so would require a vast amount of cataloging and quantitative analysis. The primary reason for not doing this is the variety of scales sustainability operates within and the abundance of microclimates housed within the Pacific Northwest. With that in mind, we will consider form giving sustainable design strategies that are appropriate for the ‘typical’ conditions present within the Pacific Northwest. Once established, these strategies will provide a reference for design in the context of a particular site exhibiting its own unique characteristics. After a brief note on microclimates, I will discuss strategies by considering thermal comfort, water, and materials. Appropriate strategies will be revisited and tested in the design proposal within the latter part of this document.
Microclimates

Although the Pacific Northwest is typified as having a temperate climate with maritime winds as the primary contributor to this, it is important to note that this region houses a sizable variety of microclimates. Proximity to the ocean can be an indication of the abundance of temperate, maritime winds. “The temperature differences between land and water create sea breezes during the day and land breezes at night” (10). Depending on one’s proximity to mountains, a location could exhibit cooler winds of varying intensity. “In certain cases, mountain ranges cause rapid changes from relatively wet and cool to hot and dry climates” (10). Such is the case, for example, as one crosses over the Cascade Mountains into the high desert of Central Oregon. Wind velocity can vary as a function of the width of a valley as well. “During the day, strong winds blow up the valley; at night, the winds reverse” (10). What’s more, further compounding the number of microclimates within this region is the fact that “south-facing slopes can receive more than 100 times as much solar radiation as north facing slopes” (10).
Thermal Comfort

From Norbert Lechner we are provided specific bioclimatic information that will help us narrow our scope of strategies to effective formal devices. Reading from the psychrometric chart of the CA, OR, WA coastal region, several opportunities to achieve man’s thermal comfort zone appears. The thermal comfort zone is just what it sounds like, a place where man is comfortable. In this zone, man needs no command of energy-driven devices. This zone can also be considered an element of place as we have come to understand. This place is where man is at peace with the fourfold. In this context, the object is of course then to bring those conditions to man with sustainable, and in our case formal, devices. Technically speaking, “certain combinations of air temperature, relative humidity (RH), air motion, and mean radiant temperature (MRT) will result in what most people consider thermal comfort” (11). From the psychrometric chart we understand that much of the year allows passive strategies towards bringing man into his thermal comfort zone in terms of air temperature and relative humidity.
SUSTAINABILITY & PROVISIONS FOR PLACE

Drawing from this chart we see that the most effective strategies include:

» Passive solar in the winter months to capture heat gains internally

» Light should not be allowed into the building from approximately the end of May until the beginning of October

» Ventilation is highly effective during the summer

» High thermal mass and evaporative cooling can help if the disposition of the site warrants them, but overall these strategies are better suited to hot and dry climates.

The formal implications of these conditions include:

» Admit the sun in the winter and restrict it in the summer implies overhangs proportioned to window openings based on site-specific sun path information. The abundance of water in the Pacific Northwest can act as a reflective surface to install light into the building during the cloudy winters.

» Earth-sheltering can borrow from the temperate nature of the earth and promote thermal comfort particularly in the winter months

» Where winter sun is admitted, use material as a heat sink to capture the heat and release it in the cooler hours of the evening.

» Build tightly to avoid the admission of winter winds. Insulate well, particularly on the windward and solar deficient sides of the building.

» In the summer, use cross or stack ventilation strategies to improve air quality and cool spaces. Restrict summer sun to indirect lighting wherever possible using light shelves, shading devices, side lighting, and clerestory windows. Where excessive glazing is preferred, orient away from the summer sun and increase ventilation efforts.
SUSTAINABILITY & PROVISIONS FOR PLACE

Water

Considering the abundance of rainfall in the Pacific Northwest, several water management strategies can be used. Catchment strategies can be used for greywater systems and irrigation during the summer. Retention ponds can nurture biodiversity and bring light to the cloudy overcast winters. Bioswales filter out toxic chemicals from storm water runoff and also support biodiversity. Permeable surfaces act to gently filter water into the earth lessening the demand on sewer systems.

Materials

Sustainable design promotes the use of materials with a low embodied energy. That is, the process required to manufacture, deliver, and implement their use is minimized in terms of energy use. Among other things, this implies the material should be made of locally gathered materials and assembled by a local business. The disposition of the materials should fit into the dichotomy given to sustainable materials and products in Cradle to Cradle by William McDonough and Michael Braungart. They use the term nutrient in lieu of ‘material’ and ‘product’ to describe two concrete ways of understanding the nature of sustainable materials. We are given the biological nutrient and the technical nutrient. A biological nutrient is, let us say, a thing that is completely absorbed by the ecology of the environment after its use becomes obsolete and man discards it. In other words, man releases or ‘let’s be’ this thing to its own presenceing and it is readmitted and installed back into the fourfold. A technical nutrient differs only in that it maintains an enduring utility to man. That is, it is readmitted thru and to man, thus also maintaining its presence within the fourfold. This dichotomy of sustainable materials will have design implications within the final chapters of this thesis (12).

