The Creation of Sense of Place: Negotiating the Divide Between Nature and Culture Through Phenomenological Architecture

Gabriel Nolle
Syracuse University

Follow this and additional works at: https://surface.syr.edu/architecture_tpreps

Part of the Architecture Commons

Recommended Citation
https://surface.syr.edu/architecture_tpreps/221

This Thesis Prep is brought to you for free and open access by the School of Architecture Dissertations and Theses at SURFACE. It has been accepted for inclusion in Architecture Thesis Prep by an authorized administrator of SURFACE. For more information, please contact surface@syr.edu.
The Creation of Sense of Place
Negotiating the Divide Between Nature and Culture Through Phenomenological Architecture

Author: Gabriel Aaron Nolle
Primary: Lior Galili
Secondary: Edward Sichta
Introduction
Every day I ride the bus to school. Every day, I try to sit in the same seat. The seat is near the front of the bus on the passenger-side of the vehicle and faces towards the driver’s side – not towards the front. This particular seat is unique to all of the others on the bus in that it looks directly across to a window that is one-third the width of all of the other windows. The width is exactly the same as that of the seat. From this particular seat, you have your own personal window to the outside world. As the bus moves, the window stays the same but the outside is constantly changing with each rotation of the tires. When the bus stops to pick up new people, the proximity of this seat to the door allows for you to briefly experience the outside when the door opens, often with a surge of cold air from the winter wind. As passengers get on and off the bus, the smells and tightness of space is always dynamic – changing often as everyone has to walk across my line of sight to the window. Likewise, with more bodies on the bus, the sound within the vehicle is always changing.

There is something unique about this seat. I do not think it necessarily achieves a sense of place as in how this thesis will attempt to uncover and identify, but there is a phenomenal experience that is definitely enhanced by the relationship to that perfectly proportioned window. Without the window, my bus ride is just like everyone else’s. With the window, my experience and awareness to my surroundings is heightened. It is with this type of curiosity and understanding of my own sense of place in the world that I write this thesis.
Content
Contention
- Introduction
- Abstract
- Glossary

Context
- Background
- Loss of Reciprocity
- Loss of Sense of Place

Precedent
- Taliesin & Taliesin West Case Study
- Matsunoyama Natural History Museum
- Trollstigen Overlook
- Koshino House
- Therme Vals

Exploration
- Chittenango Falls: Nature Walk
- Split Rock Quarry: Culture Walk
- Mt. Washington: Site Proposal
Abstract
Nature, the abstract term used to describe the physical world in which we live, has become less important in modern architecture as culture, human consciousness and its products1, continues to expand. Western architecture views the relationship between nature and culture as dichotomous; believing only primitive man lived in harmony with nature – a harmony lost on modern society.2 As a result, much of contemporary discourse on nature’s role in architecture has become primarily scientific and technical. Nature is often marginalized from the actual design process where there is potential to harmonize with the natural world and, instead, is reserved for the fields of sustainability and biomimicry where it is analyzed on a more scientific basis. This approach has stripped architecture of the emotion derived from experiencing nature and as allowed humankind’s sense of place in the natural world to be less clear. This paradigm shift underscores the question: How do we reconcile the demands of both the human-nature and human-culture relationships?

The project I am proposing seeks to explore phenomenological architecture as a medium between culture and nature in order for humans to regain a sense of place in the natural world. While recent trends in architecture, namely sustainability, seek to emphasize environmental consciousness, the subjective relationship to the environment – how it affects our senses – remains the one we know least about.3 The process of designing and constructing buildings in the natural world must respond to conditions of nature in terms of site, material, purpose and form, to answer the demands of the human-nature condition. At the same time the architecture must accommodate specific human-cultural needs and criteria. This project seeks a balance between these two diverging ideologies.

As Kenneth Frampton points out in his argument for Critical Regionalism, the universal over-optimization of technology in architecture and the modern desire for flat-datums in topography for rationalization of construction has brought about the condition of placelessness of buildings.4 While Frampton wrote this in 1983 as a reaction to the rise of Post-Modernism, the issue of placelessness has since been exacerbated over the past decade with the preoccupation of technical innovation and design trends, like sustainable architecture, which focus on making buildings of optimum performance. The resultant buildings often disregard the regional character of the site by creating an object on a flat-site condition, using materials that are not endemic to the site, organizing program based on efficiency of the building and rationalization of the structure, and preconceiving form instead of allowing the form instead of allowing the form to be respondent to and unify with site, material, and program.

Echoing Frampton’s call for architecture to remove itself from both over-optimization of advanced technology and the tendency to regress into nostalgic historicism5, this project seeks to explore methods and processes of designing architecture that unifies site, material, purpose and form to create buildings that, through time, become part of the history and sense of place.

5. Frampton, 20.
Glossary
Nature

An abstract term used to describe the physical world in which humans exist. The physical world, including plants, animals, landscapes and other elements existing on earth. Differentiated from humans and human production.

Culture

Human consciousness and its products.
- Sherry B. Ortner, “Is Female to Male as Nature is to Culture?”, Feminist Studies 1.2 (1972): 11.

Often characterized by a specific society, its production, during a specific time period and location.
Landscape

Landscape is history made visible. A portion of the earth’s surface that can be comprehended at a glance.

- JB Jackson, Discovering the Vernacular Landscape, (New Haven: Yale University Press, 1984): 8

Place

A totality made up of concrete things having material substance, shape, texture, and color. Together these things determine an “environmental character”, which is the essence of place. In general a place is given as such a character or “atmosphere”. A place is therefore 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.

