A STUDY ON THE BACKGROUND OF THE MUTATION OF MIES VAN DER ROHE'S DESIGN FOR THE GERMAN PAVILION 1929 IN BARCELONA: THE INFLUENCE OF TRADITIONAL JAPANESE OPEN-PLAN ARCHITECTURE

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Abstract. Mies van der Rohe is regarded as one of the world's three master architects, his architectural designs are characterized by steel-and-glass structures and open plans. The origins of this style can be traced to his design of the German Pavilion for the 1929 World's Fair in Barcelona. Since Mies had previously designed closed, stone-and-concrete buildings, the Barcelona Pavilion represented a radical departure in his design philosophy. In his 1960 book on Mies, architectural critic Peter Blake cited two key influences, (1) Dutch art movement De Stijl and (2) Robie House designed by Frank Lloyd Wright. As a third influence, the impact of traditional Japanese open-plan wooden residential architecture should be included.

Keywords: Mies Barcelona Pavilion, Influence of Japanese traditional open-plan residence, Peter Blake, Gropius, Robie House by Wright, De Stijl

Research Objectives & Research Method

Mies, one of the three master architects of the 20th century, was the son of a stonemason. Initially, he designed simple, traditional houses featuring stone, brick, and thick concrete walls with small openings. However, for the German Pavilion at the 1929 World Exhibition in Barcelona, he designed a transparent, open structure composed of slender steel and glass. It is an open and universal space. This is thought to be influenced by traditional Japanese wooden open plan architecture. This paper examines the background of sudden shift in Mies's design.

There is no direct explanation from Mies himself. Mies did not speak much about his own design philosophy. (Sano 2013) Therefore, this paper is based primarily on a compiled edition of the diary of Japanese architect Kenji Imai, who visited Germany in 1926 to meet with Gropius, as well as on books about Mies.

1. Mies's Background and Design Activities from the 1910s to the 1920s

Mies van der Rohe was born in Aachen, Germany in 1886 and learned as a draftsman at a local vocational school before joining the office of Bruno Paul in 1906. He designed the house for Dr. Riehl in 1907. Recognized for this work, he joined the office of Peter Behrens [1] as a draftsman in 1910. At that time, Walter Gropius [2] was the chief architect at the Behrens office. While at the Behrens office, Mies was responsible for designing Hugo Perls House in 1911, and Kroeller House in 1912. (Fig. 1) It is a Schinkel-style design[3]. In 1913, Mies opened his own practice.

Later, in 1923, he presented the Brick Villa Project. Although it is a substantial brick structure, its floor plan contains the seeds that would lead to the design of the Barcelona Pavilion. Three brick walls divide the site into large sections, within which several living spaces are arranged, there are no corridors connecting the rooms. (Fig.2) In 1924, Mies stated, "I consider the industrialization of building methods the key problem of the day." At the time, the use of brick could be said to be a symbol of the era. (Blake p.38)

It is believed that Mies was influenced by the Robie House, designed by Wright, in 1910, which was featured in the Wright exhibition held in Germany in 1910."Mies had seen Wright exhibition that came to Berlin in 1910 The building is planned exactly like a typical Wrightian country house." (Blake p.34)

In 1927, he participated in a housing exhibition held in Stuttgart, organized by the Werkbund (German Work Federation), and constructed an experimental housing complex alongside Behrens, Gropius, Le Corbusier, Taut, and others. (Fig.3) This project was highly acclaimed, leading to a commission from the German government to design a pavilion. Steel-framed, finished in stucco. With long bands of glass and prefabricated partitions and storage walls, Mies succeeded in creating one of the best housing units built in Europe in the 1920s.

