

Experience of House as an Illusion of Stability

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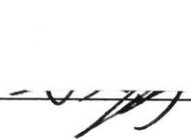
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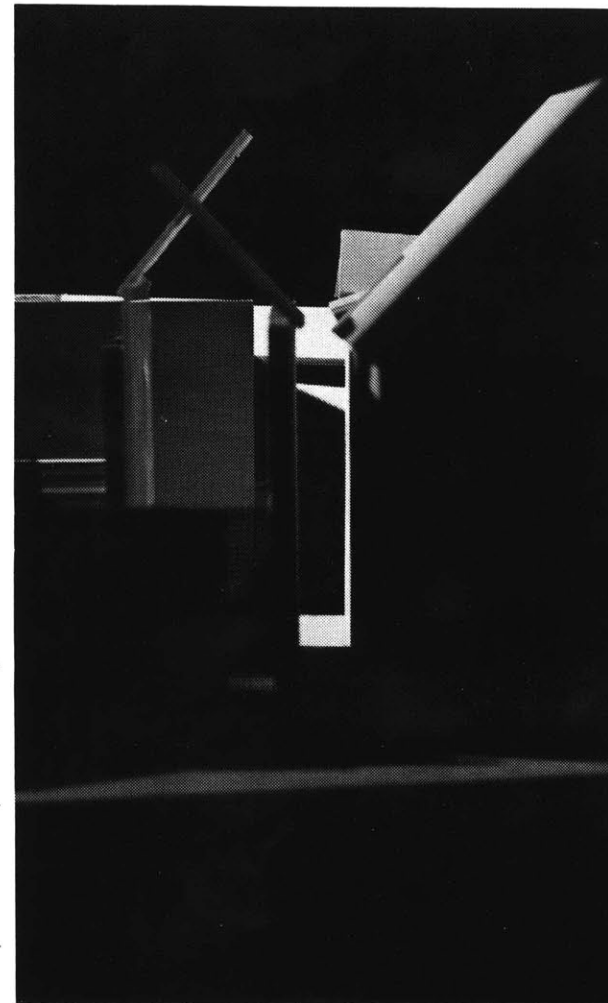
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ABSTRACT:

The intention of this thesis is to explore architecture and experience. The term 'experience' is used to denote those events which have taken place in our past that have helped to shape each of us individually, as well as experiences which occur in conjunction with architecture that help us to relate to our past experiences. An attempt will be made to take a conventional housing type in Japan and transform it for a new purpose while maintaining the qualitative experiences offered by the conventional prototype.

This study will begin with the exploration of the idea of 'home.' Since the primary vehicle for exploration in this thesis will be to design a project in Japan, the question arises of whether the concept of 'home' is cross-cultural or is unique among cultures. It can be argued that a "house constitutes a body of images that give mankind proofs or illusions of stability,"¹ and that this concept is a basic need of human existence. We try to create a sense of stability in an unstable world.

Can architecture create an image of stability? Can this be done in a way that will fulfill expectations and create this image of stability by heightening awareness of this stability through occasional inversions in these expectations? Just what will it take, in terms of form or sequences, to create this illusion? This leads to the second part of this thesis which will involve the experiences that can lead to this image of stability. Integral to this idea of stability is the idea of threshold. "To thresh in its earliest form meant to 'tread or trample.' A threshold then is literally a piece of timber or stone below the bottom of a door that we 'tread' over when we enter a space. 'Threshold has several figurative meanings as well: an entrance or beginning, the border or limit of a region, and the starting point of any undertaking or journey'.² Threshold in the figurative sense becomes crucial in this project in creating a sense of stability for the inhabitants while creating a sense of forbiddenness for others.

Thesis Supervisor: Fernando Domeyko

Title: Lecturer in Architecture

¹ Bachelard, The Poetics of Space. English translation, p. 17.

² Messervy, "On the Threshold: The Gateway to your Garden Soul", The Space Between, MIT, p.8.

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INTRODUCTION

A site located in a country where most people have had experiences vastly different from my own will, undoubtedly, have a great impact on this exploration. The Japanese are influenced by a complex history of traditions which closely relate religion and philosophy in a way that allows them to communicate in a common, but somewhat unconscious, manner. Many Japanese experiences are difficult for Westerners to grasp. An example of this is the many Japanese words and notions which elude translation. Ching-Yu Chang's description of beauty may help illustrate this problem. " One might say that the notion of beauty in Japan is unexplainable, better left unexplained than inadequately represented. When one tries to reduce beauty to words or to clarify it with terms it loses its insight and intuitive nature".¹

1. Chang, Japanese Spatial Conception.

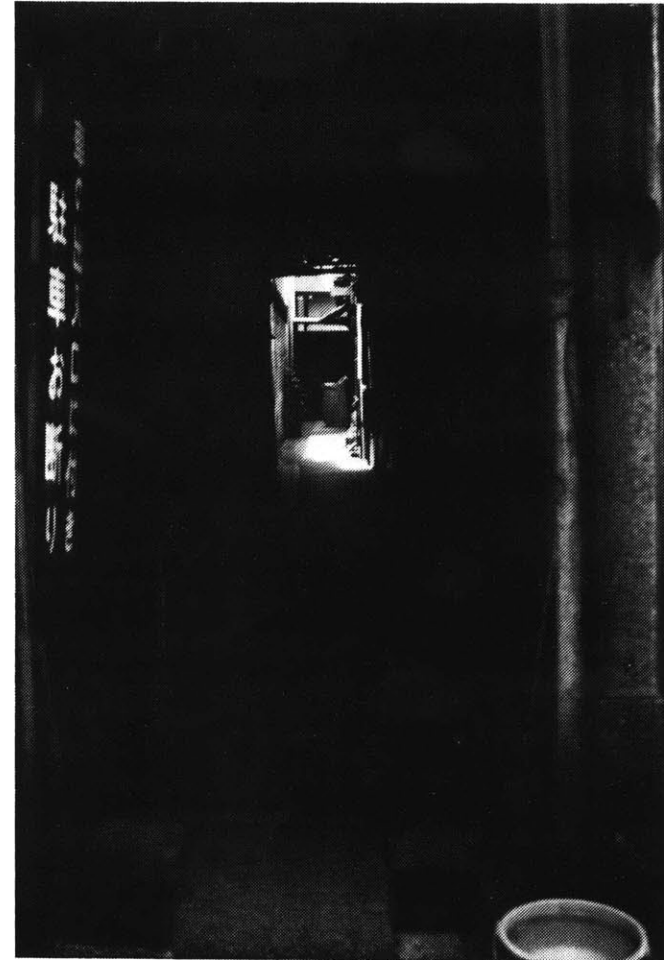
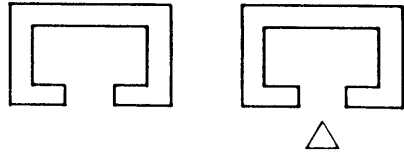


Figure 1. Entrance in Kyoto

Egyptian Hieroglyphs



House

Entrance

Chinese Characters

家, 堂, 舍

House and Other Buildings

An example of a very basic difference becomes apparent when one looks at the origins of the Western concept of 'home' or 'house'. As can be seen in Figure 2, the Egyptian Hieroglyph shows an emphasis on the walls, as seen in plan. In contrast, if we look at the characters for house and home which are used in the written Japanese language, one sees that all the characters contain the symbol of the roof overhead, in section. The emphasis on the roof in Japan may be the result of fulfilling the requirement for cross ventilation while still affording protection from the rain. This emphasis manifests itself in the construction process where, in Japan, the roof is raised first with the addition of walls occurring later. This order is in sharp contrast to housing construction in the West where buildings are constructed from the ground up, which may explain the emphasis on the wall.

Figure 2. Different representations of house

Another example of some different experiences would be the concept of *oku*, which is central to the Japanese way of thinking about space. Although it is a concept that is new to me, it seems to be imbedded in the Japanese culture, and therefore, has had an impact on the ensuing design. To begin to understand some of the complex issues which are involved in this concept, and which I attempt to deal with in this project, the reader is strongly encouraged to read an article by Fumihiko Maki in which he eloquently describes the concept of *oku* as a “centripetal space structure” as opposed to in other cultures where there are “centrifugal centers.”¹ It is when there is a central force without an actual center as opposed to a centrally-generated space. For example, an “*okumiya* (remote shrine) deep in the mountains where people would not normally go establishes an idea giving importance to an unseen place, or to the implication that it exists. For this purpose one could get to the *okumiya* only along a winding

1. Maki, "Japanese City Spaces and the Concept of *oku*," The Japan Architect, May 1979.

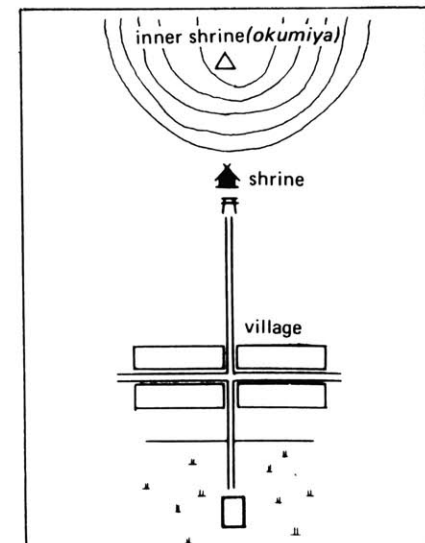
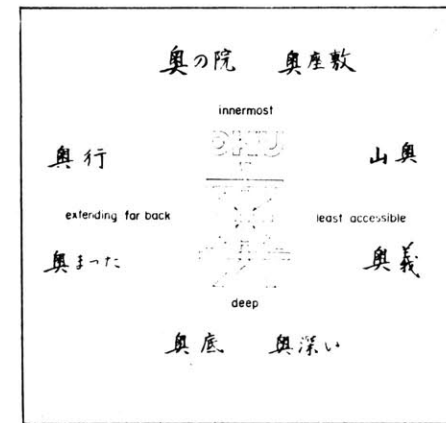


Figure 3. Diagram illustrating the spatial concept of *oku*

Figure 4. Conceptual drawing showing the relationship between village development and a shrine in Japan

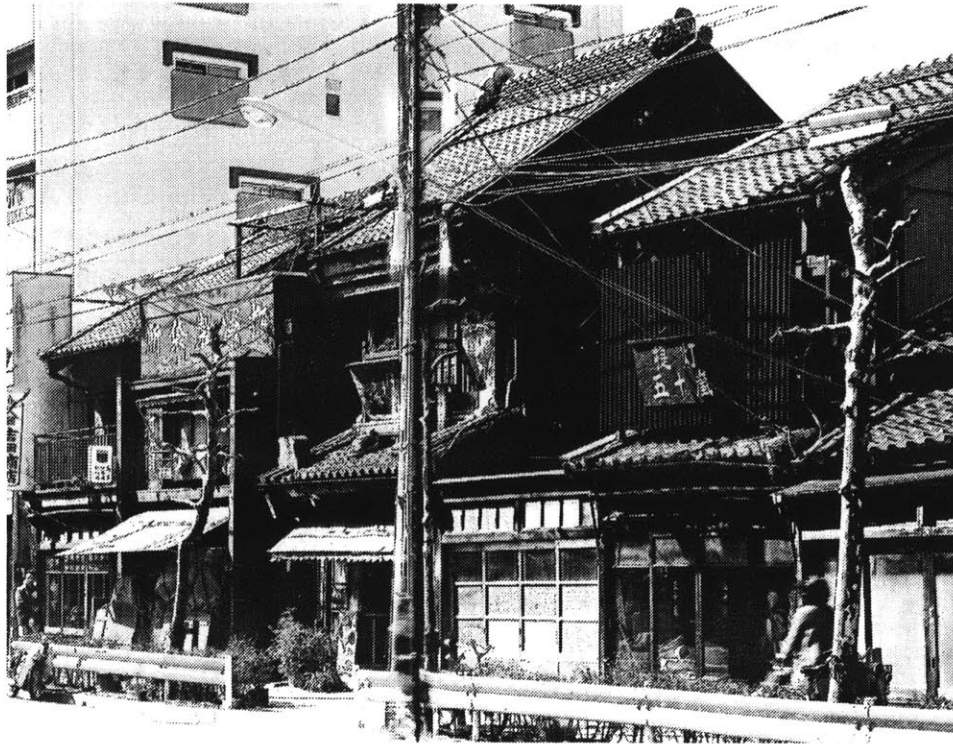


Figure 5. Machiya

mountain trail. This pattern is quite in contrast with that of western society where the church, the symbol of the core of the faith, is designed to be seen." "At the same time one will understand that *oku* implies something abstract and profound. It is an esoteric concept, and one must recognize that *oku* is used not only for describing spatial configurations, but also for expressing psychological depth: a kind of spiritual *oku*."¹ The scope of this thesis does not permit further elaboration upon these differences here; the first chapter will be limited to a brief discussion of Japan and its people and some of their attitudes towards these issues.

This project will entail the design of a house or housing in the form of a hostel or pension, using the *machiya* as a departure point. The *machiya* is a housing type which has been common in Japan since the *Heian* period (792-1185) and still exists today in most urban areas. It is a type that is

1. Maki, "Japanese City Spaces and the Concept of *oku*," The Japan Architect, May 1979.

usually associated with the merchant class and, in turn, is traditionally a housing type in which selling, as well as living activities, take place. The *machiya* was chosen because of its importance as a symbol which helps to facilitate an illusion of stability among a group of people who are in a somewhat foreign situation. It also helps the transition into a discussion about 'home' and 'stability', which generally elude discussion. Because of its importance in this project, the second chapter will be devoted to a brief discussion of the *machiya* and its influence on the Japanese way of life.

The project will attempt to take this housing type and transform it into something that can be used to house a group of 15 to 20 people. Japanese culture lends itself to the idea of communal housing since identification through the group is a very important part of Japanese culture. To facilitate the design process, the group was thought

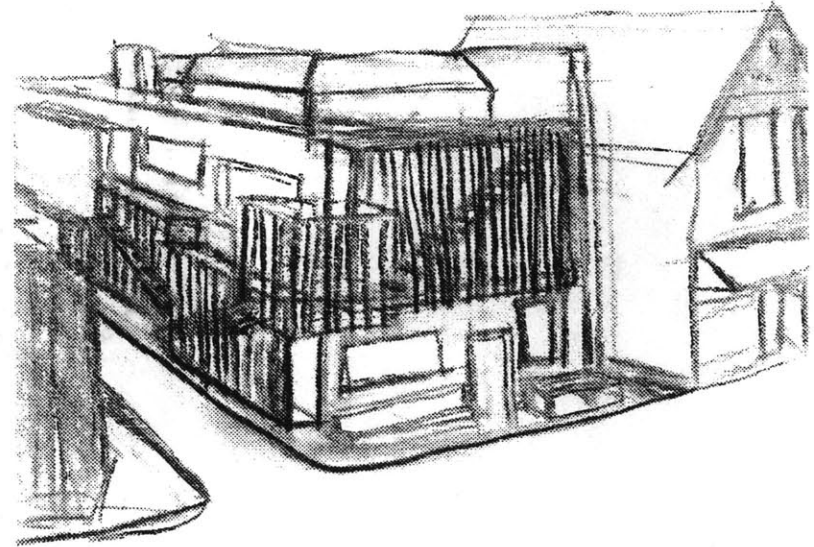
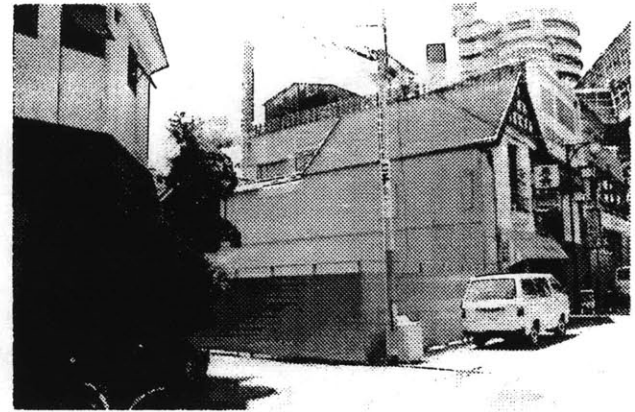


Figure 6. Site photo

Figure 7. Initial sketch



of as the residents of a hostel or pension, but it is hoped that the proposal will work as well for any small group, such as a group of students. In any case, the idea of the group will be an important element in the design of the housing.

The site is located in a section of Osaka called Shin-Sekai, (which literally translates to "new world"). It is an area that has a rich history since, not long ago, it was the center of Osaka's market area. Unfortunately, it is an area into which most Japanese today do not venture, and to my surprise, many have never even heard of it. Today, it is an area of much diversity, having the ambience of the 1920's in the West, the excitement of the burlesque and gambling, and many shops selling everything from Western clothing to Eastern herbal medicine. Crossing a street, one finds a more residential area, where the inhabitants include people from the immediate area, most of who go complacently about their business, usually playing or watching

Figures 8, 9. Site photos

Japanese checkers or chess or trying to sell odds and ends. Also, students have found this area attractive to live in, probably because the variety of affordable living quarters. It is even not uncommon to see a man dressed in a business suit on his way home from work later in the evening.

The thesis will consist of two short explorations in conjunction with a design project for the housing in Shin-Sekai. The first of the explorations will be to look at Le Corbusier's chapel at Ronchamp. This will hopefully answer the question, *Can architecture, through a sequence of experiences transfer the user into another "state"*? In the case of Ronchamp, this would be a state of contemplation as opposed to congregation, as in most chapels. In this thesis the state will be more of a 'state of stability'. The second of the two explorations will be something that fascinated me when I first arrived in Japan. This is the relationship of entrance ways to alleys and the idea



Figure 10. Entrance in Kyoto

of threshold or forbiddenness. I spent time walking through some of the older parts of Japan sketching and photographing some interesting examples of these entrance ways. I will next explore these more formally to understand whether it is possible to quantify or qualify some of these experiences, and also analyze the *machiya*.

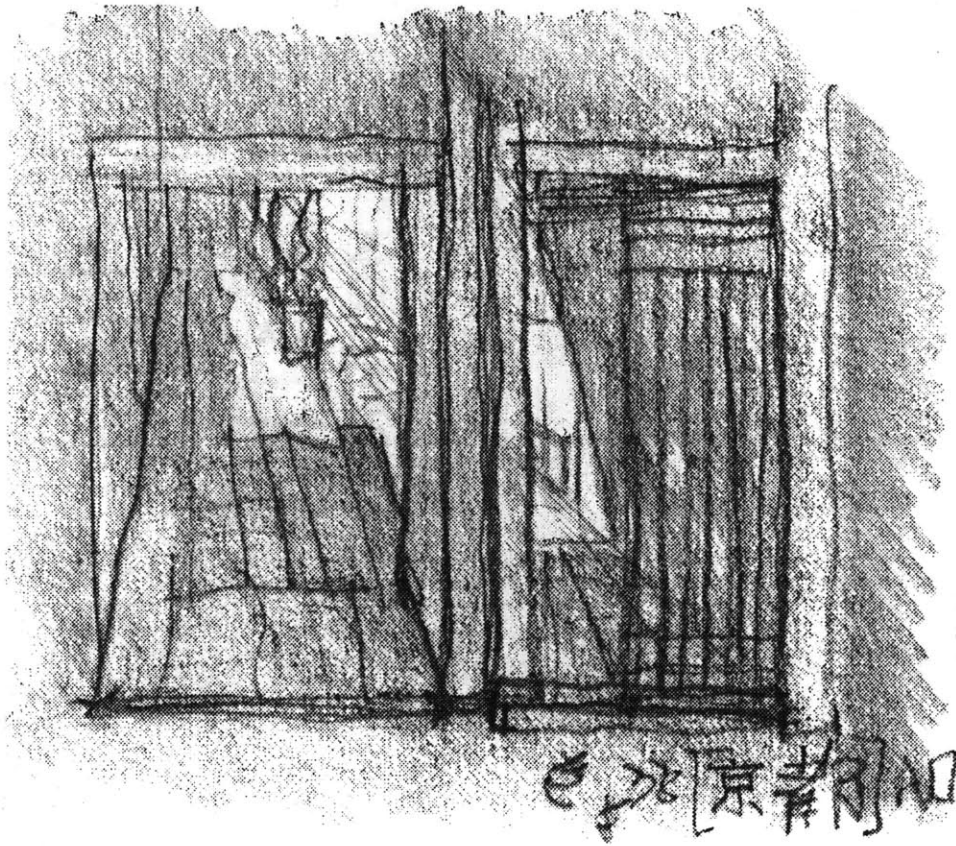


Figure 11. Entrance in Kyoto

Chapter 1: Attitudes

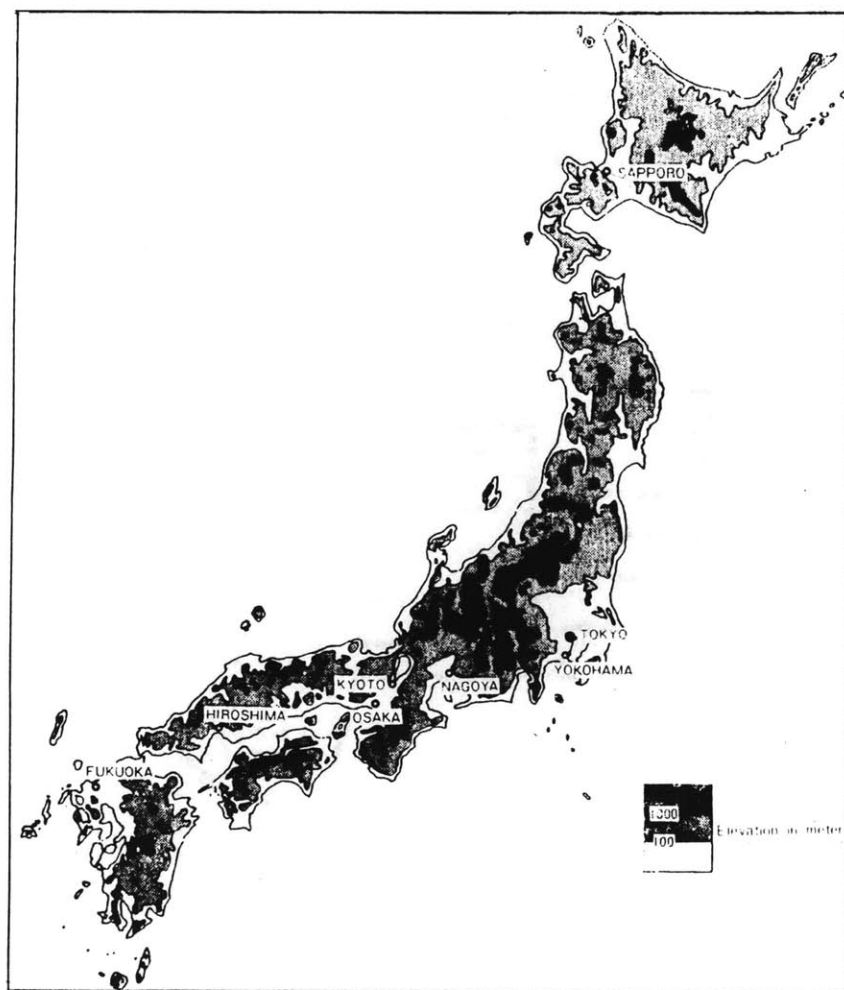
The Land

The land and climate in an area have a great influence on its inhabitants and, in turn, help to shape the people of that region. In many cases when the term 'culture' is used, it is specifically these influences that have had a great impact. Because of this, therefore, it is necessary to begin with a brief discussion of how the land and climate of Japan have influenced the Japanese and the way in which they view space and inhabitation.

For the purpose of understanding how confined the Japanese are compared to people in other countries, it is helpful to know that Japan has approximately the same land mass as the state of California, with about half the population of the entire United States. This one fact might help one understand how a



Figure 12. Figure of Japan at same scale as United States



日本の地図。 1. Map of Japan.

person's experience in a country as densely populated as Japan might be different from that of an American's. It may be more surprising to find, when one looks at a topographical map of Japan (Figure 13), that about 80 percent of the land mass of Japan's islands are mountainous and uninhabitable. This means that in fact 80 percent of the population lives on approximately 20 percent of the land¹, which can be seen, by the white areas, as valleys. It is not surprising to find that the most densely populated areas are in the white areas of the map. Comparing this to the point of view of a person raised in the vast prairies of the midwest of the United States, one might begin to understand the different experiences and perceptions that people have toward space in the physical as well as psychological sense.

Figure 13. Topographical map of Japan

1. Reischauer, The Japanese Today, Harvard University Press, 1988.

Although Japan is physically so small, it is a large country in many other respects. When one looks at Japan in the way that Edwin Reischauer does, examining other factors besides land area, one sees how large Japan is when compared to other countries. The map in Figure 14 shows how large Japan is in terms of population compared to the rest of the world. In Figure 15 we can see that in terms of the Gross National Product Japan is a leading power ranking behind only the United States and the former Soviet Union.

