My urban design of fifty years

The 2005 C.A. Doxiadis Lecture

Fumihiko Maki

Professor Maki was a member of the faculty of the School of Architecture at Washington University from 1956 to 1963. Graduated from Tokyo University in 1952 with a Bachelors degree in Architecture and Engineering, he then received a Masters in Architecture from Cranbrook Academy of Arts in Bloomfield Hills, Michigan in 1953 and a Masters in Architecture from Harvard in 1954. In 1958 he was the recipient of a $10,000 International Graham Foundation Fellowship. He is the designer of Steinberg Hall at Washington University and auditoriums at Nagoya University and Chiba University in Japan. He is also one of the founders of the "Metabolism" group in Japan, as well as having done work with the well known architectural group, "Team 10." In 1964 he was Associate Professor of Architecture at the Harvard Graduate School of Design. The text that follows is an edited version of the 2005 C.A. Doxiadis Lecture delivered on 19 September at the international symposion on "Globalization and Local Identity," organized jointly by the World Society for Ekistics and the University of Shiga Prefecture in Hikone, Japan, 19-24 September, 2005.

Introduction

As I look around, I realize that I am one of the senior figures present. I was born in 1928 and if anyone else here was born in the 1920s or earlier, please raise your hands! It seems that I may be the oldest person in this room and so this afternoon I would like to share with you some things that you obviously don't know. I would like to talk to you about myself, Japan, my experiences and my views on city architecture and urban design during the last fifty years.

My career

While at the University of Tokyo, one of my professors was Kenzo Tange, and it was through him that I became acquainted with the ideas of Doxiadis, though it was not until the late 1960s, at an international conference in Hakone, that I finally had the pleasure of meeting him in person.

After graduating from the University of Tokyo in 1952, I decided to study in the United States. First I went to Cranbrook Academy of Arts in Bloomfield Hills, Michigan, where the campus had been designed by Eliel Saarinen, father of Eero Saarinen. I picked up a book in the library called *The City.* It had no pictures, nothing but text, which did not really interest me very much at the time. A year later, I entered the Harvard Graduate School of Design (GSD). At that time the Dean was José Luis Sert, originally from Spain. He had studied under Le Corbusier in Paris in the 1930s before moving to the United States. He was also Chairman of the famous Congrès Internationaux d'Architecture Moderne (CIAM). Thus I was able to be exposed to modern urban planning and design as developed in Europe in the 1930s. Furthermore, Sert invited many of his friends to teach at Harvard after he took over the reins from Walter Gropius. I regard myself as fortunate to have been able to be exposed not only to American scenes but to European scenes as well.

In retrospect, Sert introduced a kind of interdisciplinary educational system more vigorous than that of Gropius by having all three departments of architecture, city planning and landscape work together on any one project. The young students, including myself, were taught firsthand by José Luis Sert himself.

My most memorable event while at the GSD[1] was a conference which took place in 1956, the first urban design conference in the United States. The introductory talk was given by Richard Neutra. American scholars, critics and practitioners participated in this now famous urban design conference. I was impressed by Kevin Lynch, who introduced his notion on imaging the city and Victor Gruen, who spoke of inner city development in Fort Worth where no automobiles were allowed to enter. Jane Jacobs gave a passionate talk about preservation of street society (it was before she wrote her seminal book *Death and Life of the Great American City)* and Edmund Bacon talked about the reconstruction and re-organization of downtown Philadelphia. Charles Abrams and others were there too. This was probably the first time that the term "urban design" was officially used in the United States. Until then there had been "town planning", "house design" and "street design", but not "urban design". It was the first time specialists in housing, transportation and urban politics were invited to join the debate.

I remained in the United States for two more years, teaching. In 1958, I was awarded the Graham Foundation fellowship, one of the most generous fellowships for artists and architects at that time. For the next two years, 1958-1960, I became a kind of nomad, travelling in S.E. Asia, the Middle East and Europe, broadening my horizons. In the late 1950s it was still very costly to visit such places. My itinerary included a visit to the Doxiadis office in Athens. I remember the spectacular view of the Acropolis. I also met up with another recipient of the prize, Bal Krishna Doshi from India, who now lives in Ahmedabad.

During these travels I visited Hydra, in Greece, where I was stunned by the kind of harmony created by certain principles in the formation of the town. I was interested in the white, rectilinear path form with red and yellow tiles; the way these elements are connected or disconnected; the many kinds of beautiful things. I tried to discover some theoretical foundations as to how such formations could be created in present urban situations.

1960 was the year of the World Design Conference in Tokyo. It was during this conference that the Metabolists first present-

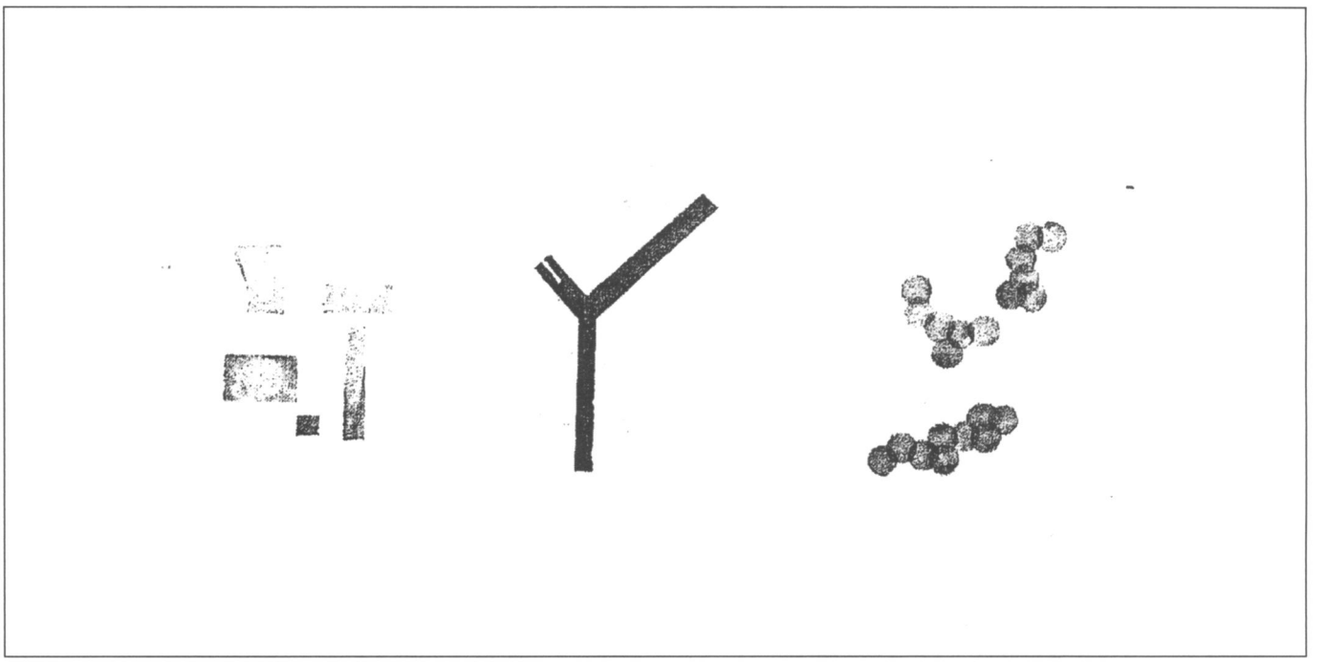

Fig. 1: Approaches to collective form. From left to right: compositional form, megaform, group form. (*Source:* Fumihiko Maki, *Investigations in Collective Form* (The School of Architecture, Washington University, St. Louis, Missouri), a special publication, no. 2, June 1964, p. 6).

ed their ideas for a new urbanism. I was among them. The conference was attended by prominent planners, architects and designers, from all over the world. Among them were Peter and Alison Smithson of the younger generation in CIAM. They had just formed Team X (Team 10), and they invited me to attend their first summer meeting at Bagnols-sur-Cèze, near Avignon in France. It was a very informal meeting where people made their own presentations and I had the chance to become acquainted with the original members of Team X. I showed a photograph of myself seated at a table with Oskar Hansen from Poland, George Candillis, Allison and Peter Smithson, eternal enfant terrible Aldo van Eyck from Holland, Giancarlo De Carlo from Italy, John Voelker. There were also several wives present.

