

**THE RESURRECTION OF TRADITIONAL JAPANESE ARCHITECTURE
TOWARD THE TWENTY-FIRST CENTURY: THE ARCHITECTURE OF
SHIGERU BAN**

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THESIS ABSTRACT

Japan's period of self-imposed national seclusion from 1641 to 1854 created an environment where a uniquely Japanese culture could develop, including a singular style of Japanese architecture. However, the arrival of Commodore Matthew Perry's black ships in 1868 motivated the fledgling Meiji government to re-open its gates and westernize the country in the name of modernization, in order to avoid colonization. Although the re-opening of the country made this uniquely Japanese culture developed during its years of isolation available to the West, influencing new art movements such as Japonisme, at the same time it also brought on the loss of Japan's national identity and culture as the country became more westernized. The devastation caused during World War II only exacerbated this loss of identity, in particular wiping out much of Japan's architectural heritage and replacing it with Western styles. Eventually, elements of the traditional Japanese style have begun to be picked up again by contemporary Japanese architects. In this thesis I will analyze trends of Japanese architecture since the seventeenth century, from the Japanese style established prior to the Meiji Restoration to the Western-influenced style and back again; the influence of Japan's traditional architecture on the West; and the ideal re-adopting of elements of the traditional Japanese style in contemporary Japanese architecture that Junichiro Tanizaki dreamed of in the 1930s – the architecture of Tadao Ando and Kengo Kuma, and with special attention to the, particularly in the architecture of Shigeru Ban.

INTRODUCTION

The Japanese tradition that accumulated and formulated over two thousand years of history has never faded away even though it seems to be disappearing. Japanese tradition rooted in the lives of Japanese forms the basis of all activities of the Japanese. Architecture or architectural style always reflects the culture of its time and place. Various factors contribute to the establishment of a distinct architectural style. For example, the differences in nature such as climate contribute to the differences in architecture in each culture. It is likely that the temperate climate of Japan created the symbiotic relationship between Japanese gardens and residences, while in most northern European countries, architecture mainly serves to provide a shelter from the harsh climate.¹ Architecture develops its styles based on surrounding environments and Japanese architecture must be the sheer expression of Japanese tradition.

Political, social, and cultural factors over time also influence the formation of architectural styles in each culture. For instance, ancient Greek architecture is recognized for its role in the development of democracy. The newly independent United States, having no official architectural style to celebrate the new nation, favored the Greek Revival as a symbol of democracy from 1800 to the 1860s. We can easily identify grand architectural monuments that represent each era of each culture throughout history. Architecture or architectural style is actually an expression of culture, i.e., a form of national identity.

The Japanese have nurtured their own identity even while being influenced by

¹ Fujioka, Michio. Japanese Residences and Gardens: A Tradition of Integration. Tokyo: Kodansha International, 1982 p. 36

other cultures, mainly the Chinese culture, until Japan finally encountered the West in the mid-nineteenth century. At their most basic, there is no superiority or inferiority among different cultures and there is no supremacy in cultures. However, the apparent technological superiority of western civilization when introduced into Japan in the middle of nineteenth century caused the Japanese to view traditional Japanese culture as inferior.

At the time this modernization was taking place, a term was coined that aimed to remind modern Japanese of the danger of radical and unconditional approval of the western customs being introduced. The term “*wakon-yosai*” was coined by an innovative political theorist named Yukichi Fukuzawa (1835-1901) during the Meiji era (1868-1912), the introductory period of the modernization of Japan. The Japanese phrase literally means “maintaining Japanese soul with western innovation” and symbolizes the ideal unification of traditional Japanese culture and western civilization, a unification that modern Japanese had been dreaming of. Fukuzawa coined this term as a poignant criticism of the Japanese tendency to exchange traditional Japanese culture for western civilization without due consideration. In the contrast to this ideal, modern Japanese had succumbed to western civilization and simply started replacing Japanese values with western values. In other words, the introduction of western civilization resulted only in westernization not modernization.

One of the most renowned writers of modern Japanese literature, Junichiro Tanizaki, published a book entitled *In Praise of Shadow* in 1933. Even though it had been only sixty-five years since the introduction of western civilization in Japan, Tanizaki already noticed the disappearance of traditional Japanese culture. In the book, he notes:

It was not that I objected to the conveniences of modern civilization, whether electric lights or heating or toilets, but I did wonder at the time

why they could not be designed with a bit more consideration for our own habits and tastes.²

Tanizaki's lament sincerely expresses his regret at the disappearance of traditional Japanese culture. Though he was well aware of the dire situation that traditional Japanese culture faced, he did not give up hope that it was possible to retain Japanese aesthetics while modernizing Japan. Rather, Tanizaki tried to redefine Japanese aesthetics in this fast-changing country. Why are Japanese aesthetics so different from those of the West? Why do western aesthetics not comply with those of Japanese? Tanizaki elaborates on his theory of a pure Japanese aesthetics, as symbolized in the shadows in Japanese architecture. Tanizaki concludes "I always think how different everything would be if we in the Orient had developed our own science."³

For better or worse, his wish cannot be fully realized in contemporary Japan yet. However, contemporary Japanese architecture has achieved a certain degree of popularity internationally. The presence of Japanese architects has been prominent all over the world since the end of the Second World War. There are a number of Japanese architects who have found regular work both inside and outside of Japan. For instance, Yoshio Taniguchi (1937-) won a competition to redesign the Museum of Modern Art in New York, New York in 1997. Likewise, Jun Aoki (1956-) designed an elegant building for the Louis Vuitton boutique on Fifth Avenue in New York in 2004. Above all others is the as yet incomplete grand project of Kisho Kurokawa (1934-2007) to design the new capital in Astana, Kazakhstan. Nevertheless, the majority of contemporary Japanese architecture seems merely to imitate western architecture following the convenience of

² Tanizaki, Junichiro. In Praise of Shadows, Translated by Thomas J. Harper and Edward G. Seidensticker. Stony Creek, Connecticut: Leete's Island Books, Inc., 1977. p. 6

³ *ibid.*, p. 7

rapid-growing consumerism and commercialism. In particular, certain Japanese architects seem to have become disciples of western architects and go to great lengths to promote the prevalence of western architecture in the non-western world. If so, contemporary Japanese architecture, it would seem, does not have its own identity based on traditional Japanese culture. Instead it merely followed the path that the West had prepared for Japan during westernization.

This process of westernization culminated in the devastation of Japan after the Second World War. The defeat of Japan seemed to prove the superiority of western civilization. As a result, the West physically and mentally dominated postwar Japan and accelerated the loss of traditional Japanese values. Many western architects such as Bruno Taut, Frank Lloyd Wright, and others admired traditional Japanese architecture and adopted its characteristics in their own architectural styles even before the defeat of Japan after the Second World War. However, no matter how popular traditional Japanese architecture is in the West, the Japanese could not look through the dominance of western civilization to their own past.

However, several Japanese architects such as Tadao Ando, Kengo Kuma, and Shigeru Ban, have finally succeeded in resurrecting traditional Japanese values in Japanese architecture while still adopting western techniques. Each architect has similarities and differences in their approaches, but they have surely succeeded in expressing Japaneseness in architecture. It may have taken longer than Tanizaki expected for the Japanese to regain their own identity but their architecture, especially that of Ban, is the embodiment of the ideal that Tanizaki wished for years ago.

We often call our age as the era of globalization. We live in a borderless world

where there is no obstacle to cultural exchanges. In a sense, the era of globalization began a long time ago in the places wherever cultural exchanges could occur. The difference is merely the degree of velocity due to the advancement of technology. The advent of the Internet era could successfully erase the concept of the border. At the same time, globalization promotes the risk of standardization (Americanization) in the non-Western world as long as the technological superiority of the West is unchallenged. However, cultures are still interdependent, and such influence by its counterpart cannot be neglected in its development. The West met the East (Japan) and therefore, we can witness the genius of Frank Lloyd Wright's architecture as it is today. Actually, Wright's approach toward Japanese culture is the ideal way that Tanizaki recommended. How, then, did the Western counterpart, the East, approach the western civilization for its own development?

The purpose of this paper is not to deny the important role that western civilization has played in the development of Japanese architecture. Nor do I intend to argue whether Japanese culture is superior to western civilization or vice versa. My aim is to illustrate how the East and the West have been complementing each other in their first encounter since the mid-nineteenth century. First, I will analyze how the West successfully made the most of Japanese influence for its own development, but while, unfortunately, the East failed to do so. Second, I will explain how contemporary Japanese architects, especially Shigeru Ban, could finally make the most of western influence as Tanizaki envisioned it, realizing the ideal unification of Japanese and western architecture by breaking away from the bondage created by the dominance of western influence.

