

A Collection of Annotative Essays by Nolyn Caldwell

Athabasca University

ARCH3300 Architectural Design Theory Fundamentals

Including:

1. Collection I – An annotative essay, The Point Roberts Border Crossing
2. Collection II – Fletcher-Page House & Four-Cornered Villa
3. Collection III
 - Part One: Analysis of The Howard House and B2 House
 - Part Two: Comparison of Howard House and B2 House
4. Collection IV
 - Part One: Analysis of The Parekh House, Sage House and Tye River Cabin
 - Part Two: Comparison of The Parekh House, Sage House and Tye River Cabin



ARCH330 - Architectural Design Theory Fundamentals

Collection I – The Point Roberts Border Crossing

An Annotative essay



(Figure 1, Western View of the Point Roberts Border, Mull-Hull, 1997, <http://millerhull.com/project/point-roberts/>)

Student Name:

ID: 3319032

Email: nolyn@rafiarchitects.com

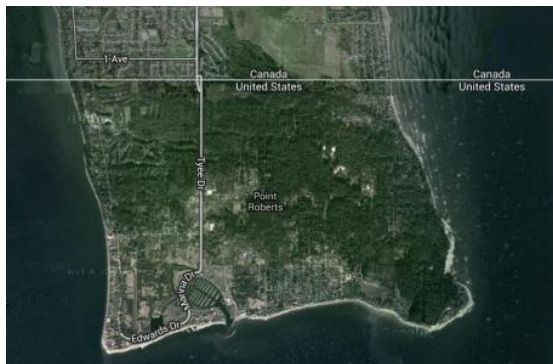
Date: Feb 20, 2017



(Figure 2, Northern view of the Point Roberts border, Mathers, Michael, 2003, <http://gsablogs.gsa.gov/gsablog/files/2015/02/Port-Roberts-LPOE.jpg>)

The Point Roberts Border Crossing

The Point Roberts Port of Entry located exactly at the 49th parallel has been fundamental in linking the United States and Canada for over a decade. Point Roberts is a peninsula, surrounded by ocean on three sides. Therefore, this border is vital to the people of Point Roberts as it is the only land crossing which links their community to the contiguous United States (Wikipedia, 2017). This



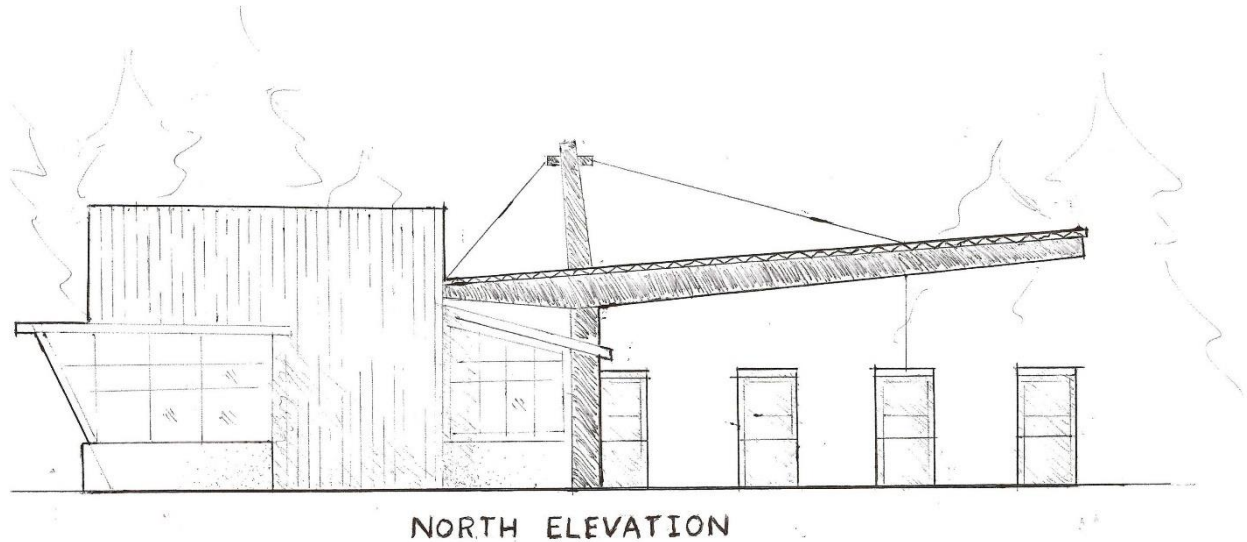
(Figure 3, Map of Point Roberts, Google Maps, 2014, <https://brokenssecrets.files.wordpress.com/2014/07/screen-shot-2014-07-29-at-11-32-54-pm.png?w=768&h=532>)



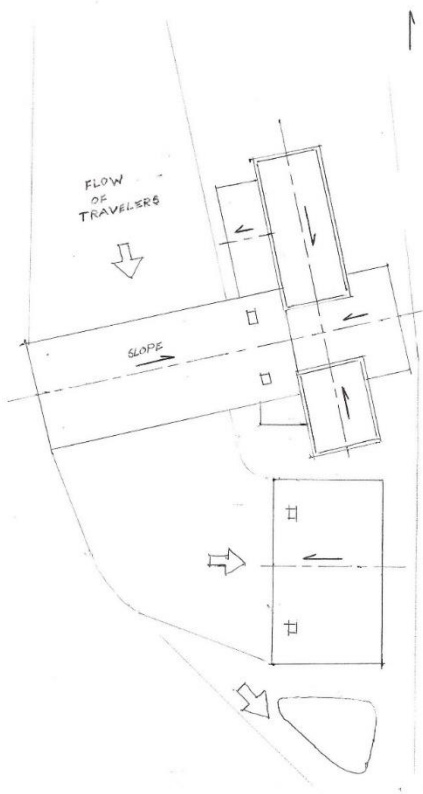
(Figure 4, North East View of the Point Roberts Border, Brion-Edwin, n.d., <http://mapio.net/pic/p-49865229/>)

project was completed in 1997 and designed by David Miller and Scott Wolf of Miller Hull (Miller & Wolf, 1997). They were commissioned under U.S. Services Administration design excellence program to create a top-quality facility in which appropriate public architectural character was present (Miller & Wolf, 1997). The project scope was aimed at replacing the old port house with much larger primary and secondary inspection areas. This would include extra car lanes and 12,000 s.f. of interior space (Miller & Wolf, 1997). Staff and visitor parking were added as well as an auxiliary storage building (Miller & Wolf, 1997). I have chosen this building because it is an important part of my community and was built with many modern architectural concepts of which I admire.

Since the beginning of trade between Canada and the US, gateway facilities such as this one have been instrumental in conveying a message to foreign traveler's byway of architectural design. In the United States nationalism in ways of border protection and sovereignty is of great importance. Symbolically this crossing represents the strength of the United States government and embodies the wealth and prosperity of the and in which it protects.



(Figure 5, Sketch of the North Elevation of the Point Roberts Border, Nolyn Caldwell, 2017)



They first impressions are important. As you arrive at the border the first thing you will notice is the roof plane suspended nearly 100 feet at approximately a ten-degree pitch (Michael, 2012). This roof section provides cover to the three passenger car lanes and was built with headroom in mind for cargo vehicles, which may pass at the extent of the roof (Miller & Wolf, 1997). The roof planes affixed to this building give character to the overall design and I believe are the most powerful elements.

In concept, the roof lines extend to an imaginary point near the center of the building, as shown in my sketches (Ching., 2007). This gives the design an inbound feeling as to draw people into the building appose to around it. This is an appropriate concept as the whole idea of a border is to funnel and inspect travelers as they entry the country.

Other planes which make this building attractive are the vertical wall planes (Ching., 2007). The different elements seen most clearly in the north elevation are shaped uniquely. The inspection building is square, the officer booths are rectangular and the roof canopy is triangular (Miller & Wolf, 1997). These shapes create unique spaces and are textured differently, yet the design appears as a single structure (Miller & Wolf, 1997). As shown above the light colour wood cladding of the northeast corner contrasts with the slanted curtain walls below.

(Figure 6, Roof Plan Showing the Flow of Travelers, Nolyn Caldwell, 2017)



(Figure 7, View of the Interior of the Point Roberts Border, Miller-Hull, 1997, <http://millerhull.com/project/point-roberts/>)



(Figure 8, Photo of the Old Point Roberts Border, Pat Hathaway, 2007, <http://www.panoramio.com/photo/2966126>)

The building is comprised of two main areas, primary inspection and secondary inspection (Miller & Wolf, 1997). Primary includes the officer booths which are located beneath the suspended roof and are said to be inspired by “the masts and sails of the boats in the water surrounding Point Roberts” (Miller & Wolf, 1997). Secondary, shown in the picture to the left is located east of primary and facilitates administration and processing (Miller & Wolf, 1997). Each facade of secondary is clad with an array of expensive materials such as exposed concrete, wood board and no shortage of glazing (Miller & Wolf, 1997). The entire interior space of secondary is triple height and divided into three main areas (Miller & Wolf, 1997). The offices allocate the east side. Seven rooms are partitioned equally and have one-way mirrors facing outwards (Miller & Wolf, 1997). The common area is comprised of office cubicles for customs agents and a front desk (Miller & Wolf, 1997). The waiting area is located in the south west corner (Miller & Wolf, 1997).

Historically, the Point Roberts crossing was much smaller than it is today, but still had an impressive design. The original crossing shown to the left had only two car lanes yet showcased a bold presence despite its small demographics. We can see the similarity between the new and the old. Both designs are modern and feature large roof elements. Apparently American architects have taken great pride in creating impressive crossings at this location for several decades.