Here are three slides relevant to my views on the city:

- One is a model of a large-scale urban redevelopment project in Shinjuku, Tokyo.

In 1960, at the time of the World Design Conference in Tokyo, some colleagues and I had formed an avant-garde movement, the Metabolists. This project was a presentation by myself and Masato Otaka for the redevelopment of Shinjuku. We tried to find generic forms for offices, retail outlets and zoning, on a large scale. Recently I was interviewed by the *Domus* editorial board, and Rem Koolhaas who happened to be in Japan, and I was asked a number of questions as to how the movement had been formed. There seems to be renewed interest in Metabolism.

- Another is an image of Le Corbusier's 1941 Algiers Project. In the 1930s and 1940s, architects, planners and Le Corbusier himself had an interest in a kind of techno utopia. The development of technology was able to produce forms which had not been seen before.

- A third is an image of Tange's 1960 Plan for Tokyo. Kenzo Tange, who passed away in 2005 aged 91, had a very broad vision as to how Tokyo Bay could be developed, spanned by huge infrastructures, with new housing blocks, office complexes and urban facilities to mitigate the kind of impact affecting Tokyo at the time. It shows the spirit of the age, of that particular period.

Meanwhile, in 1962, while teaching at Washington University, I published *Investigations in Collective Form* where I postulated three different approaches to collective form: mega-form, group form and compositional form. The architect or urban designer is engaged in dealing with constructing both the formal and spatial organization of a form. Collective Form is a preimage (fig. 1).

I remember these years when, in 2004, I was asked by Alex Krieger who now teaches in the Harvard GSD Urban Design program, to write about my recollections. They will be published in an anthology that will include contributions by Paul Goldberg, Peter Hall, Juan Busquets, Denise Scott Brown and a few others.

Urban planning in Edo-Tokyo

Tokyo has a population of about 12 million people. The original Tokyo was called Edo. It was founded by one of the 16th century feudal lords. He constructed a small castle, which became a seat of his government. The original location of the castle and palace has not been changed. After the Tokugawa Shogun took over the reins, Edo grew to become the most important and powerful city in the country, for over two and half centuries, until Japan decided to modernize, which happened in the 1850s and 1860s.

In the late 18th century, Edo was already one of the largest cities in the world. It had a population of about 1 million while London had about 900,000, Berlin half a million and Vienna quarter of a million. It also happened to be one of the greatest green cities or garden cities. Maps of the time show Edo castle in the center, demarcated by an inner moat and an outer moat, which are connected to the Sumida river, and surrounded by concentric areas of blocks, occupied variously by mer-

Fig. 2: Map showing Edo in relation to the Yamanote Loop and Chuo railway lines in 1910.

chant districts, samurai residences and temple towns. Still today this area constitutes the inner city of Tokyo (fig. 2).

An image of what Edo was like up to the mid-19th century can be seen from ukiyoe woodblock prints. It is not known how exact the scenes were at the time they were drawn, and they may have been exaggerated or beautified. They depict aerial views of sequences of hills rising from the sea, shrines on hilltops and their approaches. They show the interiors of two-storeyed houses made of wood and paper. They show samurai estates with big high walls hiding the houses of the daimyos and hatamotos inside and people walking along the streets; merchant towns with narrow streets lined with stores. Often Mount Fuji features in the background (fig. 3).

In the 1860s Japan decided to modernize, and many young but influential people were sent to European cities such as London, Berlin, Paris and other places. They were very impressed by the built form of those capitals.

Japan had a very unique way of conducting its own modernization. Not having been colonized, there was no need to take the culture of any one particular country. This was very significant. Japan was in a free position to choose what was thought at the time to be "the best" from other countries. Western cuisine came mainly from France; architecture and legal systems from England; masonry, technology and engineering mostly from Germany and so forth.

A picture showing utopia after 150 years shows very clearly

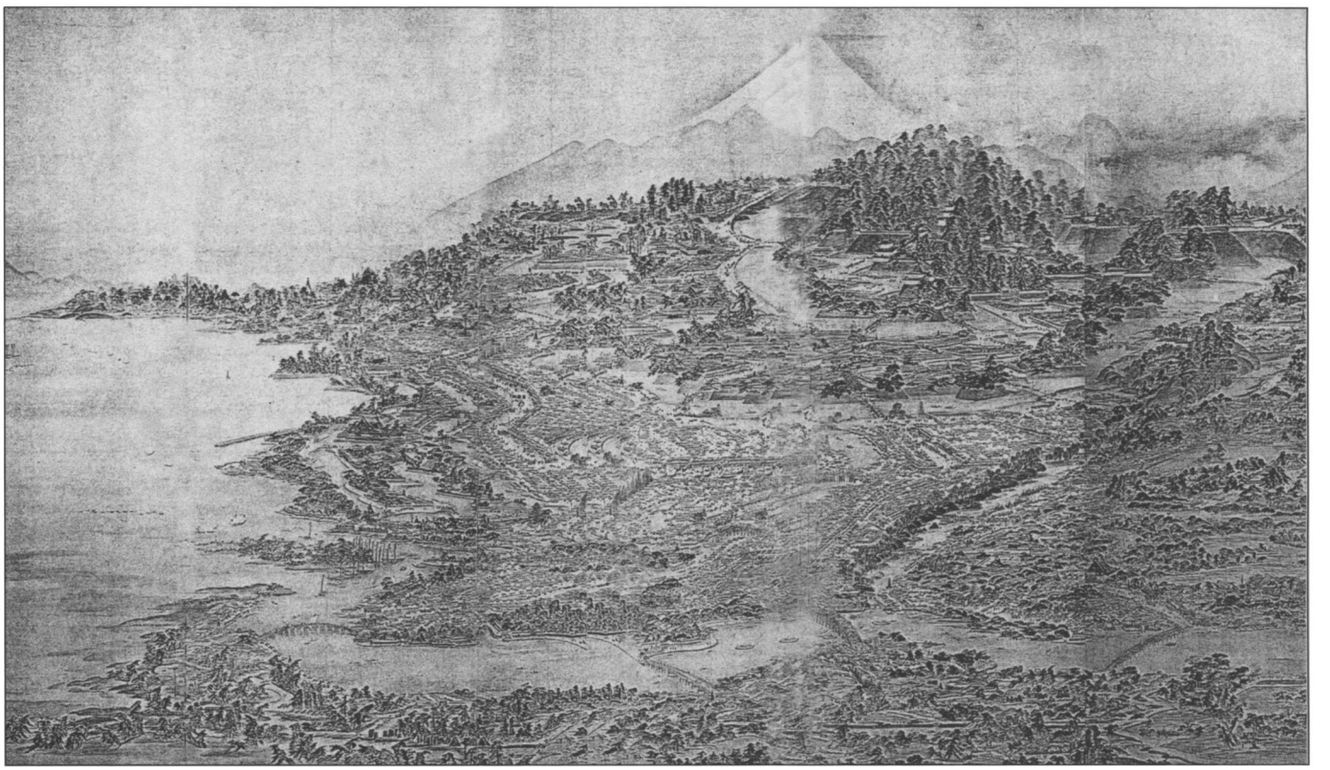

Fig. 3: Byobu-e: Waterfront, CBD, Castle, Mt Fuji, Edo 1824.

how Japan tried to get the best of several worlds. It suggests a townscape as beautiful as Paris, with industry as vigorous as maybe Liverpool or Birmingham. In retrospect, perhaps it shows that bad things were sometimes chosen rather than good ones: it is an aerial view of a city where long chimneys propel dark smoke (fig. 4).