THE WEST MEETS THE EAST: EASTERN INFLUENCE IN THE WEST

The conflict between the East and the West that culminated in the Second World War was possibly destined when Japan met the West for the first time in 1853, as the two cultures were heterogeneous and could not comply with each other or at the very least, it was difficult for Japanese in those days to adopt western civilization while maintaining traditional Japanese culture. Against the Japanese attitude toward western civilization, the West always considered old Japan as the mere subject of curiosity. Westerners, however, were not obliged to assimilate themselves into the Japanese way of life. The West could finally satisfy its intellectual curiosity about Zipang (Japan) that Marco Polo had dreamed of in his book, *the Travels of Marco Polo* in the thirteenth century even though Polo himself did not visit Japan during his journey. In addition, the vogue for Japonisme that started in Paris in the 1830s and 1840s further enhanced Westerners' craving for Japan. Above all else, Japan was the subject of curiosity all the time and therefore, Westerners were ready to study and absorb Japanese influence.

Commodore Matthew Perry visited Japan with four black ships (including steam ships) to request that the nation open to the West in 1853. Perry's request was obviously by force and could have resulted in bloodshed. Nevertheless, Japan reluctantly accepted the request and the first encounter between Japan and the West was rather peaceful. Japan decided to abolish its policy of isolationism which had lasted more than two hundred years and re-opened to the West in peace. Perry's steam ships symbolized the advancement of western civilization and reminded Japan of its backwardness, especially in the fields of science and technology. It was the age of colonialism and, Japan was subsequently forced to catch up with the West for fear of being conquered. The

relationship between Japan and the West seemed to be one-sided, but Japanese influence in the West was also significant. The dialogue between the East and the West was an interdependent one, as if predicting the advent of the era of globalization.

Old Japan radically started transforming itself into the modern Japanese state after the new Meiji government (1868-1902) took over the country from the shogunate in 1868. The modernization of Japan gained momentum under the new government and radical changes were instituted with the West. The Meiji government invited many Westerners to support modernization and these Westerners were in turn attracted by traditional Japan's already disappearing traditional culture. Among these were a handful of Bostonians, such as Edward Sylvester Morse (1838-1925) and Ernest Fenollosa (1853-1908). Christopher Benfey pointed out in his book, “The irony was that just as Bostonians were falling in love with Old Japan, Japan was reinventing herself as a modern state...”⁴ Such foreign experts who were invited to institute modernization in old Japan contradictorily became fascinated with old Japan, and strove to preserve and promote old Japan in the West. Thanks to their efforts, these two Bostonians could contribute to the establishment of Frank Lloyd Wright’s architecture.

Edward Morse’s publication *Japanese Homes and Their Surroundings* (1886) is a brilliant example of the spread of old Japan. Morse was originally a collector of seashells but later started making records of the disappearing old Japanese houses he saw during his stay in Japan from 1877 to 1879 and from 1882 to 1883. While Morse vividly recorded these Japanese houses in drawings, he analyzed the ways in which these houses were different from those in the West. Morse noted “An American finds it difficult

⁴ Benfey, Christopher E. G. *The Great Wave: Gilded Age Misfits, Japanese Eccentrics, and the Opening of Old Japan*. New York: Random House, 2003. xiv

indeed to consider such a structure as a dwelling, when so many features are absent that go to make up (a traditional western) home, no doors or windows such as he had been familiar with; no attic or cellar, no chimneys, and within no fire-place, and of course no customary mantle; no permanently enclosed rooms; and as for furniture, no beds or tables, chairs or similar articles, at least, it appears at first sight.”⁵ Morse clearly pointed out the characteristics of Japanese houses missing in the houses in the West: the lack of permanent walls, the treatment of light by the usage of outside screens (shoji), and so on. Benfey asserts in his book, “Morse’s Book on Japanese homes was a landmark in the history of American architecture. Its decisive influence on Japan-inspired architects such as H. H. Richardson and Frank Lloyd Wright is only now becoming clear.”⁶

Another Bostonian, Ernest Fenollosa, also played an important role to promote Japanese culture in the United States. Fenollosa was one of foreign experts hired by the Meiji government to modernize Japan. He was hired to teach Philosophy at Tokyo Imperial University, but later became the co-founder of a national art school in Tokyo. He stayed in Japan for twelve years until he was discharged from his art school position in 1890. Upon his return, Fenollosa was considered “one of the first serious Western interpreters of Japanese culture.”⁷ According to Julia Meech, even Frank Lloyd Wright was touched by Fenollosa’s lectures, publications, and exhibitions.⁸ Fenollosa often visited Chicago to give a lecture and “on at least one of these occasions Fenollosa stayed with his cousin, the architect Joseph Lyman Silsbee (1834-1913), an early Japanophile

⁵ Morse, Edward S. Japanese Homes and Their Surroundings, New York: Dover Publication Inc., 1961. p. 7

⁶ Benfey, p. 70

⁷ Meech, Julia. Frank Lloyd Wright and the art of Japan: the Architect’s other passion, New York: Japan Society and Harry N. Abrams, 2001. p. 28

⁸ *ibid.*

and Wright's first employer in Chicago.⁹

Another instance of Japanese influence in the West was seen in the world's fairs in Philadelphia in 1876 and Chicago in 1893. Westerners, especially, marveled at the Japanese Pavilion, the so-called Ho-o-den (Fig. 1), in the World's Columbian Exposition held in Chicago in 1893. The Ho-o-den (Phoenix Hall) drew Westerners' attention, including Greene and Greene, Frank Lloyd Wright, and so on. The Greene brothers noticed an affinity between Arts and Crafts movement and Japanese craftsmanship in "carefully carved sizeable timbers and exposed joinery, elements both decorative and essential to the building's structure."¹⁰ This attitude was similar to the teachings of the Arts and Crafts movement which emphasized the importance of hand craftsmanship as the basis of a dignified living environment. On the other hand, the Greene brothers also recognized "Japanese landscaping, a traditionally thoughtful and subtle integration of structure with its natural surroundings."¹¹ The Greene brothers' Gamble House (Fig. 2) in 1908, a masterpiece of the American Arts and Crafts Movement, combines Japanese influences such as Japanese tracery and joinery and the relationship between the house and garden with those of the Arts and Crafts Movement and was harmonized with the warm climate of California. The Greene brothers made the most of what they learned from Japanese architecture in order to realize the ideals of the Arts and Crafts Movement. The usage of Japanese techniques possibly allowed the Greene brothers to reinforce the legitimacy of the architectural style achieved in the Gamble House due to its adoption of the legitimate long tradition of Japanese architecture.

⁹ Meech, p. 30

¹⁰ Bosley, Edward R. Gamble House. London: Phaidon Press Ltd, 1992. p. 2

¹¹ *ibid.*

Wright also adopted Japanese influence in his own architecture and established a distinct architectural style. He was renowned as a collector of ukiyo-e and likely had a great interest in Japanese culture even before his participation in the World's Columbian Exposition. Wright not only had an interest in Japan, but "took the similarity of Inca, Maya and Japanese work to his own ¾ as a 'splendid confirmation' of the rightness of his own work."¹² He also used the legitimacy of traditional Japanese architecture to establish a new architecture, replacing the dominance of Beaux-Arts architecture in the United States at that time. We cannot determine whether Morse's publication or ukiyo-e were responsible for Wright's recognition of new architectural concepts missing in the West, but it is clear that Wright took advantage of traditional Japanese architecture. Wright was infamous for not giving credit to others. However, Wright somewhat acknowledges his debt to Japanese prints in his autobiography:

The print is more autobiographical than you may imagine. If Japanese prints were to be deducted from my education, I don't know what direction the whole might have taken.¹³

Unlike the Greene brothers, Wright did not overtly borrow derivative and decorative Japanese design elements, but he could grasp the gist of traditional Japanese architecture through his great effort of study. Meech concludes, "cross cultural resources have proved useful to great artists at moments of stagnation or repetition. Borrowing can reinvigorate and effect a real transformation."¹⁴

One of Wright's representative works, the Darwin D. Martin House (Fig. 3, 4) evinces Japanese influence. A wealthy executive, Darwin D. Martin commissioned

¹² Pawley, Martin. Frank Lloyd Wright I Public Buildings, New York: Simon and Schuster, 1967. p. 10

¹³ Wright, Frank L. An Autobiography, London: Longmans, Green and Co., 1932.

¹⁴ Meech, p. 21

Wright to design a house for his family in 1903. The Martin House can be clearly distinguished from its contemporaries for several reasons: first, its spatial continuity of interior and exterior; and second, the layout of the Martin House emphasizing the horizontality instead of verticality, which is peculiar in Japanese architecture and resembles that of the Ho-o-den. Not to mention numerous Japanese prints selected and displayed by Wright himself in the Martin House, it is clear that the Martin House is indebted to Japanese influence. Wright could mostly design the Martin House on his sole discretion regardless of budget because Martin was an ardent advocate of Wright. Wright probably created an experimental house greatly influenced by Japanese culture. Martin's wife, Isabelle, who suffered from a chronic eye affliction, did not like the Martin House.¹⁵ In a sense, the Martin House was designed to emphasize the ideal Japaneseness inside the house. As each element in a Japanese house enhances the integral beauty as a whole, the darkness of interior can enhance the glimmering white of Japanese prints, a quality that Tanizaki worshiped, but is not common in the West. Isabelle's complaint about the Martin House may have been due to her unfamiliarity with the aspect of Japanese culture that stresses the darkness in the house. Thanks to Martin, Wright could realize the ideal Japaneseness in the Martin House.