Unfortunately, the Point Roberts border is not the only monumental landmark in the surrounding area. Approximately fifty kilometers east lies the US Peace Arch border crossing. This building competes architecturally with the Point Roberts crossing although it is three times the size and will see nearly ten times the amount of visitors annually (Jackson, 2011). The Peace Arch, much like



(Figure 9, View of the Peace Arch Border, Craig Spring, 2011, <http://www.alights.com/project/peace-arch-port-entry>)

the Point Roberts crossing showcase a modern style of architecture, with sharp planes that make a statement (Jackson, 2011). We can see that both crossing have large covered areas which shelter the officer booths and define car lanes (Jackson, 2011). Likewise, large triple height inspection buildings are common (Jackson, 2011). In both designs, similar materials are used such as steel structure, exposed concrete, curtain wall and wood cladding (Jackson, 2011). The idea of high ceilings and roof structures jives with the architect's intentions of creating an impressive first glance of the United States via the Peace Arch (Jackson, 2011). In this case the wow factor is significantly bigger due to its immense size. However bigger is not necessarily better. I believe more thought was given to the Point Roberts crossing, spite being designed and built roughly ten years earlier (Miller & Wolf, 1997). In contrast to the Point Roberts crossing this facility was designed to not obstruct the surrounding environment (Jackson, 2011). All roof planes are long and flat and do not rise above the highest elevation on the property (Jackson, 2011). There is even a green roof above the secondary parking area (Jackson, 2011).



(Figure 10, View of Canadian Point Roberts Border, Edwin Brion, n.d., <http://mapio.net/s/1354195/>)

As we see in this picture the US Point Roberts crossing has a much stronger appearance than its Canadian counterpart. It is evident that Canadian architects were indifferent when designing their crossing. Instead a greater focus was given to the functionality of the building rather than its image. Justified by the fact that ninety-five percent of travelers are returning Canadians, first impressions may not necessarily be warranted in this case.

There is one evident problem the architects may have overlooked when designing the Point Roberts crossing. From an operations point of view this crossing falls short regarding traveler wait time, especially in the summer months. As summer approaches we see a substantial increase of vacationers. This increase causes wait times exceeding two hours. An obvious solution may have been to add an extra car lane which could be opened during these busy times. As to the architecture, a strong element which apposes the suspended roof above primary may have helped balance the

design. As the location of the border is isolated from the contiguous United States a helicopter pad for emergency evacuation or the transportation of seized goods or detainees may have been a necessary item to have on site. This would replace the need for a lengthy boat ride or a trip through Canada to Blaine WA.

As the westernmost U.S. port of entry, this award winning landmark defiantly makes a good first impression to Point Roberts bound travelers. As a gateway, the design must define an entry into a foreign territory. It must be strong yet inviting. Ultimately, Miller Hull architects have succeeded in their attempt to mark an international boundary nestled in a forested setting (Miller & Wolf, 1997). their design invokes a dramatic facade of strength and power, all the while upholding a non-intimidating presents (Miller & Wolf, 1997). In my opinion the design and overall quality is exemplary granted the small population of Point Roberts. The crossing is definitely the heart the Point Roberts and neighbouring communities and plays an important role in my life. Like the cover of a book we may judge Point Roberts base on our first impressions. In this case specifically, bold architecture is very important.

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Figure 5. (Sketch of the North Elevation of the Point Roberts Border, Nolyn Caldwell, 2017).

Figure 6. (Roof Plan Showing the Flow of Travelers, Nolyn Caldwell, 2017).

Figure 7. (View of the Interior of the Point Roberts Border, Miller-Hull, 1997, <http://millerhull.com/project/point-roberts/>). In *Projects*. Retrieved from millerhull.com.

Figure 8. (Photo of the Old Point Roberts Border, Pat Hathaway, 2007, <http://www.panoramio.com/photo/2966126>). In *Photos*. Retrieved from panoramio.com.

Figure 9. (View of the Peace Arch Border, Craig Spring, 2011, <http://www.alights.com/project/peace-arch-port-entry>). In *Projects*.

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Collection II – Two Visually Annotated Essays

An Annotative essay



Figure 1 - View of Fletcher-Page House, n.d, 2014, http://mawanarcitecture.blogspot.ca/2014/02/opti-ii-arsitek-dari-australia-dan_27.html



Figure 2 - View of Four-Cornered Villa, Anders Portman and Martin Sommerschild, 2010, <http://www.avan.to/Frameset.htm>

Student Name: Nolyn Caldwell
ID: 3319032
Email: nolyn@rafiichitects.com
Date: 2-20-2017

Part 1: A Commentary on the Role that the Chosen Elements Play in Each of the Two Projects

There are many elements which play important roles in the design of both Glen Murcutt's Fletcher-Page House and Avanto Architect's Four-Cornered Villa. In both cases, we can observe how key environmental factors such as climate and geography have shape each design. Functionality has also been influential to project design, in forming the mass and fenestration. Analyzing both homes we can learn the factors which make countryside living unique and how these circumstantial issues may inspire or limit design.

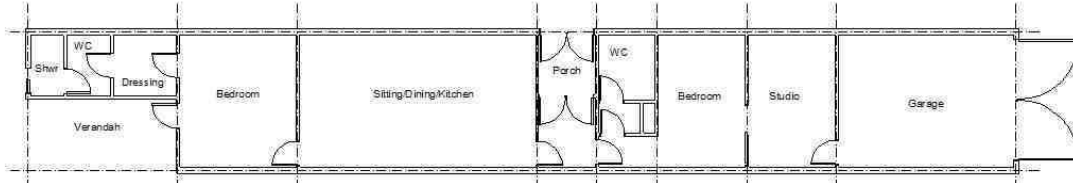


Figure 3 - Plan of Fletcher-Page House, n.d., 2011,

https://markstephensarchitectss.files.wordpress.com/2011/01/fletcher-page_plan.jpg?resize=500%2C135



Figure 4 - View of Sliding Doors, Drew Lindsay, 2009,

<http://www.drewlindsay.com.au/property/fletcher-page-house-kangaroo-valley/>

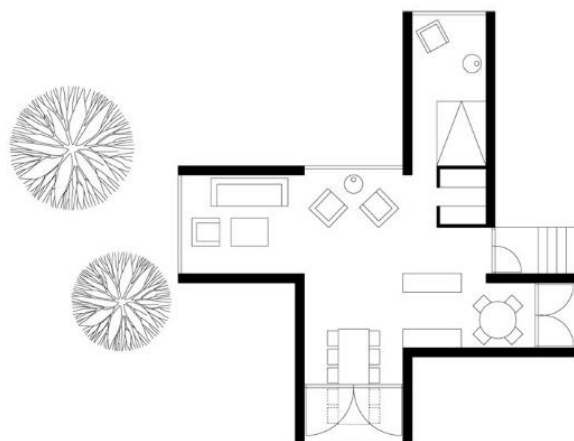


Figure 5 - Plan of Four-Cornered Villa, Avanto, 2010, <http://www.archdaily.com/129977/four-cornered-villa-avanto-architects/50141d6128ba0d3b45001203-four-cornered-villa-avanto-architects-plan>

Cottage living often demands spatial economy, as small spaces are essential to a simplistic lifestyle. Both cottages are minimalistic in design. Murcutt's Fletcher-Page House eliminates the use of corridors which allows a smaller square footage and a cozier feel (Murcutt, 1996). (see figure 3) His design however can be said to be bigger than its true footprint do to the many operable windows and sliding doors which encompass the building envelope (Murcutt, 1996). From nearly every room, a view of the surrounding mountain range can be seen (Murcutt, 1996). Sliding doors in the main area, shown in figure 4 allow the room to become as far as the eye can see (Murcutt, 1996). Partition walls as shown in figure 3, separate each room but do not divide the house completely (Murcutt, 1996). These walls do not reach the ceiling which allows sound, light and air to transfer from space to space (Murcutt, 1996). Similarly, Avanto Architect's Four-Cornered Villa economizes area by way of shape and layout (Avanto, 2010). Basic in it's form, this home has four corners (see figure 5) which create nook areas ideal for furnishings (Avanto, 2010). For example, a long dining table can be placed in a corner to not obstruct the spatial flow (Avanto, 2010). Each corner is not far from the center as the home is heated by wood only. (Avanto, 2010)

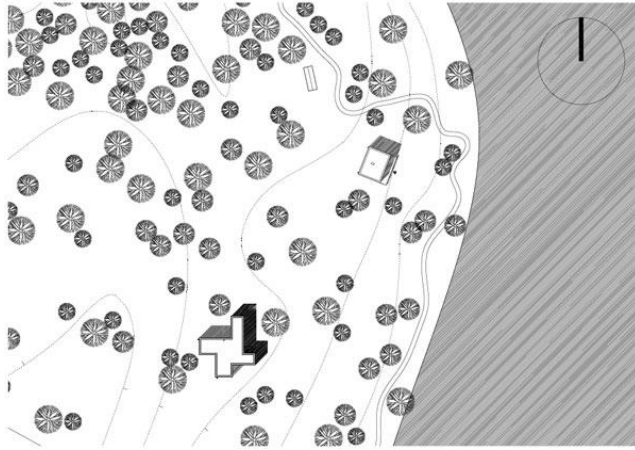


Figure 6 – Topographical Site Plan of Four-Cornered Villa showing orientation, Avanto, 2010, <http://freshome.com/2012/06/21/unusually-minimalist-four-cornered-villa-for-an-ascetic-lifestyle/>

Unlike a suburban home, a cottage can be orientated in any direction the landscape demands. Likewise, it has the freedom to be nearly any shape, size and colour without the obstruction of guidelines insisted upon by urban planners. The massing of Murcutt's Fletcher-Page House coincides largely with the topology of the native hillside (Murcutt, 1996). Orientated parallel to the hillside, it emphasizes the view of the Kangaroo Valley and makes the most of the scenery (Murcutt, 1996). The preferred orientation of the Four-Cornered Villa however may not be so certain (see figure 6). As per its rhombus shape it cannot stress a major focal point of the surrounding landscape and thus disregards any sense of direction. Instead the home aims in multiple directions, as seen in figure 6 (Avanto, 2010). In this case the home is simply orientated by true North (see figure 6).



Figure 7 – Photograph of Fletcher Page House showing orientation, n.d., 2011, <http://archicaro.unblog.fr/2011/06/20/glenn-murcutt-ou-le-fonctionnalisme-ecologique/>

The massing of Murcutt's Fletcher-Page House is comprised of only a single rectangular shaped element which extrudes uniformly (Murcutt, 1996). The roof slopes in only one direction (Murcutt, 1996). However, the building hierarchy stresses the steep pitch at which the roof runs; parallel to the hillside (Murcutt, 1996). In Avanto Architect's design of the Four-Cornered Villa, we see a more complex cluster of geometry (Avanto, 2010). The four cube shaped corners give the massing nearly two symmetrical axes (see figure 5) (Ching., 2007). These elements are situated on the same horizontal planes and have edge to edge contact (Ching., 2007). In this case ordering principles are not so apparent as we see four near identical corner elements which compete.