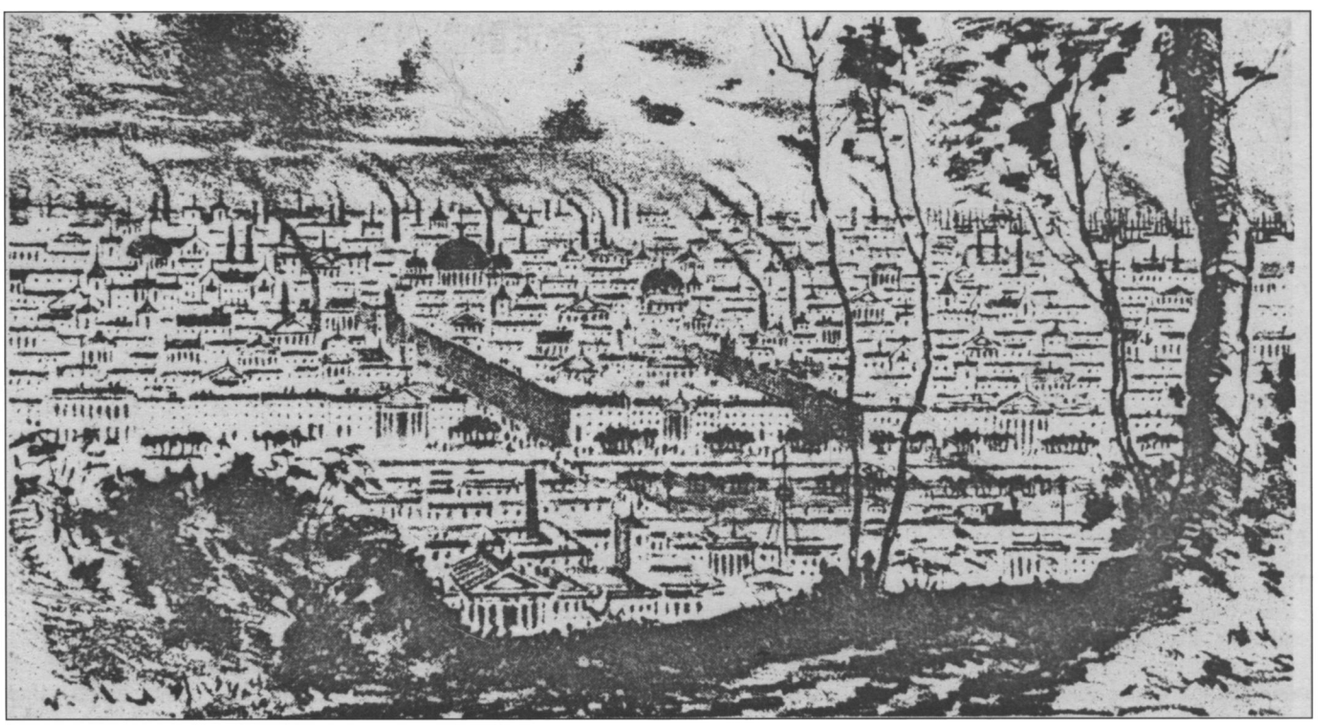

Fig. 4: Tokyo in 19th year of Meiji (1886).

Fig. 5: Street scene in early 20th Century Tokyo.

The reality of Tokyo's street scenes in the early 20th century was of electric poles exposed on streets not completely paved where houses were built at random and the facades of buildings hidden by a jumble of billboards, lamps and other elements. There may still have been parts of Tokyo that were beautiful, but on the whole, modernization was taking its own course. Possibly one of Japan's biggest mistakes was that while spending large funds on built forms for monumental architecture and civil engineering, there was a failure to create viable social assets, particularly out of housing components. Street scenes illustrate this failure (fig. 5).

Meiji people impressed by majestic views of Paris, Berlin, London, or Rome decided to invite experts to come to Tokyo to make a new plan for the central district. Berlin architect Bockmann was invited, and he created a grand plan for government facilities arranged along radiating avenues to the west of the Imperial moat. Other than the present Diet building, this plan was not actually implemented.

Another experiment was in the Ginza commercial district. Mr Waters, a British surveyor, was invited to design some rather Regent Street-style townhouses and stores, the so-called Bricktown. Unfortunately they were not popular because the ar-

chitects did not comprehend the local climatic conditions. In the absence of air conditioning, Tokyo's hot and humid summers called for cross ventilation, which such buildings could not provide. They were a failure, but they demonstrate that an attempt had been made.

One thing Tokyo did quite boldly was to introduce rapid transit systems at a very early stage. By 1924 Tokyo had developed circumferential train systems, demarcating the inner city with the Yamanote and Chuo lines. Later a number of terminals became sub-centers from which private and public train systems extended further outwards, expanding the railway network into the suburbs. Furthermore, in the last 30 years subway systems within Tokyo have been effectively interconnected with the suburban railways. Thus Tokyo has a very strong and efficient transportation network.

When comparing Tokyo with Paris, I wondered whether there are implications for today's living. From 1853 to 1870, Baron Haussmann, under Napoleon III, developed the magnificent modern Paris plan, primarily thinking of vistas as a way to define city form. It is a really Baroque notion but nonetheless it gave form to a city – modern Paris. This provides a contrast with the case of Tokyo, where the basic form of the city was not determined by aesthetics but by economy. The railway track was built on reclaimed marshland, because the land there was cheap.

The irony is that Paris now suffers from serious traffic congestion in spite of having a very extensive road network system, and private vehicles are excluded from the center of the city. So one never knows what the consequences will be.

The development of a quite extensive public transportation system might still be the most important agenda for our cities, especially in today's context of talking about compact cities. Although Tokyo's transportation system was not originally comprehensively planned, Tokyo has perhaps become the kind of city to be looked at.

Take for example the Roppongi Hills Complex, a private development by one of the largest real estate companies in Japan, with high-rise apartments, hotels, amusement facilities, TV studios and so forth. Opened in 2003, it attracted 24 million visitors in the first four months. Only 25 out of all the countries that belong to the United Nations have a population of more than 24 million. It is not a particularly exciting place to visit. It simply has shops, offices, hotels and conference venues. Only the sort of mass rapid transportation system that exists in Tokyo could bring in so many millions of people. Certainly there are not enough parking spaces.

Today's Tokyo exemplifies a multi-centered network, on the lines of the model identified by Kevin Lynch and Rodwin of MIT in the 1960s, when it was a new concept. We now realize that we cannot really live with just one or two large centers. There must be multiple-center development, effectively connected by public transportation systems.

I will conclude this part of the lecture with a slide showing three different city patterns, shown in plan and in vertical and categorized as "figure ground," "street" and "nature." European cities, at least their central districts, tend to be organized by figure and ground principles. In the United States streets can be a sort of a guiding principle for forming linear or "grid-iron" cities, whereas in Japan in the Edo period the geographic condition was the guiding principle, and the result was a "nature" city (fig. 6).

