

# Reiko Hayama, *Between the Acts*: Legacies from Le Corbusier and Kunio Maekawa

## Reiko Hayama, entre los actos: el legado de Le Corbusier y Kunio Maekawa

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### Abstract

Filiation, or the sharing of a creative legacy from one generation to another, is more obvious when considering *principles* specific to architecture. This paper examines how Le Corbusier's legacy was passed down to Reiko Hayama, a pioneering Japanese woman architect who started her career working in Tokyo from 1959 until 1965 for Kunio Maekawa, one of "the Master's" previous collaborators at Rue de Sèvres 35. She then moved to Paris to work for Charlotte Perriand and Jean Prouvé before establishing her own atelier from 1976 until 2013. This article focuses on the active resonances of Le Corbusier's heritage in Hayama's personal practice. Her reflections indicate that Maekawa and Prouvé opened a path to her that was situated apart from Le Corbusier's principles. This path included: an environmental concern ethic, a design process that took cultural context deliberately into account and an architectural form derived from a technological reasoning process. In direct heritage, she assumed the Modulor's legacy itself, an important operative tool in Corbusian methodology.

**Key words:** filiation, "plan générateur", Modulor, client, environment, technology, form.

### Resumen

Filiación, o el compartir de un legado de generación a generación, es más evidente al considerar los principios específicos de la arquitectura. Este artículo examina cómo el legado de Le Corbusier fue transmitido a Reiko Hayama, mujer japonesa, pionera en arquitectura, y quien desde 1959 a 1965, forjó su carrera en Tokio trabajando para Kunio Maekawa, uno de los previos colaboradores "del Maestro" de la Rue de Sèvres 35. Posteriormente, decidió mudarse a París y trabajar para Charlotte Perriand y Jean Prouvé, previo a establecer su propio estudio de trabajo en los años 1976 a 2013. Este artículo se centra en las repercusiones del patrimonio de Le Corbusier en la práctica personal de Hayama. Sus reflexiones señalan que Maekawa y Prouvé le dieron paso a un camino que se situaba por fuera de los principios de Le Corbusier, entre los cuales se encuentran: una preocupación ética por el medio ambiente; un proceso en el diseño que deliberadamente tuvo en cuenta un contexto cultural y una forma arquitectónica derivada de un proceso tecnológico de razonamiento. El patrimonio del Modulor fue directamente asumido por Hayama, siendo este una herramienta operativa de suma importancia en la metodología Le Corbusiana.

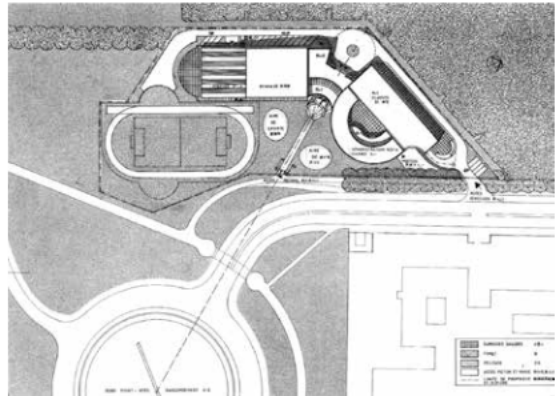
**Palabras clave:** filiación, "plan générateur", Modulor, cliente, medio ambiente, tecnología, forma.



Figure 1. Le Corbusier and Kunio Maekawa, London CIAM, 1951. *Kunio Maekawa Retrospective Catalogue*, 268 © Paris/FLC



Figure 2. Reiko Hayama, Paris 1992. Photograph: Jane Gordon. Hayama & Associates Architects, Paris



Figures 3-4. Institut Culturel Franco-Japonais St Quentin en Yvelines, Entrance court and Overall plan. Designed by Reiko Hayama, 1990. Photograph: Fabrice Rambert. Hayama & Associates Architects, Paris. Plan: Hayama & Associates Paris



Figure 5. Institut Culturel Franco-Japonais St Quentin en Yvelines, Bird view. Designed by Reiko Hayama, 1990. Photograph: Fabrice Rambert. Hayama & Associates Architects, Paris

## Introduction

*There can be no continuers or interpreters,  
and we must remember that while he lived,  
nobody could presume to have acquired his teaching.<sup>1</sup>*

1 Card written by Pierre-André Emery, who was among the first team of collaborators at Atelier Rue de Sèvres 35, to Siegfried Giedion on 12 November 1965, the day following the death of Le Corbusier. (Harvard University, Frances Loeb Library). In Quetglas, *Les Heures Claires. Proyecto y arquitectura en la Villa Savoye de Le Corbusier y Pierre Jeanneret*, 345.

2 For an analysis of this creative critical process of Le Corbusier's works, such as the one done by James Stirling, see Vidler, *James Frazer Stirling Notes from the Archives*.

It seems at first that Le Corbusier did not feel concerned about transmitting his know-how to his atelier's collaborators and did not, in particular, cultivate any teaching gift. It was through his prolific and illustrated writings, that he passed on his thoughts to architects, both during his time and today. Architectural legacy manifests itself in various ways and is not always visible to the naked eye, as is the case when we detect in his collaborators or continuers those compositional and urban principles that recall his style. Beside his sketches, notes, photographs, publications, and conferences, his rich heritage embodies a panoply of buildings, urban plans, the city of Chandigarh, paintings and tapestries, point of views, architectonic sensations, project tools, and resolutions. Architects ever since have taken into account his principles—some inspired by them, and others transforming or putting aside parts of them. An architect's designing process is complex and has various sources—we should not forget the other major architects, and it is therefore only possible to ascertain a Corbusian legacy when the architect's drawings, writings, or direct testimonies make it explicit. We should also consider that his legacy sometimes contains his collaborators' and interpreters' reactions and oppositions. Throughout his career, Le Corbusier's principles and his stylistic moves provoked a creative process of reassessment: opening new architectural, land planning, and artistic paths.<sup>2</sup>

In this paper we assess what remains of Corbu's legacy today through the explanations of Reiko Hayama, a Japanese architect who graduated from Yokohama National University. Interviews have revealed that, from the beginning, her exceptional path was directed by Le Corbusier's fame in Japan. She started her career in 1958 when she worked for six years for Kunio Maekawa (1905-1986), a former collaborator at Atelier de Sèvres 35 (figs. 1-2). Firstly, this assessment brings to light affinities between Eastern and Western architectural cultures. We start by looking closely at Le Corbusier's youthful interest in Japanese culture in order to uncover clues for understanding why he became the most famous master in Japan in the 50s. Then, we ask to what extent an architect such as Maekawa, who came from a Japanese system that was very different from the European one, was able to find specific concepts and practices he could assimilate from his work with Le Corbusier (1928 until 1930), and whether he did transmit some of them directly to his collaborators. Next, Hayama's testimonies on Maekawa's legacy shed light on the subtle questions of Le Corbusier's filiation through the filter of a direct generation of collaborators, thus attesting to the permanence or recurrence of his heritage through time. Finally, we investigate the permeability of Le Corbusier's legacy: how this indirect legacy naturally emerged side by side with the direct legacies of