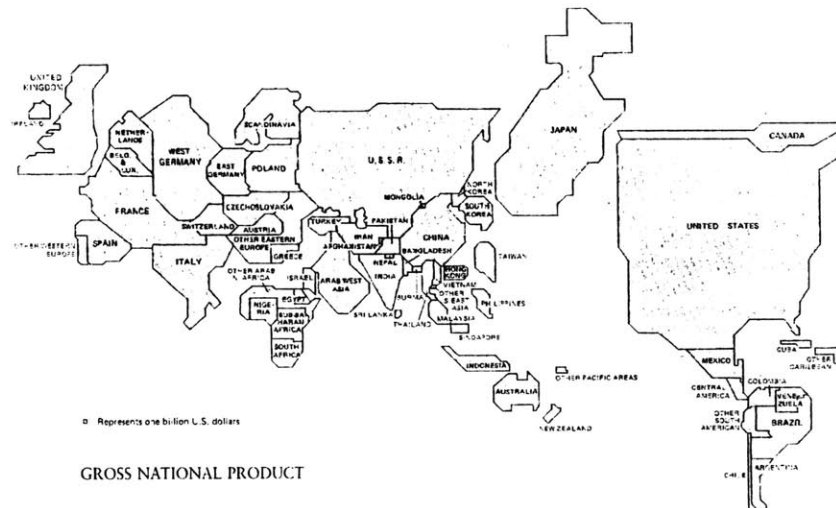
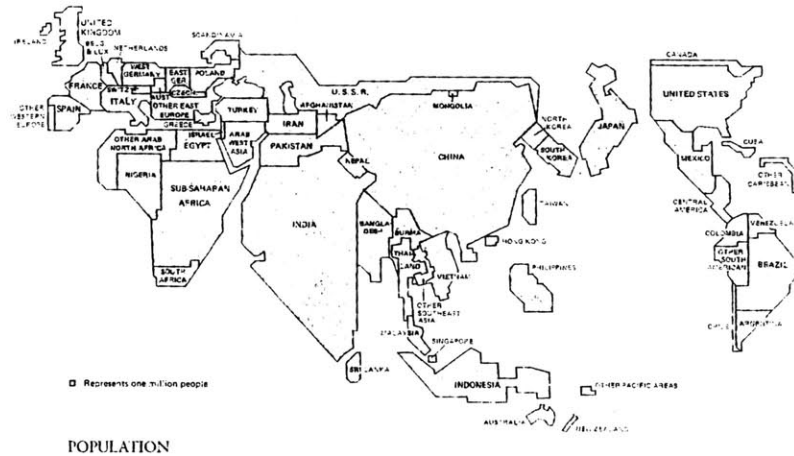


Figure 14. World map according population

Figure 15. World map according Gross National Product

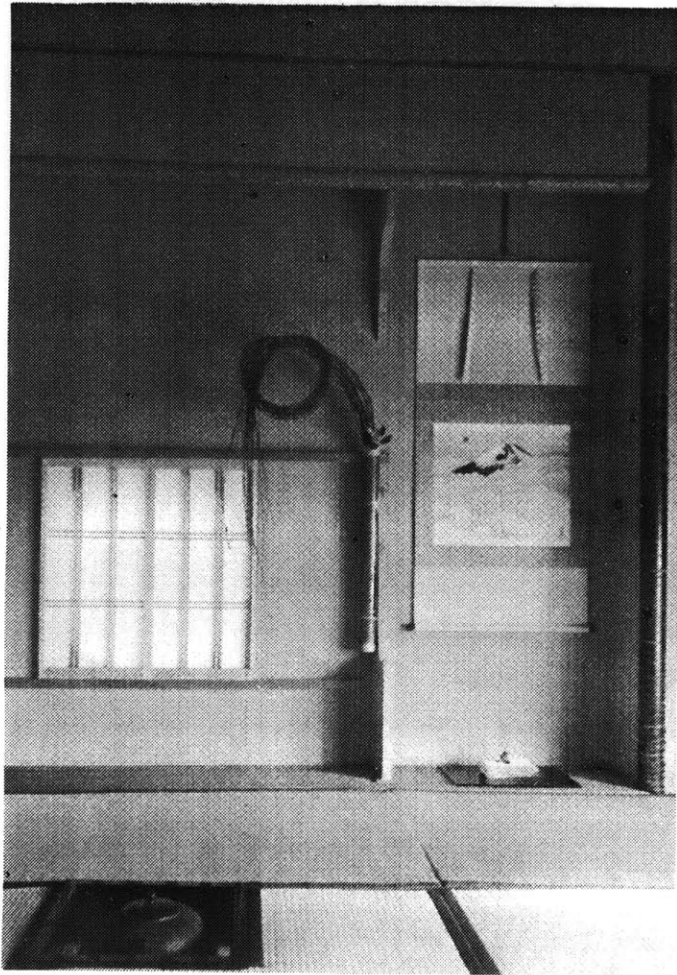


Figure 16a. An alcove decorated with scroll and flowers for winter

Climate

The seasons play an important role in the climate of Japan, and over the centuries, have also played a major role in the Japanese way of life. The changing of the seasons in Japan has been marked throughout history in many ways, ranging from the changing of flower arrangements and scrolls in the Japanese house (Figure 16) to the viewing of the cherry blossoms which officially announces that spring has arrived. The physical attributes of the changing seasons can probably account for this awareness of and respect for nature.

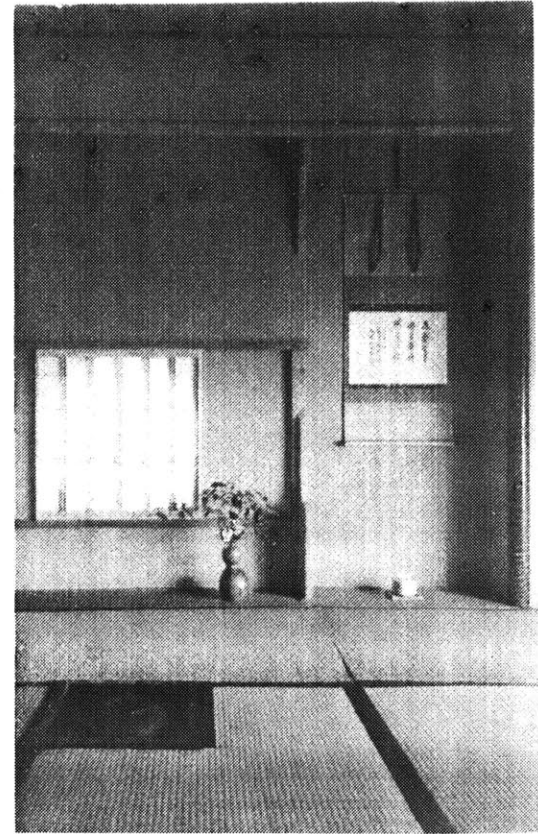
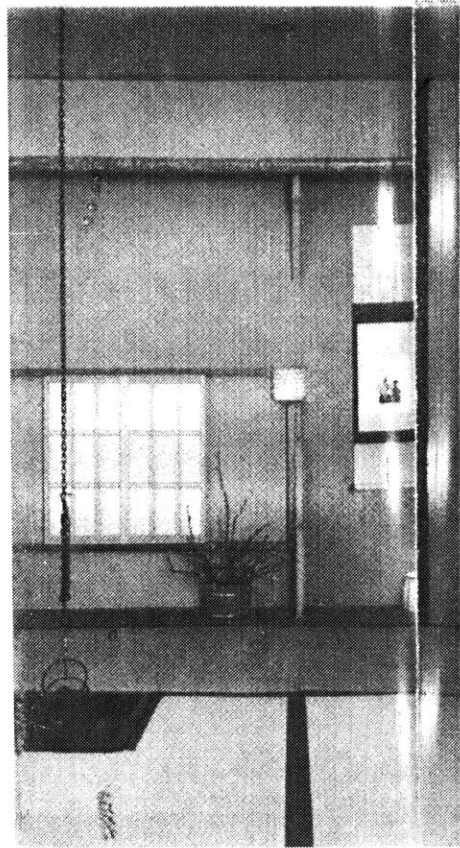
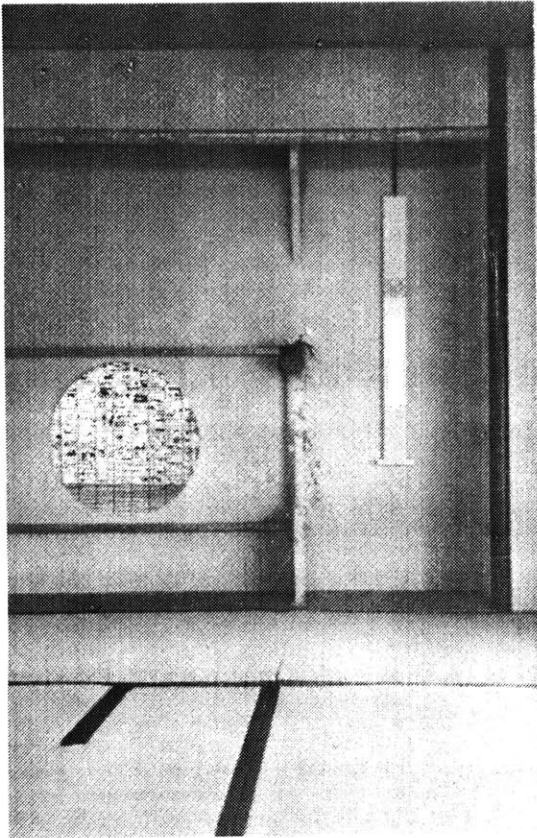


Figure 16b, c, d. Same alcove decorated with scrolls and flowers for spring, summer and fall

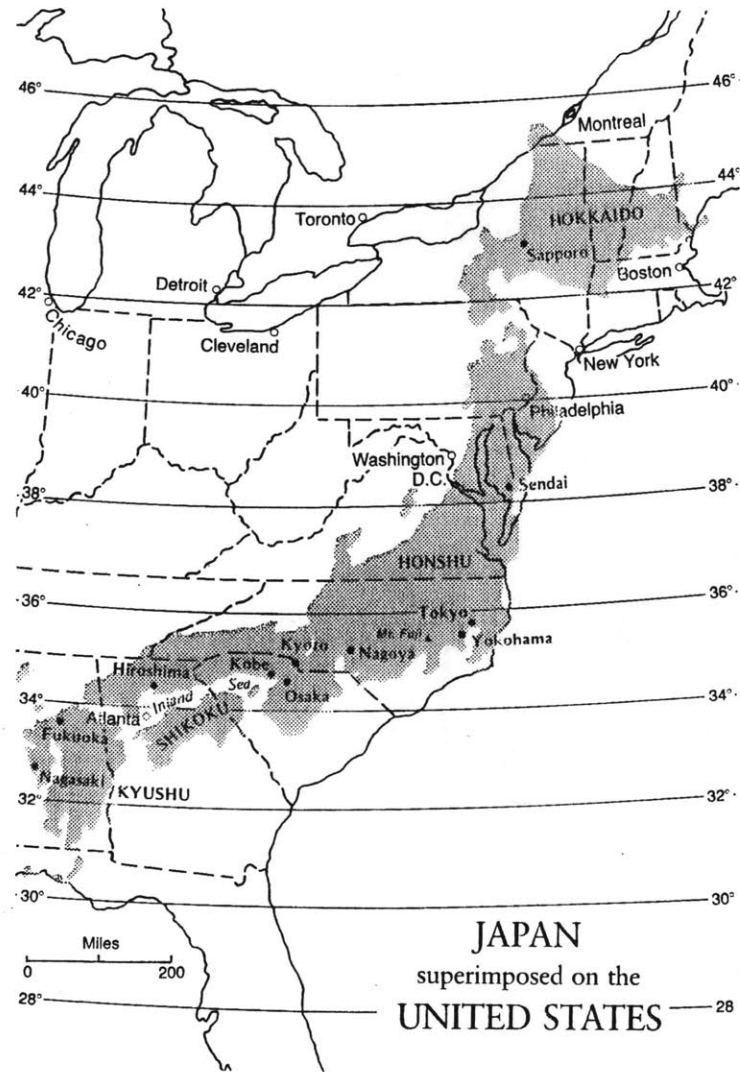


Figure 17. Map of Japan superimposed onto the United States

Although it may be helpful to think of the state of California when comparing the size of Japan, it is not as revealing when trying to gain an idea of the climate. It is much more helpful to think of the East coast of the United States for this purpose, since the relationships between land mass, oceans and the prevailing winds are quite similar. If one refers to the map in Figure 17, we can see that if Japan were superimposed on the United States at the actual latitudes, the islands of Japan stretch from upstate New York or Maine to the Gulf of Mexico. Since Osaka lies at about the same latitude as South Carolina, the climate is relatively temperate and therefore winters are relatively mild and dry. Since the lack of central heating is not uncommon in Japan, the winters are somewhat more difficult to endure than one would expect. The cherries bloom from south to north in March and April, announcing spring, after which the

rainy season arrives for two to three weeks in the months of June and July. Next, again from south to north, the hot and humid summer arrives. Late summer or early fall is the typhoon season, in which as many as several typhoons in a single week may occur. Fall begins after the typhoons cease and festivals celebrating fall are held throughout Japan.¹

It is interesting to note in Figure 12 that although Japan is geographically small, its islands stretch a great distance and no part of the Islands is more than 70 miles from the ocean. Consequently, much of the country has some relationship to the water, as well as to the mountainside.

There is ample rainfall (Figure 18) which allows for very lush land, with the season's changes bringing a wonderful variety. In

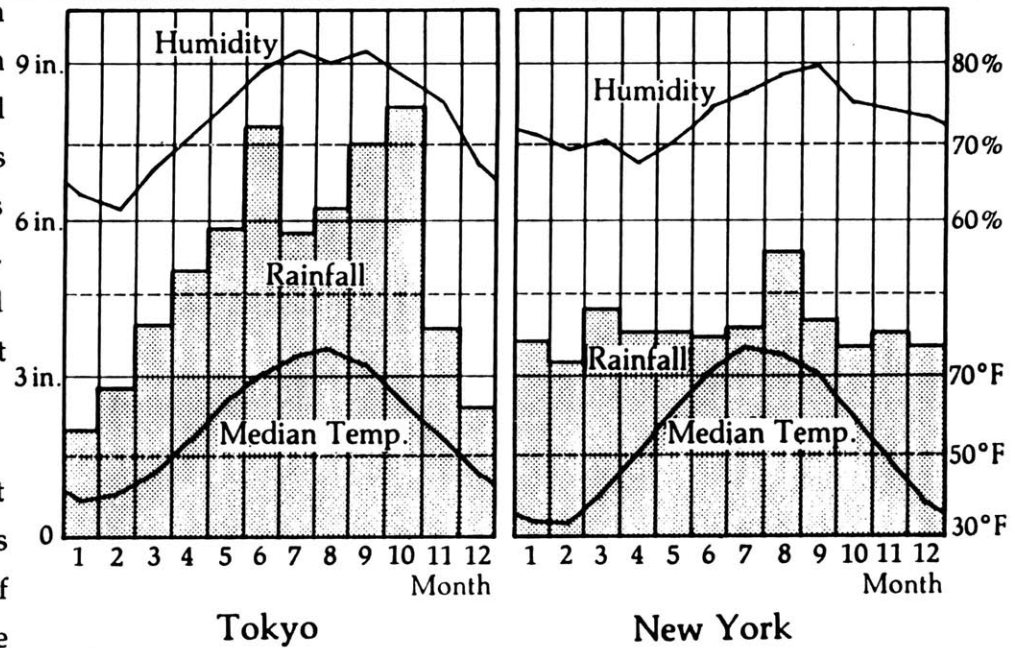


Figure 18. Temperature, rainfall and humidity chart comparing Tokyo and New York

1. Yagi, "Climate and the Japanese Way of Life," Process: Architecture, August 1981.

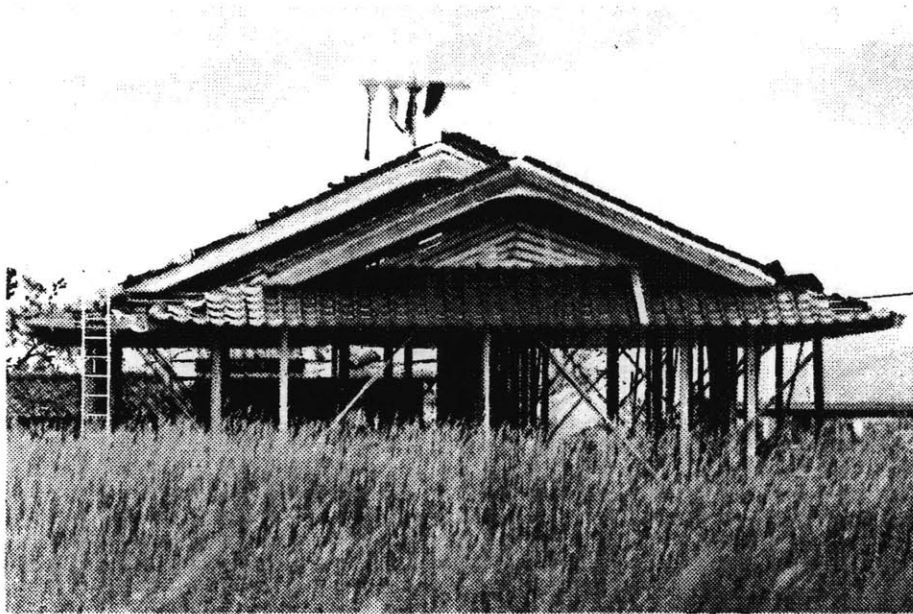


Figure 19. Openness of traditional Japanese residential construction

addition, because the islands stretch over a great distance, the weather is quite varied. The northern most island, *Hokkaido*, is at the latitude of Maine and, therefore, experiences similar weather, while the rest of Japan is milder.

Boundary Issues

Boundary issues are clearly related to this idea of 'stability' and the idea of 'home' that I have mentioned earlier. Again, the attitudes toward these issues are strikingly different in Japan and in the West.

First, in masonry construction of the West, a thick wall separates the inside from the outside, and due to structural reasons the openings throughout history have been rather limited. On the other hand, traditional Japanese construction requires no enclosure between the columns. This allows for a

variation of continuity between interior and exterior. This openness, along with the fact that there are two distinct types of sliding doors, *shoji* (a translucent paper sliding door) and *fusuma* (a heavy-weight opaque paper sliding door), leads to a hierarchical structure in which light is filtered through many layers or zones. In the deeper recesses of the traditional house lies a plastered walled enclosure allowing for some privacy, but which is open, with the possibility of division through the use of *shoji* and *fusuma*.

This vagueness between inside and outside is not just a physical entity, but carries through in much of Japanese life. The blurring of boundaries seems to be something that is deeply rooted in the Japanese culture, and is something Westerners tend to have difficulty understanding. It is intimately connected with a concept that the Japanese call *amae*.

Although this concept is very difficult to translate, it is very pertinent, so I will try to describe it.

In basic terms, the term amae “refers, initially, to the feelings that all normal infants at the breast harbor toward the mother--dependence, the desire to be passively loved, the unwillingness to be separated from the warm mother-child circle and cast into a world of objective ‘reality’....basic premise that in a Japanese these feelings are somehow prolonged into and diffused throughout his adult life, so they come to shape, to a far greater extent than in adults in the West, his whole attitude to other people and to ‘reality’.”¹ It is this idea of being able to sense what the needs of the other person are. It is described quite clearly in a book called The Anatomy of Dependence, through several situations in which a Japanese psychiatrist

1. Doi, The Anatomy of Dependence, Kodansha International Ltd., 1973.

who comes to America for the first time discovers the importance of this concept and the different attitudes the two cultures have toward it.

“Not long after my arrival in America I visited the house of someone to whom I had been introduced by a Japanese acquaintance, and was talking to him when he asked me, ‘Are you hungry? We have some ice cream if you’d like it.’ As I remember, I was rather hungry, but finding myself asked point-blank if I was hungry by someone whom I was visiting for the first time, I could not bring myself to admit it, and ended by denying the suggestion. I probably cherished a mild hope that he would press me again; but my host disappointingly, said ‘I see’ with no further ado, leaving me regretting that I had not replied more honestly. And I found myself thinking that a Japanese would almost never

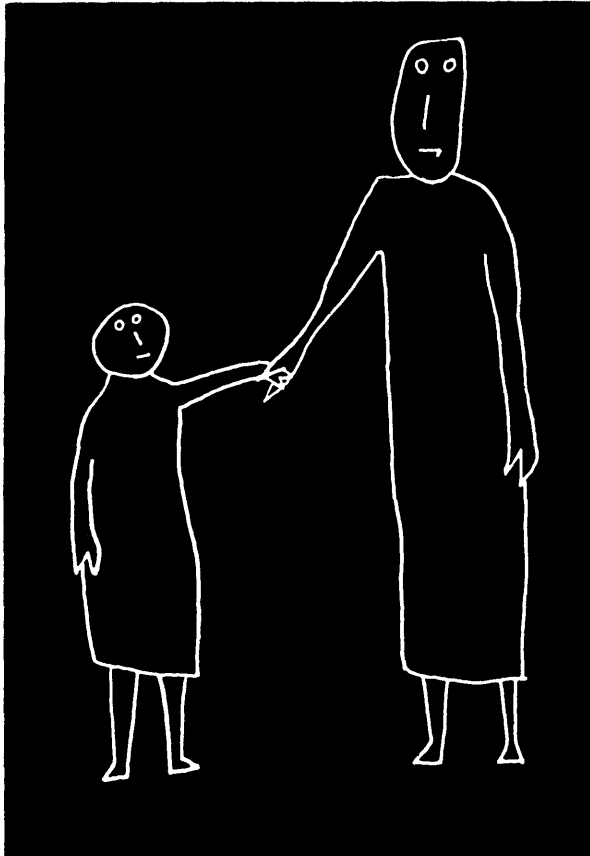


Figure 20.

*ask a stranger unceremoniously if he were hungry , but would produce something to give him without asking."*¹

*"I was in the psychiatry department of the Tokyo university school of Medicine at the time, and I remember one day, in a conversation with Professor Uchimura Yushi, head of the department, remarking that the concept of amaeru seemed to be peculiar to the Japanese language. 'I wonder, though-' he said. "Why, even a puppy does it." The inference was that it was impossible that a word describing a phenomenon so universal that it was to be found not only among human beings but even among animals should exist in Japanese but not in other languages. I myself thought, however, that it was precisely this that made the fact so important."*²

1. Doi, The Anatomy of Dependence, Kodansha International Ltd., 1973.

2. Ibid.

Space

To be able to understand Japanese space one must first understand the concept of Japanese beauty. Beauty for the Japanese is more subjective in that it always requires a participant. "Beauty comes from the impermanent, *mujo*, the Buddhist tenet that all and all being are in constant flux and flow."¹ Change is the way of nature, and, as we have seen, the Japanese are quite attuned to nature and its constant state of change. The idea of incompleteness or the requirement of participation appears in many aspects of Japanese life. Symmetry is rarely used, so that some form of participation will be required to create a sense of balance. When arranging a rock garden, there is never a single point in which the entire garden can be perceived at one moment. The participant must experience the garden through movement and the use of the five senses to appreciate

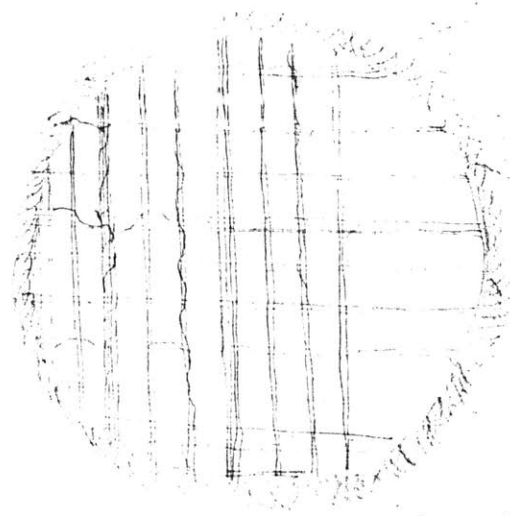
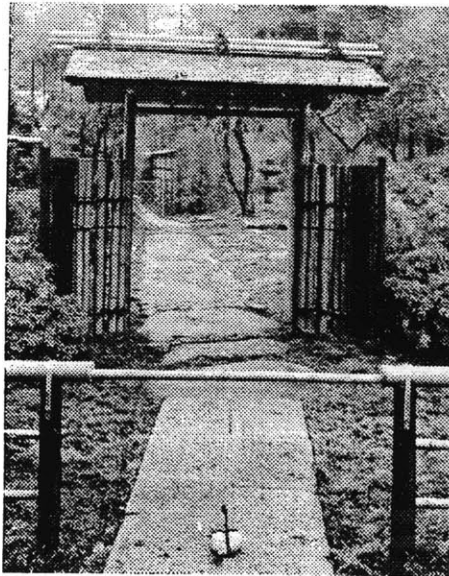


Figure 21. Sketch of window from Katsura Imperial Palace. Incomplete window treatment requires participation to fully appreciate.

1. Chang, Japanese Spatial Conception.

THE ROOM FOR THE TEA CEREMONY

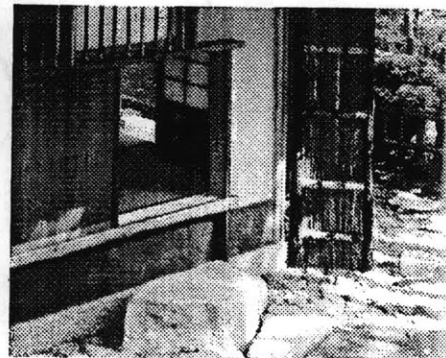
A corner, a room, a cottage—all may offer a temporary haven where one shares the warmth of friends or finds comfort and peace in solitude.



The bound stone symbolizes entry into a different world.



Guests wait here to be called by the host of the tea ceremony.



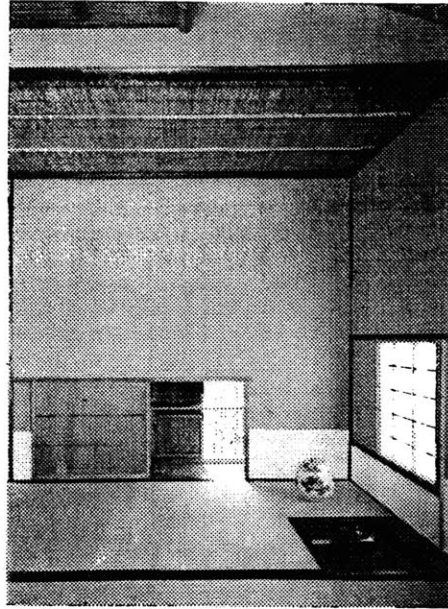
The entrance is purposefully narrow.

fully its beauty. This can be seen most clearly in the principle of the tea ceremony.