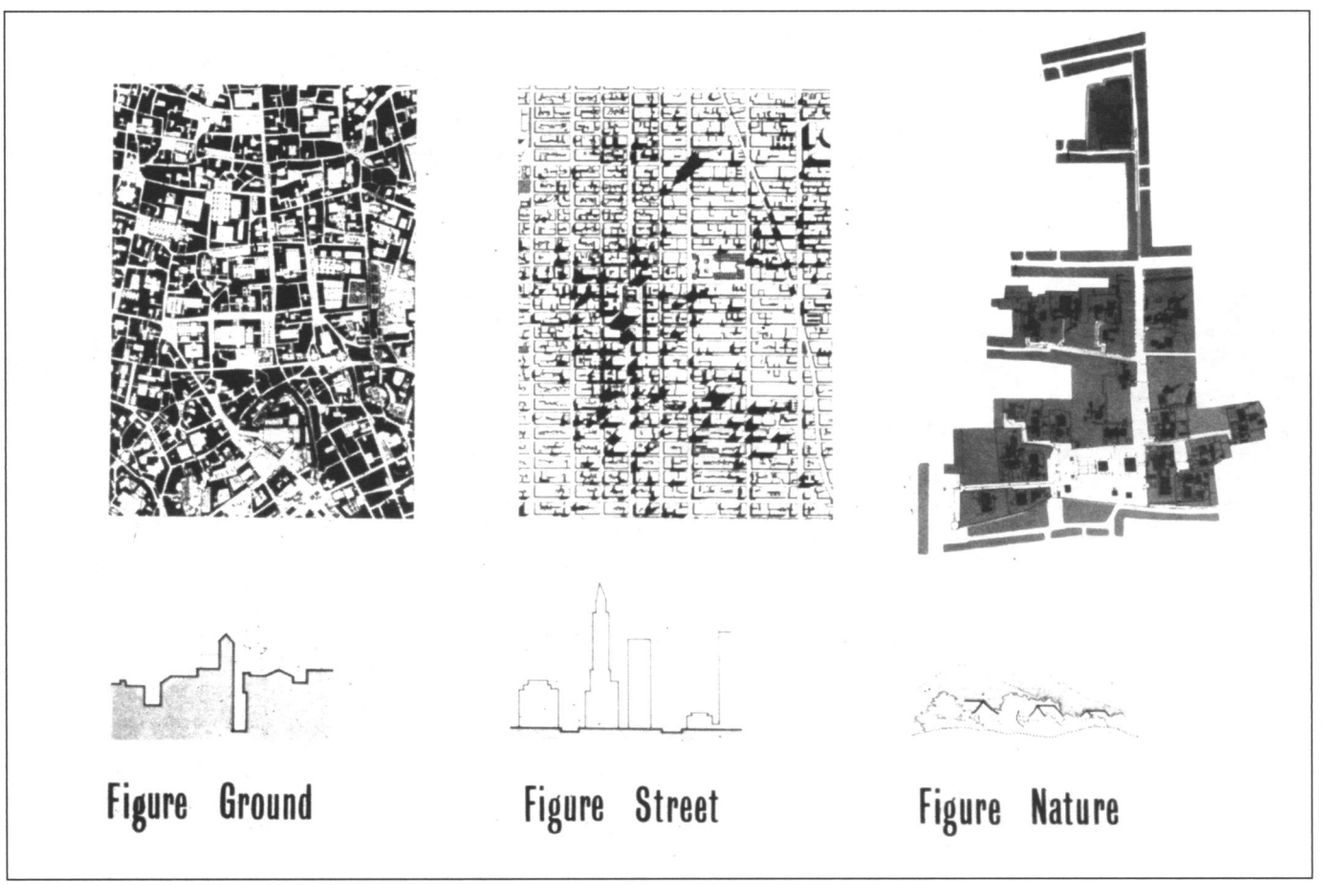

Fig. 6: Figure Ground, Figure Street and Figure Nature.

Daikanyama Hillside Terrace

Hillside Terrace is located near a street called Kyu Yamate Dori, about 7 or 8 km west of central Tokyo. It is a group of residential apartments, shops and spaces that can accommodate cultural activities. Daikanyama Hillside Terrace was an incremental development, not done all at once but in phases.

When I returned to Tokyo in 1965, I began work on the Hillside Terrace project in 1967 and continued working on it for almost a quarter of a century. I began a second phase in 1973, third phase in 1977 and then a sixth phase in 1992. An axonometric view of all six phases of the project is shown in figure 7. Later I did Hillside West in 1998, a bit further up the street, shown in the figure 8 site plan. When I started this project I was in my forties, and by the time I completed Hillside West I was already seventy. Hillside Terrace reflects how my approach to architecture evolved as I learnt from earlier experience, and as changes took place in Tokyo's scenes and lifestyles.

The zoning law at the time specified a 10 m height limit. I was thus able to produce a consistent town façade, shown in figure 9.

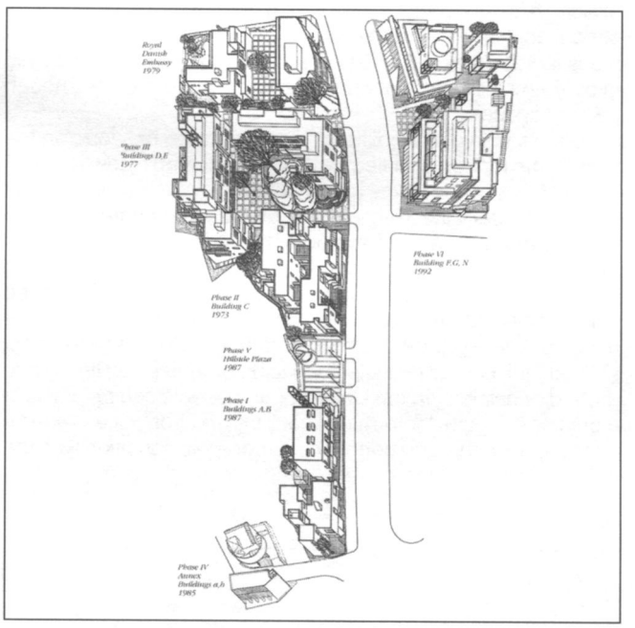

Fig. 7: Axonometric view of Hillside Terrace Phases I to VI. (*Source*: Maki and Associates, *On Maki Architecture/Maki on Architecture,* Tokyo, Fumihiko Maki Traveling Exhibition Executive Committee, 2001, p. 13, courtesy Shinkenchiku-sha).

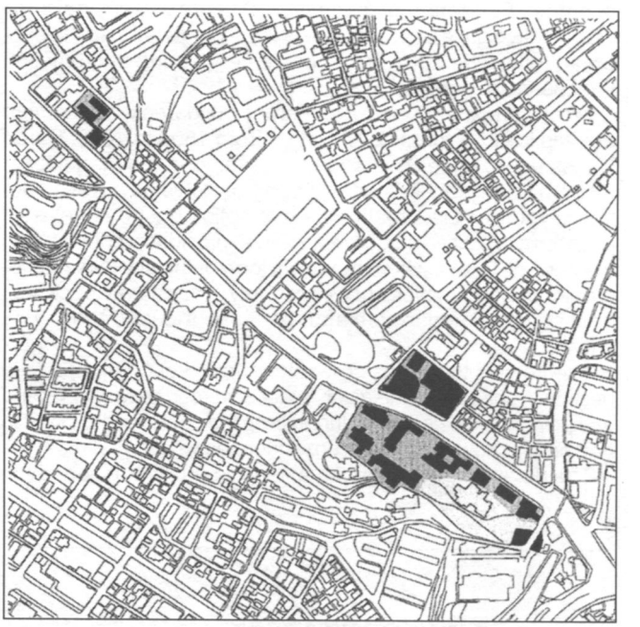

Fig. 8: Site plan showing Hillside Terrace and Hillside West. (*Source*: Maki and Associates, *On Maki Architecture/Maki on Architecture,* Tokyo, Fumihiko Maki Traveling Exhibition Executive Committee, 2001, p. 12, courtesy Shinkenchiku-sha).

Fig. 9: Aerial View of Phase I, 1969. (*Source*: Maki and Associates, *On Maki Architecture/Maki on Architecture,* Tokyo, Fumihiko Maki Traveling Exhibition Executive Committee, 2001, p. 13, courtesy Shinkenchiku-sha).

A number of interlinked mediating spaces, accessible to the public, included corner plazas, glazed lobbies, sunken courtyards, pedestrian decks and passageways.

The sixth phase, located across the street, was not subject to the 10m height restriction, but its street elevations are designed to match those of the earlier phases, as can be seen in figure 10, an aerial view of the whole project.

By 1992 I was concerned with how materials weather over time, and I was able to use different surface materials, such as corrugated aluminium and perforated aluminium panels. I also continued to plant trees, which mature with the years.

