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I, Noah C. Bergman, hereby submit this original work as part of the requirements for the degree of Master of Architecture in Architecture (Master of).

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Architecture of Destruction and Renewal

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by

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As humans, culture, tradition and collective memory are preserved in our built environment. This thesis investigates themes of identity and place in Japan - a nation in which themes of destruction, renewal and impermanence are ingrained in the national psyche. Finding precedence in modern regionalist and phenomenological theory, the proposed building encourages the continuity of traditional aesthetics and emphasizes their importance in our sense of self and belonging.

Set against the backdrop of coastal Tohoku, the eastern coast of Japan decimated by the 2011 tsunami, the Minamisanriku Community Pavilion offers a place for citizens to play, learn and interact. Its classrooms, studios and traditional tatami rooms support social demands and further personal enrichment. The design recognizes the community’s long history of craftsmanship, manifesting itself in multiple design drivers. Exemplified by spiritual aesthetics of transience, decay and natural simplicity, the material palette includes bamboo, hardwood and thatch. Joinery evoking traditional construction alludes to local handiwork; a bamboo mesh references the local fishing industry for example, while open spatial organization reflects the distinctly Japanese concept of emptiness as object. Reuse of desiccated trees from the town temple imbues the structure with a sense of memorial and remembrance.

The Minamisanriku Community Pavilion strives to underscore the cultural legacy of a rural town decimated by natural disaster. Ultimately, it encourages local efforts to preserve sentimental remnants vital to individual and collective identities.
# Table of Contents

Abstract  i  
List of Illustrations  iv  

1 **Introduction**  
   Background Narrative  1  
   A Harsh Reality  5  

2 **Tragedy in Minamisanriku**  
   Hope Amongst Wreckage  9  
   Opportunity From Disaster  11  
   Painful Remembrance  14  
   Destruction and Decline  16  

3 **Impermanence**  
   A Religious Foundation  19  
   The Practice of Renewal  20  
   Productive Emptiness  22  
   Aesthetics of Imperfection...  24  

4 **Design Intent**  
   Application  31  
   The Merits of Wood...  32  
   Function  36  
   Client  40  
   Site  42  

5 **Design Solution**  45  

Conclusion  
Bibliography
List of Illustrations

1.1 Collage (author)
1.2 Stranded car (author)
1.3 Child’s toy (author)
1.4 Seiun Bridge (http://www.kanko-miyazaki.jp/english/photo-library/hinokage-town.html)
1.5 Yato Waterfall (http://www.kanko-miyazaki.jp/english/photo-library/hinokage-town.html)
1.6 Sunset on Mount Tansuke (author)
1.7 Hinokage (author)
1.8 Mr. Hiroshima (http://www.kanko-miyazaki.jp/english/photo-library/hinokage-town.html)
1.9 Gokase River (author)
1.10 Amanoiwato Shrine (author)
1.11 Kagura (author)
1.12 Ohito Valley (author)

2.1 Minamisanriku destruction (http://www.walesonline.co.uk/multimedia/news/2012/03/07/japanese-tsunami-one-year-on-91466-30483485/)
2.2 Daiou Temple (author)
2.3 View of Minamisanriku Sports Center (author)
2.4 Local fishermen (http://peacewindsamerica.org/japan-earthquake-and-tsunami/fishing-cooperatives)
2.5 Giza circa 1900 (Hulton Archive/Getty Imageshttp://history.howstuffworks.com/african-history/nile-river2.htm)
2.7 Studio 804 facility in Lawrence, KS (http://architypesource.com/projects/496-sustainable-prototype/description)
2.8 Delivery (http://547artscenter.org/facility/building-photos/SANY0412.JPG/view)
2.9 Completed 5.4.7. Art Center
(http://547artscenter.org/facility/building-photos/SANY0412.JPG/view)

2.10 Community function at 5.4.7.
(http://547artscenter.org/vision)


2.14-15 2003 recreation of Isozaki’s Electric Labyrinth
(http://www.sculpture.org/documents/sc-mag03/june03/itinerary/Isozaki.shtml)


3.2 Falling cherry blossoms (http://www.crazythemes.com)

3.3 Diagram of Ise Shrine (http://www.gorden.us/archpaper.html)

3.4 Close-up of Ise’s oi-ya (http://witcombe.sbc.edu/sacredplaces/ise.html)

3.5 Aerial photograph of Ise (http://www.flickr.com/photos/sgt99999/154369779)

3.6 Ise Grand Shrine (http://users.hal-pc.org/~farleycw/QTravels/200Japan.html)

3.7 Sketch of Ise’s ritual deconstruction (http://www.huffingtonpost.com/alla-kazovsky/letting-go-livebydesign-w_b_749026.html)

3.8 Modern translation of a traditional tatmi living space (http://www.kiarts.com/pages/interiors.html)
3.9 Section of traditional style house (http://www.jnto.go.jp/eng/indepth/cultural/experience/a.html)

3.10 Torii (http://wallpapers5.com/wallpaper/Torii-Gate-Oarai-Coast-Ibaraki-Kanto-Japan/)


3.12 Nature by Morikuni, early 18th c. (http://www.bbc.co.uk/religion/religions/shinto-beliefs/kami_1.shtml)

3.13 Anonymous monochrome ink wash (http://www.simplelivingnow.com/wabi_sabi)


3.15 Dilapidated barn (http://www.srmartinez.net/?cat=22php?p=619563&langid=1)

3.16 Exposed COR-TEN John Deere wide flange (http://www.flickr.com/photos/faasdant/3036091911/lightbox)

3.17 Weathered wood slats at Louis Kahn's Salk Institute (author)


3.25 Fujimori enjoying tea within his tree house (http://www.dezeen.com/2009/03/12/takasugi-an-by-terunobu-fujimori)

3.27 Jinchokan Moriya Historical Museum, Nagano, Fujimori 1992 (http://vi.sualize.us/view/2f3d18a7694e7e5c1bce4a90da666fbd)

4.1 Site Diagram (author)

4.2 Formal strategies utilized in creating schematic iterations (author)

4.3 Initial formal manipulation of program in regards to site and views (author)

4.4 Cedar grove in front of Minamisanriku’s main temple repurposed across the valley (author)

4.5 Digital rendering of traditional joinery technique from Kiyosi Seike’s ‘The Art of Japanese Joinery.’ (http://www.flickr.com/photos/35744360@N08/3358728182)

4.6 Diagram of wooden joint methods (http://www.japaneseguesthouses.com/about/travel/carpentry.htm)

4.7-8 Yusuhara Bridge Museum, Kochi, Ken-go Kuma 2011 (http://kkaa.co.jp/works/yusuhara-wooden-bridge-museum)


4.14  My Own Sky House, Tokyo, Takaharu Tezuka 2006 - interior with wood stove, wooden floors and casework (author)

4.15, 4.17-18  Woods of Net, Hakone, Tezuka 2009 (author)