Wright further developed his architecture by adopting new techniques in his building projects. The advancement and industrialization of technology allowed architects to use new building materials such as concrete and steel. Wright mastered the technique of using concrete reinforced with strands of steel. Wright appreciated the expediency of new materials and wrote: "The great thing was to let the stresses in the

¹⁵ Quinan, Jack. Frank Lloyd Wright's Martin House: Architecture As Portraiture, New York: Princeton Architectural Press, 2004. p. 208

floor, walls, and roof flow into one another without any dividing line at any of the traditional corners $\frac{3}{4}$ to allow the plastic concrete to work together just as in a sea shell, making it both the structure and the enclosing skin.”¹⁶ Like Morse, Wright was a collector of seashells and admired a shell as the perfect form ideally created by nature. Wright commented, “Here in these shells. We see the housing of the life of the sea. It is the housing of a lower order of life, but it is a housing with exactly what we lack $\frac{3}{4}$ inspired form.”¹⁷ It is mere coincidence that both Morse and Wright had an interest in seashells, but Wright saw the ideal architectural form in seashells and made it possible with the aid of new technologies. Needless to say, the unity of space in traditional Japanese architecture has much in common with that of seashells and Wright was eventually able to achieve this concept in the Guggenheim Museum (Fig. 5) which also resembles a form of seashells and expresses conspicuous unity as architecture.

Walter Gropius contends “East and West must adapt their attitudes to enrich each other, discarding what is weak and obsolete on both sides.”¹⁸ Not only Wright but also other westerners including Gropius actually attempted to complement western architecture with that of other cultures. Sarah Goldhagen contends, “In the 1910s and 1920s, Le Corbusier, Bruno Taut, Gropius, and others had looked to the architecture of unfamiliar cultures, but with the exception of Taut, few grappled in a serious way with the social foundations of the buildings they admired. Similarly, modern artists and sculptors such as Pablo Picasso and Alberto Giacometti virtually pilfered the forms of

¹⁶ *ibid.*, p.14

¹⁷ Frank Lloyd Wright quoted in Hugh Marguerite Stix and R. Tucker Abbott. The Shell: 500 Million Years of Inspired Design, New York: Abrams, 1972, p. 14

¹⁸ Gropius, Walter. “Architecture in Japan,” Katsura Imperial Villa, Ed. Virginia Ponciroli. Milan: Electra, 2004. p. 349

African and Polynesian art.”¹⁹ Thus, on the one hand, Picasso and Giacometti focused on the forms of unfamiliar cultures, on the other hand, Gropius, Wright, and other western architects focused on the ideas of unfamiliar cultures. The result is obviously different from those of Picasso and Giacometti. Western modern architects made the most of unfamiliar cultures in order to establish a new architectural style that broke away from academic Beaux-Arts architecture.

Even though Gropius contends that the West and the East should complement each other,²⁰ he did not acknowledge the similarities between traditional Japanese architecture and western modern architecture. Gropius counter-argues that “Some people have ventured to say that the modern European-American movement in architecture has been strongly influenced by the Japanese conception. The truth is that the extraordinary visual manifestations of the old Japanese culture and the twentieth century architectural conception of the West originated independently from very different premises.”²¹ However, Gropius’s counter-argument is probably just an excuse as Wright denied Japanese influence in his architecture by claiming that it is a matter of the resemblance. While Gropius was denying the Japanese influence in modern western architecture, he still praised traditional Japanese architecture by pointing out that “the traditional Japanese house is so strikingly modern because it contains perfect solutions, already centuries old for problems which the contemporary Western architect is still wrestling with today: complete flexibility of movable exterior and interior walls, changeability and multi-use of

¹⁹ Goldhagen, Sarah Williams and Legault, Réjean, “Introduction: Critical Themes of Post Modernism.” *Anxious Modernisms*, ed. Sarah Williams Goldhagen and Réjean Legault, Cambridge, Massachusetts: The MIT Press, 2000. p. 19

²⁰ Gropius, p. 349

²¹ *ibid.*, p. 353

spaces, modular coordination of all the building parts, and prefabrication.”²² There is no doubt that Gropius was familiar with non-western architecture, especially Japanese architecture due to the popularity of Japanese architecture at that time.²³ One of the outstanding characteristics of Gropius’s architecture, the transparency of the walls, derived from the rice paper walls in traditional Japanese architecture. Gropius acknowledges that “The transparency of special demarcation, as suggested in the rice paper walls of Japan, will lead to a demarcation of space using a few supporting posts ³/₄ transferred to modern technology, it will lead to the skeleton structures of skin and bones in which glass becomes the material filling intermediate space.”²⁴ Thus, it is not impossible to claim that Gropius’s architecture is actually the realization of a centuries old Japanese concept refurbished with modern technology, i.e. the modernization of traditional Japanese architecture. However, the issue here is not whether Modernist architecture is influenced by traditional Japanese architecture or not, but why modern and contemporary Japanese did not recognize the solution that Gropius and other western architects had prepared for them years ago.

²² *ibid.*

²³ Blaser, Werner. “West Meets East-Mies van der Rohe.” Basel, Switzerland: Birkhäuser, 2001. p. 6

²⁴ *ibid.*, p. 12

THE EAST MEETS THE WEST: WESTERN INFLUENCE ON THE EAST

Traditional Japanese culture had been developed over centuries, in response to the changes in its surrounding environment and with little foreign influence, but the impact of the West since 1853 has radically changed Japan into a totally different state. Even though other cultures such as Chinese civilization had been dominant in Japan at one time, Japan was always able to eventually regain its cultural independence. However, the impact on old Japan caused by the West was too strong to allow the Japanese to follow the path that their ancestors had followed in the past. As Tanizaki noted, “We have met a superior civilization and had had to surrender to it, and we have had to leave a road we have followed for thousands of years.”²⁵

Foreign pressure against an isolated Japan was growing year after year from the end of the eighteenth century. Due to the rise of imperialism in the West, Russia, France, and other countries attempted to terminate “*sakoku*,” Japan’s foreign policy of seclusion from foreign countries. On the one hand, western countries unsuccessfully attempted to contact Japan to engage in commerce, with these attempts always ending up in vain. On the other hand, the shogunate government passed the Edict to Repel Foreign Vessels in 1825, and started forcefully driving western countries away from Japan's ports. However, this isolationist policy soon proved outdated. The shogunate government repealed the edict after they witnessed the defeat of China's Qing Dynasty (1644-1922) by the British Empire in the First Opium War in 1842. With even China falling to Western power, the shogunate government finally realized that it was impossible to repel the West by force.

Rather than confront this new threat, Japan decided to comply with Western

²⁵ Tanizaki, p. 8

demands in order to avoid the obvious defeat that they eventually experienced after the Second World War. Modern Japanese had no choice but to accept western civilization under the guidance of the new Meiji government. The Meiji government feared colonization and therefore strove to modernize Japan. Their attempts to equate Japan with the advanced western countries started with the abolishment of old traditions, embodied by the demised and old-fashioned shogunate government. The Meiji government issued the Dampatsurei Edict in 1871, prohibiting people from wearing traditional Japanese hairstyles and forcing western hairstyles, and subsequently the Sword Abolishment Edict, prohibiting people from carrying their swords in public in 1876. A series of further acts of modernization culminated in the construction of the Rokumeikan (Fig. 6) in 1883. It is a large two-story building for parties and balls, which invited many Western guests. One of the foreign experts hired by the Meiji government, a prominent architect, Josiah Conder, designed the Rokumeikan in French Renaissance style with the intention of impressing westerners with the degree to which they had accomplished modernization. Its client, Foreign Minister Kaoru Inoue rejected any Japanese elements in the Rokumeikan against Conder's wish and created a mere western style architecture. The result was very controversial. On the one hand, the Rokumeikan became the symbol of the degeneration of traditional Japan. On the other hand, Westerners considered the Rokumeikan as a mere imitation of western counterpart. The birth of the Rokumeikan instead implied the fact that the Meiji government failed in modernization but succeeded in westernization. Gropius analyzed modern Japan's disorder in his book *Katsura Imperial Villa*: "Yet the problem the modern Japanese faces is formidable. The impact of Western civilization on

his old culture has thrown him into wide confusion.”²⁶ The birth of the Rokumeikan was a major turning point in the westernization of modern Japan.