Hillside Terrace has relatively low population density in relation to the width of the street. It is a residential district where the maximum FAR (ratio of total floor area to area of site) is 150 or

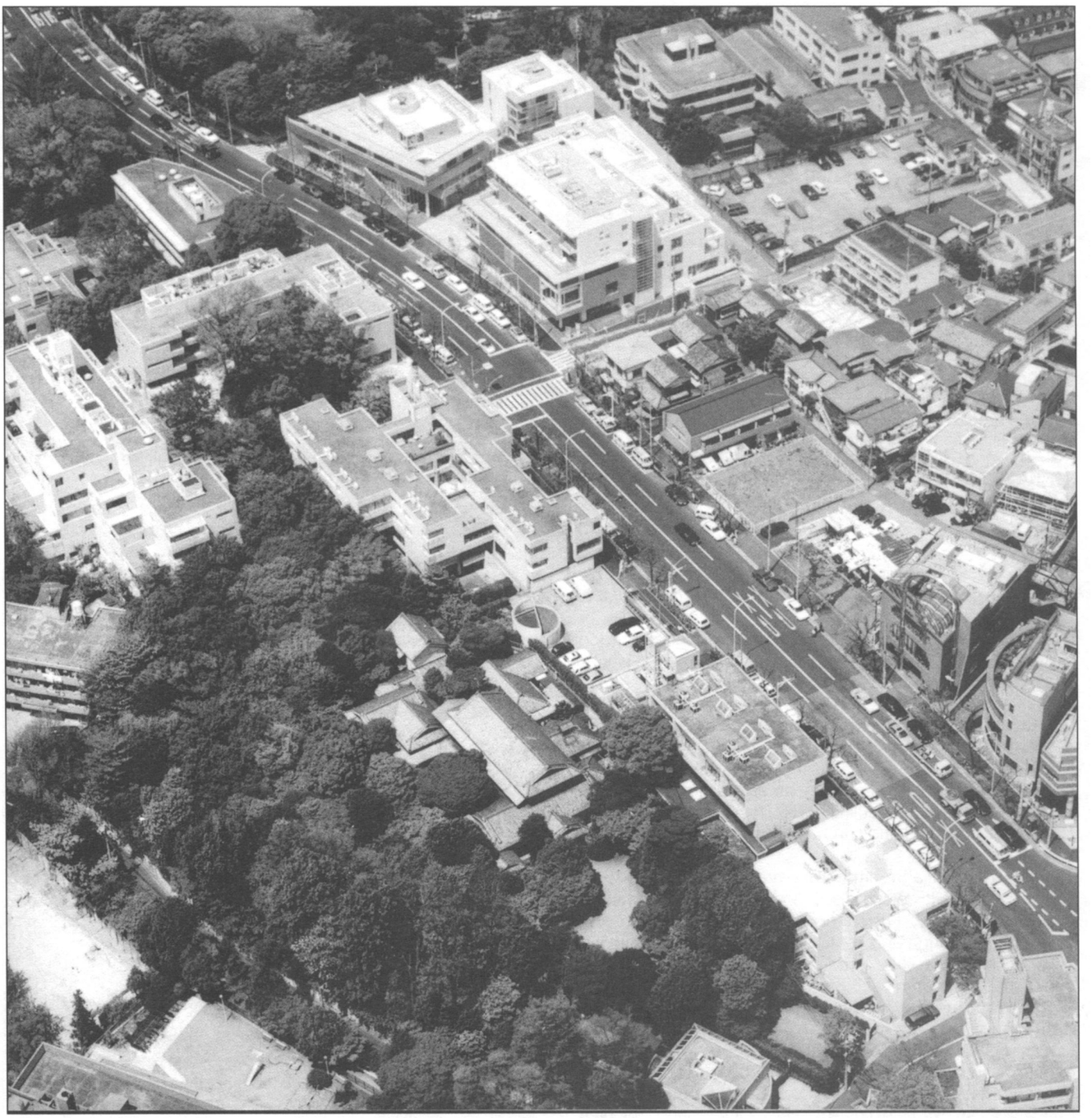

Fig. 10: Aerial View of Phases I-VI, 1992. (*Source*: Maki and Associates, *On Maki Architecture/Maki on Architecture,* Tokyo, Fumihiko Maki Traveling Exhibition Executive Committee, 2001, p. 27, courtesy Shinkenchiku-sha).

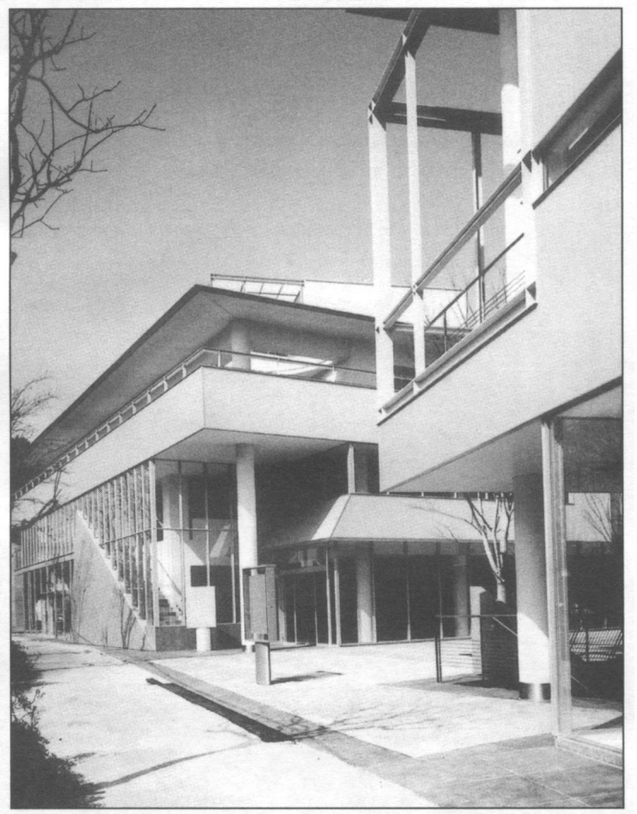

Fig. 11: View along Kyu Yamate Avenue (Phase VI). (*Source*: Maki and Associates, *On Maki Architecture/Maki on Architecture,* Tokyo, Fumihiko Maki Traveling Exhibition Executive Committee, 2001, p. 22, courtesy Toshiharu Kitajima).

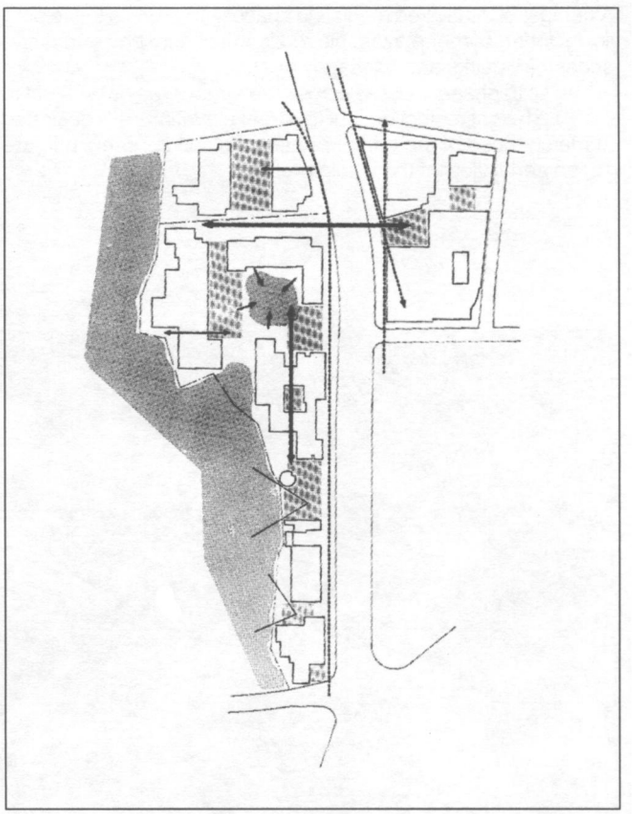

Fig. 12: Open space network linking the different phases of the Hillside Terrace complex. (*Source*: Maki and Associates, *On Maki Architecture/Maki on Architecture,* Tokyo, Fumihiko Maki Traveling Exhibition Executive Committee, 2001, p. 16).

