ESTRANGEMENT

Four Houses of Kazuo Shinohara

by

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Abstract

This research aims to elaborate Kazuo Shinohara's works through the lens of estrangement, based on the analysis of four houses of his four "styles" - House in White, the Uncompleted House, Tanikawa House, and House in Yokohama - to provide a new reading of Shinohara's architecture and theory, and a new understanding of estrangement as an architectural methodology.

Lay Summary

Kazuo Shinohara (1925-2006) is one of the most influential architects of his generation. However, his architecture and design theories are commonly overlooked in the West today because of the phenomenon of "estrangement" which makes his works and words hard to interpret. This research uses the lens of "estrangement", which is a concept from literature to make objects "unfamiliar", to reveal the complexity, ambiguity, and beauty of Shinohara's oeuvre. Estrangement, as an architectural methodology, is widely implemented in his works, with the unconventional deployment of architectural elements and the unexpected arrangement of forms and programs.

Preface

This thesis is an original, independent, and intellectual product of the author, which gratefully builds on the work of the many researchers cited in the various fields.

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1 INTRODUCTION

Kazuo Shinohara (1925-2006) is one of the most influential architects of his generation. His work and design theories inspired numerous renowned architects, both in Japan and beyond, such as Kazunari Sakamoto, Toyo Ito, Kazuyo Sejima, Rem Koolhaas, Christian Kerez, and Valerio Olgiati. However, the immeasurable value of his legacy is commonly overlooked in the West today because of the phenomenon of "estrangement" which makes his works and words hard to interpret.

The term *estrangement* — a concept from literature — was first introduced by the Russian formalist Viktor Shklovsky in the article "Art as Technique". Shklovsky pointed out the purpose of art: "to make objects 'unfamiliar', to make forms difficult, and to increase the difficulty and length of perception because the process of perception is an aesthetic end in itself and must be prolonged"¹. In one of the earliest works discussing estrangement in architecture, Massimo Scolari wrote about Aldo Rossi's architecture in 1973, explaining estrangement as "the off-scale, the repetition of like elements, the juxtaposition of a gigantic order with a dwarf order, the use of like objects in different logical contexts, all

^{1.} Shklovsky, Viktor. *Literary Theory: An Anthology*, by Julie Rivkin and Michael Ryan, Wiley Blackwell, Malden Etc., 2017, pp. 15–21.

this acts upon the objects of history with a laconic astonishment, as though they were being encountered for the first time"². While there has never been a clear definition of the concept of estrangement in architecture, this thesis attempts to elaborate Shinohara's works through this lens, to reveal the complexity, ambiguity, and beauty of estrangement in his oeuvre. At the same time, this thesis hopes to provide a new understanding of estrangement as an architectural methodology.

1.1 Estrangement from the era

Shinohara is a good example of one who was independent of his time, often standing against contemporary currents in architecture and design. When people followed modernism, he studied traditional Japanese architecture; when housing was mass-produced as commodities, he proposed that "the house is art"³; when functionalism prevailed, he brought sensibility and emotion into the logic of design. Shinohara not only regularly questioned popular trends in design, he also transformed his research and ideas architecturally by deploying the most basic

^{2.} Hays, K. Michael. Architecture Theory since 1968. MIT Press Ltd, 2000, p.143.

^{3.} Masip-Bosch, Enric. *Five Forms of Emotion: Kazuo Shinohara and the House as a Work of Art.* Universitat Politecnica De Catalunya, 2015, pp. 269-277.

architectural elements in his projects. This independent, contrarian thinking is one of the major sources of the estrangement.

1.2 Estrangement from the "styles"

Interestingly enough, Shinohara categorized his works into four "styles", a term referring to a group of projects with similar ideas or themes created within a specified period of time. This thesis will not focus on the details of the four styles, but it is worth mentioning the main topic for each. The "first style" is a meditation on Japanese tradition; the "second style" is an exploration of pure cubic forms with "fissure space", a crevice dividing a house in half. In the "third style", he introduces the idea of "savage" which refers to a condition of wildness and primeval. The main concept of the "fourth style" is "chaos", a reflection of the urban chaos of Tokyo.

Although these four styles appear formally very different and are conceptually distinct, certain projects of each style reveal a continuous exploration and evolution of an idea. For example, the idea of "machine" was first introduced in the *Uncompleted House* of the "second style", then it developed additional meanings later in the "third style" and "fourth style". He also questioned his own ideas and proposed an opposite one. For instance, the cubic forms of the

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"second style" is a contrary exploration to the traditional forms of the "first style". This self-referential relationship of his projects across the four "styles" is another major source of the estrangement of his work.