Figure 8 – View of Four-Cornered Villa, Anders Portman and Martin Sommerschild, 2010, <http://www.avan.to/Frameset.htm>

In conclusion, both architect's have used methods of design to create efficient and functional spaces which communicate appropriately with the project's unique climates. As small spaces are essential to a simplistic lifestyle, space efficiency has dominated design. In both cases massing parallels the beauty of surrounding nature by way of form, colour and orientation. climate and geography have also influenced design with regards to the fenestration and orientation.

Part 2: Compare and Contrast

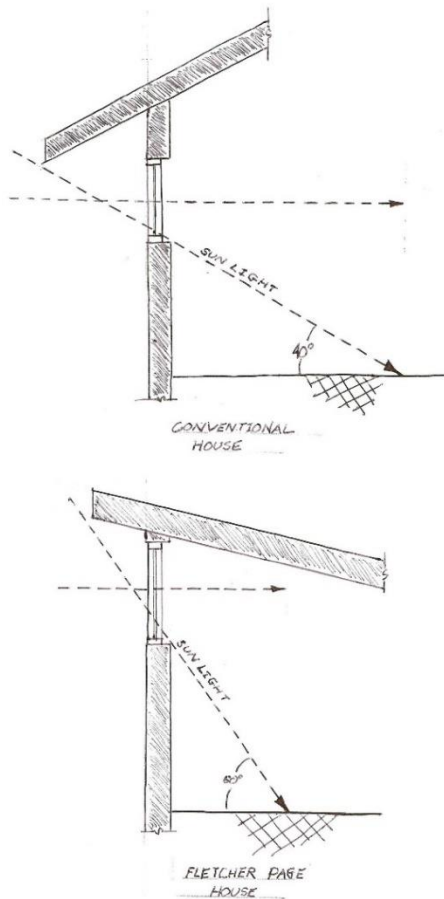


Figure 9 - Sunlight Diagram showing Fletcher-Page house vs Conventional house, Caldwell, 2017

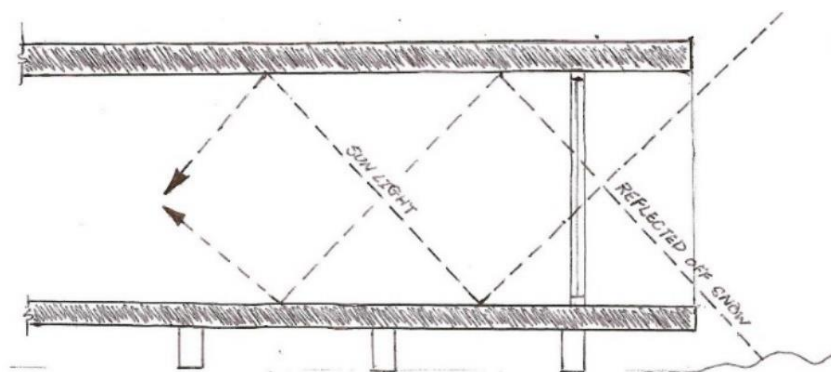


Figure 10 - Reflective Sunlight Diagram of the Four-Cornered Villa, Caldwell, 2017

There are many similarities and differences between Glen Murcutt's Fletcher-Page House and Avanto architect's Four-cornered Villa. Light, colour, space and volume are some of the key elements which make both homes unique. We observe different interpretations of a picturesque and ideal vacation home envisioned by these two architects. Coincidentally both designs showcase similar attributes, despite being situated in near opposite climates. Although both homes serve similar purposes, the way in which they portray a minimalistic countryside lifestyle is vastly different.

Natural light may not be as important in an urban environment as it is in the countryside. In rural areas, natural light is essential where electricity is not available or where the exchange of interior and exterior space is desired. Sunlight is unlike artificial light as it is always changing, by hour and by month. It is important that a vacation home maximizes the sun's potential to illuminate the interior at all hours of the day. Murcutt has taken great care when designing his Fletcher-Page House to capture the most natural light possible (Murcutt, 1996). His roof, which slopes parallel to the grade, is the primary element which allows more light to enter the home than a conventional flat or gabled roof (Murcutt, 1996). His roof design allows windows to be placed higher, which internally allows more time for sunlight to enter the home (Murcutt, 1996). As shown in figure 7, a conventional house may allow two to three hours of sunlight to enter during the morning and evening. Whereas, the Fletcher-Page House may allow four to five hours during midday (Murcutt, 1996). In this case, Murcutt has created a mass which has been largely dictated by the sun's position and

the slope of the hillside.

Windows in the Four-Cornered Villa have been placed from floor to ceiling, which definitely maximizes the sunlight entering the interior (Avanto, 2010).

However, these windows are located furthest away from the center of the home, which allows less sunlight to reach the core.

The property is heavily forested, which means sunlight may

naturally be sparse. To solve this problem, Avanto architects have illuminated the interior by way of reflected light (Avanto, 2010). Using light-colored interior finishes as seen in figure 11, natural light can be reproduced and preserved (Avanto, 2010). This small amount of natural light may illuminate and remain inside the home as it reflects off the walls, ceiling and floor, as shown in figure 10 (Avanto, 2010). Unlike the Fletcher-Page House, the sun has not dictated the orientation of the Four-Cornered Villa.



Figure 11 - Picture of the interior space of The Four-Cornered Villa, Avanto, 2010, <http://www.avan.to/tupa/022.htm>



Figure 12 – Photograph of Fletcher Page House, Guess Who, 2003, <https://www.flickr.com/photos/78604623@N00/174665412>



Figure 13 - Photo of interior space of Fletcher-Page House, Guess Who, 2003, <https://www.flickr.com/photos/78604623@N00/17466559>

Climate may help or hinder design. In these cases, climate has played a major role in how glazing and colour is used to connect the interior with the surrounding environment. On one hand, we see an abundance of operable doors and windows in Murcutt's Fletcher-Page House. In south eastern Australia, there is no need for a thermal barrier as the temperature is moderately high year-round (Wikipedia, 2016). On the other hand, Avanto Architect's Four-Cornered Villa, located in the coniferous climate of Finland, demands large amounts of insulation and less glazing to protect the dwelling from the sub-zero temperatures. In place of an abundance of windows Avanto architects have connected the interior with exterior by way of colour (Avanto, 2010). From inside, the light colour scheme matches the snow on the exterior, seen in figure 11 (Avanto, 2010). From the outside, the dark exterior scheme matches the surrounding tree scape, seen in figure 8 (Avanto, 2010). As mentioned by Murcutt in his interview, the spiritual similarity between place and nature is very important to Finnish architects (Murcutt, 1996). Avanto architects have used colour as well as light to connect the home with nature (Avanto, 2010).

Both architects share the idea of independence and self reliability in their designs. The use of a rainwater recycling system in Murcutt's Fletcher-Page House allows occupants the freedom to be self-reliant and not depend on this city service (Murcutt, 1996). Still, the home provides all necessary comforts within a simplistic rectangular layout (Murcutt, 1996). Similarly, Avanto's Four-Cornered Villa is completely self-reliant for heat, electricity and water (Avanto, 2010). The home is heated by a wood burning fireplace and lite by use of solar power (Archdaily, 2011). Independence is a fitting description of these homes as it parallels the freedom of nature and contrast the captivity of a megalopolitan.



Figure 14 - Photo of Fletcher Page house, Guess.Who, 2003, <https://www.flickr.com/photos/78604623@N00/174662012/in/gallery-43355952@N06-72157627518888029/>



Figure 15 – Photo of Four Corner Villa, Anders Portman and Martin Sommerschild, 2010, <http://www.archdaily.com/129977/four-cornered-villa-avanto-architects/50141d4228ba0d3b450011fb-four-cornered-villa-avanto-architects-photo>

Murcutt's idea of the possible similarities between landscape and culture in ways of spirit, place and nature, is recognised in the design of both his Fletcher-Page House and Avanto's Four-Cornered Villa. In both cases, spirit of the countryside inspires an independent and self-aided culture. Similarly, place symbolizes a brief separation from urban culture and inspires a lifestyle of harmony in nature. This is especially important in Finland as the cold climate creates a tougher barrier to break between the interior and exterior.

The idea of a vacation home situated in nature is an idea shared by both Glen Murcutt and Avanto Architects. Themes which accompany their idea are defined by luxury, efficiency, sustainability simplicity and above all the ability to connect with nature. Both architects have used different techniques to portray a countryside lifestyle connected to the local environment. Their attempts to make the most of nature are different due to climate and geography, yet their vision remains the same. Natural light is used to benefit the dwelling owners where artificial lighting is unnecessary or unwanted during the day time. Natural light is maximized by using reflected surfaces or simply higher window placement. Climate has inadvertently had a hand in shaping both homes. The amount of glazing and its ability to illuminate interior spaces is dictated by climate. The warm temperature of Southeastern Australia allows Murcutt to instill a sense of openness by using an abundance of operable doors and windows in his design. Where as, colder temperatures have limited the amount of glazing in Avanto Architect's design of the Four-Cornered Villa. The architects have mimicked the landscape. In Murcutt's Fletcher-Page House this is achieved by the orientation and form of this design. In Avanto's Four-Cornered Villa this is achieved by matching colours with nature. The difference in climate, colour, style and design is evident. However, both homes have pioneered new aspects of

design dictated by nature and subsequently replicated by many other architects.