Placelessness

The condition of lacking character or atmosphere unique to the natural or cultural elements from which something is constructed. Lacking place often through ubiquity of experience or process.

Phenomenology

The study of essences, including the essence of perception and of consciousness. A method of describing the nature of our perceptual contact with the world. Phenomenology is concerned with providing a direct description of human experiences.


For this thesis, I am concerned with how site, materials, purpose and form effect the sense in the creation of an architecture of place.
Site

General term used to describe the location intended for architectural construction. Often comprised of existing natural and cultural elements, topography, and climate of the location.

Material

The physical elements of constructing buildings. In this thesis, materials will be explored in terms of cultural ideologies (man-made materials) with contemporary modes of construction and natural elements (materials endemic to regions) with traditional and/or uncommon modes of construction. Special attention will be made to understand material beyond sight and touch but also through smell, taste, and sound.
Purpose

Also known as “program”, the purpose of the building is defined for this thesis as the occurrences or activities which take place once the construction is complete. Purpose will be explored as a response to appropriateness of site, material and formal language.

Form

The form of a building is the shape or appearance of the material construction. This thesis seeks to explore form as respondent to the site, material and purpose of the building with appropriateness to each aspect. Further, form will be explored for its ability to enhance experience through interaction with all of the sense (sight, touch, smell, taste, and sound).
Context
Humankind Imposed Limits

Culture

Human consciousness and its products: knowledge, values and taste.

Phenomenological Intervention

Place in architecture is diminishing as culture continues to outweigh nature in importance. To reconnect to the natural world with a sense of place, it is necessary to:

- Respond directly to conditions of site, material, purpose and form - regional character of the location.

- Create an architecture of experience which stimulate the senses to make one aware of their surroundings.

Not Controlled by Humankind

Nature

Representing the physical world in which we live.
Loss of Reciprocity: Culture Outweighing Nature

Nature and culture exist in the world reciprocally. Nature, the physical world in which humans exist, becomes the location where culture, human consciousness and its products, occur. Architectural theory as far back as Vitruvius has proclaimed nature as a source of inspiration for architectural building. However, in its origins, architecture is a destructive force to nature. Trees are cut down, mountains are transformed into flat lands, the earth is penetrated through the digging of holes for the foundations. Instead of acting as a bridge between nature and culture, to harmonize the two, architecture has helped create uneveness as humankind dominates without cultivating the natural world.

Today, nature is generally of little importance to humankind’s daily life. While city centers flourish with concrete, glass and steel, nature is understood as distant to how or why we live within the world. But the argument is not a choice of either city or the countryside: both are essential, but today it is nature, beleaguered in the country, too scarce in the city which has become precious. The loss of reciprocity between nature and culture signifies a growing concern as culture continues to change nature and take from it without reconnecting humankind to their origins.

Recent attempts to balance the unevenness of this reciprocity can be seen in the sustainable architecture movement. At the core of the issue, sustainability seeks to present itself as a cure-all to the degradation of the natural environment. The claim of sustainable architecture is that by designing buildings that perform passively, nature is somehow made better. The unfortunate reality is that in practice, sustainability becomes a fiction to produce an illusion of co-existence with the natural world instead of actually participating within the natural world.

Sustainability has other motivations which obscure the underlying concept. One such motivation is money. As Cathleen McGuigan points out, significant tax breaks exist for LEED certified new constructions. For most projects, the physical size of the building and factors such as jet fuel consumption for tourists to destinations and shipping of products which have secured LEED certification are not considered - negating any benefits gained by the construction being sustainable. When money is involved as a key reason for sustainable architecture, the emphasis becomes less about what sustainability can do for nature and more about what sustainability can do for humankind as a consumer.

Further, most sustainable architecture deals solely with utilizing technology to solve energy-related issues instead of using the site, materials, or form to inform the low-energy consumption of a building. I believe that most
sustainable projects rely too heavily on the application of appliances for the building to become LEED certified. Aesthetically, these products were not designed to be attractive - they were designed to work well and be universal. Therefore, the exposed sustainable systems of the building creates a displeasing fitting of instruments of social apartheid. The result is often a cacophony of solar panels and/or wind turbines.[1]

In opposition to the applique of sustainable equipment, Frank Lloyd Wright’s Hemicycle House is an exemplar that utilizes the site, form and materials of the building to achieve the same desired results.[2] The orientation and form of the building respond to solar conditions. The bowl-shaped lawn and use of masonry and glass encourages air circulation and ventilation of the building.[3] The building is sustainable without needing to rely on appliances because it was designed for the particular site which it was constructed.

Within the shifting of the nature-culture reciprocity, what is more important is that nature has almost been taken entirely out of the context. It remains a by-stander to cultural discussions instead of being the focus. Similar to Georg Simmel’s overview of humans within the metropolis who gain a blase outlook due to over-stimulation of spectacles and information, by scientifically creating the same processes that occur naturally in the world, humankind develops an apathy toward real nature since it is no longer unique. The novelty of recreating or out-performing nature becomes of more importance than actual nature.

Many sustainable architecture projects, for instance, do not engage existing nature or landscape effectively because the goal is the performance of the building - not the essence of the building. Therefore, we lose emotion towards nature because it is often omitted. Sustainable architecture then, in its current understanding, should not be viewed as a balancer for the lack of reciprocity of nature and culture or automatically synonymous with the term nature and the production it creates. Instead, it must be understood as an area of architecture dedicated to making technically performative buildings and not necessarily ones informed by nature.