4.16  Diagram of precedents and varieties of joinery (author)


4.20  Elevation of preliminary design (author)

4.21  Section of programmatic spaces in initial building concept (author)

4.22  Minamisanriku youth group (http://www.town.minamisanriku.miyagi.jp)

4.23  Townspeople create handicrafts for sale countrywide in an effort to create a small source of income (http://designacts.org)

4.24  Hinokage Chomin Center with programmatic plan diagram (author)

4.25  Families wait in line (www.spokesman.com/picture-stories)

4.26  View of site facing north (Tezuka Architects)

4.27  Site plan, with marked boundary (Google images/author)

4.28  View east from site along the main entry allee (Tezuka Architects)

4.29  South view of site (Tezuka Architects)

5.1  Section diagram illustrating building components through precedent (author)

5.2  Sequence of formal adjustments (author)

5.3  Axonometric diagram (author)

5.4  Interior rendering (author)

5.5  Exterior rendering (author)
Introduction

Road Map

This thesis supports the philosophy that location is deeply personal and significant. Experiences, memories and tradition shape self-identity, but are also vital components of group culture. In areas of the world continually besieged by natural or manmade disaster, survivors risk losing their affinity to place and individuality. What exists is a culture of destruction and renewal, a dichotomy of hope for the future and nostalgia for the past.

I address the specific situation of Minamisanriku, a Japanese coastal town destroyed in the 2011 tsunami. Faced with the option of dispersing the 20,000 residents and relocating to more secure areas, the townspeople opted to remain and rebuild - despite political and economic pressures to move on. The Minamisanriku Community Pavilion celebrates this decision. It integrates elements of traditional craftsmanship, repurposes local materials and provides spaces for self-enrichment and social interaction for every generation. Through exhibiting aspects of local memory and culture in an iconic design, the goal of this project is to galvanize, rejuvenate and inspire its citizens.

The following document will first provide a personal narrative of my time living and working in rural Japan, as well as the economic and cultural problems faced by rural communities. The next chapter will introduce Minamisanriku and its distinct set of challenges following the 2011 tsunami. Philosophies concerning the meaning of place and a few examples of reactions to disaster emphasize its emotional import. Because the Japanese world view is quite unique, a chapter 1 explains cultural aesthetics. Next, definitions of key

1.1 Collage depicting the aftermath of the 2011 tsunami in Minamisanriku combined with various images of natural decay as well as traditional Japanese art pieces.
concepts such as renewal, transience and impermanence along with precedents illustrating their application in architecture and art from the beginning of Japanese history to modern day. The following chapter outlines the project proposal, including an explanation of the clients, site and program. It describes my design process and how the building incorporates theoretical concepts in producing a building that is not just functional, but also structurally, aesthetically and experientially meaningful.

1.2 Car stranded on top of three-story structure.

1.3 Child’s toy left as memorial by cleanup workers less than 6 months after the event.
Background Narrative

The value of the rural Japanese community became apparent during my two years living and working in Hinokage, a mountain village in southwestern Japan. While struggling economically, its citizens, fun-loving, generous and industrious, are steeped in both natural and cultural wealth. Hinokage boasts the highest bridges in the country, traversing deep gorges and mountain streams that draw tourists from around the country. Traditional dances (kagura) preserved for centuries, pay homage to the nationally-renowned shrine of Amaterasu, Shinto’s most significant deity and main character in its origin myth. At school, children all learn how to perform a kagura “twirl,” or dance. The masks and costumes for these elaborate all-day performances are handmade by master craftsmen and passed down through the generations. Its local Living Treasure, a traditional bamboo basket weaver named Mr. Hiroshi-ma, now over 100 years old, has works in the Smithsonian Institute’s permanent collection and still draws global attention. These things enhance the town’s individual identity; they shape the local culture and become a part of the daily lives and memories of Hinokage’s citizens. This collective memory and deep connection to place is defined by a strong sense of attachment to a particular locale, i.e. the genus loci.

The Japanese have a uniquely cooperative and team-oriented culture where people often define themselves through close associations with groups or places. Perhaps owing partially to the country’s comparatively recent departure from feudalism, one’s hometown, or furusato, is one of the most important social distinctions. Individual small towns are appreciated for their national culture and tradition. (Intangible Cultural Properties of Japan, Wikipedia.org)

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1. The term Living National Treasure orningenkokuho (人間国宝) is an informal designation for the legally assigned Preservers of Important Intangible Cultural Properties or jyuyomugeibunkazaihotokusha (重要無形文化財保持者). These artisans are selected by the Japanese government for their mastery of certain aesthetic skills or crafts deemed significant to the continuation of national culture and tradition. (Intangible Cultural Properties of Japan, Wikipedia.org)
2. lit. ‘spirit of place’
3. Furusato (ふるさと) lit. home, hometown, or origin.
unique sights, foods and customs attract tourists from throughout the country and abroad. Most country towns have several of these attractions to boost the local economy. Some locations, featuring national monuments, shrines, or museums depend on tourism to survive. Japanese people frequently vacation internationally, but domestic tourism is even more popular. However, the sad truth is that despite its heritage and natural resources, Hinokage and many towns like it are slowly disappearing. Decades-old industries in mining and forestry have moved overseas and young people are forced to migrate to urban centers in search of jobs and new opportunities. With the national economy in perpetual recession, government programs designed to bolster rural communities – the bastions of cultural preservation in Japan - have all but vanished.

The preferential treatment shown to small town constituents by national government in the mid-to-late 20th century is now frowned upon as excessive and wasteful. In addition, it is becoming more and more costly to continue infrastructural investment in Japan's remote communities. Mountain roads and bridges that are destroyed by floods or landslides have become too expensive to maintain for such a meager population.
A Harsh Reality

Hinokage’s issues are a microcosm of the entire country’s economic stagnation. After its transformation from an agrarian to an industrial base in the early 1900’s, Hinokage was a thriving town of 16,000. But the closing of the local copper mine, outsourcing of the forestry service, and decrease of government funding over the past few decades have led to a decline in jobs and, consequently, population. A devastating typhoon in 2007 caused flooding damaged the rail systems to the point that services have been suspended indefinitely – a further blow to the local economy.

Today, Hinokage has fewer than 4,500 inhabitants, with the town hall as one of the largest employers. Those not employed by the local government work in small shops or in the dwindling forestry or construction sectors. Many commute over 45 minutes for low paying, service industry jobs, or work several part time opportunities because there are no other consistent options.

Decreasing birthrate is an issue throughout Japan, but its effects are especially evident in small towns. Factors for lower birthrates include the increased education and employment participation of women, a cultural shift that has swayed the traditional female social dynamic away from motherhood and pushed the average age of marriage to nearly thirty. In addition, the economic cost of raising a child has increased dramatically. The daily announcements, broadcast over a loudspeaker, bring grim news.

“There’s only about one new baby a month,” a local government worker stated, “but I think I hear an

obituary almost every day.” Sadly, the close-knit community is simply not strong enough to resist the litany of structural influences – especially with the vast majority of federal assistance committed to rebuilding the tsunami-ravaged Tohoku region on the other side of the country.

