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The Influence of Milieu in the Residential Architecture of Shinohara Kazuo

Study of Architectural Discourse and Spatial Conception

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Abstract

This paper summarizes a survey on the influence of milieu in the architectural concepts of a Japanese architect. The evolution of the residential architecture of Shinohara Kazuo has been analyzed through its relationship with social, physical and mental space related to the tendencies of milieu in the spatial environment. Reference to Society (through tradition and modernity), to Nature (in the perception of landscape), and to Space (physical space of the city and mental space of architectural concepts) revealed the influence of milieu. The data was compiled from the architect's discourse in writing and drawings. The influence of milieu on residential architecture has been stressed through the modelization of housing spatial structures and urban patterns.

Keywords: Shinohara Kazuo; milieu; discourse; spatial conception

1. Introduction

1.1 Aim of the research and presentation of the keywords

The aim of this study is to stress the relationship between architectural conception and milieu, considering that the milieu in which a building is conceived and placed has an effect on the conception of architecture. To test this idea, the evolution of how the residential architecture of Shinohara Kazuo has been confronted by the influence of the Japanese milieu is discussed.

Milieu is defined as: "The relationship of a society to nature and space" (Berque, 1986), and it is therefore related to the natural and cultural aspects of the environment where the architecture takes place. To survey the relationship between architecture and milieu it has been necessary to consider the architectural work as a part of a general process of space creation. The conception of a work of architecture cannot be isolated from: site cost (economy), legislation, topography, surrounding landscape, climate, history, natural environment (*fitido*), and cultural environment, (see Fig.1.). Based on this fact, the author decided to analyze the production of the architectural work through the definition of a "Social Space", a "Physical Space", and a "Mental Space" (see Lefebvre, 1974).

1.2 Methodology and choice of the case study

The influence of milieu can be observed in the architect's conception of space and in his way of

thinking. Through the analysis and comparisons of his drawings and writings we can extract the concepts, the ideas and the discourse that support the work of the architect. The architect produces drawings, sketches, pictures, and texts that form the primary material from which we can understand his intentions in his work (see Boudon, 1992).

Throughout his career as a professor-architect, Shinohara Kazuo always tried to define the relationship between thinking and designing in his practice of architecture. In his laboratory, at the Tokyo Institute of Technology, he concentrated on the space of residential architecture, as a type of architecture on a human scale that interacts with Japanese society. For more than thirty years, he developed spatial and philosophical concepts out of the confrontation between his architecture and its social, cultural, and physical contexts.

2. Postwar Japan and the reinterpretation of Japanese traditional architecture

2.1 Historical background

As Professor Masuda Tomoya explained, the isolation of Japan from 1636 to 1868 had a strong influence on spatial conception and its relationship to nature in Japanese society (Masuda, 1969). The pre-

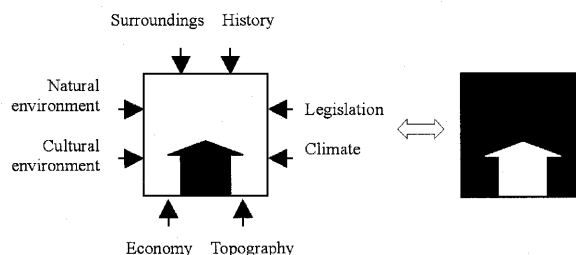


Fig.1. Architectural Work confronted by Milieu Tendencies

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war commoner's house (*minka* or *machiya*) and the architectonic of the *engawa* illustrate the particular relationship between architecture, garden and landscape (see Fig.2.). Japan started to open to western culture in the Meiji era but it was not until after the Second World War that some Western building methods were widely adopted. The decline of craftsmanship and the discovery of new building methods and techniques, such as reinforced concrete, led to the development of a modern architecture that was used to rebuild Japanese cities after the war.

From the mid-fifties, some architects started to refer to Japanese tradition in order to develop an original architecture. For instance, professor Tange Kenzô referred to the Royal Villa of Katsura (*Katsura rikyû*) that was seen by modern western architects as a symbol of the modernity inherent in traditional Japanese spatiality (see Taut, 1937; Gropius, Tange, Ishimoto, 1960). In the same period Seike Kiyoshi, professor of Shinohara Kazuo, designed houses using contemporary materials and technology like steel, glass, and concrete while at the same time referring to Japanese tradition.

