Metabolists houses under construction

PREVI: The Metabolists' First, Last and Only Project

BY EUI-SUNG YI

With the special assistance by Bridget Ackeifi

Cities in the sky, superhighways over the seas, floating layers of techno-villages. These utopic proposals for Japan were generated by a passionate and extraordinary group of young Japanese architects fueled by the futuristic vision to rebuild their nation. Parallel to their idealism, was the path of Peter Land, an Englishman by way of Yale and South America, tasked to plan housing for the poor. Incredibly, their idealism would cross and the Metabolists' first and only project would be for a United Nations social housing development in a place very far from Japan: Peru. Eui-Sung Yi sat down with the group's last living member, Fumihiko Maki, and the organizer of the project, Peter Land, to discuss this project and its place in modern urban design (read the interviews in pg. 65 and 68, respectively).

Nearly 50 years ago, architect Peter Land initiated an architectural competition for the Peruvian capital of Lima. The humble British architect did not devise a competition meant for the design of an *avant-garde* form for a museum or civic monument. Instead, Land, with the support of his friend and President Fernando Belaúnde Terry and prestigious members of the Peruvian academia, asked the invited architects to transform the traditional forms of social-housing within Lima's informal settlements. What Land and his supporters did not expect was that this small but complex project in Lima would transform ideas and practices of social housing around the world.

The project would be referred to as PREVI *(Proyecto Experimental de Vivienda)* and it was conceived in order to combat massive housing shortages for the fast growing population of Lima in the 1960s. Peru was not the only nation that needed to manage developing slums due to increasing rates of rural to urban migration during the mid 1900s, but what set Peru and the ambitions of Land and President Terry apart from others was their commitment to good design and their holistic approach to community at large.

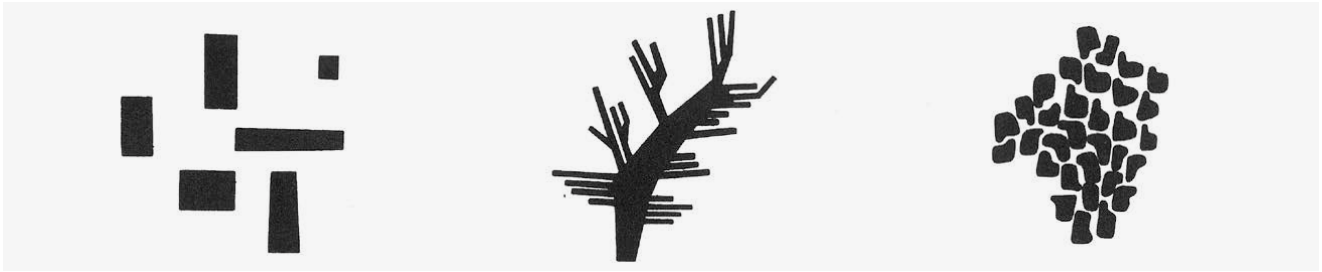
By the start of PREVI, Land had already integrated himself in the upper echelons of Peruvian academia and society as the coordinator of the nation's first planning program at the nation's University of Engineering. Then for two years, Land traveled through Peru, investigating the country's existing social housing developments; it was then that he was inspired to make Peru's social housing into a national and international discussion. Land quickly gained the stamp of approval by President Terry, acquired land on the western edge of the city, near the airport, and began writing budgets, drawing lists and organizing resources.

The competition was an immense undertaking. In the end, there were 86 different designs, 467 built homes housing over 2.800 occupants, a school and a nursery, all within 12,3 hectares of property, located only 7 km west of Lima's center. Land asked a total of 26 architectural firms to submit designs: 13 international teams[1] and 13 Peruvian groups[2] both composed of emerging and progressive architects. Each architect, or group of architects, was handpicked and visited by Land; he wanted to be sure that each group knew and understood the fundamental ideas of PREVI. Land intended for only six of the 26 schemes to be rewarded and built – 3 Peruvian design and 3 from the selection of international architects. Though the jury had distinguished six winners, Land felt that to truly gage the effect and resilience of each design, each one would have to be constructed.

One of the groups of architects chosen to complete a design for W was among the list of three winning international designs; it was a group that shared similar ideas of society and design to the project's creators and they called themselves Metabolists.

Metabolism formed across the globe. It was a group of inspired Japanese architects determined to rebuild their nation on the basis of technology and ability for a city to adapt and rebirth itself. The group's name originated from the theory of metabolic change. Metabolism hailed from the integrated promise of technology and social integration of the 1960s. It was established during a very unique time of simultaneous post-war infrastructural depletion and economic boom. The group was comprised of the architecture critic, Kawazoe Noboru, notable architects Kenzo Tange, Otaka Masato, Fumihiko Maki, Kikutake Kiyonori, Arata Isozaki and Kisho Kurokawa; and designers Awazu Kiyoshi and Ekuan Kenji. Their goal was to plan an innovative and large scale project that could protect the capability for

01 *PREVI*, Lima, Peru, 1970s. Aerial photo. © Peter Land.



02 Approaches to collective form: "compositional form", "megaform", "group form", respectively. © Fumihiko Maki, ***Buildings and Projects***, New York, Princeton Architectural Press, 1997, p. 209.

individualization of a home. As their manifesto proclaims, "The reason why we use such a biological word, *metabolism*, is that we believe design and technology should be a denotation of human society. We are not going to accept metabolism as a natural process, but try to encourage active metabolic development of our society through our proposals".[3]

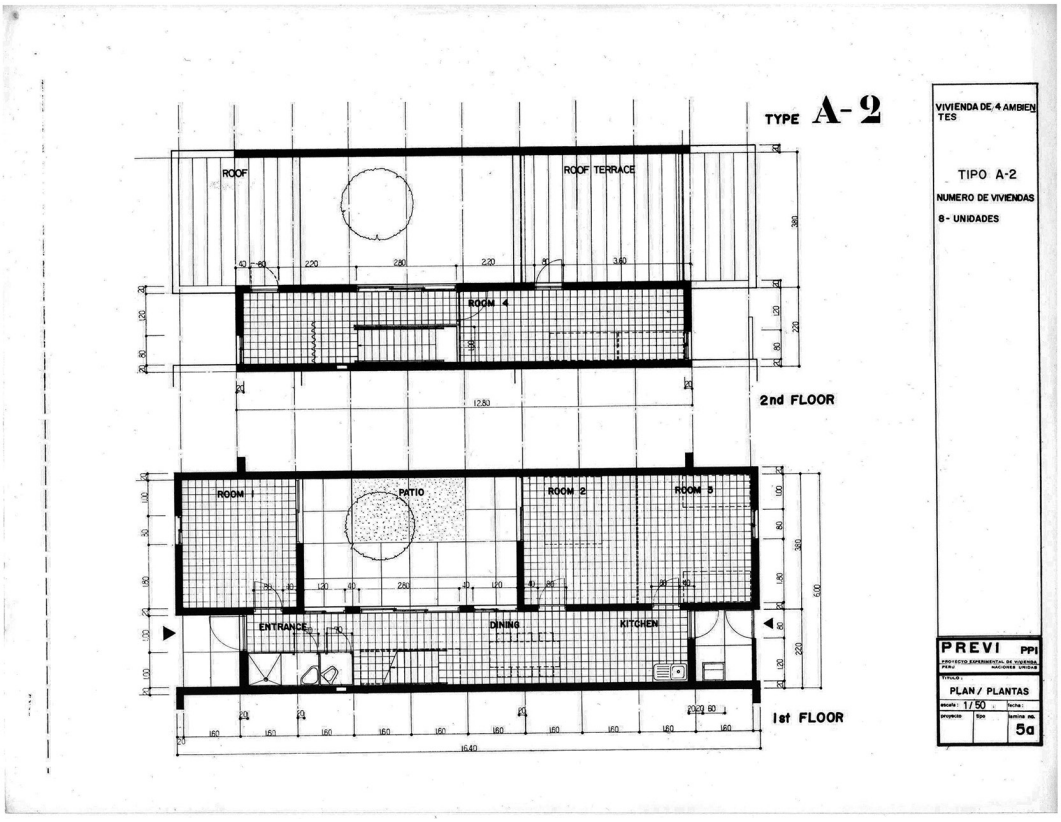
The group was not only composed by architects but also by urban theorists. Fumihiko Maki's scholarly approach to urban design distinguished him among the group. In 1964, while teaching at Washington University in St. Louis, Maki published an article titled "Investigations in Collective Form". The article discusses the umbrella topic of "collective form", a cataloguing of contemporary planning and organizational strategies. "Collective Form" is organized into three categories: "compositional form", "mega form", and "group form".