Loss of Sense of Place

“The bulldozing of an irregular topography into a flat site is clearly a technocratic gesture which aspires to a condition of absolute placelessness, whereas the terracing of the same site to receive the stepped form of a building is an engagement in the act of ‘cultivating’ the site.” ¹ - Kenneth Frampton, Critical Regionalism

The loss of sense of place is an emotional/psychological occurrence that can arise as a repercussion to physical manifestations of architectural construction. “Place” is a totality of concrete things that have material substance, shape, texture and color.³ When brought together, these concrete things create character or atmosphere specific to the phenomenal experience of the composition.

Humankind can only understand place at the human scale since it deals specifically with experience. Using Charles and Ray Eames’ Powers of Ten as an example [1], there are different levels on which human interaction occurs - the macroscopic, human scale, and microscopic. The top row of images highlights human scale interaction that we are capable of understanding as having a sense of place while the bottom row displays the microscopic and macroscopic scales that I would argue cannot define place. For instance, we understand the feel of our hand as it touches the softness of a sheet. Zooming out, we see a man on the sheet resting, shielding his eyes from light which is still relatable to a sense of place. Zooming out further, we now see that the man is in a grassy field which triggers memories of similar summertime experiences. Lastly, we zoom out to the city of Chicago which can have a sense of place embedded in relation to light, air quality, and temperature of the city but the human scale begins to deteriorate and obscure true phenomenal experience of concrete things in coalescence.

The bottom row of images shows loss of sense of place through obscurcation of experience at human scale. The two images to the left show microscopically the dermis of the skin and the molecules which are elemental in the construction of all matter. Humankind cannot experience this level of magnification because it is always present and elemental in our being. This makes a sense of place incapable of existing. Certain design ideologies in recent years have attempted to take the principles of molecular organization as inspiration for architecture. However, I would caution that this does not necessarily guarantee a sense of place or that the resultant architecture is natural / organic. The microscopic level is already obscured and detached from our understanding and the technology involved in producing such architecture makes this more a cultural product than a natural product.
Similarly, the two images to the right on the bottom row show a zooming out of human scale which also obscures a sense of place. While we are inhabitants of earth, the vastness of the planet is filled with place and memories of place which should not be confused with earth embodying a sense of place. Relating back to architecture once again, I would argue that most skyscrapers lack a sense of place.[3] While they can act as totems of orientation for people within cities, they often provide only the feeling of sublimity in two respects - at the bottom looking up and at the top looking down. Neither of which can necessarily be defined as having a sense of place.

Since sense of place relies on what is felt during physical experiences at the human scale, the concrete things that define a place make the sense and the place specific. In the opening pages of Peter Zumthor’s *Thinking Architecture* he discusses an experience at his aunt’s house as a child where, unknowingly at the time, his first experience with architecture occurred:

“I used to take hold of [the door handle] when I went into my aunt’s garden. That door handle still seems to me like a special sign of entry into a world of different moods and smells. I remember the sound of the gravel under my feet, the soft gleam of waxed oak staircase, I can hear the heavy front door closing behind me as I walk along the dark corridor and enter the kitchen, the only really brightly lit room in the house.”

Not everyone would have the same emotional connection to Zumthor’s aunt’s kitchen when they touch the door handle but the coalescence of all of the concrete things one experiences when entering that kitchen make it unique and specific. These places are never chosen by humankind, they are experienced. They are discovered as the place reveals itself. ⁴ Places are experienced at the human scale as total phenomena that cannot be reduced to just one of the properties. ⁵ If it was just the smell or gravel or door handle, Zumthor may not have experienced this place. But it was the composition and totality of all of the concrete things that gave him that sense a place.

Relating back to the opening quote regarding placelessness, Frampton further points out that part of the problem is universal technique of modern building conditioned by optimized technology. ⁶ The statement of bulldozing the topography for a flat site is just one aspect of why placelessness is occurring. Others would include the ease of shipping materials and over-reliance on synthetic materials, the checklist-mentality of LEED certification and sustainable architecture, and the projection of form onto a site instead of cultivating the form to be responding to the site, materials and purpose.

Placelessness, or the loss of sense of place, is highlighted by the three images on the following page [2]. The left image is the unaltered production render for a hotel concept called, the Ark Hotel. Most importantly to this argument is how I obtained the image. Using the generic search term, “sustainable architecture” into Google produced this as the first image. My issue with this building is its lack of context to the natural world. I understand that its concept is more about the novelty of being a hotel on the water - literally an ark - but it is an exemplar to understanding that much of contemporary sustainable architecture fails to engage site and context of the natural world.

The series of images intends to highlight that the building tries to be meaningful by being on the water, having a bold form, and by being sustainable. What ultimately happens is the building loses meaning because its location really does not matter. This building can be mass-produced and projected onto any flat site and perform the same way. It is a building without a site. Nature does not matter for this building to the point that it occurs on the interior of the building. This idea is a growing trend in architecture which circumvents the problem of harmonizing with nature, site and context, through omission of these aspects and by creating the building’s own “natural environment”.[3,4] Instead of solving the problem of connecting to the natural world, it is an approach that makes it appear to be environmentally conscious because it included trees and various foliage. The building, however, lacks context and remains placeless.