The radical introduction of western civilization in modern Japan caused disorientation among modern Japanese. Tanizaki defined the origin of Japanese aesthetics thus: “The quality that we call beauty, however, must always grow from the realities of life, and our ancestors, forced to live in dark rooms, presently came to discover beauty in shadows, ultimately to guide shadows towards beauty’s end.”²⁷ While it is debatable whether Japanese aesthetics can be tied solely to shadows in dark rooms, it is clear that Japanese aesthetics did indeed originate from the realities of life and from interaction with its surrounding nature. It follows then that if Japanese aesthetics are rooted in the realities of life, their aesthetics will change with the changes in those realities. Under the Meiji government, the reality of modern Japanese was changed forcibly into western ones while somewhat retaining the old Japanese aesthetics. This resulted in the struggle to maintain cultural independence, while operating in a state of confusion, under the dominance of the western civilization. The technological superiority of the West was rarely contested or conquered and has never lost its great influence over modern Japan. In other words, modern Japanese culture after 1853 has been developed under western influence and modern Japanese architecture clearly reflected western influence on it.

In a sense, no purely modern Japanese architecture was ever allowed to develop under western influence. Japanese architecture during the Meiji era simply imitated western architecture as exemplified by the Rokumeikan. The only difference between

²⁶ Gropius, p. 356

²⁷ Tanizaki, p. 18

them was not style but quality. The gap between the two cultures is clearly visible in the lack of skill, the availability of materials, and other factors just as early American architecture was a mere imitation of its European counterpart. Likewise, due to unfamiliarity with newly introduced western civilization, most modern Japanese architecture was also a mediocre imitation of western architecture as if early American architecture seldom competed with original European counterpart. Still, a glimmer of hope that could not have been foreseen by the forces of westernization occurred when western Modernists happened upon a piece of Japanese architecture that preceded the advent of modernization in the early twentieth century, the Katsura Imperial Villa (Fig. 7, 8).

The construction of the Katsura Imperial Villa was initiated by Prince Toshihito (1579-1629) of the Imperial line of Hachijo-no-mi-ya, who passed away before its completion. His son, Prince Toshitada (1620-1662), continued the construction with teahouses, gardens, and other elements, reaching completion after several decades. Due to the fact that its construction continued over a long period, the Katsura Imperial Villa has slightly varying characteristics, reflecting the changes in taste and technique of each period, though it also maintains its integrity as a single work of architecture. A renowned Japanese Modernist architect, Arata Isozaki noted that “Katsura is a text rich with ambiguity where architectural languages of spatiality and temporally different sources are juxtaposed...The layers of the heterogeneous designs could not be fully revealed with a single interpretation; thus Katsura provoked different interpretations...”²⁸ Despite this, the West paid attention only to the parts which coincided with modernist architecture in

²⁸ Tanizaki, p. 10

the Katsura Imperial Villa and merely neglected or ignored anti-modernist elements. For instance, Gropius condemned the decorative elements in the Katsura Imperial Villa as “formal weaknesses and a sign of incipient degeneration.”²⁹ In the book, *Katsura, Tradition and Creation in Japanese Architecture*, published in 1960, the photographer Yasuhiro Ishimoto intentionally focused on the extraction of Mondrianesque patterns (Fig. 9) from the Katsura Imperial Villa. As Kenzo Tange acknowledged in his preface, the omission was quite intentional.³⁰ Why was Ishimoto required to frame the Katsura Imperial Palace for the sake of the West?

The Katsura Imperial Villa is now known as one of the masterpieces of traditional Japanese architecture and as the culmination of an architectural style, which reflects the aesthetics of the Japanese tea ceremony - the so-called sukiya-style as well as its sophisticated Japanese gardens. However, it was unknown to the West until Bruno Taut discovered it during his short stay in Japan in 1933. Edward Morse also stayed in Japan before Taut, but he did not mention anything regarding the Katsura Imperial Villa.³¹ Taut briefly stayed in Japan and published several publications regarding Japanese culture and architecture before he left for Turkey. This was the first time that westerners recognized that the Katsura Imperial Villa held the essence of Modernist architecture.

The discovery of Katsura by the West has great significance for modern Japanese who live under the dominance of western civilization. The fact that Taut applauded the

²⁹ Speidel, Manfred. “Bruno Taut and the Katsura Villa.” *Katsura Imperial Villa*. Ed. Virginia Ponciroli. Milan: Electra, 2004. p. 328

³⁰ Isozaki, Arata. “The Diagonal Strategy: Katsura as Envisioned by ‘Enshu’s Taste.’” *Katsura Imperial Villa*. Ed. Virginia Ponciroli. Milan: Electra, 2004. p. 10

³¹ Speidel, p. 328

Katsura Imperial Villa “meant much more: it was rather a symbolic event at large.”³² It is difficult to imagine just how thankful Japanese architects were when they discovered that the Katsura Imperial Villa was actually a historical precedent of the modernist architecture of the West. Taut’s compliment transformed the Katsura Imperial Villa into the prototype of modernism, while retaining its status as a masterpiece of traditional Japanese architecture.

The discovery of the Katsura Imperial Villa unfortunately coincided with the rise of nationalism in Japan before the Second World War. Militarist Japan sought to legitimize its expansionism overseas by proving the superiority of Japanese culture over other cultures. Even Tanizaki’s *In Praise of Shadows* was possibly published as a reflection of the public opinion of the time. However, prewar Japan was still overwhelmed by western influence and did not have enough confidence to break away from western civilization just yet. Accordingly, Japanese made the most of Taut’s complimenting of the Katsura Imperial Villa. With Taut’s help, this once unknown masterpiece of traditional Japanese architecture was turned into an icon of the superiority of Japanese culture and accordingly, the national identity of Japan.

The progress of nationalism in prewar Japan escalated and resulted in the creation of an extremely nationalistic form of architecture called the “teikan yoshiki (imperial crown style) in 1930s. The representative work of this style is the Tokyo National Museum (Fig. 10). Its characteristic is a massive Japanese tiled roof to which decorative motifs were added to a symmetrical western façade. Taut witnessed this museum under

³² Isozaki, p. 13

construction³³ and likely condemned its mediocre style, an eclectic mix of traditional Japanese architecture and western architecture. The building is a stone structure with a colonnade relief of colossal order (reminiscent of those in the Greek Revival) surmounted by an oversized elongated tiled roof drawn from traditional Japanese architecture. Taut found its prototype in Nikko Toshogu (Fig. 11) and criticized what he saw as “grotesque imitations of baroque Chinese monumental architecture.”³⁴ The goal of the nationalists was to combine the grandeur of traditional Japanese castles and that of western classical architecture to produce a monumental Japanese style, which could rival western Modernist architecture. Though short-lived, the style was a symbol of modern Japanese resistance against the dominance of the West. However, the defeat of Japan after the Second World War hindered any such attempts by Japan to regain cultural independence.

Shortly after the Second World War, young Japanese architects initiated a new Japanese architecture which symbolized the devastation of Japan with the so-called “Metabolist movement.” This movement coincided with the postwar years of recovery and disappeared with the country’s fast economic growth. A British architectural critic, Reyner Banham, noted in his book, “western pundits, critics, and informed circles generally had the forward path for Japanese architecture mapped out as a confluence of the native Sukiya tradition (informal, black-and-white in the manner of the Katsura Palace) and the Mondrian wing of European abstract art...”³⁵ The Metabolist movement deviated from mainstream Japanese architecture and Banham applauded it, saying “One of the most heartening proofs of the continuing vitality of modern architecture is the way

³³ Speidel, p. 322

³⁴ Ibid.

³⁵ Banham, Reyner. Age of Masters; A Personal View of Modern Architecture. London: Architectural Press, 1975. p. 82

Japanese architects have not gone the expected way.”³⁶

It is a question whether postwar Japanese architecture really did not “go the expected way.” It could be argued that these developments were actually exactly what were expected of them by the West. The Metabolist movement reflected the realities of postwar Japan. The defeated nation had literally lost everything with the majority of its mostly wooden buildings burnt to the ground. The fact that Japan was defeated by a foreign power for the first time over its two thousand years history was a source of tremendous upheaval. Tange expressed his feelings of shock, saying “losing the war meant re-thinking of fundamental attitudes towards existence...”³⁷ Metabolism, therefore, is quite different from pre-existing architecture in Japan. Cherie Wendelken pointed out the principal characteristics of Metabolist movement in her article “Putting Metabolism Back in Place,” in the book *Anxious Modernisms*, “Metabolist projects do not seem to acknowledge any siting in a local or national landscape, nor do they address any historical context. Ironically, it is the very denial of time and place that gives Metabolism its meaning in postwar Japan.”³⁸ In fact, the Metabolists attempted to fill out a tabula rasa of postwar Japan with the re-introduction of Modernist architecture in the West. As Wendelken notes, “Around the same time, foreign experts in industrialized prefabrication were invited to Japan to help solve the postwar housing crisis...All praised traditional Japanese construction for its prefabrication and dimensional coordination. But even before the war Japanese critics had seen prefabrication as an essentially Japanese