Hayama's two other mentors. Indeed, in 1964, Hayama stopped working for Maekawa and left Japan for Paris to join the atelier of Charlotte Perriand (1903-1999), with whom she worked from 1967 until 1969. She then became the collaborator of Jean Prouvé (1901-1984) for six and a half years. Her path eventually led to a fulfilling career, as Prouvé encouraged her to do a French diploma. Hayama became a member of the French Architects Order in 1975 and had her own office from 1976 until the summer of 2013. In France, her body of works includes individual houses, the French Japanese Cultural Institute (figs. 3 to 5), a sports and hotel resort in Belesbat, and factories for Minolta, Hitachi, Akenobo Brake, Canon, Sanden manufacturing Europe and Noritsu. In Japan, she built one of the Toyota Groups' Administrative Quarters in 2012. What, then, of Le Corbusier's legacy remained alive in her daily work for the following thirty-seven years? Hayama's account is significant, mostly because it informs us about the operational nature of this heritage today.<sup>3</sup>

Firstly, in *Le Corbusier et le Japon* (2007), Gérard Monnier gives a synthesis of Le Corbusier's ties with Japanese architects and his reception in Japan. In *La création d'une japonité moderne (1870-1940) ou le regard des architectes européens sur le Japon: Josiah Conder, Robert Mallet-Stevens, Bruno Taut et Charlotte Perriand* (2010), Irène Vogel Chevroulet describes the East-West historical context as well as Le Corbusier's youthful interest in Japanese art and architecture. Secondly, Jonathan Reynolds completes these researches with a focus on Maekawa including a deeper analysis of the impact of Le Corbusier's architecture in his work. See *Maekawa Kunio and the Emergence of Japanese Modernist Architecture* (2001), especially chapters *A journey to the West* and *Architecture, Politics and Le Corbusier*. Other studies of Maekawa's work include: "Kunio Maekawa: Sources of Modern Japanese Architecture" (1984) and "The Architectural Space of Kunio Maekawa" (1992). Complementary information on his diploma and on the drawings he was in charge of at Atelier Rue de Sèvres 35 is in: *Kunio Maekawa Retrospective Catalogue* (2006). Finally, Hayama's work as Perriand's collaborator in charge of all the drawings, and her use of the Modulor for the Japanese Ambassador's Residence in Paris has been described in "Japan 1940-1 Imprint and Resonance in C. Perriand's Designs" (2007), by Irène Vogel Chevroulet and Yasushi Zenno. The second essay by the same authors focused on Hayama's renovation work for the Residence: "Modern Synthesis revisited: Interior Design and Renovation of the Japanese ambassador's Residence in Paris by Perriand, Prouvé and Hayama 1968-2001" (2014). Hayama's own work was regularly published in "Formes et Structures" from 1993 until 2002.

This article proposes an East-West journey sequenced in three historical parts. The first one starts with Le Corbusier's interest in Japan from 1908, continues with his fame starting in Japan during the 1920s attracting Maekawa to Paris to work for him from 1928 until 1930, and ends with the Master's own visit to Japan in 1955. The second period focuses on Hayama's discovery of Le Corbusier's works in 1952 and

3 This article is based on Reiko Hayama's interviews, conducted on 26 April, 9 July 2013 and 12 June 2014 in Paris, which focused on Le Corbusier's legacy. Background information comes from previous interviews during the collaboration initiated in 2005 between Irène Vogel Chevroulet and Yasushi Zenno around Charlotte Perriand's work within the network of Japanese architects including Kunio Maekawa and Junzo Sakakura. We would like to thank Reiko Hayama for her contribution, as well as Marx Levy and Patrick Berger whose insights on Le Corbusier's filiation enriched our research. Thanks also to Edward Moran for careful proofreading.

the legacy Maekawa passed on to her from 1958 until 1964. The final section describes her own work's major development in France and analyses how this indirect heritage took its place alongside Perriand's and Prouvé's inputs.



Figure 6. Stone garden access to the veranda, Katsura Imperial Villa (1579-1673), Kyoto, 1927. *Kako no kōsei (Compositions of the past)*, 54



Figure 7. Villa Savoye, Poissy. Designed by Le Corbusier, 1931. *Le Corbusier, P. Jeanneret. Oeuvre complète 1929-1934*, 31

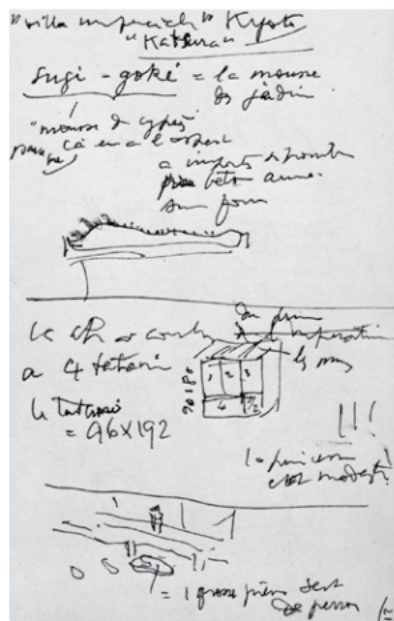


Figure 8. Le Corbusier's sketches at the villa Katsura, 1955. *Le Corbusier, Carnets 3 1954-1957, N°341*



Figure 9. Lithograph of the Modulor signed by Le Corbusier for Maekawa, 1955. *Kunio Maekawa Retrospective Catalogue*, 134 © Paris/FLC

## Architectural East-West Affinities: Le Corbusier and Maekawa

*Houses? Yes. (...) Reversing the procedure that employs wood and stone and makes them of value without adding any strange element to their own properties, artifice has existed here only to annihilate its material. These enclosures, the sides of these boxes, these floors and ceilings, are no longer made of beams and planks but of certain opaque images conjured forth. Color decorates and adorns the wood, lacquer drowns it under impenetrable waters, paint covers it with enchantment, and sculpture deeply undermines and transfigures it.*

*The Oriental knows enough to flee from vast landscapes, where multifold aspects and divergent lines do not lend themselves to that exquisite co-ordination between the eye and the view which alone makes a sojourn possible for him. His eyes furnish him with all the elements of happiness, and he replaces furniture with open windows.*

*The paper dwelling is composed of successive apartments divided by partitions, which slide on mouldings. A single theme of decoration has been chosen for each of the series, and introduced by screens similar to the wings of a theatre. I am less the spectator of the painting than his host.<sup>4</sup>*