---

5. Norberg-Shultz, 8.
6. Frampton, 16.
Remistudio, *Ark Hotel*. Design concept for hotel with half-torus shape that can be on the water. Image found from Google-search query: sustainable architecture. Image on left is original, unaltered. The two subsequent images are collages by the author which highlight the argument on placelessness. My critique is that the building has no relation to site, nature, or context, and, therefore, achieves placelessness. The building, as shown in the collages, can be projected onto any flat-site and perform the same.
Boeri Studio, *Bosco Verticale*. A 27-story apartment tower with trees planted so that every flat opens to a balcony with foliage. The building is topped with large wind turbines. Currently under construction in Milan, Italy as a way to mitigate dust and pollution through filtration using trees. This is used as an example of placelessness and the growing divide between nature and culture.

My critique is that this building could conceivably be erected anywhere in the world and that use of natural elements are solely polemical to make it appear as though the building has a deeper connection to the natural world when its sole aim is to help inhabitants offset costs, enjoy apartments with variety from the concrete and glass, and filter dust which is a problem for city-dwellers. These points are accentuated by the fact that the foliage is not necessarily native to the location but selected for optimum pollution filtering abilities.
Ken Yeang, *Edit Tower*. Typical of Yeang’s work, this is used as an example for the growing trend of circumventing the issues of site, nature and context, by creating buildings that provide their own which creates a placelessness in architecture.
To better understand the concept of creating a sense of place, I feel it would be valuable to examine two different buildings, in two different locations, that create a sense of place through different approaches to site, material, purpose and form. The two projects I will examine are both homes for and built by Frank Lloyd Wright - Taliesin located in Spring Green, Wisconsin [1] and Taliesin West, located in Scottsdale, Arizona. [2]
Taliesin West, Scottsdale, Arizona

The site for Taliesin West is Sonoran Desert. The region is characterized by a desert landscape and a hot, arid climate. When designed and built, little else was in Scottsdale in terms of human-constructed context. Today, Phoenix-Scottsdale is known as an example of urban sprawl - similar to Los Angeles with little to no city-centers but a vast amount of built infrastructure over a sizable area.
Taliesin is located in the Mid-Western state of Wisconsin in the bucolic town of Spring Green, just outside of Madison. The surrounding landscape is agrarian with fertile fields and lush, rolling hills. The climate is considered humid continental with large variances between seasons - moderate-to-high snowfall during the winter and hot summers. The outlying areas of Taliesin were and remain largely rural.
The investigation of these two buildings is very interesting in terms of how site is handled to negotiate cultural and natural influences. Taliesin West (above) was built on a pristine desert landscape. The campus sits at the base of the McDowell Mountain range a little higher than the valley of Scottsdale below. The flatness of the desert and the low-growth foliage endemic to the site allows for broad views below to the valley. The relationship to the sky was a key design concern.
Taliesin (above) was built on a landscape with much more variety in terms of topography. The hills gently flow but are steep. Taliesin was built near the top of the largest of these hills on the site which affords dynamic views in all directions. The relationship to the ground and the rolling hills was a key design concern.
Due to the differences in composition and hardness of the ground on both sites, the approaches to construction were very different. At Taliesin West, since the ground is very dense and hard to excavate, Wright designed with the topography as much as possible. One of the first cuts into the ground was strategic in forming a retaining wall to cut the topography but allowing it to continue its flow to the sides of the cut. At Taliesin, the hill is first cut near the top to create a retaining wall and shelf. This is excavated and then the hill is cut again below that to create another retaining wall and shelf.
Material

At Taliesin West, the bases of structures were made out of what Wright termed “desert masonry” which utilized stones of varying sizes and shapes that were placed into the formwork for the concrete. The aggregate was then poured over top to create walls that were composed of elements from the site. As a finish detail, the walls bear lines that mark the successive pours - showing time through the material. Larger stones were surrounded by smaller stones on top to prevent concrete covering the larger stones when poured into the formwork. Due to the difficulty of excavation of desert land, concrete slabs do not have footings but, instead, have swelled edges to resist shifting.
The main building material used at Taliesin was limestone which was locally quarried, cut and constructed by Welsh masons. Due to the additions and various rebuildings of the structure because of fire damage, there are variances in quality of the stonework. In certain cases, the stone has turned a pinkish hue from the fires which subsequently provides a stronger connection to the place through the history.
Material

On top of the heavy desert masonry bases, the spanning members were primarily wood beams with steel flitch plates for extra support. The most iconic part of the building is the drafting studio which has the wood beams resting on an angle across two of the masonry portions of the base. Between these beams, stretched canvas panels are used to permit daylight while still protecting and, to a lesser degree, keeping the space conditioned properly. The use of canvas directly responds to site conditions specific to this location and the amount of heat and sunlight a building gets in Arizona.
At Taliesin, the spanning members are similar in that they utilize the heaving stone bases and they are made of out wood. However, they support different loading conditions during the winter for snowfall and, thus, utilize steep pitches and often shingle roofs. The image directly above shows the drafting studio trusses. Where the drafting studio beams at Taliesin West revolve around the idea of making the building open up to the sky and sunlight, these trusses are designed to moderate the sunlight to evoke the sensation of being under the canopy of a tree.
Purpose

The programs for both Taliesin and Taliesin West are the same. They are both designed to include a private residence for Wright, studio, kitchen, large dining rooms, gardens, and space for apprentices who worked for Wright. When looking at the plans, there are similarities in the interstitial spaces between the programmed spaces. At Taliesin West, this separation of spaces has to do with having covered breezeways to induce air circulation during the warmer months and framing views. At Taliesin, this separation has more to do with negotiation of the topography to allow human circulation.
Breezeway Allowing Access From Entrance Court