The first category of "collective form" was most representative of Le Corbusier's arguments and manifesto concerning his urban planning and social architecture. As a direct criticism of European traditional medieval fabric, "compositional form" argued for the return of nature and open space in the urban fabric, made possible through the effective packaging of humanity. Dense habitation were served as objects in the field, seeded on grand, open public spaces that produced a reverse figure-ground from classical plans. "Compositional form" was the most prevalent urban philosophy throughout the first half of the 20th century but in Maki's words, it was "static".

Kenzo Tange led the charge for urban "mega form". His seminal Tokyo Bay Plan (1960) was an ambitious and bold vision for Tokyo's waterfront. By integrating architecture, city and infrastructure in a single mega-structure, Tange liberates habitation from the congested land and moves humanity over the sea. Emblematic of the Metabolism movement, this project represent the "top down" model of a singular planning author.

In contrast, the philosophy of Maki's "group form" proposes a "bottom-up" model where individuals and communities incrementally can adapt, react and respond to an emerging set of conditions and parameters. This aggregate growth model advocates for the traditional and organic process of city growth, demonstrating the model through traditional vernacular village patterns. In his essay, Maki highlights many of this plan's opportunities and benefits including the possibilities of multi-functional buildings, the benefits of collective, large scale public investment, opportunities to meet environmental needs within the design and the potential to form dynamic communities.

Links are where Maki's "group form" plan excels. During his travels through small towns and villages of the Middle East and North Africa, Maki observed the organically built environments and began to recognize the patterns in form, order and material that not only told the city's past but could anticipate its future. He wished to replicate the organic look and feel of these villages by implementing a dynamic system of design. To Maki, linking is assembling patterns of experience in cities, and he believed that by re-



03 Kikutake, Kurokawa & Maki, *PREVI*, Lima, Peru, 1960s. Plan. © Peter Land.

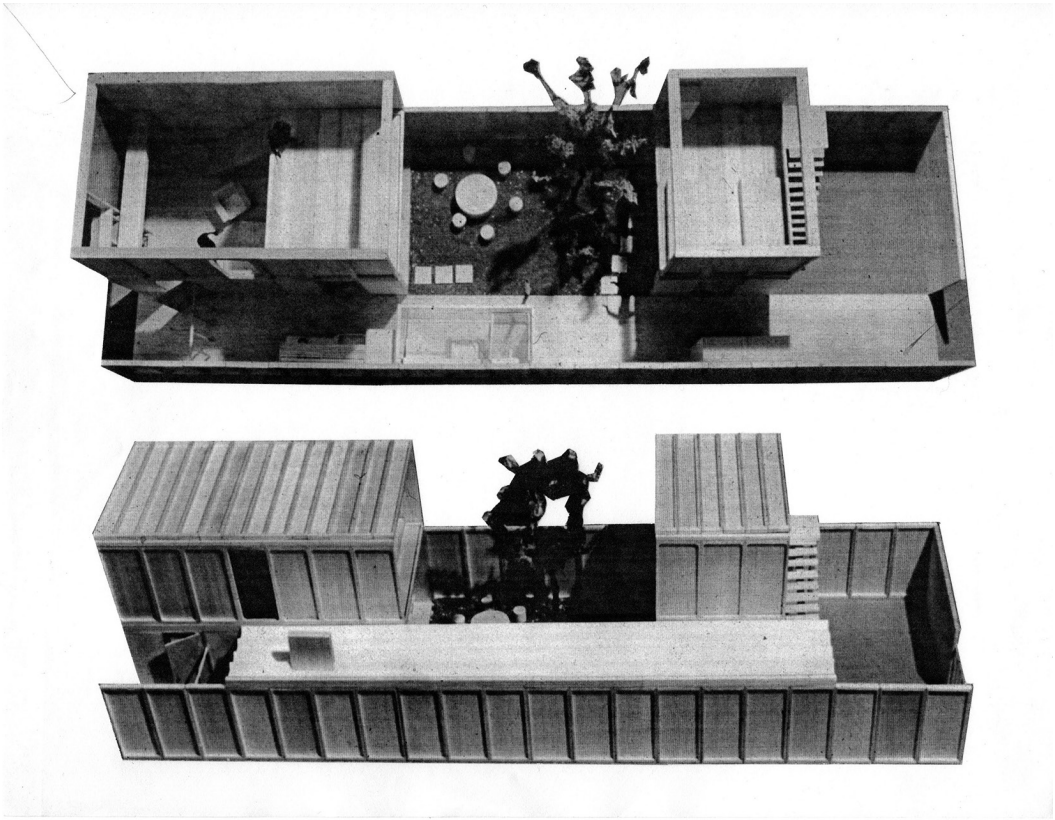
peating the patterns of links, one could expand and change the city indefinitely.

Transformation and adaptability only adds to Maki's theory of "group form" to stimulate an organic urban landscape. Furthermore, the theory confronts one of Maki's foremost complaints on urban master planning – that the plan requires an end result, a finished product denying the city of expansion and evolution that inherits urban society. Maki's philosophy aligns closely with the contemporary theories of emergence and parametric planning where a set of intelligent cells adapt and react to the ever-changing circumstances of the environment. His multi-generational, multi-phased Hillside Terrace (1968) became the prototype for this type of growth in Tokyo.