200 percent, yet it is able to have a decent sort of a street, giving it at the same time both a strong public presence and a humane environment (fig. 11).

All buildings of the Hillside Project are related to outdoor spaces. The one and same landlord, Mr Asakura, with whom I worked for 25 years, owned the whole site. Recently, this original house he owned, visible in figure 10, was designated an important cultural asset. It will remain part of the local housing scene, and be made accessible to the public. Japan has failed to make housing into a social asset. Heavy inheritance taxes make it almost impossible to keep an estate intact. The usual pattern is a repetition of building, rebuilding and tearing down. Here at least the building can be kept as part of the city landscape.

Figure 12 is a diagrammatic drawing showing open space linkage. In the outside public space, people can freely trespass 24 hours of the day. I give them a multiple choice of detours: they can go through and continue onwards, or go and come back. I think such a choice enriches spatial experience. Indoor public space comes in various forms, including exhibition, performance and event space that may be closed at night, but adds context and character to the area. Semi-sheltered spaces can allow people to peep out at the activities along the avenue. The human instinct for "hide-and-seek" and the latent quality of inner space are themes that have long fascinated me. Taking Phase VI as an example, figure 13 shows the ground floor plan, while figure 14 shows the layering of spaces in semi-sheltered courtyards and interior public corridors.

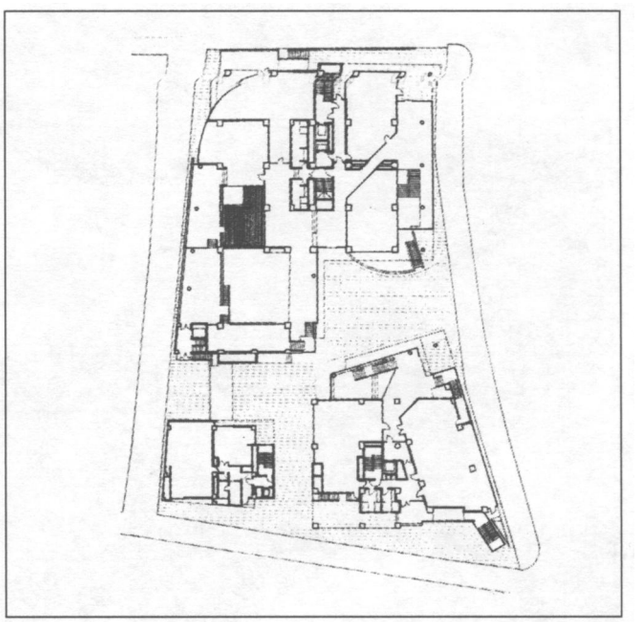

Fig. 13: Phase VI, ground floor plan showing public, commercial, and exhibit spaces. (*Source*: Maki and Associates, *On Maki Architecture/Maki on Architecture,* Tokyo, Fumihiko Maki Traveling Exhibition Executive Committee, 2001, p. 22, courtesy Toshiharu Kitajima).

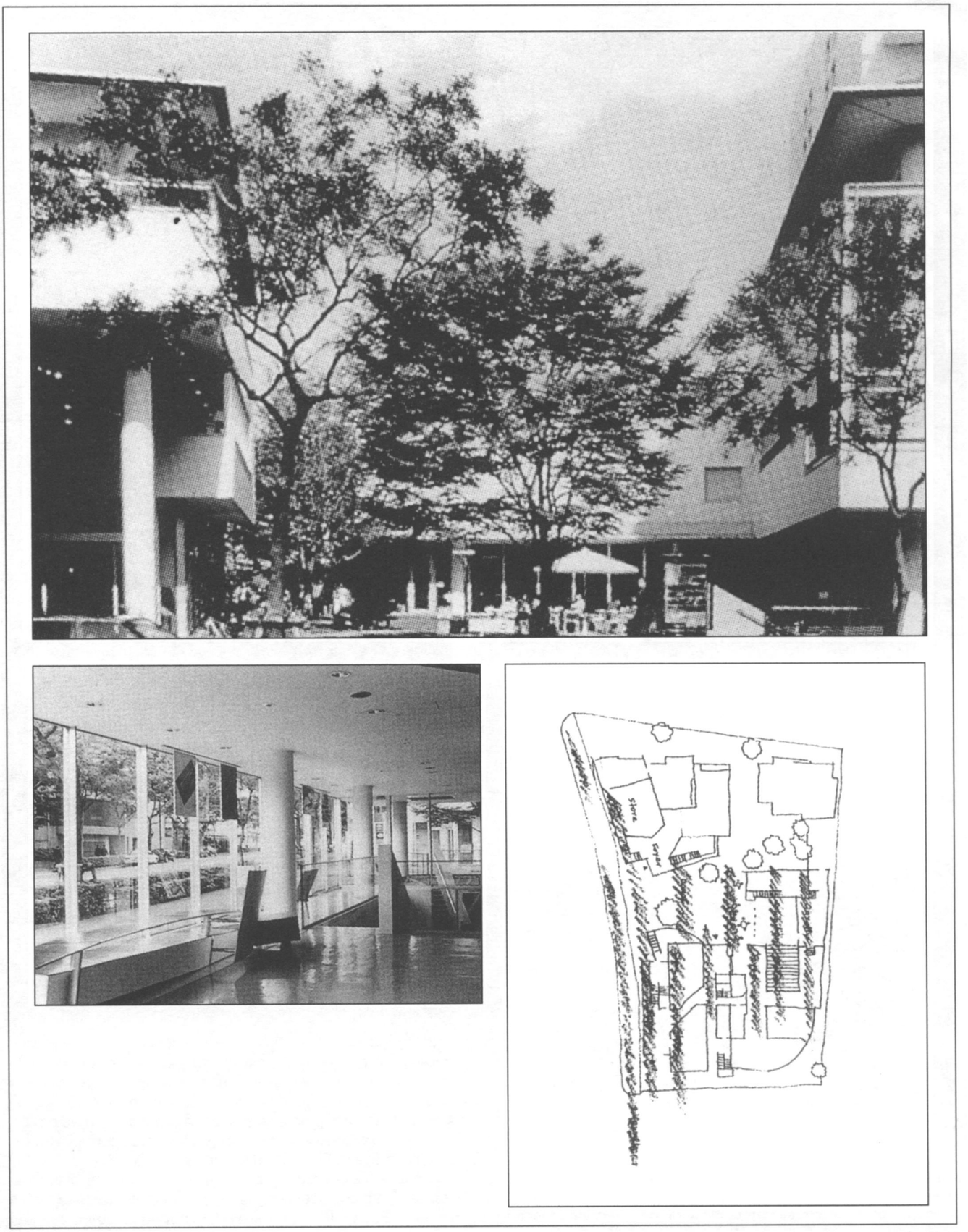

Fig. 14: Phase VI showing the layering of spaces in semi-sheltered courtyards and interior public corridors. (*Source*: Maki and Associates, *On Maki Architecture/Maki on Architecture,* Tokyo, Fumihiko Maki Traveling Exhibition Executive Committee, 2001, p. 23).