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Figure 1 - View of Fletcher-Page House, n.d, 2014, http://mawanarcitekture.blogspot.ca/2014/02/apti-ii-arsitek-dari-australia-dan_27.html	1
Figure 2 - View of Four-Cornered Villa, Anders Portman and Martin Sommerschild, 2010, http://www.avan.to/Frameset.htm	1
Figure 3 - Plan of Fletcher-Page House, n.d., 2011, https://markstephensarchitectss.files.wordpress.com/2011/01/fletcher-page_plan.jpg?resize=500%2C135	1
Figure 4 - View of Sliding Doors, Drew Lindsay,2009, http://www.drewlindsay.com.au/property/fletcher-page-house-kangaroo-valley/	1
Figure 5 - Plan of Four-Cornered Vila, Avanto, 2010, http://www.archdaily.com/129977/four-cornered-villa-avanto-architects/50141d6128ba0d3b45001203-four-cornered-villa-avanto-architects-plan	1
Figure 6 – Topographical Site Plan of Four-Cornered Villa showing orientation, Avanto, 2010, http://freshome.com/2012/06/21/unusually-minimalist-four-cornered-villa-for-an-ascetic-lifestyle/	1
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Figure 8 - View of Four-Cornered Villa, Anders Portman and Martin Sommerschild,2010, http://www.avan.to/Frameset.htm	1
Figure 9 - Sunlight Diagram showing Fletch-Page house vs Conventional house, Caldwell, 2017	1
Figure 10 - Reflective Sunlight Diagram of the Four-Cornered Villa, Caldwell, 2017	1
Figure 11 – Photograph of Fletcher Page House, Guess Who, 2003, https://www.flickr.com/photos/78604623@N00/174665412	1
Figure 12 - Picture of the interior space of The Four-Cornered Villa, Avanto, 2010, http://www.avan.to/tupa/022.htm	1

Figure 13 - Photo of interior space of Fletcher-Page House, Guess.Who, 2003, https://www.flickr.com/photos/78604623@N00/174666559	1
Figure 14 - Photo of Fletcher Page house, Guess.Who, 2003, https://www.flickr.com/photos/78604623@N00/174662012/in/gallery-43355952@N06-72157627518888029/	1
Figure 15 – Photo of Four Corner Villa, Anders Portman and Martin Sommerschild, 2010, http://www.archdaily.com/129977/four-cornered-villa-avanto-architects/50141d4228ba0d3b450011fb-four-cornered-villa-avanto-architects-photo	1

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Collection III – Two Visually Annotated Essays

An Annotative essay

Name: Nolyn Caldwell
ID: 3319032
Email: nolyn@rafiichitects.com
Date: May 02, 2017

Part One: Analysis of The Howard House and B2 House
Part Two: Comparison of Howard House and B2 House

Analysis and Comparison

Howard House, Canada by Brian MacKay-Lyons



Figure 1-View of Howard House, James Steeves, 1996,
<http://www.mlsarchitects.ca/howardhouse.htm>

B2 House, Turkey by Han Tümerterkin



Figure 2-View of B2 House, n.d., 2001
<http://otekikafalar.blogspot.ca/>



Figure 3 - Context Photo of Howard House, Google Earth, 2015

Located in the small town of West Pennant, Canada, the Howard House is a single-family residency which offers a unique and striking design that opposes conventional architecture of the surrounding neighborhood.



Figure 4 - Context Photo of B2 House, Google Earth 2015

Situated on the hillside of Büyükhüsün Turkey, the B2 House is a single-family residency which towers above the landscape as a monument of architecture.

Analysis

A house, identified by its design and perceptual character parallels the lifestyle of those who live within its walls. Architects use several techniques to identify a unique atmosphere and quality of life dictated by the purpose and location of their project dwelling. The extent to which element such as context, geometry, hierarchy, spatial organization and symmetry take part in the design of both the Howard House and B2 House, are greatly evident. Visually, these homes appear bold and striking. However, both projects are more complex than what meets the eye. Both architects use materials appropriate to their local environment and assemble them in ways which inform each mass.



Figure 5 - B2 House From a Distance, Cemal Emden, 2001, <https://divisare.com/projects/296654-han-tumertekin-cemal-emden-b2-house>

Context is an important factor which may impact a project well after it has been built. In an urban setting, context can refer to ways in which a building associates or changes its surrounding neighborhood. The idea of matching colour, height and density of a municipal community limits design where local authorities trump the imagination of architects wishing to create artistic structures. Context can also limit volume, massing, orientation, and even propose. In the countryside however, context can be referred to the way in which a building associates or changes the surrounding nature. The Howard House located in the small town of West Pennant has not been limited by city by-laws regarding context. The freedom of the countryside parallels the freedom of the architectural potential. Canadian architects Brian MacKay-Lyons were free in creating a uniquely shaped mass which has no negative impact on its surroundings, as seen in figure 6. The house's abnormal shape matches the irregularity of the local topology and is very fitting to the landscape (MacKay-Lyons, 1996). Similarly, Turkish architect Han Tümertekin rivals neighboring homes by way of orientation, shape and colour, as seen in figure 4. His B2 House features a flat roof and purely rectangular shaped mass. Materials and finishes used, although proper to the local environment are not evident amongst surrounding homes (Tümertekin, 2001). This home is obvious when seen by afar and contrasts surrounding dwellings, as seen in figure 5.



Figure 6 – View of Howard House, James Steeves, 1996, <http://www.archdaily.com/135238/howard-house-mackay-lyons-sweetapple-architects/5014550128ba0d5b49000aad-howard-house-mackay-lyons-sweetapple-architects-photo>



Figure 7 - B2 House closed, Cemal Emden, 2001, <http://www.akdn.org/pt/architecture/project/b2-house>



Figure 8 - B2 House Open, Cemal Emden, 2001, <http://www.akdn.org/pt/architecture/project/b2-house>

Geometry and the transformation of shape and form are the foremost characteristics apparent any building or structure. The geometry of The Howard House is striking and angular. A singly sloped roof spans the entire length of the home, as seen in figure 6. The shape is slender and tall, measuring only twelve feet wide by one-hundred and ten feet long. Its narrow shape creates a dramatic presence. The home grows in size as the massing transforms from the northwestern side to southeastern side, towards the sea (MacKay-Lyons, 1996). The B2 House however lacks the transformation of its geometry as it is comprised of only a single cube shaped mass. This cube is not accompanied by any other form of mass. Simplistic nonetheless, it's form is sophisticated with regards to its entirely adjustable front facade, where operable windows may change the home's appearance, as seen in figure 7 and 8 (Tümertekin, 2001).

In most cases hierarchy in architecture expresses a roof element where geometry transforms towards a focal point. Such elements are placed in patterns which rank them as per their significance and purpose, typically from the ground up (Ching, 2015). At first glance hierarchy atop the Howard House is very apparent, see figure 9. The roof, which slopes aggressively towards the sea, spans the entire distance of the home. It mirrors the slope of the hillside below creating the illusion of an even greater roof pitch (MacKay-Lyons, 1996). This theme is what characterizes the home. Hierarchy apparent the B2 House is not stressed by an angled roof or abnormal geometry. Rather it's simplistic cube shape allows fenestration to become more important than it may otherwise be. Exposed concrete wrapping completely around the house on either side emphasizes its elementary nature (Tümertekin, 2001).



Figure 9 - Hierarchy atop the Howard House, James Steeves, 1996, <http://www.buildingsarecool.com/new-blog/ghost-lab>



Figure 10 – Interior Space of the Howard House, James Steeves, 1996,
<http://www.mlsarchitects.ca/howardhouse.htm>

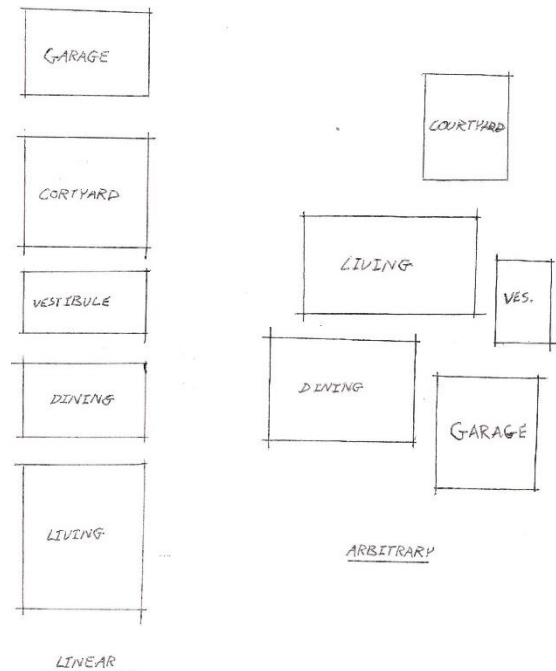


Figure 11 - Sketch of space & layout, Nolyn Caldwell, 2017



Figure 12 – Interior of the B2 House, Cemal Emden, 2004, https://archnet.org/sites/4371/media_contents/36062

Spatial organization is particularly important in single family dwellings. The idea of defining space by size, location and atmosphere is apparent in both the Howard House and B2 House. The connection of Nova Scotia's love for waterfront living is joined by a passion of contemporary architecture. Historically waterfront living has been fundamental to the maritime community as fishing has been a way of life. The Howard House is no exception. Architect Brian MacKay-Lyons connects land and sea by an unconventional layout. Spatial organization is unique in this case as the buildings footprint has been dictated by its mass. The Howard House measures twelve feet wide by one-hundred and ten feet long. Yet, the home has live/dining area, kitchen and a garage connected by a courtyard. As seen in Figure 11, It's long and narrow footprint allows spaces to be ordered in only a linear manner appose to arbitrary. Although all spaces are the same width, changes in height defines and separate each area without the use of partition or corridor walls. This creates an efficient layout which optimizes usable space (MacKay-Lyons, 1996). Square or rectangular floor plates typically allow the most efficient spatial layout. The B2 House's simplistic rectangular footprint maximizes space and allows opportunity for each space to include a window which overlooks the countryside. Its spaces are minimalistic, yet offer vast openings which disrupt the distinction between interior and exterior space, as seen in figure 12 (Tümerterkin, 2001).



Figure 13 - Side of B2 House, Cemal Emden, 2001, <https://divisare.com/projects/296654-han-tumertekin-cemal-emden-b2-house>

symmetry may help us discover a greater level of complexity apparent a building's massing. The Howard House has only one symmetrical axis. The home can be mirrored along an imaginary datum which runs lengthwise. Each side is very simple (MacKay-Lyons, 1996). The B2 House has two symmetrical axes' which in concept may split the home by both its width and length (Tümertekin, 2001).