There is a high probability that over the next few decades, the younger generations will find work in the larger cities, and the local government will merge with one of the surrounding towns. When this happens, schools close, public buildings go dormant and the centuries-long tradition of arts and crafts could cease to exist. For the Japanese, a people extremely proud of their unique cultural heritage, this is an all too common story of loss. If rural communities disappear, long-standing traditions, skills and values could be lost forever, leading to a loss of national history and identity.

1.11 Kagura, a traditional performing art of Japan, similar to Noh and Kabuki, has been passed down from generation to generation in Hinokage. Each small town has a particular movements and methods unique to its locale.

1.12 (opposite) A view into the Ohito Valley. The patchwork of trees belies a history of heavy forestry.
Tragedy in Minamisanriku

As long as people are aware of their culture then they will naturally tend to rebuild their environment.⁵
- Takaharu Tezuka, Architect

Hope Amongst Wreckage

The earthquake and subsequent tsunami of March, 11 2011 destroyed dozens of seaside communities. Although cynics might say this was merely expedition of the inevitable, not all of these locations were economically unviable. The small town of Minamisanriku⁶ post-tsunami has a relatively robust light industry of seafood processing, extensive fishing network, unscathed resort hotel and a population of nearly 17,000.⁷ Its primary road was reconstructed by the Japanese Self-Defense Forces, and electricity, plumbing, and phone services are being gradually restored. With basic infrastructure, a wealth of natural resources and significant financial support from the government’s rebuilding package,⁸ Minamisanriku is in a uniquely promising position compared with much of rural Japan.

Nearly 95% of the town’s infrastructure was destroyed. However, its primary spiritual and social institutions: temples, schools and field house, remain intact. The sea water rose to within one meter from the base of the temple which served as a refugee shelter – a string pinned across the road on its main approach still eerily marks the tragic event. The importance of the field house and temple in particular increased in the months following the disaster. The temple grounds transformed into a staging ground for the last rites of the dead, with sheet-wrapped bodies stacked high in the courtyard awaiting ceremonial cremation. The gym complex, located on high ground north of the city, was

5. Blaine Erickson Brownell, Matter in the Floating World. 28
6. Also referred to as Minami Sanriku-cho (南三陸町)
7. Approximately 1,000 citizens of Minamisanriku, or over 5% of its population, perished in the natural disaster.
8. Much like the U.S. government’s response to Hurricane Katrina in New Orleans, accumulated aid is existent, but slow to implement – an issue to be discussed later in my investigation.
transformed into a refugee camp, housing thousands for half a year after the disaster. The town hall and field hospital were quickly reestablished on the neighboring parking lot and tennis courts – creating an ad hoc civic center.

Despite the horrors endured, the town is in an ideal place to rebuild, not relocate. Its hills provide refuge from future disasters and more secure locations for further reconstruction. More importantly however, the fishing industry and processing plants are rebounding quickly and show economic promise. Natural resources in the area include salmon, oysters, octopus, and wakame, a type of edible seaweed. In fact, many fishermen claim that the local oyster beds, once caked with detritus and scarred by overfishing, have actually been cleansed by the giant wave, rendering the possibility of a healthier catch.9 Also, the slow recovery of the industry itself (only 20% of the local fishermen have the supplies and equipment to get back on their feet) will likely offer a significantly larger crop over the next several years.10 Currently, a fisherman’s market is organized once a month and brings tourists by the busloads to sample Minamisanriku’s renowned seafood.11
Opportunity From Disaster

As Christian Norberg-Schultz recounts in his essay “The Phenomenon of Place,” even though change is a natural occurrence, this does not mean that the emotional or psychological aspects are lost. In fact, there are even design opportunities to be discovered from such events:

[Ancient man] recognized that it is of great existential importance to come to terms with the genius of the locality where his life takes place… In ancient Egypt, for instance, the country was not only cultivated in accordance with the Nile floods, but the very structure of the landscape served as a model for the lay-out of the “public” buildings which should give a man a sense of security by symbolizing an eternal environmental order.

This is not to say that Minamisanriku should rebuild its civic structures to pay homage to a higher power. However, a building deferential to place, history and society can galvanize pride and confidence in a traumatized community.

A prime example of this is the 5.4.7. Art Center by Dan Rockhill’s studio 804. In the winter of 2007, American design/build architect Rockhill deftly addressed a situation similar to that of Minamisanriku. The town of Greensburg, Kansas had just been razed by a tornado and was looking to regroup. After meeting with Rockhill’s studio 804, a student design/build studio – the town decided to award its first commission, a community art center. Built by untrained labor on a tight budget in less than six months, the simple modular structure was one of the first new public buildings erected in the town.

As a cost-saving measure, and also one that incidentally tied the building to its location and local history, materials were taken from a nearby abandoned munitions factory. The design, modest and easily constructed, implemented sustainable systems that utilize the area’s ample wind and sun to generate power, save on upkeep and provide a model for future rebuilding efforts. While programmed not only for art exhibitions, but also to host indoor/outdoor events and celebrations, the 5.4.7. Art Center quickly became a “beacon in a community” in desperate need of hope and progress. It is not surprising that the town council placed such a high priority on a building with this function. The center achieved multifaceted goals of reuniting and reenergizing the community. In addition it celebrated local culture and individual accomplishments.

2.6 Greensburg after its May 4, 2007 Tornado.

2.7 Participants of Studio 804 assembling the art center’s frame at their facility in Lawrence, KS.

2.8 Delivery of the center's prefabricated elements via flat-bed trailer.

2.9 Completed 5.4.7. Art Center on site in Greensburg.

2.10 Community function at the center soon after completion.
Painful Remembrance

Currently in Minamisanriku, feelings surrounding the tsunami are polarized. One example is the controversy surrounding one of Minamisanriku’s surviving structures, the three-story steel frame of the Disaster Management Center. The day of the earthquake, a young public servant manned the tower and initiated an emergency broadcast to direct evacuation. As the waters rose, the live public service warning continued without ceasing, until at last the building and everyone who stayed behind was engulfed by the frigid waters. The building, since stripped down to its red steel skeleton, has become a symbol of resilience. It attracts pilgrims from throughout the country traveling to pay their respects. Some residents, however, feel that the structure is a macabre reminder of utter death and destruction and should be taken down.15

With architecture creating a sense of memorial, through deference to genius loci, it has the ability to help displaced inhabitants of Minamisanriku rebuild their sense of identity. While it is important not to create disunity, a new building can add enduring significance by incorporating both what was and what will be.

2.11 Public officials pay their respects at the ad hoc shrine at the foot of Minamisanriku’s Disaster Management Center.

2.12 A monk provides his blessing.
**Destruction and Decline**

The consciousness of destruction and renewal is so ingrained in the Japanese psyche that it is expressed through centuries of artistic representation. Renowned modernist architect Arata Isozaki (1931-) grew up during the devastation of World War II and is often grouped with radical neo-rationalist thinkers like Peter Cook, Cedric Price and Han Hollein.