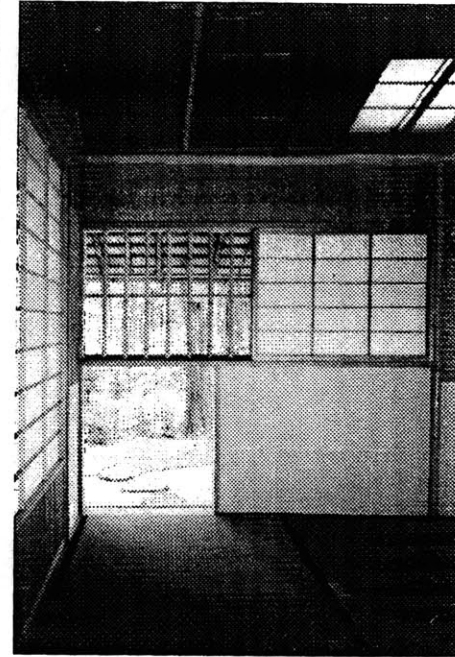
“The simplicity of the tea house, the most perfect example of Japanese architectural space, seems to be derived from the ceremony of purification, which requires the participant to strip himself of all but the simplest and most basic characteristics.” In the tea garden one passes through a series of experiences which all lead to “achieving the four principals of the tea ceremony: wa (harmony), kei (reverence), sei (purity), and jaku (tranquillity)...The entire tea ceremony, the garden, the house, various appurtenances, the physical and spiritual parts of the ceremony are really a combined path through layer upon layer of quieting seclusion.... The progressive, heightened experience of the tea ceremony actually leads one deep into a secluded place, the interior of the tea house and the interior

Figure 22, 23, 24. Japanese tea rooms

of the inner person. The interior is important in Japanese space.... The sensitivity of the Japanese response to the person is the sensitivity that space requires, whereas the Westerner relates to space as to any mere object.... There is no Western ceremony the equivalent to the tea; there is no Western space equivalent to the Japanese space.”¹



Natural-colored clay is preferred for the walls.



The ideal tea room is surrounded by nature.

1. Yagi, A Japanese Touch for Your Home, Kodansha International Ltd., 1982.

Figure 25. Japanese tea rooms



Figure 26. Typical Kyoto *machiya*

Chapter 2: A Brief Discussion of Machiya

Though the literal meaning of *machiya* is 'townhouse,' this is a term that eludes translation since it is more complex than just a residence. A better translation would be 'town/house,' since it begs further elaboration. The term 'town/house' would be more accurate because the word *machiya* comes from *machi* (町) which refers to a district or section of a town and *ya* (家) which refers to house. It embodies the term 'town,' meaning a community that must have commerce to exist. In this sense, a town and *machiya* are more or less dependent upon each other.¹ *Machiya* refers to a type that serves as both a place of residence and commerce. Although *Machiya* has a fairly broad meaning in Japanese, it would not usually be used to describe a department store or other Western style shop.

1. Tingey, "The Principle Elements of Machiya Design," Process: Architecture, August 1981.

Originally machiya lined the streets of Kyoto in large blocks that were laid out according to Chinese grid-planning principles, with an open area in the center of the block. During the Muromachi period, the large blocks were transformed into long narrow blocks and in turn, the machiya became long and narrow with internal gardens and came to be known as 'eels dens'. Typically, the dimensions are anywhere from 5 to 8 meters (16 to 26 feet) wide and 20 to 50 meters (65 to 160 feet) long. Originally only one story high, they grew to include a second story, where sleeping activities took place. Usually, against one of the long walls is a 2 to 3 meter (7 to 10 feet) wide cooking area that also doubles as access. Typically composed of rooms that are divisible by fusuma with shoji screen toward the exterior, a large machiya may contain an anteroom, a reception room, an eating area and a formal entertaining area with an alcove. Smaller machiya may have as little as one or two living spaces that perform all the above functions.

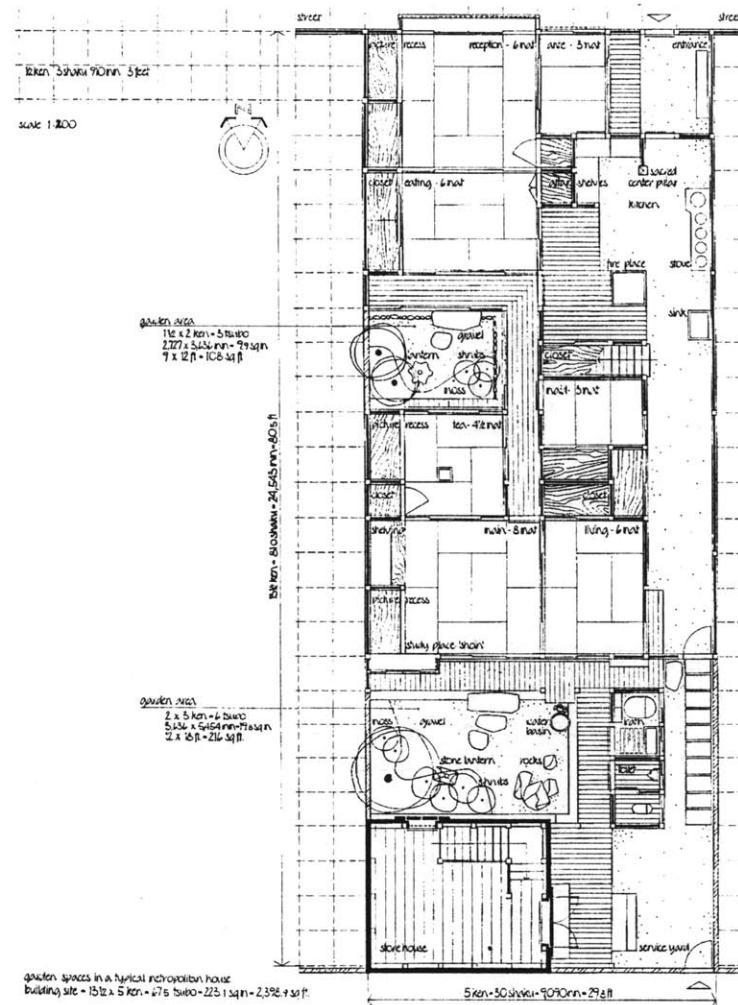
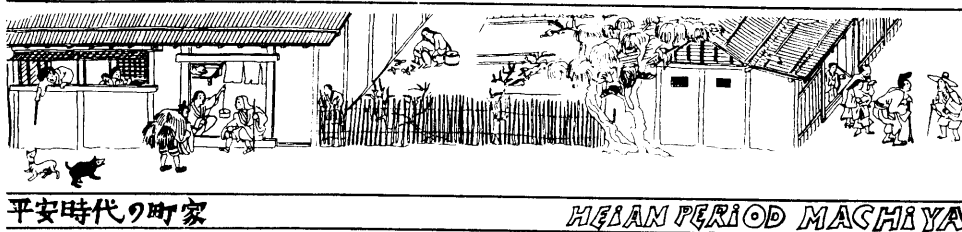


Figure 27. Plan of typical Kyoto machiya

The more public spaces would be towards the street, with the shop in the front on the first floor and storage on the second, with the private areas toward the interior. Most would contain at least one garden with two or more as status determines.



This building type emerged during the *Heian* period (792-1185) in which the first sizable towns began to develop in Japan. These buildings, each with a section of the interior designated for the sale of goods, were apart from the designated sites where markets were set up. The *machiya* were not much more than farmhouses that had been adapted over the years to respond to the demands of the environment.



MORNING AND DISPLAY, KAMAKURA-MUROMACHI PERIODS
 のれん・みせだい・かまくら〜むろまち いたい
 鎌倉・室町時代の暖簾と見世台 伊藤ていじ著『中世住居史』, 1958年, 東京大学出版会よ!

The earliest forms of these *machiya* can be seen in the paintings from *Heiankyo* (Kyoto) (Figure 28) in which the streets were lined with *machiya*. In fact, there was little or nothing to indicate that it was a place of commerce. It may be inferred from

Figure 28. Paintings of Heianko (Kyoto) *machiya*

the paintings that as little as 20 percent of the floor area was raised, which would have been the sleeping area, with the rest of the building being *doma* (earthen floor). The cooking would take place in the back part of the building, usually along one edge on the earth floor. Meanwhile, business would take place in the front, also with an earthen floor.

Originally there were no display areas in the *machiya*. Eventually, a display area, consisting of a board which separated the merchant from the public by a wall, was developed. Later, the display area became linked with the interior and the raised floor area increased significantly. This type of *machiya* was relatively open to the street, but there was also a type that was much more closed. The entrance was basically the only opening that was usually shuttered in the evening. During the day the entrance would have a curtain or *noren* hanging from the entrance, which as seen in



Figure 29. Typical *machiya* lined street in Kyoto



Figure 30. *Noren* shown hanging in entry of house in Osaka, near site of the project

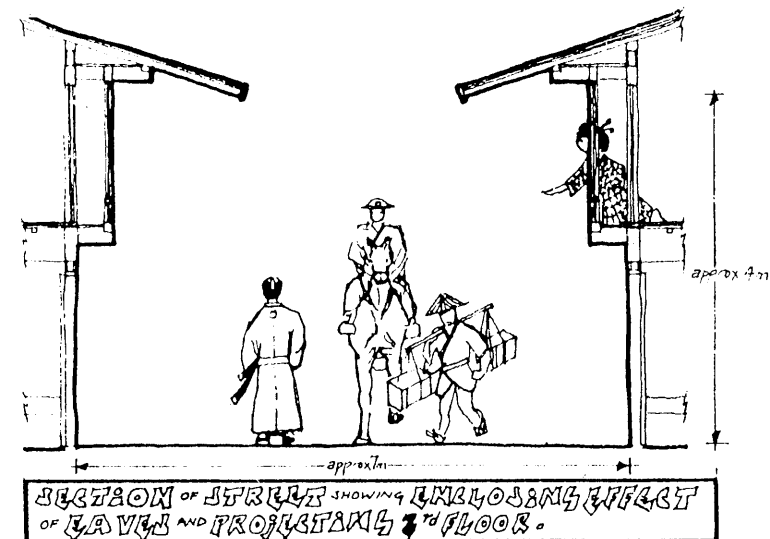
Figure 30, still exists today, even in private houses, though most typically they are found in restaurants.

Since the climate of Japan requires that there be adequate ventilation to help cope with the heat and humidity, the more open type of *machiya* was typically found. The closed type usually existed where the streets were so narrow that there was a minimal amount of privacy. The open type had the advantage over the closed type, from a marketing point of view, since the shop was at the front of the building. This does pose one problem, however, since an open facade must be protected from the elements. Deep eaves along with a protruding second floor was a solution that seems to have developed during the Muromachi period. This move seems to be an exterior move, since even when the second floor was used only for storage, it still found itself protruding in a similar manner. The combined effect of two facing *machiya*, which

was generally the case, as shown in Figure 31, meant that the street became more protected from the elements, and, in turn, had the possibility of becoming more dynamic through inhabitation. Sounds and smells would be held in slightly longer to add a new dimension to this space.

One's community in Japan is thought of as the five adjacent houses, one on each side and the three across the street, which, in turn, is part of a larger community. The street is a kind of 'common' which on "occasions such as festivals or a funeral, which would concern the community, these front rooms are brought into use and it is just as though they are partially screened off street niches. In other words the street is not completely cut off but allowed to filter through the building."¹

Daylight filters through layers and the private areas are protected by a hierarchy of space. Variations in plan have developed to "suit changing



1. Tingey, "The Principle Elements of Machiya Design," Process: Architecture, August 1981.

Figure 31. Section of typical street bounded by *machiya*

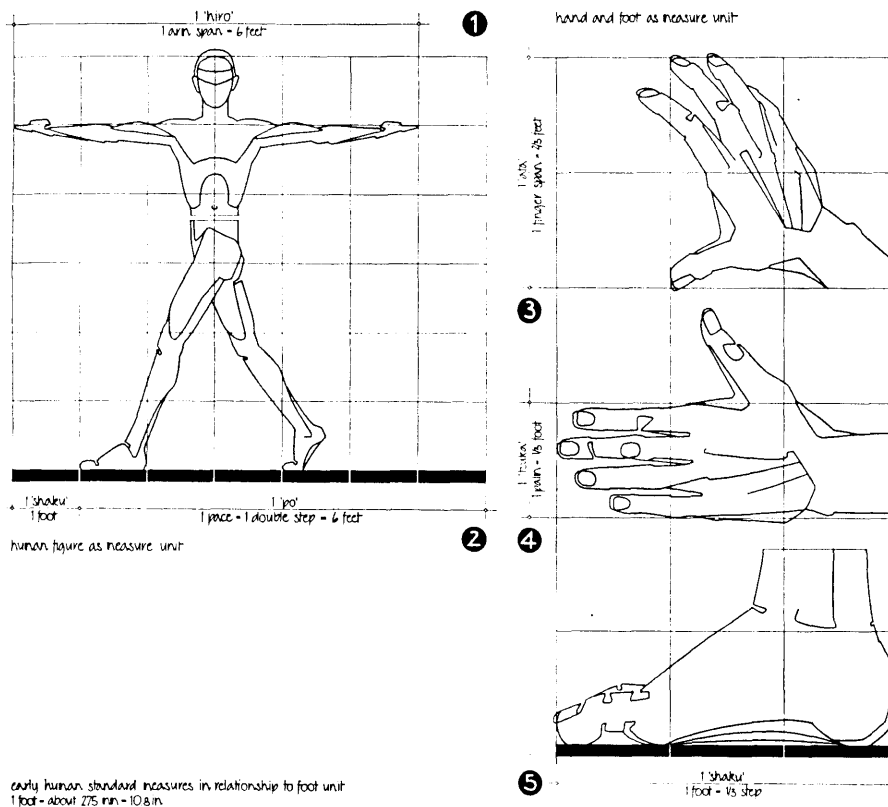


Figure 32. Standard traditional Japanese measures in relation to the human body

conditions and demands, but any new plan has always been based on the standard grid and measurement system of Japanese timber frame construction.”¹

“The patterns of architectural form lock in with the patterns of the community and there seems to be harmony at every level, from the town plan to the facades and even right down to the details of the interiors of these machiya. This may be why these classic machiya have stood up so well to the pressures of the urban environment, yet have been able to change without their essential character being destroyed.”²

1. Tingey, "The Principle Elements of Machiya Design," Process: Architecture, August 1981.

Chapter 3: Design

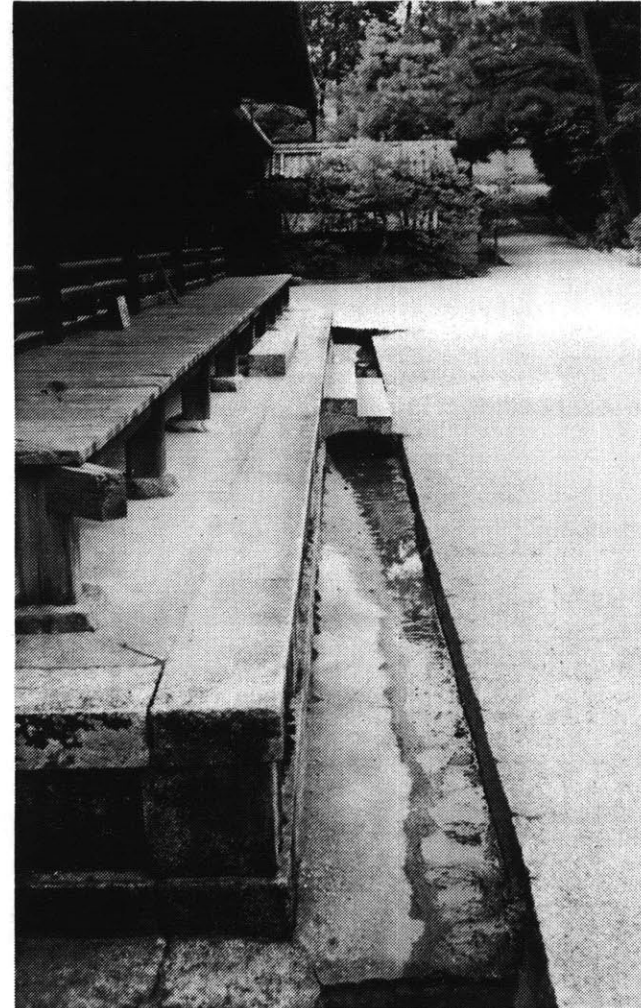


Figure 33.

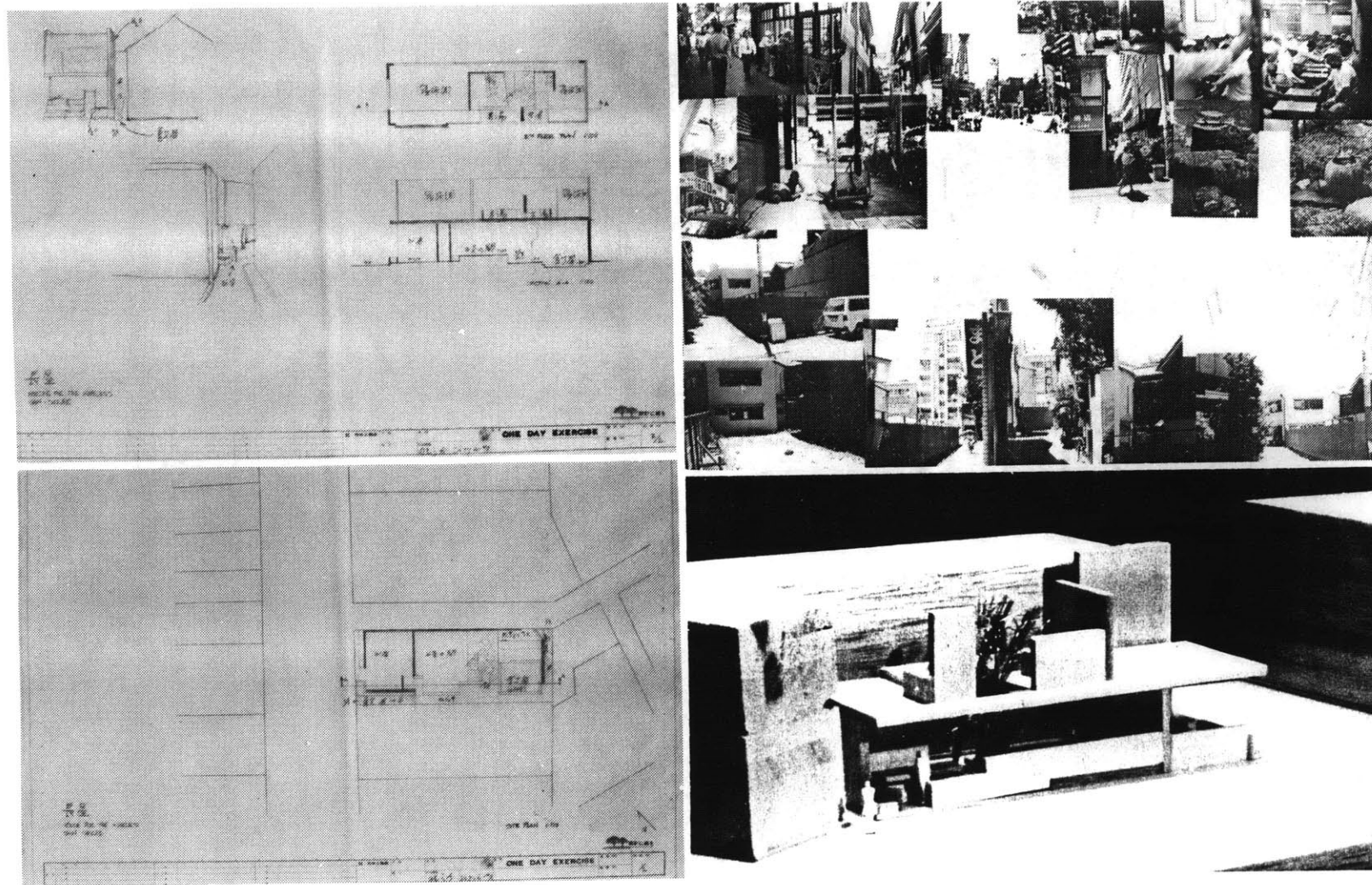
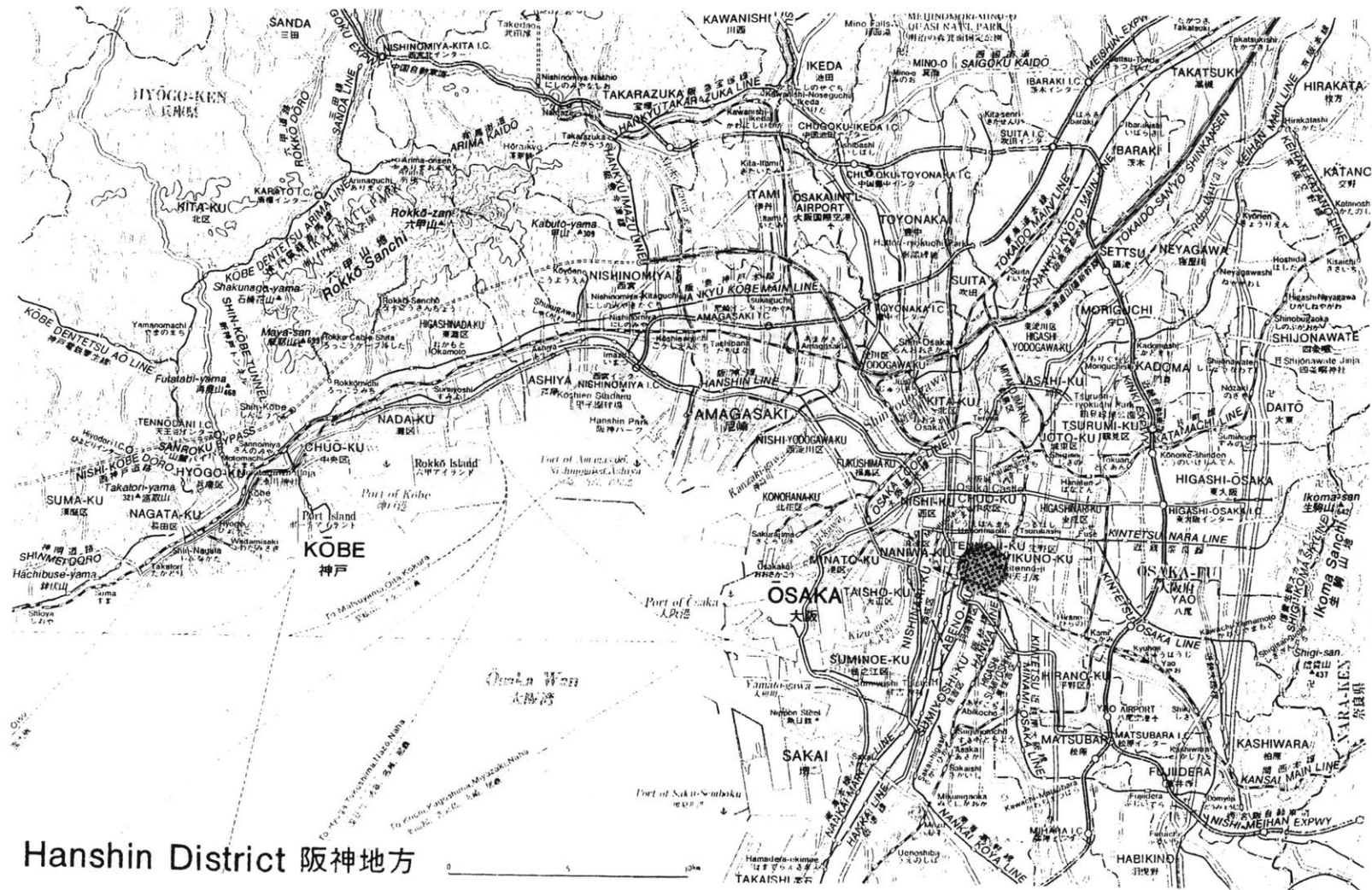


Figure 34. Presentation of original concept for one-day exercise at Takenaka Corporation, Osaka, Japan