Separation for Movement Between Retaining Walls On Upper Shelf
The form of Taliesin West arises from a unity between site, material and purpose. First, the approach to the building was highly considered during the design process. As one approaches, you see the beams of the drafting studio in the distance. As you get closer, you begin to see the Prow as it appears to seamlessly be protruding from the ground. Second, the natural geometries of the desert are sharp and jagged. Cactus, for instance, have points. The rotation of the beams and the strong triangular point of the Prow formally respond to this sharpness and jaggedness felt by the site by utilizing what Wright termed the 15-degree “reflexive angle”.
The form at Taliesin begins from the cuts made for the retaining walls. These align the spaces and create axes. The buildings utilize the height of the retaining walls as the datum for the roof line which makes the buildings seem depressed into the hill. From certain perspectives at the top of the hill, it can almost appear that the hill and shingled roof become one. The differences in heights between the buildings and the two retaining walls is also made possible by the heavy stone chimneys which are used compressively as anchor points for the roof structure.
Sense of Place - Taliesin West

1) Pergola. The retaining wall, behind the bushes, allows for eye level views across ground. The open-beam trellis allows for ambiguity of indoor-outdoor conditions.

2) Vase. The vase literally has a sense of place with a cut-out of its profile in the glass.

3) Entrance. Entering the living room, the skylight is placed perfectly above the masonry walls.

4) Cabaret. The cave-like atmosphere is pierced by windows placed adjacent to the ramp up the space.

5) Garden. The natural topography moves through this space but confined by walls. The living room, sunk down below to the right, has a 4 feet tall retaining wall inside that is the perfect height of a bench-seat in the garden.

6) Portal Door. Creating a sense of place through curiosity. As one moves through this door, you simultaneously duck down and step-over the ledge. You grab the wall for support. You understand place phenomenally.

7) Breezeway. As one moves through the breezeway, the air is drafting upwards. You feel the sensation of moving under this element, a tightness that opens on either side once moved through.
1) Tree Structure. The roof is extended with an overhang that connects to a tree for support. The unique moment of the site and materials of the building and site meeting creates a sense of place.

2.) Garden. The topography, interrupted by the retaining wall, unifies site, materials and program.

3) Overhang. Extending out to the exact width of the door entry, creating the sensation of partial shelter.

4.) Windows. Low, with the same height as the outside retaining walls which allow for eye-level connection to the topography of hill.

5.) Shelf. The second retaining wall cut, creating a shelf-condition. A terrace above, creating a drop-off point for vehicles underneath. The sensation of passage below creating a sense of place.

6.) Exterior Skylight. Below the terrace, a cut-out in the roof that you experience - washing the masonry with light - when you move underneath and up the stairs.

7.) Stairs. Moving up the stairs, you are experiencing the negotiation between the site, materials, and program. The form is experienced when the roof of the enclosed space is extended and a passage is notched at the top.
Matsunoyama Natural History Museum
Location: Niigata, Japan

“From a nautilus shell made of Corten steel, the architects open views onto the natural setting and, in winter, the snow.”¹

This is the essence of the museum designed by Tezuka Architects in 2004. The serpentine-like form meanders through the site and has the expressed goal of showing visitors what happens below the snow during winter.

The museum has four large windows at its turning points that permits visitors to see the snow - in a region where snowfall can reach up to five meters.² Beyond the serpentine form and the windows, the building is connected to the site through its absence of solid foundations - permitting it to expand and contract (up to 20 centimeters) during the summer - directly exposing it to the existing climatic conditions.³

What is significant about this project to me is how the form of the building attempts to create a framework for responding to an aspect of site that is not permanent, not predictable, and always changing - the snow. The building respects nature by understanding that it is non-determinate and special.
The National Tourist Routes of Norway are vehicular roads which wind through the mountains, gracefully curving around bends, up hills, and between valleys. Along the way, Norway has commissioned architects to design various infrastructural projects with programs like rest stops, viewing outlooks, and picnic spots.

The Trollstigen overlook is an exemplar of this larger infrastructure project. The success of this project is how formal design moves, coupled with material decisions and deep knowledge of site, enhance and make aware a user’s experience of the surrounding nature.
The Trollstigen overlook utilizes architecture to harmoniously experience the Norwegian landscape. With every surface a user touches, the architecture makes you aware of the surrounding nature through the tactile differences of texture and finish quality. The geometry follows the contours of the topography but is sharp and directive. The tactility of the materials - rubble concrete ends of slabs, smooth glass, and the aging of rusted steel - creates a variety of experiences unique to that place and time. Always putting you in relation to the nature.
Rough edge of concrete breaking the flat, smooth surface and making aware the rockiness of the site.

The smooth concrete surface emphasizes the man-made procedures. As one moves along, blur between man-nature occurs.

The rusted metal has a texture that shows age and wear. The material not only blends into the landscape through natural tones but also makes the user aware of the surroundings through touch.
Generally, nature is usually represented by the curvilinear line while manmade intervention is represented by the straightline and angle. This image is interesting because you have both nature and man using the curve and angle. Nature: the bottom of the hill is more sensual in its curves while the top has sharp crags in the stone. Man: the curvilinear path which has an interesting relationship to the toothed overlook.
Koshino House
Location: Hyogo, Japan

“In my architecture, I seek to create situations where man and nature can commune. I want to realize spaces within my buildings which promote conversations with natural materials, where one can feel light, air, and rain.”
- Tadao Ando

“The Japanese in general are very attached to the rhythms of nature, even if they are located in the middle of a large city,” explains Tadao Ando. These words describe Ando’s approach to site in the Koshino House. While his intervention on the site is geometric and concrete, the building imbeds itself in the topography existing and creates ephemeral experiences of the natural world through siting and sunlight.