Isozaki was profoundly impacted by the horrific aftermath of Hiroshima and Nagasaki and conveyed his emotion through a visual installation. His submission to the Milan Triennale of 1968, entitled “Electric Labyrinth,” was a graphic tale of death and rebirth. One multimedia mural entitled *Hiroshima Ruined Again in the Future* encapsulated the architect’s feelings of inevitability and loss by overlaying futuristic architectural forms over a photo of Hiroshima showing the city immediately after the atomic bomb had been dropped. Isozaki writes:

> I belong to the generation that had experienced once and for all the bankruptcy of Japan as an export commodity, the destruction of its cities, the transformation of the social structure, and above all, the end of history at Hiroshima. Stained upon my eyes was the scene of destruction and extinction that came first, before the beginning of everything else. Yet the reality of construction and growth proceeded apace... I intended to pose the example of Japan’s passage through collapse and extinction.\(^\text{16}\)

\(^{16}\) Arata Isozaki and David B. Stewart. *Japan-ness in Architecture*. 84.
The exhibit, which portrayed Japan as an “ Outsider” in the West, illustrated the architect’s perception of uniqueness surrounding his national identity. Many of his successive theories and investigations stemmed from similar themes of spirituality and established artistic aesthetics. By addressing the theme of destruction through an architectural medium Isozaki brought to light the specific emotions inherent to the Japanese. Any project undertaken in Japan must show deference to this unique historical context and the personal feelings it generates.
The world of dewdrops,
Is the world of dewdrops,
And yet…
- Kobayashi Issa, Poet

A Religious Foundation

As previously mentioned, historically the Japanese are no strangers to the concepts of ruin, impermanence and change. Shinto and Buddhist principles have underscored centuries of art based on spiritual aesthetics surrounding seasonality and transience, respectively. According to Blaine Brownell:

The Japanese creative process is connected to deeply embedded [Shinto] philosophies that define space and time as particularly precious commodities. As a result, Japanese design embodies a heightened awareness about the ephemerality of existence and the significance of the present moment.¹⁸

Most often mentioned in cultural discussions are the buzzwords wa, ma, wabi and sabi, philosophical components of a stylized world view principally established by Zen Buddhist principles introduced as early 1100 CE, but refined during the 15th and 16th centuries. Evidenced by art historians in many media such as poetry, landscape paintings,¹⁹ calligraphy²⁰ and particularly tea ceremony,²¹ these spiritual forms not only defined particular artistic mores, but were also intended to influence the ritual of appreciation and process of creation. Rather than merely defining technique, the principles formed by the unique combination of Shinto and Buddhism began to develop and redefine the physical environment of the Japanese people.

3.1 (opposite) Winter Landscape, Sesshu Toyo, ink 1486.

3.2 Falling cherry blossoms, an oft-referenced symbol of beauty found in the transience and ephemerality of the natural world.

19. Sansuiga (山水画)
20. Shodo (書道)
21. Chado or sado (茶道)
Even as a foreign architect, understanding these spiritual themes and allowing them to surface periodically enhances the design by adding specific significance.

The Practice of Renewal

While the above concepts were imported from China via Zen Buddhist priests, artists and intellectuals, their wide acceptance in Japan was also based on a strong congruence with indigenous Shinto beliefs in ephemeral spirits, deification of nature, and solemn ritual. One of the earliest “existing” Shinto shrines to exemplify this ancient quality of change and evanescence is the pilgrimage complex of *Ise Daijingu* (or the Great Ise Shrine). Dedicated to Amaterasu Omikami, the sun goddess and principle Shinto deity, Ise is located in Mie Prefecture in central Japan. Since its designation as the official imperial shrine under Emperor Temmu in 680 CE, the entire complex has been destroyed and rebuilt in 20-year cycles. Due to the intense level of craftsmanship involved in construction two adjacent sites are utilized to maintain constant construction.

The actual relocation of the shrine is a necessary formality, with reconstruction on the same site beginning almost immediately, so it is most appropriate to consider the shrine’s existence as cyclical, rather than moving or shifting from place to place. The significance of this ritual is most likely tied to the Shinto emphasis upon purity and cleanliness.

From a sociological standpoint, it is also possible that the rigid schedule symbolized and fortified the continuity of the divine imperial rule.

The subject of praise and critical acclaim by

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22. Amaterasu is one of the principle deities of the Shinto creation myth, the very same which is celebrated through the art of *kagura* in Hinokage and its surrounding areas.


24. It is important to note that both religions coexist in Japan with overlapping themes, but do not always use the same justification. They also play complementary roles in domestic ritual — for example, Shinto addresses birth and marriage, where as Buddhist ceremonies are typically observed for funerals.

25. Ironically, Ise's ritual is also in danger of disappearing as the highly-skilled family of craftsmen devoted exclusively to the shrine continues to dwindle in size and no new disciples are
architects and historians for centuries, Ise stands unique amongst ancient religious structures. The shrine was designed in a distinctly vernacular architectural style, incorporating principally unadorned natural materials in a modest structure consisting of a heavy thatch roof supported by simple posts and beams. It is even said that the column in the center of each structure was cut from a sacred trees hundreds of years ago and are reused throughout the centuries. Considered by many to be the father of modern Japanese architecture, Kenzo Tange once remarked:

To find [creativeness], I have roamed through tradition until, at its furthest limits, I was confronted by Ise, by the fountainhead of Japanese tradition. I found the form of Ise; behind it lies primeval nature. Out of it, out of nature’s darkness, the vigorous conceptual ability of the ancient Japanese gradually fashioned various symbols of the spirit culminating in the creation of the form of Ise. Here primeval darkness and eternal light, the vital and the aesthetic, are in balance, and a world of harmony with nature unfolds. It is this harmony or *wa*, similar to the Chinese spiritual balance of *yin* and *yang*, that imbues in the Japanese with an understanding of time and patience and appreciation for the elements, materials, and objects that celebrate nature’s ever-changing balance. A difference, however, is that *wa* is not dichotomous, rather it defines the harmony of myriad things.

27. Isozaki, 129.
28. (和)
**Productive Emptiness**

Much is made of the Japanese traditional definition of space, *ma*. In its most essential elements, however, *ma* simply refers to negative space or an interstice of time or experience. Some might describe it as a pause or gap, similar to a *rest* in music. Technically, however, it is “a term indicating both the spans in between frontal columns... and the number of eaves that extend form the main building itself to its four sides.” In a broader sense, *ma* represents an appreciation for place atypical of the western aesthetic framework.

The typical vernacular structure in Japan, for example, physically exhibits this concept through post and beam construction, which allows freedom of movement in the walls, e.g. sliding screens and

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29. A term used by Arata Isozaki when describing *ma*, a concept he reinvestigated for the 1996 Venice Biennale installation he commissioned portraying the devastation left by the Kobe Earthquake. Isozaki, 100.
full visual transparency. The building itself is typi-
cally raised above the ground creating an inherent
threshold, but interiors flow from deepest hearth,
to exterior porch without obstruction, wide eaves
extending past the structural footprint. Where the
house actually begins or ends is indistinct, but the
ideas of dwelling and ownership are undeniable.

