Sharif S. Kahatt

The Collective, the Individual and Self-Determination

A Metabolist Project in the Architecture of PREVI Lima

Povzetek

Kolektivno, individualno in samodoločba. Metabolistični projekt v arhitekturi limske soseske PREVI

PREVI Lima, tj. limski eksperimentalni stanovanjski projekt iz let 1968–1975, je v arhitekturi in urbanem načrtovanju mednarodno pripoznan kot relevanten model urbanega razvoja. Avtor v prispevku analizira, kako so prebivalci soseske PREVI začeli kmalu po vselitvi vanjo prilagajati bivalne enote, sosesko so dograjevali in jo drugače spreminjali – postala je njihovo območje svobode, kar se je še posebej odražalo na fasadah, ki so postale platna njihovih družbenih prizadevanj. Posledično so se stavbe razvile onkraj vseh arhitekturnih pričakovanj, vsaka sprememba pa je krepila proces samodoločanja prebivalcev; razkrivala je bitke prekrivajočih se kultur in odražala živahen proces konsolidacije perujske kulture. Prebivalci so tako uresničili ideje o participaciji, individualizaciji arhitekture in svobodi pri določanju lastnih bivalnih pogojev, čeprav na povsem drugačen način, kot je bilo načrtovano.

Ključne besede: progresivne kolektivne stanovanjske politike, samopomoč, skupnostno organiziranje, moderna arhitektura, PREVI Lima

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Abstract

PREVI Lima—Lima's Experimental Housing Project, 1968–1975—has gained worldwide recognition in the architecture and urban design fields as a relevant model for urban development. PREVI neighbours quickly started to appropriate the units, building and transforming the neighbourhood in a field of freedom, particularly in the facades, which became canvases for their social aspirations. As a result, the houses evolved beyond any architectural expectations, and every addition reinforced the residents' self-determination, revealing the struggles of the overlapping cultures, and expressing the vivid processes of consolidation of the Peruvian culture. The ideas of participation, individualization of the architecture and the freedom to build their own dwelling conditions were fully achieved, albeit in a completely different way than planned.

Keywords: progressive collective housing, self-help, community organization, modern architecture, PREVI Lima

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Introduction

In recent years, *PREVI Lima*—Lima's Experimental Housing Project, 1968–1975—has gained worldwide recognition as a relevant model for urban development. It became recognized not only for being the result of an international competition, which selected a group of internationally acclaimed architects, but also for providing an alternative urbanism, one that has already proved to be particularly important as a precedent model following the global economic crash of 2008.

Nevertheless, this internationally recognized Peruvian neighbourhood has only rarely been associated with the international utopian movements developed in Europe and Japan in the late 1950s and during the 1960s. The dramatic context of poverty and scarcity in Peruvian cities (and in its Latin American neighbours) has always been associated with ideas of pragmatism and mass production in postwar architecture. This perception has blocked an awareness of the more innovative and avant-garde architectural and urban concepts proposed in the various PREVI competition entries of 1969, which is related to a critique of mass-produced housing architecture. Experimental housing project in Lima challenged the repetitive and "closed forms" of modern mass housing—where the "users" were dominated by the built form—by designing "open forms" that would enable the inhabitants to initiate transformations, additions and expansions.

Photo of Maki-Kikutake-Kurokawa's PREVI Lima houses in 2014. Photo: Sharif Kahatt.

Moreover, although the work done in PREVI Lima is now mostly associated with ideas such as self-help, participation, incremental housing and prefabrication, it is also connected to other "utopian" seminal ideas of the time, such as organic growth, genetic systems, spatial clusters, walkable stems, megastructures and group form. In this sense, revisiting the Japanese Metabolist Group and Fumihiko Maki's ideas on "collective form" is crucial in order to adequately analyze the Maki-Kurokawa-Kikutake PREVI project, as well as to rethink the significance of the PREVI Lima competition as an attempt at designing architecture that empowers the users, gives them the possibility to construct or project their own living environment.

This essay analyzes the Japanese PREVI competition entry in the light of the utopian ideas developed since 1960 and reflects on how these ideas enabled the people to participate in the process of building their own homes within an urban project that brought the residents together and activated their desires. This essay also assesses the relevance of the PREVI competition in the context of Peru's efforts to provide sufficient housing structures in Lima during the postwar period. It also points to the interesting organic and vernacular transformations of the PREVI houses over the last 40 years of their inhabitation.

Postwar Japan and the Ideas of the Metabolist Group

Modern architecture in postwar Japan—as in the United States, Brazil, Mexico, Western Europe and other countries—performed a key role in public culture. On the one side, architecture consolidated popular aspirations and ambitions through public buildings and new large institutional headquarters, and, on the other hand, it was a catalyst for a new culture, becoming a silent engine for the modernization of society. In a general sense, it fueled the development of culture.