The material of concrete is juxtaposed with the greenery in a way that heightens one’s understanding of their surroundings. On the interior, light is mystical and omnipresent.
Therme Vals  
Location: Graubunden Canton, Switzerland

"I believe that [materials] can assume a poetic quality in the context of an architectural object, although only if the architect is able to generate a meaningful situation for them, since materials in themselves are not poetic."
- Peter Zumthor

The thermal spa at Vals is a building that I believe embodies the essence of the project I am interested in designing. Zumthor considers carefully the site, material, purpose and form to create a building that appears to have been carved out of the hillside - not projected onto the site. It is embedded into the landscape which provides a sense of place of that specific location. If one were to take this design and project it on another site, the building would lose its meaning and sense of place because the building responds to local materials indigenous to the location and serves a purpose that co-exists with the natural world of the site (the hot spring and the topography). This approach creates a building that appears to have always existed but hidden within the hillside. The architect is the one who has freed it.
Materials of the Building/Site

Sense of place is created at Vals in a number of ways. One of the most important is how materials are used in the building that make it specific to the particular location. The above image shows how the grass roof extends out from the hillside. The seamless flow from the topography to the top of the building makes the building appear as a stone outcropping or extrusion from the hill instead of appearing as a building fitted into the hill. On the sides of the building, the topography continues to flow downhill around the intervention.

The stone used for construction of the building is gneiss which is formed through high pressure and temperature under the earth’s crust. The stone is then cut into thin slabs and stacked in an ashlar composition to emphasize the striation of the earth. This is appropriate to the site for two reasons: 1.) It reflects the way in which the high temperature of the water exists on the site, and 2.) reflects the composition of the site which makes visitors feel a sense of place in the earth.

The hot-spring water, the purpose of the building, adds to the mood and atmosphere of the place - not only through its reflective qualities but its smell, humidity, and feel.
The material and purpose of the building is further oriented to define a sense of place through the varying temperatures of each of the defined pools of water. Shown above, the gradient shows from red to blue the differences between warmer and cooler pools of water. Where more of the massive walls occur, the temperature is warmer because of thermal mass and isolation of the warm water that comes in from the hillside (shown in poche). This is emphasized through the choreography of lighting - both natural and artificial - to help identify the temperature of the pools (shown in images of the adjacent page).
Chittenango Falls

To better understand approaches to creating a sense of place and bridging the growing divide between nature and culture, I felt it necessary to begin personally exploring and investigating these ideas in various landscapes. The intention of this method was to understand a site, its materiality, and expectation of possible purpose to inform myself of how I will approach creating a unity between site, material, purpose and form, and to create a sense of place.

The first site I visited was Chittenango Falls State Park - located 20 miles East of Syracuse, NY. Chittenango Falls is best known for a 167-foot waterfall which you approach from the top. There are a number of walking trails which lead visitors down the hillside, often utilizing the sturdiness of the gorge’s stone, and to a point at the bottom where one can stand on a bridge and view the falls. Following the trail will lead you downstream and to smaller, more secluded waterfalls.

For this exploration, I considered the complexities of how I could approach siting a building in such a unique and powerful natural environment, and tried to better understand the phenomenal experience of the waterfall. This was recorded on site through a site-visit journal.
From the top of the waterfall.
Upon arriving to Chittanango Falls, before you even see the waterfall, you arrive at this lowland spot where the topography of the hill is crudely cut. This makes a small, flat area while the topography continues to flow alongside the cut. You experience the cut of the hill when walking down the hill and in the flat zone. The stone is rough, aged, and untreated.
As you move down the hillside from the top of the waterfall, there are moments where human-cultural needs negotiate the human-nature needs. These are usually handled with additive processes of a material that is not stone - making apparent these additions. At one point, railroad ties are used as a retaining wall to hold back the earth of the hillside. Metal posts impale the ground to help facilitate the retainer. A little further down the hill, a stream has created another gorge. This is negotiated through a wooden bridge that spans the crevice. At another point, railroad ties are added to a steep slope to help create steps for added measures of humans visiting the waterfalls.