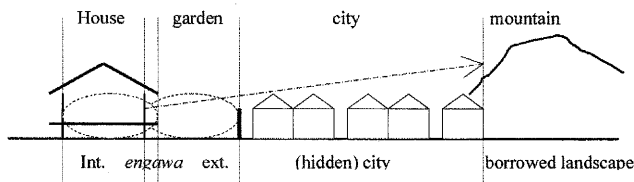


Fig.2. Traditional Pattern of Urban House

2.2 Japanese space references

From the beginning of his career in 1953 Shinohara Kazuo studied Japanese space composition, from which he developed a methodology for the design of residential architecture using Japanese spatiality. Shinohara's most representative Japanese space models are: the *minka*, the *shoin* of the aristocratic residence, and the *chashitsu*. He referred to these archetypes in his first theory of residential architecture (Shinohara, 1960).

One of Shinohara Laboratory's first research themes was the survey of a village of *minka*, in the suburbs of Nara (see Shinohara, 1966, 1996). Shinohara had been interested in the strong relationship between *minka* architecture and nature. He stated that the *minka* was not architecture but a part of nature (Shinohara, 1960). According to him, the *minka* is the expression of the natural milieu and it is also the result of collaboration between man and nature. This relationship contributes to giving a meaning to human dwelling (Shinohara, 1960). The origin of the *minka* has been dated back to the prehistoric Jōmon era (prior to 300 BC), and can be found in the character of the pit house (*tateana jūkyō*), which had an underground earthen-floor.

The *shoin* of Katsura Royal Villa is another example of Japanese space representative of the Japanese sense of beauty. This kind of architecture looks more

"modern" than that of the *minka*, and its roots can be found in Yayoi era storehouses – Yayoi comes after Jōmon – that have an elevated floor (*takayuka jūkyō*). The light structure of Katsura's *shoin*, and its relationship to the garden, has been considered as the premise of the modern movement in architecture in Japan due to its transparency and open space. According to Shinohara, the *shoin*'s spatiality is different from that of the open space of European modernism's "glass box" and it is rather a "non open space" (Shinohara, 1960, 1996). The origin of Japanese space comes from the Indian theory of void, a void made of symbolic enclosure and physical openness, the opposite of a "glass box".

The tearoom combines the spatiality of both the popular space of the *minka* and the aristocratic space of the *shoin*. It is also an example of the non-openness of Japanese space. The space of the *chashitsu* (tearoom) is the expression of human sensitivity, where the human emotions are awakened by its ornamentation and by reference to the aesthetic of *wabi* and *sabi* (Suzuki, 1959; Shinohara, 1960).

2.3 Restoration of irrationality

In the fifties and sixties, during the construction of the modern Japanese landscape, reference to Japanese traditional space was an opportunity to think about the role of tradition in contemporary Japan. The originality of Shinohara Kazuo's point of view comes from his understanding of Japanese space and its application in the design of housing projects. Shinohara Kazuo opposed his theory of residential architecture to the rationalism and functionalism that were leading the reconstruction of post-war Japan. Shinohara stressed the importance of human scale in the spatiality of Japanese architecture. He also developed the idea that Japanese space had an irrational (*higōriteki*) structure, which is different from the conception of space that was developed in parallel to the evolution of Sciences in the West (Shinohara, 1964).

By using a spatiality that he extracted from his study of the structure of Japanese space, Shinohara wanted to add another dimension to the Cartesian modern movement of postwar Japan. On this new dimensional axis, he would set the "coordinates of irrationality" (Shinohara, 1960, 1996). This irrationality refers to the aspects of the Japanese conception of space that were not defined by rational principles, but rather by sensitivity specific to human senses and emotions. In other words, Shinohara considers that "the house is art" (Shinohara 1960, 1962). Hence, a work of architecture is similar to a work of art when the architect invests much of his personal and mental energy in it.

2.4 Japanese space methodology

In order to moderate the rationalist and functionalist methods of postwar Japanese architecture, Shinohara Kazuo invented a methodology based on the use of the spatial concepts that he drew from the abstract spaces of Japanese traditional architecture (Shinohara 1967).