Hanshin District 阪神地方

Figure. 35. Kobe-Osaka area map with site shown



Figure 37. Site model scaled by memory with site map

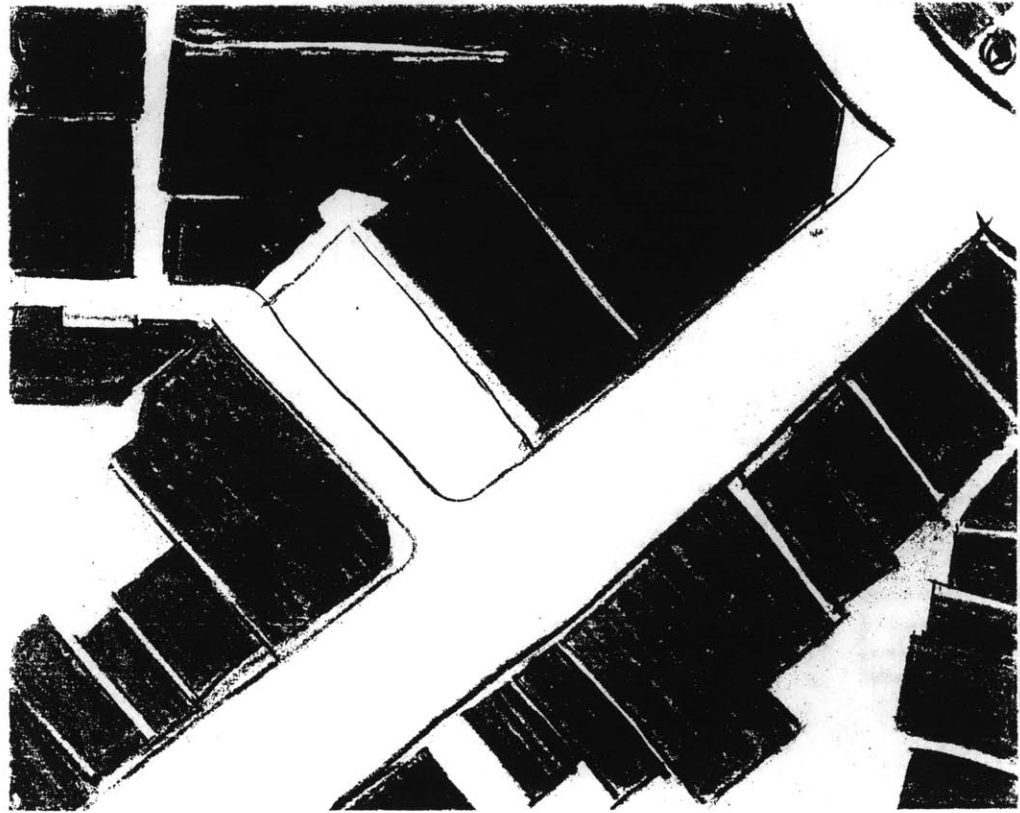


Figure 38. Figure-ground site plan

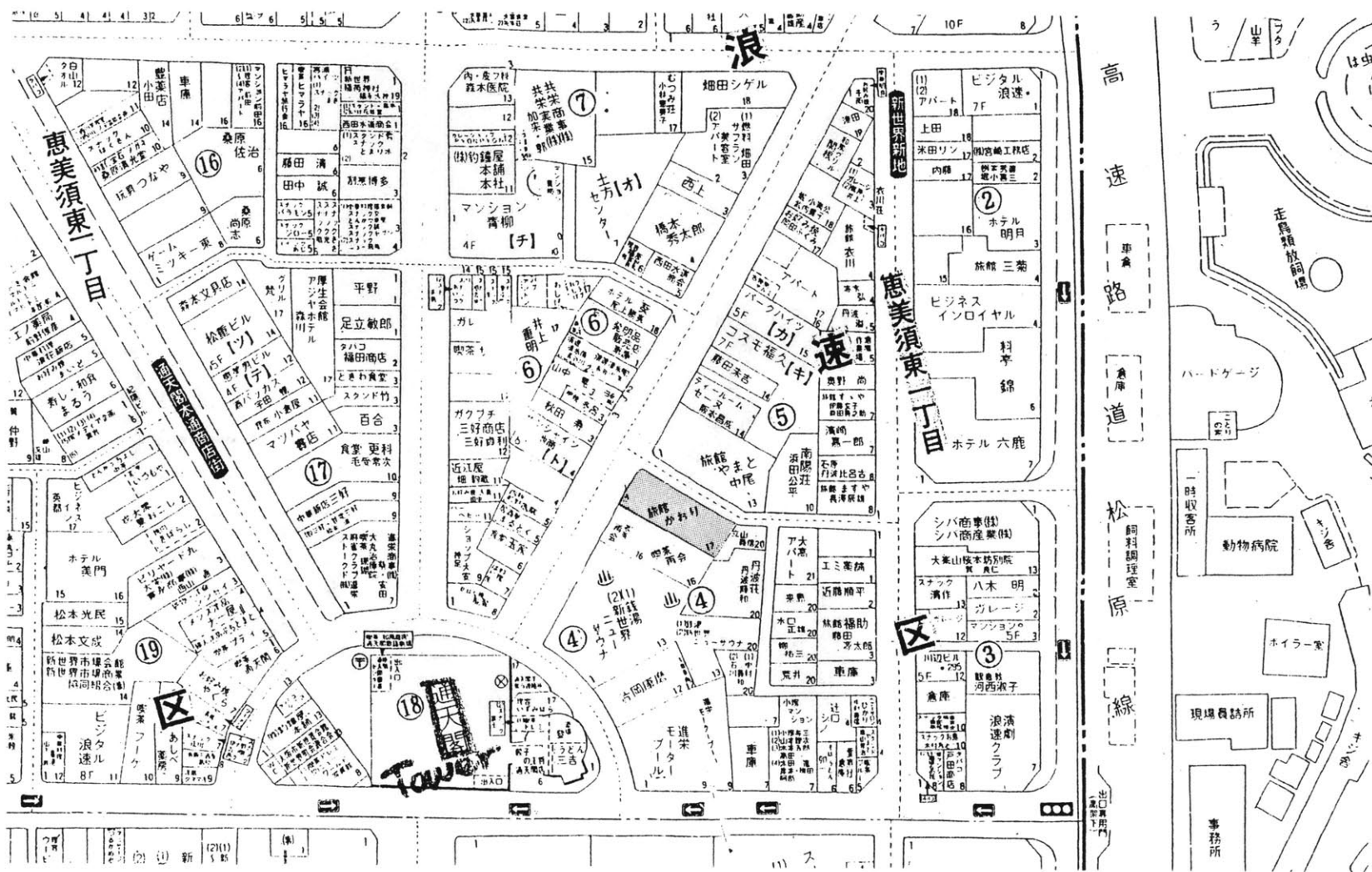


Figure 39. Site map
Scale: 1:1,200



Figure 40. Site photos

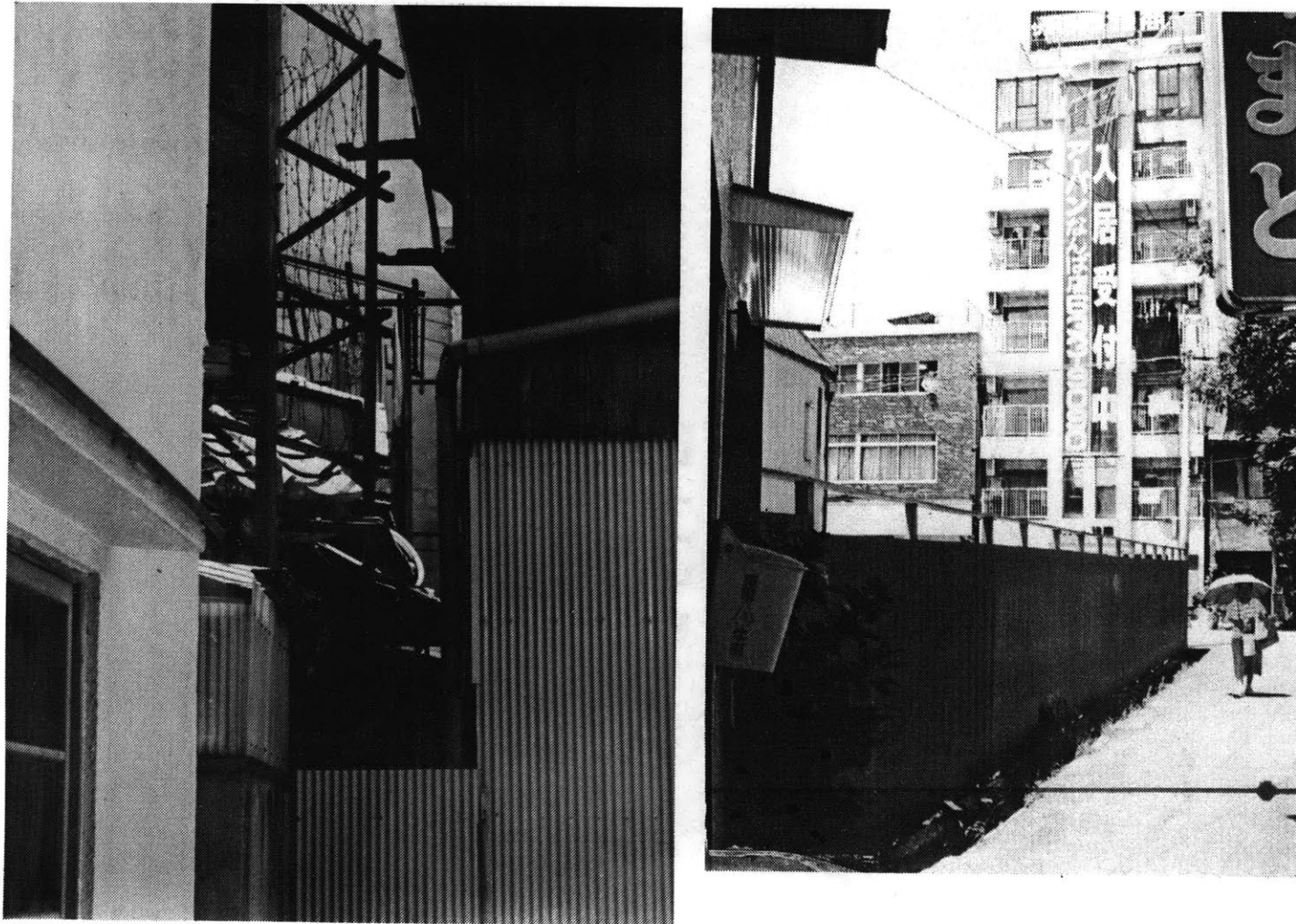
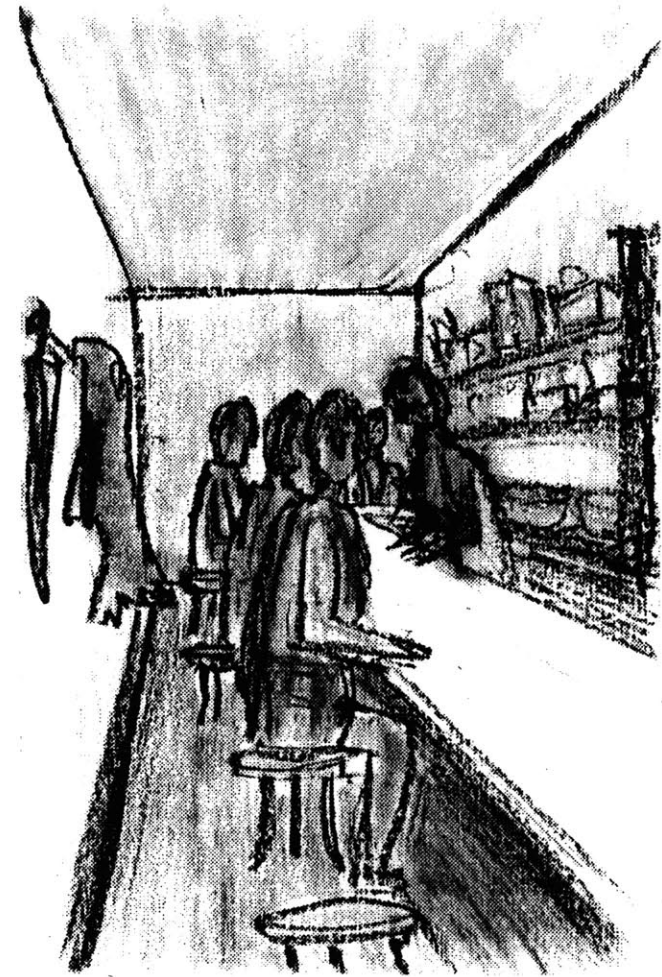


Figure 41. Site photos

“The Yohei was therefore quite packed with only the Makiokas, a man who looked to be a broker from the neighborhood, two or three of his employees, and beyond them two young women, no doubt geishas, chaperoned by an older geisha, and there was barely enough room for one person to pass behind the chairs. The door was constantly opening.”¹



1. Tanizaki, Junichiro, The Makioka Sisters , pg93.

Figure 42. Initial sketch of typical restaurant (*aka chochin*)

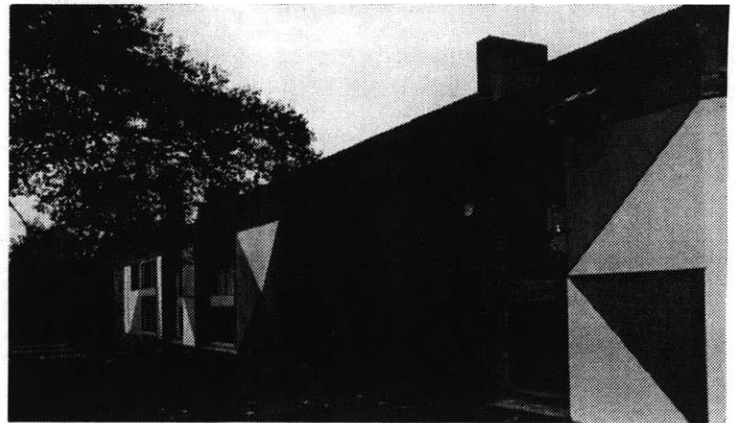
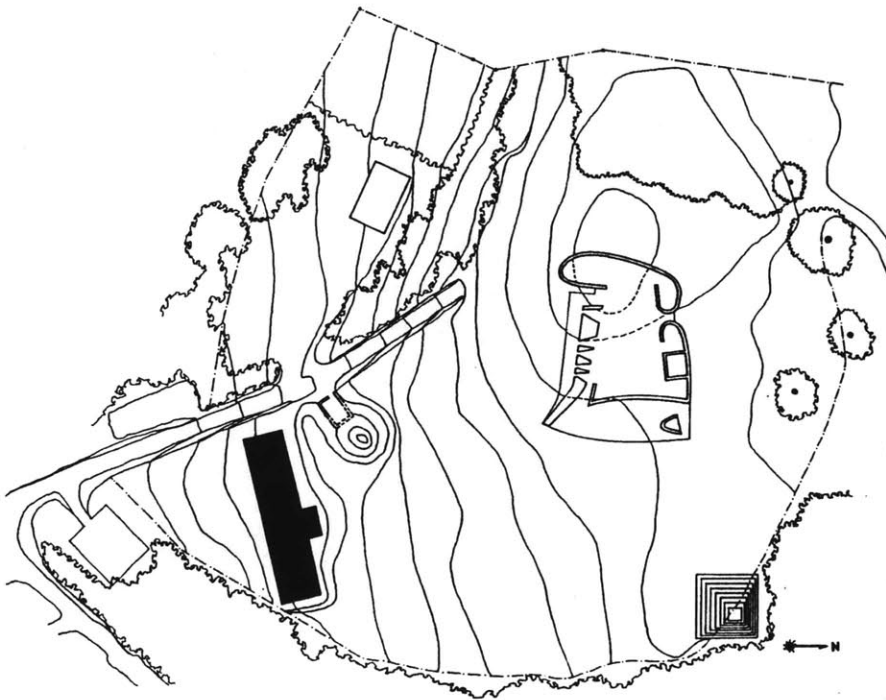
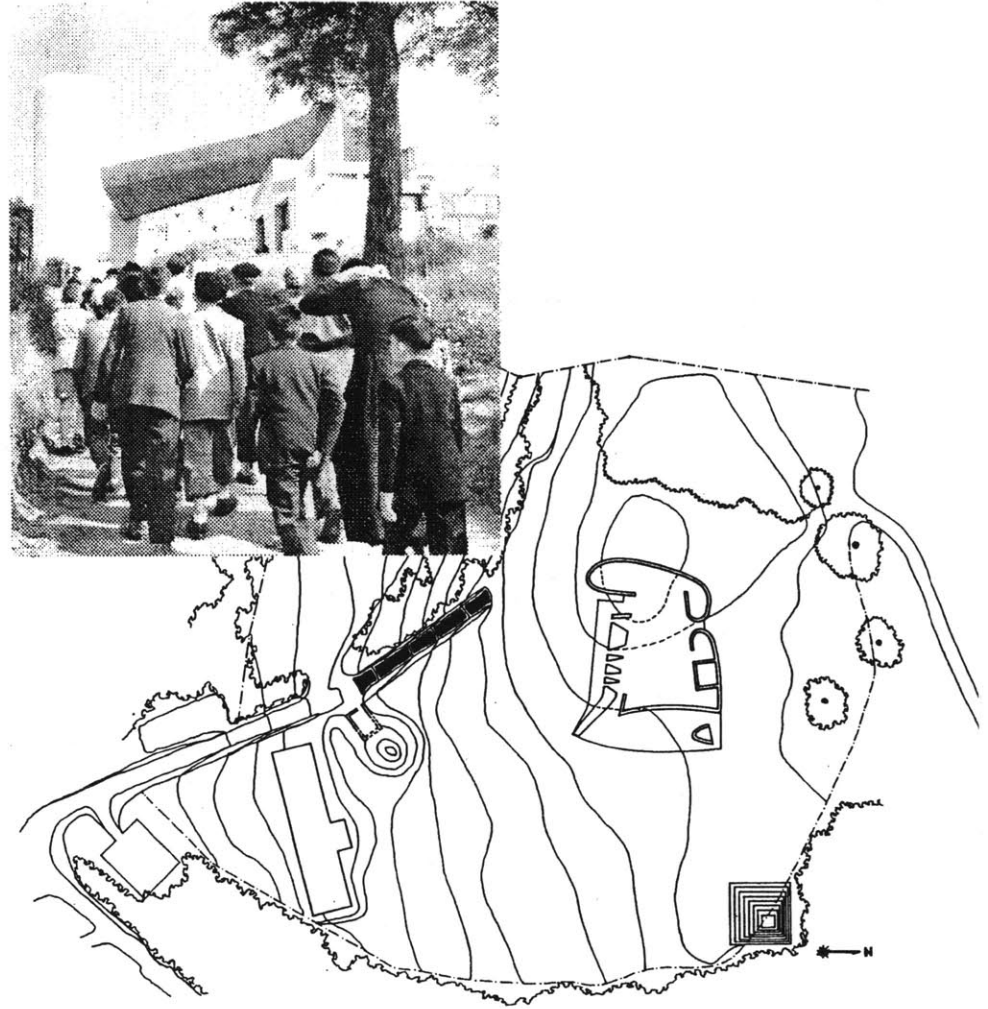


Figure 43. Study of Le Corbusier's *Le Chapel de Ronchamp*



Figures 44. Study of Le Corbusier's *Le Chapel de Ronchamp*

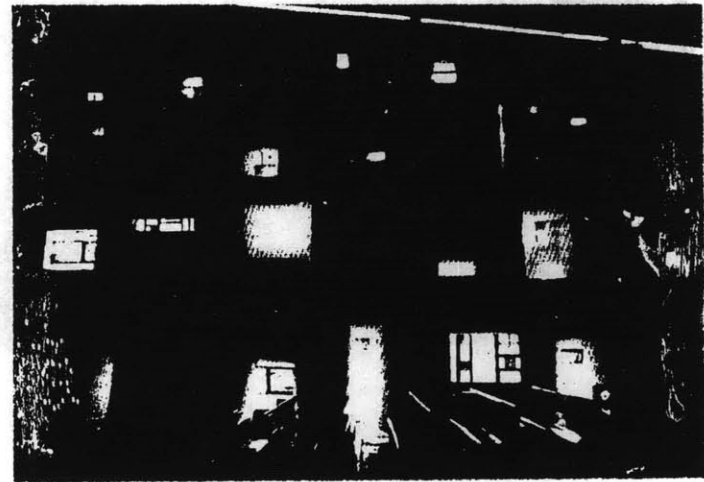
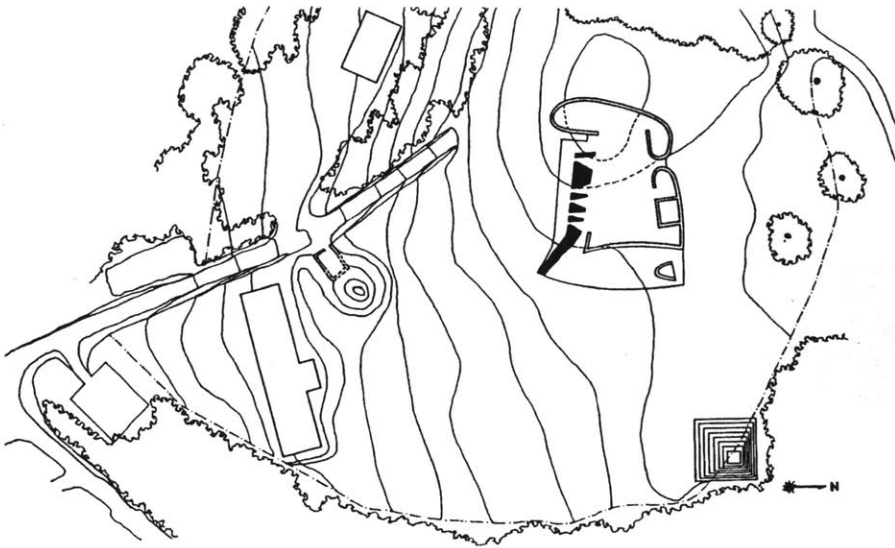
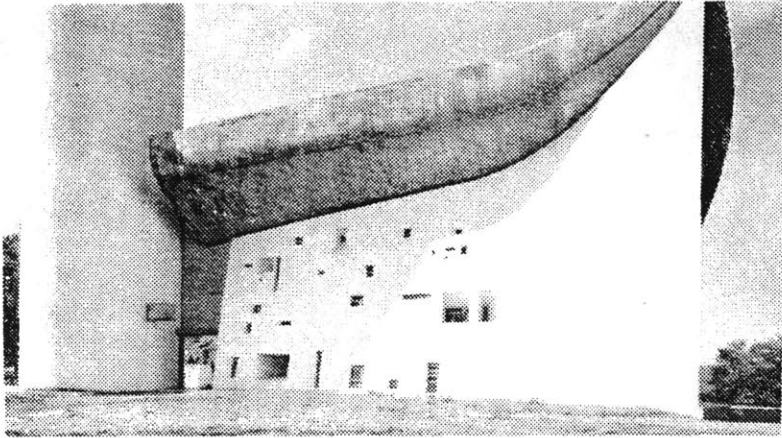