³⁶ *ibid.*

³⁷ Paolo Raini, *Twentieth Century Masters: Kenzo Tange*. London: Hamlyn, 1969. p. 8

³⁸ Wendelken, Cherie. “Putting Metabolism Back in Place: The Making of a Radically Decontextualized Architecture in Japan.” *Anxious Modernisms*, ed. Goldhagen, Sarah Williams and Legault, Réjean, Cambridge, Massachusetts: The MIT Press, 2000. p. 280

idea that was simply being “reintroduced” in new materials by foreign experts.”³⁹ One of the most representative works of Metabolism, Kurokawa Kisho’s Nakagin Capsule Hotel, built in Tokyo in 1972 (Fig. 12), clearly shows similarities to Modernist architecture such as the simple, abstract form seen in the Katsura Imperial Villa. Kurokawa claimed that the capsule buildings were a realization of Metabolism⁴⁰ and actually Kurokawa’s capsule was a mere reiteration of a seashell that Wright had actualized nearly a quarter-century before. The only difference among Metabolists and Wright is their perspective on seashells. According to Wendelken, the Metabolists felt morally in debt for losing the war and therefore emphasized the characteristic hermetic enclosure of seashells as a symbol of hiding from the brutal reality of postwar Japan.⁴¹ However, its prefabricated construction and modular design method were informed by Modernist thinking. The characteristics of Modernist architecture in the Katsura Imperial Villa that western Modernists favored were reproduced in Metabolism, along with new industrial materials and techniques. In other words, Metabolism was a “purified” form of that modernism without the “impure” non-Modernist elements.

After Japan's reconstruction and subsequent rapid economic growth, the short-lived Metabolist movement seemed to fade away into Japanese history. The movement was a by-product of the devastation of the Second World War, and destined to gradually disappear with other bitter memories of war during the economic boom. Nevertheless, the Metabolist movement strengthened the existence of Modernist architecture in Japan. Accordingly, it maintains its influence on Japan even in the twenty-first century. An

³⁹ Wendelken, p. 290

⁴⁰ *ibid.*, p. 292

⁴¹ *ibid.*, p. 281

Architectural historian, Victoria Newhouse pointed out a remarkable resemblance to Piet Mondrian's *Composition in Oval with Color Planes I* in 1914 (Fig. 13) in one of contemporary Japanese architecture, the 21st Century Museum of Contemporary Art Kanazawa (Fig. 14, 15) built by Japanese architects, Kazuyo Sejima and Ryue Nishizawa in 2004.⁴² Since the first encounter with western civilization, Japanese architects have kept challenging the West in order to complement Japanese architecture, but have not succeeded in doing so. Again, as Tanizaki lamented in his book, the Japanese cannot break the spell of westernization until we invent our own science?⁴³

⁴² Newhouse, Victoria. Towards a New Museum. New York: The Monacelli Press Inc., 2006. p. 323

⁴³ Tanizaki, p. 7

THE EAST MEETS THE EAST IN THE WEST

The clash between the East and the West resulted in the victory of the West in terms of politics, economics, and culture. Western power seemed to annihilate the East. A German architect, structural engineer, and one of Shigeru Ban's collaborators, Frei Otto, comments, "it (traditional Japanese architecture) is largely replaced by a soulless and foreign architecture of concrete, steel, and glass, conceived by architects lacking all sensual consciousness of the places in which they build."⁴⁴ Most postwar Japanese architects who have simply followed the western discourse of Modernist architecture merely replaced traditional Japanese architecture for this "soulless and foreign architecture" in industrial materials. Otto's remark was what Tanizaki predicted years ago and unfortunately it became the reality of contemporary Japanese architecture. However, a trio of contemporary Japanese architects, including Shigeru Ban, Tadao Ando, and Kengo Kuma, has resurrected and materialized the demised Japaneseness in contemporary Japanese architecture.

In a sense, it is very difficult to find Japaneseness by Japanese in Japan these days just as we cannot see the largest and finest collections of Japanese prints in Japan today. Western architects like Wright masterly adopted and transformed Japanese elements as a part of western architecture. As a result, we can see masterpieces of modern or contemporary Japanese architecture by the hand of western architects. Therefore, this study begins with a careful observation of western architecture with Japanese influence for aspiring Japanese architects like Ban.

Ban received a formal training in architecture in the United States. He studied at

⁴⁴ McQuaid, Matilda. Shigeru Ban. Phaidon Press Limited: London, 2003. p. 4

the Southern California Institute of Architecture from 1977 to 1980 in California, and then at the Cooper Union School of Architecture from 1980 to 1984. While in the Southern California Institute of Architecture, Ban naturally had a strong interest in the Case Study Houses that were influenced by traditional Japanese architecture. The Case Study Houses were part of an experimental architectural program to design and build inexpensive and efficient model homes for the postwar residential housing boom in the United States.⁴⁵ Ban recalls his discovery, “These buildings were in fact strongly influenced by traditional Japanese architecture, carrying on the legacy of Frank Lloyd Wright, such as the articulation of building materials, the interaction of indoor and outdoor spaces, and the contrast of vertical and horizontal lines.”⁴⁶ This is the moment that Japan re-discovered Japaneseness in western architecture. Ban did not obtain his architectural education in Japan and had nothing to do with Japanese culture or architecture except for briefly working for Arata Isozaki’s atelier from 1982 to 1983. Ban acknowledged that “the level of my understanding of traditional Japanese culture was probably just average.”⁴⁷ Even though Ban may have noticed Japanese influence on Wright’s architecture, he could not make the best use of the wisdom of traditional Japanese architecture to establish his own style at that time. Nevertheless, Ban has gradually realized an architectural style of his own that reflects the current Japanese situation while breaking away from western influence.

The turning point in Ban’s career was his encounter with a Finnish architect, Alvar Aalto. Modernism had already dominated the mainstream of western architecture

⁴⁵ Pallasmaa, Juhani, and Sato, Tomoko, ed. Alvar Aalto through the Eyes of Shigeru Ban. London: Black Dog Publishing, 2007. p. 72

⁴⁶ *ibid.*

⁴⁷ *ibid.*

in the early twentieth century. Aalto, however, took an alternative approach to design, which emphasized the use of natural and local materials, as well as organic forms by intentionally deviating from the mainstream of Modernist architecture.⁴⁸ Goldhagen contends that Aalto tried to develop his peculiarly Scandinavian brand of modernism in the Finnish Pavilion for the 1937 Paris Exhibition and another for New York World's fair in 1938-1939.⁴⁹ Aalto developed his architectural style based on Finnish tradition without merely yielding to the dominant Modernist architecture. Aalto's achievement in the early twentieth century provided inspiration for the young Shigeru Ban, who just graduated from a college. Following Aalto's manner, Ban determined to establish a Japanese brand of Modernism.

Ban's first encounter with Aalto's architecture in person was in 1984 when he visited Finland, working as an assistant to Yukio Futagawa, an influential writer specializing in architecture and design. Ban recalls his first impression of Aalto's architecture, "I found a space created to complement its context...For Mies and Le Corbusier, in their pursuit of Modernism, it was not great priority to consider the contexts the building was located within – such as the cultural background, the local community or the environment."⁵⁰ Aalto's architecture reminded Ban of the importance of the context missing in Modernist architecture and opened up new possibilities that Ban could explore.

The idea of paper architecture originated from the Alvar Aalto exhibition (Fig. 16) designed by Ban at the Axis Gallery in Tokyo in 1986. Ban could not use ordinary

⁴⁸ *ibid.*, p. 66

⁴⁹ Goldhagen and Legault, p. 20

⁵⁰ Pallasmaa and Sato, p. 68-70

building materials to create an Aalto-like natural environment in the exhibition space because of budgetary limitations. In addition, Ban knew all building materials would be discarded after the exhibition. After much thought, Ban decided to use cardboard tubes as an alternative material. Ban says, “They were leftovers from finished rolls of tracing paper or fax paper. I did not like the idea of throwing them away, so somehow I kept them in the studio for some possible future use.”⁵¹ The paper tubes functioned well in and created natural atmosphere in the exhibition space. The paper tubes were in harmony with Aalto’s wood chairs in the exhibition space. Ban’s thrift reflected the fact that Japan is not a country full of resources, and must make the most of what is available. Even though this exhibition was held during one of the most prosperous periods of economic booms so-called “Bubble Economy” in Japan, Ban was already aware of concerns about environmental issues. There is no more ecological building material than paper tubes. Paper tubes are inexpensive, recyclable, and flexible (produced in various sizes). Ban commented that “their neutral color and gentle texture reminded me of Aalto”⁵² Paper tubes are not inferior to other natural materials. Above all, Ban was able to discover the most natural industrial material through the eyes of Alvar Aalto.