In the mid 20th century, social housing projects were mostly known to be large blocks made of cheap materials arranged in monotonous rows. Many of these developments became centers for delinquency, vandalism and crime. Peter Land and President Terry were determined not to repeat the past mistakes of others. With varied architects and typologies, the overall space of *PREVI* created a campus of irregular, unique spaces that deviated from more traditional ideas of social housing developments stucked to monotonous forms and structure. However, the project was divergent in more ways than planned. The program embraced transformation instead of denying it. In ideology, *PREVI* rejected the inflexible forms of the apartment tower or mega-block structure and shifted toward a low rise, high density strategy. The discourse of social housing insisted that architects should build a unit home with the expectation for its owner to enliven each foundation with personal and familial personalization, growth and transformation.

It came as no surprise that, when Peter Land drew up his list of international architects to be invited to submit proposals for the *PREVI,* that the Metabolists sat atop that list. Land traveled to Japan in the late 1960s with intention to ask at least one of the Metabolists to submit a design, though he wanted more of the group to be involved. As Kenzo Tange was the eldest of the group, Land first approached him to ask for his advice on how to proceed. By the next morning, Tange had established that Kisho Kurokawa, Kiyonori Kikutake and Fumihiko Maki would submit a design and Land would become the Metabolist's first, and only client.

The Metabolist team constructed long thin units mostly made of precast concrete, each one on long rectangular plots, each unit anchored by a courtyard, the form allowed for the homes to be arranged efficiently in rows while granting each home owner rights to build vertically. The home original design measured 97m2 with the intension that with familiar growth it could easily become a 124m2 home. However, the Metabolist's design, in particularly, excels in its ability to be transformed. When Land was asked to reflect upon the Metabolist design, he describes it as "an original idea", noting the elegant geometry and nice proportion of the group's design. "Well, that's Maki." Land continued, "he has good taste".[4]

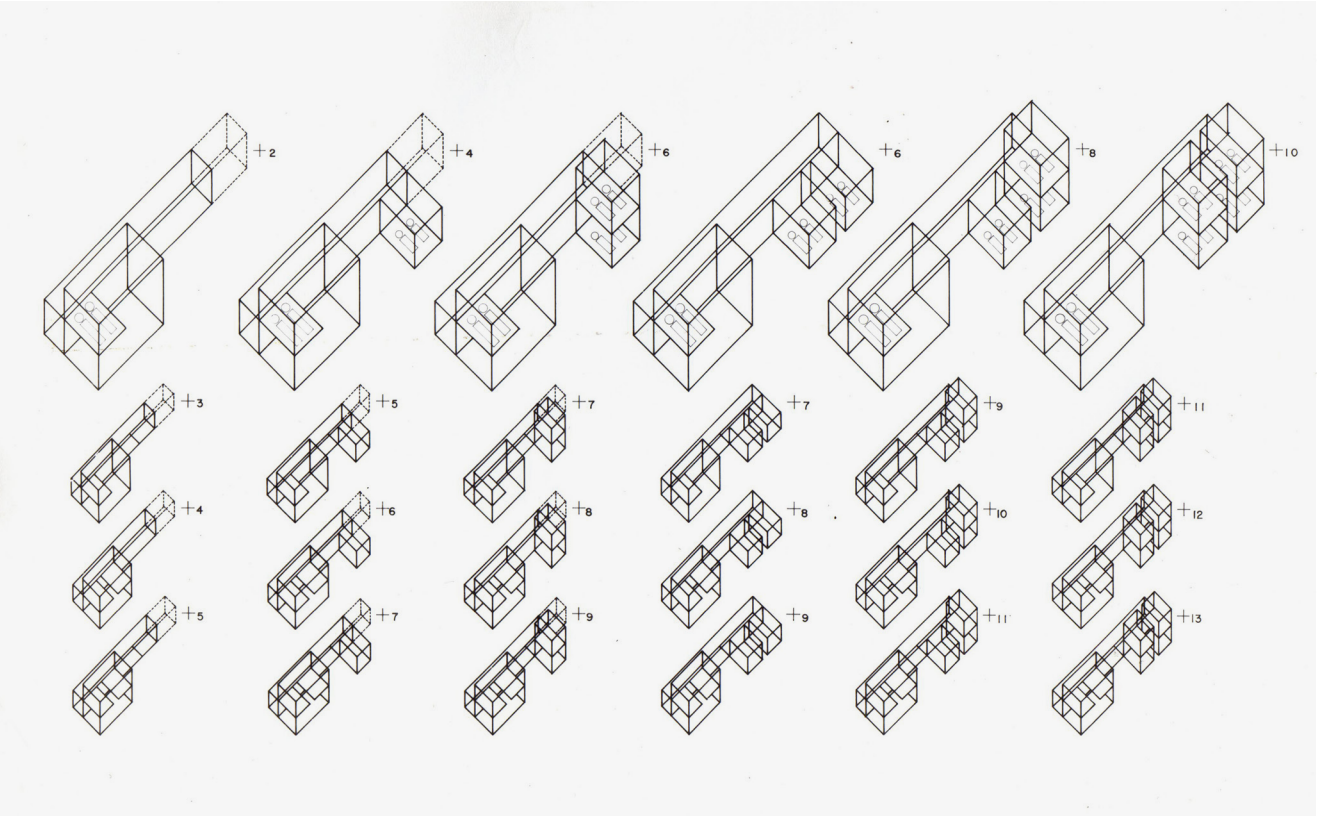


04 Kikutake, Kurokawa & Maki, *PREVI*, Lima, Peru, 1960s. Study models. © Peter Land.

Forty years later, the homes have transformed and not just in decoration. As a family grew in numbers and financial ability, the home could extend horizontally as well as vertically. Many homes were built far beyond the intended square footage even up to three times the original design. As every meter was utilized, third and fourth floors were constructed, the front and back patio space were transformed into bedrooms or shops and the roof and its free flowing air were exploited as patios and laundry rooms. The space allowed the houses to be not only a support for the family but also be a source of income. Families built stores, made workspace and rented to tenants, adding immense economic potential to the home as well.

Not only could the individual units grow but the overall design of the system could continue in the conceived pattern, as Maki and Land imagined for the project as architects and planners. However, the full design of *PREVI* was never completed; only half of the complex was ever realized and did not continue to meet Lima's need for social housing. Still, the project was a success. In 2011, architectural critic Justin McGuirk visited *PREVI* to study the outcome of the housing project nearly 50 years later. "Tinted windows and hacienda styling may not meet with architects' approval but they speak volumes about owners' pride and aspirations".[5] McGuirk writes, "Therein lies one of *PREVI*'s great successes. People didn't move out as their financial situation improved. Residents stayed and turned a housing estate into what feels like a middle-class community".[6] Today, the homes are filled with people, transformed into larger, more colorful, homes, schools, restaurants, or libraries adorned with light fixtures, tiles, and landscaping. In interviews it is clear that the neighborhood takes pride in their homes and environment, commenting on the lack of crime in the area, the additions to their homes, their economic opportunity and even the football teams named after the nations that their home's architect originated.