4 Claudel, *Connaissance de l'Est*, 170-172. *The East I Know*, 122, 131-132. Claudel travelled to Japan in 1898.

The architecture of Asian countries appealed to Le Corbusier, and his “*voyage d'Orient*” from May to November 1911 is well documented. It is worth wondering whether he had other affinities with Japanese culture. Delving into his youth, one can indeed find several clues revealing his specific interest in Japan. His notes while working for Auguste Perret in Paris in 1908-9 indicate his fascination with Katsushika Hokusai's wood-block prints. In 1914, he mentioned Frank Lloyd Wright's Villa and Japan. It is probably a reference to the Wasmuth Portfolio published in 1910, which included revealing lithographs of Wright's houses. These drawings bear affinities with Japanese style of drawing: the American master collected prints and built in Japan from 1905. Le Corbusier also mentioned Lafcadio Hearn (1850-1904), a well-known Japanophile at the turn of the 20<sup>th</sup> century. Hearn was professor of literature at Tokyo University, writing reference books about Japanese culture.<sup>5</sup> Interestingly, Le Corbusier bought and underlined a passage in his copy of Paul Claudel's 1907 book *Connaissance de l'Est* describing the pine foliage composition, an important motif for Charles Lepatennier, Le Corbusier's Master at La Chaux-de-Fonds School of Art. Claudel described as well “*la circulation de la rêverie*” through gardens, which is arguably similar to “*la promenade architecturale*” that Le Corbusier developed later, in 1924. Claudel also commented on the extraordinarily light architecture of the Kyoto Imperial Palace: architecture as a theatre's stage set where visitors are seen as hosts of the paintings, not as spectators. At the time of these notes, in 1914, Le Corbusier was creating his Dom-ino system, the “*plan libre*”: a concrete skeleton that freed the elevation from bearing the building; a ceiling and floor with

5 Le Corbusier, *Carnets 1 1914-1948*, N°57, 60, 71, 96 and 152.

totally smooth surfaces and partition walls that could be placed wherever. He was also working on the integration of furniture into architecture and the new design possibilities for windows that were offered by non-bearing walls, which are also important specificities of Japanese architecture, as Claudel explained. Did these descriptions stimulate the Master's creative mind? Could he have picked up this light post-and-beam wooden architecture filled with screens and transposed it into concrete, the material his master Perret was experimenting with for dwellings?

Looking at Le Corbusier and Japanese architects working at the beginning of the 20<sup>th</sup> century, it is important to be aware, though, of a double direction in the conception of space. While Le Corbusier was freeing up the traditional dwelling plan composed of masonry walls and closed spaces, the Japanese were in a way turning away from their own tradition of light wooden flexible spaces. They were learning to construct buildings in western styles, with fixed plans for structures that included several corridors between spaces, thus enhancing intimacy. These years were a transition period within Japanese pre-modern architecture, which was on its way toward a modernization via westernization since the opening of the country in 1854, after more than two hundred years of closure. The first architecture professor at the Kōbu Daigakkō (Imperial College of Technology) in Tokyo from 1876 to 1884 had been Josiah Conder (1852-1920), a young British architect hired by the government as a foreign advisor or *oyatoi*, for four years. It was he who had taught the Japanese about new stone and metal building technologies. He had built structures for major institutions, at the same time improving their resistance to earthquakes. As the “father of modern architecture” in Japan, he advised his pupils to complement the use of innovative building methods by searching their own tradition for cultural fundamentals, and this is exactly what they did.

After Conder's death in 1920, several young architects travelled to Europe, eager to learn more about the new architecture, and probably searching for a new master too. They worked in prominent avant-garde offices in Vienna, Berlin, Stuttgart, and Paris, bringing back their experience and documentation on their return to Japan. Le Corbusier's fame started there in 1923 thanks to the first publications of his ideas translated into Japanese. Architects Kazue Yakushiji and Junpei Nakamura visited the Atelier Rue de Sèvres 35. After their return to Japan, they published several articles on the *Ville contemporaine* and the Citrohan house as well as their interviews with Le Corbusier. Hideto Kishida (1899-1966) played an important role in the confirmation of his fame. In 1926, three years before becoming professor of the history of architecture at Tokyo Imperial University, he had met Le Corbusier in Paris. The following year, he published *Kako no Kōsei* (*Compositions of the Past*), a catalogue of photographs revealing several traditional structures and emphasizing the beauty of their composition.<sup>6</sup> One of them showed the moon-watching veranda at the 17<sup>th</sup> century Katsuravilla in imperial Kyoto (Fig. 6). Kishida attested to his satisfaction

6 Kishida, *Kako no Kōsei*, 54.

discovering “the essence of modernism” in Japanese tradition, writing: “I am surely not the only one who is thrilled again by finding the essence of modernism in Japanese architecture and the other arts of the past.”<sup>7</sup> In a way, he followed Conder’s advice: he searched for Japanese fundamentals that could be updated, that could fit into the creation of a new Japanese modern architecture.

During his studies with Kishida, Maekawa benefited from his knowledge of Le Corbusier and chose him as the main subject for his theoretical diploma. His graduation paper has unfortunately been lost.<sup>8</sup> He left Japan the day following his graduation from Tokyo University to work for two years as draughtsman at Atelier Rue de Sèvres 35 from 1928 until 1930. He signed for forty nine drawings of nine projects: Villa Baizeau, Maison J. Canneel, Centrosoyus, Armée du Salut, Asile flottant, Appartement de Beistégui, Maison Loucheur, Maison de Mandrot, Villa Goldenberg and Aménagement de la Porte Maillot. Junzô Sakakura succeeded to him in this role from 1931 to 1937. Maekawa translated two of Le Corbusier’s works after his return to Japan: *Vers une Architecture* in 1929 and the *Esprit Nouveau* in 1931. It was through these translations that the Japanese started discovering Le Corbusier’s thought. In addition, it was Maekawa who brought an awareness of the Villa Savoye to Japan. In so doing, he played a role in the enhancement of formal affinities between the imperial Katsura Villa and the Villa Savoye (fig. 7). It is important to acknowledge that the Katsura Villa’s high pilotis are an exception in Japanese architecture. They were designed to secure the house against the nearby river’s unexpected floods. This beautiful river crosses five gardens and tea pavilions scattered with utmost care along a circular path, creating a variety of views of the Villa built as the domain’s heart.<sup>9</sup> It is worth considering this outdoor and green spatial sequence through gardens or “*promenade de la rêverie*” —as named by Claudel, as a landscape art bearing aesthetic and cinematic affinities with the Villa Savoye’s sculptural “*promenade architecturale*” revealing Le Corbusier’s subtle and poetical spatial sequences.

During these years, from the 1930s until the 1960s, the discourse about the roots of modern Western architecture found in pre-modern Japan became prominent. As Fumihiko Maki explains, Le Corbusier’s success in the eyes of Japanese architects can partly be explained by the fact that they found familiar elements in his plans and architectural forms.<sup>10</sup> If the Dom-Ino structure would be built in wood, the result would indeed bear similarities with the traditional Japanese structural system. Besides, his “purist” proposals imparting no concessions to the historicizing details of 19<sup>th</sup> century architectural styles seemed closer to their own tradition: one embedded with simplicity. These factors naturally aroused a *déjà vu* feeling, a proximity of mind in young Japanese architects. From 1929 onward, publications on Le Corbusier’s work regularly appeared in Japan, confirming his fame. In 1939, Le Corbusier was considered as an official foreign advisor to the export program led by Japan’s Ministry of Trade and Industry, but the invitation went to

7 Zeno, *Fortuitous Encounters Charlotte Perriand in Japan 1940-1*, 110.

8 Reynolds, *Maekawa Kunio and the Emergence of Japanese modernist architecture*, 51.

9 For a thorough analysis on this villa including Japanese sources, see Jacquet, *La villa Katsura et ses jardins : l'invention d'une modernité japonaise dans les années 1930* in Fiévé and Jacquet : *Vers une modernité architecturale et paysagère*.