Before 1965, in Japan and the Western world, the expansion of the capitalist industrial and consumerist development economic model had reached its peak, and therefore, immediately afterwards, began its decline. From the mid-1960s onwards, "modernism" (including, among other arts, modern architecture) started to be the main objective of the cultural critiques of different intellectuals and avant-garde groups. The strong affiliation of "systematized and speculative architecture" to the political establishment transformed professional practice and stimulated (other) radical initiatives and approaches. The manifestos, books and exhibitions criticizing this cultural model became a widespread reaction throughout international cultural and the architectural world. Particularly, in Europe and Japan, architecture groups such as Archigram (England), Superstudio (Italy), and the Metabolists (Japan) demonstrated through publications, plans and projects the impossibility of architecture as it had been previously conceptualized,

accompanied by their frustration in not having a positive impact in the transformation of postwar cities, and in their inability to fulfill society's demands in terms of material and emotional needs, that being the qualitative and pendant task.

In this context, projects and drawings from these avant-garde groups quickly became recognized (and acclaimed) worldwide, transforming an underground architectural movement into what Manfredo Tafuri called "the academy of utopia" (Tafuri, 1987: 357–363). This phenomenon—as Tafuri pointed out—was not only about designing for a world organized by technology, but was also reviving, some 50 years later, the goals of the Italian Futurists. Nevertheless, beyond Tafuri's critique, these actions marked the end of a period of architects as pure (drafting table) designers, and starting a new realm of social activism and cultural critique pushing the role of the architect into a new domain.

These young architects (most of them in their 30s and with no built work) were taking part in the new horizons of modern culture, surpassing the "design" of buildings, proposing new ways of occupying territory and novel solutions for the

Photo of the Metabolist housing cluster, circa 1979, from *INVI-Instituto de Investigacion y Normalizacion de la Vivienda*, PREVI, Proyecto I-8, Vol.16.

urban housing deficit. In this context, the Metabolist group emerged not as an isolated phenomenon but rather as a part of these movements in the global culture that had resulted from postwar social changes around the world. Their interest in incremental housing[1] and progressive development were part of their actions to create a new social order based on the egalitarian ideal and the empowerment of citizens, and to open up new realms of design, building and dwelling as part of an ongoing process of growth and change—architecture as a "living organism". They were in search of new ways of making architecture in which the architects could, so to speak, transfer the architectural project to the inhabitants—the subjects of architecture—such that they could continue to develop it on their own, either "incrementing the building" or even "finishing it".

Perhaps precisely for these reasons, most of the projects presented in the Metabolist publications were seeking a new kind of city characterized by new forms of urban spaces. In this sense, the "utopian proposals"—those of this group as well as others from the avant-garde movement—usually tackled a series of problems that architecture was unable to resolve in the "real and professional world". Consequently, most of the Metabolist proposals were trying to solve the question of mass housing and rapid urbanization of the Japanese cities in an abstract plane, such as the Tokyo Bay project,[2] where almost the entire project was situated over the water.

In such a context, the PREVI Lima competition offered the group a real possibility of designing an ideal collective housing project for 2,000 families. Therefore, the invitation to participate in this international competition in Peru, which was sponsored by the United Nations, emerged as a unique opportunity to rethink the idea of mass housing in a context of a developing world capital such as Lima.

The New Housing Approach and PREVI Lima

Despite the building of several neighbourhood units and residential clusters in Lima and many other cities in Peru since 1945 (see Ministerio de fomento, 1945), the housing crisis went on and worsened during the 1960s. The demand for low-income (subsidized, public) housing continued to increase under the pressure

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1 "Incremental housing" could be defined as a type of house that is designed to accommodate growth and change as part of its conception. The future development of the spatial organization and structure of a house is envisioned already in the design of the initial project.

2 The Tokyo Bay project was designed by Kenzo Tange in the early 1960s, when Japanese cities (particularly Tokyo) were growing vastly, mainly through sprawl urbanization due to industrial development and automobile popularization. With a radical and optimistic attitude regarding the power of architecture and engineering, the Tokyo Bay project attempted to build a whole new city "on the water", generating full continuity on the bay.

of internal migration to major coastal cities, which had begun to increase rapidly.[3] The shanty towns in Lima started to expand even as the housing agencies insisted on continuing to build modern neighbourhood units.

The problem with this approach, which was set out in the government national housing plan, was that each Neighbourhood Unit took many years to be completed, and the quantity of houses being offered was never enough (see Smirnoff, 1963). When the program started, Lima had registered a population of more than 660,000 inhabitants, with nearly 35,000 people living in poor conditions. At the time of the census of 1961, Lima had almost two million inhabitants, and nearly 350,000 people were dwelling in squatter settlements in the northern, eastern and southern peripheries of Lima.[4]

During those years, the *National Housing Corporation* (CNV, for its acronym in Spanish) and the *National Housing Institute* (INVI) became absorbed into the *Junta Nacional de Vivienda* (JNV), the new National Housing Office, which not only developed modern housing projects (previously implemented by CNV), but also developed low-income "site-and-services" projects (originally promoted by INVI). It was also meant to improve the living standards of the existing *barriadas* (shanty towns), providing basic infrastructure—water, energy and sanitation (usually done by FNSBS[5]). These *site-and-service* neighbourhoods (urban developments of 150m^2 lots with basic services) were planned and implemented by the State and then handed to citizens to "build progressively and eventually expand" their own houses.