Metabolism's *PREVI* home is the only realized structure the group ever built. In his article McGuirk comments on the philosophical connection between Metabolism and *PREVI* by describing the project as "the Metabolist utopia". Although the group did not design and build as a group, they continued to practice architecture separately. Metabolism's core ideals were brought to the innovative platform of change and transformation for *PREVI*. Ultimately, Peter Land's commitment to an ever changing entity supported the evolution and transformation of the community. Still, it was not the form that garnered the scholarship of Metabolism for designers and researchers for decades to come – it was the group's ideas and intentions that significantly shook up conservative ideas of design and society while pushing it into the future. ▮



05 Kikutake, Kurokawa & Maki, ***PREVI***, Lima, Peru, 1960s. Expansion strategy. © Peter Land.

Editor's Note

PREVI, acronym for *Proyecto Experimental de Vivienda* (Experimental Housing Project), is the result of a consultation process initiated in 1965, by the President of Peru, Fernando Balaunde Terry (1912, Lima – 2002, Lima), with the goal of developing a social-housing program able to regulate the spread of self-construction in informal settlements that was taking place in Lima, as a consequence of the unstoppable migration flows to the city.

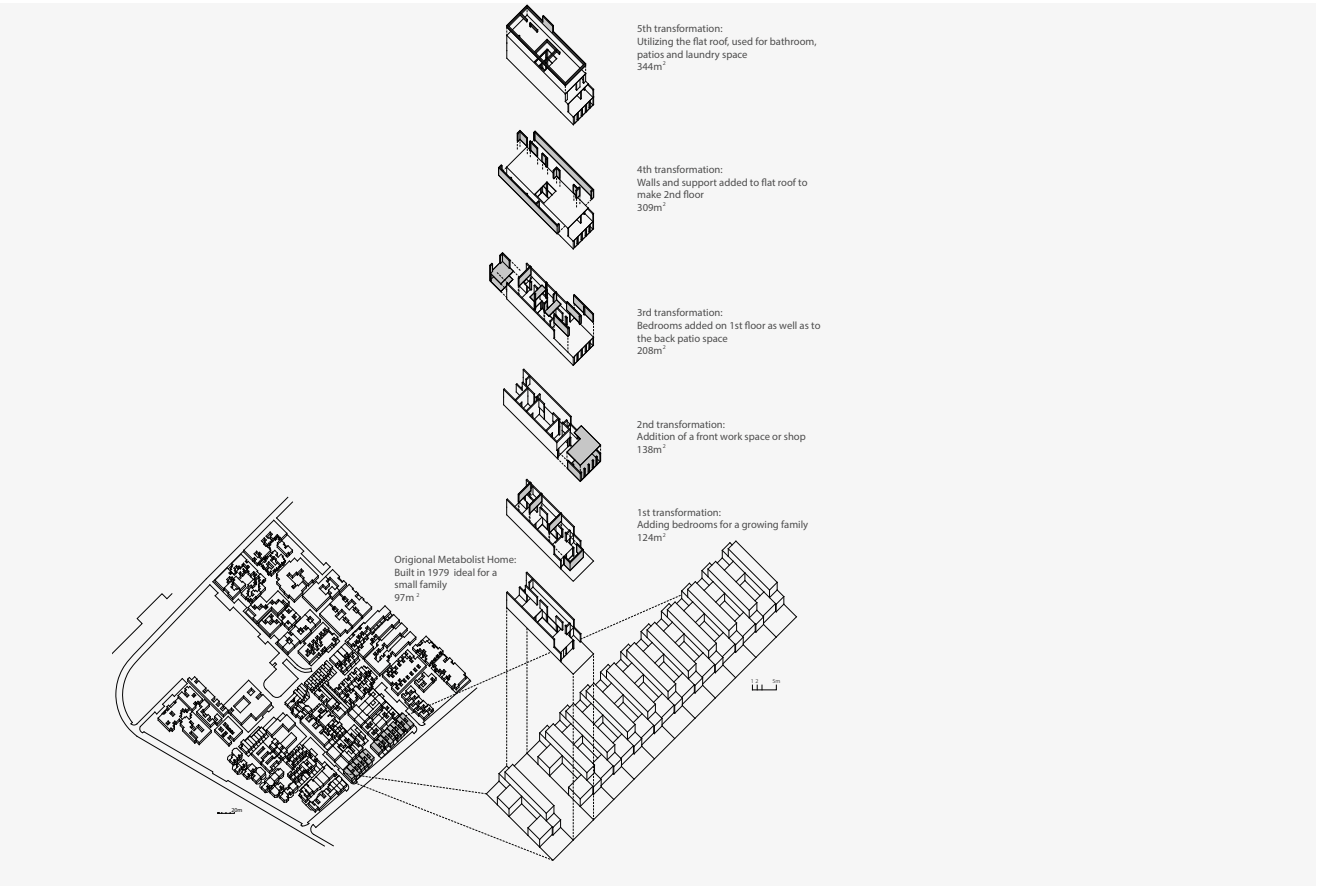
Asked by the Government of Peru and by the UNDP (United Nations Development Program), the architect Peter Land conceived and carried out the project as UN Project Director.

In 1969, an international competition was organized for the design and construction of a sustainable neighborhood of 1.500 dwellings. The urban principles required were human scale; pedestrian orientated environment; high-density and low-rise development; small private courtyards; allowing to grow and to adjust over time; new and appropriate building technologies; earthquake resistance.

In the same year, the jury selected 6 from the 26 participating teams, half Peruvian and half international. Kikutake, Kurokawa & Maki, Atelier 5 and Herbert Ohl were the 3 international groups chosen among the participants. However, the PREVI international jury ended to decide that all the 26 projects would be built, within a Master

Plan defined by Peter Land, due to its high quality and the experimental character of PREVI. The projects designed by Herbert Ohl and Takahashi were the only ones not to be built due of their not affordable technical and material complexities.

Between 1969 and 1976, the projects were developed and the first phase of 500 dwellings was constructed. The houses were delivered between 1978 and 1979. The remaining 1.000 accommodations were intended to be developed in a second phase, but this did never happen.



06 Kikutake, Kurokawa & Maki, *PREVI,* Lima, Peru, 1960s. Axonometric showing new generational additions and expansions. © Peter Land.

Notes

1 James Stirling (England), Knud Svenssons (Denmark), ERC & Samper (Colombia), Atelier 5 (Switzerland), Toivo Korhonen (Finland), Charles Correa (India), Kikutake, Maki & Kurokawa (Japan), Iñiguez de Onzoño & Vásquez de Castro (Spain), Hansen & Hatloy (Poland), Aldo van Eyck (Netherlands), Candilis, Josic & Woods (France), Christopher Alexander (USA), Herbert Ohl (Germany).

2 Miguel Alvariño; Ernesto Paredes; Miró-Quesada, Williams & Núñez; Gunter & Seminario; Morales & Montagne; Juan Reiser; Eduardo Orrego; Vier & Zanelli; Vella, Bentín, Quiñones & Takahashi; Mazzarri & Llanos; Cooper, García-Bry ce, Graña & Nicolini; Chaparro, Ramírez, Smirnoff & Wiskowsky; Crousse, Páez & Pérez-León.

