The Evolution of the Architectural
DETAIL
And Its Embodied Form In
Japanese Architecture

Chris Holzwart
M.Arch, 2011
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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
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George G. Booth Traveling Fellowship Proposal
Shinto Shrine - Craftsman

Chashitsu Style - Tea House

Westernized-Eclectic Style

Metabolism

Post-Modernism

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 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.  
2 In the mid 1800's, Japan accepted modern polity and Western influences, engendering an eclectic architecture with a multifarious incorporation of styles. 
3 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. 
4 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. 
5 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.
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 craftworkers. 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.”
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.”  

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.

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”.  

“Both / and” is not only relative to Japanese design, but is a concept that permeates the ideals of Japanese daily life. 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.”  

The inorganic constructs of Ando’s architecture both separate and diffuse the organic territory of their environment.
Concept Research -

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 -

2. Ibid.
5. Ibid.
Abstract

4

Abstract
<table>
<thead>
<tr>
<th>#</th>
<th>Project Name</th>
<th>Location</th>
<th>Year</th>
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<tbody>
<tr>
<td>1</td>
<td>Ise Grand Shrine (Ise Jingu)</td>
<td>Ise - Mie Prefecture, Japan</td>
<td>794 AD</td>
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<td>2</td>
<td>Toji Temple</td>
<td>Kyoto, Japan</td>
<td>796 AD</td>
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<td>3</td>
<td>Kinkakuji - Rokuon-ji</td>
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<td>4</td>
<td>Matsumoto Castle</td>
<td>Nagano Prefecture, Japan</td>
<td>1504 AD</td>
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<td>5</td>
<td>Daisen-in Zen Garden</td>
<td>Kyoto, Japan</td>
<td>1513 AD</td>
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<td>6</td>
<td>Nakagin Capsule Tower</td>
<td>Tokyo, Japan</td>
<td>1972 AD</td>
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<td>7</td>
<td>Church of the Water</td>
<td>Hokkaido, Japan</td>
<td>1989 AD</td>
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<td>8</td>
<td>Sendai Mediatheque</td>
<td>Sendai, Japan</td>
<td>2001 AD</td>
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<td>9</td>
<td>21st Century Museum of Contemporary Art</td>
<td>Kanazawa, Japan</td>
<td>2004 AD</td>
</tr>
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<td>10</td>
<td>Garden and House</td>
<td>Tokyo, Japan</td>
<td>2012 AD</td>
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### Additional Projects

- **Ise Grand Shrine**
  - 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.

- **Sanai’s 21st Century Museum of Contemporary Art**
  - 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.

- **Nakagin Capsule Tower**
  - 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.

- **Church of the Water**
  - 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.

- **Sendai Mediatheque**
  - 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.

- **Matsumoto Castle**
  - 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.

- **Daisen-in Zen Garden**
  - 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.
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.

### Expenses / $9,000 USD

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<td>Displays, etc</td>
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<td>Flight to Ann Arbor Exhibition</td>
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