This strategy of the "expandable house" was known as *Vivienda elemental* (elemental house)[6] and was the outcome of the Housing Report of 1958, "Agrarian Reform and Housing Commission" (CRAV). This Housing Report presented the government as a provider of basic services and infrastructure, and the citizens as the ones responsible for progressively constructing their own houses with the provision of technical assistance and supervision by the State—in this case, the *Technical Assistance Office*.[7]

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3 The population of Lima in 1965 was approximately 2.7 million inhabitants and approximately half of them were living in squatter towns. As of 2017, the population of Lima is nearly 10 million people, and nearly 70% of the population lives in squatter settlements in northern, eastern and southern Lima.

4 Lima in 1940 had a population of 661,508 inhabitants, and in 1961 this increased to 1,901,927 inhabitants. Source: INEI (Censos Nacionales de 1940; 1961; 1972; 1981; 1993).

5 National Fund for Health and Social Development – FNSBS was created by the regime of General Manuel Odria as a populist "social aid" to the informal settlements in the urban areas.

6 The name "elemental house" has no official or recognized relation to the one operating now in Chile.

7 The *Oficinas de Asistencia Tecnica* (OAT) was founded to provide technical assistance to low-income housing development and improve living conditions in squatter settlements and poor areas in the cities. It also helped post-disaster reorganization.

It was in this way that the ideas of the anthropologist Jose Matos Mar and architects Adolfo Córdova, Eduardo Neira, and Manuel Valega, (ideas which were later taken up by John F.C. Turner and many others) on planning the development of "formal" housing based on the spontaneous self-help process became the answer and the most effective response to the housing crisis—it meant making "auto-construction" the official State response.[8] Thus, architecture and urban design allowed the citizens (mostly migrants from the rural areas in search of economic and social progress) to participate in the formation of the urban spaces, meaning in the city-making.

Aerial view of Peru Avenue, San Martin de Porras in 1960. The informal urbanization extends from the riverside to the northern (agricultural) areas.

This in turn let to the PREVI Lima call for an architectural and urban design competition where the proposals had to provide a "master plan", with housing typologies, social infrastructure and a network of open pedestrian spaces. More importantly, the brief asked for the organization of residential clusters, which had to be based on a typical modular house, which allowed for incremental growth under a "aided-self-help" construction process.

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8 The proliferation of *tugurios* (slums, city blocks taken over by squatters) and *barriadas* (squatter settlements built from scratch), is evidence of the housing crisis registered by many sociologist and anthropologist since the 1950s. One of the most recognized study is *Las Barriadas de Lima 1957* by Jose Matos Mar (1977).

The project was based on the concepts of neighbourhood planning, including the distribution of housing typologies, the provision of educational and commercial facilities, and public spaces such as *alamedas* (planted pedestrian walkways), sidewalks, plazas and gardens. The urban ideas were based on the spatial character of the community, underpinning the human scale with pedestrian streets within and between cluster openings, and providing small plazas combined with gardens and with public space furniture. Nevertheless, the inventiveness and biggest potential of the project was to "*architecturalize* and *urbanize*" informal settlement patterns and to embrace self-help construction as a part of the "formal city" urban structure.

It was at this time when many architects were starting to recognize the impossibility of achieving the total modernization of cities and societies and to accept the need to work together, not as individuals but as a collective, which included the need for new ideas for progressive growth and aided-self-help.

In this context, Peter Land, an English architect educated both in England and America, was hired by the Peruvian government to develop the idea and lead this initiative. After almost two years of surveys and studies, Land ran the competition between 1968–69 and then directed its development and construction under the United Nations Development Program sponsorship from 1969 to 1975. It was thus in this way that Peter Land came to organize and direct the PREVI Lima project, consolidating all these strategies into the 1968 competition brief,[9] adopting, adapting and transforming the advancement in pre-fabrication and mass-housing production of the "developed world" into the conditions and constraints of a rapidly growing city such as Lima.

The Metabolist Project and the PREVI Collective Ideal

Beginning in 1965, the PREVI Housing competition was developed by the Peruvian government and sponsored by the United Nations Development Program (UNDP) as an "experimental project". Its goal was to find new solutions to the overwhelming "informal" urbanization and the lack of housing in developing countries, which created endless squatter settlements, mostly on the outskirts of cities.

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9 Peter Land, an English architect educated both in England and America was hired by the Peruvian government to develop the idea. He ran the competition and directed its development and construction under the United Nations sponsorship. He arrived from the USA to Lima in 1962, to organize the OAS sponsored master's in urban planning at *Instituto de Urbanismo* in Universidad Nacional de Ingeniería - UNI. Land was called by President Belaúnde to work on PREVI in 1965. In 1967, Land travelled with Belaunde to the United Nations offices in New York to get the institutional sponsorship of PREVI, which was achieved in 1968.

Aerial Photo of PREVI Lima in 2014. Photo: Evelyn Merino-Reyna.

As squatter towns and areas emerged in most Latin American capitals during the 1960s, it was the Peruvian government of President Fernando Belaúnde—himself an architect and urban planner—which promoted the competition to stop the growth of squatter settlements on the outskirts of Lima.[10] At that moment, the internal migration to the coastal cities of Peru were so intense that the population started to illegally settle on private and public land and to build their houses with no supervision or technical assistance other than that of local builders. Therefore, the challenge was to merge the "vernacular" (self-help) houses of the shanty towns with the industrialization of construction and the spatial organization of modern architecture.