Figure 45. Study of Le Corbusier's *Le Chapel de Ronchamp*

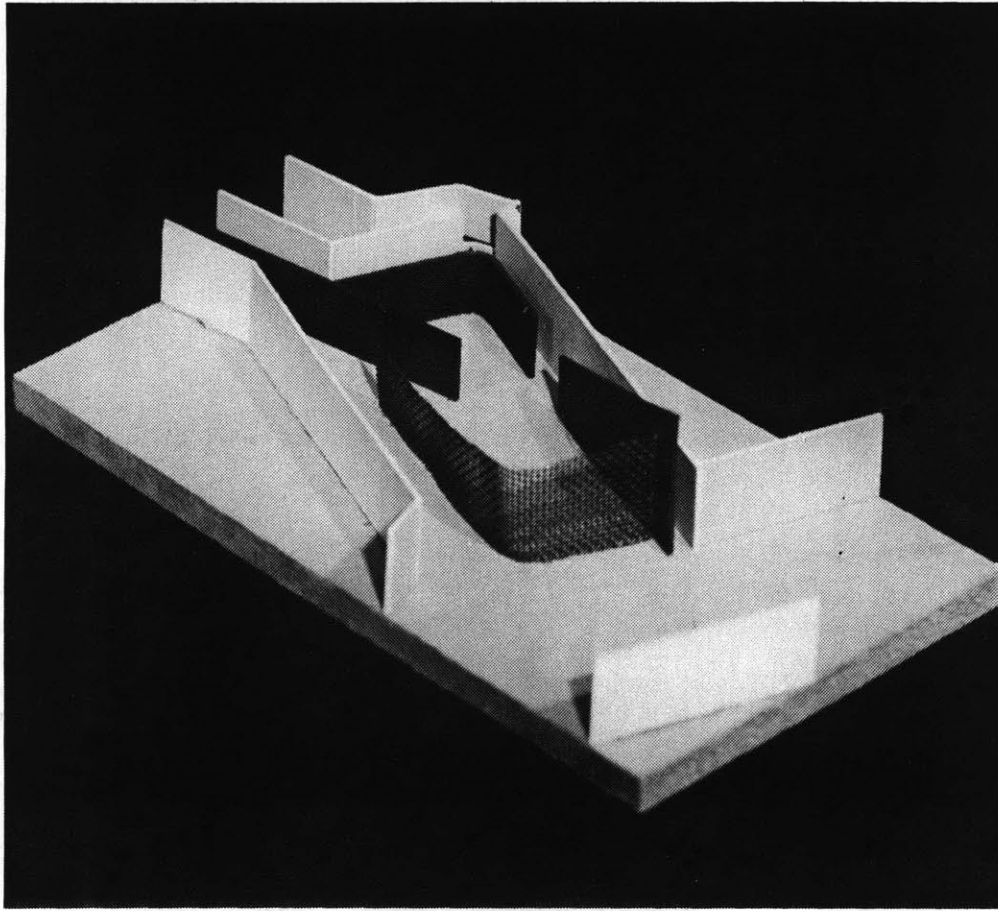


Figure 46. First model in a series of five

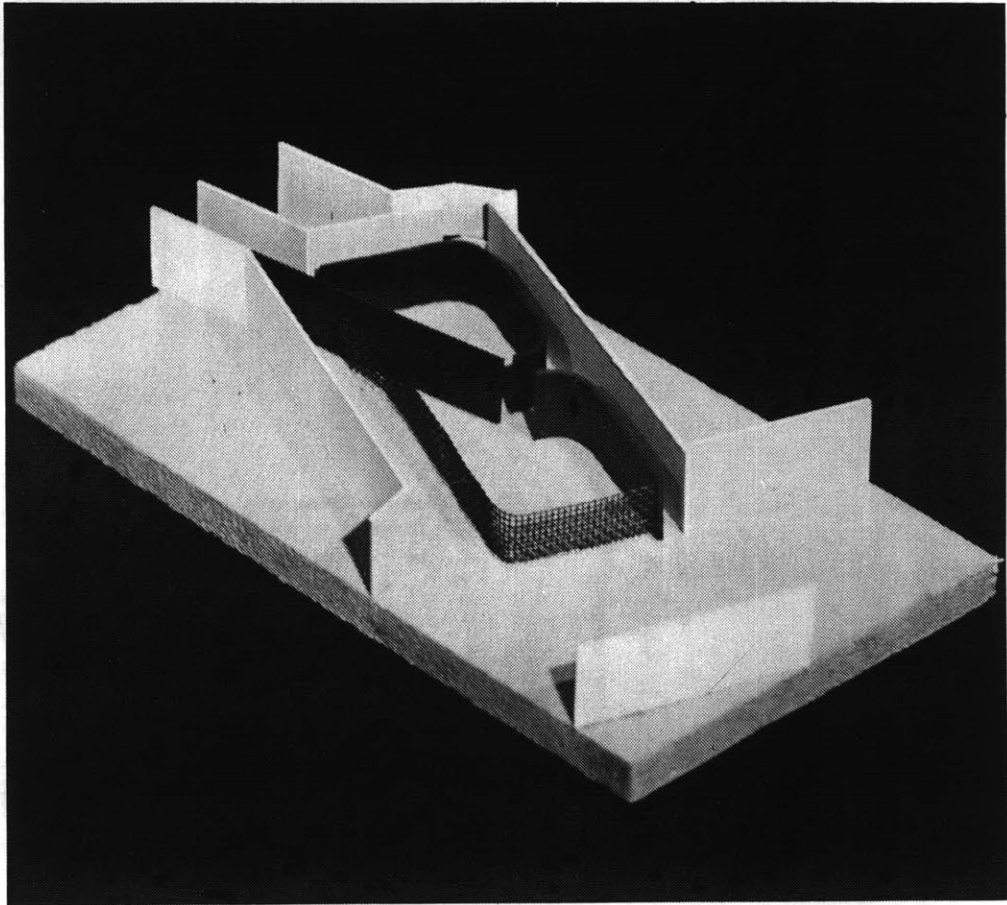


Figure 47. Second model in series

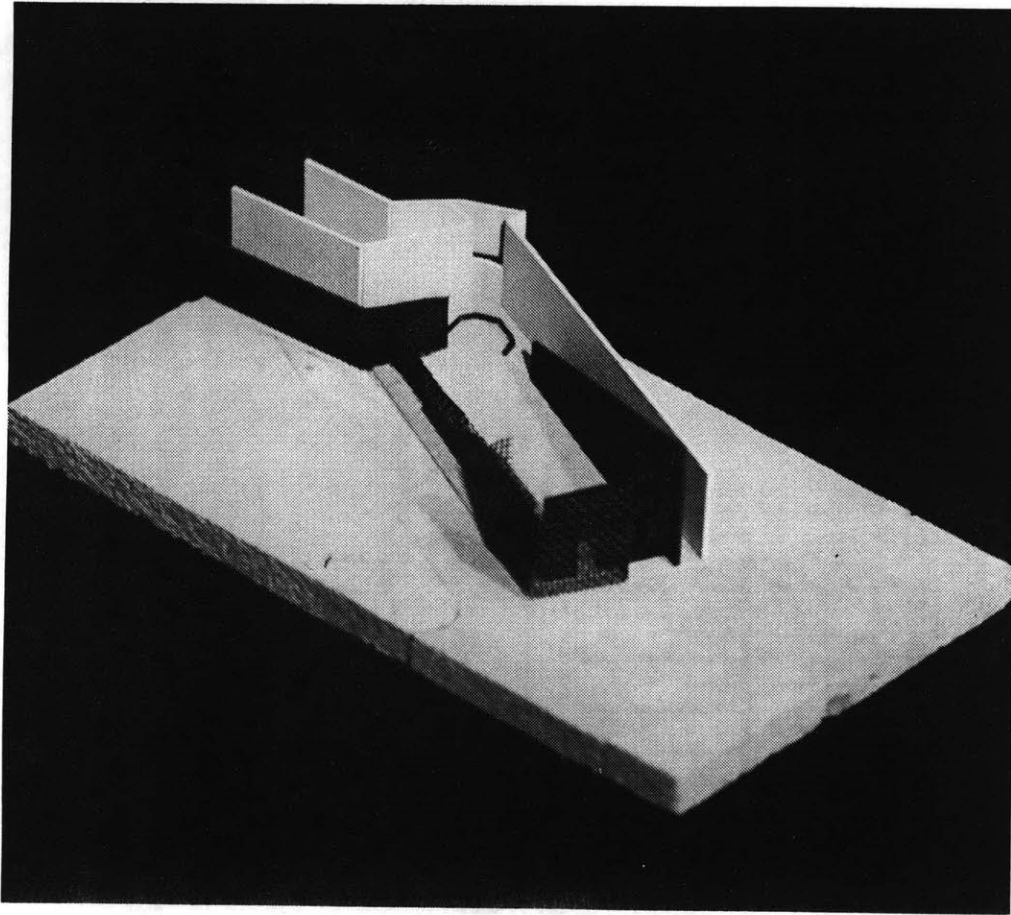


Figure 48. Third model in series

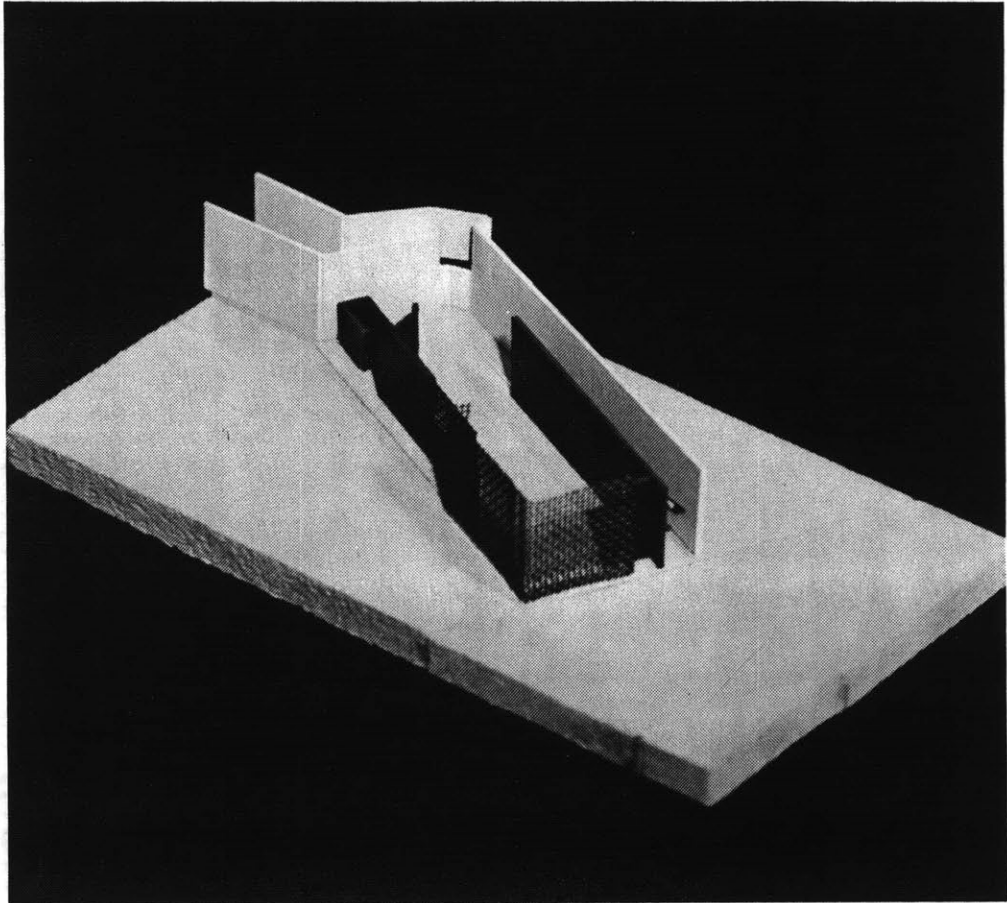


Figure 49. Fourth model in series

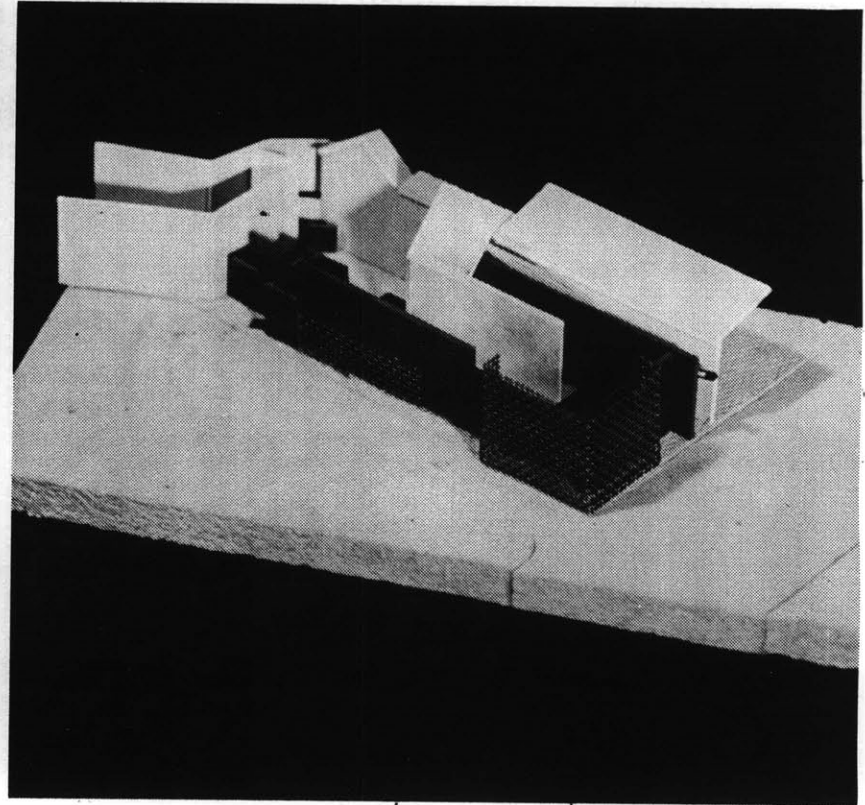
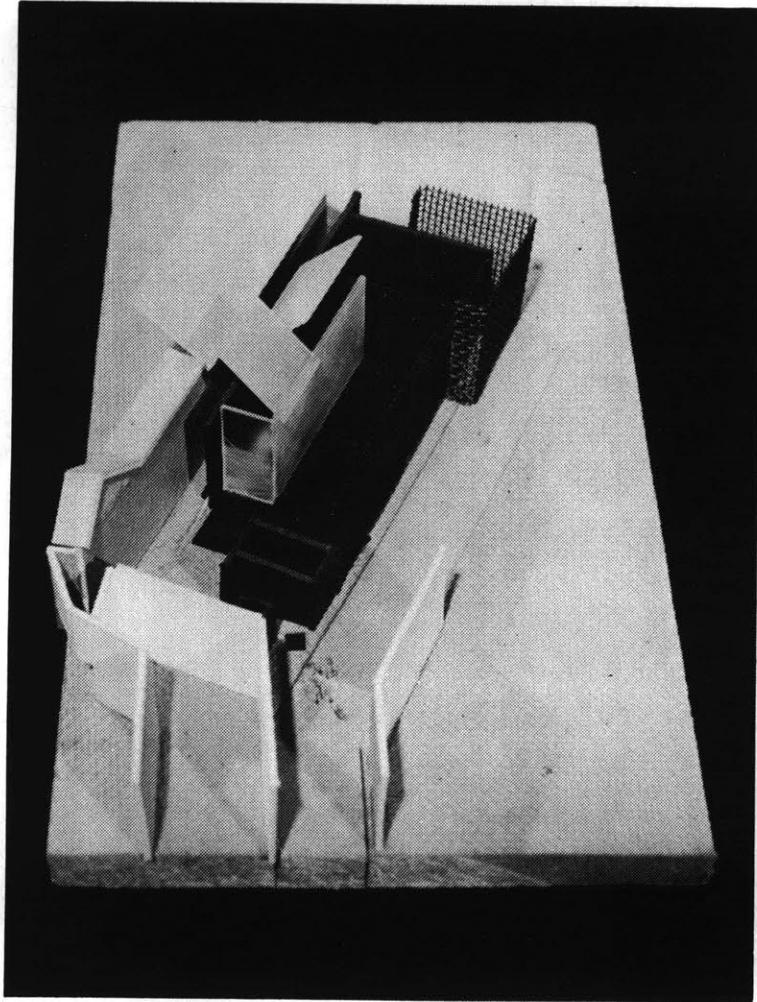


Figure 50. Final model in series

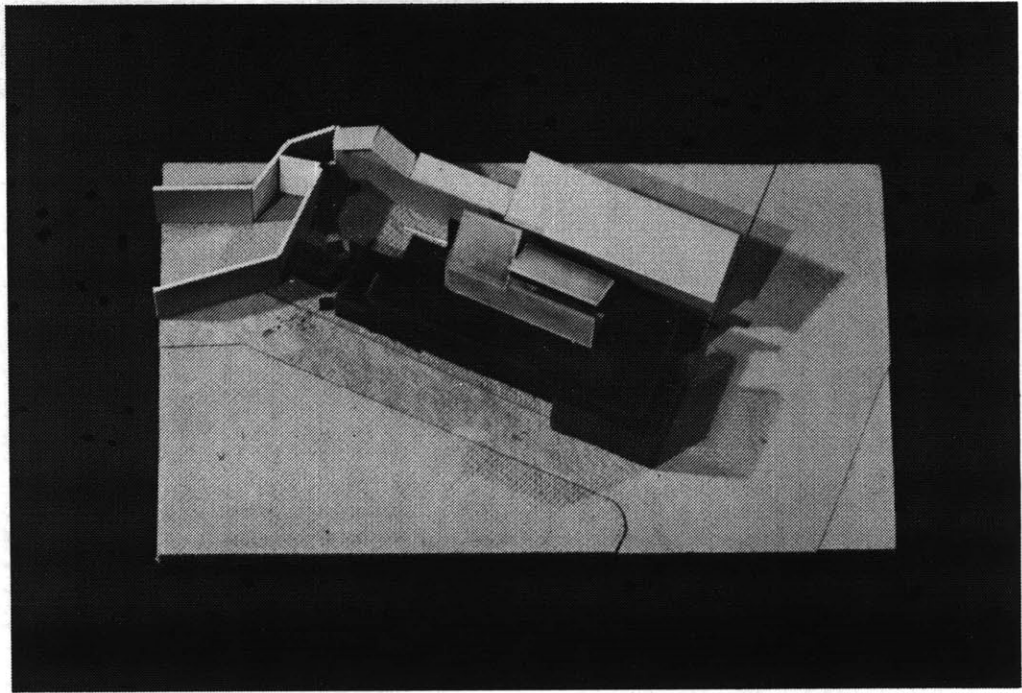


Figure 51. Final model in series

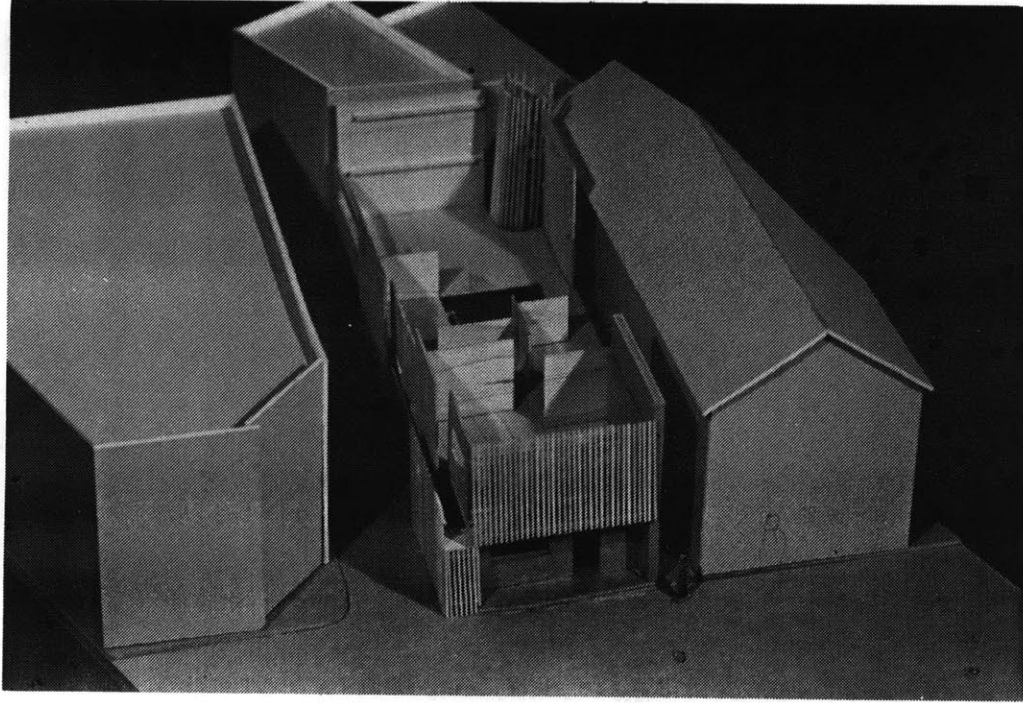


Figure 52. Model
Scale 1:100

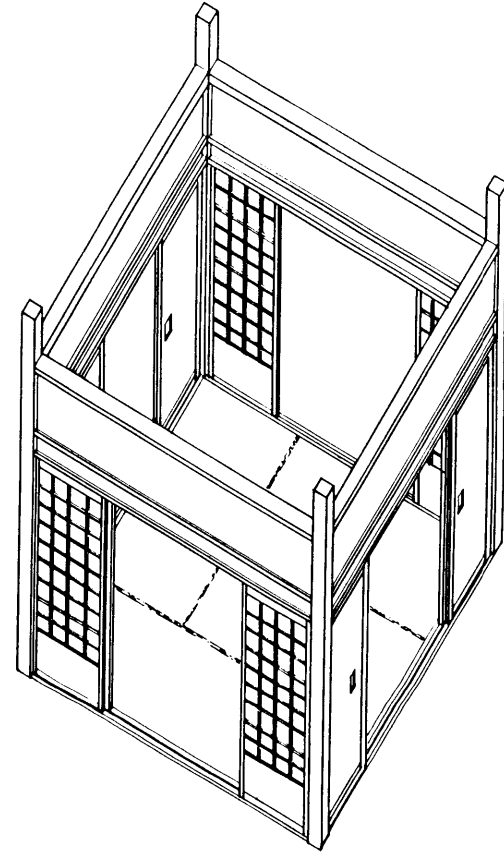


Figure 53. Study of traditional Japanese room showing shoji-*fusuma* relationship

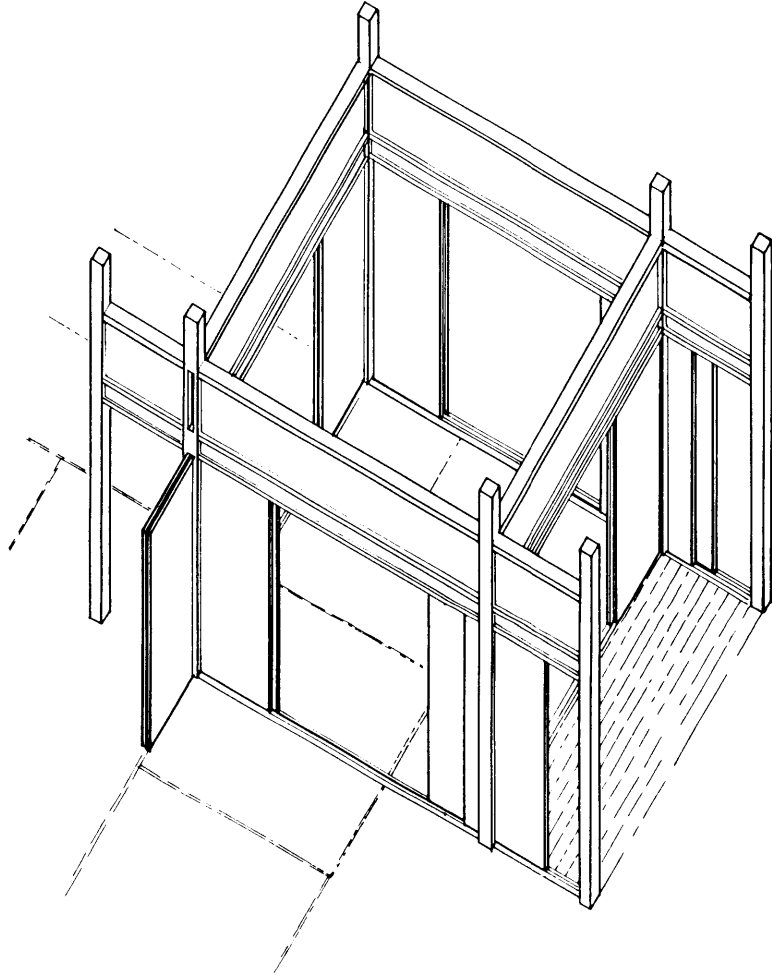


Figure 54. Modification of traditional *shoji-fusuma* arrangement which allows for movement of doors between columns, thus affecting other spaces