Designing projects situated in two different countries, architects Brian MacKay-Lyons and Han Tümertekin have succeeded in their attempts to convey bold and striking architecture as per their unconventional approaches. Mass intentionally rival neighbouring homes with regards to shape, size and colour. The transformation of geometry has been considered whether byways of massing or fenestration. Both homes have hierarchy at which architectural elements are ranked, in some cases by form and others by material. On one hand, spaces within the Howard House are arranged linearly, eliminating the need for partition or corridor walls (MacKay-Lyons, 1996). On the other hand, spaces within the B2 House are conventionally shaped, maximizing efficiency and focusing primarily on connecting the interior with the exterior (Tümertekin, 2001). Symmetry, in both cases can help us understand and define elements of the architecture.

Comparison

There are many similarities and differences between both Brian MacKay-Lyon's Howard House and Han Tümertekin's B2 House. Features apparent the Howard House are immediately noticeable, while features apparent the B2 House may not be entirely noticeable a first glance. In both cases climate, has influenced design in ways of fenestration, mass and layout. The environment and culture of each local demands unique materials and building practices. As in any project, orientation is fundamental to a building's ability to connect with its surroundings. The intent of both architects and propose to which each home serves becomes evident as we discover the concept revolving their designs.



Figure 14 -View through Howard House, James Steeves, 1996 <http://www.mlsarchitects.ca/howardhouse.htm>

In the countryside, climate may have a greater influence on design as local temperature dictates the openness of any building envelope. Warm climates allow more glazing and cooler climates allow less glazing. The Howard House, located on the east coast of Nova Scotia is situated in a marine coastal climate which receives an average annual rainfall of 80mm (weather, 2017). This climate is not suitable for extensive glazing or large decks. As such, the Howard House admits little indoor/outdoor space and less glazing. Nevertheless, the architecture embraces the cool year-round temperature as per it's linear construct. Like a ship, the layout compresses each space (MacKay-Lyons, 1996). Without the warm year-round climate of the Aegean coast the B2 House may not embody a character of openness to the surrounding landscape. This home is literally open to the elements as it's front facing façade completely opens confusing the division between indoor and outdoor space, as seen in figure 15 (Tümertekin, 2001).



Figure 15 – Interior of B2 House, [overdo3](https://wewastetime.files.wordpress.com/2012/01/b2-groundfloorinterior2.jpg), <https://wewastetime.files.wordpress.com/2012/01/b2-groundfloorinterior2.jpg>

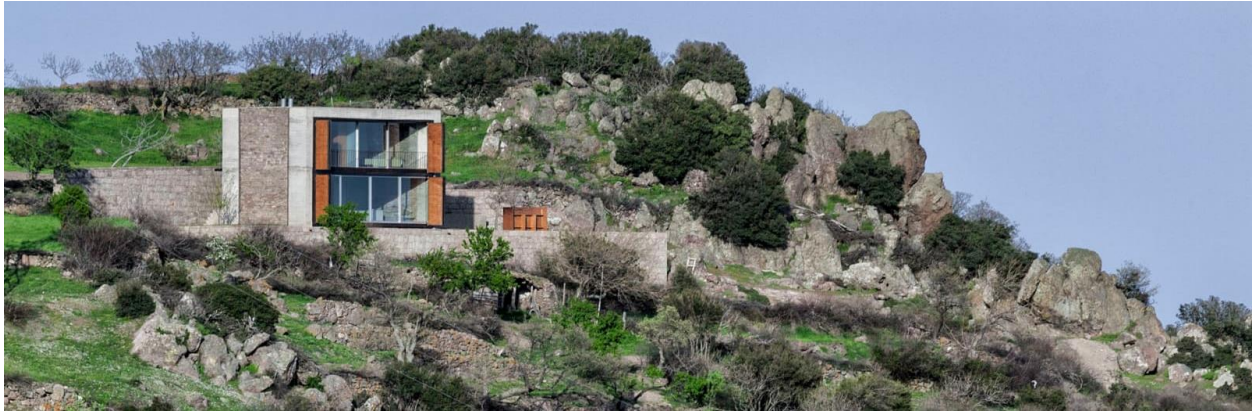


Figure 16 – B2 atop Hillside, Cemal Emden, 2001, <https://divisare.com/projects/296654-han-tumertekin-cemal-emden-b2-house>

The ability to adapt to the changing seasons, adjust spaces and connect with surrounding nature is an important attribute which both the Howard and B2 House share. Spaces within the Howard House are arranged compactly, defending dwellers against the cool and windy environment which surround the home. Few windows are placed on the building envelope, conserving heat loss and diminishing the amount of natural light which may enter the home (MacKay-Lyons, 1996). In contrast, the B2 House has one façade completely open to the surrounding environment. The warm inviting temperatures of western Turkey does not threaten the atmosphere of within the home and thus this large opening is appropriate. It defines the home as only a shelter from sun or rain rather than a complete protection of external elements (Tümertekin, 2001).



Figure 17 – Materials of Howard House, James Steeves, 1996, <http://www.archdaily.com/135238/howard-house-mackay-lyons-sweetapple-architects/501454f028ba0d5b49000aaa-howard-house-mackay-lyons-sweetapple-architects-photo>

Materials proper to the environment, culture and colour of a project location enhances its design. In both homes materials, have been used in alternative ways to convey a concept of unity with nature. Materials on the façade of the Howard House are wood, steel and concrete. Some structural components such as steel beams and wood studs above the courtyard have been left exposed, adding to the buildings appearance. Basic plyboard has been used as a finish in the courtyard as well as an abundance of wood finishes on the interior. Exposed concrete has been used to anchor the home to the ground and seemingly match the colour of the boulders below, as seen in figure 17 (MacKay-Lyons, 1996). The B2 House strays from conventional design by establishing a similarity between exterior and interior materials. From inside, the stone and concrete walls are obvious and match the cladding of the exterior, as seen in figure 16. This is another way in which the architecture confuses the distinction between exterior and interior space, rendering both spaces equal (Tümertekin, 2001).



Figure 18 – Orientation of B2 House, Cemal Emden, 2001, <https://divisare.com/projects/296654-han-tumertekin-cemal-emden-b2-house>



Figure 19 - Howard House Courtyard, James Steeves, 1996, <http://www.mlsarchitects.ca/howardhouse.htm>

Nowhere else is the awareness of orientation more important than in a rural setting. Where land meets sea or a mountain peaks, the ideal view can easily be found. When constructing the Howard House architects used unconventional methods to embrace the nearby oceanfront. Typically, a large seaward facing façade is indicative of waterfront real-estate which is intended to maximize the ocean view. Yet the Howard House exhibits a seaward façade of only twelve feet wide. To compensate for its small seaward façade the design allows a view of the ocean to be seen from every room including from the rear, as seen in figure 19 (MacKay-Lyons, 1996). The B2 house is positioned such to encapsulate the scenery of the descending mountain range, as seen in figure 18. It is through the unprotected south façade which light, sound and air may enter the home (Tümertekin, 2001).

On one hand, a theme of simplicity by way of layout is the idea of architects Brian MacKay-Lyons, aiming to create a simple yet unconventional mass. A mass which is slender but long, defines the layout as several small spaces are ordered linearly (MacKay-Lyons, 1996). On the other hand, a theme of simplicity by way of geometry is the idea of architect Han Tümertekin, where mass allows uninterrupted spatial movement rather than dictating the layout (Tümertekin, 2001).

In conclusion, there are many noticeable similarities and differences between both the Howard House and B2 House. We have discovered the values revolving design and the possible consequences which result. Unconventional in form, the Howard House stands tall and slender. Its form is the leading characteristic which defines the homes intent as simply a linear arrangement of interior spaces. The design summarizes the architect's idea of both simple and bold architecture, fastened by finishes true to the local. Hierarchy atop the home stresses the extents of which the sloped roof reaches (MacKay-Lyons, 1996). Conservative by design, the B2 House leaves little to the imagination. Its rudimentary form showcases little hierarchy as its shape is nearly a perfect cube. To some extent the pattern of the exterior displaying native stone sandwiched between two bands of concrete acts as the only eye grabber. In this case the theme of design is simplicity above all else. A fourth wall which is missing from the home provides dwellers with a complete and unobstructed view of the Aegean countryside. Each room is furnished minimally, directing yet more attention away from the home. The interior walls match the cladding on the exterior giving residents the sense of living outside the home rather than inside. The home's ultimate intent is to defined a simplistic lifestyle inspired by surrounding nature (Tümertekin, 2001).