As a successful synthesis of climate and tradition, I have included in the appendix
a precedent exemplary of this condition, Renzo Piano's design of the Tjibaou Cultural Center. Although its location is not within the Pacific Northwest, I believe it provides valuable insight into the notion of place and its corollary relation to sustainable design.

NOTES:
2 Ibid., p. 490.
5 Miller, Towards a New Regionalism, p. xi.
7 Miller, Towards a New Regionalism, p. 35.
8 Ibid., pp. xi–xvi.
10 Lechner, Heating, Cooling, & Lighting, pp. 69–72.
11 Ibid., p. 61.
12 McDonough, Cradle to Cradle, pp. 105 & 109.

ILLUSTRATIONS:
4–2 Diagram by Author, *The Reach of Man*
4–3 Photo by Author, Oregon Coast.
4–4 Photo by Author, Outside Tacoma WA.
4–5 Photo by Author, Oregon Cascades.
4–6 Photo by Author, East of the Cascade Mountains.
4–7 Photo by Author, Central Oregon High Desert.
CHAPTER V PRINCIPLE INTEGRATION

SITE & PROGRAM
CLIMATE
DESIGN PROCESS
DESIGN CONJECTURE
ANALYSIS OF DESIGN
PRINCIPLE INTEGRATION – Site

The site is located just outside of Roseburg, Oregon along the South Umpqua River about 80 miles from the Pacific coast to the west and 80 miles from the summit of the Oregon Cascade Mountains to the east. This small city is approximately 70 miles for the state’s second largest city, Eugene and about 120 miles from the California border. Roseburg is located at the heart of the Hundred Valleys of the Umpqua in Southwestern Oregon. Roseburg is located in Douglas County, which comprises the entire watershed of the Umpqua River from the Cascade Mountains to Reedsport where it joins the Pacific Ocean (1).

» Roseburg, Oregon
» Location: 43:21N, 123:35W
» Elevation: 465 feet
» Area: 9.4 square miles
» County: Douglas County
» Population: 21,255
The primary orientation of the site is toward the north south. In section, the site can be read as exhibiting a succession of topographical intervals from steep and short to flat followed by another distinct elevation change bounded by another horizontal area and the public thoroughfare to the north.
The South Umpqua River lies at the south end of the site as it flows toward the southwest at this particular location. The depth of the river is in a constant state of flux throughout the seasons.
PRINCIPLE INTEGRATION – Program

The design proposal will include 6 detached single-family homes ranging between 1500 & 2500 square feet. The nature of the site provides programmatic implications based on a reading and characterization of the site through the notion of the site as a house.
Winters are cool with very little freezing and most of the rainfall occurs during this time.

A warming trend begins in April and May, continuing into the summery days of July and August.

Fall weather is pleasant and crisp, producing brilliant leaf colors in late October.

Extremes of heat and cold are rare.

The summer humidity is low and snowfall is rare on the valley floor.

The normal growing season is 217 days.

Roseburg enjoys one of the lowest average wind velocities in the United States (1).
The diagram I have provided here describes a design process that acts to synthesize ideas and theories with images and precedents. That is, to take notions of place provided in the previous chapters and use them as a means toward deriving form and concrete implications for design. It seems reasonable to summarize those components here as a way to provide a boundary for design.
Goals for design


Pay homage to the continuous reinterpretation of man’s dwelling in the Pacific Northwest by referencing the evolution of design as a means toward becoming part of that tradition. Particular focus will be on ecological design, defining views, and the language of post-and-beam and earth-sheltering construction methodologies. These concepts were described in Parts I & III of Chapter III, *The Pacific Northwest – Tribal Remnants & 20th Century Modernism*.

The preservation of design preferences gathered from exemplary works exposed in Part IV of Chapter III, *The Pacific Northwest – Design Principles*.

These preferences include:

- Form
- Bridging
- Orientation
- Earth
- Aperture
- Climate Responsive Enclosure
- Ecological Planning
- Continuity Between Inside & Out
- Storm Water Management
- Permeability
- Material
- Detail

A reference to universal concerns under the umbrella of sustainability with a particular focus on material and formal strategies. The primary forces to mitigate were discussed in Part III of Chapter IV, *Sustainability & Provisions for Place – Translation*. 
Synthesis Approach

To accomplish this synthesis in design will require a twofold approach, a design conjecture accompanied with an analysis of the design based on the goals gathered within this thesis. One way to understand this process is by considering the dialogue between the intuitive and the rational mind as discussed at the onset of Chapter III, Part IV, The Pacific Northwest – Design Principles. The design conjectures embrace the intuitive while the analysis draws from the rational. The instruments of analysis though, were born of intuition; an intuition gathered from critical research exposing concrete images of exemplary precedents, a rational endeavor. To further seal my point, even those precedents exploited through a rational process of analysis were chosen on the basis of intuitive thinking. This weaving of the minds, so to speak, is perhaps best understood in much the same way I have characterized phenomena in Chapter I, Phenomenology & Hermeneutics. That is, this design process is characteristically scalar, multisensory, and takes place in-and-at a particular point in time. For example, the intuitive mind brought forth the diagrammatic abstractions of Pacific Northwest design preferences. However, those preferences could not exist without their definition given by an analysis of concrete precedents, drawing from the rational. This rhythmic design approach seeks an asymptotic resolution of truth, in the phenomenological sense of the word, dependent on both hermeneutics and concrete images.

