

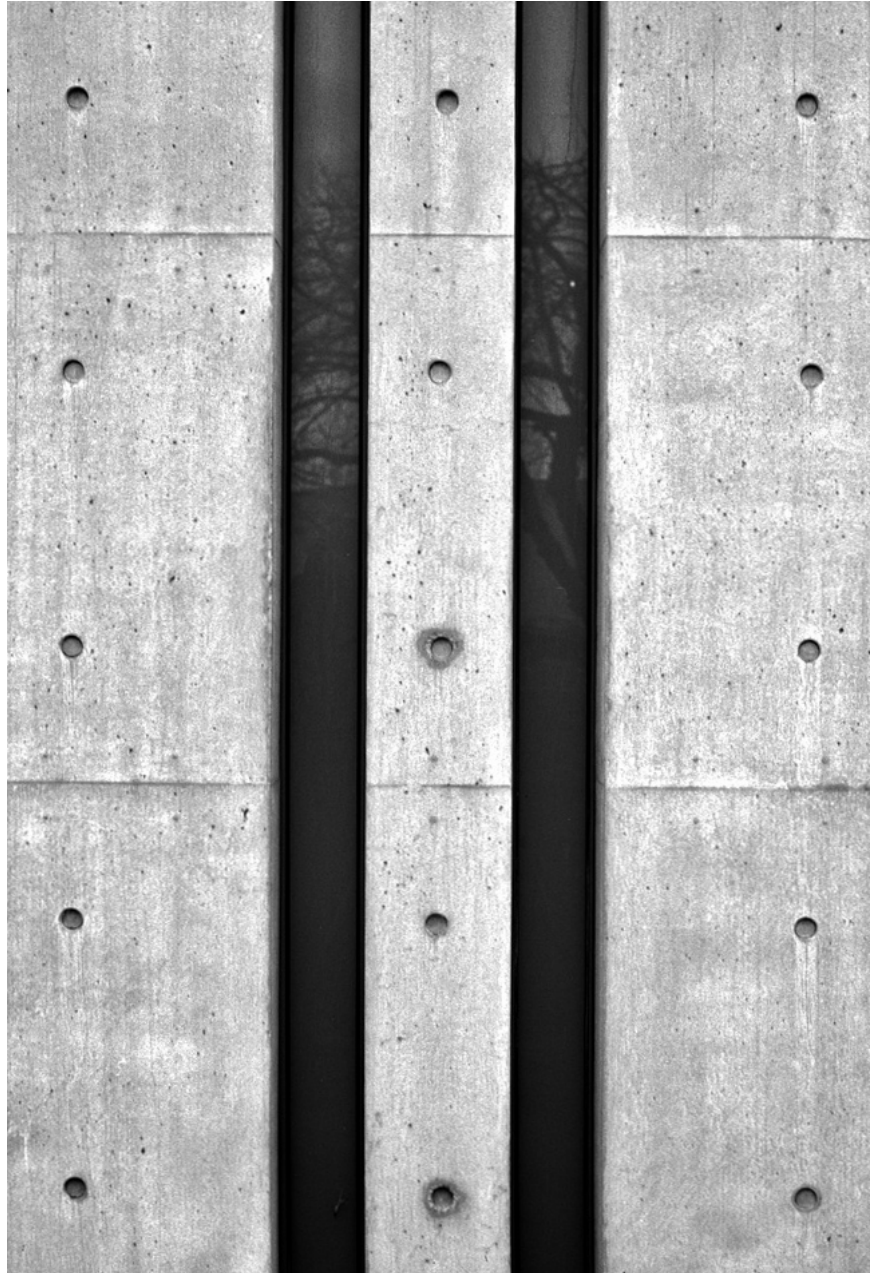
The Evolution of the Architectural

# DETAIL

And Its Embodied Form In  
Japanese Architecture



Chris Holzwart  
M.Arch, 2011



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## 1 Foreward

*This proposal is representative of personal research and observations. It is not intended to inaccurately personify the Japanese culture or architectural heritage. I do not believe it is possible to understand a culture without research and visitation. The intention of this proposal is to begin this process.*

*- Chris Holzwart*

**2**  
**George G. Booth Traveling Fellowship Proposal**



1 Shinto Shrine - Craftsmen



2 Chashitsu Style - Tea House



3 Westernized-Eclectic Style



4 Metabolism



5 Post-Modernism



6 Contemporary Design

## ***The Evolution of the Architectural Detail and its Embodied Form in Japanese Architecture -***

The purpose for seeking the George G. Booth Traveling Fellowship is to make this research further inform my interests in the evolution of an architectural component from a particular region, while positioning this study within a critical era in the evolution of design. My investigation will examine the lineage of the architectural detail in Japan - evaluating its physical and symbolic interpretations as they metamorphose throughout the span of Japan's architectural history - while concurrently identifying the value these details offer towards trends in contemporary practice.