A further example of this relatively abstract
quality is a sacred shrine marked by a torii, or tra-
beated Shinto gate. According to legend, Shinto
spirits exist throughout the natural world, floating
unseen from place to place. When worshipping,
a practitioner will call the spirits to a shrine or
consecrated location, typically by ringing a bell or
clapping, in order to make an offering and pray.
Often these sacred places are designated by torii
acting as open doorways signifying a threshold to

a place of communion with the spirit world. When
one passes under a torii there are often no further
physical boundaries other than a path worn by time.
However the essence of ma is apparent through the
feeling of place, defined by a spiritual sense of pur-
pose. The transience of Shinto spirits, kami,32 and
the acknowledgement of their distinct connection
to the ever-changing natural world create a certain
indifference to physical boundaries and restric-
tions. However, that is not to say that ma is without
definitive locale. Isozaki once wrote, “The ultimate
state of ma must be continuous with a productive
emptiness…”33 Specifically, it is meaning, purpose
and experience that create the worth of place, not
the walls that enclose it.

30. (間) lit. space, time, or interval
31. Isozaki, 27.
32. (神)
33. Isozaki, 100.
Aesthetics of Imperfection and Insufficiency

Used by Zen priests to inspire contemplation, wabi and sabi offered a way to find tranquility through acknowledgement of the beauty and transcendental power of nature. While both terms are linked with emotions, sabi, the more specific of the two, infers a sense of loneliness when observing aging or extinction. It contains an acceptance of the cycle of growth, decay and death.

A certain irreversibility or degradation is also inherent in the term sabi, such as in decaying wood, rusting metal, or falling leaves. In his landmark In Praise of Shadows, the author Junichiro Tanizaki referenced the concept of sabi when he wrote, “[the Japanese] do love things that bear the marks of grime,

34. A quote by Rhode Island School of Design professor Yuriko Saito who warns against overusing Japanese “buzz-words” like wabi and sabi to describe complex interrelated concepts (Buntrock, 25)
35. 侘び
36. 寂び
soot, and weather, and we love colors and sheen that call to mind the past that made them.” Architects and designers around the world often utilize materials that change with age, but do not always implement them in ways that enhance the design over time. COR-TEN steel, for example, while rusting quickly and forming an even, protective coating over the steel below, is often installed post-patina and does not add to a natural or organic design purpose.

Louis Kahn, however, was said to have refused using treated wood for his Salk Institute with the explicit intent that it gray with exposure to the ocean air and one day fade to its “true” gray color to match the concrete facade. This anticipation and embracing of the material shows an awareness and honesty that is “producing something already there by subtraction.”

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38. Famously applied in Eero Saarinen’s John Deere Headquarters in Moline, Illinois.
In his book, *On Weathering*, Moshen Mostafavi comments that, “Weathering marks the passage of time... it brings the virtual future of a building into dialogue with its actual present, as both are entangled in its past.”

Dana Buntrock astutely quotes University of Arizona architecture professor Fred Matter on this topic:

“For a building to be understood as an expression of the time of its creation, it must provide understandable ways of recording the passage of time... Attitudes toward permanence and durability or toward change as growth or decay are important expressions of a regionalist sensibility.”

This is the essence of *sabi*. As illustrated above, implementing these concepts allows a designer to imbue a work with a sense of majesty and age outside of his initial control. If planned carefully, the impact of nature on a building allows for it to acquire deeper meaning and effect.

*Wabi* originally comes from the verb *wabiru*, meaning to apologize, but with a connotation of sadness from having failed or disappointed oneself. Various English translations include: austerity, imperfection, rusticity, simplicity and ethereality. In its basest sense, *wabi* is the beauty implied in the irregularity created by nature that trumps the human hand. Appealing immensely to the spartan ideals of *bushido* held by the samurai class, the term defined key principles of humility and severity. During the 16th and 17th centuries, *wabi* was depicted in the high arts of *haiku*, calligraphy, and *ikebana*, but most notably in a redefinition of Chinese tea ceremony called *sado*. In contrast to the formal, gilded, Buddhist tea ceremonies, the new method of tea appreciation incorporated *wabi* to

41. Mostafavi and Leatherbarrow, 112.
42. It should be noted that Berkeley professor and author of *Materials and Meaning in Contemporary Japanese Architecture* delves deeply into the diversity of Japanese regionalism despite the fact her close friend Fujimori eschews association with the moniker – preferring instead simply to be labeled ‘a Red.’ (Buntrock, 34)
43. Buntrock, 32
45. The art of flower arranging
46. Also called *chado* (茶道)
create a uniquely Japanese art form. Rough clay pots replaced finely painted porcelain cups. Opulent tea rooms were rejected for simple, stark huts adorned with only a flower arrangement and possibly a haiku scroll. Large processions were eschewed for intimate, sometimes solitary meditative sessions.

Everything from the implements to the process itself was molded by this concept creating a holistic experience. In his essay *The Wabi Aesthetic Through the Ages*, Haga Koshiro outlines how the structure of a tearoom reflects the highly complex taste:

*Pine pillars, bamboo joists, left as they are,*
*Curved and straight, square and round,*
*Up and down, left and right, new and old,*
*Light and heavy, long and short, broad and narrow,*
*Repaired where chipped, patched where torn,*
*Everything at odds, nothing matching.*

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3.18 Raku tea bowl espousing ‘wabi’ characteristics by con-temporary master.

3.19 Auster tea hut, Shoyoen, Tochigi.

3.20 Typical arrangement of a Japanese alcove (tokonoma)
Samurai era artisans and craftsmen are not the only designers to implement such themes in built works. There are many contemporary Japanese architects who employ varying aspects of *wabi* and *sabi* in their projects. Integrated with traditional techniques and distinct cultural or vernacular references, many of these buildings could be grouped together in a loose definition of Japanese regionalism. This group, “invested in the unique attributes of a site,” has been labeled the ‘Reds’ by Tokyo University professor Terunobu Fujimori, as distinct from the ‘Whites’ – international Japanese architects more focused on technological solutions and weightless aesthetics incorporating clean, minimalist forms and a large amount of glass.

Fujimori’s own experimental departures into built form push the boundaries of the visceral quality of the Reds so far that his work is often questioned as

48. Buntrock, 34.
49. Ibid. 46.
50. Ibid, 239.
architecture. Most built by his own hand, the academic’s buildings intentionally reflect craft through the artistry of an amateur. With little regard for posterity, Fujimori’s Soda Pop Spa \(^{51}\) actually employs exposed structural timber in the moist bath house, embracing eventual rot and decay. Further examples of wabi in Fujimori’s work include roughly implemented rain screens, live pine tree finials and a tea house 20 feet off the ground balanced only on three crooked, spindly poles.

Weathering and entropy are widely-referenced design themes, but one must note their implications to a people who have tied their artistic aesthetics so closely to unique tradition and religion. Combined with the aforementioned cultural familiarity and proximity to natural and manmade disaster, one can see how powerful a topic the cycle of destruction and renewal can be when utilized in building design.

