In Light of Shadows

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Introduction

This architectural structure provides a tranquil experience that expands the cultural perception of Hanok, Korean Traditional Architecture. It celebrates the transient nature of the universe and the balance between light and shadow, inspired by Hanok window lattice patterns. This structure provides an engaging experience of the Korean culture to the largely white audience, triggering their appeal to Korean culture with the interplay of light and shadow. Light has become an essential part of the modern life. Necessary for popular activities such as: reading, dining, sleeping, concerts, watching a movie, etc. Each of these activities has a distinct essence of light that people associate with it. Light is an essential element that people subconsciously revolve around. In Western culture, lighter colors are used to celebrate a positive occasion, while darker colors are used to commemorate deaths or unfortunate incidents. The West and the East have a different cultural perception in a historical sense. I have lived in Korea for twelve years of my life, where I have learned its culture through traditional architecture, Hanok. Hanok utilizes natural materials and light to harmonize with its surrounding nature. Hanok applies hanji, mulberry paper, and window lattice, to be able to bring in shadows into the structure. Traditionally, it doesn't utilize any glass, as the material of glass is shiny and reflects the light and only admits light into the space, rather than bringing the balance between light and shadow. After being exposed to Western culture for the past ten years, where light is celebrated more than the dark, I have realized the personal acceptance of Korean culture as part of my identity. While Western paper appears to reflect the light, hanji appear to absorb it in a very gentle and soft way, as if it's accepting the light. Through orientalism, the West has a certain inferior perception of the East, even though the Eastern countries (the Middle East, North Africa, and Asia) are distinct, contrasting, and yet interconnected regions. The Westerners tends to generalize and distant the Easterners. Due to this distant sensation from the West, many of the Eastern countries are slowly attempting to blend in with the West to diminish the sense of orientalism, to prove the similarity between the East and the West. Personal observances of Korea trying to become like the West, include double eye-lid plastic surgeries, eating burger king and pizza hut as an intricate meal, and Western products being seen as a superior products. Meanwhile, Western perception of the East Asian countries is cheap products and food and small eyes that are often mocked by the Westerners. While Korea needs to realize the loss of its unique identity, I believe that the West needs to accept the East as the culture as well and not look down upon aesthetic differences. Orientalism is such embedded in the culture and history themselves, but perhaps our future generation can start to change that.

Contextual Discussion

When I first moved to Chicago, I didn't know any English or what the culture or identity even meant. I was placed in a Montessori middle school with eight white students total. After leaving all my elementary school friends in Korea, I had to fit into this new culture, school, and friend group. I was under high pressure to quickly adapt in order to avoid the sensation of loneliness in the midst of adolescence. As much as I wanted to make friends in the new environment, without the capability of speaking the same language, it was impossible. Over the two years of middle school, I was only focused in learning the language in a communicative sense, to make friends as soon as possible. Without even realizing it, I was trying to fit into the Western culture and started to lose my own identity of Korean culture. I slowly lost contact with all my Korean friends; I only spoke Korean to my parents and brother. My high school was also predominantly white and Jewish, and only a few students of other races, but not one other student had an accent or were from a different language speaking country. I was made fun for my accents and grammar mistakes. I have been called a chink, which I didn't even know what that meant at the time. This caused a feeling of distance from the predominantly white community, which encouraged me to shorten that distance by adapting to their culture.

I started to realize that the West and the East had completely different cultural perception of each other. In Korea, we are mostly exposed to other races through the media of Hollywood movies, where other races are often represented via popular stereotypes. I thought the U.S. was known for the country of the freedom, freedom for every race. Even the reason that my mom wanted us to move to the U.S. was for us to have freedom in our education and to be able to choose what we want. However, the implications of racism and orientalism were still everywhere in the U.S.

Moving forward to the first semester of my thesis, I wanted to focus on the idea of abstract forms, created by shadows. I was inspired by American Abstract Minimalists, such as, Frank Stella, who created abstract works with repeated geometric shapes and asymmetrical composition, while exploring the idea of pure forms in both two-dimensions and three-dimensionsⁱ. Stella inspired me to explore the abstract forms in three dimensions. Donald Judd, who focused on exploring

i Kennedy, Brian P., and Frank Stella. Frank Stella: Irregular Polygons, 1965-66. Lebanon, NH: University Press of New England, 2010.



