

PREVI

architecture, politics, utopia

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1. Introduction

Urban transformations are one of the most complicated products of human culture. Spreading through different fields of study, they elude unambiguous analysis and force the observer to unravel connections between space and inhabitants, projects and reality, architecture and politics. These processes might have an official start, pinned by the signature on a contract or a public act, but they rarely have a proper expiration date. Their effects grow into new, unexpected scenarios, while interactions between human and non-human elements develop evading control: this observation led to the idea of PREVI.

The acronym stands for Proyecto Experimental de Vivienda (experimental housing project) and it was conceived in 1965 as an answer to the increasingly troubled housing situation in Lima. In order to prevent the explosion of informal settlements – *barriadas* - some of the most influential radical architects of the time were invited to design a cheap typology that could improve the quality of urban growth.

2. Urban situation of Lima in the 1950s

In 1949 Lima received its first master plan, called Plan Piloto. It was designed by ONPU (Oficina Nacional de Planeamiento y Urbanismo) in collaboration with José Luis Sert and Paul Lester Wiener. The two architects - both members of CIAM and relevant representatives of modernism - joined forces in a shared company (Town Planning Associates) aimed at applying the principles of the Athens Charter in South American contexts. In Plan Piloto modernist techniques of scientific planning were used to analyze the city in its different aspects, scales and functions organizing it logically, channelling urban development toward mechanized traffic and functional zoning.

The plan failed to control the rapid expansion of Lima. In 1954 a follow up study asserted that “the traffic congestion endlessly increases; the number of accidents multiplies; delinquency grows; the city is choking itself in a dreadful ring of clandestine dwellings; the food situation is causing a crisis; a drop in the standard of living threatens.” Modernist organization was overwhelmed by the drastic immigration toward urban areas, with informal settlements spreading around the few regulated parts of the metropolis. The study reluctantly admitted that “An economical system of urbanization and construction that would allow us to avoid the overcrowded and unsanitary conditions that appear in the ‘clandestine urbanizaciones’ has not yet been devised.”¹

3. Debate on housing and informal settlements

The failure of modernist planning and the arising of the urban issue gave birth to three different types of answers from different political positions.

Fernando Belaúnde Terry - architect, founder of the magazine “El Arquitecto Peruano” and future president of the republic (1963-1968 and 1980-1985) - claimed the *barriadas* to be an aberration that should be replaced by regulated housing. His economical system would be supported by modernist architecture in the form of large scale state-backed urban developments, following the model of Roosevelt’s New Deal.

Pedro G. Beltrán - economist, ultraconservative owner/publisher of the national newspaper *La Prensa*, and

1. ONPU, *Lima Metropolitana: Algunos aspectos de su expediente urbano y soluciones parciales y varias*, Lima (PE), ONPU, 1954

(briefly) prime minister (1959–1961) - set home ownership as primary goal, leaving the form of dwelling as a secondary issue: in his opinion the process should start from a reform of mortgages, pumping private capital into the housing system. Although considering conventional housing as an ideal solution, Beltrán didn't exclude the self-build initiative of *barriada* settlers.

The Movimiento Social Progresista – left-wing movement founded in 1956, strongly influenced by one of Belaúnde's student, architect Adolfo Córdoba – opposed the flow of private capitals into housing, fearing the exacerbation of inequalities. It proposed instead a redistributive type of state intervention through central planning.

These three positions outline the theoretical debate on housing that would eventually lead to the realization of PREVI some years later.

4. 1966 - The birth of PREVI

In the sixties urbanization grew drastically, even compared to the previous decade: Lima went from 1.2 million inhabitants in 1961 to 2.5 million in 1969, with increasing informal settlements developing around the regulated city.

The idea of an experimental low-cost housing project was proposed by Peter Land in 1966. British born architect, he resided in Lima being the field director of the Inter-American Graduate Program in Urban and Regional Planning (1960–1964). After the end of his assignment the Peruvian government invited him to stay as a consultant of the Banco de la Vivienda (Housing Bank) in the biennium 1964 – 1965. After this experience Land had the right connections to propose his plan to the president of Peru, Fernando Belaúnde Terry. Politician and architect, Belaúnde was elected President of the Republic of Peru in 1963. Born in Lima, his family was forced to leave the country in his early years due to political persecution. After spending most of his youth in France he received his degree from the University of Texas in 1935 and moved back to Peru in 1937. He started to practice and teach architecture promoting it through different cultural initiatives, among which the foundation of the magazine "El Arquitecto Peruano". His interest in social housing has been continuous throughout his career: in 1946 he was involved in the financing of the Corporación Nacional de Vivienda (CNV, National Housing Corporation), the first of its kind in Peru.

The political situation was decisively promising, as Land claims: "I realized this was a unique opportunity to do something special with an international splash."² History proved him right: Belaúnde warmly welcomed the idea and in mid 1966 PREVI was presented to the United Nations Development Program (UNDP) for funding, being approved a year later. In 1968 Fernando Belaúnde Terry was overthrown and replaced by a militaristic dictatorship: this political shift risked to undermine the project, that was eventually saved by the intervention of the UN. Land kept his role and remained the only one in charge of the initiative.

5. Proyecto Piloto 1 – The Competition

The objective of PREVI consisted in improving the conditions of informal settlements through the enhancement of three diverse strategies: Proyecto Piloto 1 (PP1) consisted in the construction of a new low-cost housing neighborhood with innovative features, PP2 in the improvement of existing slums and PP3 fo

2. Peter Land, *The Experimental Housing Project (PREVI), Lima: Antecedents and Ideas*, in *¡El tiempo construye! Time Builds!*, Barcelona (ES), Editorial Gustavo Gili, 2008

cused on self-construction; PP4 was developed later, after an earthquake in northern Lima in 1970, and it proposed reconstruction based on self-help. The different paths were supposed to give birth to diverse approaches that could be then replicated throughout the country.

Because of its attempt to develop a “third way” between totally planned social housing and informal construction, PP1 is by far the most widely known and the one that drew most international attention. The pilot neighborhood consisted of approximately 10000 residents spread in 1500 housing units, referring to Weißenhofsiedlung as a role model. Unlike the modernist settlement, though, the Peruvian project enhanced one new pivot idea: the vocation toward Existenzminimum had been replaced with an “aspirational” housing typology that could grow and develop in different ways according to the inhabitants’ needs and wishes. Laying in the grey zone between planning and informality, the architects were required to supply designs for residential embryos that could later expand and flourish on their own.

While the idea of a growing house had been already used by Peruvian public housing companies, PREVI was the elevation of such ideas into the realm of high architecture: a competition was issued, allowing the participation of any peruvian architect and 13 international guest teams. They were chosen on the basis of their experience in social housing developments and/or adherence to the innovative peculiarity of the Brief, while providing that wide “international splash” mentioned by Land and strongly encouraged by the UN. The participants came from all over the world, with a large majority of Europeans. The competition started with a compulsory 10 days long briefing in Lima, in March 1969.

Six winning projects were to be selected for construction, each providing 250 dwellings reaching the total of 1500. The master plan would be determined by the PP1 working group and Peruvian governmental agencies. The resulting projects were published in Architectural Design 4-1970.