3 AA.VV., *Metabolism 60: The Proposals for a New Urbanism*, Tokyo, Bitjutu Syuppan Sha, 1960.

4 "Fumihiko Maki interviewed by Eui-Sung Yi", *Docomomo Journal* 50, Lisboa, 2014, p. 65.

5 Junstin McGuirk, "PREVI: The Metabolist Utopia", *Domus*, 21-April 2011.

6 *Idem.*

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Eui-Sung Yi

(b. 1968, Seoul, South Korea). BSc in Architecture, Cornell University; MSc in Architecture (1996), Harvard University. Principal of Morphosis Architects and Director of the NOW Institute, a center for urban research and speculations at the University of California, Los Angeles (UCLA). He has been involved with academia and scholarship for over fifteen years in Asia and in the USA, where he worked extensively. He was adjunct associate professor and Director of the Master of Architecture programs (2007-2010) at the USC School of Architecture, in Los Angeles, and Vice President of Design in Chang-jo Architects, in Korea, where most recently, completed his competition-winning Korean Embassy in Tokyo, Japan, and the Korean Consulate, in Guangzhou, China. He is a member of **docomomo** International Executive Committee, acting as the representative of the chapter hosting the 13th International **docomomo** Conference, **docomomo** Korea.

Fumihiko Maki Interviewed by Eui-Sung Yi

On April 2014 Eui-Sung Yi interviewed Professor Fumihiko Maki, the Metabolism group's last living member, in order to discuss the design process of PREVI and his ideas on Collective Form.

Fumihiko Maki was born in 1928, Tokyo, studied architecture at the University of Tokyo (BSc, 1952) and then attended the Cranbrook Academy of Art (MSc, 1953) and the Harvard University Graduate School of Design (MSc, 1954). After his graduation, Maki remained in the United States and worked in the office of SOM (Skidmore, Owings and Merrill), in New York, in the office of Sert Jackson and Associates, in Cambridge, and in the campus planning office of Washington University, in St. Louis. He also taught architecture and urban design at Harvard and Washington University.

When he returned to Japan in 1965, he established his own architectural firm, Maki & Associates, in Tokyo, where he also became a professor at Tokyo University, until 1987.

As one of the most prominent architects in Japan, Maki has been internationally highly honored by many awards, including the Japan Institute of Architects' Award (1985), the American Institute of Architects' Reynolds Award (1987), the Wolf Prize, from Israel (1988), the Pritzker Architecture Prize (1993), the UIA Gold Medal Prize (1993), the Prince of Wales Prize in Urban Design, by the Harvard University (1993), the Praemium Imperiale from the Japan Arts Association (1999) and the Arnold Brunner Prize from the American Academy of Arts and Letters (1999).

Maki's publications include *Metabolism 1960* (Bijutsu Shuppan-sha, 1960), "Investigations in Collective Form" (The School of Architecture, St. Louis, Washington University, 1964), *Kioku no Keisho* (Chikuma Publishing Company, 1992), *Nurturing Dreams: Collected Essays on Architecture and the City* (MIT Press, 2008) and *Fumihiko Maki: Selected Buildings and Projects 1960–2012* (Phaidon Press, 2009).

YI Professor Maki, thank you for taking the time for this interview for the **docomomo** *Journal* on High Density with a focus on Asian Urbanism. Let me begin by asking you about your urban theory of Collective Form. Would you consider Hillside Terrace [Tokyo, 1969] one of the most successful examples of "Collective Form"?

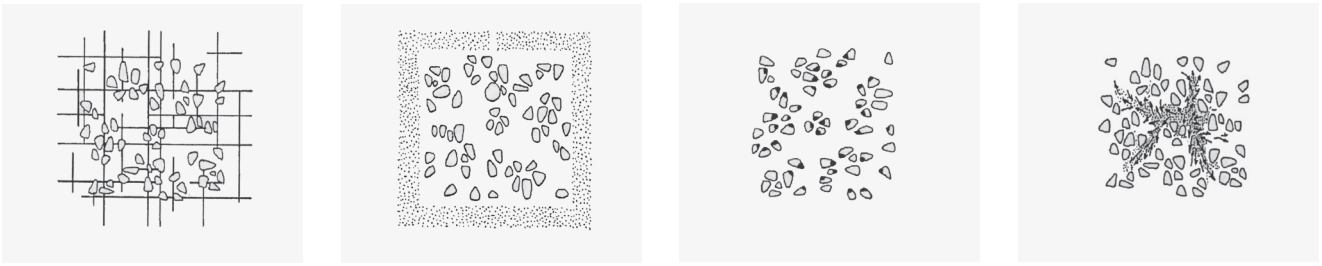
MAKI The Hillside Terrace is done in 6 phases. The first phase was site at the core and also the program. At that time we were at a certain phase of modernization. Then the 2nd phase was built with different site conditions and with similar but different program. Also, myself as an architect might have been influenced by the changing lifestyle in Tokyo over the 25 years. So the question is if the Hillside Terrace can be called one of the examples of "collective form". I think the strength does exist in the public spaces which connect all those heterogeneous elements. In 1964 when I did the investigation of "collective form", the second chapter was about linkages. Linkages could be open space, could be physical connections, etc... which is open to every architect. [...]

YI As you know, the theme of the 13th **docomomo** International Conference, in South Korea, is "Conflict and Expansion" across the world. Especially intriguing is a Japanese architect going down to Peru. Were all the cultural issues in the project either universal or were there influences that you specifically brought from your past and heritage? I want to ask you if this project was a continuation of your essays on "collective form" and if you, Kurokawa and Kikutake thought this was a chance to demonstrate it.

MAKI I think that the Peru project was the only collaborative work among Metabolist — namely, Kikutake Kurokawa, and myself. We were always talking about metamorphosis, changes. These projects suddenly demonstrated how the changes took place and were a good demonstration of our idea of metamorphosis. In many ways this definition of space was dictated by the program. Peru is a Catholic country and people may produce quite a number of children. So the program said you have to be able to not just build for 6 children but to be able to grow. Our idea was to have a two story element on the spine. Then, one story high room or space. We thought you are able to build additional space over the one story element.

Because, as you know, in Lima doesn't rain so much. It is quite easy for people to have a self made system. They can buy the components of a house, or small building, in the shop and you can carry them and then make the building themselves. But it is a very crowded place. The first Indian thought by bringing the first Spaniards was "they might get sick" but they did not get sick.

What we did not expect is that they would add more floors! I saw a picture of them showing three floors. A couple of years ago I met some researchers in the ETH Zürich [Eidgenössische Technische Hochschul] that showed me a four story high building. I was very much afraid that it might collapse without a sufficient foundation. It demonstrates how people can transform their own houses. Many successful people who made money started to have a shop in the front instead of a bedroom. I think this really shows a different socialization process. I feel that this is a very good example of Metabolist philosophy: *to be able to respond to changes.*



A B C D

07 **(A)** Mediate: Connect with intermediate elements or imply medium (including composed open space).
(B) Define: Enclose disparate structures with a sensible barrier. Produce unity within the barrier and separate from what is outside.
(C) Repeat: Give each element a feature common to all in the group so each is identified as part of the same order.
(D) Make a Sequential Path: Place activities that are done sequence in identifiable spatial relation to one another.