Concept & Scale

Of primary concern is the translation of these principles across the site. In other words, how do the concrete design implications of the goals listed above vary depending on their proximity to site features, one another, and admission of environmental forces towards man’s thermal comfort? The answer to this question exists as an extension of the synthesis approach described above. Noted above
was the concept that the meeting of the intuitive and rational minds can take place at a variety of scales. It stands to reason then that we ought to be able to apply these goals to design within the context of site, house, and detail. The following discourse will engage this process at several scales considering the design goals provided toward an understanding of how this process operates across the site. The goal of this dialog is to provide a narrative to the process, not prescriptive design measures. The actual design illustrated later in this document will provide an image to this design process.

Intuitively, it seems appropriate to begin by thinking about figure–ground relationships. One of the first concerns that emerge is the preservation and definition of views. Houses located on the south side of the site demand a response to views of the river and rolling valleys beyond. Considering the prospect of additional houses to the north, it seems reasonable to consider how best to maintain those views without excluding them from the other houses. The northern third of the buildable site is restricted from views of the river by the very nature of the site’s topography. This implies that we ought to be able to establish a threshold, or boundary, that provides a hierarchy of concern regarding views. This is to say that the northern portion of the site will require more attention to the definition of views, the middle third will exploit limited opportunities to engage views, and the southern portion will balance an abundance of potential views with concerns toward preserving the limited opportunities characteristic of the middle portion of the site. In section, this implies that a dialogue between earth–sheltering and post–and–beam construction could help mitigate this place defining condition while at the same time referencing the exploits of 20th Century Modernism within this region. These suppositions become more concrete as their employ draws from the documentation of exemplary precedents discussed in the previous chapters.
At the scale of the home, I will engage the concepts provided in the discussion about the solid–void–plane relationship. Considering the hierarchy of views noted above, several implications impact this relation immediately. It stands to reason that the homes located in the middle third of the site should consider the use of post-and-beam construction towards exploiting a limited potential for views, particularly of the river. The nature of this construction type lends itself to a lifting above the ground and continuity of structure between inside and out. This ‘above’ could be exploited as a void and could help give definition to views from the northern third of the site. The southern third of the site is to preserve the potential for views of the river in the middle third. This evidences earth sheltering as a potential strategy to consider. Here, the juxtaposition of solid, void, and plane provides an opportunity for poetic expression. Drawing from Norberg-Schulz’s notion of complementarity as a means toward the embodiment of place, one resolution could seek to complement the horizontality of earth-sheltering strategies with a void that connects earth and sky vertically. This part of the design process calls upon what Kenneth Frampton describes as “a commitment to rooted expression” (2).

An opportunity for poetic expression outweighed rational concerns in the context admitting a solid–void–plane relationship at the scale of the home. In consideration of details referencing notions provided by sustainability, the rational mind holds more dominance. Ultimately, this thesis seeks sustainable design strategies that act to install the theories gathered in the previous chapters in a ‘concrete’ way. To become part of a tradition of dwelling that continuously redefines man’s stay with things. In this spirit, the joining of materials and their physical properties are analyzed towards expanding the boundary of the ‘thermal comfort zone’ referencing the dialogue in Chapter IV, Part III. The proportioning of eve-to-opening fuels materials toward this expansion of comfort. Managing runoff with retention, purification, and infiltration techniques begins to address
impacts reaching beyond the boundaries of our ‘particular’ site. Critical admission of daylight reduces our dependence on lighting. Borrowing from the thermal consistency of the earth reduces our level of energy consumption. The verticality of the void complementing the earth-sheltered home described previously is provided a concrete nature through sustainable design strategies as well. The integrity of this void will depend on detailing, specifically, orientation analyses, employing sun-shading strategies, and ventilation techniques. It becomes clear that this extension of the process permeates scale and acts to extend the discussion in Chapter IV, Part I, Sustainability & Provisions for Place – Scale.
The followings pages take the principles derived from research and then abstracted diagrammatically, and exploit them as a means through which to test the extent of their integration.
This design combines an envelope dominated form acting to provide exposure to the surrounding landscape.

A circulation spine acts to gather spaces as an element that cuts through the orthogonal nature of the traditional rectangular form of the house.
Coincidentally, an orientation toward views of the river and the forested hills beyond begets a southern focus.