1.3 Estrangement from the ordinary

"Ordinary things contain the deepest mysteries."⁴ Pursuing the extraordinary in the ordinary in architecture is a hidden goal behind Shinohara's practice. By using the most basic architectural elements in unconventional ways—like placing the column in the center of a room or using sloped earth as the floor of the house — he reveals the extraordinary. Shinohara's houses are not strange in an obvious way; they might just have something slightly "off-grid", something subtle, something ordinary but unfamiliar at the same time. Such operations are so intuitive and emotional at first glance, but after a closer look at the whole project, they are deeply embedded in an extremely rational design logic. The estrangement emerges from a new ordinary positioned between the two opposites simultaneously, between extremely emotional and extremely rational.

^{4.} Donnison, David. The Government of Housing. Penguin, 1967, p. 17.

2 FOUR HOUSES OF FOUR "STYLES"

This research focuses on Shinohara's residential projects as most of his nonresidential projects were either designed in his late career or remain unbuilt. His houses speak to almost all the important aspects of his design thinking, from the beginning to the end of his career.

Three of the four houses presented here are the first project of each style; *House in White* is the only exception. Each of these three houses makes a strong statement of the new style of design in form and methodology. Meanwhile, they all have a clear relationship to previous projects; they not only represent a new start, but also a progressive development of design ideas. *House in White* was finished in the last period of his first style and is also regarded as a transition from the "first style" to the "second style". Finally, all four of these houses provide a clear example of "estrangement" as a methodology and an effect.

2.1 House in White

House in White, one of Shinohara's most influential projects, was built in 1966 during the time Japanese architecture faced rapid modernization and industrialization. House in White is an extraordinary example of Japanese traditional and cultural expression in modern design. The distinct, free-standing post evokes a traditional and sacred atmosphere of the house, while the modern white cube eliminates its symbolic meaning, rendering it ordinary again.



Figure 1 Interior Photo of House in White

2.1.1 Central Column

The plan of the house, approximately 10m by 10m square, is simple yet intriguing with its central column and dividing wall. The column, the primary structural support, is positioned in the geometric center of the plan, reflecting both one of the vernacular building styles of the *minka*, or traditional Japanese houses, and the cultural expression seen in the Izumo Shrine.



First Floor Plan



Second Floor Plan

Figure 2 Plans of House in White

Firstly, the central column reflects one of the eight basic styles of the *minka* – the "umbrella" style. In the *minka*, "it is of the greatest importance that the basic

structure is determined before anything else."⁵ In other words, the *minka* design process prioritizes the structure, while in contemporary vernacular houses, the structure is informed by the program. In fact, houses built in Japan since the early twentieth century have rarely followed the *minka* tradition as it is less convenient for the arrangement of the rooms. Shinohara's decision to place the column in the center of the house in *House in White*, although once common in traditional Japanese houses, was an unconventional move in its time.

Although the structural frames of *House in White* are not exactly same as the "umbrella" style of the *minka* — here, there are not four beams radiating out from a central post as in "umbrella" style houses — the placement of the structural post in the center of a square plan "before anything else" follows the most important logic of the traditional construction of the *minka*. This makes the house traditional in terms of its construction logic.

Secondly, the central column of *House in White* implies another cultural tradition seen in the Izumo Shrine. The central column of the Izumo Shrine is obviously out of scale because of the polytheistic idea that supernatural entities are believed to inhabit all things. The column was placed in the center and "enlarged" in the Izumo Shrine because it was thought that God inhabited it. In

^{5.} Itoh, Teijo. *Traditional Domestic Architecture of Japan*. Weatherhill, 1972, p. 44.

⁸

other words, the "thing", the column itself, is the most important theme of the space, or even like Shinohara's statement, "There is no (western concept of) space but void in traditional Japanese architecture"⁶, because "things" take over the space and void is left. In contradistinction, in Western architecture, space is the main focus of the building.



Figure 3 Elevation and Plan of Izumo Shrine

6. Xiao yuan yi nan zuo pin ji bian ji wei yuan hui. *Jian Zhu Xiao Yuan Yi Nan*. Nan jing: Dong nan ta xue chu ban she, 2013, pp. 74-75.

Although the central column in *House in White* is not apparently out of scale, interestingly enough, it is not an optimized structural solution since "it is thicker than necessary and bracing is not set at the optimal place".⁷ The central column of *House in White* exaggerates its structural presence like the column in the Izumo Shrine, which makes the house symbolic in terms of its cultural expression.