YI Would you say this was the first and the last collaborative Metabolist project?
MAKI Yes, the first and the last. We all went different ways after this. If you look at Metabolist carefully, they are all different. But for me it was a very good experience.

YI Were you in contact with a lot of the other architects at the same time too? I know that Christopher Alexander and James Stirling were all invited as well.
MAKI Yes, and Aldo Van Eyck and also Charles Corea. They were all in the project.
I must confess I did not have a chance to visit the place after we submitted the design. But we are doing a small project near Cuzco right now. So I should go to see it.

YI Are you philosophically ok with the owners taking ownership and changing it?
MAKI Oh yes. Nothing is a problem. No consultation. They just did it.

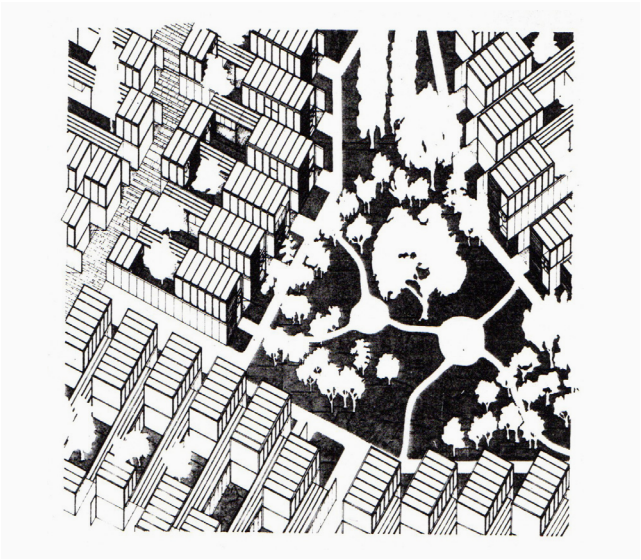
YI I am looking at the way you proposed the technology of this project. Which among you were more driven by the social planning of the design and which one were more technical?
MAKI The master planner was a British man, Peter Land. He lives in Chicago. He used to teach at IIT [Illinois Institute of Technology]. You should really interview Peter. He's much better than me. He really formed the scheme. This was his life's work. Technology, new kinds of brick and concrete blocks were developed by him. That was his baby. He asked everyone to use the same one because he considered this to be safer for earthquakes. Lima was visited by a very severe earthquake way back in 1960 so UNESCO thought that they could make some help and Peter was the person in charge to develop it. I don't know too much about the detail but we were asked to use that system.

YI Did this project contributed to your evolving theories of urbanism?
MAKI It's difficult to say. Honestly speaking, the project with Kikutake and Kurokawa was a very pleasant memory; that's all.

YI This project has been very highly regarded. This was about bottom up urbanism, rather than top down. Everyone is looking at this all over again.
MAKI I was amazed. I told you when I gave a talk at ETH Zurich two years ago, someone in the school made an extensive study on this one. Last February we had an international conference on urbanism and community architecture here in Yokohama. One of the speakers invited, from Chile, was there and he's the author of this one [hands over the book GARCIA-HUIDOBRO, Fernando; TORRITI, Fernando Torres; TUGAS, Nicolas, *¡El Tiempo Construye!* , Barcelona, Editorial Gustavo Gili, 2008].

YI These drawings show these utility cores. Was your philosophy to have this utility core but to have everything loose and expanding?
MAKI The utility core as a whole is a connector. Originally we only had one stairway because we assumed it would be only two stories high. The teaching and the toilet are more flexible spaces from which you can go into the spaces or you can travel via this link. That was the concept. And now they built three floors!

YI If you look at the Le Corbusier's Pessac workers housing (1923), you see now the owners coming in and putting big gables, decorations...
MAKI You know, a friend of mine from Singapore published a book on Asian urbanism. What interested me very much was that in Taipei there is a one story apartment. and they added a terrace between both facades which they are



08 Kikutake, Kurokawa & Maki, *PREVI*, Lima, Peru, 1960s. Axonometric Site Plan. © Peter Land.

09 Kikutake, Kurokawa & Maki, *PREVI*, Lima, Peru, 1960s. Houses under construction. © Peter Land, 1970.

using it. It's a different way of growth. People adding more stories to the roof is changing the skyline of Taipei and I'm sure that is not compliant with the laws. So when I look at this I realize that anything can work. Even this is the growth within a given territory, always somebody will violate or forget about such a rule. It's amazing.

YI You were responsible for allowing the front section to become a store.
MAKI Yes. We only anticipated. They indicated there might be changes they might make. What interested me was that it wasn't a residential district and having a store was not considered. Nevertheless people dared to make a store, were trying to make money. I did not know what they are were selling but that's the situation.

YI Everyone compliments you for having that idea, for understanding that people could upgrade economically.
MAKI This is a kind of an open planning; people could do whatever they want. I'm sure that the open space that we created between the two low floors could be filled. You don't know...

YI How many times did you go down there? I imagine that everyone only went once for the field visit.
MAKI Yeah. I remember James Stirling... he loves to drink and when Peter Land organized a tour to see all the important people in Lima – do you know Pisco Sour? – in the afternoon James Stirling didn't appear. We asked what happened and he had too much Pisco Sour in the morning... This is a story I remember. [laughs].

YI At that time, I imagine that you and Team 10 were the two main theoretical groups. ...
MAKI But you know, my contention here is that Team 10 wanted to almost destroy CIAM, you know the revolutionary force by the young people. But then Mathias [Oswald Mathias Ungers] made the opposition against Team 10. But at least in those days, since we were in the same boat, we were making friends and also enemies. It was a rivalry sort of time. Today everyone gets along. Maybe they are just chatting friends, but there are no really enemies, people avoid to make confrontations. Also, they just don't make too many friends. That is the phenomenon, quite different from the 60s and 70s.

YI Do you feel there is a lack of passion and energy now?
MAKI Yeah, yeah. Because we were all concerned: where we are going in the same boat? Where is our destination? But such a feeling doesn't exist. It's a different kind of media. It takes care of certain things. Not like the time when we practiced. So I told you, the guest of honor in the big boat were Aalto, Mies, Le Corbusier, and maybe Frank Lloyd Wright. I was just reading an essay in which Berlage in Netherlands was very impressed by the work of Frank Lloyd Wright but I think that Europeans feelings toward Wright are very ambivalent. They never said yes or no; somewhat indifferent. When I was a student at GSD [Harvard Graduate School of Design], I was Corbu, not a Wright man. It's a very interesting period. Berlage was very impressed by Frank Lloyd Wright but I've never heard such remarks by any European.

YI How did you work together?
MAKI Kikutake and I did a lot of work together. Sometimes Kurokawa go missing and then we saw him on TV [laughs]. How did he have such a time! He should be here.

YI How long did you work on this?
MAKI A couple of months. Peter Land came to Tokyo to see us. He came and gave us ideas. Peter Land had one project in his life. We had a few dozen projects... This is really his child.