6. International participants and entries

Western Europe

UK - James Stirling was the representative of the brutalists, his experiences in social housing featured the popular developments at Ham Common (1958) and Preston (1962). Furthermore, Stirling began the design for the Southgate housing estate - Rucorn New Town - during 1968. The project would be eventually realized in 1977, the same year Stirling’s entry for PREVI was completed.

Stirling’s project aims at the quality of the single dwelling: each house is provided with a square plot of land, developing around a central patio. The growth begins horizontally, being the complete one-storey solution an ideal dwelling for a single family. Four units form a larger square which is the standard urban particle of the plan. Stirling’s barrio presents quite a classical pattern: the units are connected through narrow alleys that regularly open into a larger square. The houses form four densely inhabited stripes separated by three wide green parks.

NL - Aldo Van Eyck was the main influence behind Dutch Structuralism together with Herman Hertzberger and member of Team X. His main previous similar experience was the design of Nagele village in the Netherlands between 1948 and 1954: non-hierarchical, compact organizational forms were experimented following Van Eyck's mantra "a city is not a city unless it is also a huge house, a house is not a house unless it's a tiny city"³. The contemporary low-rise settlement was presented at the CIAM X in Dubrovnik.

Van Eyck's entry is a structuralist manifesto. The architect plans the units starting from enclosures – like Stirling – but with an irregular exagonal form. This is the fundamental atom of the neighborhood, replicated throughout the area. The resulting public spaces are generated independently from traditional urban forms: they develop according with the shape of private enclosures that define them, growing continuously large or narrow. The exagonal form was supposed to force the inhabitants to leave some free space in the plot avoiding lack of ventilation, but the solution proved to be ineffective due to the families' need for rooms.

DE – Herbert Ohi, pupil of Egon Eiermann, was an architect and industrial designer. He taught and practised architecture during 1950s and '60s and he collaborated among others with Italian architect Gino Valle. He would later focus on industrial design and peculiarly on automotive.

Ohi's project is strongly related to the enhancement of industrial production. The whole area is obsessively organized through a grid with a fundamental micro-planning module of 30 cm, allowing an extreme standardization of elements. There is just one structural frame. The whole urban system aims to have the minimal constraints to standardization possible, creating six independent neighborhoods served by a pedestrian lane and an underground service road, which is connected itself with a tangential major road. A mobile crane system allows the continuous growth of the neighborhood without interruption of community life: the whole project is thought to be in perennial movement and even the competition drawings never show any type of complete form.

CH – Atelier 5 was founded in 1955 by a group of young architects from Bern. Having all worked in Hans Brechbüler's studio – who one of Le Corbusier's collaborators in the 1930s - they were strongly influenced by Jeanneret's ideas. Their concern was mainly focused on housing, and by the end of the 1960s the office could already boast of many realized minor residential compounds and the massive development of Halensiedlung (1955 – 1961).

The proposal reflects the modernist background of the group. The houses are neatly separated from noise and traffic through rows of trees, while the center of the area is a massive green park with public buildings and sport fields. The entrances to the houses are facing the small pedestrian paths and are mediated by gardens and terraces. While being different formally, the many different house typologies have two main common features: on one side they all use the same simplified constructive system that allows self help, on the other they stress the importance of structure rather than enclosure, growing mostly vertically.

3. **Aldo Van Eyck**, *Aldo Van Eyck, Werken*, Bussum (NL), THOT Publishers, 1999

FR – Candilis, Yosic, Woods were also related to Le Corbusier's work. The three architects came from different backgrounds: Candilis (Greek) and Woods (American) met during the construction of the Unité d'Habitation in Marseille, in 1948. They would later get in contact with Yosic (Yugoslavian) while working at ATBAT, a French-North African housing department founded by Le Corbusier and Vladimir Bodyanski. In 1955 the three founded their independent studio that would end up designing big housing developments in France and, among other buildings, the campus of the Freie Universität in Berlin. The office was disbanded right after the PREVI competition, in 1969. All three were members of Team X.

The main idea in the project is the development of a system of walls that could define both closed and open space. The houses are linear and consist in a succession of rooms that would progressively turn from terraces and patios into parts of the inner house. The project defines clearly which areas are available for self build and which should be constructed by the contractors in the first place, partially undermining the flexibility of the proposal. The urban scheme is quite simple and consists of a greater central avenue and perpendicular small paths that sometimes lead into small squares inbetween the houses.

ES - José Luis Iñíguez de Onzoño, Antonio Vázquez de Castro were the representatives of Spanish architecture at PREVI. They played an important role in the creation of social housing compounds around Madrid in the 1950s with projects such as *Ciudad Satélite en Barajas* (1956), *Nuevo Pueblo de Santa María de las Lomas* (1958) and the *Caño Roto* urban development (1956).

Their proposal refers to the urban forms of existing Lima. The architects create a system of 10 neighborhoods, each served by a vehicular road and a major *Paseo* (pedestrian road) that leads to broad squares in which public buildings are located. The single house is developed around a patio and two different development options are presented (one or two storeys), lacking though the flexibility of other proposals.

Scandinavian architecture was represented by architect **Toivo Korhonen (FIN)** - disciple of Alvar Aalto - and by **Knud Svenssons (DK)**.

Korhonen develops a rational typology on the basis of a urban module of 36mx36m. His houses work as enclosures that gets progressively inhabited through the conversion of open into closed space. The idea is to avoid construction of a second storey if not necessary.

While Korhonen stresses on enclosures, Svenssons develops a strong structural concept: his houses are composed by three independent volumes that can vibrate separately in case of a seismic event. They are thought to grow vertically on the fundamental structural core.

Rest of the World

USA - Christopher Wolfgang Alexander (CES - Center for Environmental Structure) is an independent intellectual who apparently doesn't have much in common with the rest of the architectural debate. Born in Vienna, he graduated both in architecture and mathematics from Cambridge Trinity College before moving to Berkeley, California. He researched what he called the "timeless way of building", a projectual method regardless of

contemporarity, which he claimed to be the only way to produce good and livable space. In 1977 he published "A Pattern Language: Towns, Buildings, Construction" in which he summarized his idea of projecting through a generative grammar.

His competition entry has probably more to do with a mathematical demonstration rather than an architectural plan: the project is displayed as a process in which future inhabitants have an active role. The plan shows a net of so called "cells" in which the new houses had to be constructed. Paths surround these areas, each with a vehicular or a pedestrian function; according to Alexander's observation, though, these two streams purposely intersect in certain points in order to create diversity. The future residents are supposed to choose the most appropriate dimensions for their own plot, according to their needs and wealth: each house would then be different, but with a common constructive system. Mortarless walls, industrially produced, and bamboo beams were supposed to heavily reduce construction costs.

JP - Kiyonori Kikutake, Fumihiko Maki, and Noriaki Kurokawa were founders and major representatives of Japanese Metabolism, an architectural avant-garde founded in 1958 in Tokyo. Even though the three belonged to the same movement, each one had quite a different idea about architecture and urbanism and peculiarly Maki, who grew progressively distant from the others' ideas. Therefore Metabolists rarely worked together and PREVI is the sole occasion in which they joined an international competition as a group.