The essence of Ban’s architecture is rooted in his attitude toward the environment and is expressed in the Japanese concept so-called “*mottainai*.” This term generally means “what a waste!” in Japanese and is derived from the Japanese religion, Shintoism. In Shintoism, deities are believed to dwell everywhere such as mountains, rivers, and all other objects. This term, *mottainai*, literally means “the loss of object.” When we cannot use objects in an appropriate manner, we show our regret toward the objects. Japanese

⁵¹ *ibid.*, p. 68

⁵² *ibid.*

use this term to pay respect to all objects dwelled in by deities. This term is widely used among Japanese and most Japanese are familiar with this concept regardless of their relationship to Shintoism. This term is now known world-wide due to a Nobel Peace Prize winner, Wangari Maathai. Maathai is popular as an environmental activist and was impressed by the concept of “*mottainai*” while staying in Japan. In English, this term contains the meanings of “reduce,” “reuse,” and “recycle.” It contains all important factors necessary to the promotion of environment protection. Maathai attempted to find an equivalent word in other languages, but in vain.⁵³ She instead decided to promote further environment protection under the slogan of “*mottainai*.” Due to the publicity Maathai gained through numerous public lectures, this term gained international recognition. Ban realized this concept of “*mottainai*” in his architecture and his architecture helped the understanding of this concept for an international audience.

Ban’s architecture is imbued with the concept of “*mottainai*.” It is plausible that Ban became acquainted with this concept while growing up in Japan before coming to the United States. This traditional Japanese cultural concept never became obsolete even in Japan’s mass-consumption society. In a sense, Gropius predicted the birth of paper architecture in his book, “I believe that the difficult transformation from a traditional to a modern form of society, adapted to the industrial age, should be carried through by the Japanese in the spirit of their own culture; it should be enriched by the new technical achievements of the West, but without imitation of the Western attitude.”⁵⁴The spirit of

⁵³ Sasaki, Mizue. “Perspectives of language: cultural differences and universality in Japanese.” *Cultural Diversity and Transversal Values: East–West Dialogue on Spiritual and Secular Dynamics*, ed. Wauchope, Samantha, Paris: UNESCO, 2006 p. 125.

⁵⁴ Gropius, p. 357

traditional Japanese architecture is inherent in Ban's Paper architecture.

Western engineering technology is absolutely necessary for the realization of Ban's paper architecture. As Ban commented, "historically speaking, major architectural developments have been made only when a new material or new construction method was invented,"⁵⁵ the advancement of new technology made possible the production of the durable paper tube as a new building material. This is something unpredictable from western perspective because there is no need to use paper as a building material with the aid of new technology. The critic, Reyner Banham marveled at the Japanese perspective writing, "there are certain usages, shapes, forms, structures, that Western architects would never think to use because they are, literally unthinkable."⁵⁶ Paper architecture is the product of western technology with Japanese soul, not thinkable for western architects.

Among several Japanese architects who have gained wide popularity in the West, Ban's contemporary, Tadao Ando, has also realized an architecture that reflects traditional Japanese architecture. Without obtaining a formal training in architecture, Ando is greatly indebted to the sensitivity of Japanese architecture that he could probably have observed in western architecture by western master architects while traveling abroad for four years. Ando uses light and shadow skillfully in his architecture and also integrates nature into his architecture. Nature is the part of architecture and vice versa. A British critic, Kenneth Frampton noted:

as susceptible as Tanizaki to the transformation of traditional light under the impact of modernization, Ando has constantly tried to render his work as a subtle interface in which the two civilizations are brought to confront each

⁵⁵ *ibid.*

⁵⁶ Banham, Reyner. "The Japonization of World Architecture." Contemporary Architecture of Japan 1958-1984, ed. Suzuki, Hiroyuki, Banham, Reyner, and Kobayashi, Katsuhiko, New York: Rizzoli, 1984. p. 21

other. To this end, he has created an object-world in which the value of the one, the proliferating occident, is brought into opposition with the value of the other, the sequestered orient.⁵⁷

One of Ando's early works, the Koshino House (Fig. 17, 18) in 1979-1981 shows his usage of light and shadow in the house. Skylight bands can penetrate the house and play on the concrete walls as the sun moves across the sky. Ever-changing light and shadow created by the sun enhances the role of nature in architecture as light and shadow played the similar role in traditional Japanese architecture. At the same time, Ando never neglected the quality of concrete itself. Ando employs several competing concrete firms to produce the finest concrete. With the aid of Japanese craftsmanship, the finest concrete is always available for Ando. As a result, Ando's concrete is significantly different from that of other architects. Ando always treats concrete as if it were itself an art object by demanding the finest quality of concrete. Ando concentrates on concrete architecture instead of traditional Japanese building materials. However, Ando's architecture is very Japanese like that of Ban because his architecture is completely imbued with Japaneseness.

Another instance of a contemporary Japanese architect who reflects traditional Japanese architecture is Kengo Kuma. Kuma realized the concept of "erasing architecture" in harmony with traditional Japanese architecture. Kuma accidentally encountered the Phantom House designed in Bruno Taut in Japan. Taut criticized Modernists like Le Corbusier and Mies van der Rohe for their obsession with formalism. Instead, Taut emphasized the relationship between architecture and its surrounding nature. According to Taut's guidance, Kuma created the Water/Glass House (Fig. 19) in

⁵⁷ Frampton, Kenneth. Tadao Ando. New York: Harry N. Adams, Inc., 1991. p. 13

1995. The Water/Glass House project is for a small guesthouse located on the top of hills overlooking the vast Pacific Ocean. To maximize its geographical advantage, Kuma used glass walls to allow light to penetrate throughout the house. Kuma also skillfully placed the walls in order not to disturb the unity of interior and exterior by blocking the view. Unlike the traditional Japanese house, the design of pillars and the placement of walls are one of the main concerns in the West.⁵⁸ Instead, Kuma emphasized the horizontality of the house, the floor, by creating a water pool surrounding the house. Here, water and glass function to reflect the Pacific Ocean in near distance. Water reflects the sun and creates a tremendous visual effect with the aid of glass. This continuity of space eliminating the distinction of interior and exterior is deeply rooted in Japanese tradition. Although Kuma like Ando, used industrial building materials, its effect is truly Japanese as Tanizaki praised. What Japanese architects like Ban, Ando, and Kuma aspire to is the resurrection of traditional Japanese architecture with new techniques even though their approaches are all different.

Ban's first commission using paper was the so-called Library of a Poet in 1991 (Fig. 20). Due to his client's propensity for collecting books, this library had to include space for huge bookshelves. Ban not only used paper tubes as structural supports but he also integrated bookshelves into the components of structural support to spare space. Ban was able to maximize the restricted available space in a small library by integrating the furniture into the structure. Ban's solution always reflects Japan's infamous land shortage and limited building space. The idea of allowing furniture to function as structural support is reasonable in the limited available building space in Japan. Eventually, after

⁵⁸ Bogner, Botond. Kengo Kuma: Selected Works. New York: Princeton Architectural Press, 2005. p. 15

performing many endurance tests, the use of paper tubes was authorized by Japanese Building Standard law in 1993.⁵⁹ Ban finally invented a new building material with the aid of western engineering technology.

Westerners tend to consider paper architecture as traditional Japanese architecture because of its material. Compared to stone architecture in the West, traditional Japanese architecture was made of paper and wood, but paper was actually used for shoji and fusuma only. Also, their understanding is not entirely correct because neither shoji nor fusuma functions as a structural support and cannot be identified as paper architecture in the tectonic sense. By comparison, Ban says “my paper structures are closer to the architecture of ancient Greece...I use it, as it is, without disguise. This naturalism is, in a sense, a Japanese tradition, but it is also the idea of classic or ancient architecture.”⁶⁰ The form of the architecture is determined by the nature of the building material. Without the help of modern engineering technology, the ancient Greeks had no choice to build a temple in any alternative materials. Stone was the only available building material in ancient Greece. Without sufficient machinery or techniques, the ancient Greeks had to use cut stones in pieces for construction. The columns had to be thick and the spans between columns short in order to support a heavy roof in stone. Paper architecture follows similar rules. Modern engineering technology can produce thick and firm paper tubes in order to obtain enough strength to function as structural support.⁶¹ The idea that Ban makes unusable materials usable with the aid of modern engineering technology is unthinkable for western architects because western architects can simply use strong

⁵⁹ McQuaid, p. 14

⁶⁰ Pallasmaa and Sato, p. 72

⁶¹ *ibid.*, p.73

building materials instead of strengthening paper.

Ban has been able to resurrect old, obsolete concepts of traditional Japanese architecture with new technology. The advancement of modern technology created new industrial materials that could be substitutes for traditional Japanese building materials. In Nine-Square Grid House (Fig. 21, 22) built in 1997, Ban used steel studs to obtain stronger structural strength instead of natural materials. This allowed Ban to create a whole open space without the supporting walls. This open space is the development of the Miesian concept of “universal space,” reconceived under Japanese influence. This open space is equipped with floor to ceiling long wood sliding doors in nine grids and can create up to nine partitioned rooms, and the size of each room can be varied depending on combinations of sliding doors. When doors are not in use, they can be stored and create a total unity between the inside and the outside of a building. Ban called this open floor a “universal floor,” which allows continuous fluidity between inside and outside.⁶² The idea derived from the long traditional wisdom of Japanese architecture because the Japanese always needed to make the most use of space due to serious land shortage. Ban perfected Miesian architecture with the support of industrial material and his idea of creating further flexible space by way of his “universal floor.”