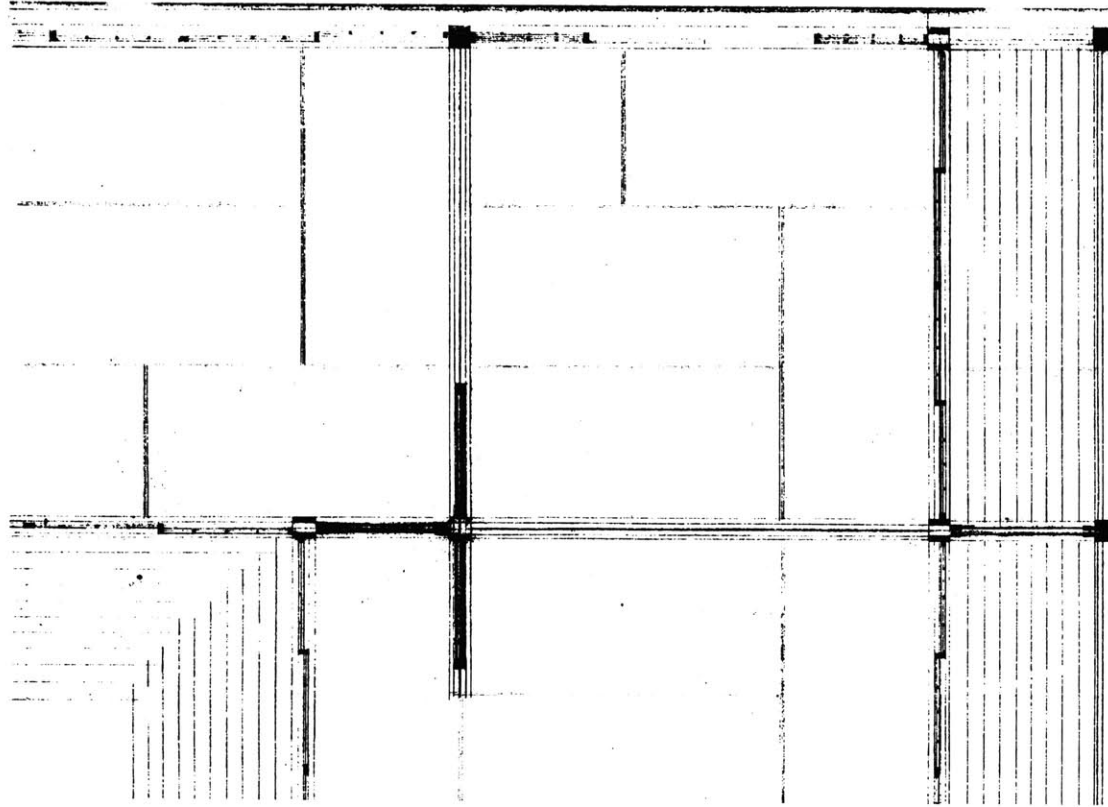


Figure 55. Plan for transformation

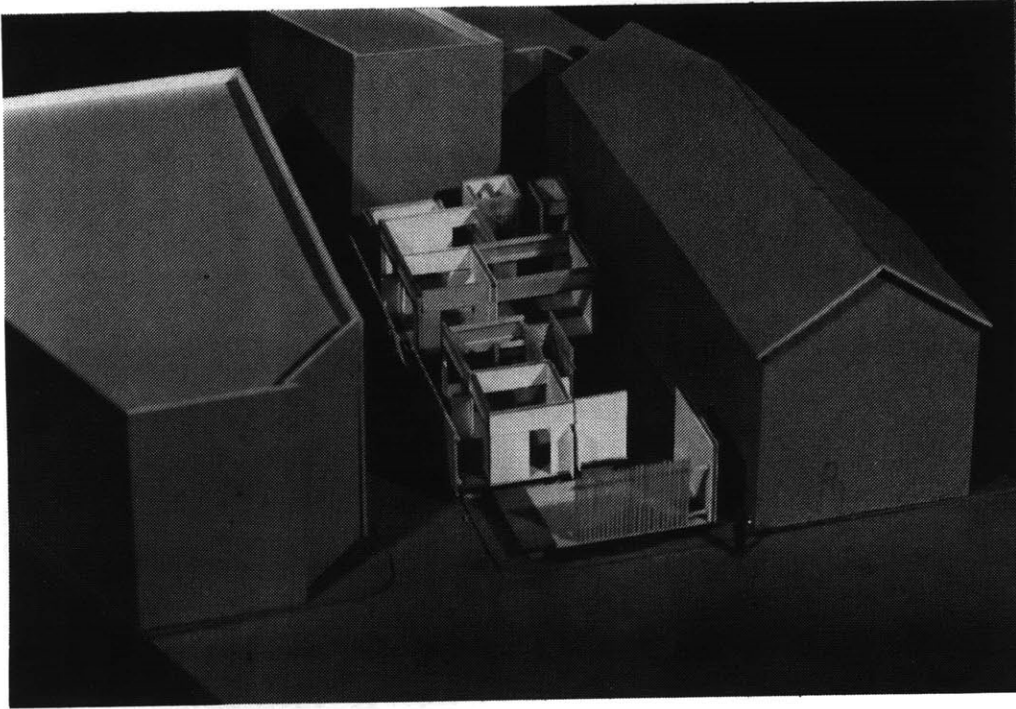


Figure 56. Traditional Japanese design method
Study on site

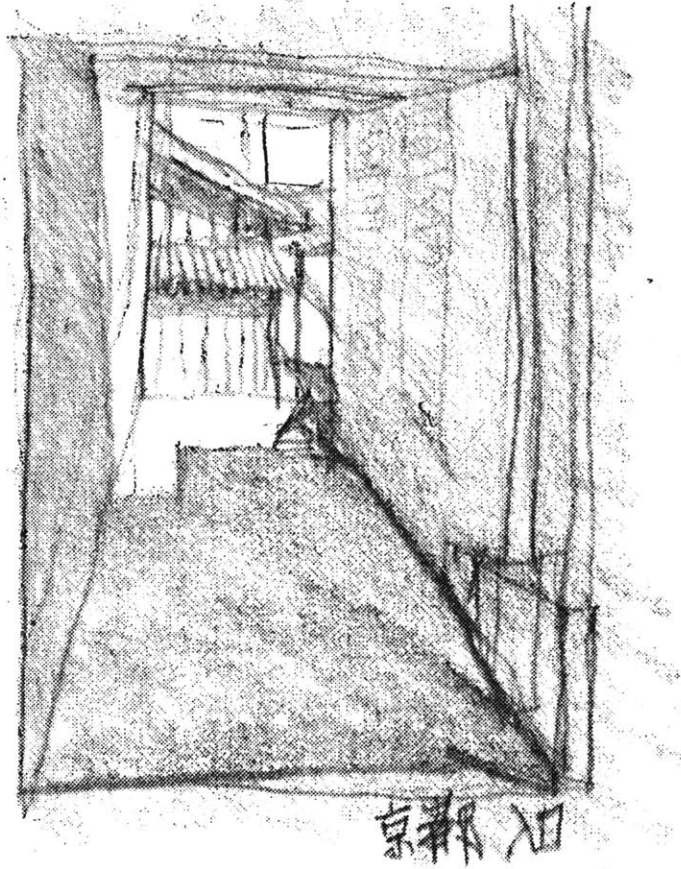


Figure 57a. Sketch of Kyoto entrance

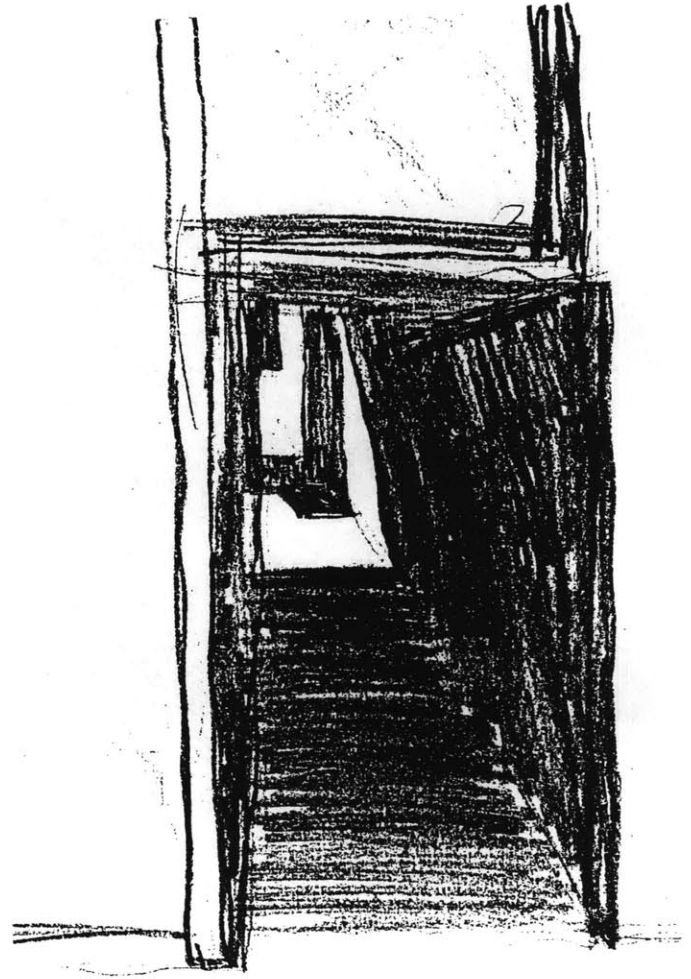


Figure 57b. Study of experience at entry

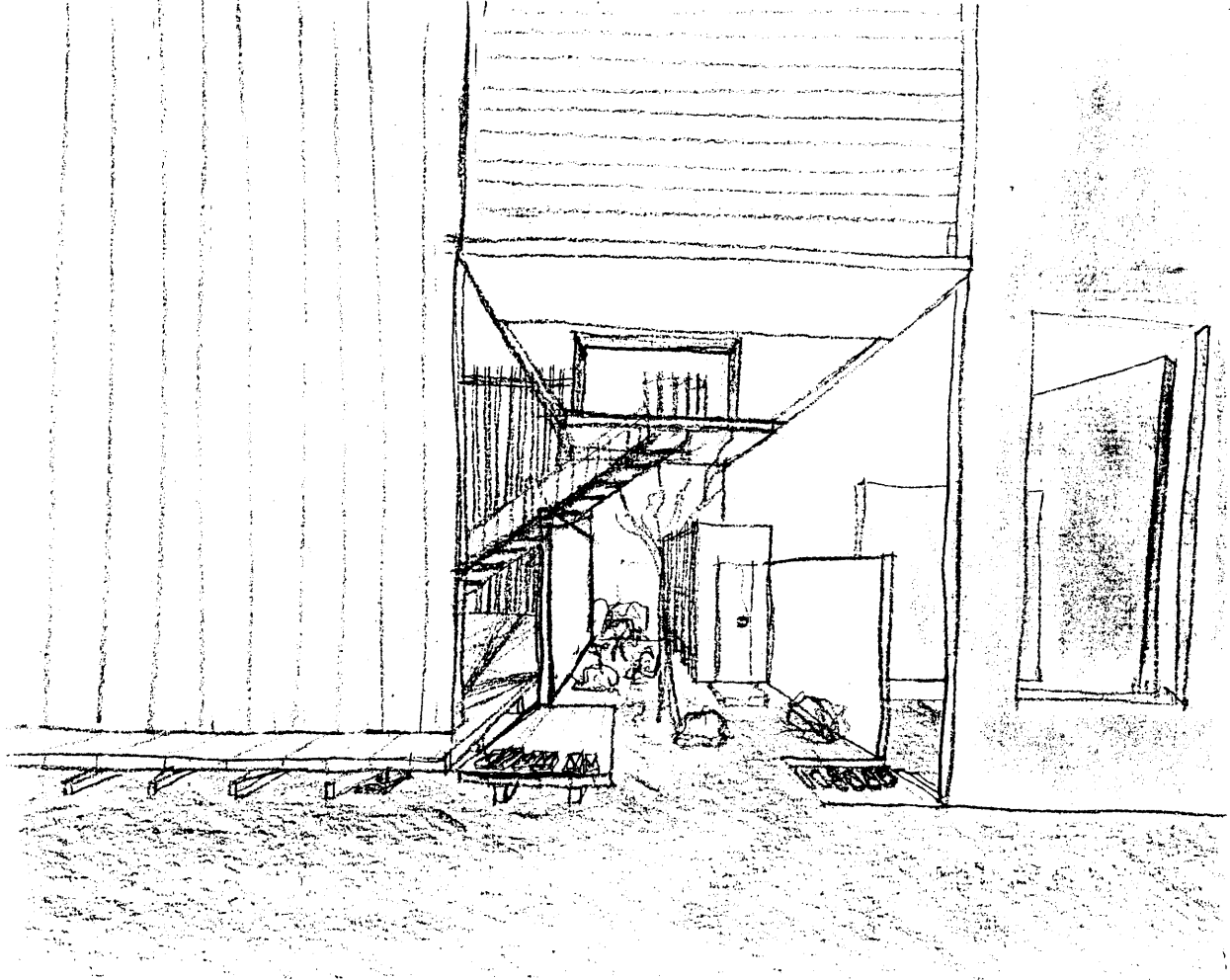


Figure 58. Developmental sketch at garden

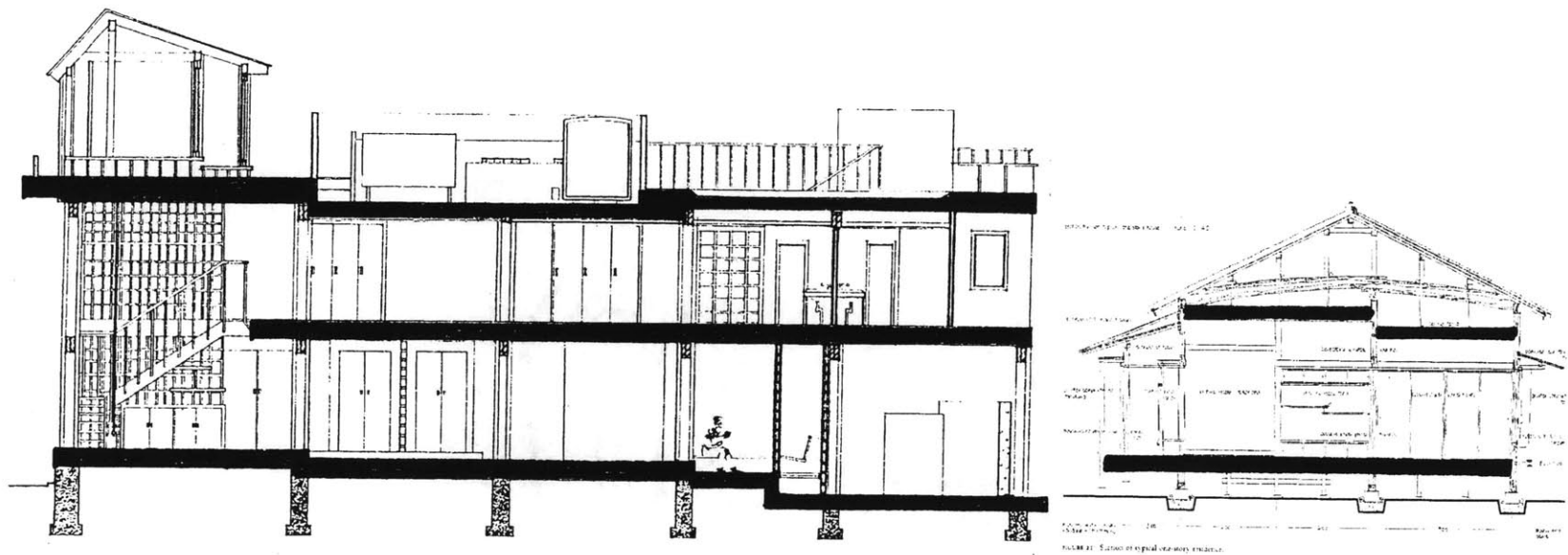


Figure 59. Sectional relationships

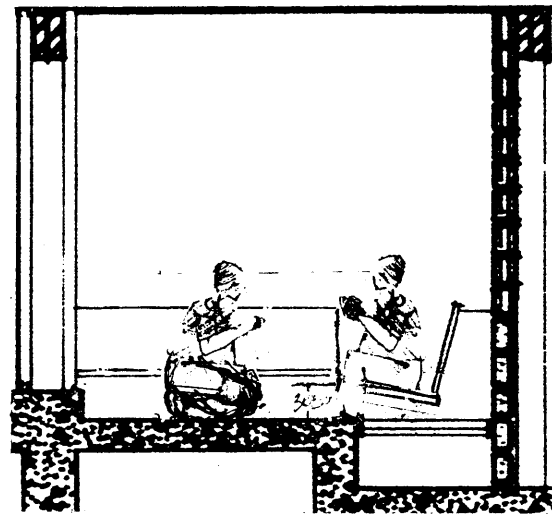
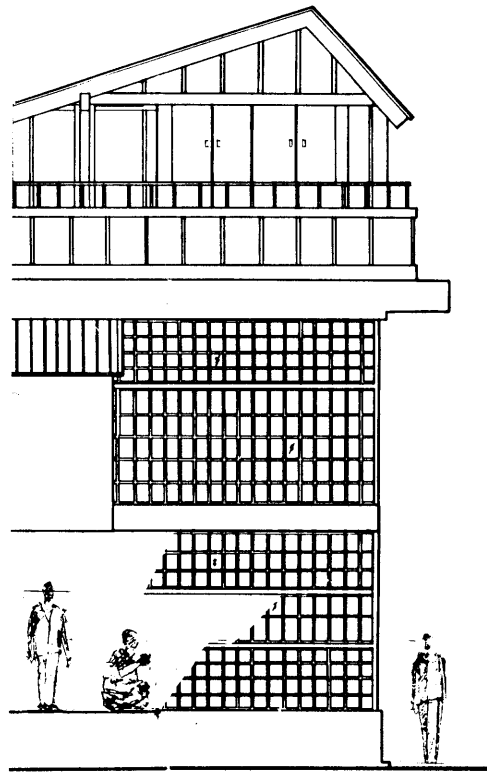