The group developed narrow row houses and organized them in triangular blocks to maximize sun exposure. The center of the blocks are gardens. The connection between the blocks consists of a large linear structure called "omnibelt" in which circulation coexists with functions such as kindergardens, playgrounds and other community facilities. Each house faces a narrow path on one side and either the omnibelt or the internal garden on the other. The constructive system is modular, elements as bathrooms and kitchens are serialized and previously planned. Any part of the house can be added or removed easily and its standardized elements reused for a different part.

PL - Oskar Hansen was the only invited architect from the Eastern Block. He worked together with his pupil, norwegian architect **Svein Hatløy**. Hansen was the author of the Open Form Manifesto (1959) in which he argued the stagnating features of contemporary architectural form - called Closed Form - and proposed an Open Form that could change and develop according to the users, progressively modeled through activities and events.

The project reflects the architect's thought. The houses are not organized in neighborhoods but rather stand in continuity, facing each other through many little private open spaces. Vehicular traffic is segregated to the centre of the area, while recreation and public buildings are at the corners. The houses are planned to be realized in two phases: one first concrete structure is to be built by contractors, while the inhabitants could later enlarge it through self-help.

IND – Charles Correa is one of the major Indian architects. After studying abroad at University of Michigan and MIT he opened his architectural firm in Bombay in 1958. His early project “Tube House” in Ahmedabad proves his experience in providing low cost housing solutions: the long and narrow structure of the house would appear again in later projects such as the unbuilt Cablenagar Township (1967) and also in his entry for PREVI.

Correa’s project aims at creating the maximum density possible in order to allow land-owning from the future occupants. The constructive system consists of structural walls that define the narrow row-housing typology, and it is designed to be totally self built in case needed. The linear distribution of each house leads to two different entrances facing pathways. These are designed to be wider than necessary, providing a traffic-free public space. Public buildings and shops cut through the houses diagonally to the pedestrian roads.

Colombian architects **Esguerra, Saenz, Urdaneta, Samper** were the only non Peruvian South American participants. Their project develops quite classically through three parallel neighborhoods. Each revolves around a big public space called “sub center”, while a bigger, stripe-shaped area with public buildings is located between the rightmost and central neighborhood. The architects chose the square as their module in order to maximize flexibility, and developed twenty different house types that can fit the same plot. Curiously, though, the authors’ statement doesn’t include any reference to further developments or progressive construction.

8. Later developments and construction

The jury gathered in 1970 and elected Atelier 5, Herbert Ohl and the Metabolists (Maki, Kurokawa, Kitukake) as best competitors, but the jurors couldn’t agree on which project had to be constructed. It was eventually decided to build all proposals on the previously defined site. Land developed a new masterplan that could host the different houses and the construction started after three years of gathering funds, in 1974.

9. PREVI today

The existing neighbourhood is affected by the process of mediation that followed the competition. The new masterplan works as a patchwork and doesn’t have the conceptual strength of the single entries, causing a gap in the relationship between units and urban environment. The houses were though built and inhabited, the families grew in number and wealth and their homes were modified accordingly. Every building has been enriched by colours and decorations, the originals have been overcome by local culture, like the Theatre of Marcellus in Rome: PREVI slowly turned into a Barriada or – hopefully – into something a bit better.

The test of time showed the ability of the architects to predict and facilitate future transformation without losing quality: Van Eyck’s exagonal plots have been fully occupied, destroying the idyllic vision of gardens and terraces, while Korhonen’s seismic countermeasure has been often compromised by extra-volumes or structural modifications. Stirling’s houses, on the other hand, were the most requested due to their internal courtyard and adaptability and the Metabolists’ houses were used in an unexpected way, with front gardens being transformed into shops and verandas.

10. Conclusions

The history of PREVI is undoubtedly turbulent and its final result is arguable, but it is important to consider two main values of the project.

The first observation is that PREVI has a great encyclopedical value: glancing through the neighborhood it's possible to observe state-of-the-art sixties architecture, even though covered by successive developments. Every architect who joined the competition had a different background, being an avant-gardist (Metabolists, Van Eyck), a follower of modernism (Atelier 5, Candilis Josic Woods), a young member of the new establishment (Stirling) or an outsider (Alexander): all these different views form a colorful patchwork of movements facing a radical challenge that revealed the capacity of each group to adapt to this unusual situation.

This brings us to the second observation: PREVI is not a new Weissenhofsiedlung due to its peculiarity and roughness. Some of the projects are not outstanding simply because PREVI is not an ideal situation in which high architecture is displayed, but rather an attempt to (re)connect it with everyday life and its problems.

The PREVI experience was forgotten for about thirty years, while inhabitants were progressively turning the viviendas experimentales into their homes, until a retrospective book was published in 2008.

The strength of its ideas are clear now, with a reborn interest for social issues and the birth of new stars such as Chilean architect Alejandro Aravena, who based his whole success on a revival of PREVI's concept. How PREVI was or wasn't a success it's not our job to say, but we must state, though, the unicity of the experience. This long-neglected event is a newly discovered archeological piece, providing our generation with fresh inspiration and a different point of view toward this relatively recent era, the Sixties, that feel though incommensurably different from the today's World.

Fundamental Bibliography

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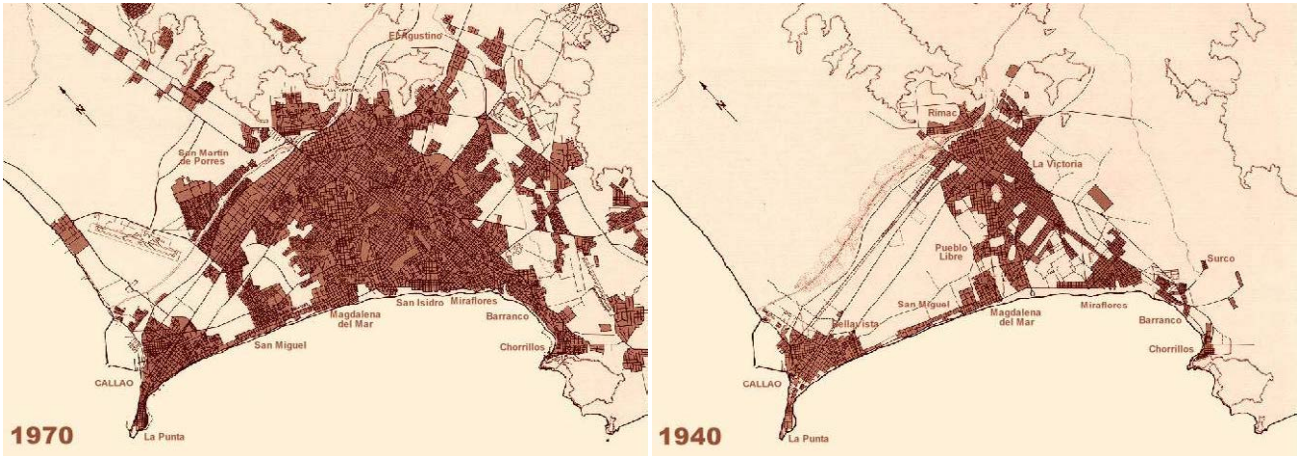
Magazines