**orientation**

Given the drastic nature of the elevation change just above the flood plane, this design minimizes excavation while embracing the views of the river and hills beyond. However, subsequent design iterations will seek complementary earth strategies while contemplating the prospect of place defining views.
In step with the qualities of light within this region, this design focuses on the installation of diffuse light. What’s more, I have attempted to translate the notion of the solid–void–plane relationship, discussed previously.

With respect to the vertical stacking of spaces, the limited boundary I envision and orientation toward prevailing winds, allows for the admission, circulation, and exhaust of air letting the house breathe.
By including outdoor spaces that bring forth the nature of the landscape, I have attempted to gather the ecology of the site with man’s stay.

The transitory condition between inside and out is addressed by the notion of allowing indoor spaces to join with complementary outdoor spaces.
NOTES:
APPENDIX A

CASE STUDIES

PHENOMENOLOGY

VERNACULAR TRANSLATION

LIFESTYLE

SUSTAINABLE DESIGN

CONDENSING TIME ON NANTUCKET

BARNES HOUSE, PATKAU ARCHITECTS

MOUNTAIN COTTAGE, TOM BENDER

TJIBAOU CULTURAL CENTER, RENZO PIANO
The island of Nantucket exists as a community that in many ways attempts to subvert time and focus more on place and character. The Nantucket Historical District Commission (NHDC) indicates in its charter, Building With Nantucket in Mind, that it is of the utmost importance “to preserve the historic character of the old town of Nantucket as a whole, including its pedestrian scale as well as its close and complimentary pattern” (1). Primarily Nantucket is known for the coherence of the entire community, not a particular location or thing. The NHDC states, “A building carefully related to its site, its neighbors and its heritage will have an aesthetic appeal and meaning larger than it could possibly have alone. Designs should exhibit the repose and unpretentiousness that belong to this weathered island” (2). Nantucket can be described for the ubiquity building materials, proportioning systems and massing schemes. In effect, the built environment is synonymous with the spaces that were defined long ago. This is to say that the community that makes up Nantucket at least expresses a desire for the preservation or condensing of the past.

So what is it that makes Nantucket a worthy precedent for a discourse about phenomenology? Why should we not simply describe Nantucket for its constituent parts and amenities to arrive at an analytic construct of the tiny island? Preservation of historical form, an adherence to consistency combined with a repetitive growth and decline in population evidences Nantucket as a good venue to consider the notion of place. Norberg–Schulz describes place as “a qualitative, “total”
phenomenon, which we cannot reduce to any of its properties, such as spatial relationships, without losing its concrete nature out of sight” (3). By ‘concrete’ he refers to the ‘intuitive three-dimensional totality of everyday experience (4). In this context, and to make an argument for the oneiric qualities experienced by its inhabitants, a location such as Nantucket is better described hermeneutically than as a construct linking a series of locations. We could describe Nantucket for its moors and beaches, lighthouses and cobblestone roads. We might even acknowledge the ubiquitous use of few architectural styles or its trademark white trim and shake siding. On this foundation of quantitative rationalism we would be able to derive scenarios from which quantifiable thought patterns could emerge. But no matter how effective we are in systematically analyzing and synthesizing these abstractions into a construct in the manner of a social scientist, we would never understand the feeling one gets when thrown about while driving across the cobblestones or sense of self one is refined to in the proximity of Heidegger’s ‘things.’ Norberg-Schulz refers to these occurrences affectionately as ‘everyday life-world’ consisting of ‘concrete phenomena.’

In lieu of a descriptive methodology toward understanding the totality of concrete phenomena Norberg-Schulz remarks on, a more poetic approach might suit our discourse. It should suffice to say that in the absence of stimuli one becomes closer to what Bachelard calls Motionless Childhood, a state where “memories of other places we have lived in come back to us” (5). One might evidence this proposition by the absence of streetlights, billboards, neon signs, and the like. This is to say that one cannot become fixated on such things, as they do not exist on Nantucket. Perhaps absence breeds desire and desire rests in all of us, a unique set of inclinations of which we rely on daydreaming or memories to find solace, to return to places deemed good.

Synonymous with the conception of phenomenology as a ‘return to things’ as
Norberg–Schulz describes, Nantucket exists as a place where people literally return. Evidenced by the fact that Nantucket currently swells in population from less than 10,000 people in the winter months to nearly 50,000 in the summer. Why does this occur? Is Nantucket a source of distraction from reality as we might consider Disneyland to be with all of its attractions? Absence of attractions and the repetitive growth and decline in population implies that Nantucket is revisited for its uniformity and absence of stimuli. The NHDC (Nantucket Historic District Commission) indicates in its charter: “More than simply preserving the artifacts of a bygone era, it is a dedication to enriching rather than diminishing that heritage” (6 & 7). As poetic a statement that may be, the reality of that assertion indicates that the architectural styles, construction methods and materials used in Nantucket rest on a foundation of climatic response and sustainability; if the intentions of this are not realized in the present, they certainly were in the
past. The compact massing was intended to reduce the number of joints to be sealed, the restricting of overhangs was conceived of to welcome the summer sun, and the assemblage of shakes yielding a tight skin are all indicators of a methodology at harmony with ecology and place. In fact, the NHDC requires a Certificate of Appropriateness and stay of execution before any demolition of an existing building occurs so the community has time to evaluate its contribution to the historic fabric of the area. A 60-day stay of execution is required between submission of an application and actual demolition (7).