Peter Land Interviewed by Eui-Sung Yi

On July 2014 Eui-Sung Yi interviewed Professor Peter Land, the UN Project Director of *PREVI*, in order to further understand its development process.

Peter Land was born in UK and studied architecture at the Architectural Association (1955) and at the Royal Academy of Arts (1956), in London, and has master degrees from the Yale University (1958) and from the Carnegie Mellon University (1958), in Architecture and Urban Planning, respectively.

Before *PREVI* (1968-1974), Peter Land was UN advisor to Housing Bank of Peru, on government urban policy (1965-1968) and after *PREVI* he has continued carrying out research and design development on urban densities and energy efficient sustainable housing and planning, at Harvard University and IIT.

He has been awarded by the National University of Engineering of Lima (1964), IIT (Excellence in Teaching Award, 1978), the National Endowment for the Arts (Distinguished Designer Fellowship, 1988), and received a grant from the Graham Foundation (2012), for the publication of a book about *PREVI*.

Peter Land is currently professor at the IIT, in Chicago, where he carries out interdisciplinary research about energy efficient structures, able to response to the future needs of the built environment.

YI Professor Land, thank you for taking the time to discuss *PREVI*. Can you frame *PREVI* within the context of other projects in South America?

LAND Not many people know about *PREVI*. Latin America has a Modern Movement. Mexico, Panama, Colombia, yes and Lima too. They all have mini Modern Movements.

YI They probably had their main *zeitgeist* in the 60s. Right after everything that was happening in Brazil.

LAND I think it's true to say that PREVI has been discovered, or rediscovered. There was never much known about it anyway. I had something to do with that because I was not very keen on advertising it. I was so busy in Lima, it was a big project, finding the financing and getting collaboration. A number of things... The really important thing to understand is that the success of the project was serendipity, an accident.

YI For the United Nations?

LAND Yes. It was a very exciting period actually. There are so many things to say; I don't know where to begin. I arrived after I completed my degree at Yale. I worked at SOM [Skidmore, Owings & Merrill] in New York for a while... so I had some experience as architect before I found the new world.

In Lima, attached to the Institute of Engineering there was found funding for a two year program on Urban Region Planning. They had already had Urbanism and that was expanded into interdisciplinary two year degree for all Latin American. I spent two years organizing and designing the planning curriculum, and two years running the program as director in collaboration with Yale. For that four years of work, the government decorated me with the *Order of the Sun* and also I was made honorary professor of the National University of Engineering in Lima. So that was nice, but when it was all finished I got on a boat and I went back to England. Then I received an invitation from the Peruvian government to go back to help them with housing; which I had always been interested in.

I agreed to come back and they arranged me a contract with the UN [United Nations]. So I went back and I spent almost two years traveling the country and looking at housing programs, recommending ways to make things better and so on... Suddenly, it occurred to me that it was the time to do something with an international splash and something interesting for the country.

I wrote up this project. I had very good relations with President Fernando Belaunde Terry. I was already in Peru and I had very good contacts through the University and he said "I like this project - let's do that". So, I wrote the whole thing up in some detail, made a budget and went to New York with the Minister of Housing and we put together the whole thing; it was a question of organizing. As soon as the international limits were assigned I took off and took a trip around the world. This was all before internet and even international telephone calls were not easy as Peru was a very remote country at that time, so the only way to do it was hop on a plane and go around the world.

So I flew off to Japan, to spoke with Kikutake, Maki and Kurokawa. Then I went to India to speak with Charles Correa, then Finland, Germany, UK, etc., etc... I already knew what was happening in this field, I knew about CIAM and Team 10. So I knew what I wanted and there was much interest in my proposal. Everybody said yes. The premise of this trip was to get the *ok* from the different architect I wanted to get. The only way to do it was to go and speak with them. We didn't offer them very much in the way of a fee but there was a lot of interest.

Then we launched the project, I wrote up the guidelines for the planning and the design of the neighborhood. Then I put together the jury. The UN wanted to have a scheme that was representative of the various camps of the UN. [...] It was complicated but it went well. The Peruvian part of the competition followed the same rules, same scheduling and everything was done bilingual.

The competition was actually in two stages. We awarded 3 equal prizes to the Peruvians and 3 equal prizes to inter-

10 Kikutake, Kurokawa & Maki, ***PREVI***, Lima, Peru, 1960s. Houses under construction. © Peter Land, 1970.

11 Kikutake, Kurokawa & Maki, ***PREVI***, Lima, Peru, 1960s. Completed houses. © Peter Land, 1970.

national teams. But the submissions were extremely interesting and we decided to build a small number of houses of each of the 26 schemes. We had funding for 13 international and 13 Peruvian schemes. The competition was organized; we had a jury in Lima. It was an interesting time.

It took a while to acquire the land and build the infrastructure. We made the master plan.

It was paved streets for vehicles and pedestrians with landscaping, courtyard houses with narrow walking streets. And very much by a number of European schemes such as Siedlung Halen, it was a wonderful scheme at the time, and still is of course. And then they were the schemes in Britain and all the wonderful courtyard houses as part of the Modern Movement. And of course there was the expression of Latin America and the Arab influence, there were all courtyard cities. Peru. So it was really a natural thing to arouse interest in courtyard house as a way of living. By the way I have a little courtyard with some nice flowers. [...]

YI So you're very much supportive of dropping the seed of infrastructure and having the residents expand it in their own way?
LAND Yes. I completely agree with that. Now the PREVI neighborhood is based upon the "*casa creciente*" [the growing house]. So the geometry and organization had to reflect that.

YI Was that part of requirements for the *PREVI* guidelines?
LAND Growing house, definitely. I wrote the guidelines, it was quite a big document. The growing house was a requirement to build into the design concept. It's easier said than done, the continuity of steel calls for adequate sizing and design. By the way, the competition for *PREVI* was not just for architects. Each architect had to be associated with structural engineers.
YI Local?
LAND Not necessarily, no.

YI There was a structural system that you came up with or has recommended?
LAND There was no condition. The architect had total freedom to work with the structural engineer. We had some very original ideas, I don't know if you've seen any of the designs. This book here has very little reference to the building systems and on occasion they do mention building systems. They got it all wrong.

YI When you went around the architects were really the A-list architects of that time. They were young, also. So was it a sense of optimism, a sense of a balance with a strong design background mixed with a sense of doing something real and with a socialist agenda?
LAND Yes, yes, yes. And for me too. There was a great enthusiasm from people who were just getting back from the cold war. A number of projects had been launched to do something similar. There was a little bit of reservation until things got underway. When the project was launched I was in regular contact with the architects and the element of uncertainty disappeared. We built the infrastructure, the sewage; and the roads for all the Lima neighborhood. And the international architects made a visit to Lima, as several of the young architects in Lima went to work with architects in their countries. One went to work with Stirling in London. So there was informal exchange.

YI How did you arrive at picking Maki, Kurokawa and Kikutake?
LAND Well, I knew what was happening. The young architects at that time were all left wing.