### ***A Historeography of the Detail in Japanese Architecture -***

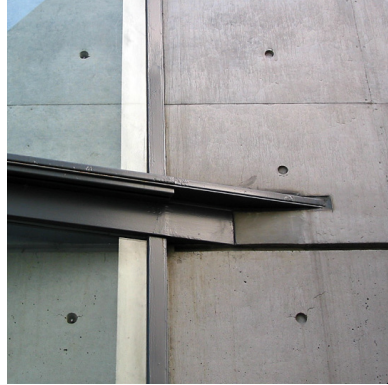
The detail in contemporary Japanese architecture has evolved from a joinery and craftsman-based form, to an experiential condition that supports a light and diagrammatic architecture. The historical arch of Japanese architecture required the role of the architectural detail to adapt to the ideals of each style.

① ② Historically, Japanese architecture focused on the mastery and precision of joinery, order, and ornament - an architectural expression exemplified in the Shinto Shrines from the 8th - 17th centuries and in the Chashitsu Style tea houses which closely followed.<sup>1</sup> ③ In the mid 1800's, Japan accepted modern polity and Western influences, engendering an eclectic architecture with a multifarious incorporation of styles.<sup>2</sup> ④ In the mid 1900's arose urgent issues of mass urban growth. In response, a group of Japanese architects and theorists created the Metabolism movement and began to adapt architecture's agency towards the macro-scale - viewing buildings as dynamic components within the urban machine. The details in these works upheld newfound ideals of the systematization and modularity in design. ⑤ Post-Modernism followed the Metabolism movement, and was an era characterized by formal expression with minimal ornamentation. This style relegated the influence of the detail to a less critical role. ⑥ In the "Post-Bubble" era, the architectural detail of the contemporary style is indicative of an architecture that concedes monumentality and authorship, instead choosing to re-appropriate traditional conventions within the economic and spatial strictures of crowded urban environments. Architectural details in this era are born from functional ingenuity, cultural reference, and the removal of excess.

It is across this historical strata that the architectural detail - personified and re-defined in this proposal as the premiere element(s) in a work of architecture that support the architectural concept - amalgamates itself to embody the physical and/or metaphysical milieu of each architectural style.



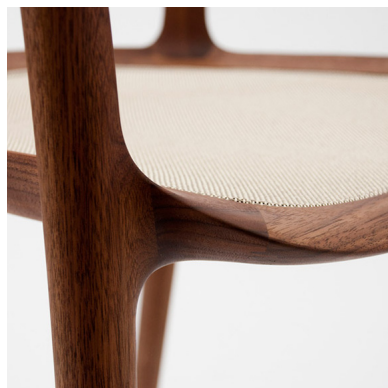
### A Return to Craft -



Tadao Ando - Church of the Light, 1989



GSAPP - Digital Teahouse 1, 2010



Miyazaki Chair Factory - DC10 Chair

Beauty in the architectural detail is a result of the expertise and acumen of material knowledge. These traits allow architecture to bridge the formal disciplines of engineering and art. This traveling research proposal positions itself in a critical moment when architecture is returning to a detail-oriented craft by means of technological innovations that eliminate the finality between design and physical production. Design softwares allow architects to develop details through processes such as digital fabrication and building information modeling (BIM). These tools avail the immediate translation from digital design to physical output, leveraging the current reformation of architecture to incorporate the study of physical assemblage.

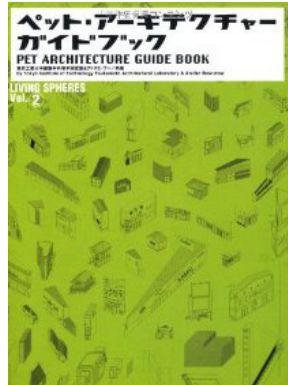
Current trends in technology arm designers with the ability to transcend representation. This positions the practice of architecture to be more tangible and immediate. Digital fabrication empowers architects to iteratively develop designs at a 1:1 scale, providing access to design with the same materials used in construction. The practice of self-production and material testing enables the designer to envisage the factors of physical construction and results in the opportunity to curate the refinement of the details. Even standard professional softwares incorporate building information modeling, providing access to digitally "construct" architecture through the process of drawing. This concept affords an advanced level of coordination to ultimately deliver a more intelligent design. These tools exceed the primordial concepts of design due to the opportunity they provide towards computational visualization combined with the immediacy of physical architectural investigations.