10 The PREVI International Competition was organized by the Peruvian Housing Bank and was sponsored by the United Nations Development Program. The competition started in 1968 and the jury met in Lima in September 1969. The goal of PREVI was to test this merger, while for the UNDP it was to test a low-income housing model for third world countries.

The PREVI competition brief requested an urban project for an average of 1,500 housing units in a desert site of nearly 40 hectares next to the Pan-American Highway, 9.5 km north of Lima's downtown.[11] At the time, the site was still a peripheral area of the city, close to the new industrial sector of northern Lima, which would provide houses for workers near their workplaces.

The brief also stated that the lots could not be smaller than 80m^2 or larger than 150m^2, and the built area should offer spaces that ranged between 60–120m^2. The houses had to be planned for incremental growth, designed for a maximum height of three stories (including expansions). Finally, all projects had to be based on a modular design that guaranteed a pre-fabrication process, using a 10cm module to standardize its production. In a general sense, the competition pursued a "high-density-low-rise" neighbourhood capable of generating a sense of community (see Kahatt, 2013). More specifically, PREVI called for an architectural and urban design competition that had to address six crucial points.

The first was to create a high-density, low-rise urban complex with a continuous urban fabric. For Peter Land, this request was the fundamental principle of a new urban agenda in urban development for a sustainable world. According to his viewpoint, the high-density, low-rise model was not only more successful in social interaction and economic development, as demonstrated in traditional cities, but also offered the same density and programmatic capacity with better urban conditions than any "modern" development based on towers and parks.

The second crucial point was the use of a "cluster" concept, with houses set around a plaza intended to generate a sense of community. That idea was then a fairly new design instrument proposed by the competition to organize community groups into spatial units in the Peruvian context. Although the concept, known as "group associations,"[12] was first tested as a similar idea in the 1950s neighbourhood units in Lima, the idea of *housing clusters* was clearly introduced by the Smithsons, and then expanded by them to the Team 10 network and to Western European architectural culture, appearing in the PREVI competition in Lima through Land's brief (see Smithson and Smithson, 1967).

The third point was the use of the notion of "*casa-que-crece"* (growing house), a house with an open space (garden or patio) that allows growth and change. Although this idea was first known as *Wachsenedehaus* and tested in Germany in the early 1930s by Martin Wagner (see Wagner, 2015), and was also evident in the

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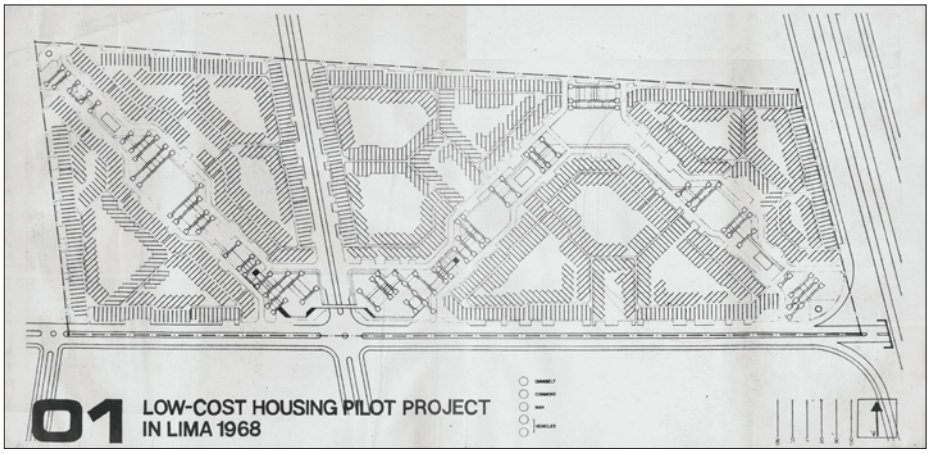
11 The site, in the current district of Los Olivos, was an old agricultural area of land, part of *Fundo el Naranjal*. The land acquisition between *Banco de la Vivienda, la Caja de Ahorros de Lima* and PREVI project was troublesome and involved political accusations of corruption incidents and the like. This scandal obscured the PREVI competition from its very beginning (Sharif Kahatt interview with Peter Land, Chicago, March 2007).

12 It was explored by Santiago Agurto, head architect at the *Corporacion Nacional de Vivienda* – CNV, in the Matute, Mirones and Rimac neighbourhood units in the early 1950s.

courtyard projects of Ludwig Mies van der Rohe and Ludwig Hilberseimer, the "growing house" idea in Lima was closer to the "vernacular"—more commonly called "informal"—solution employed by poor families in the shanty towns due to economic limitations. Having learned from those spontaneous experiences, architect Adolfo Córdova rationalized this phenomenon as the "elemental house", an incremental housing practice used to overcome the housing crisis (see Córdova, 1958).

The fourth asked for a landscape plan that included street lighting and urban furniture. Land knew the difficulties of inhabiting the arid deserts of the Peruvian coast, and because of that, he was very aware of the beauty and excellent climate conditions provided by the interior vegetation and urban landscape in the traditional neighbourhoods of Lima, such as Barranco or Miraflores.