10 In Monnier, *Le Corbusier et le Japon*, Maki, Fumihiko : *Le syndrome Le Corbusier sur le processus d'évolution de l'architecture moderne au Japon*, 33-45.



11 According to Sori Yanagi, a ministry official was reading Le Corbusier's writing and wanted to invite him to Japan. He consulted Sakakura who told him that Le Corbusier would not accept the invitation and recommended Perriand instead. In Zenno, *Fortuitous Encounters*, 91.

Charlotte Perriand instead, which she accepted.<sup>11</sup> He travelled to Japan only one time afterwards, from 31<sup>st</sup> October until 11<sup>th</sup> November 1955: the purpose of his trip was to fulfil a commission by the Tokyo Museum for Western Arts. He worked in and visited Maekawa's office. He also travelled to the ancient capitals of Kyoto and Nara for short observations of pre-modern architecture with Sakakura, who guided him to the Katsura Villa. Upon his visit, Le Corbusier sketched Japanese characteristics such as a room with straw mats and identified it by mistake as the empress room, noting: *the princess is modest!* He also observed and sketched a natural stone used in the process of taking one's shoes off before entering. These stones are specific to Japanese sensitivity towards nature's rough and sacred beauty (fig. 8). In the ensuing years, he was unfortunately too busy working on other major projects such as Chandigarh and he gave responsibility for the Museum building's execution to his previous collaborators, Sakakura and Maekawa as well as to his collaborator in Paris, the architect Takamasa Yoshizaka. The Museum finally opened in 1959.

After his work with Le Corbusier at Atelier de Sèvres 35, Maekawa had joined Antonin Raymond's Architectural Design Office in Tokyo for five years. He established his own office in Ginza in 1935. Working conditions became extremely difficult for architects after Japan embarked on a war with China in 1937. Maekawa opened a branch office of his firm in Shanghai in 1939, then another one in Mukden in 1942, mainly designing aircraft factory buildings and housing. The Ginza office was destroyed in an air raid in May 1945. Maekawa opened a new office that remained active until 1984. His body of work includes prefabricated housing systems, dwellings, nineteen residences and more than eighty public buildings such as museums, concert halls, libraries, schools, hospitals, research centres, crematoriums as well as offices, banks, shops, and embassies. As assessed by Reynolds (2001), it seems that Maekawa took advantage of a very precise and limited part of his knowledge gained at Le Corbusier's atelier: the models for the League of Nations design and Centrosoyus (figs. 10 and 11). These were the source of inspiration for his early large-scale public projects (figs. 12, 13 and 14). We would add that in the field of collective housing, he reinterpreted the Marseille's Unité d'habitation in his Harumi flat's proposal (1959), where he designed Japanese specificities such as matted rooms (figs. 15, 16 and 17). Indeed, in 1951, Maekawa met Le Corbusier during his trip to Hoddesdon, England where he represented Japan at the eighth Congrès Internationaux d'Architecture Moderne (CIAM) and he took this occasion for visiting his Unité d'habitation, a project that would be finished a year later (fig. 1). In the field of private housing, Japanese conditions were different in that Maekawa's clients were not as wealthy as Le Corbusier's and they wished traditional architecture, whose materials were then in Japan less expensive than concrete and metal (figs. 18, 19). Concerning urban planning, Maekawa created only a few large-scale urban designs such as Le Corbusier's, probably due to political reasons, as he did not want to be involved in the alliances that were needed in order to get such commissions.

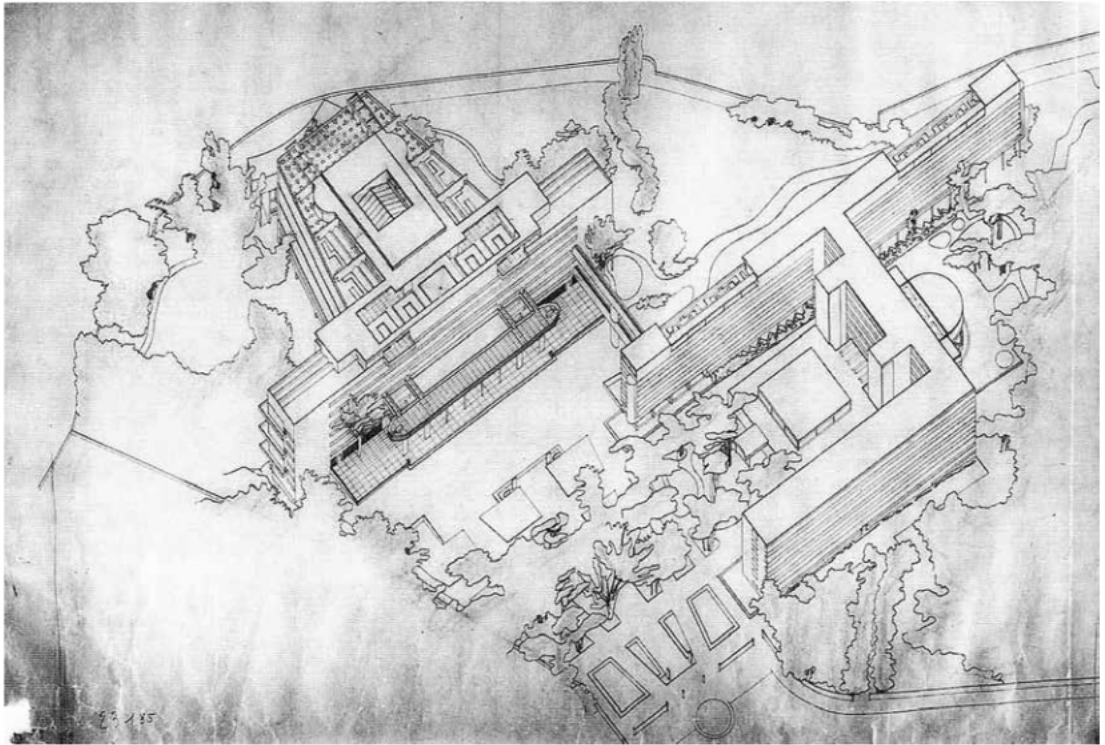


Fig. 10. Palais des Nations. Geneva, axonometry. Designed by Le Corbusier, 1927. *Maekawa Kunio and the Emergence of Japanese modernist Architecture*, 55. © 1999 Artists Rights Society (ARS), New York/ADAGR, Paris/FLC