Architectural Design, 4/1970

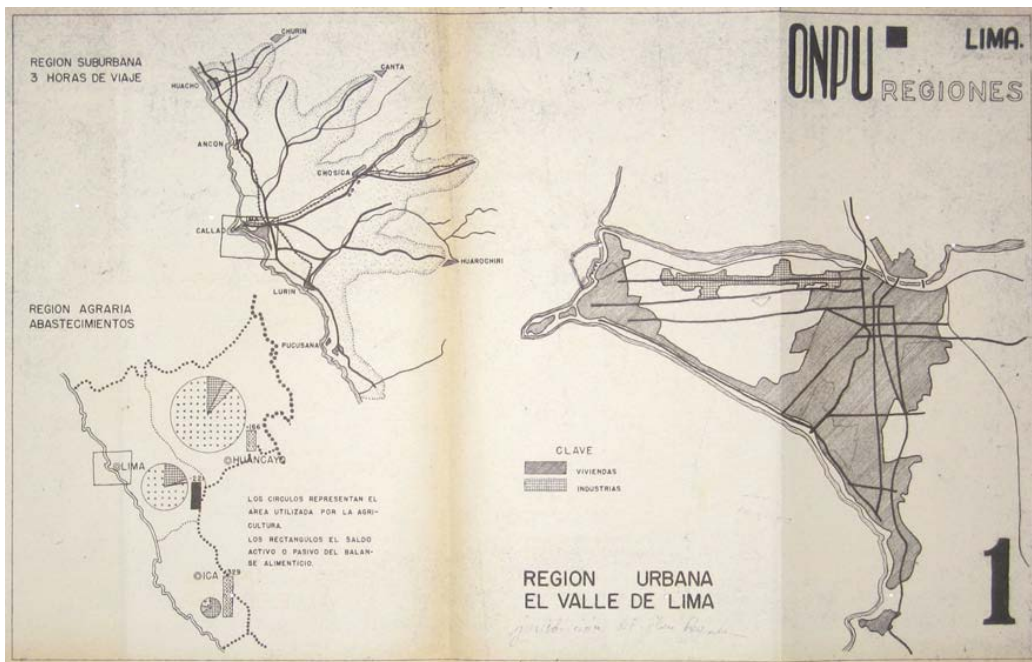
Lotus International, 143/2010

Domus, 5/2011

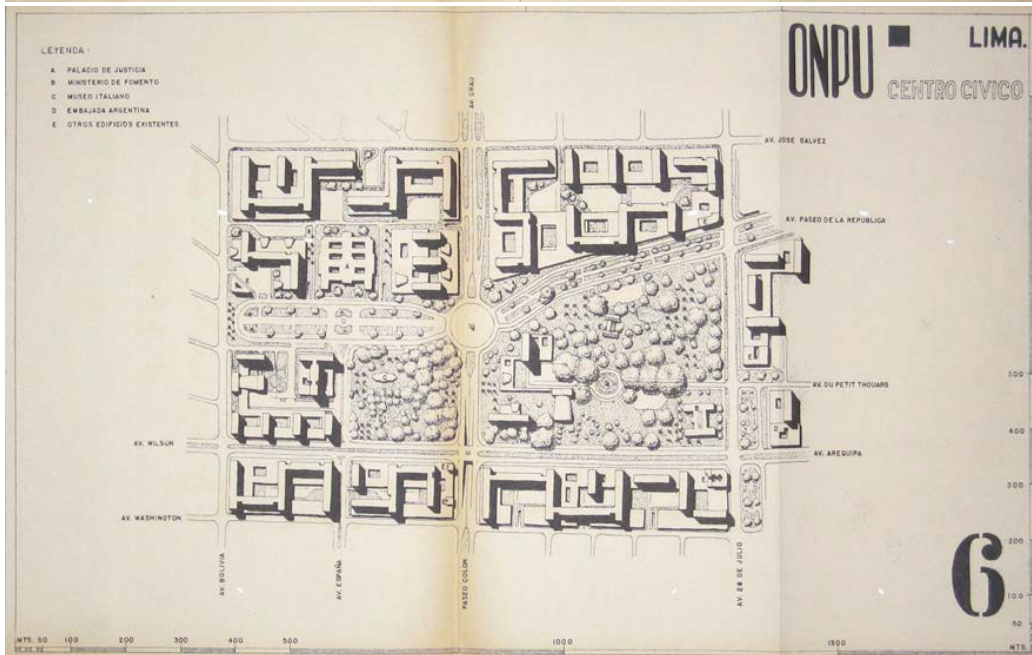
Images



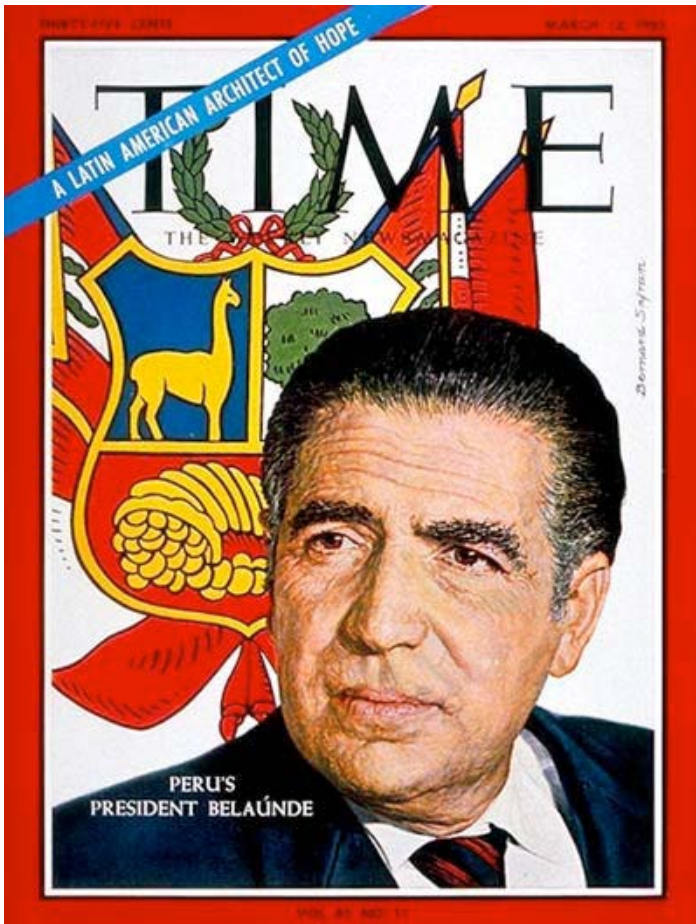
Growth of Lima, 1940 - 1970, source: Web