Frank Stella, Harran II. Painting © 2016 Frank Stella / Artists Rights Society (ARS), New York



Donald Judd, Untitled, 1984 concrete with steel reinforcements Laumeier Sculpture Park Collection



Olafur Eliasson, Cold wind sphere, 2012, Stainless steel, coloured glass (dark blue, blue and light grey), mirror, colour-effect filter glass (blue), bulb Photo: Jens Ziehe, 2012

factory-made geometric forms were seen as "radically depersonalized, repeated, and stripping of any emotions", inspired me to explore geometric sculptures in repetitionⁱⁱ. At last, an Icelander, Olafur Eliasson, who "creates art from a palette of space, distance, color and light", inspired me to play with the idea of light with a sense of geometric forms and methodsⁱⁱⁱ. The abstract forms innovatively created by these Western artists inspired me to do similar at the time. The idea of geometric and repetitive form in an interesting composition into a threedimensional, interactive sculpture/space, that provides an experience of shadows. At the beginning of the project, I was creating a series of Western inspired models. However, I kept getting lost in the world of abstract forms. I didn't fully understand the appeal of abstract minimal forms myself. However, the disheartening event of my grandfather passing away has significantly transformed my cultural realization. I remembered that I grew up in Korea for longer than I have been in the U.S. My father and my extended family are still in Korea. I am Korean. I kept getting lost in the abstract world of Western ideas because I was missing part of my identity. I was exposed to the Western world for so long that I was lost in it, and assumed that I was only consisted of Western ideas. However, I had to explore my own identity. I had to accept both the East and the West as what they are to me. This discovery has led me to explore various aspects of the cultural perceptions.

One of the first essays that criticize the East's perception of the West was "In Praise of Shadows" by Junichiro Tanizaki, written in 1933. While Tanizaki refers to China and Japan as the Orients and the East, Korea is out of the picture. The Japanese invasion of Korea at the time led Tanizaki to neglect Korea as part of the East. However, Korean culture is very much intertwined with both Japan and China: undoubtedly Korea shares the similar cultural perception of the East as that Tanizaki describes as follows:

We Orientals tend to seek our satisfactions in whatever surroundings we happen to find ourselves, to content ourselves with things as they are; and so darkness causes us no discontent, we resign ourselves to

ii Smith, Roberta. "Donald Judd, Leading Minimalist Sculptor, Dies at 65." The New York Times. 1994.. http://www.nytimes.com/1994/02/13/obituaries/donald-judd-leading-minimalist-sculptor-dies-at-65.html.

iii Eliasson, Olafur. "Playing with Space and Light." Ted: Ideas Worth Spreading. February 2009. https://www.ted.com/talks/olafur_eliasson_playing_with_space_and_light?language=en.

it as inevitable ...we will immerse ourselves in the darkness and there discover its own particular beauty. But the progressive Westerner is determined always to better his lot. From candle to oil lamp, oil lamp to gaslight, gaslight to electric light—his quest for a brighter light never ceases, he spares no pains to eradicate even the minutest shadow^{iv}.