An example that supports this thesis is a Japanese company called the Miyazaki Chair Factory. The Miyazaki Chair Factory is a furniture builder in Tokushima, Japan. The details and joinery within their pieces elicit a richness that can seemingly only result from a trained and analog understanding of material control. Instead, the company prides itself on their ability to combine the use of new technologies with traditional craftsmanship passed on from their rich architectural lineage. Below is their mission statement -

*"Miyazaki Chair Factory is a group of craftsmen. Each of us is trying to know well about wood characteristic, improve the technique, and get a profound knowledge of design and structure. We are challenging all this to make freely designed chairs combining handicraft and machinery work...We use machines as our "extended hands." We always attempt to do new things with our machines and hands."*



### **Contemporary Society and Architecture in Japan -**



Atelier Bow-Wow - Pet Architecture Guidebook



SANAA - Serpentine Pavilion, London, 2009



Kengo Kuma - GC Prostho Museum, Japan, 2011

It is nearly twenty years after the “bubble burst” in the Japanese economy, delivering a recession that still lingers today. Contemporary Japanese architecture seeks to find agency within this crisis. Emerging from this era are a younger generation of architects who refrain from the propensity to focus on architectural formalism, and begin to investigate the implications of its agency - studying architecture from the scale of the object, such as a food cart, to the scale of the city. Chief examples among these contemporary architects are the offices of SANAA, Atelier Bow-Wow, Shigeru Ban, Sou Fujimoto, and Kengo Kuma. Their designs respond to societal constraints as they operate within the periphery of the discipline's traditional sphere. In *After the Crash: Architecture in Post-Bubble Japan*, Thomas Daniell argues that the current design aesthetic, “...seem(s) to be moving inexorably toward ever-increasing smoothness and insubstantiality: sensuous curves and sharp boxes, flat facades and porous screens.”<sup>3</sup> It is within Daniell's criticism that he highlights the “lightness” of Japan's current architecture, but does not recognize that it is actually moving closer to similarities of previous styles - primarily those that celebrated precision, materials, culture, and efforts to create architecture that transcends mere enclosure. A significant focus in this traveling proposal will investigate the works of these offices and others from the contemporary style to gauge the manner in which the architectural detail is crafted relative to its historical counterparts.

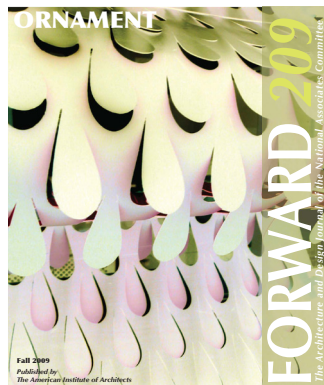
### **Concept of the Architectural Detail -**

The architectural detail is a product of the intersection of relationships. These relationships continue to evolve throughout Japan's architectural history. To design a detail is to understand the tectonic assembly of a multitude of elements, and propose a condition which distills the assemblage to a most fit solution - structurally and/or aesthetically. Yet, the Japanese detail goes beyond this level of resolution or “refinement”, to exhibit an artistic mastery of the discipline, while concurrently instilling the sense of culture, or “reference”. The ability to exemplify these contradictory conditions simultaneously, is what the Japanese refer to as “both / and”<sup>4</sup>. “Both / and” is not only relative to Japanese design, but is a concept that permeates the ideals of Japanese daily life.<sup>5</sup> Tadao Ando describes the opposing qualities of his work and the complementary effect they create, “I seek to create space of dynamic variance, space that pulsates in the gap between reality and fiction, between the rational and the illogical.”<sup>6</sup> The inorganic constructs of Ando's architecture both separate and diffuse the organic territory of their environment.