Plan Piloto, Zones of Lima



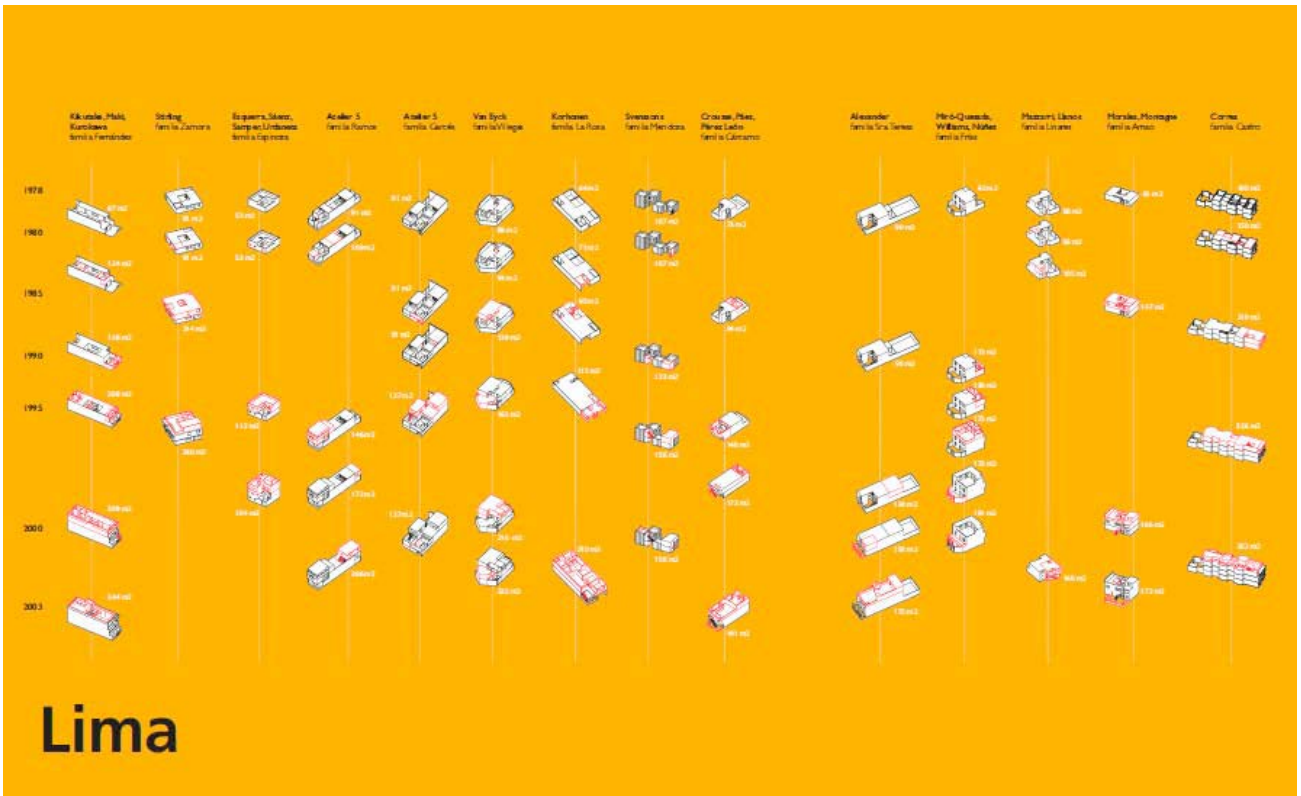
Plan Piloto
Josep Lluís Sert and Paul Lester Wiener for ONPU, "Lima: Civic Center."



Time, March 12, 1965
"A Latin American Architect of Hope: Peru's President Belaúnde."



Architectural Design 4/1970, photomontage showing a session of the briefing in 1969, Peruan children and a Barriada in the back



Lima

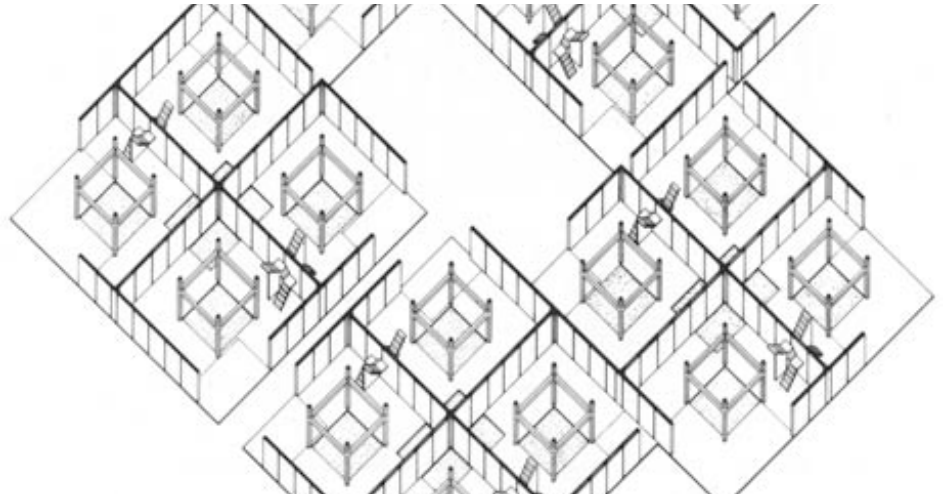
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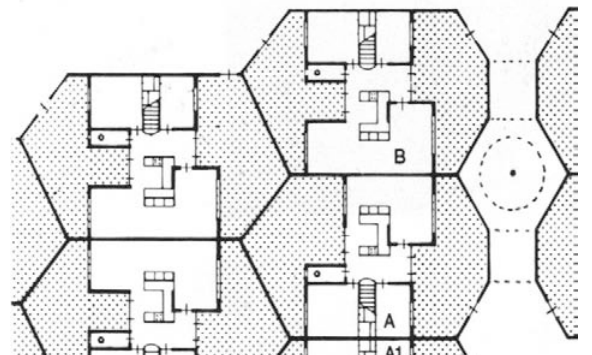
Map Showing the origin of the international competitors. Herbert Ohl was the only one who couldn't build due to the complexity of his proposal. *Self-produced*