The free-standing column of *House in White* is symbolic not only because of the structural representation of "umbrella" style being central, but also the cultural expression of thingness being "enlarged". But Shinohara intentionally reduced both implications by using a different structural frame from the "umbrella" style of the *minka*, and keeping the size of the column within a reasonable range. In fact, the central pillar was designed to be an artificially planed round column in the first place to make it less symbolic and more abstract, but eventually it was replaced by the natural log for the sake of budget. This was not Shinohara's intention, but did make the house more symbolic due to its materiality.

It seems an "unconscious" move for Shinohara to place the column in the center of the plan since it is a traditional and classic way to build a house in Japan. Shinohara never mentioned it, as if it were a default setting of the house.

^{7.} Masip-Bosch, Enric. *Five Forms of Emotion: Kazuo Shinohara and the House as a Work of Art.* Universitat Politecnica De Catalunya, 2015, p. 174.

But by consciously placing the wall next to the column to make it off-center and making it thicker than needed, the "unconscious" central column is recognized again, although in a different way. As Leo Tolstoy said, "life only exists then when it is lit by consciousness"⁸. The column regains its existence because one starts to be aware of the structural and cultural implications of being central and "enlarged". The conscious and unconscious reading of the column adds the first layer of estranged perception to this house.

2.1.2 Offset Wall

The column in the *House in White* is less dominant than the column in the center of the Izumo Shrine, because the wall next to it "alters" our perception of its position, moving it off-center. The wall offset from the post separates the house into two parts: a double-height living and dining space with a single-height restroom on the one side, and two bedrooms on the other. This wall not only defines the proportion of the rooms, but also becomes a threshold between two different worlds, one side more sacred, the other more common. The living and dining space is rendered as a pure, double-height white cube with the ceiling

^{8.} Tolstoy, Leo, and Rose Strunsky. *The Journal of Leo Tolstoi*. Nova Science Publishers, 2021, p. 134.

hiding the structure above. The walls and ceiling create a volume of space, as a Western-style interior, with a symbolic free-standing pillar off-center. On the other side, the bedrooms have a long, narrow layout. The bedroom on the second floor extends up to the roof to gain adequate head height.



Figure 4 Section of House in White

When publishing an article on the house in a magazine, Shinohara had a difficult time deciding on its name: "which image should I emphasize – the polished Japanese cedar log standing in the center of the house, or the box formed by the white walls? I chose the latter. And at the same time, I came to the

turning point of my development as an architect."⁹ To Shinohara, tradition is only the starting point of architecture, not the goal. The modern, white cubic space adds a second layer of estrangement to this house, which is more important than the symbolic expression of the central column.

2.1.3 Hidden Roof

As an abstraction of Japanese traditional architecture, it is a common practice to expose the posts and beams. For example, the 1961 *Umbrella House,* which also has a free-standing post positioned off-center in a square plan, is focused on the expression of the crossbeams and roof above. The column is almost invisible because it is located very close to the sliding door and stops at the height of the beams. This is another way of referencing traditional Japanese architecture. The dominant sight line is high, focusing on the detailed and ornamental rafters and joints of the roof which emphasize the beauty of concrete things.

^{9.} Shinohara, Kazuo. *16 Houses and Architectural Theory*. Tokyo: Bijuteu Shuppansha, 1971, p. 78.



Figure 5 Umbrella House

Inside the *House in White*, the concrete architectural elements, with the exception of the column, are hidden and replaced by abstract whiteness, celebrating the purity of stereometric space. In *House on a Curved Road*, which was built in 1978, more than ten years after the previous two houses, Shinohara combined the concrete structure of beams and columns with the white enclosure to create oppositional oneness, to amplify the meaning of meaningless. It is structural, but not quite structural; it is symbolic, but not quite symbolic; it is meaningful, but not quite meaningful.



Figure 6 House on a Curved Road

These three houses reveal a continuous resistance to functionalism, the main current of architectural design at the time. By redeploying the most basic architectural elements, Shinohara built up his own architectural contexts across different "styles", which adds a third layer of estranged perception to this house.