The competition requirements also requested, as a fifth point, that the urban project should prioritize connectivity by separating vehicular and pedestrian traffic. While such traffic separation (pedestrian-vs-cars separation was a modern principle) had a long tradition in British and American neighbourhood planning through the Garden Cities movement and the neighbourhood unit concept, during the postwar period, this idea was also one of the most utilized principles of urban design in Western cities overall.[13] In Lima, this strategy also had a great impact, particularly through the *neighbourhood units*[14] program during the 1950s.



Master plan entry drawing (Board 01), Competition Entry, Maki Archive. The Social infrastructure along the spine includes: two elementary schools, two high schools, three kindergartens, two community centers, plazas and a commercial area and retail spaces.

13 It was also used by fry & drew and Le Corbusier in their plan for Chandigarh (1950) as the "7v" system.

14 The "neighbourhood units" program (*Unidades Vecinales*) was promoted by Fernando Belaunde (deputy of Lima) and established in 1945 by the Government of President Luis Bustamante y Rivero. It encompassed a full new "urban legislation" that enabled the design and construction of these new housing projects that became a clear demonstration of the Peruvian process of modernization.

The sixth and last point—and probably the most important in economic terms—was related to innovation and the use of pre-fabricated materials. The design of the PREVI house and its parts not only had to be easily produced and transported, but these also had to be done at a low cost. Although for many architects the social interaction produced in the clusters was the most important idea to explore, the creation of new prefab construction systems and/or the use of new prefab materials was another crucial aspect of the experimental project. In pragmatic terms, testing the capacity of architecture to produce "incremental and organic" growth meant a new developmental step in the discipline.

In this sense, perhaps Fumihiko Maki's most relevant contribution in his writings was the acceptance of the "incomplete" in architecture as part of natural developments in different times and places. Introducing that "variable" into modern architecture's discourse not only gave new value to vernacular and traditional (un-modern) buildings, it also allowed them to become part of the spectrum of modern architectural culture. In doing so, the Japanese agrarian house-type—to which Maki refers as "basically court-type row-houses" in his 1964 publication (see Maki, 2004: 12, 32)—is a significant design reference, as well as an influential precedent for the Metabolist competition "type" in their PREVI competition entry.

According to Maki's writings, *Group Form* is the result of incremental accumulation of spatially interconnected elements along an armature (for example, a central road or topography line), among other elements that could be intrinsic to the territory or an infrastructural intervention. In this way, it is easy to identify the idea of the old Japanese country house as an unconscious spatial reference—an appropriate urban form—for a low-income housing project.

Another important idea of the competition—revealed in the Japanese proposal—is the merger of architecture and urbanism into a cohesive synthesis. At that time, many architects were interested in achieving that same "goal". As Aldo Van Eyck—a Team 10 architect and another competition participant—summarized: "The time has come to conceive of architecture urbanistically and urbanism architecturally ... to arrive at the singular through plurality and vice versa." (Van Eyck in Smithson (ed.), 1991: 102) In the PREVI competition, in the Metabolist project by Fumihiko Maki, Kiyonori Kikutake and Kisho Kurokawa, the urban form is clearly made out of small pieces of architecture that emphasize the singular identity of each unit. In that sense, the Metabolist proposal proposes a sequential repetition of housing units that produce a sinuous pedestrian spine, where the urban public life can occur with great intensity, stimulated not only by the everyday journeys of the neighbours, but mainly by the commercial, social and educational facilities that would provide their services.

At the same time, the triangular collective (green and open) spaces, shaped by the housing units, provide small parks as semi-public spaces for encounters and social exchange, which can easily become a focal point for the users. As explained by the architects in their brief, the

attempts to maximize the community involvement of each dwelling led to the discovery that triangular groups of dwellings provided the greatest degree of exposure for each unit. Overall adoption of this pattern provided enclosed common areas within the development as well as common continuous areas at the edges. (PREVI-Lima: Low-Cost Housing Project, 1970: 191)

Plan and Isometric View Cluster (Boards 04 & 06), Competition Entry, Maki Archive.

Similarly, to these intentions, in order to avoid the idea of a total control of an enclosed urban form, Maki and Ōtaka stated in their wittings that their concern was not to produce a "master plan" but rather "a 'master program', since the latter term includes a time dimension. Given a set of goals, the 'master program' suggests several alternatives for achieving them …" (Maki and Ōtaka, 2004: 2). Along the same lines, some years later, Siegfried Giedion—Maki's colleague at the Harvard Urban Design program—demanded the same urban attitude for the

new city interventions.[15] For that reason, the emergence of the "open-ended form" idea for architecture and urban design in this competition was not only accepted by many modern architects—including the young Metabolists in Japan—but also became a commonplace idea for the Peruvian architects who were working with the *site-and-service* projects and the *aided-self-help* programs in the "vernacular incremental" shanty towns of Lima.

PREVI Lima: An Open Form as a Metabolist Model

Recalling the competition, Maki pointed out that the PREVI program "called for a series of dwelling units that could be adapted to meet the variety of living circumstances and sizes of families (from two to eight children) that would occupy the houses" (Maki, 2009: 32). To be more precise, PREVI requested 1,500 low-cost housing units that would be organized in this way.[16] Additionally, the lot area would occupy between 80–150m^2 and the built area per unit between 60–120m^2 and could be expanded up to three floors, with flexible uses and expansions. Lastly, the brief also requested *high levels of experimentation* and inventiveness to use the minimum built space and maximize the open space, as well as sustainable factors as orientation, ventilation, sun control, noise control, among other factors of living conditions.