I might argue that Nantucket makes explicit Bachelard’s notion that “space contains compressed time” (8). The validity of this statement rests on a continuity of architectural style born from an era of necessity and convention then nurtured through time unto the present by a desire to revisit the past, or perhaps, the
perceived simplicity of the past. Not to be mistaken as a pejorative statement, Bachelard proposes that “centers of boredom, centers of solitude, centers of daydream group together to constitute the oneiric house which is more lasting than the scattered memories of our birthplace” (9). Although Bachelard proposes that which constitutes Norberg-Schulz’s ‘everyday life-world’ or Heidegger’s notion of the plight of dwelling in the context of a house, I find it equally apt in allowing for an understanding of how phenomenology is used to enhance the formation of memories and dreams at the scale of the community.

In addition to the ever-present shake shingle and massing type, continuity between inside and outside exists on Nantucket. This is evidenced by the use of proportioning systems derived from the Georgian style of architecture to delineate the prospect of openings from inside to outside. Norberg-Schulz considers the impact of such by acknowledging the fact that only “an inside can in fact have openings” (10). He goes on to say that these openings constitute a boundary between inside and outside. This is not to say a distinction is made between the two as much as to propose that a mark exists “from which something begins its presencing” (10). Not only does this abstract uniformity contribute to the absence of variability (at least extreme variability) but it instigates a formal continuity between the two read hermeneutically by the subject in terms of his own disposition. Further, the paths and roads that join these locations lend themselves to memories or an imagination of times past resultant on the theory and evidence of space as compressed time. This offers the subject not only a framework from which to daydream but also a consistent relationship between inside and out. As Norberg-Schulz describes, “… any enclosure becomes manifest as a figure in relation to the extended ground of the landscape. A settlement loses its identity if this relationship is corrupted, just as much as a landscape loses its identity as comprehensive extension” (10). In the absence of such corruption, Nantucket epitomizes a coherent relationship between inside and
out, and the community at large. Not in the context that the island of Nantucket lends itself to the Georgian style or an obsession for shake shingles, but that it has a continuity of spatial relationships that exist and enable this location to be a place of oneiric inhabitation.

This analysis of the phenomenological qualities of Nantucket is not intended to advocate a stagnant architecture, nor do I propose that all communities should remain faceted to a series of abstract constructs such as proportioning systems. Simply stated, Nantucket can be viewed as one location in which the relationships between inside and out, one home and another, and the spatial separations and pathways that define them illustrate an effective revisiting of the past with promise of oneirism. This is to say that Nantucket provides a context for a discourse seeking to engage the imagination through built form.
PHENOMENOLOGY Condensing Time on Nantucket

NOTES:
1 NHDC, Building With Nantucket in Mind, p. 9.
2 Ibid., p. 11.
3 Nesbitt, Theorizing a New Agenda for Architecture, p. 414. The Phenomenon of Place by Christian Norberg-Schulz.
4 Ibid., p. 418.
5 Leach, Rethinking Architecture, p. 87. Poetics of Space by Gaston Bachelard.
6 NHDC, Building With Nantucket in Mind, p. 13.
7 Ibid., p. 21.
8 Leach, Rethinking Architecture, p. 89. Poetics of Space by Gaston Bachelard.
9 Ibid., p. 94.

Credits:

ILLUSTRATIONS:
a–1 Foreman, H. C. Early Nantucket an its Whale Houses. Town of Siasconset. Date Unknown.
a–2 Photo by Author, Siasconset. 2007.
a–3 Photo by Author, Siasconset. 2008.
a–4 Photo by Author, Siasconset. 2007.
a–5 Photo by Author, Siasconset. 2006.
Situated between two large granite outcroppings on Vancouver Island, the design for the 2,600 square foot Barnes’s house is the work of the famous Northwest Regionalists, Patkau Architects. Of interest to this thesis is uncovering the operative design principles at play with this design in terms of the relationship between inside and out, the continuing translation of the tribal vernacular as well as towards revealing the naked beauty of the materials used. I have chosen this precedent because I have an intuitive distaste for this piece that I will try to reconcile against the fame these designers have received for this work. Evidentially, the design for this house was “so continuous with the natural world that before it even left the blueprints the house began to receive international design awards” (1).

My intuition tells me that this house could fit just as well in New York City where in lieu of an abundance of windows to the outside one could just insert landscape paintings. The grace of detailing and rudimentary expression of joints leaves the inside space lacking cultivation or sense of place. The building is abstracted so far from the totem of the natives it is said to represent that it seems you have to be an artist to see the correlation. In fact, the ‘house’ seems more like a museum than a place for people to inhabit anyway.