The analysis of Shinohara's discourse revealed five concepts, which can be classified as "coordinates of irrationality":

First, the "division" (*bunkatsu*) composition plan: it consists of dividing the whole shape of a room in order to make smaller rooms – by using sliding doors or height difference. It is the opposite of western architecture's "connection" (*renketsu*) composition plan that is composed of spatial units (closed rooms) connected together (Shinohara, 1996);

"Frontality" (*shômensei*): it comes from the "division". It is a two-dimensional picture-like elevation seen from a perpendicular direction. In traditional architecture, a representative frontality is that of the upper stage of Nishi Hongan-ji's Hall (*kô no ma*) in Kyoto (Shinohara 1964; Inoue, 1969);

"Wasteful space" (*muda na kûkan*): it is an extra space that has no particular function in the house. It has been proposed against the minimal measurement of rational and functional architecture. According to Shinohara, space must be "immeasurable" and involve human scale, in such a way that even a small room can provide an impression of spaciousness (Shinohara, 1960).

"Style" (*yôshiki*) and ornament: they are the artistic expressions of an epoch. They correspond to some social and aesthetic rules that partake of architecture (Shinohara, 1960).

"Organicity" (*yûkisei*): it can be found in the elements that symbolize nature. In his analysis of the *minka*, Shinohara mentioned the organicity of the *doma*, the earthen-floor, and the *daikokubashira*, the central pillar, as symbols of a relationship to natural elements (Shinohara, 1967).

3. The crossing of modernism

3.1 Abstraction of the Japanese space structure

Until the end of the sixties, Shinohara Kazuo only designed houses with a Japanese space structure, according to the methodology he defined. This methodology can be divided into three main steps: (1) "extraction" of the specific Japanese spaces, taken from tradition; (2) "simplification" of the space structure, ornamentation and style; (3) "abstraction" of the space structure, in order to use and adapt the tradition to a contemporary context and expression. The "coordinates of irrationality" are the tools that result from this process. They were used to build the series of houses that represents Shinohara's reinterpretation of the tradition of Japanese space.

In 1966, Shinohara Kazuo completed two houses in the suburbs of Tokyo: the "House of Earth" (*chi no ie*) and the "House in White" (*shiro no ie*). These two houses are the representation of the two streams of Japanese tradition (as exposed by Shinohara, 1958; Tange, 1960). For the "House of Earth" Shinohara conceived a "Black space" with an underground bedroom. This pathological space refers to the dugout

atmosphere of the *minka* and Jômon era's prehistoric Japanese pit house. With its cubic shape and its clear Japanese planning (division / frontality) the "House in White" is closer to Yayoi tradition. In other words, one could see in these two houses the two pulses of aesthetics described in Friedrich Nietzsche's *The Birth of Tragedy* (Nietzsche, 1872). The "House of Earth" belongs to the Dionysiac side of the irrational and obscure forces of nature, and the "House in White" incarnates the plastic beauty of the Apollonian tradition of Greece's pure white forms.

In "House in White", the "coordinates of irrationality" are presented and abstracted in the white, high-ceilinged main room. Compared to previous houses, Shinohara emphasized the organicity of the *daikokubashira* (central pillar). By contrasting the pillar's organic bark with the white walls, he wanted to stress a new relationship to nature, which he called "the construction of man-made nature" (*jinkô shizen no kôchiku*), as a relationship between nature and man-made construction.

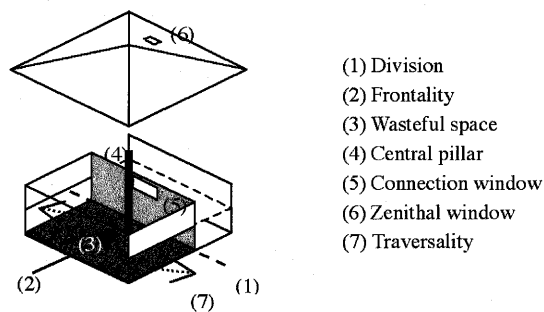


Fig.3. Conceptual Model of "House in White" (1966)

3.2 From open square to enclosed cube

The "House in White" (1966) is the final model in the use of Japanese space references (see Fig.3.), and it also introduces the "second style". Shinohara gradually stopped referring to Japanese tradition after the completion of the "House in White", and another relationship to milieu appeared. He developed some spatial concepts that were in gestation in the "House in White", such as the "construction of man-made nature" and the abstraction of the relationship to nature.