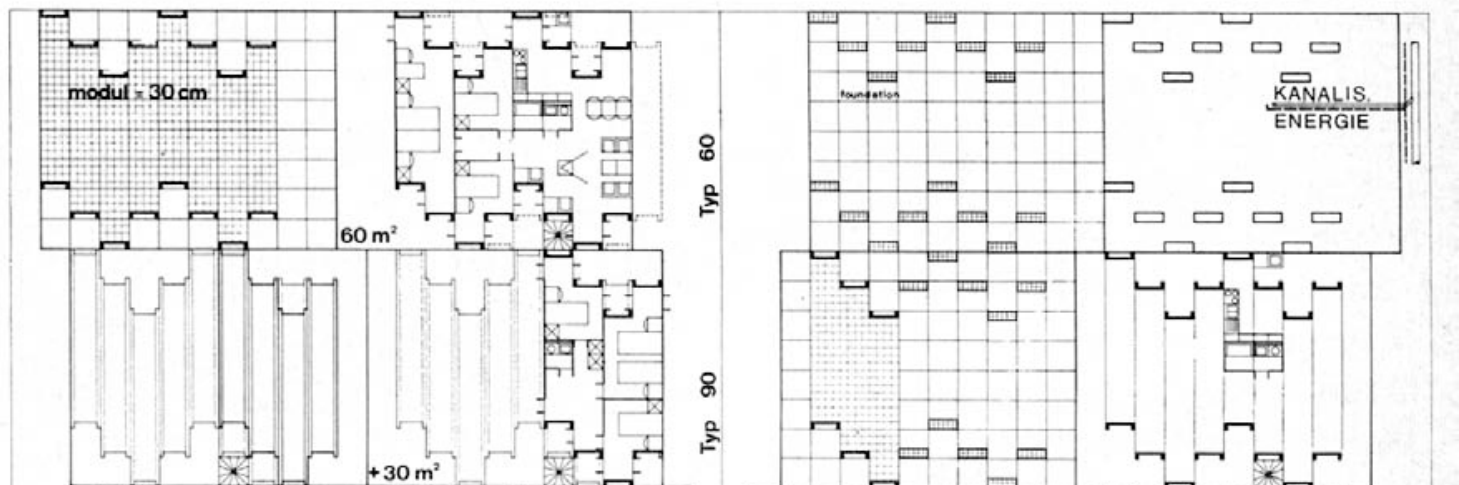
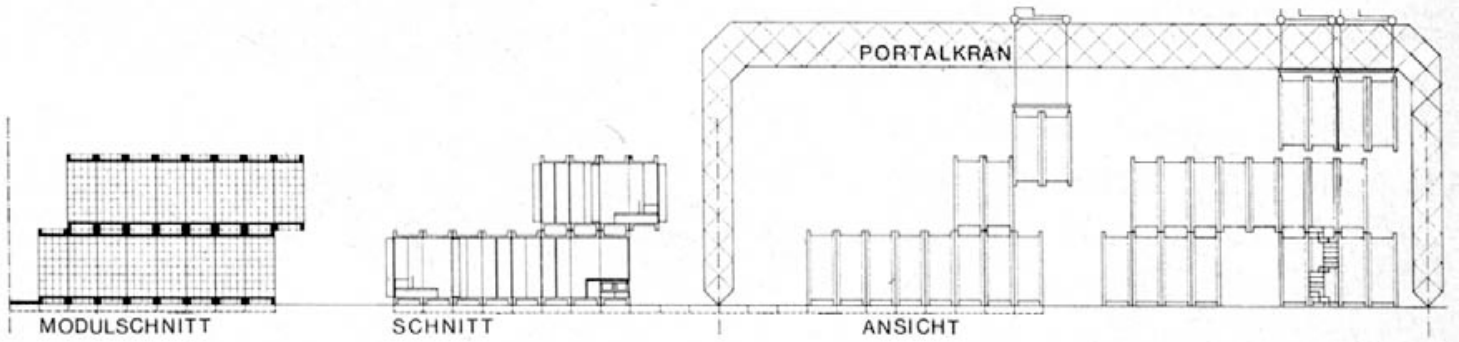
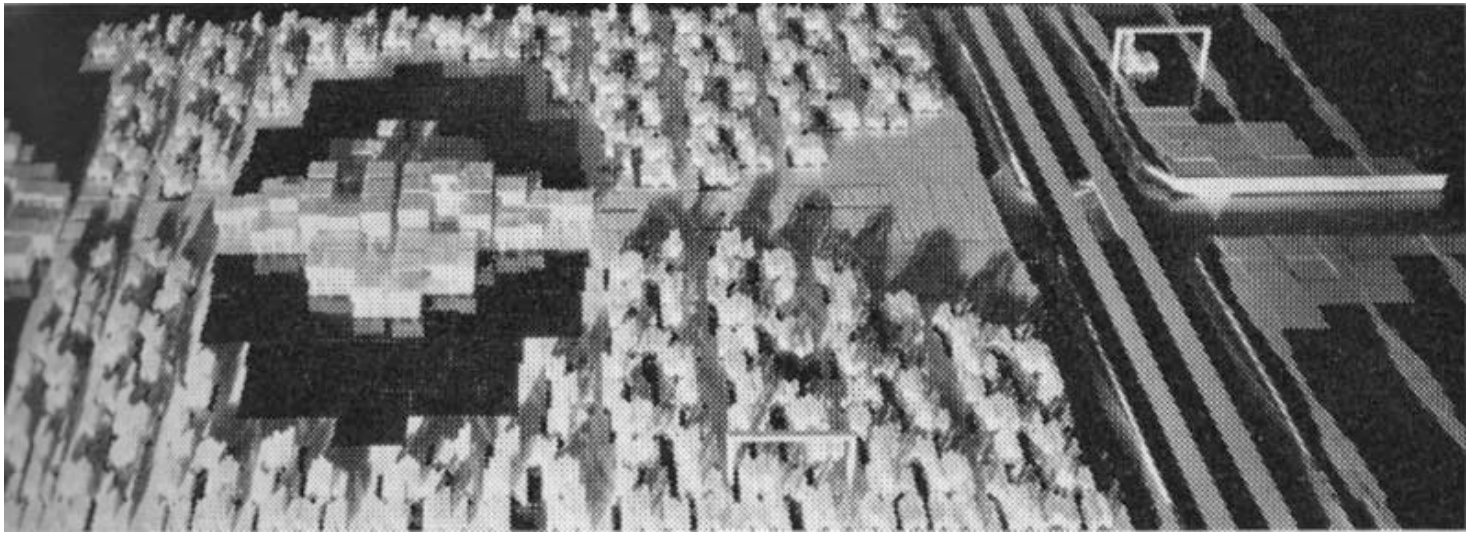
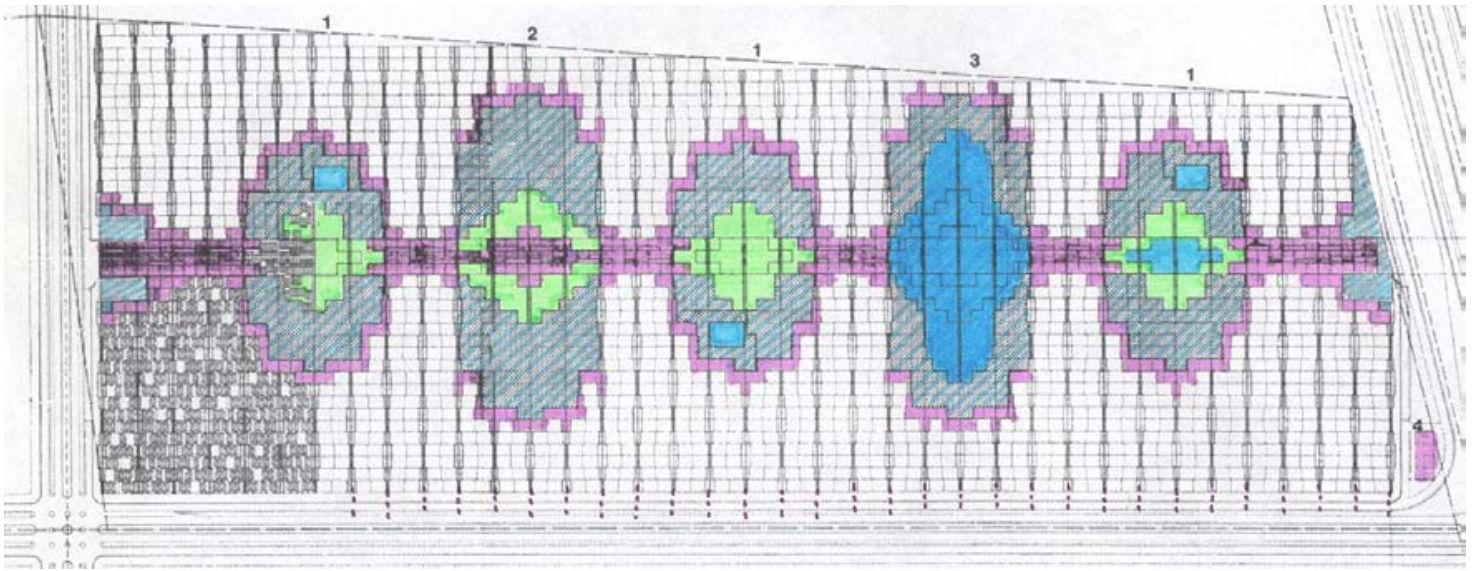