Tanizaki criticizes the West for its never-ending quest to eradicate the shadow with new inventions. From the perception of the West, all of the light inventions become evidence of their own innovations and explorations in technology. From the Eastern perception of Tanizaki, excessive illumination of the West is unnecessary in the Eastern culture. Tanizaki goes on to even criticize the West's technological influence on the East with these inventions. For an example, Tanizaki argues the trolley, the radio, and the airplane of today are considered as borrowed gadgets from the West. If the East were not exposed to such inventions, they would have invented their own appropriate tools, suited to the Eastern culture. The West's instinct to industrialize and globalize their new inventions has skewed the cultural perception and boundaries tremendously. Tanizaki believes that paper was a Chinese invention but the West altered it to its own culture by mass-producing the Western paper with illuminative texture. However, "Western paper turns away the light, while [Eastern] paper seems to take it in, to envelop it gently" vi. While the East accepts the inventions of the West as a product to adapt to, the West sees this as an opportunity to innovate and alter to their needs of illumination, industrialization, and globalization. What if the East altered the Western inventions, similar to how the West altered the paper to their own culture? While Tanizaki does wonder about the possibility of alternative inventions that better suit the Eastern culture, he doesn't criticize the East for not altering the Western invention for the Eastern culture. Tanizaki only recognized what the West shouldn't have done, and defines the line between the West and the East from the perception of the East. According to Tanizaki, the Westerners refer to the East as "the mysterious Orient", which he believes originates from "the uncanny silence of these dark places". He also suspects that the mystery must be from the "magic of shadows", and the perception of depth that is shown through the shadows in the architectural space^{vii}. This sensation of mysteriousness originates from the interplay of shadow within the Eastern architecture. The shadows provide a profound visual experience, similar to attraction of asymmetry in the Western culture. While the shadows provide a sense of tranquility, the mysteriousness of the depth compels the audience to visually linger the space. In the Eastern culture, the sense of shadows interacting in a placid manner captivates the Western audience in a mysterious way.

After six years of living in Japan, Frank Llyod Wright has analyzed the Japanese wood block patterns, which he proclaims the symbolic power of a geometric form in the patterns. According to Wright's observation of Japanese wood block patterns, "Geometry is the grammar of the form. It is its architectural principle. But

iv Tanizaki, Jun'ichirō. In Praise of Shadows. New Haven, CT: Leete's Island Books, Translated 1977

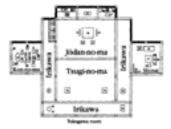
v ibid

vi ibid

vii ibid



Frank Llyod Wright, Millard House, 1924 Images copyright Scott Mayoral/ CentralMeridian



The plan of the central hall of the Ho-o-den as it appeared in the official catalogue in 1893



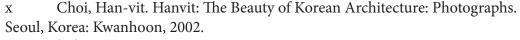
Generic plan configuration of the early Prairie House, Frank Llyoyd Wright

there is a psychic correlation between the geometry of form and our associated ideas, which constitutes its symbolic value. There resides always a certain "spell power" in any geometric form which seems more or less a mystery, and is, as we say, the soul of the thing"viii. The Wright's observance of the "spell power" of architectural geometry resembles Tanizaki's "magic of shadows" in architecture, where it visually compels the audience in a mysterious way through depth and symbolic value. The two Eastern ideas of the mysteriousness that draws attention to the West were the magic of shadows and the symbolic value behind the architectural geometry. After living in Japan for six years and observing its architecture very closely, Wright was clearly influenced by Japanese architecture in his work in the West. So many Japanese architectural values are embedded in Wright's architecture; the central composition of the Prairie Houses and the way light and shadow interact within Millard House. Even his close friend architect, who conducted a photo study on Wright's work, indicates, "Japanese influence is very clear. He [Wright] is obviously trying to adapt Japanese forms to the United States, even though the artist denies it and the influence must be unconscious. It is particularly evident in the way he brings out the picturesque element of his buildings." However, Wright proclaims, "Do not accuse me of trying to 'adapt Japanese forms' however, THAT IS A FALSE ACCUSATION AND AGAINST MY VERY RELIGION^{ix}". Even when his close friend sees the resemblance between Japanese and Wright's architecture, Wright denies every accusation of it. Perhaps, this was a result of cultural perceptions distinguished by Tanizaki. That the West was the entity that was constantly producing innovative new inventions, and the East adapts to its surroundings of the West. The idea of the East influencing the West in a certain way seemed ludicrous to the Western architect, Frank Lloyd Wright. However, the magical power of the geometric shadows in Japanese architecture has invaded Wright's taste of architecture with its symbolic value. Therefore, Wright didn't even realize that he is subconsciously creating a Western work with a sign of adaption to the East. Similar to Tanizaki's notion of paper, Wright has adapted Japanese culture in a Western way.

viii Wright, Frank Lloyd. The Japanese Print: An Interpretation. New York: Horizon Press, 1967.

ix Wright to Ashbee, 26 September 1910, the Ashbee Journals, King's College Library, Cambridge.© FLWF, first published in A. Crawford, 'Ten letters from Frank Lloyd Wright to Charles Robert Ashbee', Architectural History: Journal of the Society of Architectural Historians of Great Britain, voi. 13, 1970, p. 69.