Large glazed openings frame the natural surroundings episodically throughout the home affording the occupant quite the phenomenological experience. The master bathroom as well as a small workroom feature glazing that runs seamlessly from the top of the wash/work surface and continues around the corner of the bounding space imparting a sense of continuity between indoors and the outside.
landscape. The grace of details is most certainly a pleasant addition in lieu of mirrors and back splashes, but unless you have a full time maid to cleanup after you, I would imagine that these details would prove to be more of a burden than an asset to ones everyday lifestyle. Further, I think this attempt at providing a continuous link between in and out is disabled by merely engaging the sense of sight. The only blurring between inside and out that reaches beyond the sense of vision is an elaborately hinged door at the top of the open treaded stair. That is, this condition exists adjacent to a circulation space, not a resting/living space. I cannot reconcile how enabling a transitory space between in and out could be successful when the only time it is experienced is when traveling between the two; is it anything more than a glorified door, like any other except for the addition of an expensive hinge. What can be learned from Patkau’s ambitious use of glazing is that architecture that embraces views sells even if all the senses but sight are forsaken.

This project is also said to respond to a tribal vernacular by the use of geometric volumes mimicking elements of the forest and its walls reaching beyond the roof are said to be an abstraction of the qualities of totem poles used just outside the entry into structures built by the Northwestern natives. I struggle to see the correlation myself so it is hard for me to really provide any sort of critical analysis or critique. What I can say, though, is that through my readings I have
learned that the Haida and other natives of the Northwest were preoccupied with symbolic carving and painting; craft, nature, and celestial bodies were of the utmost importance to these people, form and meaning were inseparable. On that basis and in an attempt to abstain from confusing translation with imitation, I do feel comfortable asserting that on the merits of craft this project is far too abstract to claim a correlation to the totem. Maybe the walls stretching beyond the roof act as if they are reaching to the sky similar to the totem, but without some greater marriage to meaning they seem like a small-minded waste of materials to me.

Lastly, the claim to a natural expression of materials deserves some critique. First, efforts were made to match the color of the window and door trim and the stucco on the exterior to the stone and bark of the surrounding landscape. I think this is a good idea to help blend in, but a revealing of their “naked beauty,” I don’t think so (1). Perhaps I can buy this notion with respect to the use of maple and polished concrete inside the home, at least on the surface. I would contend, though, that even if we suppose that these materials are given minimal treatment (perhaps only a clear coat), still I perceive them to be over milled and the joints and corners are far too sharp to express the nature of what it is to be wood. This is to say that the way in which they have used wood (aside from the structural members) is more akin to plastics or composite materials (laminates) than the
softness and warmth belonging to wood (1).

NOTES:

CREDITS:

ILLUSTRATIONS:
b–1 Frank, Northwest Style, p. 107.
b–2 Frank, Northwest Style, p. 112.
b–3 Frank, Northwest Style, p. 113.
b–4 Frank, Northwest Style, p. 108.
b–5 Frank, Northwest Style, p. 106.
Dismissing lifestyle implications while faced with this project is nonsense. When asked to express the dominant driver for the design of this cottage, Tom Bender replies, “love” (1). Descriptions given to the elements this project utilizes reinforces this ideal and makes clear that Bender drew upon his intuition as much as from prescriptive measures. To give the design decisions in this project life beyond their form in this instance of their use, I will attempt to abstract out the primary principles at play. Of particular interest to this thesis are the ways in which Bender was able to bring the outside in to enhance function, inspire detail and form, and quietly embrace views from the site as an artistic expression of the marriage between inside and out.

Although clearly not for everyone, the Neahkahnie Mountain Cottage has no refrigerator. Bender’s affinity for feng shui and the importance of quiet space drove his decision to exclude elements producing harsh sound from the cottage (1). In lieu of conventional refrigeration, Bender employs an innovative approach to keeping food cool. The kitchen is located to the North of the house where sunlight is diffuse and coniferous trees provide continuous shading, which in effect creates a dark space directly outside. He uses this dark space in conjunction with the windy nature of the site to create a cool kitchen cupboard inside the kitchen. He does this by allowing the breeze and the dark space outside to infiltrate the cupboard by using a screen to separate the two. To be sure, most people of the Pacific Northwest would require a refrigerator within their home, but it begs the question, if one could create such a cool space within the home how could it be used? How could this condition be withheld, exploited, and reintroduced into a living space to enhance thermal comfort? What would be the function of this
space in terms of daily use; would this change throughout the seasons? Could the coolness of this space be trapped and reallocated to other parts of the home? Would a certain material or ventilation technique be best for transferring this coolness? Is there a correlation between Bender’s innovative technique and the layered planks used as a skin on the structures of the Northern Haida villages? It seems clear that Bender provides worthy precedent to consider the dichotomy between dark to light and cool to warm within the Pacific Northwest.