51. Lamune Onsenkan (ラムネ温泉館), 2005


3.25 Fujimori enjoying tea within his tree house.

3.26 Soda Pop Sap (Lamune Onsen) interior, Oita, Fujimori 2005.

selected site
infrastructural damage

4.1

4.2

Tower Typology

4.3

Bar Typology
Design Intent

Opportunity

A project in Minamisanriku offers the perfect opportunity to create a culturally significant, restorative project in an area of need. The design is influenced by cultural symbolism, local materials and craft, as well as the building’s relationship to its physical environment in order to perpetuate a message of continuity and hope. Creating views through formal moves in reference to the surrounding mountains, forest and especially the ocean would place the project in its unique locale and acknowledge the town’s long history with nature. Passage of time could be noted through weathering, shadow, or any one of a number of material options. Because Minamisanriku has a temperate latitude, there is a diversity of phenomenological design options that could target sunlight or events for precipitation. As previously outlined, material choice will be vital, so understanding both vernacular and contemporary uses for available products cannot be taken for granted. References to Japanese aesthetic qualities in form, detail or finished treatment will provide a specific design solution tailored towards a community with few built icons.

As with many devastated areas, utilizing discarded or abandoned resources in the construction process provides an interesting chance to capitalize on Minamisanriku’s individual sense of place and identity. One such opportunity for lumber arises in the primary allee of trees leading up to the town’s most prominent Buddhist temple. The 60-meter cedars, still rooted but drowned and desiccated by the saline flood, are scheduled to be felled. The massive vestiges, likely over 200 years old, are perfectly straight and, if properly dried, ideal for

4.1 Diagram depicting infrastructural damage in Minamisanriku in relation to the selected site.

4.2 Formal strategies utilized in creating schematic iterations.

4.3 Initial formal manipulation of program in regards to site and views.
structural members. Harvesting this resource would achieve various positive effects such as: reducing construction costs, employing local labor and provoking sentimentality and nostalgia, not only of the temple, but of the tsunami as well. Rebuilding with repurposed trees, brings a restorative cycle into the forefront of the design narrative. It takes a major role in the project narrative and influences the structure, materiality, details and use.

The Merits of Wood in Modern Japanese Architecture

Wood has always played a large role in Japanese design; its comfortable scale, warm texture and structural versatility have been central to vernacular architecture for over 1,000 years. In fact, before the Meiji Period (1868-1912), feudal laws prohibited use of stone or tile by lower social classes, as it was an indicator of status. To this day, master carpenters still employ traditional styles and methods of building houses in the countryside. The actual act of making through patient repetition, also influenced by Zen, has been passed down as part of Japan’s unique appreciation for hand-worked craft. Despite having some of the world’s most advanced building technology at their disposal, an elite contingency of contemporary Japanese architects experiment heavily with wood construction and detailing, perhaps seeking this connection with the act of building itself. While Terunobu Fujimori might hesitate to include them with him in the Red faction due to their relatively universal design philosophies, a few popular architects have created recent works that speak distinctly of a regional or historical deference.


4.4 Cedar grove in front of Minamisanriku’s main temple repurposed across the valley.

4.5 Digital rendering of traditional joinery technique from Kiyosi Seike’s ‘The Art of Japanese Joinery.’

4.6 Diagram of popular wooden joint methods.
At the forefront of this charge is Kengo Kuma, a versatile architect who once exclaimed, “It is not exaggerating to say that not only the architectural culture of Japan, but also the entire culture of Japan is grounded on the tree.” Labeled a ‘reluctant Red’ by Buntrock, Kuma’s recent work is often characterized by a play of flat surfaces articulated by a deft implementation of materials. Many times, the architect derives design inspiration from the site or local artisans. An example of this being his 2002 Adobe Repository for a Buddhist Statue which is made with bricks created from local muds. Adept in many architectural forms, Kuma’s urban pieces, like the Suntory Museum in Roppongi’s new Midtown complex, blend with their shining, vertically oriented modern surroundings. His more rural works, however, often feature bamboo poles or exaggerated wood cribbing reminiscent of ancient

4.7-8 Yusuhara Bridge Museum, Kochi, Kengo Kuma 2011.


4.10 Adobe Repository for Buddhist Statue, Yamaguchi, Kuma 2002.

53. Buntrock, 71.

54. An extremely versatile designer, Kuma actually began his career as a strict historical post-modernist - his 1992 “M2” building in Tokyo is focused around a four-story facsimile of an ionic column.

55. Buntrock, 87.
temple architecture or vernacular retreats. Regardless of the location, Kuma’s process remains the same, a steady, straightforward approach of repetition, surfaces and material experimentation. For him, it is not always necessary to display how the pieces go together, rather, that they be understood as a compliment of hovering planes. Rarely does Kuma attempt the vernacular joinery or haphazard playfulness of Fujimori. His is still weightless architecture that utilizes physical aspects of site and local craft to deepen the building’s narrative and connection to its site.

One of Tokyo’s foremost young architects is Sosuke Fujimoto. Known primarily for his abstract white residences that seek to subvert the standard archetype of ‘home’ through transparency and simplified form, Fujimoto is easily considered a quintessential “White.” Despite this well-deserved moniker, one of the architect’s more recent projects, a rural house/installation dubbed Next Generation House, is a reminder that even “Whites” can utilize various qualities of wood. Essentially a 4-meter cube created of stacked timbers, the installation eschews the concepts of floor, ceiling, and wall to form a wooden box layered with nooks and recesses.

Like his contemporary Fujimoto, Takaharu Tezuka is a young, experimental designer firmly entrenched in the belief that there are commonalities amongst humans that tend towards a more universal approach to architecture. While often working with a small palette of materials, white-painted steel and glass being preferred exterior finishes, Tezuka utilizes wood in his interiors for the tactile sensation and warm appearance. Several years ago, Tezuka was asked to design an exhibition hall to house an interactive art piece – a

56. Located along the Kuma River in Kumamoto, 2008.
57. Tezuka’s explanation was given to me during an internship in his office, September 2011.
Individually milled members sloped to shed water, joined without mechanical fasteners.

Diagram of predecessors and varieties of joinery techniques.

The “Net of Woods” is a massive shell of over 200 stacked timbers, each individually measured and milled. Perhaps the most fascinating aspect is that “in a reference to [Kyoto’s] seventeenth-century Kiyomizu Temple” the building utilized a traditional, exclusively wooden, joint technique. For Tezuka, the act of making such a challenging piece was the most important part of the design process. It makes one wonder if Tezuka’s choice of such an esoteric constraint, was a way of paying homage to Japan’s most recognizable architectural icons and personally reconnecting with his country’s history.

These three architects exemplify successes of universal strategies applied with regional deference. Despite their preferences for technological design solutions, when relating to physical site, local history,
building craft or individual sentiment, each designer found value in wood and its aesthetic qualities.