Most importantly, these additions highlight and heighten a person’s sense of place. You are very aware of the steepness of the hill but you are even more aware of the manmade material that is helping the hill stay back. When you arrive at the stream, you understand the natural condition of the space between you and the otherside of the crevice but you experience the crevice from above when walking over the bridge. Likewise, you are aware of the steep hill you must climb up but the added steps of a similar, yet manmade material heightens your experience through a gait of your leg’s motion up the hill.
At the base of the waterfall, there is a bridge. From this bridge, you have a direct view looking at the entirety of the waterfall. This moment, this view, creates a sense of place. You are standing directly over the water. The sound of the waterfall is loud as the water crashes onto the stones. As the water cascades, it is releasing mist into the air that is hitting your skin. Carried with the mist is a smell that can only be described as related to a property unique to water - maybe mildew-ish. As you breathe, the smell and mist is filtered through your mouth and you can subtly taste the experience of the waterfall.
Standing in the same spot, you turn away from the waterfall to look downstream. You can still hear the waterfall. The mist still touches your skin. The smell of the water is still in the air. It still filters through your mouth and you can still taste the water. You do not see the waterfall. You know it is directly behind you because the other senses are telling you so. But your eyes are looking at what appears to be a relatively tranquil, picturesque stream. You still have a sense of place but it is lessened because your senses are not working together in the experience of this particular place.
The above image shows an aerial of Chittenango Falls State Park with the gorge highlighted. In essence, the gorge is a giant crevice in the earth. It creates and exists within a space that abruptly cuts the existing, surrounding topography of the region. It is a separation of two solid elements that at one point were unified. Over time, the natural elements of the site have eroded and created the crevice.
What interests me in this idea of the gorge being a crevice is that this same method of space-making is seen at other scales on the site. The images above show various moments where the act of “crevicing” occurs in the stone. When analyzed, it becomes apparent that the human-cultural methods or interventions on the site - i.e. retaining wall, bridge, steps - used an additive method of making the natural landscape accessible. The natural landscape, however, is using a subtractive method of creating place. The gorge itself has a sense of place. The crevices above create a similar experience but on less dynamic scales. To be within the crevice begins to define the aspects of sense of place: a broad opening that tapers into darkness, cutting through the topography (site); the materials of the site, the crag-like stone’s hardness, creating a smell and sound particular to the stone (material); and the cut into the topography itself as an expression both of separation caused by other forces and the effects of time (form).
Taking this idea of crevice and manifesting it architecturally, I believe there is an opportunity to create a sense of place through utilizing the two different modes of site negotiation at the Chittenango Falls State Park: the human-nature condition of crevicing as a subtractive mode of creating space and the human-cultural condition of addition to negotiate these problematized moments. Let's just say that we are going to design a visitor and information center for the park. As an approach, I think it is necessary to be in proximity to the falls which is the intended physical object to be learned about. The sketch above shows how using this idea of a crevice can become architectural by excavating a portion of the hillside and utilizing the natural stone as material.
The formal result is a building that you enter from the top to experience the crevice. As you are going deeper, you are moving closer to the opening up to the falls. The sound gets louder and louder. At the bottom, you are in the crevice and the building, itself functions within this chasm. Embedding the architecture into the earth and creating a sense of place unique to this specific location.
Split Rock Quarry

The second site I visited was the Split Rock Quarry located in Onondaga County. This site was of intrigue to me because of its unique history, its relationship to the industrial processes of mining and cutting stone, and the cultural ruin best-known as the “stone-crusher”.

At one time, Split Rock Quarry was the location for extracting limestone which was used in various regional industries. During WWI, the site was used for the making of munitions. On July 2, 1918, a mixing motor overheated causing a fire and an eventual explosion from the TNT on-site. The blast claimed the lives of 50 men working at the quarry.

Similar to the exploration of site at Chittenango Falls, this exploration looks specifically at material processes. The material studies were done in an effort to expose and explore the natural and cultural make-up of the site to better understand how these different elements co-exist in the landscape and how they can be united. One of the main goals was to find a way of binding the elements together in one material.
The stone-crusher.
Walking up the hill towards the quarry, there are moments where cut stone has been placed into the hillside as retaining walls. This particular wall appears to be dry stacked (no mortar) and has an elegance due to its age and variety of shapes and sizes of stones used.

The most fascinating part of this wall is its edge condition - where it meets the topography. The point of connection to the landscape is not made clear with a hard edge so the topography runs freely downhill and the wall appears to be coming from the hillside - not built into the hill. Over time, trees and foliage have grown in between this connection which further heightens the sense of the wall always being there and coming from the earth. A sense of place is created through the negotiation of the site’s topography, the material endemic to the site, the purpose of the wall as a retaining device, and the form of the stone wall being embedded and dry-stacked to appear as a finished version of the untreated stone outcroppings in the area.
A little further up the hill I came to a fork in the road where another path led up a different direction. The path was elevated and sitting on a stone plinth to negotiate the rise in topography. The transition between the natural topography and the manmade topography is very nicely handled and the moment of exposure of the processed stone to the side further differentiates the cultural versus natural - though they work in unity here.
Arriving at the stone-crusher, I began to climb the tapering steps to the top. The steps have risers that are approximately 2-feet tall which forces you to touch the stone with your hands as you ascend. The feel of the rough-hewn stone connects you to the place through hapticity - the feeling of the stone itself.

The stone-crusher is built into the hillside and from the top, you can see clearly the difference between the untreated stone of the hillside and the cut stone of the cultural ruin. The juxtaposition of the same materials treated in different manners underscores the main point of this thesis - the creation of place through the bridging of nature and culture.
At the top of the stone-crusher, there is a dramatic view to the surrounding landscape and quarry below. In the above, left image, you can better see the materiality of the site in relation to the stone of the ruin. If not for the concrete aggregate at the top edge, it might possibly appear as though the stone-crusher were carved from the hillside instead of built with blocks of stone.