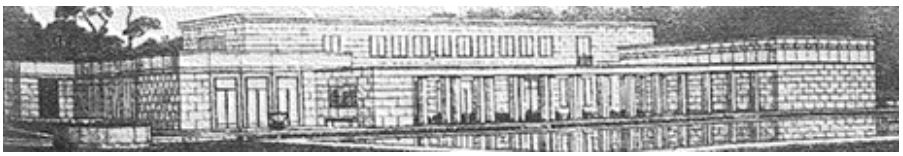


Fig. 1 – Kroeller House, Source : Blake 1 p.21

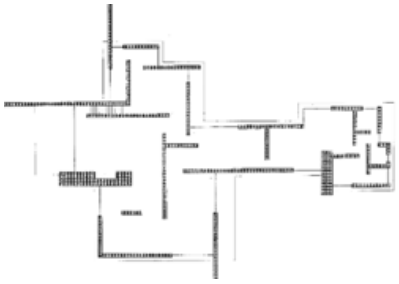


Fig. 2 – Brick Villa, Source : Werner Cover Page



Fig. 3 – Weissenhof apartments, Source : Blake.p45

2. The Design of the Barcelona Pavilion

In 1929, he designed the Barcelona Pavilion, which was constructed of steel and glass and was acclaimed for realizing a Modernist spatial concept. Compared to conventional designs, the Barcelona Pavilion could be described as a "mutation." The building itself consisted of a sweeping, horizontal roof plane supported by eight chromium-plated steel columns, cross-shaped in section. Below this roof, there was a rectangular composition of glass and marble walls that formed a series of beautiful spaces, all open to one another and open to various outdoor areas beyond the glass. In their asymmetrical, rectilinear composition, the walls of the Barcelona Pavilion resembled a De Stijl[4] painting in plan view(Fig. 4) (Fig. 5). In three dimensions, the building possessed some of the sweeping quality of Wright's Robie House[5]. (Fig. 7)" (Blake p.52)

On the other hand, Kiyonori Kikutake, a leading Japanese architect, wrote: "Japanese architects who visited Germany in the 1920s showed Mies photographs of Japan's open wooden architecture. Barcelona, the stone patterns on the columns and rear wall of the Pavilion bear a resemblance to the pine patterns painted behind the tokonoma in Japanese homes. However, since it lacks a sense of daily life, it is interesting to view the Pavilion as an object of art rather than a proposal for a residence. Japanese homes have diverse functions, with the same room serving as a dining room, a bedroom, and so on." (Kikutake 1,1991, p.,75)

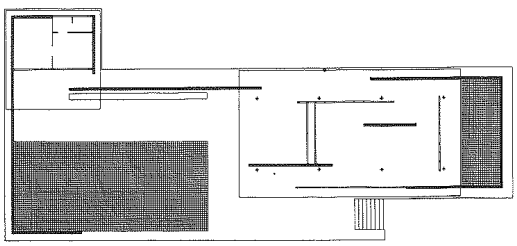


Fig. 4 – Barcelona Pavilion, Source : Blake 1 p.52

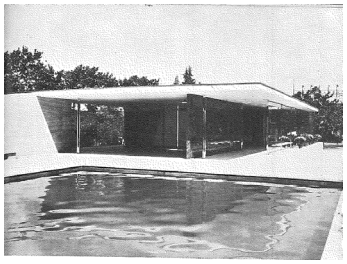
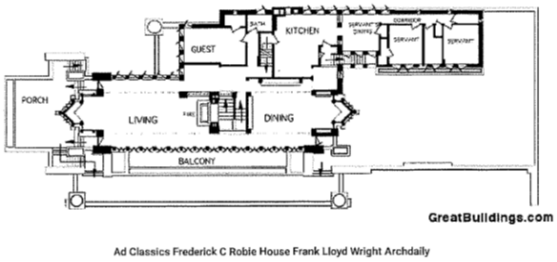


Fig. 5 – Barcelona Pavilion, Source : Blake 1 p.53





Ad Classics Frederick C Roble House Frank Lloyd Wright Archdaily

Fig. 6 – DeStijl,Theovan Doesburg Composit : on 1917 Fig. 7–Robie House, Source : Plansmange

3. Kenji Imai's Diary of His 1926 Visit to Germany

3-1 Impressions of Germany

"On July 15, 1926, commissioned by my university, I departed Tokyo on a journey to study modern architecture across Europe and America. As I was a young man of 30, my heart leapt with joy at the prospect of this journey. This was a period of innovation in modern architecture, and the triumph of functionalism was being celebrated."(Imai 1,1995, p.120) "There were three leading forces: 1) the German Werkbund (Der Deutsche Werkbund) in the field of manufacturing industry; 2) the Bauhaus as an institution for art education and research; and 3) the movement centered on the magazine "Das Neue Frankfurt". The achievements of the German Werkbund lie in making the public aware of the value of new materials such as iron and glass, and in pioneering a new world of form by combining industrial production with artistic creation. One of the league's key figures is Gropius.(Imai 1,1995, p.262) Since our student days, we had been exposed through magazines to German and Austrian architecture, which at the time was the most active in Europe. (Imai 2,1994, p.226)

3-2 Visit to Mr. Gropius, Dessau

"A young woman greeted me as I stood at the reception desk with my letter of introduction. Gropius was in his prime, in his forties, but his appearance made me think he might be older. In a newly renovated room, he plopped down into a large, linear chair upholstered with yellow cushions. In front of him stood a large table made at the Bauhaus, showcasing the beauty of modern functional design. My first impression was that he was a person with a sharp gaze who seemed difficult to approach. From the color scheme of the ceiling to the design of the floor covering and the arrangement of the tubular lamps running along the ceiling, everything was a manifestation of the Bauhaus spirit. Within this single room, one could sense the dynamism of the leader of modern architecture in Germany as he sought to usher in a

new era. ” Gropius signed and presented me with two books, “Offset-Buch-und Webekunst” and ” Buecher1”, as a memento of my visit.”