**Function**

The large multi-purpose forum plays a significant role in rural Japanese communities. While life in Tokyo has become increasingly individualistic, the countryside still favors a much more closely knit social structure. Most towns boast assembly halls or gymnasiums that hold frequent local events. These meetings, tournaments and celebrations are often aimed at preserving town culture and building local pride. Throughout the latter half of the 20th century, constructing high-budget white elephants in small towns was a way of bolstering local economies and gaining popular support for local politicians. However, despite financing some of the country’s more prominent architectural projects, these massive white elephants are becoming a thing of the past. A new community center, modest in scale and focused around intimate spaces and program specific to the town’s needs, would seek to redefine the existing typology of rural public works.

The Minamisanriku proposal’s programmatic elements are to include:

- A lobby/exhibition space for events and displaying local crafts
- Internet-ready computer labs/classrooms for continuing education programs
- Day care/children’s classrooms
- An art room/studio
- Multipurpose *tatami* room for cultural arts classes, individual use and events
- Administrative offices

4.20 Elevation of preliminary design.

4.21 Section of programmatic spaces in initial building concept.
The Minamisanriku Community Pavilion would simultaneously support economic, cultural and social causes. A computer room could provide a place to build pertinent skills for those who lost their livelihoods in the flood. An event space or large lobby would double as both a gathering point and exhibition area. Classrooms could be utilized by smaller continuing education courses or meeting rooms for local cooperatives. The daycare center or preschool play space would enable mothers to take classes or work. Craft rooms equipped with tatami flooring would provide a generous multipurpose area for art classes or making meibutsu,\textsuperscript{60} local specialties. Creating indigenous items for sale would encourage the continuity of town traditions as well as capitalize on the local markets and tourism trade.

This programmatic approach is based heavily on the Hinokage Chomin (or “citizen’s”) Center – a successful small town multipurpose building. Despite being one-quarter the size of Minamisanriku, Hinokage has a relatively substantial complex of mid-sized facilities to support the local events and extracurricular activities. Daytime hours host a range of meetings and events in one of several conference rooms. A library/activity room is available to young students after school. Tatami\textsuperscript{61} rooms and cooking facilities used in evening continuing education classes (e.g. flower arranging and cooking lessons) can double as sleeping quarters for guests or emergency workers in times of crisis. A stage on the upper level hosts the coming of age ceremony\textsuperscript{62} and other formal civic functions.

It will be clear to any observer that the Community Pavilion forms a base of socialization and cultural continuity. Indigenous rituals, methods, and habits should

\textsuperscript{60} (名物) lit. “famous object”

\textsuperscript{61} Tatami is a woven mat (approximately 3’x6’). Also utilized as a standard unit of measurement for Japanese interiors, tatami provide a softer tactile experience and are preferred by many Japanese for their aesthetic and nostalgic qualities. In addition, most traditional arts and activities necessarily occur in tatami-floored rooms.

\textsuperscript{62} Or seijinshiki (a traditional coming of age ceremony offered to all Japanese 20-year old in their hometowns)
4.22 Minamisanriku youth group participates in a local festival.

4.23 Townspeople create handicrafts for sale countrywide in an effort to create a small source of income.

4.24 Hinokage Chomin (Citizen’s) Center with plan diagram and programmatic description.
be preserved despite adversity and measures need to be taken to help ensure a viable economy. It will be possess architectural characteristics in which the community can be culturally vested while still being iconic and a possible destination for tourists. Currently, the refugees in northern Japan have two choices, relocate or rebuild. This building takes a stance for the latter, insisting that human culture, tradition and community are inherently valuable and necessary parts of individual identity.

Client

Currently, Minamisanriku is fighting for its economic survival. The town government, national/prefectural authorities and international aid organizations have provided money and manpower to help cleanup and rebuild the town, but the dreadful inefficiencies of the Japanese bureaucratic process limit accessibility to national funds. Similar to the US government’s problems after hurricane Katrina, coordinating local, regional and national efforts has proved more challenging than expected.

The Japan Committee for UNICEF is directly funding the majority of the Tohoku (Northeast) region’s education infrastructure improvements. As UNICEF International is only based in developing countries, the Japan Committee is specifically comprised of Japanese aid workers recalled to their home country to provide assistance. Even though the Japan Committee for UNICEF receiving funding from private donors, it still needs to go through Japan’s federal governments to make many decisions. Other infrastructural developments such as connecting to sewer or power grids are handled
through the town. However, these seemingly small steps can take weeks to months in a heavily bureaucratic system such as Japan’s. Without much precedent, the relief funds have been extremely slow in coming and there is frustration and outrage among the citizens and especially the people in need. Ideally, the community center would be fast-tracked as a prototype project that would provide both the government and the town with a positive, efficiently executed example to showcase to the country.

While not exclusively a school, the center would fall under the social education division of the town hall and thus feasibly appeal for assistance from that particular body. The town, architect, engineers, and land owner would, of course, work together and provide technical input with UNICEF taking a backseat role as not-for-profit financier.

4.25 Families wait in line for daily necessities at a refugee facility in Minamisanriku.
Site

Minamisanriku’s climate and bio-zone are temperate and similar to that of New England. Summers can be hot and humid while winter conditions, like those experienced by refugees in early March of this year, can be unforgiving and frigid. Precipitation is on average about 10cm a month, with the highest amounts occurring in typhoon season through August and September. As a seashore community primarily concentrated in a long, low valley, Minamisanriku is especially vulnerable to natural disasters such as typhoons and tsunamis.

The current population has been calculated at around 17,000 – nearly 1,000 people perished in the most recent tsunami, but this does not account for the hundreds, if not thousands, of able-bodied townspeople who have left to find work in unaffected areas. While a disproportionate number of disabled and elderly citizens were lost in the disaster, it is safe to assume that Minamisanriku’s population has a slightly higher percentage of seniors and children than it did pre-flood.

The initial tidal wave razed all built structures within 15m of sea level – nearly 95% of the town. However, a makeshift town hall and field hospital were erected on a nearby hill next to the surviving athletic center, utilized as an emergency refugee camp. At nearly 500m above the ocean, this new base camp has become the new town center and a staging ground for the reconstruction process and is where I have chosen to propose my community center. However, in contrast to the pre-fabricated modules, inexpensive Japanese housing,


4.26 View of site from foot of hill facing north.
4.27 Google plan of site, with marked boundary.
4.28 View east from site along the main entry allee.
4.29 South view of site.
and concrete and glass gymnasium, the proposed center would be designed with regional elements reflecting the town’s unique culture and history.

The plot itself sits on a knoll at a three-way intersection in the complex’s primary access road. The approach forms an alee leading directly to the proposed site. From the knoll, the vantage is unique in the neighborhood and will command a presence and position of significance. Depending on landscaping maneuvers and design intent, the building could be seen from nearly every point in the complex, providing opportunities blending in. Surrounded by indigenous cedar, the graded site looks out across the neighborhood, gymnasium, and field hospital providing an ideal sensation of both ‘prospect’ and ‘refuge.’ The tentative footprint is approximately 40m x 18m, but the hillside allows for possible expansion. Additionally, an abutting lot to the north provides an “overflow” option should the programmatic requirements increase even further perhaps doubling or tripling that footprint. Orientation is east-by-southeast, but the sun’s warmth can be felt all day long and prevailing breezes are not hindered by the trees.