The "Yamashiro House" (*yamashiro san no ie*) of 1967 is characterized by a central square shape and the necessary "connection space" (Shinohara, 1971). This square is an open-air interior garden – elevated 90 centimeters from the street and the carport – which is connected to all the rooms.

In 1968, the central square space of "Suzusho House" (*suzushô san no ie*) takes the form of a spacious main room where Shinohara developed the "construction of man-made nature". Although the main room is opened to the beautiful surrounding landscape, Shinohara wanted to recreate inside the house an artificial perception of the landscape. The architectural work expresses the intervention of human activity (Shinohara, 1971).

Finally, in 1970, the "Incomplete House" (*mikan no ie*) is characterized by a central enclosed cube that has no relationship with the exterior environment, and no reference to Japanese spatiality. Step by step, Shinohara Kazuo went from one architectural expression to another (see Fig.4.), from traditional open-square to enclosed cube.

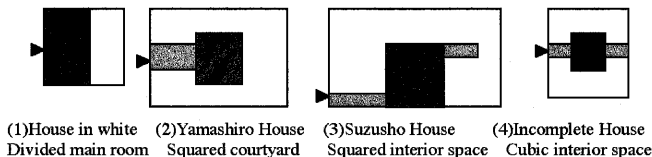


Fig.4. Process of Abstraction of an Interior Cubic Space

3.3 Formation of an abstract milieu

According to Shinohara Kazuo, the "construction of man-made nature" was a reaction to the destruction of the natural landscape in Japan – due to the quick expansion of cities – and an attempt to find another relationship to nature inside architecture (Shinohara, 1971). Indeed, during the period of high economic growth between 1955 and 1973 the city of Tokyo grew from about 6 million to 12 million inhabitants. In the seventies, Japan reached a level of prosperity equivalent to most industrialized and modernized countries, but its landscape was totally changed because of the expansion of the cityscape. In the urban environment, the reference to nature became difficult and some architects started to create introverted houses designed to protect their occupants from city activity as they searched for another relationship to the changing milieu. Shinohara's concept of "construction of man-made nature" was an answer to this quest.

In the seventies' pattern of the urban house (see Fig.6.) – which corresponds to the structure of the "Incomplete House" –, the densification of the land is followed by the disappearance of the exterior garden and *engawa*. The house is closed to the cityscape and the traditional inner garden (*nakaniwa*) has been replaced by an interior space in the centre of the house.

A six-meter high, central, white, concrete cube, lit by a two meter-diameter domed skylight, dominates the "Incomplete house". The use of a three dimensional cube is a means to eliminate "frontality" and "division", the main features of the Japanese spatiality. Shinohara Kazuo succeeded in creating a mental space that refers to an artificial milieu, made of a topology of void (cube) and "valleys" (fissure), with mechanical air conditioning and neutral light, which is filtered by a zenithal dome opening (see Fig.5.).

4. Towards landscape and new milieus

4.1 Opening of the Cube to landscape

The Cube of the "Incomplete House" is Shinohara's response to the modernist cube, but Shinohara Kazuo reached this form through a totally different

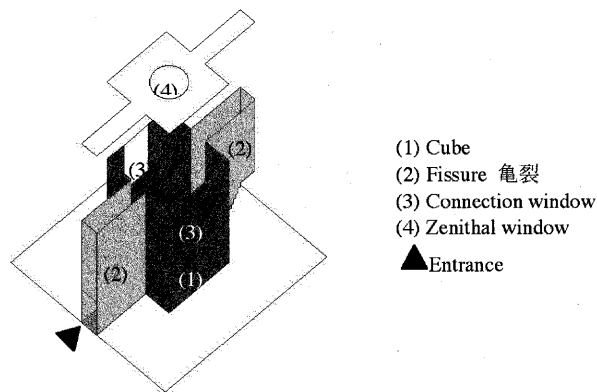


Fig.5. Conceptual Model of "Incomplete House" (1970)