“Furthermore, he stepped away from his chair and from among the many business cards in a small box, showed me two cards of Japanese architects. These were from members of the Secession group who had previously traveled abroad. I expressed my gratitude for Gropius’s thoughtful gesture, which was clearly intended to please me as a Japanese visitor. At the same time, the fact that up-and-coming Japanese architects were so firmly etched in the mind of such a renowned western architect filled me with a strong sense of pride regarding the future of modern architecture in Japan. ” These two are believed to be Kikuji Ishimoto[6] who visited Europe in 1922 and Sutemi Horiguchi[7] who studied in Europe in 1923, and formed the Secession Group in Japan in 1920. Inferred from their biographies.

3–3 Warm Welcome at Gropius’s Home

“Gropius’s house was the one on the far left of a row of four houses belonging to Bauhaus professors. Mr. and Mrs. Gropius invited Meier and me inside and asked for our impressions of the Bauhaus. Needless to say, his study immediately confirmed that he was a practitioner of modern architecture. Guided by his wife, she gave us a thorough tour of the kitchen, bedroom, bathroom, the guest room upstairs, and the master bedroom. His wife said, “Why don’t you stay the night instead of returning to Berlin tonight? We have a room for you,” beautifully demonstrating her kindness and charm. As evening fell and it grew dim, she even prepared dinner for us. Mr. Gropius managed to catch the 9:07 p.m. train departing from Dessau. The gratitude I felt as Mr. and Mrs. Gropius saw me off to the door has become something I will never forget. On the way to Dessau Station, I couldn’t help but reflect on the kindness Gropius had shown me throughout the day. I kept recalling the joy of today’s visit as I rode the train back to Berlin. I arrived back in Berlin at 11:24.” (Imai 3,1993, p.213)

3-4 Introduction of Japanese Architecture to Gropius & From Gropius to Mies

No specific details can be found in the diary. However, it is believed that Ishimoto, a young Japanese architect who was 28 years old in 1922, and Horiguchi, who was also 28 in 1923, showed or provided Gropius with photographs and drawings of traditional Japanese residential architecture (the open-plan Sukiya-style, composed of wooden columns and beams) during their visits to him. Similarly, it is believed that Imai also showed Gropius representative images of Japanese architecture and provided him with some of them. It is believed that Mies

had various interactions with Gropius during this period, and it is possible that he was shown photographs and drawings of Japanese architecture on those occasions.

Some examples of Japanese wooden traditional residential architecture are shown below. 1. Kodaiji Temple, (Fig. 8), 2. Kennin-ji Temple, rock, tokonoma, (Fig. 9), 3. Daigo-ji Temple, tea room. (Fig. 10)



Fig. 8 – Kodaiji Temple, Source : Harada



Fig. 9 – Kenninji Temple,Tokonoma, Source : Harada



Fig. 10 – Daigoji Temple Tea House & Pond, Source : Harada

According to Kikutake, "Mies learned openness from Japanese residential architecture." During a visit to the U.S., Kikutake met with a staff member from Mies's office who was still alive at the time, and the staff member testified that "Mies was indeed influenced by Japanese residential architecture." (Kikutake 2,2000,P.200)

It is believed that he designed the Barcelona Pavilion based on the floor plan of the 1923 Brick Villa, while also drawing influence from traditional Japanese architecture.