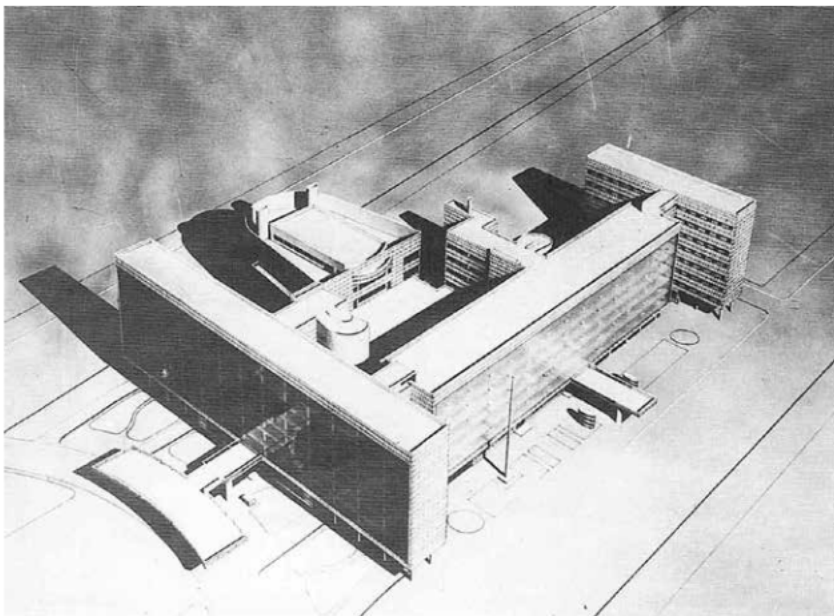
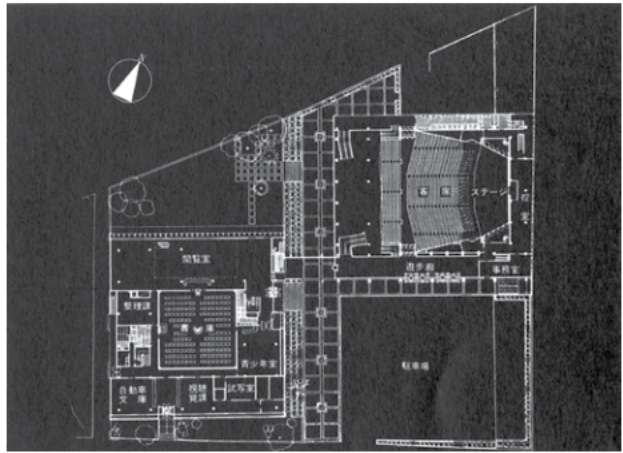


Fig. 11. Centrosoyuz, Moscou, perspective. Designed by Le Corbusier, 1936. *Maekawa Kunio and the Emergence of Japanese modernist Architecture*, 60. © 1999 Artists Rights Society (ARS), New York/ADAGR, Paris/FLC



Figs. 12, 13, 14. Kanagawa Prefectural Library and Auditorium, Yokohama, Garden entrance, Court entrance, Ground floor plan. Designed by Kunio Maekawa, 1954. *Process Architecture* 43, January (1984), 44, 82



Fig. 15. Unité d'habitation, Marseille, West façade. Designed by Le Corbusier, 1952. *Maekawa Kunio and the Emergence of Japanese modernist Architecture*, 206. © 1999 Artists Rights Society (ARS), New York/ADAGR, Paris/FLC



Figs. 16-17. Harumi Apartments, Tokyo, Northeast façade and apartment interior. Designed by Maekawa, 1958. Hirayama Chūji and Sato Kimiharu photographs. *Maekawa Kunio and the Emergence of Japanese modernist Architecture*, 203, 205

## A Legacy Filtered by Kunio Maekawa and Handed to Reiko Hayama

*People have asked me,  
'Aren't you a disciple of Le Corbusier?  
Why don't you build houses to look like Le Corbusier's?'  
I am proud of such talk.*<sup>12</sup>

12 Maekawa, *Mokuyōkai zasshi*, 14.

From 1952 until 1958, during the period of the visit of Le Corbusier to Japan, Hayama studied in the Architecture section of the Technology Faculty at Yokohama National University, a school that offers many programs in building technologies for civil engineers and senior civil servants. During these years, there were no more than about three students among the thirty engineering students who were learning architecture as it was learnt in European schools. Hayama got along especially well with Professor Kunio Yamagoshi, who was also a remarkable architect and regarded as an unconventional personality in Japan. For example, he fought for environmental protections and criticized the big petrochemical industries, even sometimes risking his life. At school too, he did not follow the mainstream ideas. It is interesting to note that the work of Western masters like Mies van der Rohe or Frank Lloyd Wright was not discussed in the school lectures, but it was Yamagoshi who introduced Hayama to Le Corbusier. The Swiss architect was at this time the most famous Western master in Japan and Yamagoshi was a great admirer of his works. He had even searched in Europe for documents on Le Corbusier to gather the most complete collection of information on him. In 1958, Hayama received her diploma under his supervision. It consisted of a hospital project and a thesis about the Modulor in which she nurtured her passion for mathematics. It is important to note that she learnt to use the Modulor before working for Maekawa.

In 1943, Le Corbusier had already created this measuring system following the human body's proportions (fig. 9). His notes showed that he had thought about different anthropomorphic systems, one of them having been the Japanese *tatami* straw mat, which follows the length of a person lying.<sup>13</sup> In 1950, he had published a booklet entitled *Le Modulor – Essai sur une mesure harmonique à l'échelle humaine applicable uniquement à l'architecture et à la mécanique* (*The Modulor: a harmonious measure set to a human scale that is universally applicable to architecture and mechanics*). This essay had pedagogical qualities and revealed Le Corbusier's concern for and success in transmitting his ideas. Takamasa Yoshizaka translated it into Japanese in 1953, a year before the English translation appeared, which confirmed the acute interest in Le Corbusier at this time among Japanese architects.<sup>14</sup>

13 Le Corbusier, *Carnets 1*, N°532, 1932.

14 In 1955, Le Corbusier published *Le Modulor 2, La parole est aux usagers*. For an analysis of these two publications, see Léniaud et Bouvier, *Le Modulor comme outil autobiographique*.