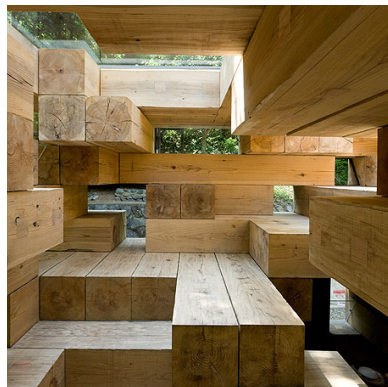
### Concept Research -



GSAPP - Digital Teahouse 2, 2010



Forward 209 - Ornament, AIA, 2009



Sou Fujimoto - Final Wooden House, 2008

Through this research, I will examine the architectural details through the lens of the “both / and”, analyzing their physical presence while also recognizing their ethereal qualities. This combination and absence of presence is a product of understanding the power that exists within the removal of the unnecessary - finding fitness in design. Parallel to this Japanese ideology, are the processes currently occurring in contemporary digital design. Architects can utilize design tools to continually reduce the extraneous within their works. Yet, digital fabrication as a visualization-to-fabrication tool, can also result in the infatuation and gratuitous production of repetitively patterned “objects”, not architectures. The intention of this proposal investigates these opportunities and tendencies in current practices, while carefully locating applicable aspects within each visited architectural detail - furthering efforts to balance research with mastered technique.

The challenge found within the process of evaluating these architectural details will be the ability to translate these personal findings with clarity. There are many questions regarding the ultimate experience in the visitation of the projects listed in the Abstract - which is where the agency of the end product of this proposal lies. This research intends to establish the details themselves as the case-studies rather than the buildings as a whole. These details will be best investigated through the institution of a research method stated further in this proposal. The ultimate product of this research will represent the physical and corporeal qualities of the architectural details through means that “dimensionalize” the experience of the subjects. The method of delivery will translate the intangible and personal experience of visitation, to a product that is “sharable” with the greater community. Using the learned knowledge from exemplary Japanese architectural details to create new objects through the use of digital tooling, this fellowship will result in a physical exhibition in the Taubman College Gallery - an architectural design challenge which will test the efficacy of the proposed research.

### Research Methods -

Specific details selected in each structure will be investigated using the research tools, with the desire that these methods will create an understanding of the evolution of the Japanese architectural detail in tandem with the common modalities of contemporary architectural research and practice.

## **Research Tools -**

### **Written Record /**

Descriptive texts, interview scripts, and the creation of a lexicon of design-potent definitions. This newly developed library of descriptors will test the normative boundaries of the traditional meaning of the term 'architectural detail' - aiming to serve as a didactic tool to illustrate the role of the detail within each architectural experience.

### **Visual Record /**

Video, Photography, Experiential (translated through Exhibition)

### **Manual Record /**

Illustration, Sketch, Measured Drawing (Detail)

### **Oral Record /**

It is my intention to interview select candidates whose influential practice or research share common threads with this thesis. Potential interviewees are:

Azby Brown - Japanese Arch. Professor and Historian  
 Dr. Hitoshi Abe - Japanese Architect & Professor  
 Masahiro Miyazaki - Founder of the Miyazaki Chair Factory

(All cross-dialect interviews will be translated and videotaped via Apple Ipad and the Google Translate application)

## **Research Cited -**

1. Young, David and Young, Michiko. *The Art of Japanese Architecture*. Tokyo. Tuttle Publishing, 2007. Print.
2. Ibid.
3. Daniell, Thomas. *After the Crash: Architecture in Post-Bubble Japan*. Princeton Architectural Press, 2008. Print.
4. Verghese, George. *The Way of the Detail in Japanese Design*. Sydney. University of Technology, Sydney. Article.
5. Ibid.
6. Ando, Tadao. *Japan Architect*. January 1991, p 19. Article.

**4**  
***Abstract***



**1 Ise Grand Shrine (Ise Jingu)**

Ise - Mie Prefecture, Japan  
794 AD

Japan's oldest and most holy Shinto Shrine. The Ise Grand Shrine is re-built to the exact detail of its historic predecessor every twenty years. In the Fall of 2013, the rebuilding of the newest rendition of the Ise Shrine will be complete.

**2 Toji Temple**

Kyoto, Japan  
796 AD

Toji Temple is the tallest Pagoda in Japan. It stands as an architectural symbol for Kyoto, and features a roof system innovative for its time at the beginning of the Heian period.

**3 Kinkakuji - Rokuon-ji**

Kyoto, Japan  
1397 AD

'Temple of the Golden Pavilion', Rokuon-ji is a 3-story pavilion divided into three different architectural styles. Each story is representative of a historical style of Japanese temple design.