2.2 The Uncompleted House

As one of the most notable characteristics of "modern architecture" from the 1920s, the cubic shape is the most basic form of architecture. The *Uncompleted House* looks like a typical "modern" house in terms of its cubic form, both inside and out. However, Shinohara's cubic space, which is the most recognizable theme of his "second style", is derived from a totally different context, in his words, "traversing modernism".¹⁰

2.2.1 Beyond Symbolism

Shinohara extracted the concept of "cubic space" from the double-height living-dining space of *House in White*. It is regarded as the "anti-space" of his "first style" in which tradition was the starting point of his design since it eliminated everything traditional. In *House in White*, the center is occupied by the central pillar, while in the *Uncompleted House*, a square room is placed at the center of a square house. The central pillar endowed *House in White* with the symbolism of Japanese tradition, while the central, skylit square in the *Uncompleted House* celebrates nothing but verticality. By placing un-

^{10.} Xiao yuan yi nan zuo pin ji bian ji wei yuan hui. *Jian Zhu Xiao Yuan Yi Nan*. Nan jing: Dong nan ta xue chu ban she, 2013, pp. 126-127.

programmed space in the center of the house, surrounded by all the functional rooms, Shinohara eliminated the meaning of being the center. Although he denied any conscious symbolic intention in the houses, the experience of entering the double-height, skylit central space through a narrow corridor from the entrance arouses an intuitive and sacred emotion associated with verticality, which is symbolic and universal.



Figure 7 Plans of Uncompleted House

2.2.2 New Functional Space

The central room does not have any obvious purpose, but instead of

emphasizing its functionless, Shinohara imposed at least two functions on it. At

first, Shinohara made it necessary to cross this central space to move from one room to another, even though this is highly inefficient. If one wants to walk from the living room on the second floor to the bedrooms on the other side of the same floor, one has to descend the stairs to the first floor, cross the central space and dining room, only to climb back upstairs to reach the bedrooms. In fact, the living room and the bedrooms on the second floor could have easily been connected either by opening a door on the wall or by building a sky bridge spanning the central atrium, thereby avoiding such circuitous circulation.

It is not the usual case. Take *Villa Rotonda* for example. While it has a similarly symmetrical square plan with a central atrium surrounded by a series of rooms, each room in *Villa Rotonda* can be reached without crossing the central atrium. The other significant difference between *Villa Rotonda* and the *Uncompleted House* is that the central space of *Villa Rotonda* is more extroverted; the rotunda provides completely different views of the site in four directions. In contrast, the central room of the *Uncompleted House* is much more introverted, with the two windows connecting with the interior of the second floor and only a small door opening to the exterior.

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Figure 8 Villa Rotonda

The second function that Shinohara imposed on the central space is a distribution center for ventilation. The central space is rendered abstractly, but the rows of vent registers stand out from the white walls, becoming the main ornamental feature of the room.



Figure 9 Central Space of Uncompleted House

Shinohara proposed a "new functional space" as "a man-technology cocoordinate space"¹¹ when designing this house. The essence of the "new functional space" is that it is born out of human emotions and new technology which might inspire new activities in the space. Both of these must be considered in order to form a "new functional space". This is the reason this house is named "uncompleted"; though it reveals a clue to its character, it is not strong enough to be a "new functional space". Shinohara created a sense of "estrangement" in this house by filling the center with a void and making it "functional".

^{11.} Shinohara, Kazuo. *16 Houses and Architectural Theory*. Tokyo: Bijuteu Shuppansha, 1971, p. 156.

2.3 Tanikawa House

Tanikawa House, the first project of Shinohara's "third style", was built in 1974. During his "third style", Shinohara explored the idea of "naked", "machine" and "savage", the first two being the most important themes for *Tanikawa House*. The client of this house is one of Japan's best-known poets, author of a poem entitled "Naked". This is the second house Shinohara designed for the poet. The first house, from 1958, was named *Tanikawa House* as well.

The brief for this house reads like a poem:

"Winter house or pioneer cabin (house).

Summer space or church for a pantheist (need not be a house)."12

^{12.} Massip-Bosch, Enric. Kazuo Shinohara. GG, 2011, p. 133.



Figure 10 Exterior Photo of Tanikawa House

2.3.1 Naked Objects

Tanikawa House is located on a sloped site with a height difference of 1.2m over a 9m span from north to south. Shinohara stated that he used the natural slope as the interior ground, but Enric Masip-Bosch mentioned, "the slope is in reality very gentle"¹³. Regardless of this artificial manipulation of the topography,

^{13.} Masip-Bosch, Enric. *Five Forms of Emotion: Kazuo Shinohara and the House as a Work of Art*. Universitat Politecnica De Catalunya, 2015, p. 203.