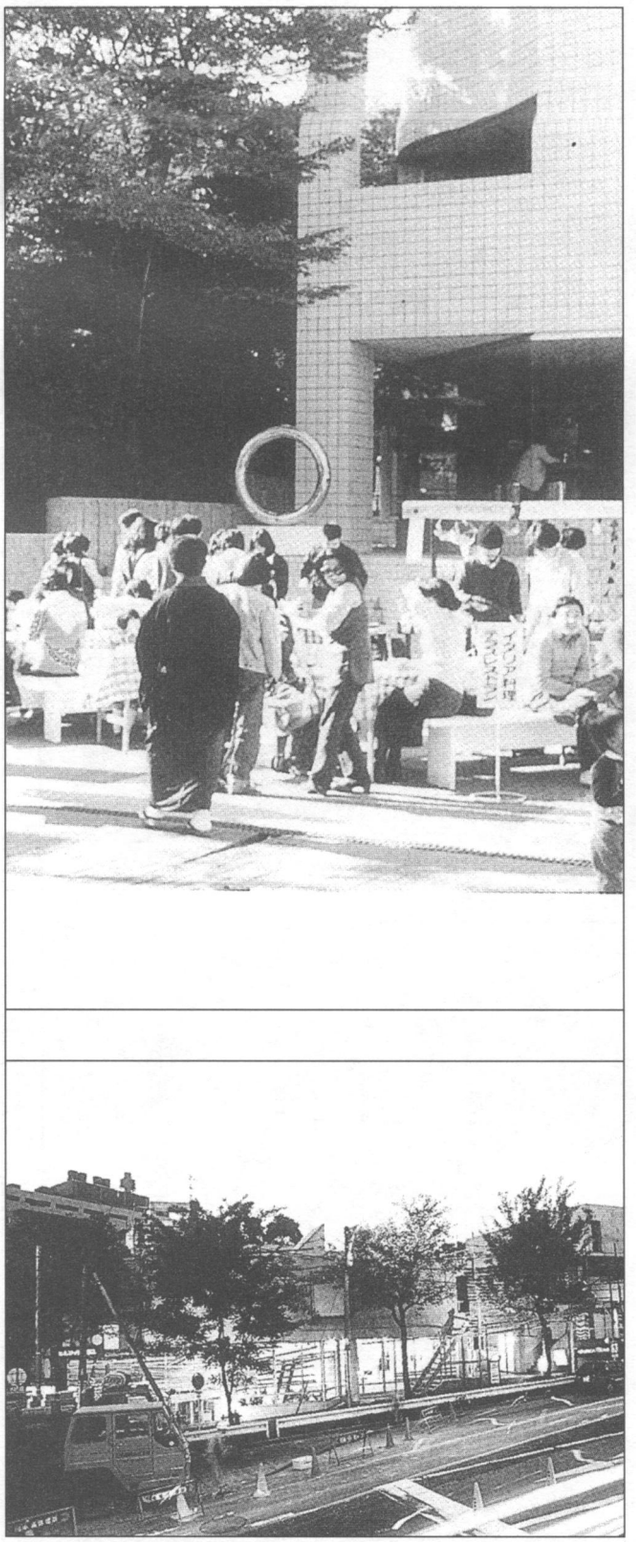

Fig. 15: The public spaces of Hillside Terrace have accommodated a variety of cultural activities, including art exhibitions, installations, concerts, and street fairs. At top, a festival animates the street in front of Phase III. Below, a 1984 art installation by Tadashi Kawamata "Under Construction" is seen in front of Phase I along Kyu-Yamate Avenue. (*Source*: Maki and Associates, *On Maki Architecture/Maki on Architecture,* Tokyo, Fumihiko Maki Traveling Exhibition Executive Committee, 2001, p. 20).

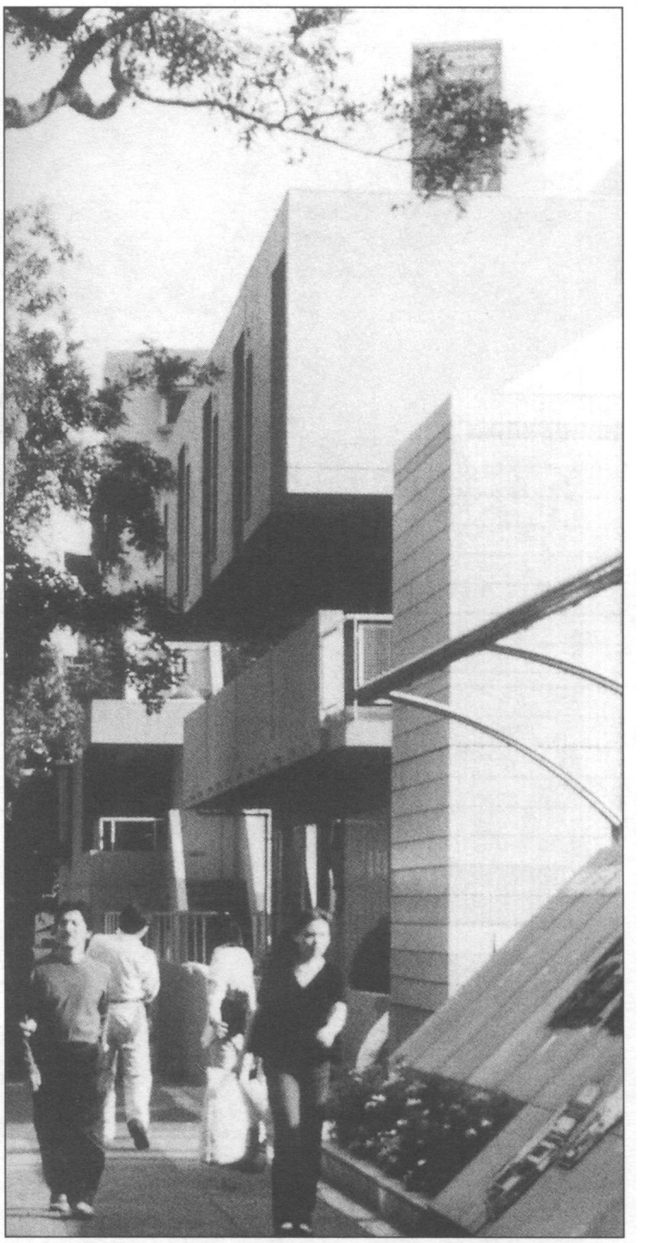

Fig. 16: View looking back from Phase V to Phase I. (*Source*: Maki and Associates, *On Maki Architecture/Maki on Architecture,* Tokyo, Fumihiko Maki Traveling Exhibition Executive Committee, 2001, p. 21).

In Hillside Terrace I have created a number of intensively used zones, which animate the street and gives a sense of depth to the space. These include a small central court surrounded by cafés and stores; open spaces used for ceremonies and art festivals; small focal points for cultural activities, such as performance, art galleries and concert rooms; a small café with an exhibition space behind it, and so forth (figs. 15, 16 and 17).

Trees play a big role in public spaces. Unlike many of the materials of modern architecture which deteriorate over time, trees mature. Figure 18 shows two photographs of a core tree that was planted at the completion of the first phase in 1969 and later how it has matured, with long branches and ample foliage,