Responding to these requests, the Maki-Kikutake-Kurokawa team laid out a project that could easily be expanded and compressed according to lot size. The proposal deployed two lot sizes: 6x20 meters, and 6x16 meters, which offered very different possibilities of organizing the "public and private" areas, either by way of parallel or of transversal elements. With only two "houses" of 96m^2 and 120m^2, respectively, the Metabolist project offered a great variety of dwelling options, providing altogether 32 different dwelling arrangements, as shown in the isometric drawing. Referring to this amount of possibilities for such a minimal design, Maki stated in a recent interview:

> Our proposal was to develop a genetic sort of form. Families ranged in size from just a core to up to 10 children, so we decided to make the building in such a way that many parts of it could be added later. (Koolhaas and Obrist, 2011: 309)

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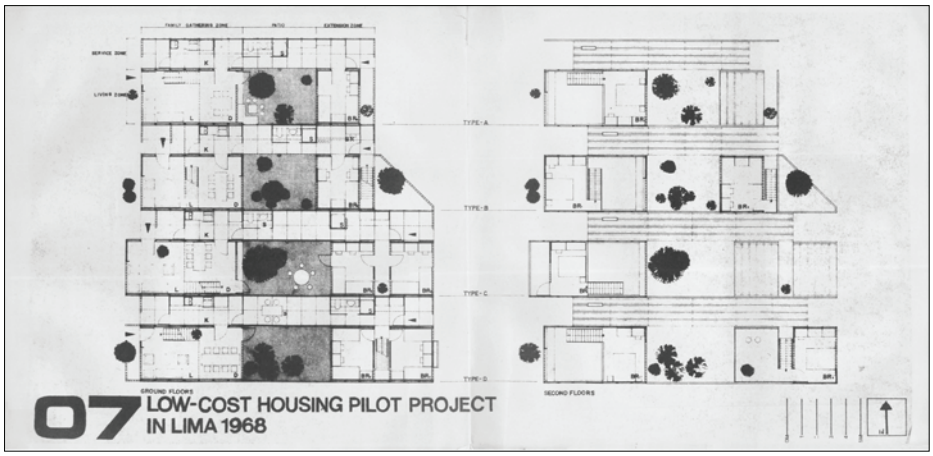
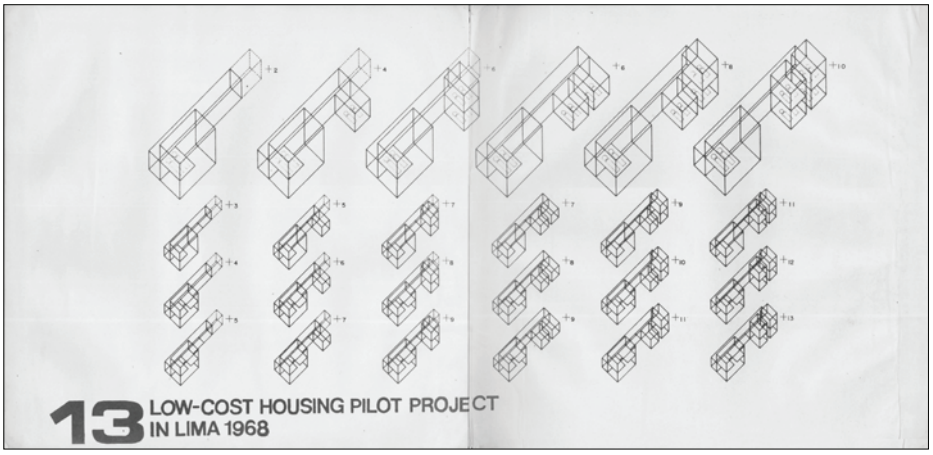
15 "What is needed is a totally new attitude towards the structure of the city ... In place of the rigid master plan proposed in the early years of the century, a flexible 'master program' is now being put forward, one that allows for changes and that leaves open-ended the possibilities for the future." (Giedion, 1967: 862)

16 The program for PREVI housing requested the following: 40% (600 units) 2 adults + 2 children; 40% (600 units) 2 adults + 4 children; 20% (300 units) 2 adults + 6 children.





Floor plans and different arrangements and options (Boards 07 & 13), Competition Entry, Maki Archive.

Undoubtedly, the possibilities offered to the self-determination aspired to by the people was in the DNA of the competition, but also, in the choice of the inhabitant and its capabilities to shape its own dwelling. It is also relevant to mention that this Metabolist idea of "the part and the whole" became particularly relevant to understand the housing prototype produced by the Maki-Kikutake-Kurokawa team for their PREVI proposal, which can also be easily related to the Japanese architectural tradition, which revealed their autonomy in expending their homes.[17]

17 In Maki's own terms, the "genetic idea was to establish the court as defined by two elongated elements, one, of two floors, and the other of one, and as the family grows, another floor could be added, but keeping the spine intact. So I am not so sure if the court is a 'group form' but there is definitely a genetic sort of a spatial component, which allowed the growth of family." (Maki, Baumgartner, and Tomeu, 2012)

Photo of the Metabolist project in PREVI Lima in Dorit Fromm, "Peru: PREVI", in *The Architectural Review,* vol. 1,063, pp. 48–54, London, 1985.