The view encompasses the complex and, on a clear day, the ocean and horizon beyond. While the neighborhood is undeniably utilitarian, with few pedestrian-friendly qualities and several temporary structures, my aim is to create an iconic building that will help redefine the town. Overall, the site is safe, central, easily accessible, flexible, topographically dynamic, and open lending to a myriad of impactful design possibilities.
Incorporating Identity of Place

Designing for location is not just about sun angle, altitude, or weather. To truly reflect place, it should also take into account a combination of human experiences and natural events. The parti, or design intent, or the Minamisanriku Community Pavilion incorporates these influences through several particular design motifs.

Formally, the pavilion is a bar, elevated on a wooden framework and terraced down the hillside. An exposed timber tower, protruding nearly 25 meters in the air, functions as an observation towner. Now finalizing cleanup, Minamisanriku is shifting toward the rebuilding process. With this new vantage point, citizens can document and experience the progress their unified progress. Unobstructed sightlines to the bay and ocean beyond remind the citizens of their intimate connection to the water and the natural forces that shape their lives. Constructed using the repurposed cedar from the nearby temple’s main allee, the tower is an embodiment of the town’s regenerative cycle.

Wood columns, beams and joists form a framework joined by skilled artisans who still practice their craft. Although sitting on earthquake resistant caissons of poured concrete, the pavilion shuns metal fasteners and structure in a nod to Japan’s renowned culture of fine handcraftsmanship. By implementing an exclusively wooden structure, this building imbues a sense of local pride and shows deference to the wisdom of those who built in this region for centuries.

In plan, the building is anchored with a uniform

5.1 Section diagram illustrating building components through precedent.
column grid, creating a module similar in proportion to that of traditional Japanese homes and temples. The interior spaces are unpartitioned and open with views to the outdoors encouraging a closer connection with nature. As they have for centuries, many modern Japanese buildings do not incorporate hermetic layers of insulating systems, rather embrace passive systems and show a preference for free air flow. The pavilion adopts this approach, using space heaters and shade to regulate temperature.

While the structure itself has no walls per se, each spatial unit is enclosed. The stand-alone rooms are arranged in juxtaposition with the grid representing flexibility of traditional tatami interiors. The walls and ceiling of each programmatic unit are glass, providing visual accessibility, sound control, space-specific temperature controls, as well as allowing for natural lighting. Visual cohesion adds to a community focus, inviting all to participate. Raised floors under each room reference traditional construction raised off the ground to maintain cleanliness and create a separation from the outdoors. Not only do the raised floors help define the glass rooms, but they also enable compartmentalized conduit and duct work.

The programmatic offerings, including spaces for both cultural and economic sustainability, support the themes of growth and renewal. In juxtaposition to the large, multipurpose sports complex below, the pavilion provides smaller, intimate spaces for small-group interaction. Learning spaces for adults to access new professional skills, whether via the computer or standard classroom offer a promise for the future. In addition, the tatami room and craft spaces, available for youths to learn the importance of local tradition
and culture from the elderly. A focus on history and cultural continuity. This intimate, multigenerational interaction is the crux of the third floor, which is accessible from the upper parking lot and includes daycare, art room, *tatami* room and office.

Integrating local materials is not only economically sensible, it alludes to the lineage of the local community. In addition to the indigenous cedar, bamboo and thatch play feature prominently in the building’s shell. A structural bamboo lattice spreads over the timber structure like a fisherman’s net - clearly visible from the interior. The crisscrossing joints are lashed together providing the shell with structural flexibility through violent winds. A thick dressing of thatch, implemented by local artisans, covers the lattice. At times acting as both roof and wall, the shell undulates like the local hills and valleys. Providing diverse

5.2 *Sequence of formal adjustments.*

5.3 *Axonometric diagram of structural systems.*
interior moments, it even opens to let in sunlight and rain fall. The entire system will be exposed, honestly representing its simplicity.

As the pavilion ages, signs of weathering will appear. The bamboo will gray, the thatch will increase in thickness from periodic repairs, and the wood floor will smooth from use. Much like Minamisanriku itself, the building will need to be rebuilt, added to, or altered over time. The Buddhist themes of austerity and impermanence will be heavily apparent. The pavilion and town will acquire an aesthetic distinct to their time and place with the impression of man and nature making an indelible contribution them both.
The purpose of this thesis is to argue the appropriateness of regional design solutions in Minamisanriku, a rural town in desperate need. With modern Japan facing deeply seeded economic and structural issues, the tsunami of March 11 induced further trauma placing numerous small towns on the brink of physically and culturally vanishing. Preserving unique heritage and traditions has taken on a new urgency. Minamisanriku is no exception. It is not enough to say that these devastated towns do not offer economic benefit – they can. Nor is it accurate to claim that every last resident can simply relocate and receive a higher quality of life – they will not. Much of what humans find significant in life are memories and personal connections to family, friends and place. The Japanese in particular are extremely sensitive to family, group and cultural bonds in which many take pride and define themselves as individuals. Their advanced social culture has been bred from shared experience throughout the ages dating back to feudal times. Cooperating to overcome natural disasters, famine and war, the Japanese have developed a unique world view that has helped them cope and rebound from unthinkable hardship.

Since their initial coexistence nearly 1,000 years ago, Shinto and Zen have formed the backbone of Japanese culture and social customs. Two of the most apparent themes in these religions are transience and impermanence, rationalizing spirituality in nature and admitting man’s mortality. Manifesting themselves throughout the ages in various crafts and artistic practices, aesthetics encompassing ideas like ephemerality, decay and rebirth
became quotidian concepts. While ma, wabi and sabi became intrinsic values of art and design during the 15th and 16th centuries, their foundations had begun much earlier and exist even to this day. These aesthetic principals, combined with vernacular styles and craft, have created a distinctive architectural expression.

From staid, ancient religious centers like Ise, to the quickly produced (and replaced) high-tech towers of Tokyo, Japan’s unique take on materials, construction and building lifecycle permeate preeminent designs. While not all contemporary Japanese designers agree on how literally to incorporate traditional concepts, most have a strong sense of deference toward site and nostalgia, especially when designing in their homeland. Looking at some recent projects with wood by preeminent Japanese architects, it is clear that there is a fondness towards the material. More so than the in the west, there is an association and familiarity with wood that has been built from millennia of timber construction and experimentation. Wood, too, is a perfect reference to nature and entropy, again tying together deeply embedded spiritual concepts.

Spirituality is at the heart of the proposed project: a community center in a ravaged town built with discarded lumber created by the disaster itself. Out of hardship come opportunity and a clear message of hope for Minamisanriku’s residents. They and their ancestors have suffered repeated devastation, yet the local culture, tradition and identity have remained, despite this terrible cycle of destruction and renewal.