Homes in the Pacific Northwest are well known for their use of timber construction. Post and beam, board and batten, cedar shakes, and stud walls provide the generic palette for design here. Let us consider for a moment the highly repetitive use of exposed wood joists (approximately 12–16” o.c.) in many of the works by Cutler Anderson. Here emphasis is on repetition and texture. By situating such a condition next to the broad spans and intermittent use of heavy beams used by Bender allows the subtleties of timber style construction to come forth. By providing intermittent support to the floor plane above, it is my contention that Bender’s affinity for quiet is further expressed as overwhelming texture and excessive repetition are averted for simplicity. Just as the community of Nantucket embodies a sense of place or oneiric inhabitance through prescriptive uniformity, the Neahkahnie Mountain Cottage imparts a similar sense on us through intuitive design with an emphasis on the quiet and simplicity.

Where Nantucket draws upon the landscape to derive a prescriptive architectural response with the use of compact massing (to reduce joints), restriction of overhangs (welcome summer sun), and cedar shakes (tight skin), Bender clearly draws from the regionalist form as was expressed previously. In addition to his regionalist lifestyle approach, he explicitly brings artifacts from the site into the home to incite a sense of belonging with the surroundings. Evidenced by details such as pieces of driftwood from the beach below used for a door pull and
stair railing, Bender literally brings the site into the home. It is my contention that the organic feel of these elements might seem out of place had he not complimented them with other cultivated materials from beyond the sight such as weathered wood reclaimed from old chicken coops and the dining table made from an cable spool cut in half. In considering the appropriateness of such details, the question becomes how much is enough or alternatively, how much is too much? The artifacts Bender utilizes from the site all engage the hand and therefore are exploited for their tactile qualities as much as for their visual appearance. Utilizing artifacts from the site as functional details, particularly in transition spaces between outside and inside, seems to be a vehicle for continuity and seamless transition. As I consider the merit of such a designation, I believe this to be a valid strategy for reiterating, or remembering the site upon approach and entry into the inside space.
The final condition I will be considering in light of this precedent is the notion of capturing views. The Pacific Northwest is known for its quality of light and abundance of spectacular panoramas. One must rely on intuition rather than prescription to capture views, as they are intimate to a given site. Since terrain varies greatly throughout the region, each site affords the designer an opportunity to engage the surroundings by way of a framed view, such is the case in the Neahkahnie Mountain Cottage. Here the living room opens up to the coast by way of a moveable wall. This allows for a definite blurring of the line between inside and out as is popular in contemporary homes located within this region. Bender capitalizes on the view of the ocean in such a way that the opening becomes as much a pleasant view of the outside as it is a framed piece of artwork ever changing with the weather, time of day, and season. The admission of portals out into the landscape provides for surreal views and embodies the regionalist notion of a sense of place. That is, the perspective focus may remain the same but the view itself is forever linked to the state of nature beyond. The concept of a removable wall is not a new concept, we see it throughout the history of the Pacific Northwest from the open walled shelters of the Northern Haida in the 19th century and early 20th century works such as the Schindler-Chase House by R.M. Schindler, and it endures into the 21st century through the works of Bohlin-
Cywinski-Jackson and Cutler-Anderson to name a few. What can be said then about the lifestyle of the people in the Pacific Northwest given this continuous translation over time? I believe that the most likely conclusion is that it provides evidence of an overwhelming need the people have to forever be connected with the land to an extent that the boxes we confine ourselves to should never imprison us from the solace and peace we gain from our connection to place (1).

NOTES:
1 Frank, Northwest Style, pp. 116-19.

ILLUSTRATIONS:
c-1 Frank, Northwest Style, p. 117.
c-2 Frank, Northwest Style, p. 116.
c-3 Frank, Northwest Style, p. 118.
SUSTAINABLE DESIGN Tjibaou Cultural Center, Renzo Piano

Practicing architecture at the international level heightens the need for firms to approach cultural and historical precedents more critically. Architects must overcome, or at least be aware of, their own predispositions to form, functionality, and meaning. This much is true; architects must correlate design with site and the societal history that has come to define what it means to dwell on or around that site. An exemplar of such ethos is Renzo Piano and his design of the Tjibaou Cultural Center, a center dedicated to the history of the Kanak people and funded by the French government. The cultural center is located in Noumea, a city of New Caledonia located in the Southwest Pacific Islands that was until recently a French territory. Here Piano demonstrates a successful approach towards strategic incorporation of site and vernacular methodology. He does so by addressing the climatic conditions, terrain, and native plant life as well as by attempting to understand traditional form, functionality, and meaning inherent to traditional dwelling spaces. It is my opinion then, that in this project Piano addresses the site, massing, and functionality in a way that conceptually respects a long history without sacrificing the performative advantages of contemporary architectural systems integration techniques.
Wind