the idea of "natural" still makes sense with the raw, dark soil expressing the concept of "nakedness". Beside the physical meaning of "naked", Shinohara introduced another interpretation of "naked" by assigning each architectural element no signification other than their original architectural function as structure or enclosure. For example, the sloping dirt floor of the summer space is only for indicating the incline of the topography. Shinohara used compacted earth as the floor in two previous projects during his "first style", House with an Earthen Floor in 1963 and House of Earth in 1966. In these two houses, the earthen floors reflected the "doma" space, an area with pounded or packed earth or mud plaster, in contrast to a space with a traditional raised timber floor. In Tanikawa House, the earth is unpacked and keeps its natural qualities: its smell, moisture, and softness. Shinohara intentionally eliminated any function and the association with the traditional "doma" by unpacking the earth, intensifying the slope, and leaving it exposed. In this way, the concept of "naked" is expressed in both the realm of meaning and reality.



Figure 11 Interior Photo of Tanikawa House



Figure 12 Doma

Figure 13 House with an Earthen Floor

Figure 14 House of Earth

It is the same with the posts, walls and roof; they are as ordinary as they appear. One thing worth noting is the absence of a beam in the main hall. Here, Shinohara deployed rarely-used braces on the openings of the south and north elevations for structural stability to avoid the symbolism of the large girders found in traditional Japanese houses and his own *House with a Big Roof*. Even the angle of roof was set at 90-degree to avoid any relationship to traditional Japanese houses with typically flatter roofs. This characteristic of nakedness, as a form of "estrangement", by no means implies the arbitrary inclusion of objects. On the contrary, Shinohara's methodology requires an extremely sophisticated selection process.



Figure 15 House with a Big Roof

2.3.2 Meaning Machine

The naked objects serve a more important theme of this house, the concept

of "machine", which references the French philosopher Gilles Deleuze's

"Literature Machine". The concept of "machine" was a developing idea

introduced in his earlier projects in the "second style". He used "zero-degree machine"¹⁴ to describe the inorganic, neutral and anti-meaning character of his design, which only emphasized the functionality of the space with little emotion. The combination of naked parts in *Tanikawa House* expresses the same meaning as "zero-degree machine", that is, every individual part is neutral and ordinary with the only intention of being its architectural function.

By erasing the meaning of the architectural elements, the "empty space" as a stage is highlighted. When people walk on the ground, the "space machine" starts to work as the drama unfolds. Although the house is rendered as "meaningless" as possible, there is no doubt that an appealing spatial atmosphere exists because of the sloped earth with an unusual scale:

"A poet who visited the house spoke of the insecurity he felt in walking over the soft black soil. But it may be this very feeling of insecurity that keeps people walking. In front of the large glass window on the north is a platform 3m long. The same poet said that this platform seemed to offer something to rely on. But, being like a boat afloat on a deep swamp, the platform actually offers very little reliability. For this reason, people usually leave it and

^{14.} Taki, Koji, et al. "Oppositions: The Intrinsic Structure of Kazuo Shinohara's Work." Perspecta, vol. 20, 1983, 44. JSTOR, https://doi.org/10.2307/1567065.

continue walking."¹⁵

As the description of the experience above, both the sloped earth and the exaggerated scale might not make sense in such a small house, but they do provide an extraordinary, embodied experience. Every individual, each with a unique personal history, will project their own emotions and meaning in the space as the result of this moving machine. This is the reason Shinohara tried to eliminate any potential meaning of architecture itself. He wanted there to be room for meaning to emerge from the interaction between people and the space. In the end, his goal was to make the building meaningful in a totally different way.

2.3.3 Oppositional Oneness

The brief of the house explained oppositional composition: the west part as winter space is a residential space and the east part as summer space is a big hall. This house is a collection of oppositional contrasts. The first-floor plan might remind us of a typical North American house with a three-car garage, although the proportions of the living spaces and the garage are abnormal. The hall, being large and "dirty", resembles a garage, but at the same time, it is too empty to be

^{15.} Masip-Bosch, Enric. *Five Forms of Emotion: Kazuo Shinohara and the House as a Work of Art*. Universitat Politecnica De Catalunya, 2015, pp. 213-215.

one. The hall with bare structures also reminds us of a barn, but the clean white walls are strange again. The earth floor reminds us of a farmhouse, like his earlier project *House with an Earthen Floor*, while the unpacked dirt and slope feel unfamiliar. The scale of the space and tree-like posts remind us of a church, but there is no place to sit or even stand for prayer. The photographs taken from below the stairs of the first floor and the glass opening of the second floor reveal the duality between opposition and oneness. All in all, instead of emphasizing the oppositional comparisons in this house — winter and summer, house and church, interior and exterior, natural and artificial — Shinohara treated them as one, enclosed by a continuous roof and white walls, all serving a single idea.