Ban also used industrial material for the Naked House project (Fig. 23) in 2000. Due to its location surrounded by rice paddies and other greenhouses, Ban’s design for the Naked House was inspired by greenhouses.⁶³ The most outstanding characteristic of this house is the extensive use of two-layered corrugated fiberglass (reinforced plastic). Tanizaki commented on shoji, “For aesthetic reasons I did not want to use glass, and yet

⁶² *ibid.*, p. 5

⁶³ *ibid.*, p. 202

paper alone would have posed problems of illumination and security.”⁶⁴ The reinforced fiberglass solved the security problem along with privacy issues while maintaining an effect similar to that of the shoji screen (Fig. 24). McQuaid likened Naked House to “a glowing box with the delicacy and beauty of a shoji screen.”⁶⁵ Again, Ban realized Tanizaki’s dream for the new industrial material in Naked House.

Ban always strives to maximize the potential of all materials whether they are natural materials or industrial materials. However, Ban’s architecture is based on his disbelief toward the western myth of permanent buildings made of steel and concrete from western perspective.⁶⁶ Japan’s unprecedented economic booming so-called “bubble economy” collapsed in the end of eighties’ and subsequently its symbolical concrete buildings were destroyed by Kobe earthquake in 1995. The Great Chicago Fire in 1871 was the beginning of the new era of skyscrapers in the United States. The chief building material shifted from wood to more permanent, steel and concrete after the disaster. On the contrary, Ban reached a different conclusion from this western counterpart.

A series of these events over time implied that nothing was permanent. Historically, Japan has often experienced natural disasters such as earthquakes and typhoons due to its geographical and meteorological characteristics. The Kobe earthquake probably reminded Ban of the evanescence of architecture in Japan. If Ban knew architecture was temporary, there is no wonder his architecture would be also temporary. The ancestors of the Japanese always built houses on the premise of their temporary state. The Japanese term “*tatekae*” means routinely rebuilding a house.

⁶⁴ Tanizaki, p. 2

⁶⁵ McQuaid, p. 205

⁶⁶ Pallasmaa and Sato, p. 99

Therefore, paper tubes might be the most culturally apt building material for Japanese architecture. Accordingly, paper architecture is pristine Japanese architecture reflecting the Japanese sensitivity resurrected in the twenty-first century.

Tremendous earthquakes struck Kobe, Japan in 1995, Kaynasli, Turkey in 1999, and Bhuj, India in 2001 respectively. Many people lost their houses and needed temporary housings. Ban provided temporary housings, such as the Paper Log House (Fig. 25-27), to the victims of each earthquake. Due to these earthquakes, it was very difficult to find enough building materials. Paper tubes were the most available building material at the sites. Paper tubes have multiple advantages over ordinary building materials. One of the greatest advantages of the paper tube is that it is in constant, worldwide supply. As long as cardboard is not a conventional building material, it will not be affected by the market. Paper tubes can be cheaply mass-produced regardless of size. With the aid of modern engineering technology, paper tubes also obtain enough strength as structural support. Ban adopted a prefabrication system to build a Paper Log House in order to save cost and time. For instance, a Paper Log House in Japan approximately cost only 2,500 USD and its construction could be completed with little labor under the guidance of a construction foreman within 8 hours.⁶⁷ The house has all the necessary equipment at minimum for daily living and can provide better comfort than other temporary housings such as tents. The structure made of paper tubes could create natural warmth in the building by maximizing its characteristic of paper (made of wood). The atmosphere of Paper Log House is similar to that of the Alvar Aalto exhibition space Ban created years ago.

⁶⁷ *ibid.*, p. 135

The detail of each Paper Log House is different according to such regional restrictions as the availability of materials, the preference for materials, and so on. In India, the beer crate foundation (mass-produced recyclable beer crates are easily attainable in Japan and were proved sustainable enough for the foundation) was not usable because of the prospective Indian residents' psychological resistance against unfamiliar materials. Instead, Ban had to choose local rubbles for the foundation. Also, different building materials are available at each location and can be used to supplement the house. In India, local bamboos are abundant and used as rib vaults and ridge beams. His flexibility allowed Ban to come up with an alternative solution using local materials instead. As a result, the designs for each Paper Log House are different except for the basic supporting structure which vary according to their local conditions. When they have finished serving their purposes, they can be dismantled and reused on other occasions. This continuous construction and dismantlement has a lot in common with traditional Japanese concept of "*tatekae* (dismantlement)."

Like other master architects such as Wright, Ban has been trying to realize an ideal architecture symbolized in the form of a seashell. But Ban's realization of a seashell is radically different from that of other architects. Paper Log Houses are flexible, movable and renewable. The house is already prepared for its demolition before construction as the Japanese always prepared for the loss of all objects following Buddhist concept of reincarnation. The Paper Log House does not contain the grandeur of Ando's or Kuma's architecture, it however is clearly equipped with the essence of traditional Japanese architecture.

CONCLUSION

In the era of globalization, there is no culture that can be without interdependence, not to mention the relationship between the East and the West. However, because of their technological superiority, the impact of western civilization was too immense for the Japanese to be able to maintain their own culture. The convenience of modern technology totally changed the meaning of traditional Japanese culture to the Japanese people. As a result, the introduction of advanced western technology resulted in the birth of the imitation of a western country, a westernized Japan.

On the contrary, traditional Japanese culture also greatly influenced the West, but Westerners did not succumb to Japanese influence. Westerners instead made the most use of Japanese influence and enriched their own culture by positively accepting Japanese influence. The most important difference is that Westerners could maintain their own cultural independence, but Japanese could not.

Contemporary Japanese architects, especially Shigeru Ban, resurrected the traditional Japanese sensitivity in their architecture. Following Aalto's guidance, Ban was able to gradually free himself from bondage of western influence and apply modern engineering technology to reinterpret traditional Japanese architecture in the process of searching for an architectural style of his own. Like his contemporaries, Ando and Kuma, Ban succeeded in realizing traditional Japanese architecture with new technology. Among them, Ban expresses the most essential Japanese characteristics in his architecture and could be the representative of contemporary Japanese architect. Ban could finally invent a new architecture based on traditional Japanese mentality that Tanizaki dreamed of.

The encounter with the West was not pleasant for the East. The East succumbed to the West spiritually or physically due to its technological superiority. However, the East could finally overcome its obsession with being inferior after decades. The Japanese people could eventually understand the importance of the difference in their perspective. Our perspective toward modern technology is always different from that of the West. Ban's architecture clearly shows the difference of perspectives among cultures. Even though no culture can exist without rooting in its mother culture, Japanese perspective toward modern technology did merely imitate that of Westerners and therefore was, for a time, rootless. Ban could finally reinterpret modern technology while respecting the traditional Japanese manner. Ban's architecture is a touchstone of Japanese architecture for the future.

ILLUSTRATIONS



Fig. 1 The Ho-o-den (Phoenix Hall), World's Columbian Exposition in 1893



Fig. 2 The Gamble House



Fig. 3 The Darwin D. Martin House

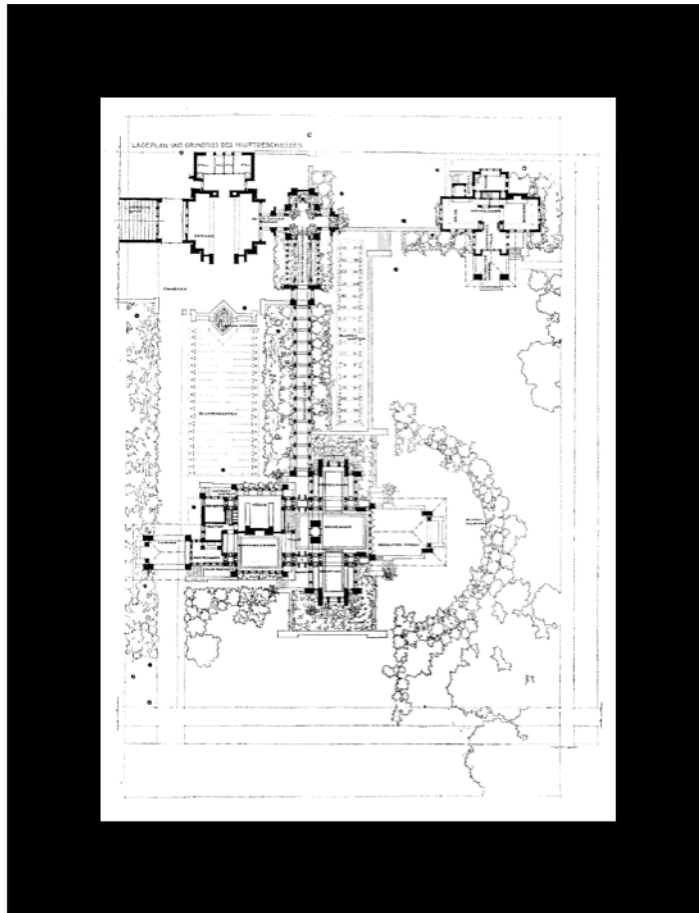


Fig. 4 The Darwin D. Martin House, site plan



Fig. 5 The Guggenheim Museum



Fig. 6 The Rokumeikan



Fig. 7 The Katsura Imperial Villa, garden



Fig. 8 The Katsura Imperial Villa, close-up view



Fig. 9 The Katsura Imperial Villa, interior (Mondrianesque pattern)