Collective Architecture as a Self-Determination Action

The members of the PREVI competition jury[18] met in Lima in September 1969 and selected six official winners of the competition: Maki, Kitutake, Kurokawa (Japan); Herbert Ohl (Germany); Atelier 5 (Switzerland); Mazzari, Llanos (Peru); Chaparro, Smirnoff, Wyzkowski, Ramírez (Peru); Crousse, Páez, Pérez León (Peru) (see Vallarino, 1977). Although there was official recognition of the young Japanese team as one of the winners, none of the six projects were built in their entirety, nor was the prize divided between the six winners, as stated in some of the later documents.[19] Due to variety and the wide range of difficulties during the development of the competition, including a military coup d'état that ousted the elected President Belaúnde in 1968, the "translation" of the projects into the

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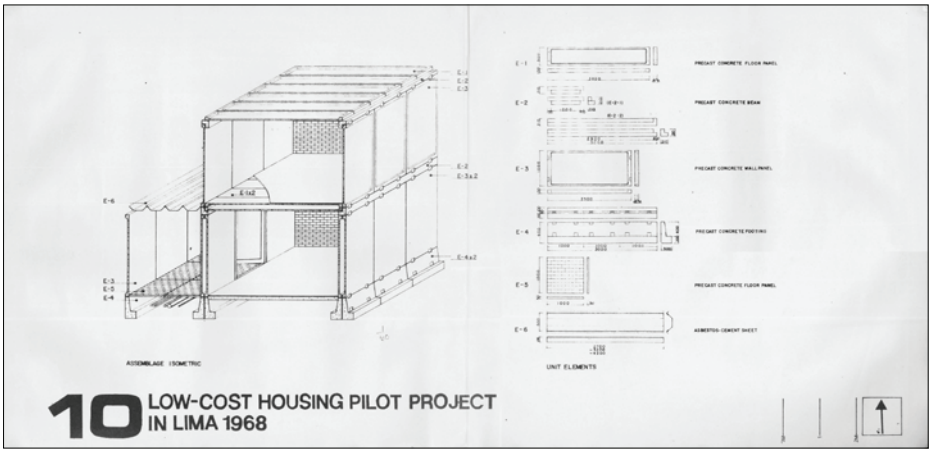
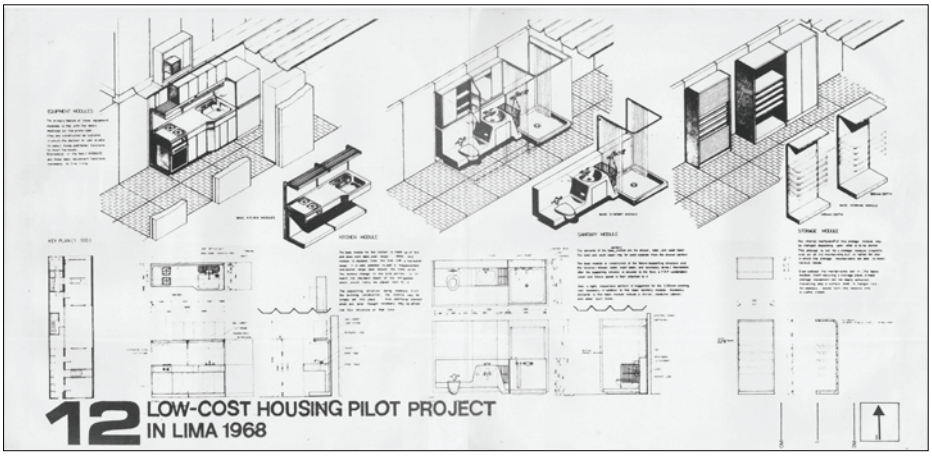
18 Eduardo Barclay, Manuel Valega, Ricardo Malachowski, Alfredo Pérez (Peru), José Antonio Coderch (Spain), Halldor Gunnlogson (Denmark), Álvaro Ortega (Colombia/UN), Carl Koch (USA/UIA), Ernest Weissmann (UN), Darío González (Peru) and Peter Land (UN).

19 15th–24th September 1969. "Judging in Lima. The winning architects (3 Peruvians, 3 internationals) will take part in the development of PREVI, each one developing 250 houses. Each winner will receive $5,000 in addition to the $5,000 for cost of travels and accommodations during orientation meetings." (Atelier 5, 1974)





Construction details and Prefab modules (Boards 10 & 12), Competition Entry, Maki Archive.

construction documents at the construction site, as well as the decision of the new military government to delay the budget approvals, led Peter Land and his team to decide to design and build a new project made out of clusters,[20] which would include all of the competition entries.

By 1971, this second PREVI Lima Project was planned to occupy 40 hectares in four phases, including a 2,000-unit plan with infrastructure, educational, recreational and commercial facilities, based on the competition brief, which would produce a low-rise, high-density, open-ended pedestrian community.