Figure 16 Plan Diagram of a Three-car Garage



Figure 17 Interior Photo of a Barn





Figure 18 Interior photos of Tanikawa House

Shinohara positioned architecture in the conflict between the lyrical and logical, the realistic and poetic, the specific and abstract. In his half-century creative career, his "radical" was not only reflected in his obsession with logic, but also in his courage to contradict his own theories. This is also his attitude towards art: "The matrix of art is the chaos floating within human beings. Art is unnecessary for mental and emotional clarity."¹⁶ A sense of "estrangement" comes out of this constant, oppositional oneness in his works.

^{16.} Xiao yuan yi nan zuo pin ji bian ji wei yuan hui. *Jian Zhu Xiao Yuan Yi Nan*. Nan jing: Dong nan ta xue chu ban she, 2013, p. 17.

2.4 House in Yokohama

House in Yokohama was Shinohara's addition to his own postwar, wooden house. The new addition was finished in 1985, but was demolished ten years later. As the first project of his "fourth style", unlike any of his previous projects, *House in Yokohama* was more open to its surrounding environment. Its form conceptually reflects the "chaos" of the city, one of the major themes of his "fourth style".



Figure 19 Exterior Photos of House in Yokohama

2.4.1 Juncture of the Discrete

The juncture of different geometries was the defining characteristic of this house. The individual forms of the spaces, the windows and doors, and even the

furniture were drawn from different contexts and correspond to different functions, but were joined brutely. The intersection of those architectural elements was related to the idea of "discrete", the opposite of continuity. It was introduced into architecture from math by Shinohara in a previous project, *Ukiyo-e Museum* in 1982. In that museum, the theme played out in discrete shapes on two-dimensional surfaces. Each concrete facade is independent, their forms follow the rule of "discrete" which requires randomness without any continuity. After *Ukiyo-e Museum*, Shinohara designed another house, *House in Higashi-Tamagawa*, whose main theme was discrete, three-dimensional forms.

In *House in Yokohama*, both two-dimensional and three-dimensional discrete forms were implemented. The main building was designed as a quarter cylinder to avoid shading the old house. Some of the windows on the upper floor were extruded from the surface with unique angles to add depth to the views outside. The balcony was designed as stepped stairs with a door and canopy, making it appear as a porch and entrance, while the actual entrance to the house was located at the gap between the old house and the addition on the lower level. Each element of the house was discrete but not random. For example, the triangular window on the cylinder was designed to reduce the view of the telephone pool. The two square windows with extruding volumes framed two particular trees. The interior space of the house was a direct reflection of the discrete forms of the

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exterior. The two-dimensional discrete forms were expressed by windows and doors, which had various shapes: circles, semi-circle, squares, triangles, or complexes of these.



Figure 20 Plans and Section of House in Yokohama

Moreover, the house had a composite structure. In the section, there was a clear transition between concrete, wood and steel from the lower floor to the upper floor, which further emphasized the idea of "discrete".



Figure 21 Detail Section of House in Yokohama

The discrete forms of the house reflected the concept of "random noise", which referred to a juncture of discrete elements from diverse contexts. Each form and volume corresponded to a different function, and all were abruptly joined, as in an assembly of machine parts. This abruptness resulted in the expression of noise. Shinohara was looking for something new from the randomness, as he quoted a noted biologist's statement: "For any system – whether it is a computer or a biological system – if it has no capacity to accommodate random resources, then nothing new can be produced by that system."¹⁷

2.4.2 Sky and Earth

Despite the bold form of *House in Yokohama*, it implied a strong relationship with one of his early works from 1966, *House of Earth*, a small house with a bedroom buried entirely underground. *House in Yokohama* had the same programmatic arrangement, but Shinohara made greater contrast here between the two levels by bringing in additional sunlight through windows on the upper floor. On the lower floor, the windows had blinds to block out the light. The triangular window faced the natural soil of the sloped site. This raised intriguing questions about the relationship between window and view. What do you see? How are you seen? The triangular window frame and the view of the soil appeared like a painting hanging on the wall.

^{17.} Massip-Bosch, Enric. Kazuo Shinohara. GG, 2011, p. 224.



Figure 22 Section of House of Earth

Contrasted with the specific openings of views on the upper floor, the opening of the lower floor suddenly brought us into an abstract world which is deeply rooted in Japanese tradition. Open to both sky and earth, *House in Yokohama* acted like a special lens to connect the interior and exterior, to capture the unexpected beauty of nature through the movement of visitors.