PREVI PP1 I-1, James Stirling



PREVI PP1 I-11, Aldo van Eyck

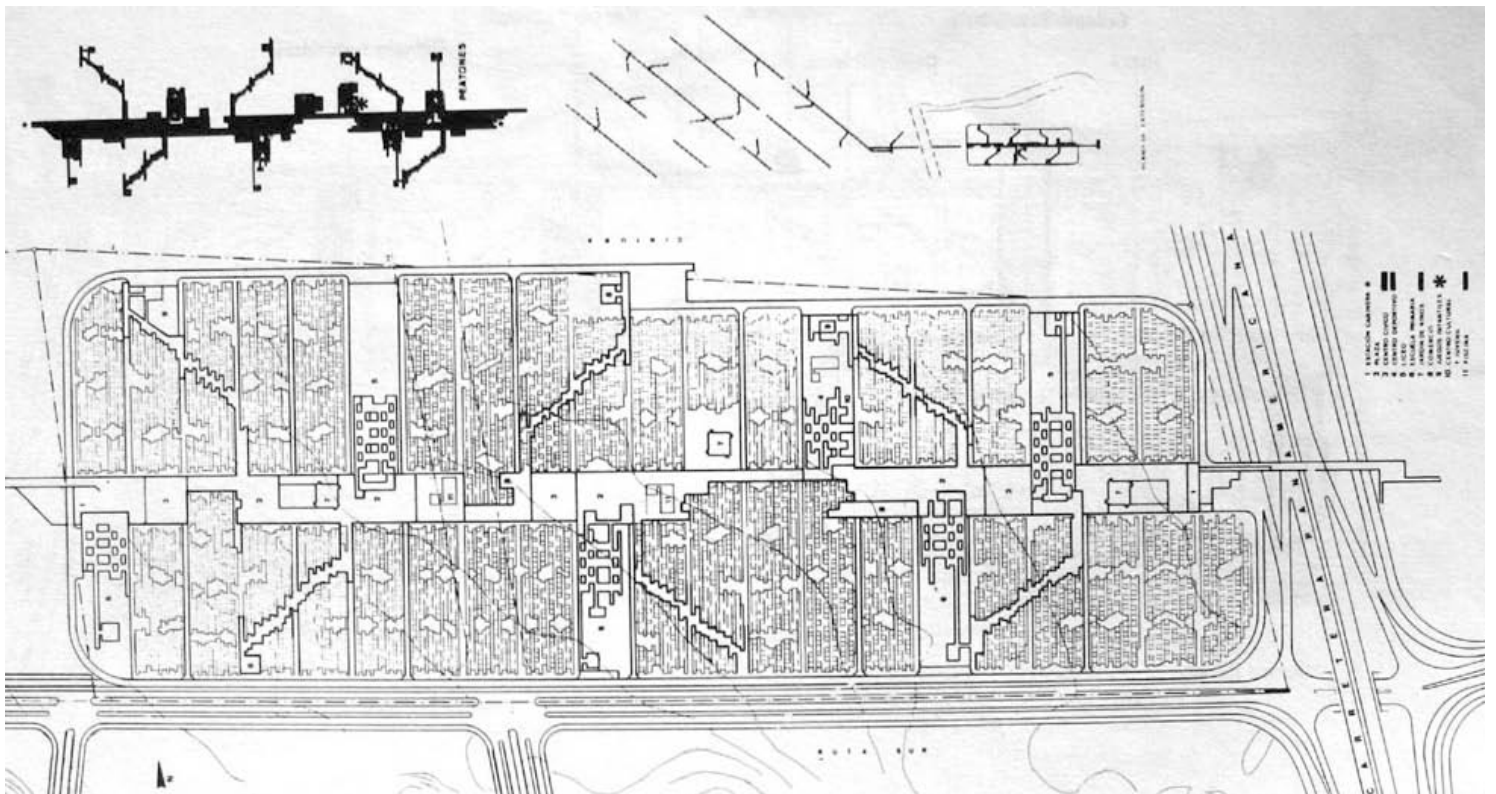
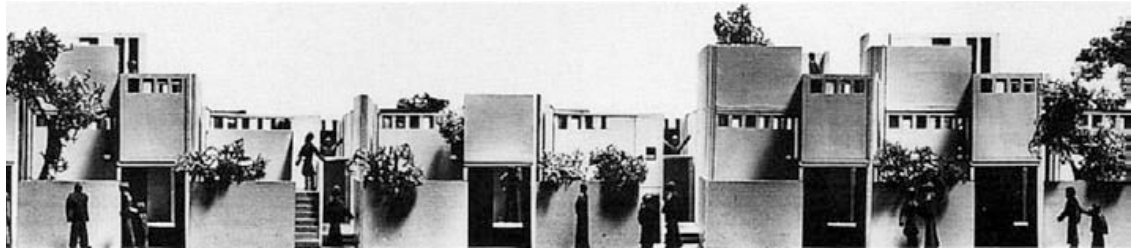




PREVI PP1 I-6, Herbert Ohl: Site layout with moving crane. Elevation, section, and plan, showing construction with crane.