Figure 60. Relationships at human scale

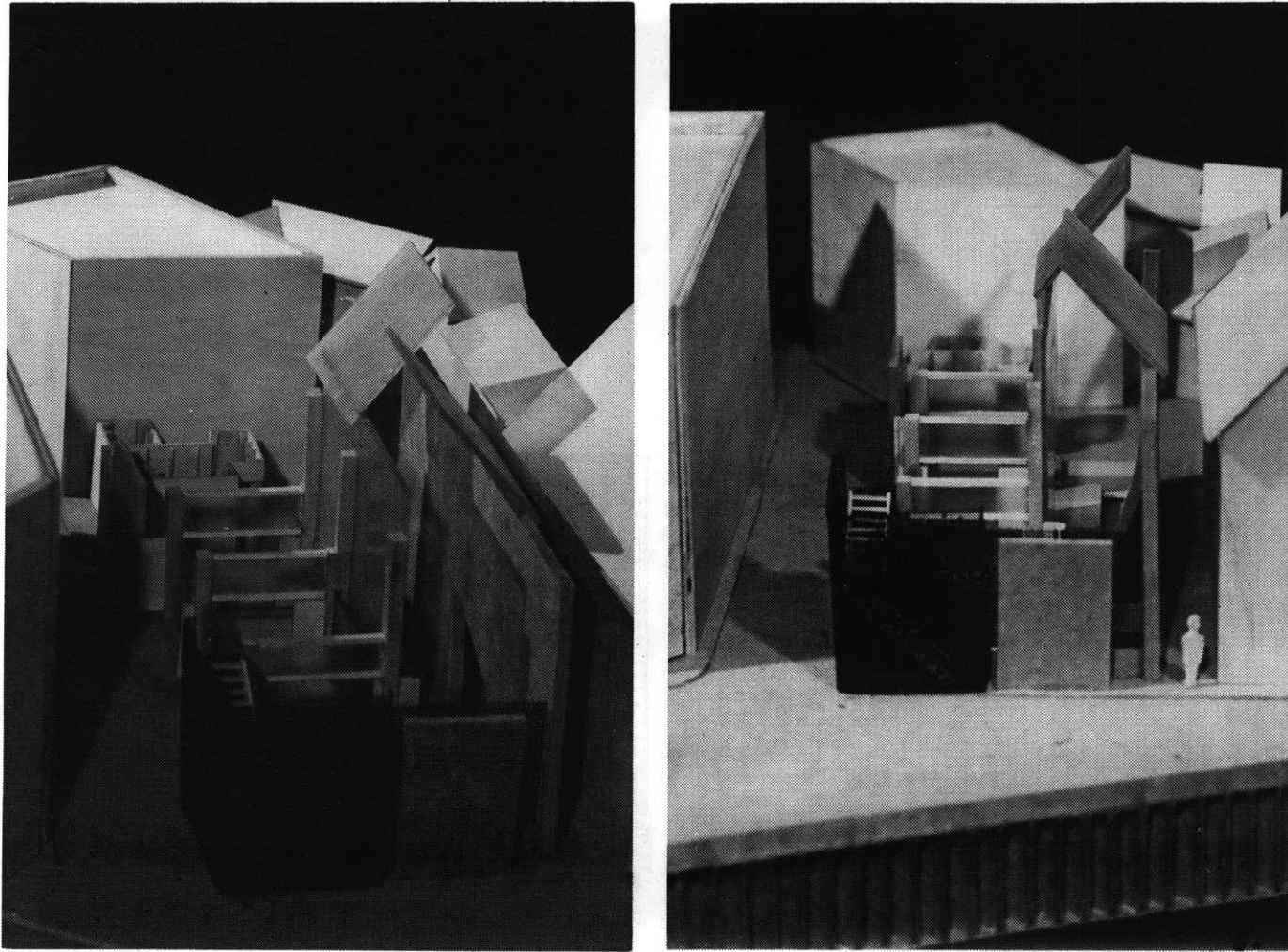


Figure 61. Final study model

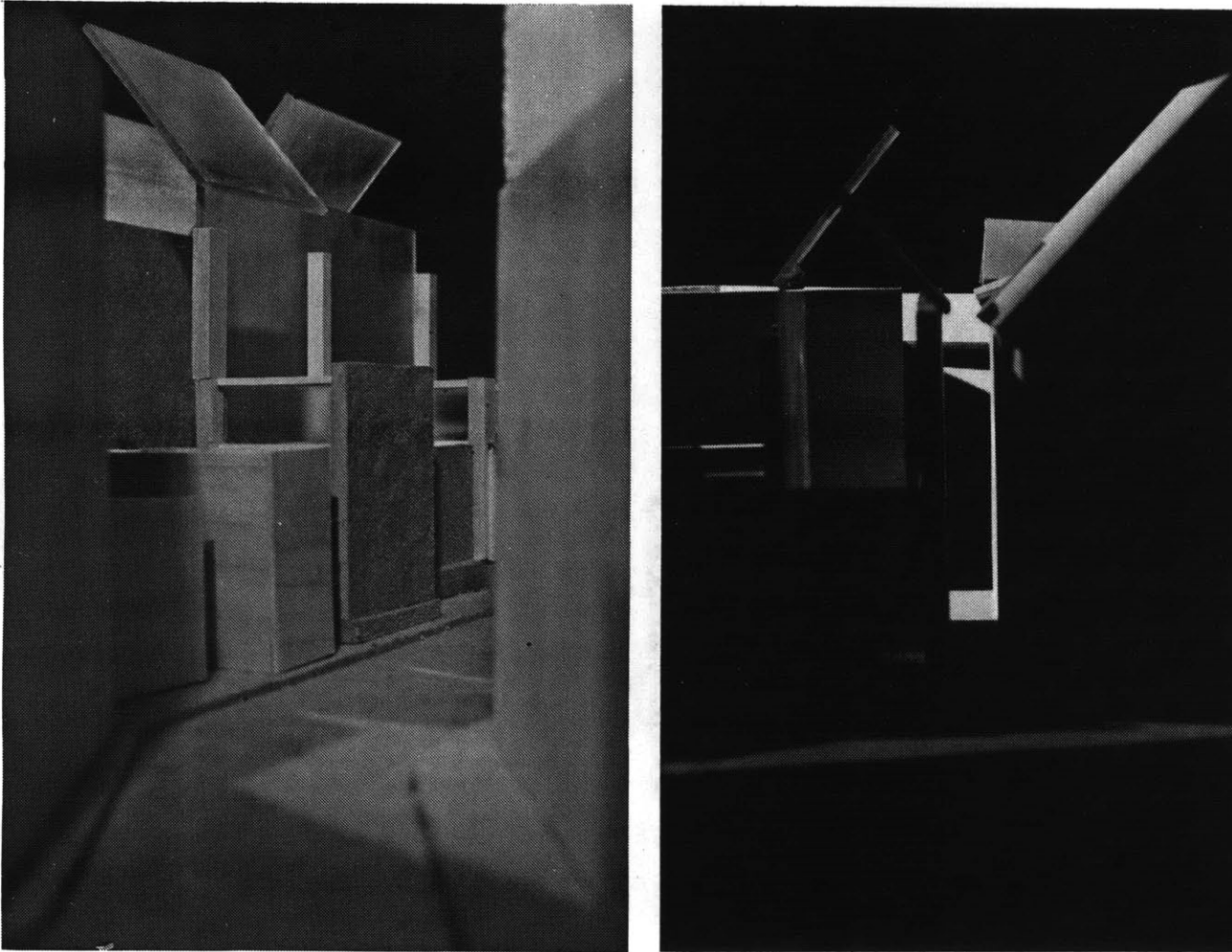


Figure 62. Final study model

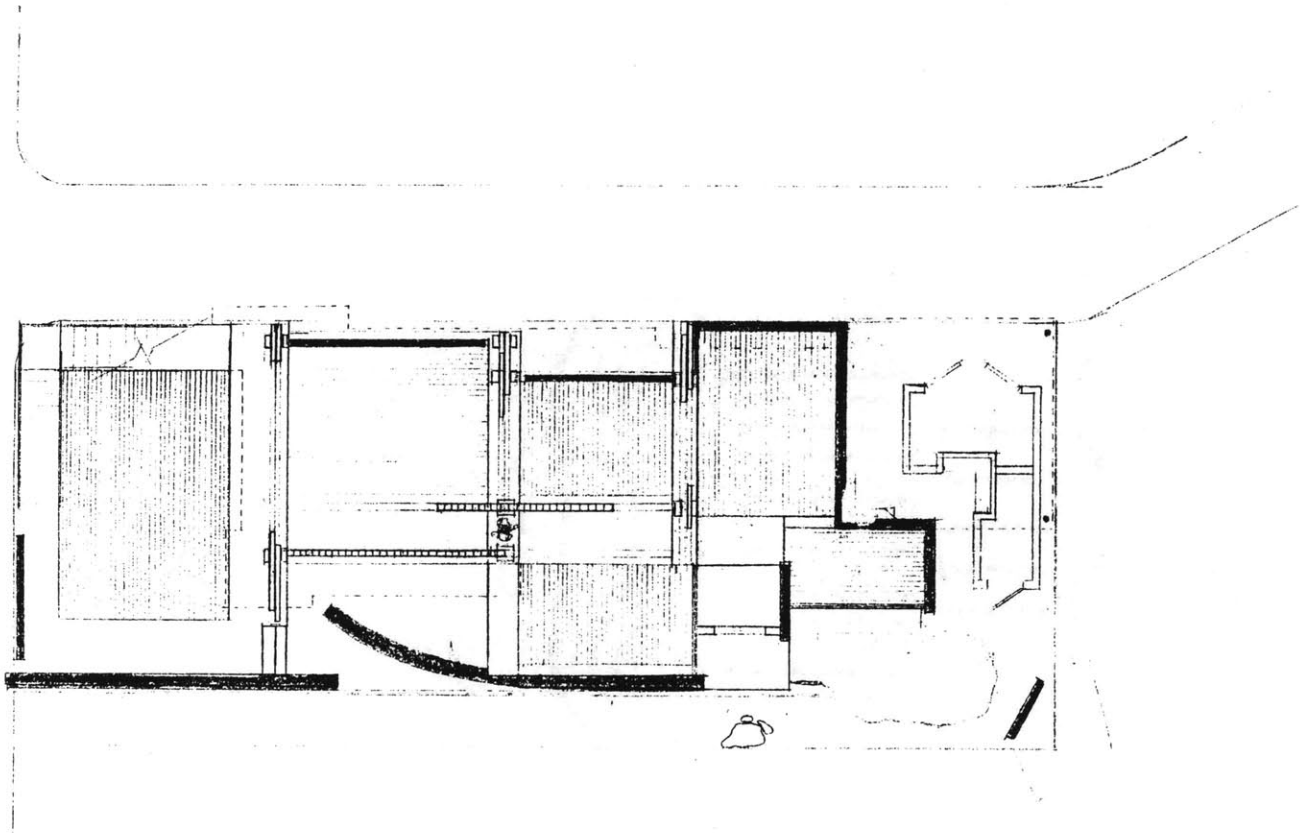


Figure 63. Study of first floor plan

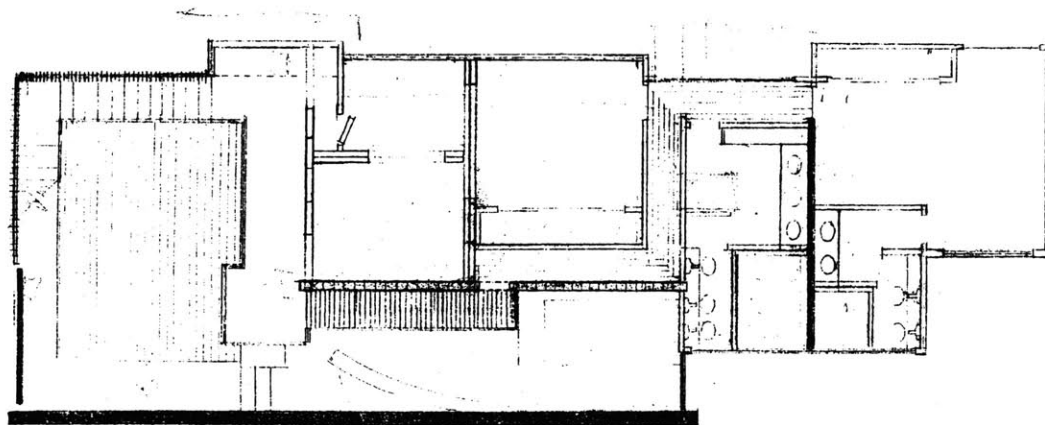


Figure 64. Study of second floor plan

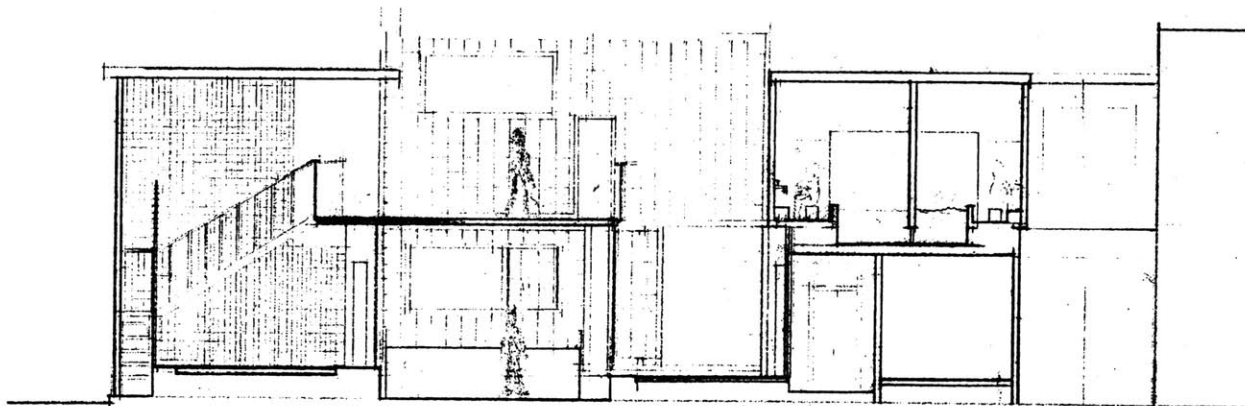


Figure 65. Sectional study

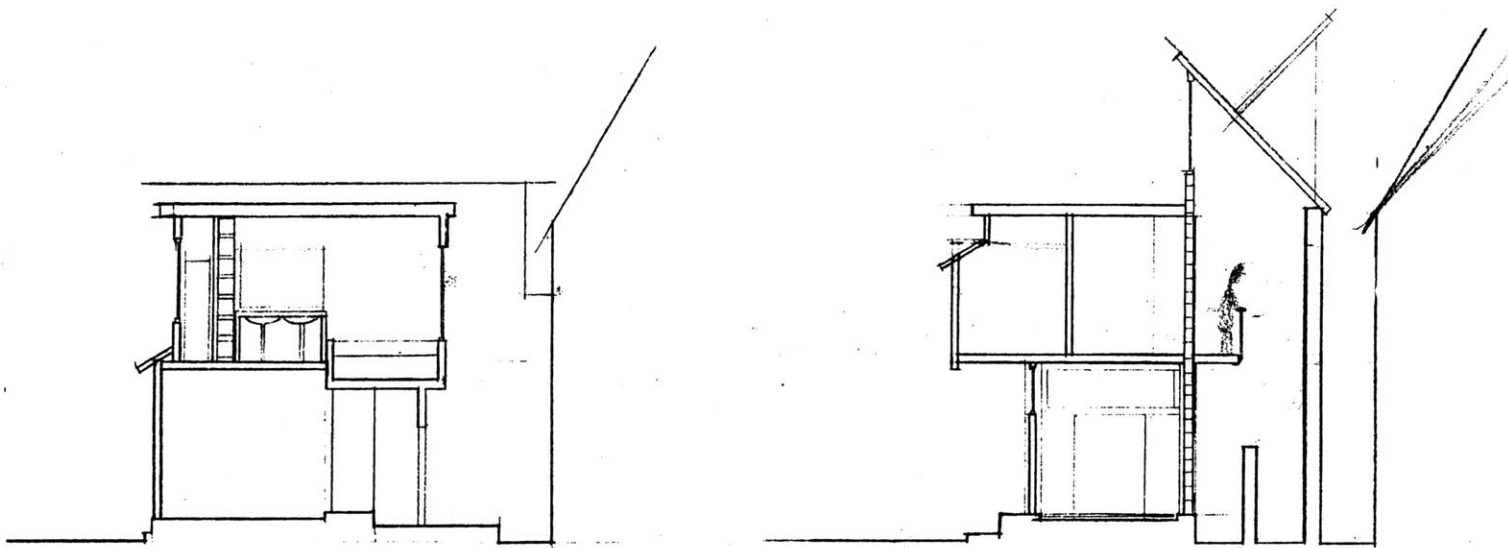


Figure 66. Sectional studies

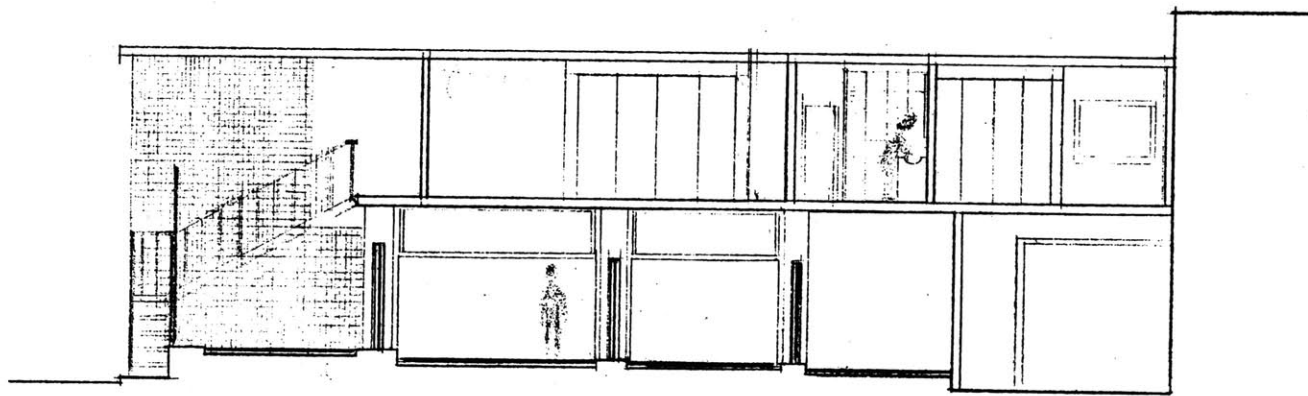


Figure 67. Sectional study

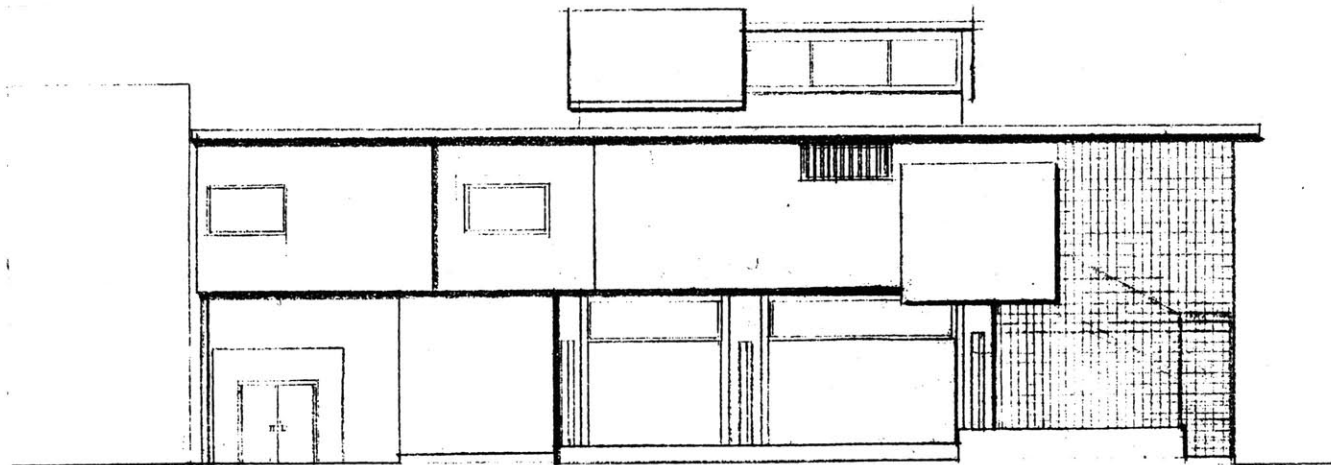
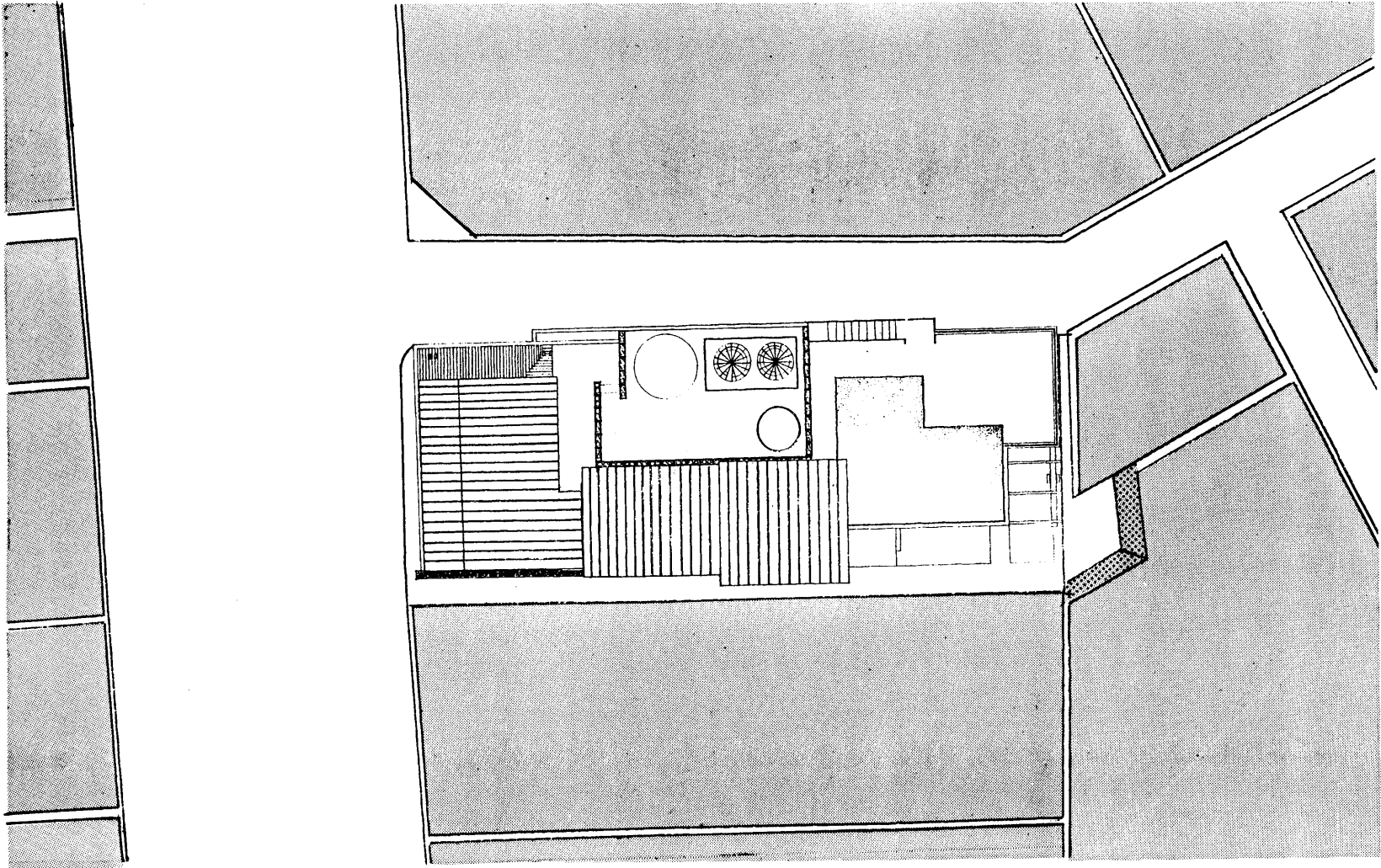


Figure 68. Elevation study



Final Drawings

Figure 69. Site Plan
Scale 1:300

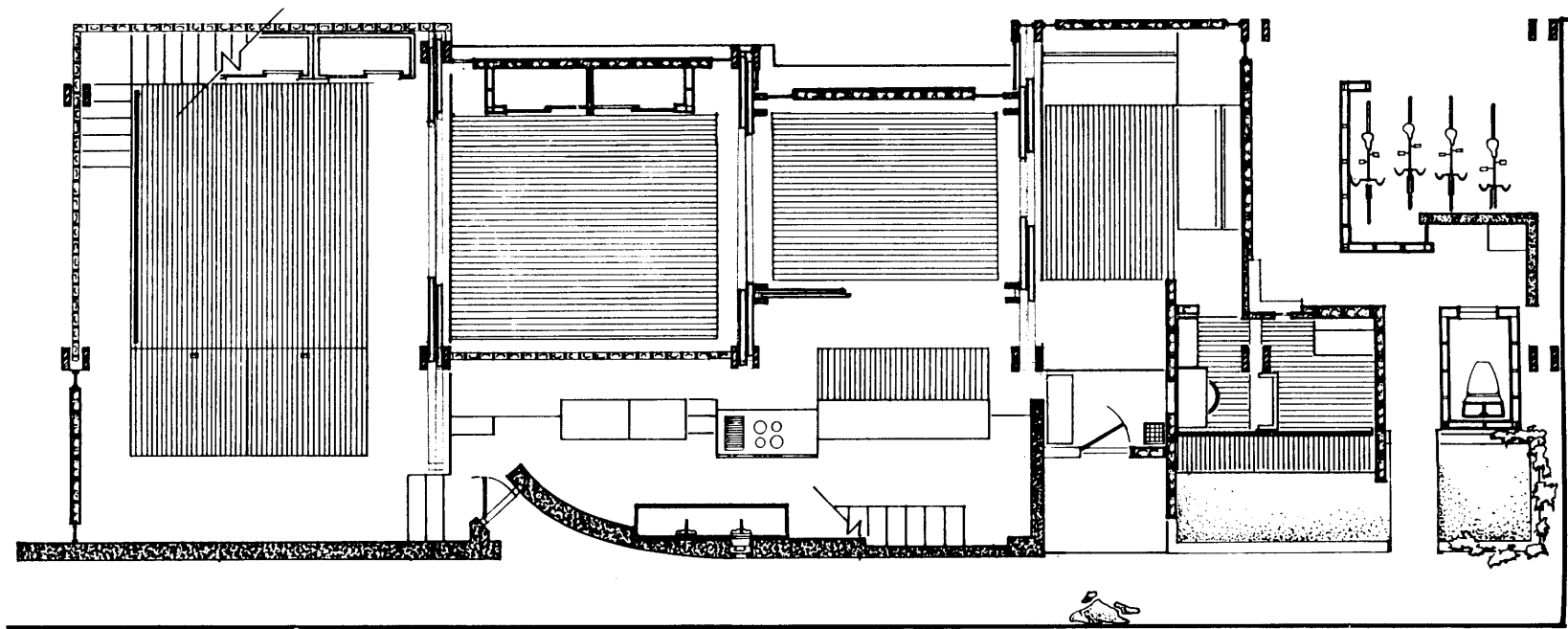
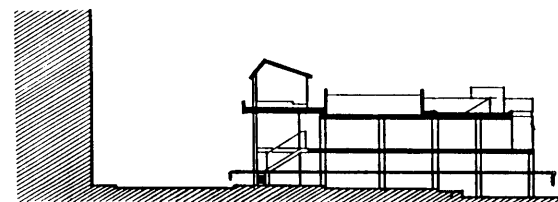


Figure 70. First floor plan
Scale 1:100



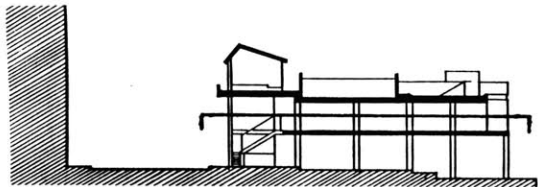
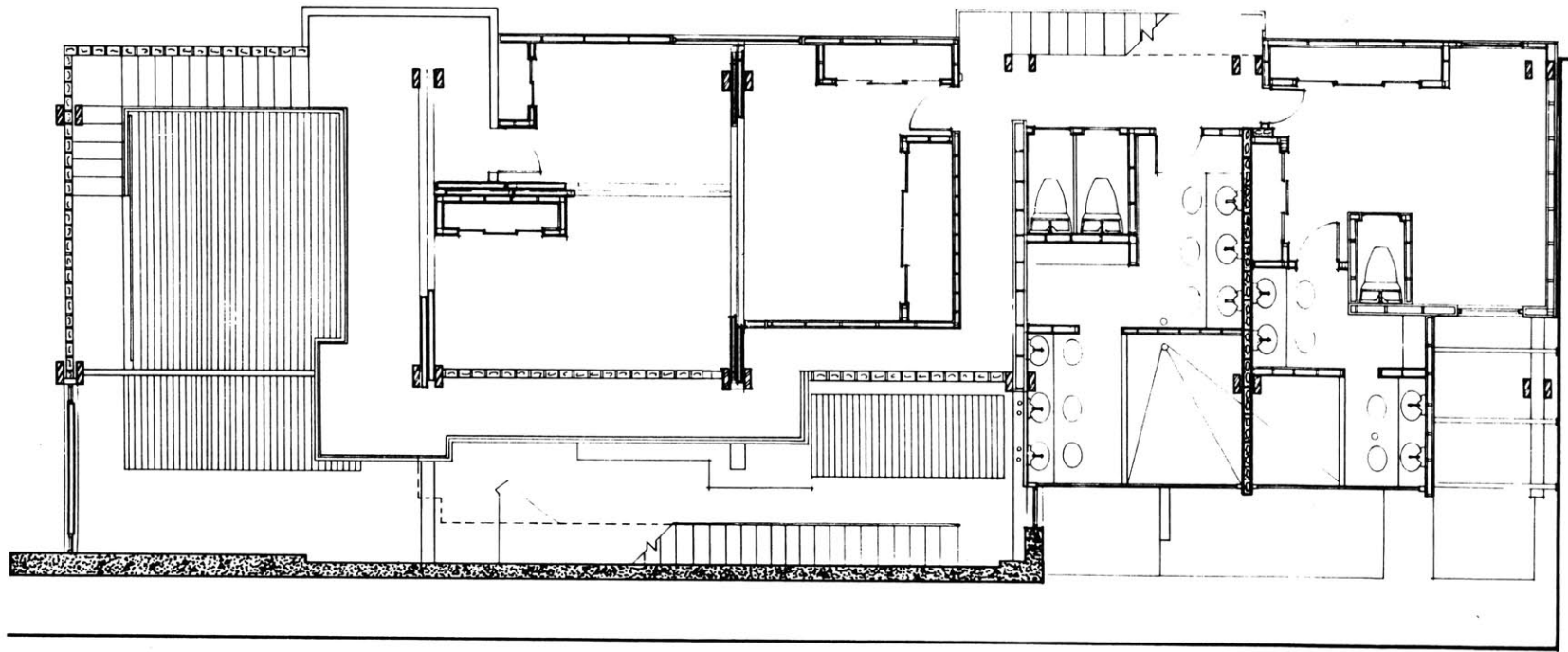


Figure 71. Second floor plan
Scale 1:100

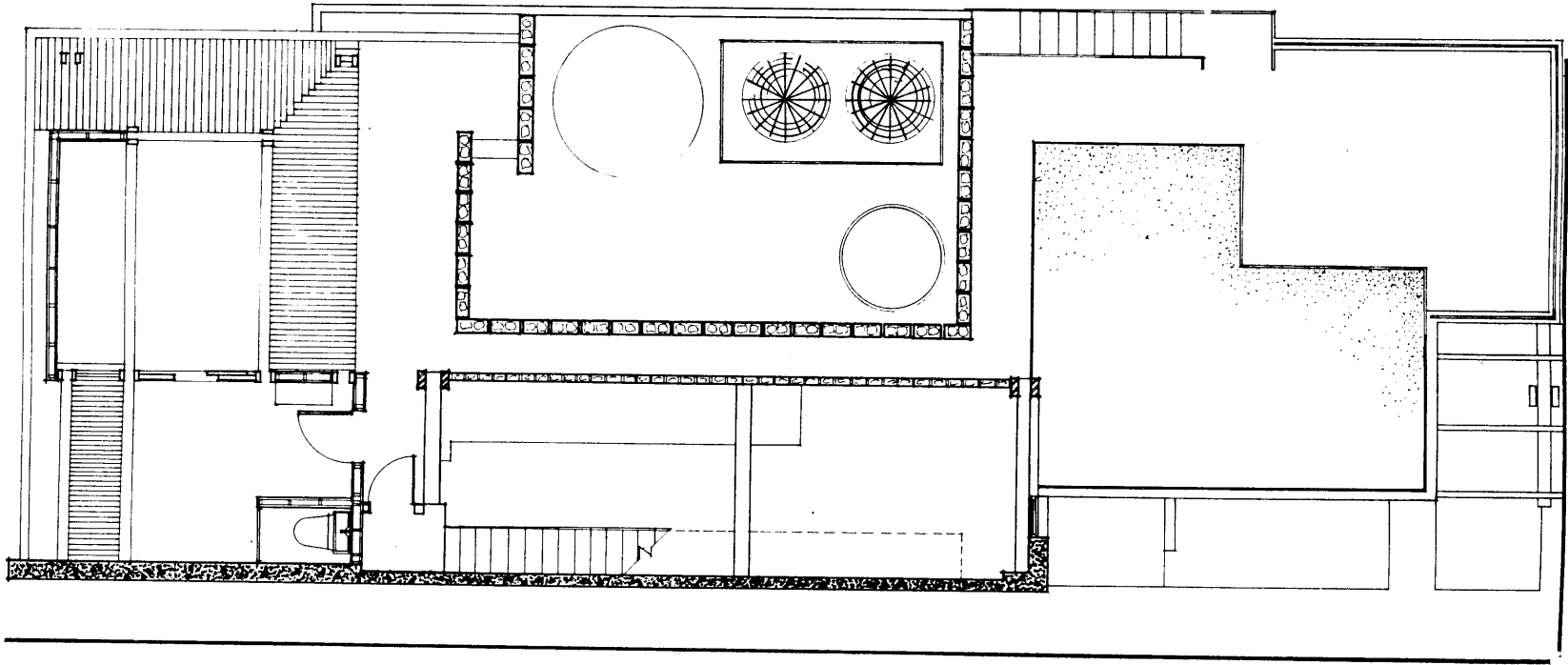
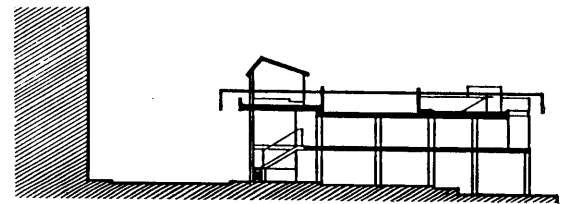


Figure 72. Third floor and roof garden plan
Scale 1:100



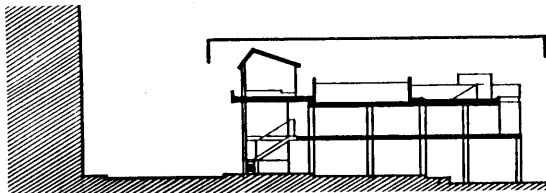
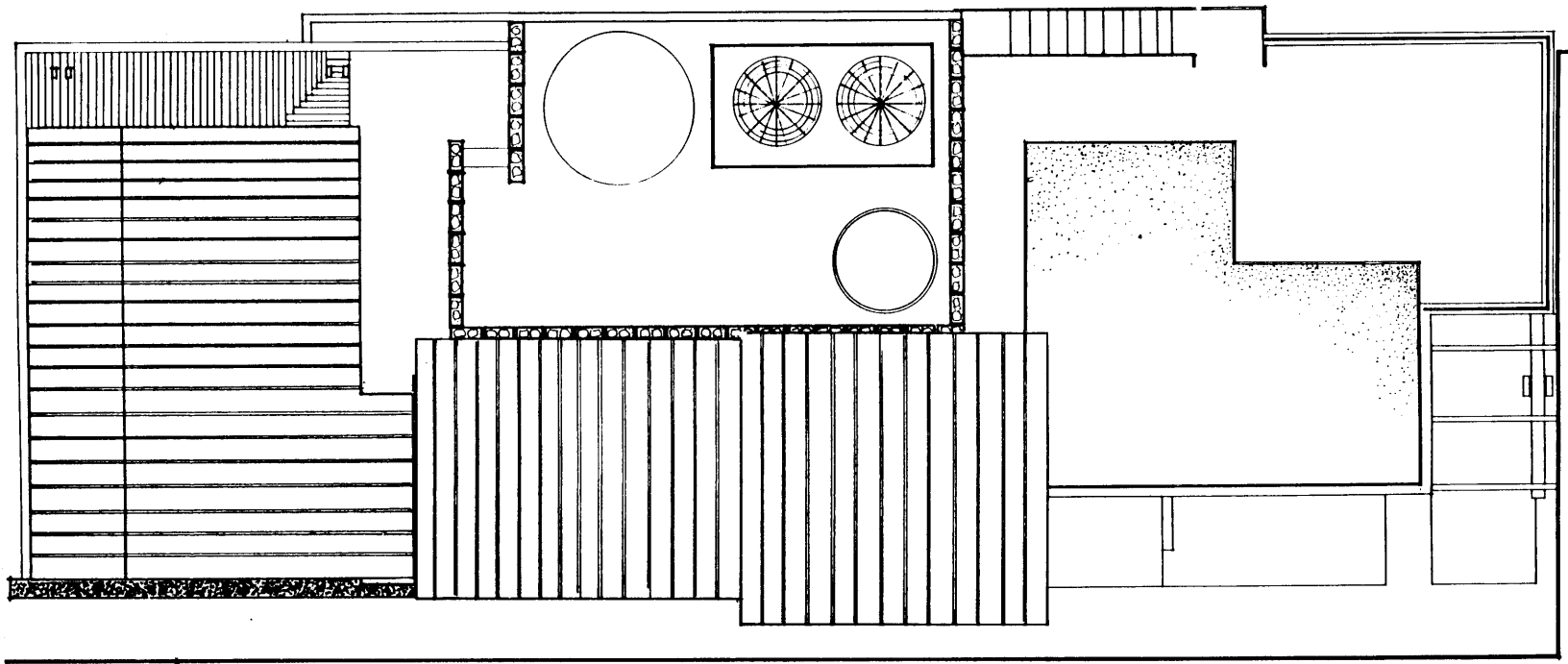