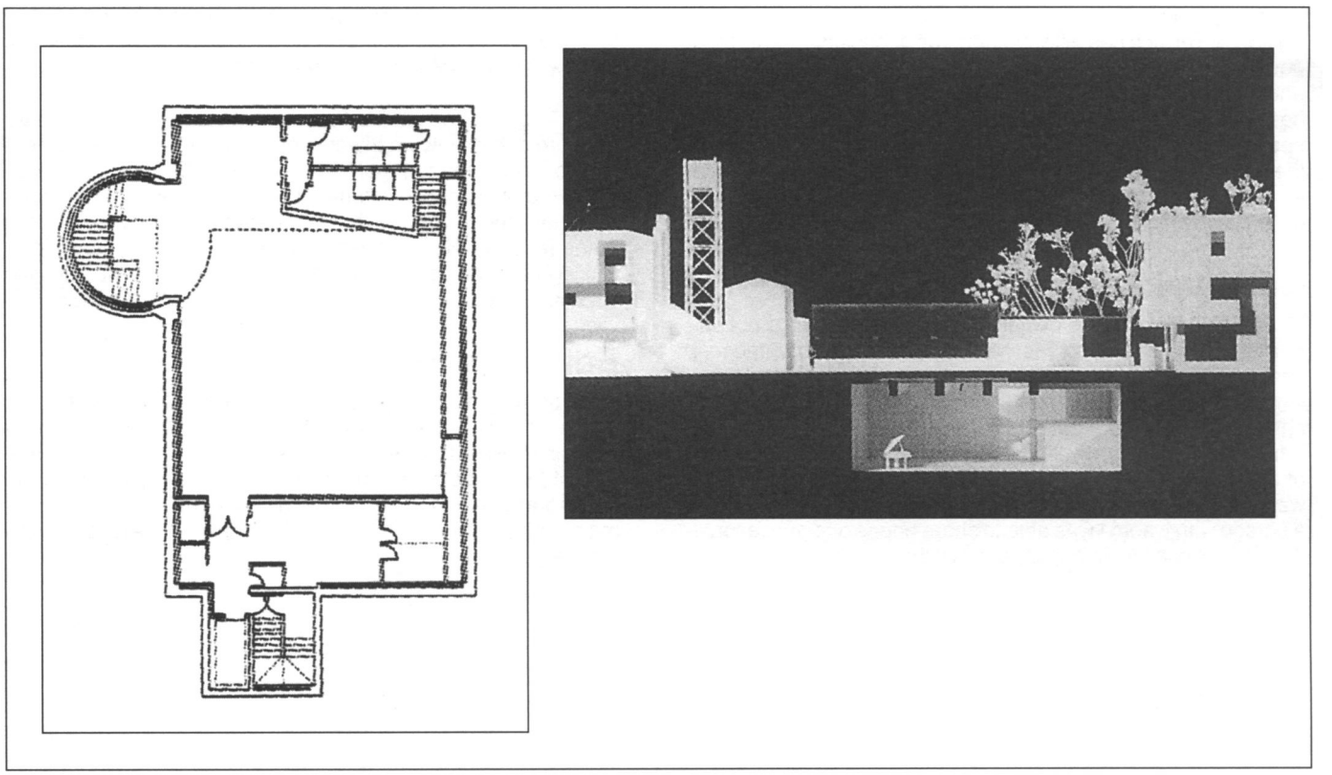

Fig. 17: Phase V showing lower level plan. (*Source*: Maki and Associates, *On Maki Architecture/Maki on Architecture,* Tokyo, Fumihiko Maki Traveling Exhibition Executive Committee, 2001, p. 21).

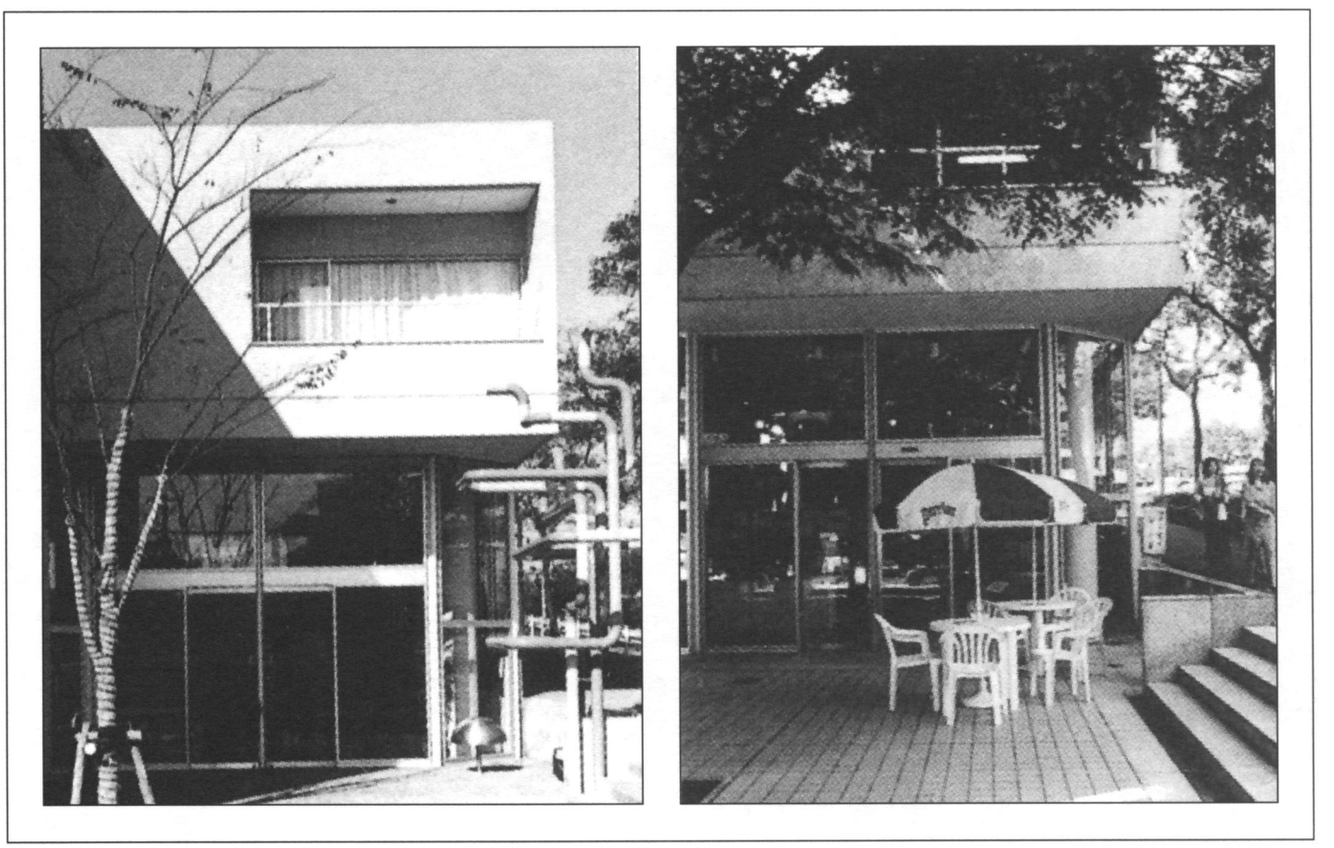

Fig.18: Hillside Terrace, Phase I, in 1969 and 1995. (*Source*: Maki and Associates, *On Maki Architecture/Maki on Architecture,* Tokyo, Fumihiko Maki Traveling Exhibition Executive Committee, 2001, p. 65, courtesy Shinkenchiku-sha).

providing shade.

Hillside Terrace has different patterns of housing: the terrace house; the glass house; the one-room "mansion" (apartment) and others as well. Over the past 30 years the mode of living has changed in Tokyo and each phase responded to different needs, including that for smaller housing units. Figure 10 shows the traditional "cultural asset" house within the woods as well as an aerial view of the surroundings of the Hillside Project, with its buildings in highlight.

Conclusion

During my career, I have designed a variety of buildings not only in Japan but also overseas: museums, university campuses, convention centers, and high-rise office buildings. However, when asked which one gave me the most satisfaction as an architect, in my 50-year career, I do not hesitate to say Hillside Terrace. I consider myself fortunate to have been given the gift of Hillside Terrace, begun in 1967. What made it a most rewarding experience was that the client, about my own age, was a person with whom I was able to share hopes and aspirations. The project has grown on me, as have the people involved, and it has been a rare opportunity for me as an architect to be active in giving birth to a community. A local consensus has emerged, and owners are not giving in to the obsession for high-rise buildings.

In a large metropolis like Tokyo, I think that besides the need for more community architects and community planners, there is also a need for community developers. Today, in our societies, the big capitalists come in and grab land to make huge buildings then go away. That seems to be one of the problems being faced in the metropolis, not only in Tokyo, New York, Chicago or even London, but in other places too. The question is: how can we act in the community for its betterment?

Editor's note

Prompted by a question during the discussion (by Andrea Urushima of Brazil) Professor Maki made it clear that the "public space" within Hillside Terrace is space that has been made available for use by the public, but is actually "private" in the sense that it belongs to the landlord. Furthermore, cleaning and maintenance are carried out at the expense of the landlord and tenants.