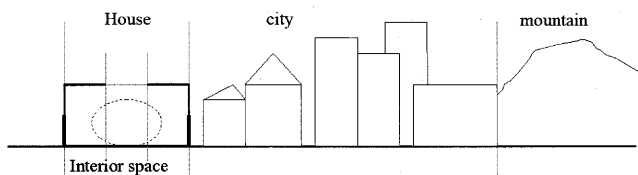


Fig.6. Pattern of the Urban House in the Seventies

perspective. Shinohara modeled the Cube in 1970 after a series of abstractions of Japanese spaces, and an adaptation to contemporary expression. But, in the same way as the "House in White", the model of the "Incomplete House" was gradually transformed by the influence of milieu.

After the "Incomplete House", the Cube lost its central and introverted position (see Fig.7.). First, in the "Shino House" (*shino san no ie*), the Cube was moved to the periphery in order to have physical contact with the outside. And then in the "Cubic Forest" (*chokuhôtai no mori*), the fissure connects the cubic entrance hall to a main room composed by a double cube with large lateral openings. The design of the following houses mirrored this deterioration of the interior Cube model until its total disappearance in the "House in Itoshima" (*itoshima no jûtaku*). In the "House in Itoshima", Shinohara Kazuo reversed the concept of the enclosed Cube and designed an exterior cubic frame opened to an ideal landscape of mountain and water (*sansui*). The fissure and Cube compose a kind of spatial instrument that borrows the landscape (*shakkei*) (see Fig.8.).

The theme of the "construction of man-made nature" and the will to enclose architectural nature inside an enclosed cube is comparable to the Enclosed Garden (*Hortus Conclusus*) of Middle Ages European cities (see Aben & de Wit, 1999). Both spatial structures aim to concentrate the expression of an ideal nature, domesticated and reinterpreted by man in a delimited space.

4.2 Literary milieu

"Tanikawa House" (*tanikawa san no jûtaku*, 1974), was designed under the literary influence of the client – the poet Tanikawa Shuntarô – and Shinohara's intention

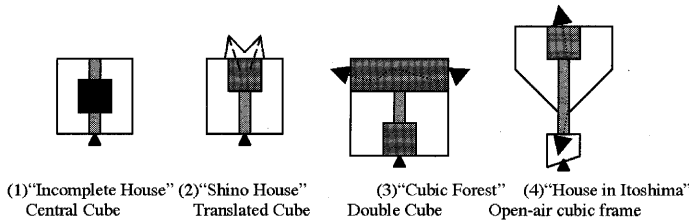


Fig.7. Variations of the Cube and Opening to Landscape

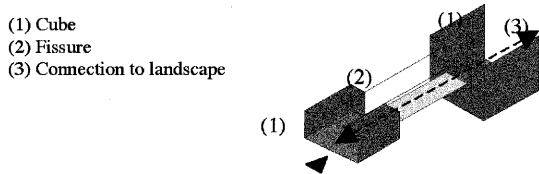


Fig.8. Spatial Instrument of "House in Itoshima"

to experiment with some philosophical references, such as Gilles Deleuze's concept of "Machine littéraire" (Deleuze, 1964). These literary references gave an original feature to the architectural work. The topography and the landscape were also physically involved in the design process. Shinohara invented several concepts such as: "naked space" (*ragyô no kûkan*), "spatial machine" (*kûkan kikai*), "traversality" (*ôdan*). According to Tanikawa, Shinohara designed a "winter house" that is like a "pioneer cabin" and a "summer house" that "does not need to be a house" (Shinohara, 1975). In the "summer room", the floor is left naked: earthen and inclined. This space is emptied of everything but the wooden structure pillars that sustain the roof, and a bench (see Fig.9.).

The encounter between the inclined ground and the man-made structure's (geometric space) produces a gap of "illogical functions". According to the creator, the work of architecture emerges from this accidental encounter (Shinohara, 1975). It is a spatial machine that does not have any rational meaning but provides a naked space in which the dweller can freely create his peculiar spatial sensations. By proceeding through the "traversality" or this space, the dweller encounters illogical functions to which he can give a particular meaning.