Fig. 10 The Tokyo National Museum



Fig. 11 The Nikko Toshogu



Fig. 12 The Nagakin Capsule Hotel

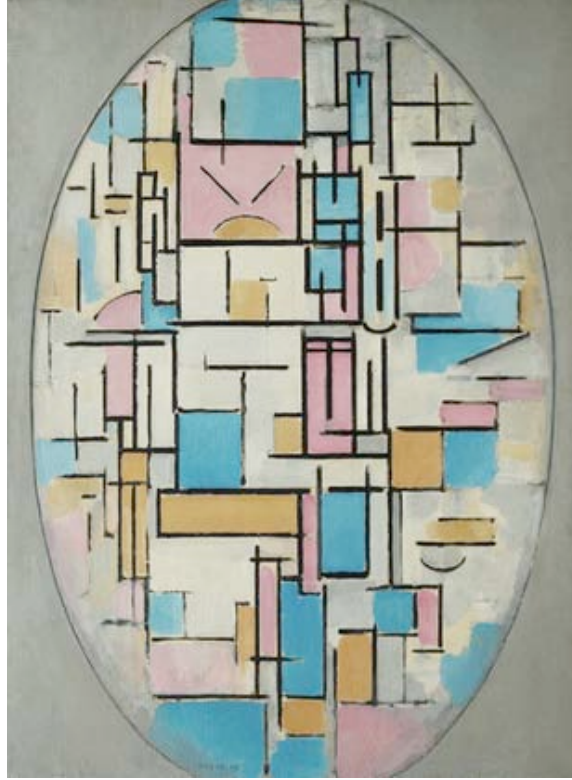


Fig. 13 Piet Mondrian, *Composition in Oval with Color Planes I*, 1914



Fig. 14 The 21st Century Museum of Contemporary Art Kanazawa

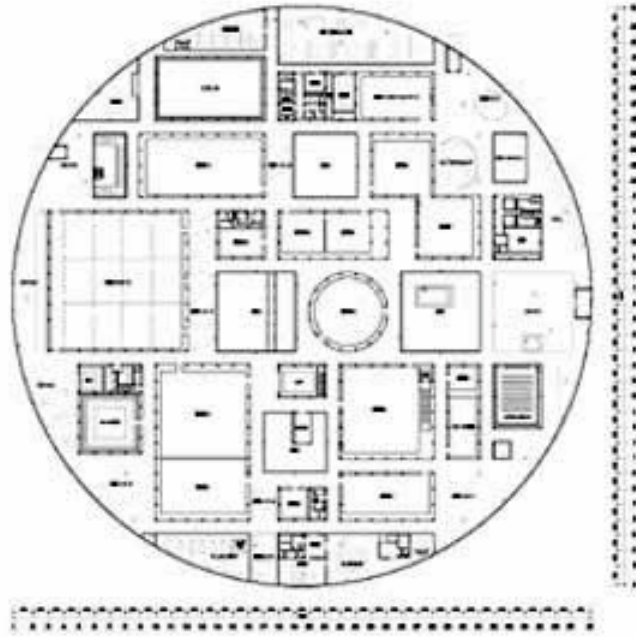


Fig. 15 The 21st Century Museum of Contemporary Art Kanazawa, site plan



Fig. 16 The Alvar Aalto Exhibition designed by Shigeru Ban

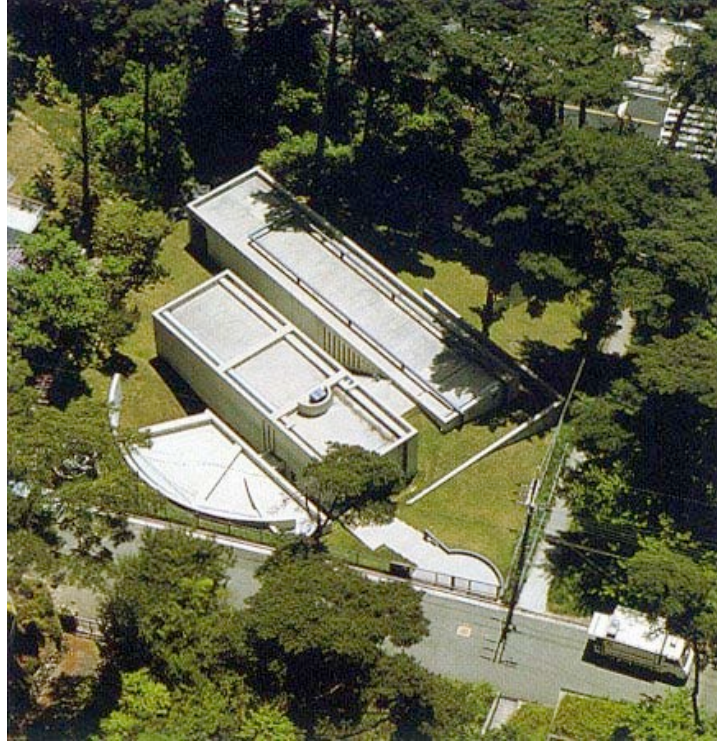


Fig. 17 The Koshino House

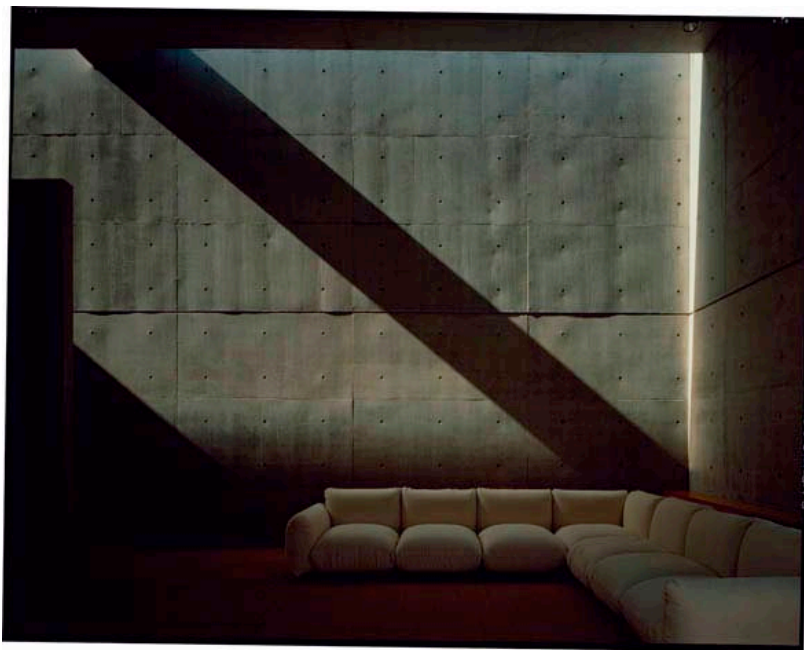


Fig. 18 The Koshino House, light and shadow



Fig. 19 The Water/Glass House



Fig. 20 The Library of a Poet



Fig. 21 The Nine Square Grid House

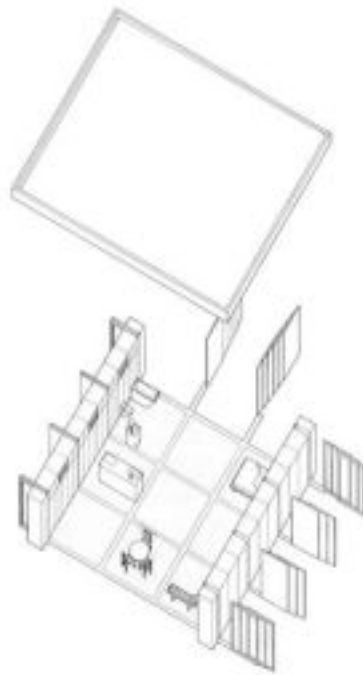


Fig. 22 The Nine Square Grid House, diagram



Fig. 23 The Naked House, interior



Fig. 24 The Naked House, exterior



Fig. 25 The Paper Log House in Japan



Fig. 26 Paper Log House in Turkey



Fig. 27 Paper Log House in India

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