**4 Matsumoto Castle**

Nagano Prefecture, Japan  
1504 AD

Also known as the 'Crow Castle', Matsumoto Castle is one of the 12 remaining prehistoric castles in Japan and is reminiscent of a totalitarian Japan under rule.

**5 Daisen-in Zen Garden**

Kyoto, Japan  
1513 AD

Serving as a monastery garden, Daisen-in Zen is exemplary of the traditional Japanese Garden principles founded by Buddhist monks in the early 16th century.

**6 Nakagin Capsule Tower**

Tokyo, Japan  
1972 AD

Designed by Kisho Kurokawa, one of the co-founders of Metabolism movement in Japan, the Nakagin Capsule tower was a residential tower which featured pods that were equipped with the ability to be plugged into the central core and exchanged when necessary.

**7 Church of the Water**

Hokkaido, Japan  
1989 AD

One of Tadao Ando's most famous works, the Church on the Water is a chapel set on a lake on the province of Hokkaido Japan. The building's orientation and glazing extends views outward over the lake, highlighting a crucifix on the water's reflective surface.

**8 Sendai Mediatheque**

Sendai, Japan  
2001 AD

Sendai Mediatheque, designed by Toyo Ito, is a library structure with vertical tubes bridging the layers of each level inside. Ito wanted the exterior of the building to appear transparent. He is a founding father of the 'lightness' and fluidity in contemporary Japanese architecture.

**9 21st Century Museum of Contemporary Art**

Kanazawa, Japan  
2004 AD

SANAA's 21st Century Museum of Contemporary Art extroverts the experience of the introverted museum to create gallery space around the glazed perimeter of the museum's oval shape.

**10 Garden and House**

Tokyo, Japan  
2012 AD

Garden and House is a 5-story house built on a tightly-packed lot in downtown Tokyo. Designed by Ryue Nishizawa, the structure reinterprets the functionality and boundary of the conventional single-family urban residence by unwrapping the exterior and weaving in vertical circulation.

**+ Additional Projects**

**Travel Proposal and Deliverable -**

The thesis of this research demands a personal study and visitation of specific Japanese structures across a variety of scales, programs, and era. Although this research will attempt to trace the lineage of the architectural detail in Japanese structures, timing and budget will allow only a sampling of the rich collection that exists. The selection of each building is as integral to the research as the visitation. A preliminary collection is established in the grid on the opposite page. These are a researched few that contain designed moments that support the proposed research. There will be additional selections if the proposal is chosen. The selections span the styles of traditional teahouses, Buddhist Temples, Shinto Shrines and gardens, to Metabolist towers, museums, libraries, and residences. It is the intention of this proposal to visit the spectrum of Japan's architectural history to best study the perception, design, and visual display of the architectural detail. All intended visited structures are designed by Japanese architects, as the importance of this investigation is a product of their own cultural interpretation of the architectural detail. The duration of the trip will require 21 days of travel.

**Japan (Nippon)**



**Itinerary / 21 days**

FLY: DEN > TYO (1) Day

Tokyo - (4) Days / (4) Nights  
See Locations 6, 10, +

RAIL: Tokyo > Ise (Overnight)  
Ise - (2) Days / (1) Nights  
See Locations 1, +

RAIL: Tokyo > Kyoto  
Kyoto - (3) Days / (3) Nights  
See Locations 2, 3, 5, +

RAIL: Kyoto > Kawazara  
Kawazara - (2) Days / (2) Nights  
See Location 9, +

RAIL: Kawazara > Nagano  
Nagano - (2) Days / (2) Nights  
See Location 4, +

RAIL: Nagano > Sendai (Overnight)  
Sendai - (2) Days / (2) Nights  
See Location 8, +

RAIL: Sendai > Hokkaido (Overnight)  
Hokkaido - (2) Days / (2) Nights  
See Location 7, +

RAIL: Hokkaido > Tokyo (Overnight)  
Tokyo - (2) Day / (2) Night  
See Location +

FLY: TYO > DEN (1) Day

**Expenses / \$9,000 USD**

Flight (DEN>TYO) Sept/Aug	\$1,200 USD
21-Day Rail Pass:	\$600 USD
Food (\$70/Day X 20):	\$1,400 USD
Hotel (\$250/Night avg. x 20):	\$5,000 USD
Admissions / Misc.:	\$300 USD
Research Exhibit	\$250 USD
Large Format Printing	
Model Materials	
Displays, etc	
Flight to Ann Arbor Exhibition	\$250 USD
<hr/>	
Total	\$9,000 USD

Historical Periods of Selected Works /