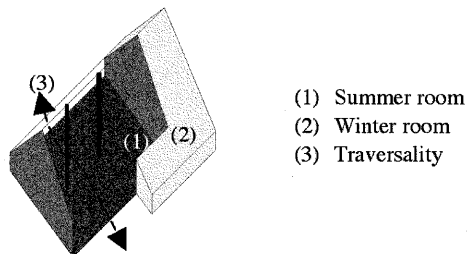


Fig.9. Conceptual Model of "Tanikawa House" (1974)

4.3 Confusion in urban milieu

In the mid-seventies, the discourse on Japanese cities changed. This was partly because of the slow down in urbanization and partly because the architect became

conscious that he could not control the whole cityscape. Using the concept of the spatial machine, Shinohara Kazuo started to experiment with an architecture that related to the urban confusion. The "House in Uehara" (*uehara dôri no jûtaku*), built in 1976 in the lively district of Shibuya (Tokyo) is an example of the urban house of the mid-seventies (see Fig.11.). Shinohara wanted to create a fragment of the urban chaos (Shinohara, 1979). He developed the concept of "savage space", inspired by his interpretation of Lévi-Strauss's *Savage mind* (Shinohara, 1979; Lévi-Strauss, 1962). This savagery is represented by the strong and imposing concrete structure of the house (see Fig.10.).

In "Towards an Architecture", Shinohara Kazuo re-evaluated the Modernist tradition in regards to the relationship between form and function (Shinohara, 1981; Le Corbusier, 1923). From this analysis, Shinohara developed the concept of "Zero-degree Machine" (*reido no kikai*) as a meaningful architectural work. In the urban milieu, residential architecture has mutated into a degree-zero machine that has a degree-zero level of relationship with the environment (for the concept of "degree-zero", see Barthes, 1953). It means that the architecture has become a machine whose function is to produce a direct relationship with the milieu. In other words, architecture became milieu.

Upper level: extension of the interior space; relationship with the disorderliness of the city; "fragment of chaos".

Intermediate level: creation of an interior "spatial machine" and artificial landscape ("savage space")

Lower level: separation from the street (cantilever); working space (studio)

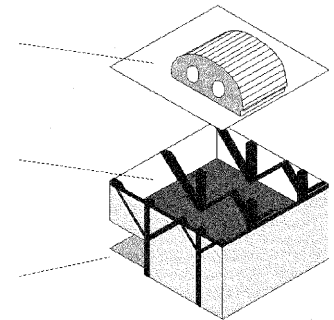


Fig.10. Conceptual Model of "House in Uehara" (1976)

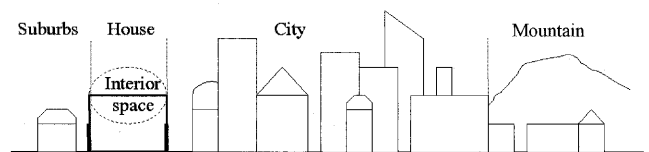


Fig.11. Pattern of the Urban House in the Mid-Seventies

5. Conclusion

In this study, the evolution of the residential housing design of Shinohara Kazuo has been divided into three different tendencies: (tradition, the crossing of modernism, and the opening to landscape) and periods: (the sixties, the early-seventies, and the mid-seventies), which correspond to different types of relationship to milieu. A specific urban pattern – in which Shinohara Kazuo designed his architecture – has been defined for each of these tendencies of the milieu.

The survey revealed that there is an evident influence of milieu in Shinohara's architectural design, given that each series of houses are characterized by unique space structures and concepts, and a particular perception of the landscape.

This study focused on the transformation of architecture, on the variability and evolution of urban patterns, but it also revealed some constant features. There is constancy in design pattern (the square shape, the structural pillar system), in relation to man-made nature, and in some spatial concepts (the "division" of space, the "traversality").

In general, the influence of milieu in the residential architecture of Shinohara Kazuo can be characterized by:

- 1- The reaction of Shinohara Kazuo towards Japanese society and its "social space" (created by the rationalist and functionalist post-war streams);
- 2- The creation of an artificial landscape inside the house, in relation to the transformation of Japan's "physical space", the destruction of nature, and city growth;
- 3- The architectural conception and understanding of the cityscape that express Shinohara's peculiar "mental space".

The relationship between architecture and milieu interacts inside this comprehension of Society, Nature, and Space.

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