3 Conclusion

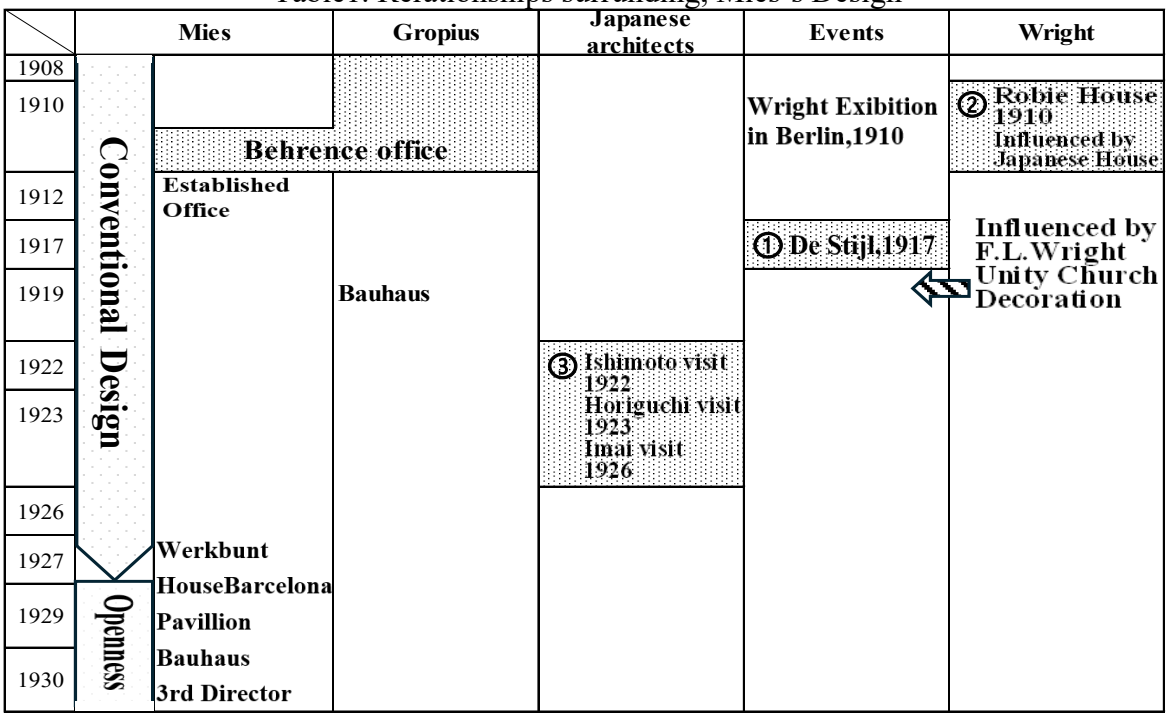
Mies's design underwent a radical mutation at the 1929 Barcelona Pavilion. The interrelationships surrounding Mies's design can be summarized as shown in Table 1.

Blake wrote, "The Barcelona Pavilion shows the influence of both De Stijl and Wright's Robie House." (Blake,1960, p.53) The Barcelona Pavilion is a departure from Mies's design tendencies of the 1920s. According to Imai's diary, it is believed that during his warm meeting with Gropius and also during a previous visit by two young Japanese architects they showed Gropius photographs and drawings of traditional Japanese architecture. It is thought that Gropius shared these photographs and drawings with his Bauhaus colleagues, including Mies.

Furthermore, according to a book by Kikutake, he obtained testimony from a former employee of Mies's office stating that "Mies was influenced by Japanese residential architecture."(Kikutake 2,2000, p.200) Compared to the heavy architecture of stone, brick and concrete, it is thought that he was significantly impressed by the open and light traditional Japanese wooden architecture.

Therefore, it can be considered that the Barcelona Pavilion was influenced by De Stijl paintings, Wright's Robie House, and, as a third influence, the open traditional Japanese wooden architecture.

Table1. Rerationships surrunding, Mies's Design



1929 : Mutation , Mies's Design Philosofy

NOTES

1. Behrens (1868–1940) was one of Germany's leading architects at the time. He had a significant influence on the development of Modernist architecture and industrial architecture. Walter Gropius, Ludwig Mies van der Rohe, Le Corbusier, and others also worked at the Behrens office.

2. Gropius (1883–1969) worked at the Behrens office from 1908 to 1910. Around the same time, Mies became a colleague of Gropius. Gropius founded the Bauhaus (School of Architecture and Design) in 1919 and became its first director. In 1925, the school relocated to Dessau. In 1930, Gropius recommended Mies as the director.

3. Schinkel (1781–1841) was an architect representative of 18th-century German Neoclassicism.

4. De Stijl Painting – An art movement that originated in the Netherlands in 1917. Features paintings with abstract combinations of lines.

5. Completed in 1910, a residence with an open floor plan designed by Wright under the influence of traditional Japanese architecture.

6. Kikuji Ishimoto (1894–1963) Co-founded the Secession movement with Sutemi Horiguchi and others. In 1922, he traveled to Europe and America at his own expense.

7. Sutemi Horiguchi (1895–1984) In 1923, he studied abroad in Europe and formed the "Separatist Architectural Association" in 1920 with fellow alumni from the University of Tokyo.

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REFERENCES

Blake, Peter (1960). "Mies van der Rohe", Pelican Book

Imai, Kenji 1 (1995), "Architecture and Humanity", Chuokoron Art Publishing Co.

Imai, Kenji 2 (1994) "Essay on Artists II, Ethics of the Artist", Chuokoron Art publishing Co.

Imai, Kenji 3 (1993) "Essay on Artists I, Architecture Journey", Chuokoron Art Publishing Co.

Kikutake, Kiyonori 1 (1991), "Thinking about Architecture", Kajima Publishing Co.

Kikutake, Kiyonori 2 (2000), "The Trajectory of Modernist Architectre", INAX Publishing Co.

Sano, Junichi, (August 2013) "Design Method, Organic Order of Crown Hall designed by Mies". Architectural Institute of Japan

Werner, Blaser, (1965), "Mies van der Rohe", Praeger

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