Following her graduation, Yamagoshi asked Hayama at which atelier she was going to work. Since she also nourished a passion for music, she had visited the Kanagawa Prefectural Library and Auditorium, built

in 1954 by Maekawa (figs. 12-14). The four-story auditorium entrances open on a court to the southeast and a garden to the northwest. The two-story library also benefits from both the garden and its northern light, and the entrance court well exposed to the south. Both buildings have a frame of reinforced concrete with non-load bearing walls. Exterior coverings are made of glass, hollow ceramic brick or precast concrete panels which Maekawa composed in order to optimize quality of direct and indirect light, sound insulation, and to ensure privacy. Convinced and deeply moved by her visit, which revealed to her the extraordinary acoustic effect of the auditorium designed by Maekawa, Hayama answered Yamagoshi that she saw herself working for him exclusively. At this time in Japan, women did not have many opportunities to work in architectural offices. They would better succeed by focusing on interior architecture or dwelling typologies. Since the beginning of her studies, Hayama made monthly reports for Podoko, a group of women architects which title was derived from the Esperanto words *Pensado*, *Discuto*, *Konstruio* (thought, talk and construction). She seized one of these occasions to interview Maekawa. At the end of the interview, she confided to him how much she admired his work and would like to work with him and contribute to his future projects. He explained how hard being a woman architect could be. Despite Yamagoshi's earlier visit to him to praise Hayama's capacities—a rare initiative at this time—Maekawa did not want to hire a woman. Surprisingly, however, she ultimately succeeded in her quest.<sup>15</sup> She worked at Maekawa's office from 1959 until 1965, considered the golden age of his productivity. While there, she worked on the Sōgo Bank, Kinokuniya, and the Janome Headquarters as well as the Hirosaki and Saitama Community Centres. Maekawa was talented in guiding well his young collaborators. Yet, he considered Hayama as a “lady deserving protection” and she had to wait for two years before he started supervising her work personally. He did not talk in particular of Le Corbusier, except his constant fight for his ideas to be accepted.

Hayama explained to us that even if Le Corbusier was such a highly admired architect, Maekawa always showed an independent spirit toward his master. This characteristic also permitted him to be recognized in Japan as the leader of “resistance” against nationalist architecture. He refrained from being tied to political alliances, and this confirms Reynolds's hypothesis on the reasons why he never realized large-scale urban plans. Without any exceptions Maekawa would start a project by focusing on the plan and its functional requirements. He claimed and worked for a “resilient” architecture, for an open-mindedness to new ideas and a refusal of formalism, of “façadism.”<sup>16</sup> In so doing, he transmitted ethical values to his colleagues' daily architectural work. His resistance embodied an essential legacy for Hayama, that same resistance that Prouvé would also pass on to her a few years later.

15 She did so after answering Maekawa: “I will wait until the cuckoo sings” and remaining seated in the corridor outside his office for hours afterwards. This is the last verse of a poem which belongs to a set of three *haiku* attributed to three of Japan's most powerful samurai leaders in that period: Tokugawa Ieyasu (1543-1616), Oda Nobunaga (1534-1582), and Toyotomi Hideyoshi (1530-1598). Each poem reveals in a dense and humorous manner, the true personality of its author. In his reply to Ieyasu, Nobunaga would have said: “*nakanunara koroshite shimaie hototogisu*” (“He does not want to sing? Let's kill him, a little cuckoo.”). Hideyoshi would have then added: “*nakanunara nakashitemiyoo hototogisu*” (“He does not want to sing? I will make him sing, a little cuckoo.”). The narrative of these *haiku* reveal a significant affinity between Hayama and Maekawa: the persistence of a strong will.

16 Reynolds, *Maekawa Kunio and the Emergence of Japanese Modernist Architecture*, 217. In his Shanghai and Mukden branch offices, Maekawa did work though on large-scale urban plans for Shanghai and also for Manchuria, but they were never built.

Results of Hayama's interviews also reveal that Maekawa filtered Le Corbusier's heritage and kept parts of it along with his own ideas on the practice of architecture. They demonstrate that Maekawa's legacy is based on, first of all, the necessity of serving the client without concessions. He showed Hayama how the client would be informed of the architect's way of working once common sense was brought into the discussions. His manner was different from that of Le Corbusier who was preoccupied about his own concerns that were beyond his clients' expectations. He would respond by imposing his views, turning the bulk of each commission into his creative explorations. Maekawa also worked intensely in order to guarantee his responsibility for the mastery of the building's details. In Japan at that time, there was no insurance for architects. If a failure occurred, they had to pay for the damages themselves. Maekawa invested a lot of energy into the quality of his buildings in order to prevent poor performance due to Japan's extreme climatic variations. He thus designed the form using a technological approach. For example, his innovative approach in the use of tiled-in pre-cast panels is well known. Here too, his design method was different from that of Le Corbusier, who would work assiduously on the plastic values and expressions of forms on one hand, and resort to building specialists, like Prouvé. Finally, Maekawa, as well as her first professor, Yamagoshi, demonstrated how they worked respectfully towards the environment. She took environmental issues into account in her own designs.



Synthesize what of Le Corbusier's legacy Maekawa directly transmitted to Hayama, we posit the hypothesis that it mainly consisted of a designing process based on the plan, or "*le plan est le générateur*". He developed a methodology that was different than the Beaux Arts compositional methodology. For example, he did not follow the rule of designing symmetrical elevations. In the tradition of Beaux Arts, the elevations would not always accommodate the requirement derived from the various uses designed inside the building, and the architect sometimes even had to design fake windows. Le Corbusier, however, designed his elevations in resonance with the plan. In *Vers une architecture* (1923), he explained that modern structural, use and aesthetic issues had firstly to be solved within the plan design, and that this was how the plan would generate the sensations borne from the architectural space. Even if Hayama confirms Reynolds's analysis on this direct Corbusian legacy as adopted by Maekawa, especially for his public buildings, this point needs further investigation and remains unfortunately beyond the scope of the present article. Indeed, before starting his own practice in 1935, Maekawa worked for five years for Antonin Raymond (1888-1976), a Czech architect who had himself been Wright's disciple. A thorough study of the filiation of both Le Corbusier and Raymond should be undertaken in order to give an accurate analysis.



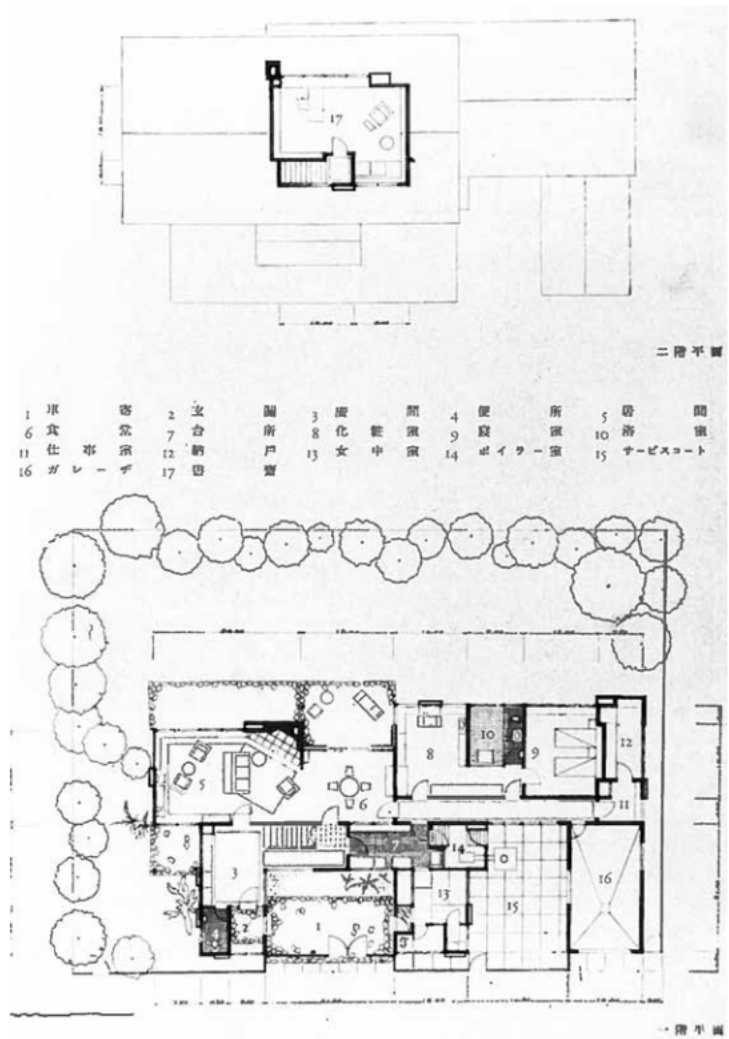


Fig. 18. Kasama House, Tokyo, Ground floor plan. Designed by Kunio Maekawa, 1938. *Kunio Maekawa Retrospective Catalogue*, 93