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Figure 1-View of Howard House, James Steeves, 1996, <http://www.mlsarchitects.ca/howardhouse.htm>

Figure 2-View of B2 House, n.d., 2001 <http://otekikafalar.blogspot.ca/>

Figure 3 - Context Photo of Howard House, Google Earth, 2015,

Figure 4 - Context Photo of B2 House, Google Earth 2015

Figure 5 - B2 House From a Distance, Cemal Emden, 2001, <https://divisare.com/projects/296654-han-tumertekin-cemal-emden-b2-house>

Figure 6 – View of Howard House, James Steeves, 1996, <http://www.archdaily.com/135238/howard-house-mackay-lyons-sweetapple-architects/5014550128ba0d5b49000aad-howard-house-mackay-lyons-sweetapple-architects-photo>

Figure 7 - B2 House closed, Cemal Emden, 2001, <http://www.akdn.org/pt/architecture/project/b2-house>

Figure 8 - B2 House Open, Cemal Emden, 2001, <http://www.akdn.org/pt/architecture/project/b2-house>

Figure 9 - Hierarchy atop the Howard House, James Steeves, 1996, <http://www.buildingsarecool.com/new-blog/ghost-lab>

Figure 10 – Interior Space of the Howard House, James Steeves, 1996, <http://www.mlsarchitects.ca/howardhouse.htm>

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Figure 13 - Side of B2 House, Cemal Emden, 2001, <https://divisare.com/projects/296654-han-tumertekin-cemal-emden-b2-house>

Figure 14 -View through Howard House, James Steeves, 1996 <http://www.mlsarchitects.ca/howardhouse.htm>

Figure 15 – Interior of B2 House, [overdo3](https://www.overdo3.com), <https://wewastetime.files.wordpress.com/2012/01/b2-groundfloorinterior2.jpg>

Figure 16 – B2 atop Hillside, Cemal Emden, 2001, <https://divisare.com/projects/296654-han-tumertekin-cemal-emden-b2-house>

Figure 17 – Materials of Howard House, James Steeves, 1996, <http://www.archdaily.com/135238/howard-house-mackay-lyons-sweetapple-architects/501454f028ba0d5b49000aaa-howard-house-mackay-lyons-sweetapple-architects-photo>

Figure 18 – Orientation of B2 House, Cemal Emden, 2001, <https://divisare.com/projects/296654-han-tumertekin-cemal-emden-b2-house>

Figure 19 - Howard House Courtyard, James Steeves, 1996, <http://www.mlsarchitects.ca/howardhouse.htm>

ARCH330 - Architectural Design Theory Fundamentals

Collection IV

An Annotative essay

Name: Nolyn Caldwell

ID: 3319032

Email: nolyn@raffiarchitects.com

Date: Wednesday, June 28, 2017

Part One: Analysis of The Parekh House, Sage House and Tye River Cabin

Part Two: Comparison of The Parekh House, Sage House and Tye River Cabin

Analysis

First Impressions



Figure 4 - Image of the Parekh House, n.d, 1968, <https://ebuild.in/gallery/parekh-house-charles-correa-associates?id=14781>

The Parekh House – Completed in 1968 the Parekh House stresses the idea of sustainability and longevity, pioneering new concepts used in modern residential architecture. Designer Charles Correa receives several awards including the 1984 Royal Gold Medal in Architecture for his ideas revolving the concept and construction of this archaic passive house, where living space is divided between and earmark for summer and winter months (Khan, Hasan-Uddin, 1987).



Figure 5 - Image of Sage House, n.d, 2008, <http://www.predock.com/SageHouse/sage.html>

The Sage House – Centralized by the vast and desolate landscape surrounding this home, the Sage House showcases both passive and practical design, embodying the American ideal. Architect Antoine Predock have instilled characteristics of a solitude yet in many ways have linked living space with the surrounding vista. This home includes several architectural features exemplifying its inclusive hierarchy (Predock, 2008).



Figure 6 - Image of Tye River Cabin, n.d, 2006, <http://www.olsonkundig.com/projects/tye-river-cabin/>

The Tye River Cabin – Situated in the secluded bush of eastern Skykomish Washington, this simple cabin connects dwellers to surrounding nature in ways uncommon to conventional architecture. Architects Tom Kundig & Kirsten Murray, envision living space shared between the interior and exterior. The instillation of operable windows, doors and generous overhangs are the two foremost ways which define the cabin's intent (Kundig, 2006).



Figure 4 - Context of The Parekh House
India, Google Earth, 2015

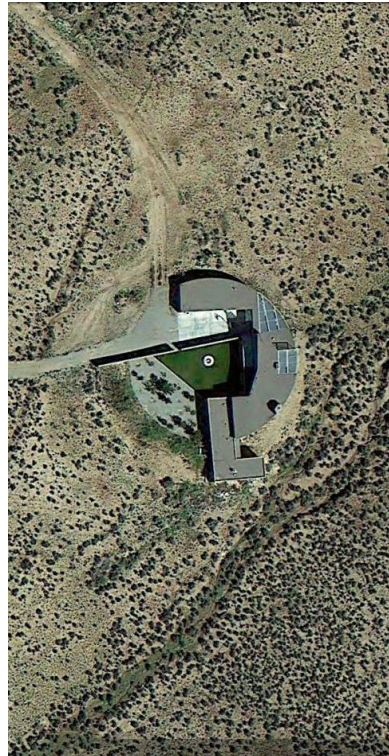


Figure 5 - Context of Sage House USA,
NM, Google Earth, 2016



Figure 6 - Context of the Tye River Cabin
USA, WA, Google Earth, 2015

To understand the intentions of an architect, we must first analyze the context to which their project exists. Features of topography such as vegetation, mountain ranges, rivers, the vicinity of neighbouring buildings, as well as municipal law will impact design. As seen above in figures 4,5,6 each project exists within an environment which reflects its design intent. In India, the Parekh House bids an urban approach to modern day living, while the Sage House and Tye River Cabin offers a disconnected way of life. In theory, the subjectivity of design based on factors present the vicinity will allow greater communication between the house and nature. We see the difference of urban verses rural contexts where property boundaries of city neighborhoods such as in figure 4, limit scale, shape and form. In India, urban building bylaws may not have as great of an influence on design as they will in North America. Nevertheless, architect Charles Correa has still been limited to a design which corresponds to the surrounding buildings and fits within the property boundaries (Correa, 1968). The Sage House's circular shape has been determined by the vast landscape which surrounds the house. Located far away from any geographical feature or city, the home overlooks 360 degrees of landscape (Predock, 2008). Trees and thick brush surrounding the Tye River Cabin, disconnects the home from its neighbors and thus disassociates with the context. Not even the Tye River, located 200 feet west of the cabin is considered a focal point (Kundig, 2006).

In both the city and countryside, orientation is key in the design of residential architecture. The sun can be used to the advantage of dwellers for heat and electricity, however it can also be a detriment. Charles Correa's was limited to the orientation of the property and thus was unable to orientate his Parekh House in a direction which could optimize the sun's potential for heat in the winter and shade in the summer (Correa, 1968). As views surrounding the Sage House are diverse, a preferred orientation cannot be found. Instead the house's circular mass allows views from every direction and seems to have no orientation (Predock, 2008). Likewise, the orientation of the Tye River Cabin is not important as there is no focal point considered within the surround area (Kundig, 2006).



Figure 7 - Winter Snow atop the Sage House, n.d., 2008, <http://www.predock.com/SageHouse/sage.html>

Climate may certainly be the most obvious factor limiting or forgiving project design, especially in passive architecture. Climates can also vary within city neighbourhoods or mountain valleys as local topography may impact temperature and the amount of sunlight. Hot dry temperatures of Ahmadabad India make reason for living space which can be adjusted to suit seasonal and micro-climates which exist within the urban area surrounding the Parekh House. Architect Charles Correa has instilled a concept of spatial separation allowing use in both summer and winter months. Like armor, horizontal fins are placed atop the roof sheltering the home from the sun and providing shade to the roof deck below (Correa, 1968). In Taos New Mexico, temperatures can range from 0 to 20 Celsius on a daily basis (usclimatedata, 2017). The Sage House offers defence against both Hot daytime temperatures and cool nighttime temperatures. During the day, light coloured fenestration and an abundance of glazing reduces the amount of heat transferred to within the house, generated by the desert sun and allows the escape of heat trapped inside. At night, several wood burning fireplaces provide ample warmth to the house. A micro-climate is created by walls sheltering the central courtyard from strong winds (Predock, 2008). Temperatures of central Washington are moderate year-round, though heavy rainfall has influenced the design and service of the Tye River Cabin. To direct water away from the house six foot overhangs encompass the envelope. Intern windows and doors can be opened even during rainy weather, as seen in figure 8. A cooler and darker micro-climate created by the tree canopy prompts the use of more energy required to heat and illuminate the cabin, though the many windows and doors allow a substantial amount of natural light to enter during the daytime (Kundig, 2006).



Figure 8 - Photo Showing natural light - Tye River Cabin, Tim Bies, 2006, <http://www.olsonkundig.com/projects/tye-river-cabin/>



Figure 9 - Brick on the Parekh House, gurmeet akal, 2005, <https://www.flickr.com/photos/76217140@N00/73569299/sizes/l>



Figure 10 - Materials used in the Tye River Cabin, Time Bies, 2006, <http://www.olsonkundig.com/projects/tye-river-cabin/>

The use and strategic placement of materials and their associated colours underlie an architect's response to surrounding nature. Lumber, steel, masonry, concrete and Adobe are materials which are used not only by means of structural use but also in ways of aesthetics which inform the mass and interior facade. Used abundantly in the construction of Charles Correa's Parekh House, brick bears strong defense against the hot temperatures of Ahmadabad, India. This material has been chosen due to its low transfer of heat, longevity, availability and in-expense. As seen in figure 9, the dark brick contrast the light coloured sun fins (Correa, 1968). Although most of the Sage House's envelope is comprised of glazing, we observe the integration of the local material adobe, surrounding the courtyard (Predock, 2008). As typically used in the construction of single family dwellings in New Mexico, adobe is an inexpensive alternative to steel or timber. Much like conventional brick adobe is simple to manufacture and easy to install, as seen in figure 11. It contains properties which allow it to be load bearing and has a higher R-value than concrete, minimizing the use of insulation (wiki, 2017). Timber on the other hand, is the most plentiful natural resource in the Pacific North-West. As such, buildings in this region are mainly wood frame or comprised of some sort of wood finish, associated to the design. In the case of the Tye River Cabin, we notice the use of timber as both a structural element as in the top cord roof beams and visual element, as in the hard wood floors, seen in figure 10. Concrete also plays a dual role and is left unfinished as per traditional northwestern architecture. The contrast of colours between the brown wood and light grey concrete informs not only the appearance of the cabin but also exemplifies its place in nature (Kundig, 2006).