YI What was it like when you first went to Japan? Was it your first time there?
LAND Yes it was my first time, yes. Very impressive. I think I met Maki before, I can't quite remember.

I had the three of them on my list and I didn't know how to decide what to do. We only had financing for one set of expenses. So I discussed with Maki — "what are we going to do"? What am I going to do?", so he said "why don't you

speak with Tange? He's the eldest statesmen, so he might have some ideas". So I said "that's a good idea". So Maki spoke with Tange and Tange said "let me speak with the other two" which he did. The next morning I met with Tange and he said that they've agreed to do a joint project.

YI So Tange removed himself?
LAND I don't remember. I think he was included in the group but didn't participate. It worked very well and actually Maki did most of the work. Because he spoke English and he was very good to work with.

YI He absolutely insisted I find you. He said, "you should really interview Peter". Let me ask you, given the chance to do this again, would anything change with your wisdom and hindsight?
LAND A number of things. We put a limitation at two story houses. I think it should be three... it might even go up to four. That's number one. Number two is the way of working that was good. I don't see too much to be changed. It's very nice to think of people working together but in reality it's a real problem sometimes.

YI Did you consider asking Niemeyer to participate or was he already too established?
LAND I don't think he would have been able to work on this sort of things.

Now one thing, the participants: I arranged for them to come to Lima. And they all came at the same time.

YI Wow. That must have been difficult. How did you manage that?
LAND They all came and they all spent 10 days in Lima, mostly drinking. In that time Stirling was quite big to say the least. He had a big capacity to drink. Actually I brought them to Cuzco, which is at 4.000 m. I decided that it was very important that they get a checkup. They were all checked by my own doctor in Lima. The doctor was a local guy, Dr. Berstein, and he advised that Stirling shouldn't go to 4.000 m. But up until then, Stirling had been a good boy. He decided he was going to go and he went. Some of the others like Korhonen from Finland and Ohl from Germany were thin athletic people and they got to Cuzco. The interesting thing is that Sterling had lots of energy and was rushing around but the thin athletic guys got quite ill, from altitude sickness.

YI How did you chose the original three winners and then went back to the 26?
LAND Well, we did have a jury, you know. I was on the jury but everyone had a different point of view. When I saw the submissions, I immediately realized that to build only three of the 13 would be a mistake. Some of the schemes were strong technically, some schemes were strong in clustering and some were strong in design of the house itself.

YI Interior family layout?
LAND Yes. So the ideal thing would be to build a small group of each to get a sense of what was not anticipated. I had to fight quite hard to bring that about. But then the Board of Directors agreed that that was a good idea and that became the official part. We gave these equal prizes to three and three but it was never specified that we would build the three and three, fortunately. So the Board of Directors agreed. They started at different times too, it was all a little uncertain because some schemes needed some development work, but one contract could take on one groups of twenty houses or two groups of 20 houses. It's a question of different scale, a fit more precisely, the character of the building industry.

YI So the competition was actually this entire lot.
LAND Every competitor was asked to produce a large scale scheme. Because we wanted the idea to be big scale thinking. And by the time of the completion we hadn't gotten full ownership of the site yet. So we had to think quickly about this and we said yes to this piece of land and produced a master plan, distilling this idea to something bigger.

YI Was Maki very social and integrated in Lima?
LAND You know, he's a quiet gentleman. He was livelier than what he is now. But people got along very well with Maki. He was an interesting guy, I really liked him.

YI There is a whole thing about how the architects allowed the front kind of porch to be used as an economic space like a shop or a store. Was that anything unique?
LAND No. In reality if you go to Lima now, you'll find that many shops or nursery schools, have been fitted into the space. It's a very nice economic solution. The idea was to build a shopping center right in the middle but it was never built. You see here that the school, which was my design, is pushed hard against the fabric of the houses. Carpet housing, so that school continuous with the fabric of the housing. You walk through the little streets right into the school and then you discover the space when you look out. So it's symbolically and functionally part of the fabric of the neighborhood. I think it is a very important thing because in many schools, particularly in UK, they put the school in the middle of the playing field so then the school is symbolically isolated from the playing field and the fabric of the houses. All these could be made into shops; it was easy to do that...

YI So that was basically a byproduct. That was not one of the key elements that made them winner?
LAND No. It was an original idea; I think the geometry was very good, actually. We changed it a bit. We made this [points to the smaller homes longer in length] one story and made this [points to the homes shorter in length] two stories, because the smallest house was too small.

YI So how much did you end up modifying it?
LAND It was fundamentally like this. These became concrete block walls and conventional beam and columns, with an inverted T and blocks between. But the geometry of the house, in my opinion, is really nice, with very nice proportion. Well, that's Maki. He has good taste.

12–13 Kikutake, Kurokawa & Maki, *PREVI*, Lima, Peru, 1960s. Completed houses. © Peter Land, 1970.

YI One of his seminal projects in Japan was this six phased, twenty year long development, called Hillside Terrace, and it was based on this kind of geometry.
LAND Yes. It's a wonderful scheme. Very elegant. Very similar in character, white painted concrete. I think it is absolutely wonderful. The approach to doing things incrementally and not tearing things down. I think the Japanese project is a brilliant scheme. I have some questions about the structural aspect that we talked about, but it has all the Japanese stubbornness, coherent geometry and the beautifully drawn presented in the highly drawn manner of Maki's work.

YI How does it feel like to be the Metabolist's first and only client?
LAND To be honest I don't even know what this "metabolist" word even means, but the Japanese book sort of made it into a sort of a cult. But in the way Team 10 did with CIAM. Basically Team 10 took over CIAM and made it into a cult.

YI I guess Archigram was a bit too out there to be considered.
LAND Archigram was way out there. It was a different platform.

YI Are you happy with the way the PREVI houses have been adopted and taken over with comfortable things such as a gable roof?
LAND I think it is one disappointment. As Charles Correa said, that flat roofs were an indispensable part of the design in Lima as there is not much rain there and people could live on the roofs as well. I didn't get back to Lima. I would like to make a short visit to photograph the scheme, because I am keen on getting it right and to emphasize the items that I think are important, particularly the quality and development of the landscape and the flowers. I'm very keen on that. I think that flowers and gardens play, could play, and should play a very important role as an antidote to the stress inducing character of the modern development life.

YI High density low rise. Would that be your position on the notion of density for housing?
LAND Yes. When you consider the bigger picture like land required for hospital, land required for schools, etc. etc., you find that density, which is often given by tall buildings, is not such a big advantage. Another thing I tell people is that the highest residential density in the world is in Philadelphia. The narrow frontage, 4 and 5 story row houses, beautifully proportioned and everything in the old part of Philadelphia, near the campus, are extremely high density and they use the roof as well. Narrow front. If I recall correctly they are 3 m frontage.
They are extremely high density and it's a wonderful place to live because you can walk anywhere in the dense old part of Philadelphia and there is just enough space at the back of your lot to store a Porsche.
I think there is a lot to be learned from history.

I would like to use this interview to tell Mr. Maki how I was impressed with his house design and his demeanor.
A complete gentleman. ▮