20 The Peter Land brief requested the use of housing clusters to avoid the traditional use of the "housing blocks" that were traditionally implemented in Latin American cities (meaning: a 100x100 meter block with rectilinear plots). The competition promoted the idea of planning groups of houses around a plaza in order to generate a sense of community.

Nevertheless, by 1975, when Peter Land left Lima, only the first phase had been built, with nearly 450 houses and its accompanying public spaces completed.[21] The construction of the planned three apartment buildings and the community center was cancelled. Since the houses had to be built with different construction materials, most elements were replaced by concrete bricks or PREVI-brick (a local version of a standard CMU) for the walls, and with reinforced concrete slabs. In the case of the Japanese project, this "adaptation and transformation" of the design to local conditions, probably produced the most "low-tech" building that the Metabolist group ever imagined.[22]

PREVI's ultimate idea of merging traditional methods and modern technologies for mass housing is still relevant today, particularly in Lima (and in any other "developing world city" where there is a great need for low-income housing). Although today the scale and ambition of the PREVI Lima competition would be seen somehow as a "utopian" initiative, the project was not a naïve attempt. It was instead a thoroughly pragmatic and appropriate project for Lima at that time. Furthermore, even though the technical assistance office was never established to guide the expansions,[23] or the owners ever provided the "expansion plans" that were to be prepared by the architects in the competition schemes (see Boards 07 & 13), the PREVI neighbourhood is nevertheless still offering sound living conditions in most cases.

In relation to the "group form idea", Maki explains how the discovery of these "forms of association" have endured throughout his career, becoming one of the threads that run transversally through his architecture: "The notion of starting with the individual elements to arrive at the whole was not only elaborated in the idea of collective form, but subsequently became a basic theme for my own architectural aesthetic and logic." (Maki, 2004: ix) For this reason, the most presented unit plan is the house that is divided into two areas (a living zone and a service zone) following the two elongated elements.[24] This strategy shows the patio as the "genesis" of the architecture, where literally all people, activities and spaces

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21 Land left Lima in 1975 and travelled to the USA to develop academic research and teach classes at Harvard University. In those years, with the support of the Graham Foundation, he produced the documentation for his book "The Experimental Housing Project. Design and Technology in a New Neighbourhood", published in 2015.

22 Maki points out: "Ironically, this happens to be the only interesting example of collaboration among the Metabolists—and there is no technology; it's all low tech." (Koolhaas and Obrist, 2011: 313)

23 The PREVI project originally planned to offer the residents "technical assistance" to expand their houses with pre-fabricated parts as designed by the architects in the extension models, as requested in the competition brief. The plans were not handed over to the residents, nor was the office ever established.

24 In these designs, no matter which of the sizes or types used, the design of the house facilitates the adoption of prefab elements (PREVI-Lima: Low-Cost Housing Project, 1970: 191).

Photo of PREVI Lima in 2016. Photo: Sharif Kahatt.

converge and stimulate the family life, in which can be seen the organic capacity of extension of spaces intrinsic to the Japanese tradition.[25] It literally bridges from the individual to the collective realm and encourages social interaction.

These *naturalistic and organic* ideas of incremental growth presented in the PREVI houses have an almost conflicting condition when looking at their "systematized and tectonic expression" of the row housing. However, that contradiction quickly vanished, right after the inhabitants' appropriation of the housing units and the transformation of their architecture. The rectilinear concrete blocks that expressed the massive nature of the production in the façade, has been rapidly covered in time by multiple layers of additions and renovations, making the original façade just the bare structure of a typical self-built Lima brick "home". Nowadays, spontaneous addition and non-planned architecture has completely changed the image of the neighbourhood.

25 Historian Leonardo Benevolo pointed out one key element in the modern architecture of Japan in 1966 stating "... the continuity of interior and exterior and its organic capacity of extension—the young Japanese architects have realized that it is impossible to aim for the preservation of the old harmony, indissolubly connected with a series of social limitations that would be unthinkable today. So they accepted the risks of a partial break, firmly shifting the emphasis from form to content and bringing to the fore the concern for social innovation inherent in the modern movement with an enthusiasm that seems to have become dulled in the West." (Benevolo, 1971: 782)

Shortly after its occupation, PREVI neighbours quickly started to appropriate the units, building and transforming the neighbourhood in a field of freedom, particularly in the façades, which became canvases for their social aspirations. As a result, the houses evolved beyond any architectural expectations, and every addition reinforced the residents' self-determination, revealing the struggles of the overlapping cultures and expressing the vivid processes of consolidation of the Peruvian culture.

Looking at the PREVI neighbourhood today, one can see how the Japanese project was as pragmatic and open as it was generous with the families' evolution. Its linear lot allowed the users to take control of the space in sections, as much as contain the life of the house in small spaces. This strategy was also utilized by many different proposals in the competition, becoming a standard characteristic in high-density low-rise (and low-income) housing projects. The PREVI ideas and principles have influenced many different projects today, particularly relevant in the recent years' ELEMENTAL project in Chile (and elsewhere after 2008), which transplants all these ideas into the contemporary scene, building progressive housing in several countries. The ideas of participation, individualization of the architecture and the freedom to build their own dwelling conditions were fully achieved, although in a completely different way: in different ways the residents of the PREVI neighbourhood have been building, extending and refurbishing the houses for the last 50 years, and continue to do so today.

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