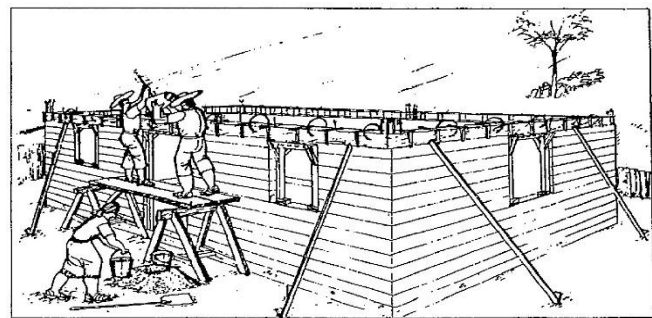


Figure 11 - Illustration Showing the Construction of Adobe Walls, Roland Stulz, Kiran Mukerji, Appropriate Building Materials, <http://www.nzdl.org/gsdmod>

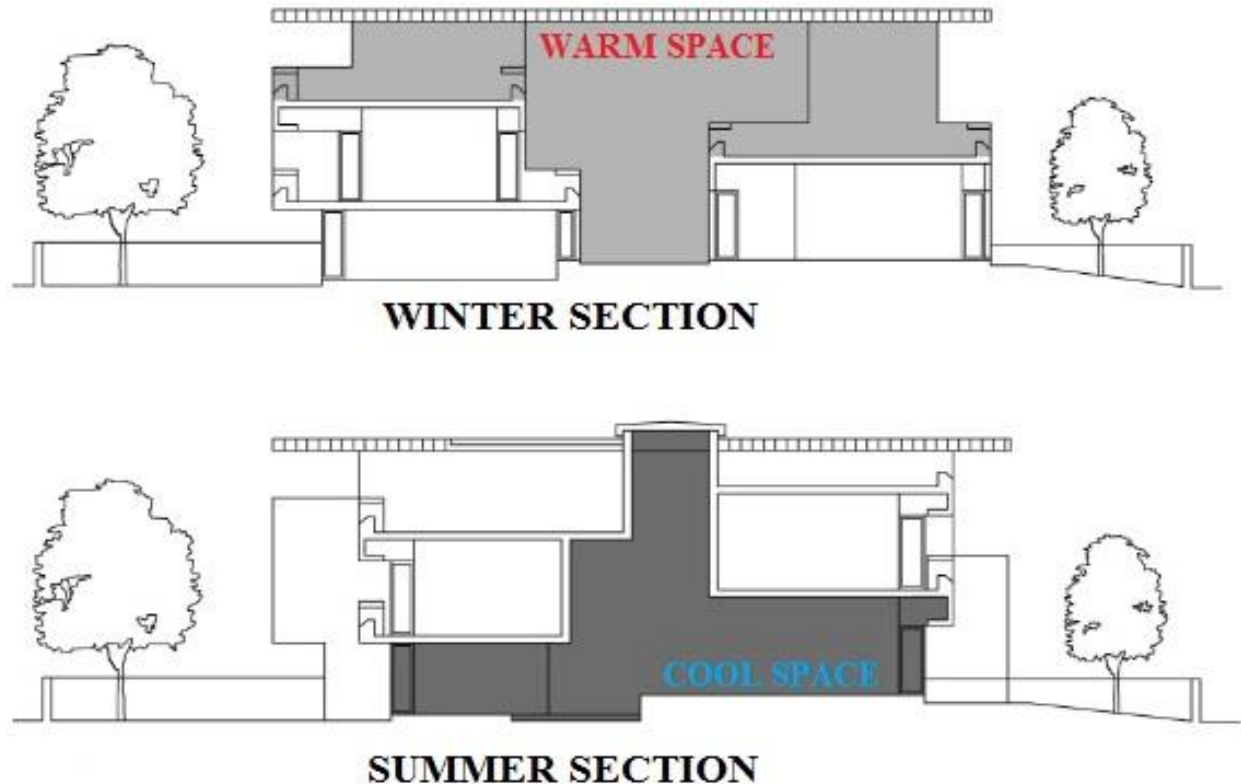


Figure 12 - Section of Parekh House Showing Difference Between Summer & Winter Space, n.d. 1968, <https://identityhousing.wordpress.com/2009/12/03/charles-correa-cablenagar-township-kota-rajasthan-1967-unbuilt-con-parekh-house-ahmedabad-1966-1968/>

The form and massing of any structure will always revolve around the concept which the architect wishes to achieve. Charles Correa's idea of efficient living is reflected in the massing of his Parekh House. As seen in figure 12, his design divides the home into two seasonal spaces, a cooler space located mainly at ground level and the warmer space located mainly above grade closer to the sun. As a result of the layout a cluster of geometry is formed, joining two separate masses (Correa, 1968). A circular mass in the case of the Sage House allows surrounding nature to be viewed at all angles. A variation in elevation, whether at ground level, mid-level or second level will change the perspective of each view (Predock, 2008). The basic cubic shaped mass of the Tye River Cabin suggests a minimalistic way of life, with only four corners and a nearly unobstructed view of the surrounding forest (Kundig, 2006).

In analysis of the Parekh House, Sage House and Tye River Cabin, we recognize the purpose of any dwelling will ultimately define its shape, fenestration, materials used and response to nature. Whether located in an urban or rural context, climate will influence design in ways of layout, in the case of the Parekh House, mass in the case of the Sage House and fenestration in the case of the Tye River Cabin. The size and shape of the property and the association with neighbouring buildings, will also limit design. However, in areas which are not surrounded by infrastructure this is not the case. Both the Sage House and Tye River Cabin, located far from neighbouring buildings are not limited by municipal law nor property lines. Materials will always be local to a project, due to cost and availability. Materials found exclusively in the northwestern United States are used primarily in this region only. Likewise, materials typically found in western India are used in the area. The massing in each case has been directly influenced by decisions regarding the purpose of the dwellings. Property lines and municipal laws in the case of the Parekh House has limited shape and size. Where space allows, massing is circular and uncut, in the case of the Sage House.

Comparison



Figure 13 - Entrance of Tye River Cabin, Tim Bies, 2006, <http://www.olsonkundig.com/projects/tye-river-cabin/>

As we can see there are many similarities and differences between the Parekh House, Sage House and Tye River Cabin. Although most differences are obvious we will notice coincidences which may be unexpected. On one hand, the freedom of the countryside parallels the architect's ability to create a dwelling which responds to surrounding nature, in the cases of the Sage House and Tye River Cabin. Yet in an urban context this freedom may not be present, instead a greater focus is given to a design which provides ideal living space amongst a dense community, in the case of the Parekh House. All three designs incorporate elements of sustainability, longevity and consequently hierarchy.



Figure 14 - Photo of Parekh House, n.d., 1968, <http://www.charlescorrea.net/>



Figure 15 - Interior of Sage House, n.d., 2008, <http://www.predock.com/SageHouse/sage.html>

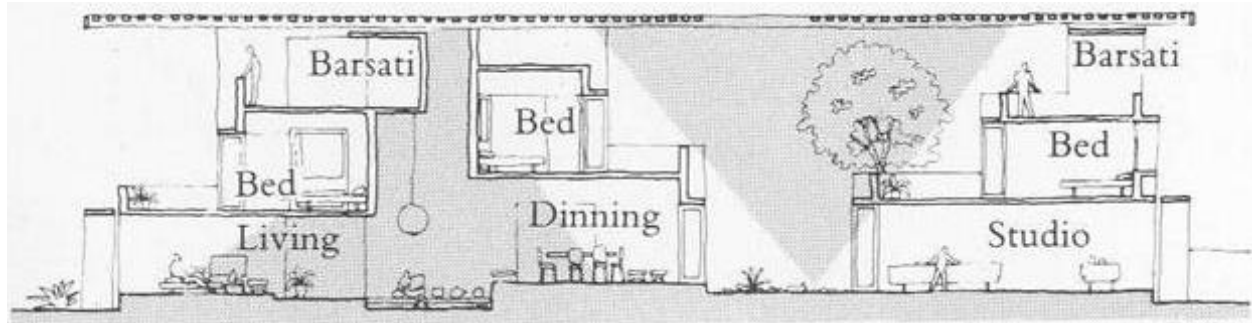


Figure 16 - Section of the Parekh House , n.d., <https://thearchiblog.wordpress.com/2011/01/09/charles-correa-parekh-house/>

As we can see in the figure above (figure 16), spatial organization may not always merit close quarters. Elements of spatial organization in the designs of each case study and how architects associate interior and exterior space, where it is needed and where it is not, is clearly visible. The density of an urban area such as the one surrounding the Parekh House is similar to the density of the forest surrounding the Tye River Cabin, with the major contrast of privacy. In the city of Ahmadabad India an open layout is not ideal as the house is surrounded by houses on three sides and a road on the other, as seen in figure 4. As the surroundings are rather unpleasant, an abundance of glazing is also not feasible. High walls on either side protect against sound and light pollution created by neighbors and passing motorists. The design focuses inwards, separating the dwellers from the world around them, appose to bringing nature into the home. Yet several void spaces are evident throughout the layout which allows air to easily pass through and heat generated by the sun to escape (Correa, 1968). Non-linear spaces are typically not ideal to maximize spatial efficiency, yet curvature is beneficial in the case of the Sage House. Architect Antoine Predock has mimicked the arc of the surrounding mountain range and desert valley and thus no particular angle, or view is stressed. Instead all views are considered equal. Generally, spaces within the house are long and narrow and do not contain hallways. This allows light to easily enter the house and views of surrounding nature to be seen from two angles simultaneously (Predock, 2008). Similarly, Tom Kundig & Kirsten Murray's Tye River Cabin stresses no particular angle or view as each façade opens generously toward the surrounding forest, capturing nearly everything in sight. The Cabin is minimalistic, encompassed by only a living area, kitchen and two small bedrooms. Despite its small footprint the interior space seems larger as nearly the entire façade is operable. A small hallway connects and divides nighttime space, on the right with daytime space, on the left (Kundig, 2006).



Figure 17 - Interior Space of Tye River Cabin, 2006, Benjamin Benschneider, <http://www.olsonkundig.com/projects/tye-river-cabin/>



Figure 18 - Hierarchy atop the Sage House, n.d., 2008
<http://www.predock.com/SageHouse/sage.html>



Figure 19 - Hierarchy Atop the Tye River Cabin, Tim Bies, 2006, <http://www.trendir.com/compact-river-cabin-design-in-washington/>

Hierarchy atop many structures offers no purpose other than to embellish the overall design. Nevertheless, in each of these three cases hierarchy bids a purpose of great capacity and has ultimately been a result of factors which initially were considered limitations. Hierarchy atop the Parekh House is incidental to the sun fins with the purpose of shielding the home from the hot Indian sun, as seen in figure 14. These fins are not typical amongst neighboring homes and can be seen from afar. Details of brick and contrasting colours which are associated with the hierarchy, brand this home as one of a kind (Correa, 1968). The Sage House stresses the spiral shaped element which rises towards the north. As seen in figure 18 this element is tall and slender, though does not veer from the overall curvature of the house. It too has the intent of capturing a view of every angle (Predock, 2008). A solid mass of exposed concrete towers above the Tye River Cabin, acts as the main eye grabber. This fireplace is centered and sits between four symmetrical walls. It rises nearly double the height of the house overstating its essential purpose as the only heat source (Kundig, 2006). Hierarchy is not only an important part of architecture, but can also symbolize the theme which embodies a design.