Even though Japan, Korean and China share considerable amount of cultural perception, Korea was neglected in the above sources due to the Japan's invasion at the time. Han-Vit Choi, a Korean architect, shows a Korean's perception of the cultural value and beauty in Hanok, Korean Traditional Architecture, through IT Hanvit The Beauty of Korean Architecture. Choi spent a couple years photographing the true beauty of Hanok in rural settings without any modern facilities or items, or people. His attempt to capture the pure beauty of Hanok from the past exhibits a similar mindset of Tanizaki, where the Western modern inventions don't belong in the traditional Eastern culture. His photographs in his publication consisted of analogue photographs that are printed with "Ekatalure", a Kodak paper that went out of production in 2000, according to Choi^x. Choi draws a dynmiac relationship between the disappearing culture of Hanok and already disappeared paper. Even though the paper is out of production, the paper still exists in someway, rather it's used or not used. It becomes an element of antique and rare valuable. So does a cultural and historical element like Hanok. It does exist among Western's inventions of the tall office buildings and technology. While generally the East submerges itself with the Western culture as an instinct, people like Choi and Tanizaki documents the past to bring the awareness to the Western direction of the culture in the East. While Choi doesn't assert for conversation of Hanok as it was 5000 years ago, he reminds us of the beauty of Hanok from the past. According to Choi, "The traditional Korean house is designed to feel the touch of nature in this structure and materials", with wood, stone, walls "made of clay mixed with straw", and windows "plastered with Korean paper made of mulberry". The paper plastered on the patterned windows allows the wind and light to travel through the house, rather than blocking it completely. Hanok feels very open and personal, where the rooms are personal space and the halls are communal space^{xi}. Hanok utilizes the natural materials of mulberry paper, wood, stone and clay in structures to accentuate the elements of the nature, such as the wind and sunlight. Choi's book of photographs and historical information of Hanok brings perceptual awareness of Korean culture into the presence, as the current people are recognizing the beauty of this structure that the Korean culture used to embrace in the past.







Choi, Han-vit. Hanvit: The Beauty of Korean Architecture: Photographs. Seoul, Korea: Kwanhoon, 2002

The Hanok window lattice patterns exhibit Wright's observance of the symbolic values in geometric patterns and Tanizaki's belief of magical mysteriousness in the depth of shadows. Hanok window lattice is the interplay of nature and shadow. According to a Korean Architecture professor at Ewha Women's University, Seock Jae Im, "the geometrical window lattices are symbolism of Confucianism idea of I Ching (The book of Changes). The grid patterns resemble the trigrams of divination signs of I Ching, which are also represented in the flag of Korea. The trigrams are visual representations of the universe. The resemblance between lattice patterns and trigrams refers to the conceptual and formal similarities. This indicates that patterns symbolically represent the transient nature of the universe^{xii}'. Professor Im demonstrates the reason that Wright might have felt the powerful symbolic values behind the geometric patterns with the contextual background of the intertwined culture of China, Korea, and Japan. As Confucianism and Buddhism predominantly affected these three countries, the resemblances within the architectural elements and similar cultural perceptions are selfevident. As Professor Im describes, "the geometric lattices are uniform, and diverse methodical and manifold, especially when it is double layered... The translucency of the window paper is an important formal element, which adds further variety to the lattice's geometric patterns... When the sun creates shadows on the lattice, it multiplies the variety of geometric patterns^{xiii}." FT Not only do the geometric lines on the lattices symbolically represent Confucian values, the shadows and repetition of the pattern amplifies the aesthetic depth of the Hanok window lattice. While not everyone understands the true value behind the patterns, the geometric form and mysteriousness of the shadows stimulates the audiences' curiosity in both the West's and the East's cultural perception.

xii Im, Seock Jae. Windows and Doors: A Study of Korean Architecture. Seoul: Ewha Womans Univ. Press, 2005.