Fig. 19. Kasama House, Tokyo. Designed by Kunio Maekawa, 1938. Tokyo Architecture pictures: [www.flickr.com/groups/tokyoarchitecture](http://www.flickr.com/groups/tokyoarchitecture)



Fig. 20. Maison Dupuis, Île de France. Designed by Reiko Hayama, 1978. Fabrice Rambert's photograph: Hayama & Associates Paris

## Reiko Hayama: the Permeability and Invisibility of Le Corbusier's Legacy

After six years at Maekawa's office, being a woman, Hayama was still considered as a collaborator who could not work in the same conditions and be given increased responsibilities. In Japan at this time, masculine decorum implied that women were not talked to or scolded, and Maekawa behaved with this elegance towards Hayama. She wanted to develop her skills, and survey building sites, which she was not allowed to do. She thus left Japan for Paris at the end of 1966 thanks to a French-Japanese technical cooperation scholarship that she received from the French government. Before establishing her own practice in 1976 she worked for two other mentors. She had her first experience in Paris as a collaborator for Charlotte Perriand, who worked for Le Corbusier as collaborator in charge of house equipment from 1928 to 1937, and contributed later to the Unité in Marseille. During the three years with Perriand, Hayama was in charge of the preparatory and execution plans for the Japanese Ambassador's Residence in Paris. The project was under the formal responsibility of Jean Riedberger and Sakakura acted as the Ambassador's advisor. As he was busy managing his office in Tokyo, he asked Perriand to supervise the project. She ultimately acted as the project's real leader, asking the advice of Jean Prouvé on technical and building issues such as the grand sliding doors and the elevations. The project was built in mid 1969 in Faubourg Saint Honoré, in the heart of the city. As did Perriand, Hayama applied the methodology of systematically evaluating the various volumetric quantities needed for each kind of equipment, and then designing the containers fit for these needs, organizing them in groups belonging to the structure in "equipped walls." Hayama explained to us that during her nine years at Le Corbusier's atelier, Perriand did not take the time to learn how to manage the project's technical issues. Her talent and expertise remained specific to her field of specialization: interior architecture, with a particular interest in new materials such as sheet metal. 

This confirms that in these years, Le Corbusier hired two types of collaborators.<sup>17</sup> The first were young architects coming from all over the world, ready to work hard without being paid, like Maekawa. These "interns" worked as draughtsmen and drew execution plans following the Master's sketches. This type also comprised specialists such as Perriand, who was useful for her complementary knowledge in equipment. On the other hand, for structural and engineering issues, Le Corbusier worked with professionals like Jean Prouvé (1901-1984), an engineer-architect—or in his own words "*un constructeur*"—whose achievements he admired. Their collaboration started in 1937 when Prouvé built for him the UAM (Union des Artistes Modernes) pavilion's sanitary cabin. This information is important for it indicates that, in the case of Hayama, the indirect legacy coming from Le Corbusier through Maekawa was permeable and has been enriched with the legacies

17 Bédarida, "Rue de Sèvres 35 L'envers du décor" in *Le Corbusier une encyclopédie*, 354-359.



from her other mentors Perriand and Prouvé, masters in their respective fields of equipment and building technology.

It was during the work for the Residence that Hayama got acquainted with Prouvé and after its completion in 1970 that she started her second experience of working in his atelier until 1975. Among the eminent creators for whom she worked, he became her spiritual father. This filiation seems to justify putting forward the hypothesis that the birth and endurance of an architectural filiation are independent of the culture of origin, whether Western or Asian. This filiation is an authentic encounter between spirits nourished by their own elective affinities. In the case of Reiko Hayama, one of these affinities could include a rich matrix of intertwined artistic and engineering competences. In Japan today, there is still no distinction between architect and engineer. In France, Hayama's Japanese diploma attested to her competency in both fields. Her own works show a mastery of the form coming from a technological process, as taught to her by Maekawa (for concrete) and by Prouvé (for metal). Her buildings, offices, factories, dwellings, sport and leisure facilities reveal various use of concrete, metallic, and wooden structures in parallel with the use of local materials such as stone. In this case, as stone was a more expensive material, she had to convince her client on every project. Now that we have the knowledge of her two other mentors' fields of expertise, we are in a better position to posit other hypotheses on the heritage that came from Maekawa and from Le Corbusier.

In order to detect this heritage, we shall first consider the Institut Culturel Franco-Japonais built in 1990 as this work well illustrates her architectural methodology (figs. 3-5). In order to respond to the context specificities, she articulated a programme around an entrance hall where she built as an accent, a portico inspired from the *torii*, the Shinto entrance gate to sacred space (fig. 3). The portico is placed on the cultural axis of the St Quentin village linking its centre to its castle built in the forest behind (fig. 5). This axis became the main pedestrian access to the building's heart situated on the south. Hayama completed this axis with roads and access to the underground parking shaping the rear of the buildings. This clear distribution of primary geometrical volumes around public spaces can be pinpointed as a reminiscence of Le Corbusier's methodology as used and transmitted to Hayama by Maekawa. Anthony Vidler explains that this method is an important operational Corbusian heritage: he planned the relations between separate buildings into an overall composition that formed a centre, in a different way to historical centres that had been planned with contiguity and symmetry, following open distributive principles that were recommended by the CIAM.<sup>18</sup> Then, Hayama designed spaces dedicated to sport, such as the gymnasiums and swimming pool, in order that they benefit from generous daylight through glazed elevations while she created spaces used for offices and classrooms lit through a range of wall openings modulating the adequate amount of light needed for concentration. The cultural

18 Vidler, *James Frazer Stirling Notes from the Archives*, 51.

institute's overall structure has been built in concrete. An astonishing wooden beam linked the gymnasiums and the swimming pool with a graphic gesture, and the swimming pool's interior roof was supported by a metallic structure. The administrative building's elevations were built in suspended stone elements joined with staples. The elevations are non-bearing. We recognize in this project two Corbusian methodological steps: a master plan organized in pure volumes linked to optimize the site's urban specificities, the pedestrian as well as the car circulation potentials, and the "*plan libre*" and its structural system guaranteeing non-load bearing elevations.