As massing typically follows the lay of the land, we see three uniquely shaped houses which seem as if they have a place in nature. Similarities between the Parekh House and neighboring building may not be absolute, although the orientation and overall shape seems to coincide. All angles of the mass are perpendicular and sharply cut (Correa, 1968). Its cubic volume and complex transformation of shapes from front to rear contrast the simplistic form of the Sage House and Tye River Cabin. The Sage House offers curved massing only. The freedom of a circular mass parallels the freedom of the untouched landscape which surrounds the house. As space is plentiful and land is cheap in the Taos valley massing can be formed in any way or shape (Predock, 2008). The Tye River Cabin may not be as uniquely shaped as the Parekh House or Sage House, but perhaps it offers a similar character of strength in a simplistic form. As we notice the mass is symmetrical, anchored by the towering chimney placed on its center. The dramatic six-foot overhang invites the eye inwards from the exterior and outwards from the interior (Kundig, 2006).



Figure 20 – Exterior Space of the Sage House, n.d., 2008, <http://www.predock.com/SageHouse/sage.html>

The environment local to each case will play a major role in the design, construction and longevity of the house. Drier environments will grant less defense against moisture and instead permit a design with a larger exterior living space. Likewise, where temperatures are warmer armor must shield a house and where temperatures are cooler heat conservation must be considered. Where heavy rainfall is typical, water must be directed away. There are several ways in which architects can manage the exchange of interior and



Figure 21 – Interior & exterior space of the Tye River Cabin, John Granen, 2006, <http://www.olsonkundig.com/projects/tye-river-cabin/>

exterior space proper to the environment which their projects exist. In some cases, the sun will determine whether outdoor spaces are shielded from the elements or exposed. In both the cases of the Parekh House and Sage House sun fins are used atop outdoor living spaces to cool and protect the space below (Correa, 1968). Whereas the Tye River Cabin has no intentions of sheltering living space from the sun, as the forest canopy shades the cabin considerably. The rain is perhaps the only element which is intended to be sheltered from (Kundig, 2006). In the design of both the Sage House and Tye River Cabin, a marriage of interior and exterior space is achieved by the integration of glazing, both high and low on the building envelope (Predock, 2008). As seen in both figure 20 and 21, doors and windows are a fundamental element which may change interior space into a space which is shared between outside and inside, allowing light, air and sound to transfer. The idea of merging interior and exterior spaces, is unique where regular rain showers in central Washington may depress the desire to be outside. This is achieved by both the many operable windows in junction with the deep overhangs which direct water far away from living spaces of the Tye River Cabin (Kundig, 2006).



Figure 22 - Interior Colours, 2008, Claudine Zap, <http://www.realtor.com/news/unique-homes/sage-house-taos-new-mexico/>

The atmospheres within the Sage House and Tye River Cabin are similar, to both each other and their surrounding nature. The finishes on the interior of the Sage House are light and match the colours of the soil and foliage outside. As the walls and ceilings are white, colours of nature is more visible. The secondary orange colour of the furnishing replicate the colours of the encompassing vista (Predock, 2008). Interior finishes of the Tye River Cabin coincide with materials found in the surrounding forest. Wood is the main material use not only on furnishings but also as structural elements, such as the roofing members (Kundig, 2006). In this concept the houses may connect to nature in ways of symmetry and exposure to the landscape.

As we have noticed, each house can adapt to changing climatic condition whether by means of layout, construction technique or building envelope design. The Parekh House adapts to a rise in temperature by an arrangement of living spaces which lie at ground level, away from the sun. This helps reduce the transfer of heat thus, creating a more inhabitable interior space. As temperatures decrease a secondary layout is allocated by dwellers which may enjoy, a semi-outdoor living space atop the second level (Correa, 1968). Similarly, the Sage House changes as temperatures rise in the morning hours and decreases drastically in the evening hours. The many operable windows and siding doors allow the interior to be as cool as the shaded exterior surrounding the house, when open. When closed, heat is persevered owing to the adobe walls which contain thermally natural properties, reflecting heat yet insulating against the cold. As the majority of living space, is at the ground level heat will only rise to the few spaces above, such as the observatory seen in figure 18. As per the Sage Houses cylindrical shape, shade may often be found along the north-east side. Seen in the context map above (figure 5) this shade generally benefits the living areas (Predock, 2008).



Figure 23 - Climate of Central Washington, 2011, Bart Claeys, <https://www.flickr.com/photos/bartclaeys/6252232537>

In comparison, the Parekh House, Sage House and Tye River Cabin appear both different and similar in ways which are now clear. An urban lifestyle contains prospects which we must conform with, whether regarding our social behaviour or infrastructure. In the city Charles Correa, has been limited by height, shape, scale and colour despite his aim to differ from the Indian convention. Yet, in a rural context there are no expectations. The cylindrical shape of the Sage Houses, mass indicates no restriction were present during the design and construction phase (Predock, 2008). Although the massing of the Tye River Cabin does not necessarily vary from typical northwestern architecture, the privacy of the forest surrounding the cabin permits the façade to be completely open and one of a kind. We observe spatial layouts which are divided between summer and winter months and consolidated layouts which serve the same purpose year-round, though both layout styles achieve the same goal. Hierarchy in each case has been a direct result of consideration pertaining to the way in which each house connects with nature. For instance, as a result of the hot temperatures surrounding the Parekh House, many sun fins are placed atop the home not only serving a purpose but also creating a unique structure (Correa, 1968). Similarly, the essential fireplace centered in the Tye River Cabin poses as the most distinctive element amongst the massing, serving a vital purpose (Kundig, 2006). Environmental and climatic considerations are key in the design technique of all three cases. Where the sun creates conditions of distress in Ahmadabad India sun fins are placed atop the Parekh House to guard and cool spaces below. Where a drastic temperature flux in Taos, New Mexico demands the adaptability of a building envelope, adobe joined with glazing is used in the design of the Sage House. Where substantial rainfall is typical in central Washington, deep overhangs shed water in the case of the Tye River Cabin. Above all, we will notice the desire of each architect and their clients to create living spaces which are not only sustainable but also justifiable by the virtues of local nature.



Figure 24 - Landscape surrounding the Sage House, 2008, n.d., <http://www.predock.com/SageHouse/sage.html>

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Figure 1 - Image of the Parekh House, n.d, 1968, https://ebuild.in/gallery/parekh-house-charles-correa-associates?id=14781	2
Figure 2 - Image of Sage House,n.d, 2008, http://www.predock.com/SageHouse/sage.html	2
Figure 3 - Image of Tye River Cabin, n.d, 2006, http://www.olsonkundig.com/projects/tye-river-cabin/	2
Figure 4 - Context of The Parekh House India, Google Earth, 2015	3
Figure 5 - Context of Sage House USA, NM, Google Earth, 2016	3
Figure 6 - Context of the Tye River Cabin USA, WA, Google Earth, 2015	3
Figure 7 - Winter Snow atop the SageHouse, n.d., 2008, http://www.predock.com/SageHouse/sage.html	4
Figure 8 - Photo Showing natural light - Tye River Cabin, Tim Bies, 2006, http://www.olsonkundig.com/projects/tye-river-cabin/	4
Figure 9 - Brick on the Parekh House,gurmeet akal, 2005 , https://www.flickr.com/photos/76217140@N00/73569299/sizes/l	5
Figure 10 - Materials used in the Tye River Cabin, Time Bies, 2006, http://www.olsonkundig.com/projects/tye-river-cabin/	5
Figure 11 - Illustration Showing the Construction of Adobe Walls, Roland Stulz, Kiran Mukerji, Appropriate Building Materials, http://www.nzdl.org/gsdmod	5

Figure 12 - Section of Parekh House Showing Difference Between Summer & Winter Space, n.d. 1968, https://identityhousing.wordpress.com/2009/12/03/charles-correa-cablenagar-township-kota-rajasthan-1967-unbuilt-con-parekh-house-ahmedabad-1966-1968/	6
Figure 13 - Entrance of Tye River Cabin, Tim Bies, 2006, http://www.olsonkundig.com/projects/tye-river-cabin/	7
Figure 14 - Photo of Parekh House, n.d., 1968, http://www.charlescorrea.net/	7
Figure 15 - Interior of Sage House, n.d., 2008, http://www.predock.com/SageHouse/sage.html	7
Figure 16 - Section of the Parekh House , n.d., https://thearchiblog.wordpress.com/2011/01/09/charles-correa-parekh-house/	8
Figure 17 - Interior Space of Tye River Cabin, 2006, Benjamin Benschneider, http://www.olsonkundig.com/projects/tye-river-cabin/	8
Figure 18 - Hierarchy atop the Sage House, n.d., 2008 http://www.predock.com/SageHouse/sage.html .	9
Figure 19 - Hierarchy Atop the Tye River Cabin, Tim Bies, 2006, http://www.trendir.com/compact-river-cabin-design-in-washington/	9
Figure 20 – Exterior Space of the Sage House, n.d., 2008, http://www.predock.com/SageHouse/sage.html	10
Figure 21 – Interior & exterior space of the Tye River Cabin, John Granen, 2006, http://www.olsonkundig.com/projects/tye-river-cabin/	10
Figure 22 - Interior Colours, 2008, Claudine Zap, http://www.realtor.com/news/unique-homes/sage-house-taos-new-mexico/	11
Figure 23 - Climate of Central Washington, 2011, Bart Claeys, https://www.flickr.com/photos/bartclaeys/6252232537	11
Figure 24 - Landscape surrounding the Sage House, 2008, n.d., http://www.predock.com/SageHouse/sage.html	12