Figure 73. Roof plan
Scale 1:100

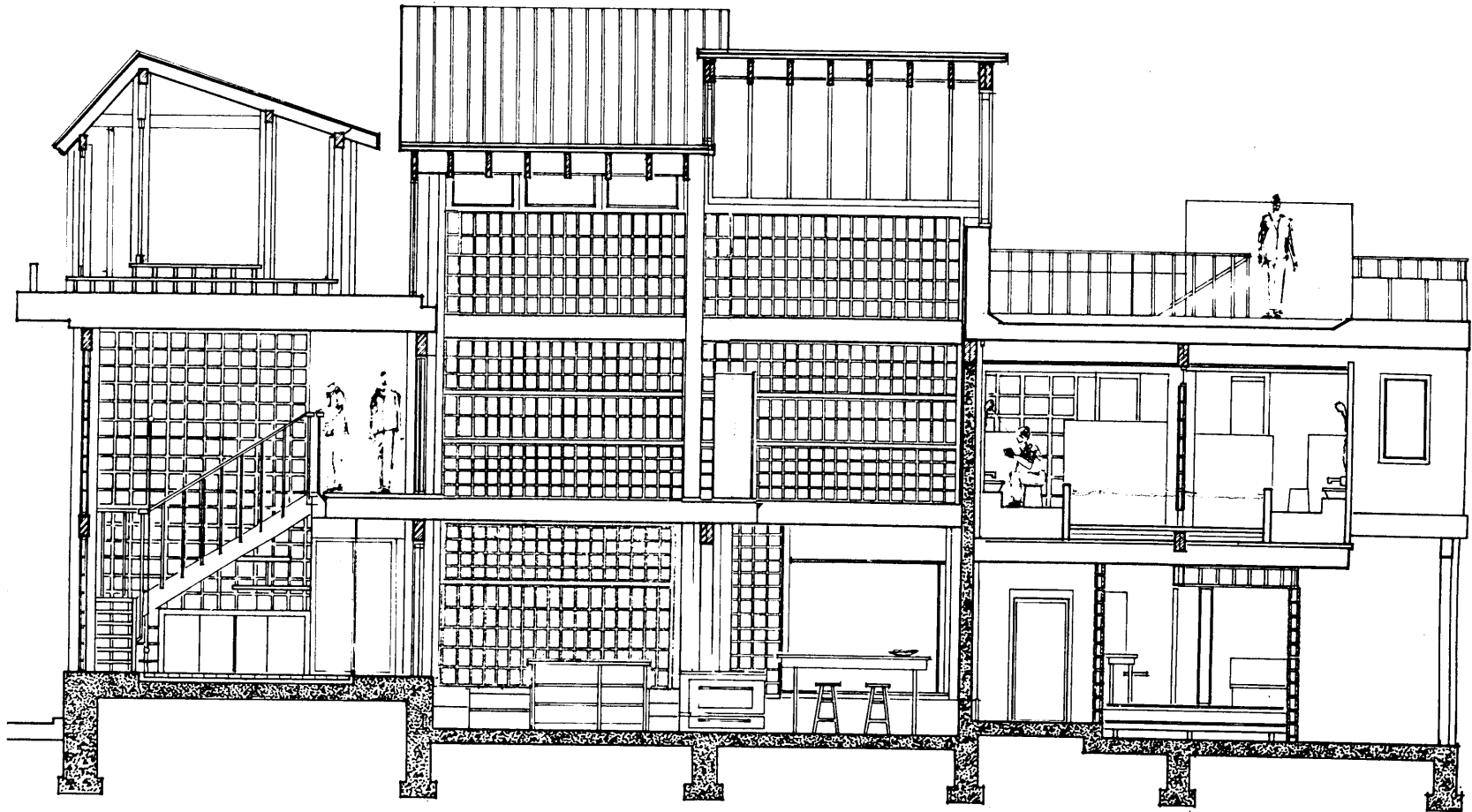
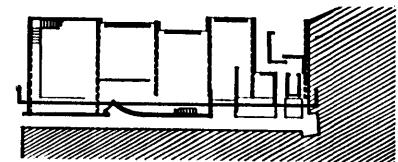


Figure 74. Section A-A
Scale 1:100



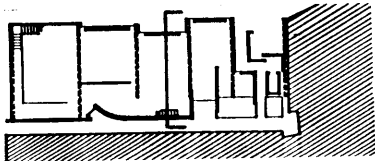
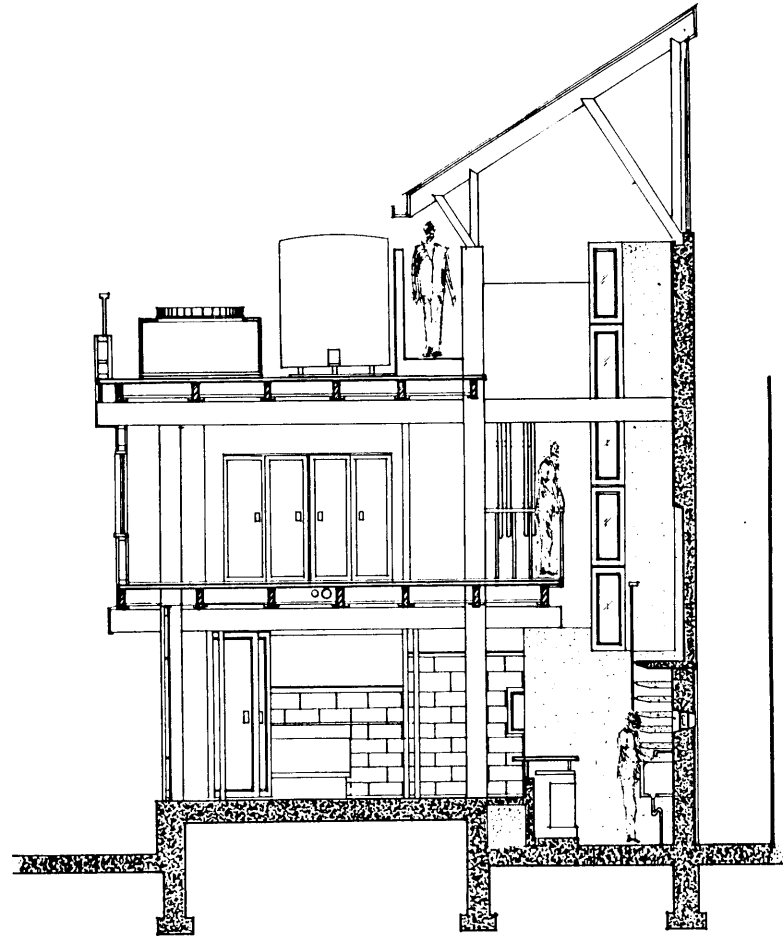


Figure 75. Section B-B
Scale 1:100

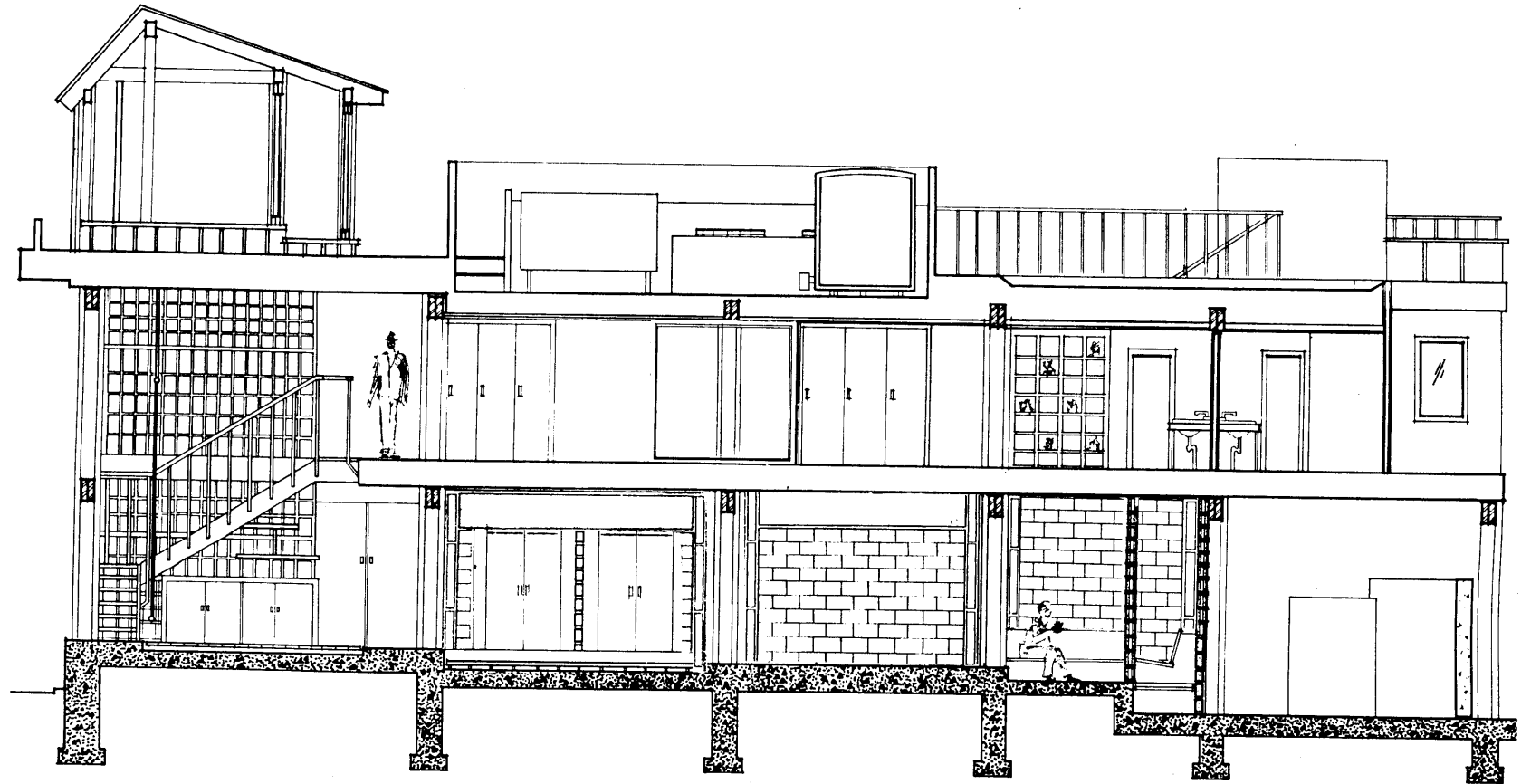
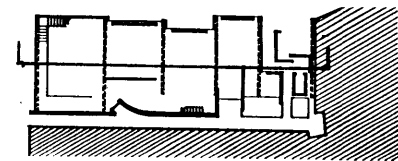


Figure 76. Section C-C
Scale 1:100



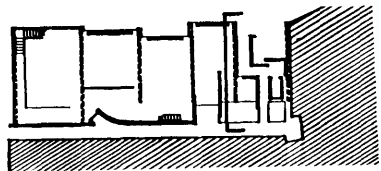
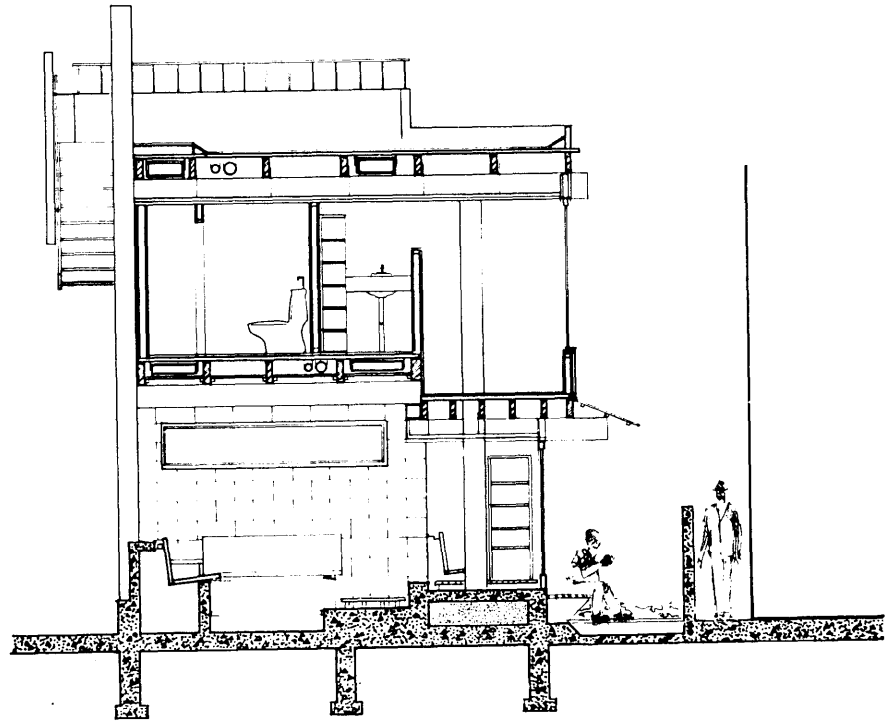


Figure 77. Section D-D
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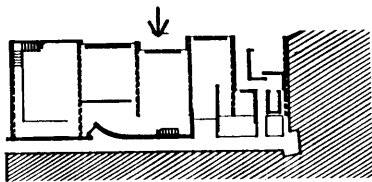
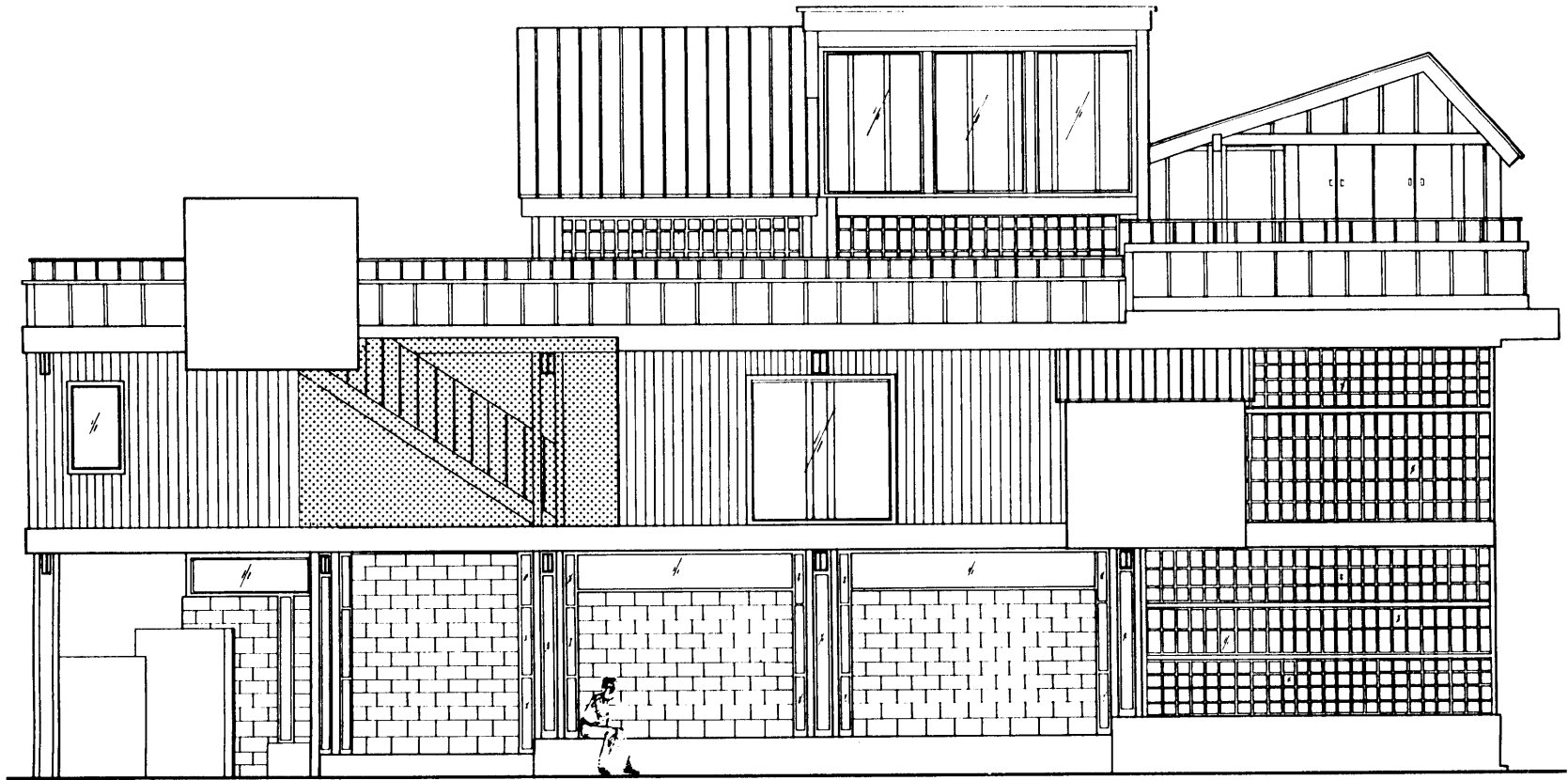


Figure 78. Elevation
Scale 1:100

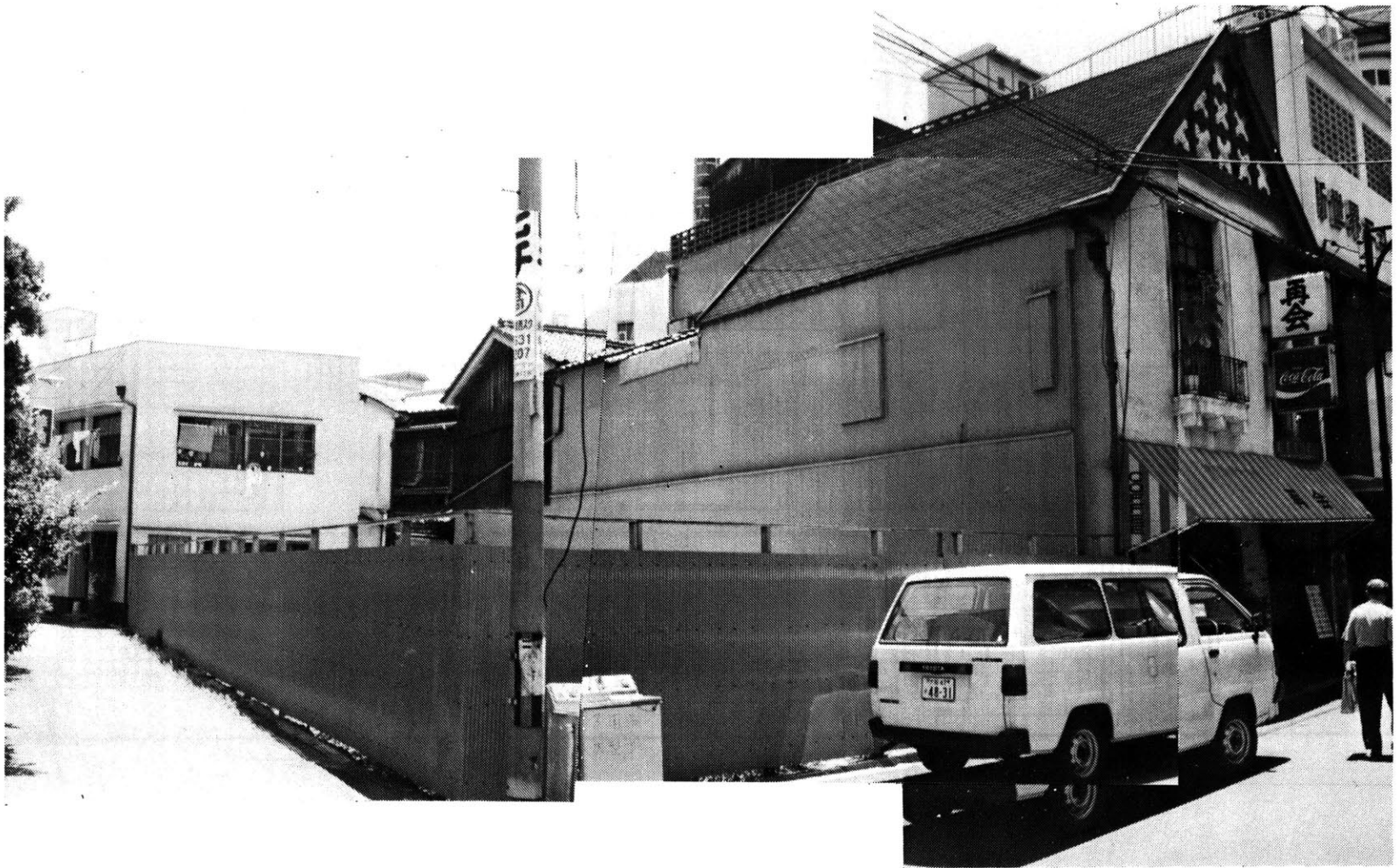


Figure 79. Context

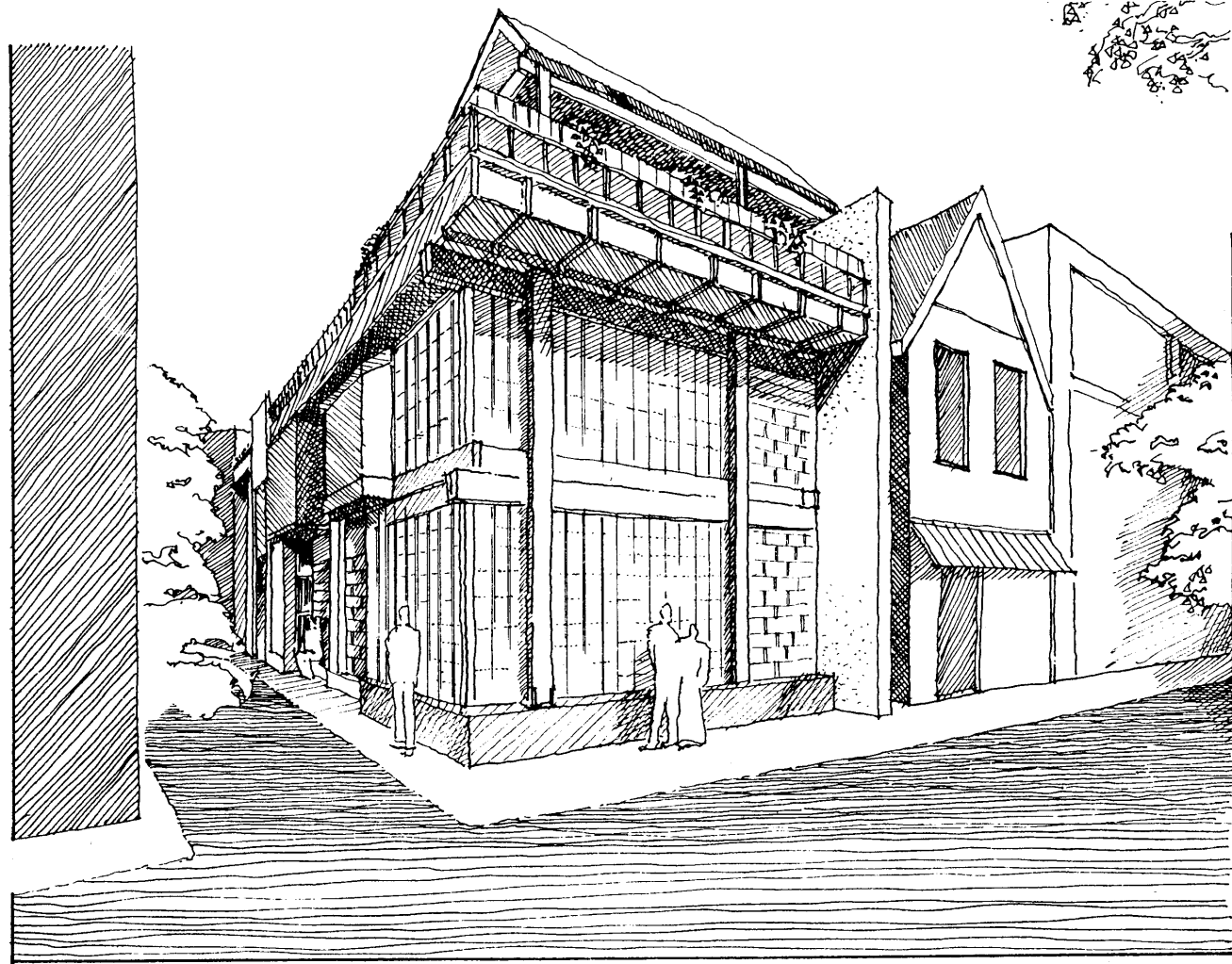


Figure 80. Perspective



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Source of Illustrations

All photographs taken by author unless otherwise noted below.

Figure

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