Beyond the stone-crusher, you can see how the topography of the hill meets the ruin. The stone-crusher acts as a way of negotiating site through the means of material and purpose and the form is a direct response to these aspects - creating a unique sense of place specific to this location.
Also at the top are openings that look down into deep shafts. The shafts and interior spaces of the stone-crusher create a unique bouncing of sound. Sound reverberates and is projected from the hard surfaces which amplifies noise. Similarly, the stone captures smell through its interaction with water. There is a smell of sulfur characteristic to the limestone and the industrial processes that lingers after all of these years. This allows for a heightened experience of the site, material and purpose - adding to the creation of a sense of place.
The above images shows graffiti on the stone. This reminded me of Juhani Pallasmaa when he wrote in his book “Eyes of the Skin”, “There is a subtle transference between tactile and taste experiences. Vision becomes transferred to taste as well; certain colours and delicate details evoke oral sensations. A delicately coloured polished stone surface is subliminally sensed by the tongue.” While I did not actually want to lick or taste the stone, there is a quality of the stone that makes you wonder what it would feel like against the taste buds on your tongue - since your tongue is sensitive especially to textures. The stone painted silver evoked this sensation even more because it appears to be smoother, more polished - even though it is exactly the same stone.
The material studies for Split Rock Quarry began by taking various manmade and natural elements from the site - to represent the culture and nature. These objects included: a rusted metal plate, bolts and nuts, uncut stone, cut stone, wood, and soil.
The first study dealt with cylindrical stone elements - clearly made by industrial processes - and the changing appearance, feel, and desire to taste. As seen above, I dipped the stone cylinder in water and took photos as evaporation occurred. When wet, the appearance of the stone is darker, reflective, and looks smoother. When touched, the stone is slick when wet but feels almost chalky when dry. Also when dry, there is less transference between sight and subliminally sensed by the tongue than when the stone is wet.
The next material study dealt with altering the stone cylinders in order through the addition of a texture application process. This was intended to alter the perception of touch, smell, subliminal taste, and sight. The process included the extraction of pigment from a pastel pencil. Crushing the pigment. Adding the crushed pigment to wax from a candle. Melting the wax and stirring in the pigment. And finally, while hot, applying the pigmented wax to the cylinders. The result was a material that had the same weight and perceived hardness but had a softer exterior that seemed malleable. The stone smelled different and encouraged the subliminal desire of the tongue. The most obvious change was the visual appearance of the material. In the altered state, the cylinder had lost its ability to appear as stone and looked softer than it actually was - like clay.
The third study began with constructing a homemade mortar and pestle which was used to grind stones into smaller fragments and dust.
The crushed stone was then added to a dry mix consisting of the soil from the Split Rock Quarry, sand, and concrete. The aggregate was mixed with water and poured into formwork. Various objects found on location were added to the mix - representing the cultural and natural composition of the site - and then allowed to set.
Once the concrete set, the formwork was removed. The result were blocks that featured moments where the different embedded elements within the mix were exposed. The intention for these blocks were threefold: 1.) That the concrete acted as a way of unify both the nature and culture of the elements of the site; 2.) That the blocks in and of themselves could be understood as a material that you experience through touch, sight, smell, taste, and sound; and 3.) that the materials could evoke a sense of place through the combination of site, material, purpose and form.
This is an example from another block where I carved part of an embedded tree branch from the concrete.
The result is a material that is sculptural yet comprised of elements that are part of the make-up of the place in which the objects were found.
Mount Washington

The final location of exploration is Mount Washington in Pittsburgh, PA. This particular site is one that I am considering for my thesis project. I intend to further study this site when I am back home in Pittsburgh this Summer to better understand the complexities of the topography, cultural and natural components, and overall character of the site.

Pittsburgh is situated in a valley at the confluence of three major rivers. Due to the depression of the topography into the valley, the city has a variety of hills, each offering varied and expansive views of Downtown Pittsburgh’s skyline.

The location I am proposing as a possible site is Mount Washington which is located on the South-West end of the city. Pittsburgh at one time was filled with various corporations that performed industrial processes. The city’s nickname, “Steel City”, is evidence of it's long history with the steel industry. Mount Washington, though, was nicknamed “Coal Hill” [1] in the late 1900s because it was mined for coal which was burned in the blast furnaces at the steel mills. Eventually, workers took advantage of the high elevation and began living at the top of Mount Washington. Various ethnic enclaves such as Hungarian and German still maintain a large presence in this area. The possibility of living on top
of the hill was only made feasible by tram-cars which run on train tracks that Pittsburgers term “the Incline” [2].

Today, Mount Washington is a destination because of the panoramic view of the skyline. Tourists and Pittsburgers alike ride the incline to the top of the hill to take in the sight of the breathtaking view. Personally, I see Mount Washington as a separation of two cultural ideologies. There is the culture of the city center below and the neighborhood-oriented community at the top. The two are separated by a natural zone endemic of the hill itself but connected through this outdated mode of transport that has become novel instead of necessary.

The natural zone of the hill exists between the two cultures and is often unnoticed. Nothing is built in the area between the top and the bottom of Mountain Washington besides structural moments for the Incline tracks and McArdle Roadway which is for vehicular traffic. It is within the natural zone that interests me. The project proposal for this site would suggest the incline stopping in the middle of its route to experience the true nature of the site.

I imagine getting into the Incline at the top. The understanding of the car’s age is apparent in its detailing. The windows offer one last panorama before the car begins to move down the hill. Maybe there is a noise the car makes. “Click-Click-----Click-Click-----Click-Click”. The car is slowly moving down the hill. The city gets bigger as you get nearer. Then, all of a sudden, the car stops. The door opens and you are presented with a new platform in a wooded landscape that you literally and figuratively were overlooking. Then, you experience the nature of the site through the project I create.

The interest of the idea, in my opinion, is threefold. First, you are dealing with not only your own culture but the culture which has changed and no longer exists. The functioning of the car is a connector to this past. Second, the site will always put the nature of the site and subsequent architecture designed in relation to the city. I believe it is a good place for the culture and nature to begin to formulate a relationship. Third, the site is, truly, overlooked. It is used a backdrop to the skyline. I grew up in Pittsburgh and can’t recall anyone saying they wanted to ride the Incline to see the nature.

I am proposing this site as a possibility because right now it is speaking to me. At the outset of this project, I wanted to find a site as a discovery - not as a forcing my ideas onto a site. I think this particular location is already dealing with...