Figure 23 Interior Photos of House in Yokohama in Upper Floor and Lower Floor

The oppositional experience of the house also revealed Shinohara's attitude about design and theory, which was expressed in the essay "Let the Buddha ride on the fighter plane" (1983):

"Using a series of bizarre terms, naked things, discrete structures, zero-degree machines, and the chaos that runs through these terms, I try to project the near future of architecture. It is analogous to the chaotic logic of science and engineering in which lives are regarded as models. I look at random structures such as cities and buildings. However, language sometimes dilutes the specificity or physicality of the problem. It always goes through the contradictory relationship between ethics and feelings.

These two abrupt combinations are always better to convey specific intentions.

But this is not a surrealist approach, because these visual commentaries are based on my design, in which strange language is used to construct theories of space."¹⁸

As Bernard Tschumi said, "If the design of windows only reflects the superficiality of the skin's decoration, we might very well start to look for a way to do without windows. If the design of pillars reflects the conventionality of a supporting frame, maybe we might get rid of pillars altogether"¹⁹. Shinohara provided another way to connect the interior and exterior, making the space experiential through the estranged forms of the house.

^{18.} Xiao yuan yi nan zuo pin ji bian ji wei yuan hui. *Jian Zhu Xiao Yuan Yi Nan*. Nan jing: Dong nan ta xue chu ban she, 2013, p. 275.

^{19.} Tschumi, Bernard. Architecture and Disjunction. MIT Press, 2001, pp. 64-78.

3 Conclusion

These four houses represent four types of estrangement – structural, programmatic, material, and geometrical – which overlap with one another in some cases. There is no doubt that these four aspects of estrangement are also widely implemented in his other residential and non-residential projects. It is hoped this thesis will provide a promising starting point for further research on Shinohara's typological strategies for estrangement.

3.1 Structural Estrangement

Like the central column in *House in White*, structural elements tend to express themselves beyond their structural function in Shinohara's design. Sometimes, they are placed in an odd location; sometimes they are out of scale; sometimes they have strange shapes. All in all, structural estrangement is one of the most noted aspects of his works.

3.1.1 House in Uehara, 1976

This house is located in Uehara, a relatively dense neighborhood in the suburb of Tokyo. Because of a zoning regulation, the height of the main structure was limited to 5m, so a beamless slab with a series of tree-like concrete columns and braces was used to maximize the ceiling height. No matter how rational the structure, it is a rare case in a domestic space for structural elements to become so dominant they block passage and force people to detour around them. In Shinohara's words, "This should not be regarded as a compromise, but rather a direct recognition of fact."²⁰ The living space on the top was requested by the owner after the design had been finished, so Shinohara added a light steel frame

^{20.} Massip-Bosch, Enric. Kazuo Shinohara. GG, 2011, p. 81.

structure in an alien style, a half cylinder with two round windows, one completely different from the house below, to imply the chaos of the city.



Figure 24 Interior Photo of House in Uehara

3.1.2 Ukiyo-e Museum, 1982

In the *Ukiyo-e Museum*, Shinohara was exploring the concept of "discrete" in the concrete walls on the façade of the museum. The forms of these exterior walls do not follow any obvious structural logic; in fact, the dividing wall in the middle is the primary structure supporting the roof. While certainly not optimal for bearing loads, the sector wall recalls the famous Ukiyo-e, "The Great Wave" by Hokusai. The multiple readings of the structure lead to an intriguing effect of estrangement.



Figure 25 Exterior Photo of Ukiyo-e Museum



Figure 26 The Sector Wall and the "Great Wave"

3.2 Programmatic Estrangement

The unexpected arrangement of the program and circulation is another major source of the estrangement in Shinohara's work. In the *Uncompleted House* discussed in the previous chapter, the unusual, interior, skylit courtyard is both compulsory for circulation and functional as a mechanical space. It is a rethinking of the principles of modern functionalism, which is also reflected in the following projects.

3.2.1 Repeating Crevice, 1971

This house features two identical stairs in the central fissure space running from south to north. This is rather confusing, especially from a plan view of the second floor, because what looks like one continuous stair from the lower floor to upper floors, are actually two independent stairs with their own unique circulation. The house is occupied by the owner and his son as two separate households. The two households share the same entrance to the house. The first household enters their unit on the left side of the lobby and occupies all the rooms on the first floor. The second household takes the stairs to the second floor to enter their rooms. The room at the northeast corner is a tatami room, which is a flexible space used by both families. Therefore, the stair in the south will be used every

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day by the second household to access their unit, while the stair in the north will only be used when the first household comes up the tatami room or the second household comes down to the rooms on the first floor belonging to the first household. The stairs are the unconventional elements making the house separate but continuous in terms of program and circulation.