And, when considering the legacy of project methodology that Maekawa passed on to Hayama, it is fruitful to compare their very first projects. Maekawa built the Kasama House in 1938, collaborating with Kenzo Tange, who was in charge of the building site (figs. 18-19).<sup>19</sup> As Maekawa said with pride, his houses did not look at first like Le Corbusier's houses. Even if their plans had been designed with modern methodologies, their components were conceived in order to correspond to the specifics of climate and lifestyle and to the Japanese aesthetic tradition. In Kasama House, we do find elements such as the large overhanging roof reminiscent of *samurai* houses, offering zenithal light at the entrance and spaces with straw *tatami* mats. These roofs are efficient against rain as well as heat during the hot season. They also supply shadows with which architects play by designing reflecting paper screens. Here at last, we can illustrate the Japanese specificities that Maekawa kept in his architecture.

<sup>19</sup> Prof. Hiroshi Matsukuma informed us that the project's drawings unfortunately disappeared in a fire.

Hayama built the Maison Dupuis in 1978 (fig. 20). Surprisingly, these two houses, built forty years apart in Japan and in France, share several affinities. These were possible because of the specific requirements for the Maison Dupuis. The client, a diplomat who had lived twelve years in Japan, asked Hayama to build for him and his family a modern Japanese home. Materials and techniques were unfortunately not available in France and Hayama advised him to build in a Japanese spirit, offering French as well as Japanese comfort. She split the plan in two parts, the reception and the familial spaces, composing them around the tea ceremony space.<sup>20</sup> Hayama did include several carpentry details inspired by Japanese *savoir-faire*. For example, she did not design any gutter for the roof but arranged in the garden a line of black stones coming from Japan to collect water falling from the roof. These two houses indicate that both Maekawa and Hayama developed alongside the Corbusian legacy a project methodology that included a strong relation to the cultural context, a tie that Le Corbusier was not so much concerned with at the beginning of his career but which came with later projects using local materials. It is interesting to note also that in Japan, there are programmes unfamiliar to the West, such as the tea ceremony room. As Le Corbusier never planned any tea ceremony room, the filiation can simply not exist. For this reason, we search for Corbusian principles that can still be transmitted when designing new programmes or programmes specific to Japanese culture.

<sup>20</sup> Confidentiality reasons unfortunately prevent us presenting the house's plans.

In conclusion, for each project, Hayama chose specific forms and materials in order to integrate as well as possible the buildings into the historical site and the natural environment, and to provide the best comfort for each use. Her work demonstrates the legacy in ethical values and a contextual project approach that she received from Maekawa. Did she receive a similar legacy directly from Le Corbusier? If so, what was it? After careful consideration, Hayama remembered the impact of Le Corbusier's works as seen on her arrival in France: a strong visual and sensory legacy. She visited the Unité in Marseille where she was impressed by the roof. According to her observations, the dwelling's width of three meters sixty was in line with the building's style and the times, though it would be a little too narrow for residents' comfort nowadays. At the Tourette convent, the entrance was unfortunately forbidden to women. The chapel at Ronchamp however, left a marvellous impression on her. When she was interviewed for this paper, it was apparent that the strong personalities of Maekawa, Perriand, and Prouvé at first eclipsed her memories of discovering Le Corbusier's work, which proved finally to be at the origin of her own way as an architect in Japan.

Shall we then accept that an invisible filiation existed when Le Corbusier passed on the modern project methodology that Hayama learned first with professor Yamagoshi and practiced during six years with Maekawa? We can answer in the affirmative by considering a contemporary application coming straight from Atelier Rue de Sèvres 35. It is obvious that Hayama was using the Modulor on a daily basis. She started using it when working for Perriand, and in particular when designing the furniture and equipment for the Ambassador's Residence. At Prouvé's workshop, she applied it whenever he agreed to have her do so, and adapted the Modulor to the elements' industrial standards. In her independent practice, at Maison Dupuis, she also used the Modulor for designing all spaces except for the Japanese ones where straw mats have their own dimensions. Hayama created her own Modulor, adapting it "*sur mesure*" for industrial buildings.<sup>21</sup> When she built in Japan, she also adapted the Modulor measures to the building elements.


Filiations and affinities between creators in architecture do transcend places, cultures, and times. Each architect receives a legacy from his mentors and grows whatever influences him the most. Transmission is like Gérard Macé's metaphor of a memory lurking in the darkness: "*la mémoire aime chasser dans le noir*." No one is able to pretend these subconscious activities can be controlled. Nevertheless, this selective memory reorganizes certain favourites, fond elements in order to create something new in the present. For Hayama, keen on numbers and mathematics, the Modulor kept being operational during her career, even with her adaptations. From her experiences with Maekawa and Prouvé, she developed other methodologies, knowledge and tools that could not come from Le Corbusier, such as the consideration of the historical context, the consideration of the environment, and forms coming from technological processes linked with the use of metal.

21 Other architects created their own Modulor: Jørn Utzon used the Utzolor since 1968, a system managing furniture's dimensional coordination. See *Jørn Utzon*.

## Conclusion

*Left alone for the first time that day, they were silent. The window was all sky without colour. The house had lost its shelter. It was night before roads were made, or houses. It was the night that dwellers in caves had watched from some high place among rocks. Then the curtain rose. They spoke.*<sup>22</sup>

22 Woolf, *Between the Acts*, last words.

Virginia Woolf's last novel *Between the Acts*, published after her death in 1941 shows the value of ties, of the substance of events between the Acts, transmitting and linking them. She ends her life-long writing by raising a curtain on the novel's two protagonists. Her last words open a play: the play of the audience, the play of life. The writer leaves. The circle of her art is closed. Woolf illuminates for us the invisible future life of all works of art: the work will talk and live out of itself. In this paper, we have tried to assess what remains today of Le Corbusier's legacy through the second generation of collaborator's direct testimonies. Thus, as has been shown, major works and thoughts have been circulated and transmitted through time via three architects. In this filiation process, the first Act was the phenomenon of learning with the Master at Rue de Sèvres 35; the second was the collaboration with the Master's collaborator himself in Tokyo, followed by the third and last Act in Paris: the student's solitary transformations as she moves on the ever-evolving path of the Master's legacy. Le Corbusier was not only an architect and town planner, but also a painter, sculptor, upholsterer, and writer. His legacy has the potential for bearing numerous resonances nowadays among creative folk in various fields and with various sensitivities. As we have seen, he handed useful tools to his collaborators: architectural methodologies and principles such as the "*plan générateur*" or the Modulor, which have been used to this day, in a permeable way suited to the architect's personal adaptation. These are well explained in his writings and we do think therefore that there will be continuous recurrences of his legacy, that some of his artistic variations and methodological principles will be adopted again and again with a new power, as it is the case for Johann Sebastian Bach, whose legacy became fully understandable and operational for his successors and interpreters three centuries after his death, remaining forever a wellspring. 

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### **On Reiko Hayama's realisations**

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