The site is located on a peninsula where it faces the harsh trade winds and open sea to the southeast and the calm waters of a lagoon to the west. In response to these prevailing winds, Piano orients the buildings, or ‘canonical huts’, to face the sea and make use of the prevailing winds as a means toward thermal comfort. This promotes an advanced process of natural ventilation/passive cooling. Each building mass is formed as a cross-braced double cylinder, one imbedded into the other. The external cylinder’s skin can be likened to a weave of horizontal blades made of a tropical African hardwood called iroko. These blades vary in spacing as determined by wind tunnel testing done during the design phase to understand the most effective means towards natural ventilation. The external cylinder, which decreases in opacity towards its base, coupled with the internal cylinder whose middle is airtight, promotes air circulation between the two walls that acts like a chimney. Operable valves at the base and peak of the interior shell provide a means to both breathe in cool air when shut and exhaust hot air when open. A prototype of this technology was constructed and tested in France in 1993 (1). The winds surging through the slats give the ‘huts’ a voice likened to the voice of the Kanak villages and their forests (2).
Terrain & Plant Life

The site is located on a ridgeline that protrudes out from the mainland parallel with the slender peninsula. As a foundation for his design proposal, Piano notes that “the inscription of a ridgeline in the site, which recalls the raised earthworks on which Kanak villages were built” was an important design consideration. The open path along the ridge “is conceived of as a storyline whose stages reconstruct key moments in the life of Melanesians” [ancestors to the Kanak people]. As such, the plant species incorporated into the site are endemic. As a result, local fauna invariably mix in with the buildings relationship to the site. Local flora and fauna then, are utilized as a means toward mitigating the structures ground condition. Further, Piano terraces the immediate site paying homage to traditional farming methods used by the Kanak culture (3).
Form & Structure

True to his previous works, Piano’s design for the Tjibaou Cultural Center expresses his affinity for lightness & transparency of structure. The huts synthesize modern technology with a design methodology derived from a deeply rooted vernacular building tradition. A tradition of angular column supports held together with ropes and then thatched or covered with woven, local materials. The outer ring of Piano’s huts is comprised of laminated iroko [a local hardwood] beams that are arched in profile. Woven through these columnar arches is an elegant detailing of steel cable and pin connections attaching the outer cylinder with the vertically profiled inner cylinder. This inner shell is then attached to a frame sequence of 100mm steel mullions utilizing a grasping pin connection assembly. Aside from the array of tensile connections describing the transfer of loads through the iroko shells, two large steel rings (one above the other) are inclined at a 40 degree angle and attached to the inner iroko shell and then brought down to the horizontal on the western edge of the circulation spine, or alley. In one of Piano’s meetings with the community regarding the structure for the huts— the subject of where forces in the structure become resolved became an issue. As Piano described the structure, locals became confused and adverse to the complexity of forces and elaborate detailing requisite on such a construction ethic. The people responded well, however, to his description of how the forces originate at the sky and loads travel down and become resolved at the ground (4).

Service

The facilities for the center are located along an open walk reminiscent of a traditional Kanak village. These service centers form three subsidiary villages which house varying functions from auditoriums and cafeterias to classrooms and housing. Beginning at the entrance, the three villages are located on a linear path moving “from the most public to the most calm, from communication to creation” (5).
Throughout the design for the Tjibaou Cultural Center, Piano always had one foot in tradition and the other in modern technology. His ability to extrapolate the essential tectonic values of the local vernacular and combine those strategies with his signature didactic approach towards lightness and transparency of structure literally echoes from these huts in a strong wind. The lightness of these structures speaks to the scale of local traditions, site, and passive environmental control strategies. Equally important and arguably a resultant of lightness, the transparent nature of the structure acknowledges the ephemeral qualities of the setting and the pragmatism associated with day lighting spaces. Just as the slightness of the tensile connections amongst the iroko columns serves Piano’s ethic towards modern structural expression, they are equally reminiscent of the canonical huts of the ancestral tribesmen. In short, holistic gathering marks Piano’s design approach for the Tjibaou Cultural Center.

NOTES:
1 Bensa, Entre Deux Mondes, pp. 47–8.
2 McInntry, Sea and Sky, p. 33.
4 Chaslin, The Kanak Cultural Centre at Moumea, pp. 41–8.
5 Bensa, Entre Deux Mondes, p. 45.

Credits:

ILLUSTRATIONS:
d–1 Piano, Renzo. Renzo Piano: Logbook.
d–3 Chaslin, The Kanak Cultural Centre at Moumea, pp. 41–8.
d–4 Diagram by Author.
d–5 Chaslin, The Kanak Cultural Centre at Moumea, pp. 41–8.
d–6 Chaslin, The Kanak Cultural Centre at Moumea, pp. 41–8.
d–8 Chaslin, The Kanak Cultural Centre at Moumea, pp. 41–8.
d–9 Chaslin, The Kanak Cultural Centre at Moumea, pp. 41–8.
d–12 Diagram by Author.
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