Methodology

The project was initiated by photographing structural shadows in everyday life. Shadows are always hiding beneath the light in the West, here in Ann Arbor, MI. The shadows abstractly transformed the Western architecture and furniture in Ann Arbor. By capturing them with photographs, I started to examine how I can turn these abstract shadows into an interactive structure. An interactive structure gives a chance for the light to create shadows that people can physically engage with and explore. By closely observing the local Western architectural forms through the photographs of shadows, I tried to focus on the pure abstract forms themselves, like Donald Judd and Frank Stella. However, I kept getting lost and didn't know how to define the idea of abstraction without self-expression.

After a heartbreaking incident of my grandfather's passing, I was able to go to Korea for two weeks to be with my extended family for the first time in 10 years. I was able to revisit my childhood memories of Korean traditional architecture, through my grandparent's cottage and one of the grand palaces that have been reserved in Seoul city. I photographed various interesting Hanok elements that casted intriguing shadows. I photographed the way the roof was casting shadows on to the ground, and various ways that the window lattices casted shadows. I captured every interesting traditional element with geometric expression and a sense of intriguing shadows I noticed while I was in Korea. While photographing for similar purposes in both the West and the East, the sense of cultural perception naturally revealed itself. While the photographs of shadows in



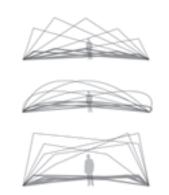
Photographs of Shadows, Ann Arbor,



Photographs of Shadows, Ann Arbor,



Model of a potention interactive sculpture #1



Sketches for possible models



Photographs from Korea #1



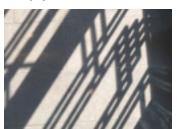
Photographs from Korea #2



Photographs from Korea #3



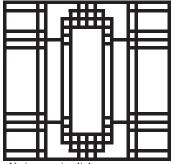
Photographs from Korea #4

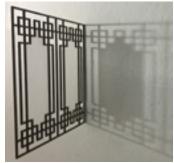


Photographs from Korea #5



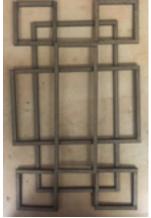
Photographs from Korea #6





No intersecting link







IMG_0607.JPG

IMG_0572.JPG





8x8x10ft Sclae Model #1

8x8x10ft Sclae Model #2







Final Model 4x4x8.5ft Scale Model

the West captured a more abstract sense of repetitive lines and shapes, the East consisted of a more serene sense of shadows -- especially through the absorbing light of mulberry paper on window lattice. The Hanok window lattice patterns definitely had a sense of depth and tranquility due to the way that the paper absorbed the light, the way Tanizaki had described it.

From my personal photographs of Korean structures, I decided to focus on the geometric window lattice patterns. Instead of copying the pattern directly from the patterns, I started to observe and study the patterns. I traced the patterns from the photographs so I could isolate the geometric patterns by themselves. I started creating my own patterns by closely observing the traced patterns. The creation of the patterns wasn't as easy as I imagined. The delicate intersection of the lines gave a distinct sense of space while providing a form of repetition and symmetry. This was a little different than the asymmetry that the Western artists have utilized in their work to attract attention. After narrowing down the self-created, Hanok-inspired patterns down to a few, I started producing illustrator vectors and plans of the structure. These twodimensional vector plans were intended to get laser cut and, ultimately, to be three-dimensionally produced. When I assembled these laser cut plans into a model, I used tracing paper to mimic rice paper and pasted them on to the exteriors of the models. The rice paper wall was utilized so I could project shadows onto the paper that can be seen from the outside as well. The original models were scaled for 8ft x 8ft x 10ft. However, because of the high expense of the wood and the lack of construction space in the school, I scaled it down to 4ft x 4ft x 8.5ft.