Figure 27 Plans of Repeating Crevice





Figure 28 Axon Diagram of Repeating Crevice

Figure 29 Interior Photo of Repeating Crevice

3.2.2 House in Ashitaka, 1977

The house has a concrete shell with a two-story, wood frame inside. The exterior walls consist of a series of openings with a repetitive rhythm, recalling the exterior layer of columns in ancient Greek Temples, the "stoa". As we know, a stoa is a covered public social space, and the name of "stoic school" of philosophy derives from "stoa". The repetitive light and shadow makes the living room feel like a "stoa", and the social and intellectual implication of stoa makes

the living room more "living room", in the same way as the effect of estrangement makes the "stone stony"²¹.



Figure 30 First-Floor Plan of House Figure 31 Concrete Shell of House in Ashitaka in Ashitaka

^{21.} Shklovsky, Viktor. *Literary Theory: An Anthology*, by Julie Rivkin and Michael Ryan, Wiley Blackwell, Malden Etc., 2017, pp. 15–21.



Figure 32 Living Room of House in Ashitaka

Figure 33 Stoa of Attalos

3.3 Material Estrangement

Materiality can play a significant role in the effect of estrangement by its color, texture, form and context. As elaborated in the previous chapter, the uncompacted earth in *Tanikawa House* is unconventional compared to the compacted earth in traditional "doma" space. There are several other cases in which materials are used atypically.

3.3.1 Shino House, 1970

The walls of the central space in Shino House were painted gold, a treatment usually associated with sacred spaces in Japan. In using this color, Shinohara emphasized a universal emotion evoked by vertical space.



Figure 34 Interior Photo of Central Space in Shino House

3.3.2 House under High-Voltage Lines, 1981

Every type of architectural element in this house — the columns, ceilings and windows — are assigned individual characteristics distinguished by discrete materials, colors and/or form. For example, the walls and ceiling are all white but they have different textures on the second floor and different shapes on the third floor. Sometimes, the same type of element is treated differently. Take the column for instance, the columns on different floors have different colors. In this

way, Shinohara achieved the fragmentation of the house with clear boundaries between those architectural elements.





Figure 35 Second and Third Floor of House under High-Voltage Lines

3.4 Geometrical Estrangement

Educated as a mathematician before studying architecture, Shinohara's preference for geometric forms is an obvious fact, as seen in *House Yokohama*. By manipulating the form of the space, Shinohara questioned some default architectural operations regularly implemented by architects unconsciously.

3.4.1 House of Earth, 1966

The "earth" is the theme of this house, which developed from the earth floor as "doma" to the notion of the earth as "a space in black". Although the underground bedroom is quite unusual, the strangest thing in this house is that half the corners are slightly off perpendicular, which can never be clearly recognized. What's more, the walls of the upper floor were painted red and black and the walls of the lower floor were painted black, making it even harder to notice the subtle shift of the walls.



Figure 36 Plan and Section of House of Earth

3.4.2 House in Tateshina Project, 2006 (Unbuilt)

The thesis ends with Shinohara's final project designed during the last period of his life, built on a legacy of thousands of sketches and an exhaustive exploration of architecture. The unbuilt *House in Tateshina Project* has a second, more descriptive name: *Primitive Geometry of the Tateshina Mountains*. As the latter implies, geometry is the driver of the design. The rectangular plan was divided by the insertion of an irregular quadrilateral, which extends the natural slope of the site into the interior ground floor. There is a bedroom with the same quadrilateral boundary above the sloping floor, and the quadrilateral bedroom is triangular in section. The simple, geometric division in plan and section makes the house spatially sophisticated.



Figure 37 Sketch of House in Tateshina Project

Figure 38 Plans and Section of House in Tateshina Project

Figure 39 Interior Rendering of House in Tateshina Project

3.5 Towards a New Understanding of Shinohara

Estrangement, as an architectural methodology, is deeply rooted in Shinohara's designs, with the unconventional deployment of architectural elements and the unexpected arrangement of structures, programs, materials, and geometries. In this way, he questioned standard assumptions about architecture, altered our spatial perception and consciousness, and endowed architecture with emotion and meaning.

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