When I decided on the final model of my structure, I decided to use all natural elements for the materials of the structure. I assembled a cut list for wood. I decided to use poplar wood for its stable structure and its natural look: a nice wooden texture with a tint of green. Starting with ten pieces of 2x10x10ft poplar wood, I had to joint and plain the wood and let it sit for climate adaptation. I planned out every single joint on the pattern and how it would be assembled into a structure while it was adapting to the climate after each rip and plain. This took extensive planning to make sure the patterns would be able to fit together with lab joints. It took a lot of measuring and cutting, both slowly and accurately. The top of the structure was glued together, while the legs were screwed together, so they could be detached for easy and efficient transportation. I didn't put the paper on until the structure was fully standing in the appropriate gallery space, so the paper didn't get ripped during transportation. Rice glue was used to glue the papers together and onto the structure. The rice glue dries completely matte and does not reflect light, like PVA or any other Western liquid-glue would have done.



Final Model 4x4x8.5ft Scale Model



Final Model 4x4x8.5ft Scale Model



Plaining Wood



Stickers for Wood, Climate Adaptation



Planning Lap Joints



Planning Cut List



Practicing Lap Joints



Wood Glue with Clamps

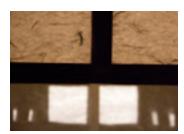


Top Part Done!



Final Draft, with Prototype Rice Paper















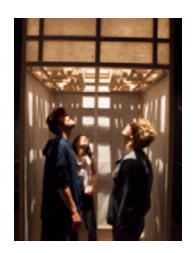
Creative Work

The mulberry paper, hanji, was shipped specifically from Korea to exhibit a distinguishable element between Korea and the other two East Asian countries. The texture of hanji with barks was nicely revealed through the lighting. Whenever people engaged with the structure, their motion caused the paper to delicately move along with the projected shadows. The result was a sense of the wind in nature, which was both tranquil and transient.

Angle of the light was determined by the position of the shadows projected on the wall. The slight angle of the light was intended to generate interactive and dynamic shadows, caused by the layers of the woodwork pattern on top of the structure. If the angle of the light were to be directly overhead, and shadows would have become flattened. By angling the light towards the opposite of the entrance of the structure, the most dynamic shadows were created on the hanji wall directly facing the audience from the entrance. The heavy shadows of the Hanok roof were represented by the flattened shadows of the hanji walls viewable from outside of the structure. The central position and slight angle of the light allowed the hanji wall to create this dark rectangular shade around the entire structure, except towards the entrance. This angle allowed some parts of hanji to reflect the light brown color of the wood as well.

The void space of the structure had to be seven feet tall for people to be able to comfortably walk in. The transition stick on the bottom of the structure was to invite the audience in. The structure is intended for the Western audience to engage within the Eastern influenced structure in an interactive manner, which

I thought was best accomplished by putting them inside of it. I wanted to expose a predominantly white audience to the beauty of Hanok. Perhaps if Frank Llyod Wright were to experience my structure, he would have been able to realize the Eastern influence in his work. The way that the geometric shadows interact with the void space of mulberry paper gives a sense of symbolic value and mystery. Even though all of the materials and geometric forms of the pattern were solely inspired by Hanok, one Western aspect was the modern form of the standing structure. However, by placing the Hanok window lattice patterns on the top of the structure and not on the sides, I thought I was able to offer a unique perspective for the Western model. If Tanizaki proposes distinct and separate cultural perceptions of the West and the East, this structure provides my individual cultural perception of both the West and the East as thought of together.



Conclusion

Light doesn't exist without the dark, and the dark doesn't exist without the light. This profound and unique experience of both, with an essence of Korean culture, provokes the Westerners to discover the beauty of shadows. This project seeks to shed light on and give voice to those very individual Korean shadows.

Perhaps my natural instinct as an Easterner was to seek my satisfaction in my surrounding of the West, like the East's reaction to the West. Therefore, my long exposure in the West has provoked me to explore the innovative methods of representing a form, like a Westerner would. However, when I realized my true Eastern roots, I was able to combine the two to represent my true identity. By making this architectural structure into a modern form of Hanok that provides an experience of light and shadow, I was able to combine my favorite things about both: the light of innovation from the West and the shadow of appreciation form the East. This personal realization perhaps can make others realize that we don't need to draw a distinctive line between the West and the East, or even between two different parts of our identities. Because of this, the East doesn't need to fall inferior to Western ideal, one part of you doesn't need to adapt to the other. Something new and original and yourself can always be made.

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