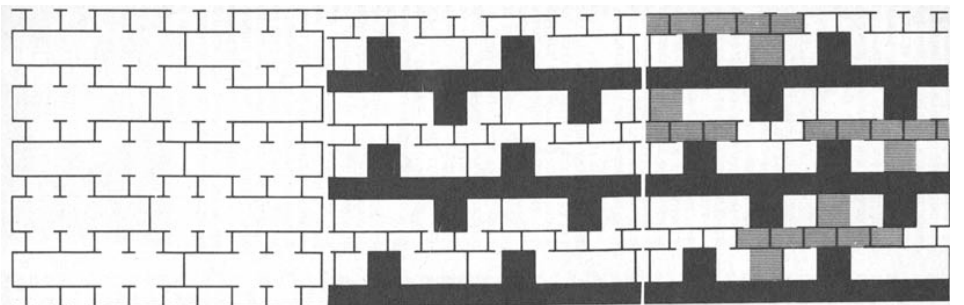


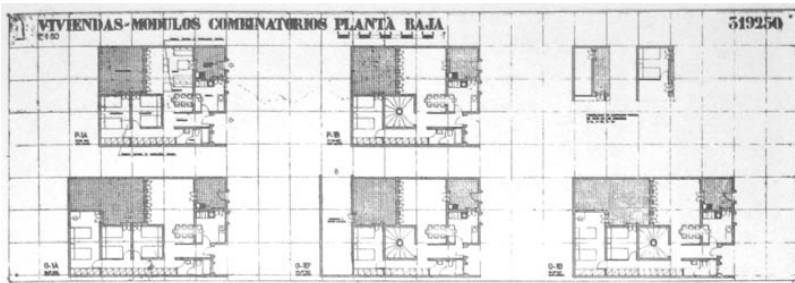
PREVI PP1 I-4, Atelier 5



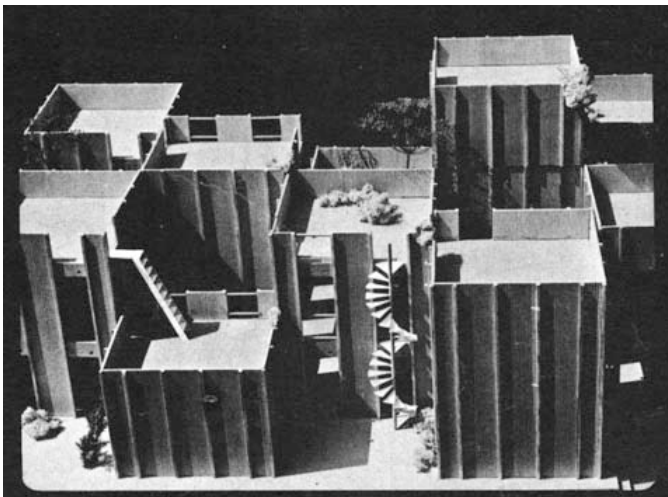
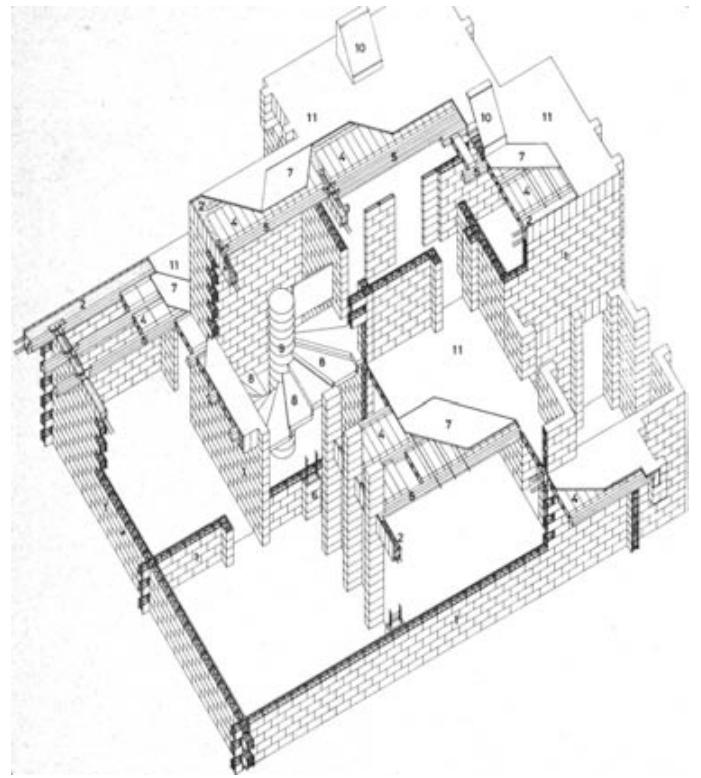
PREVI PP1 I-12, Candilis, Josic, Woods

PREVI PP1 I-12, Candilis, Josic, Woods
 Growth pattern—Plot layout, Contractor-built,
 Selfbuild.

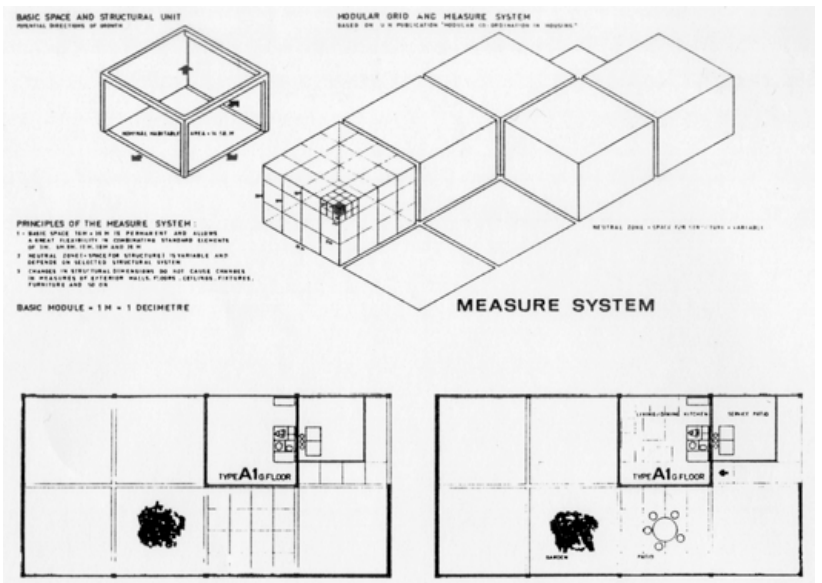




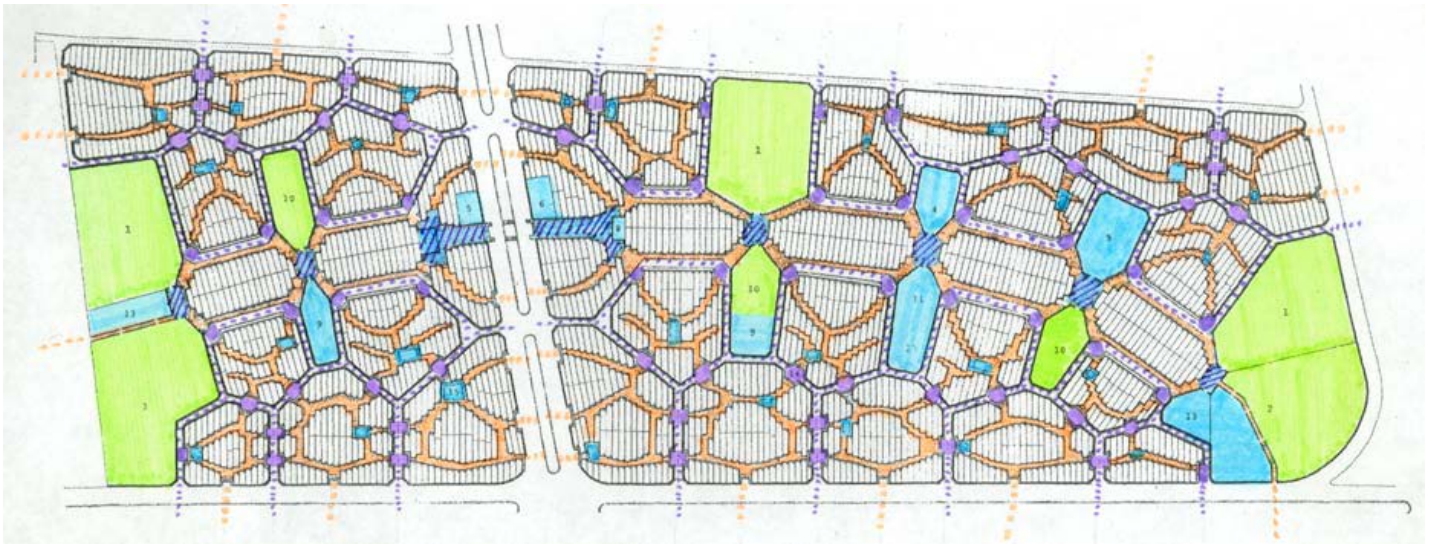
PREVI PP1 1-9, Iñiguez de Onzoño, Vázquez de Castro



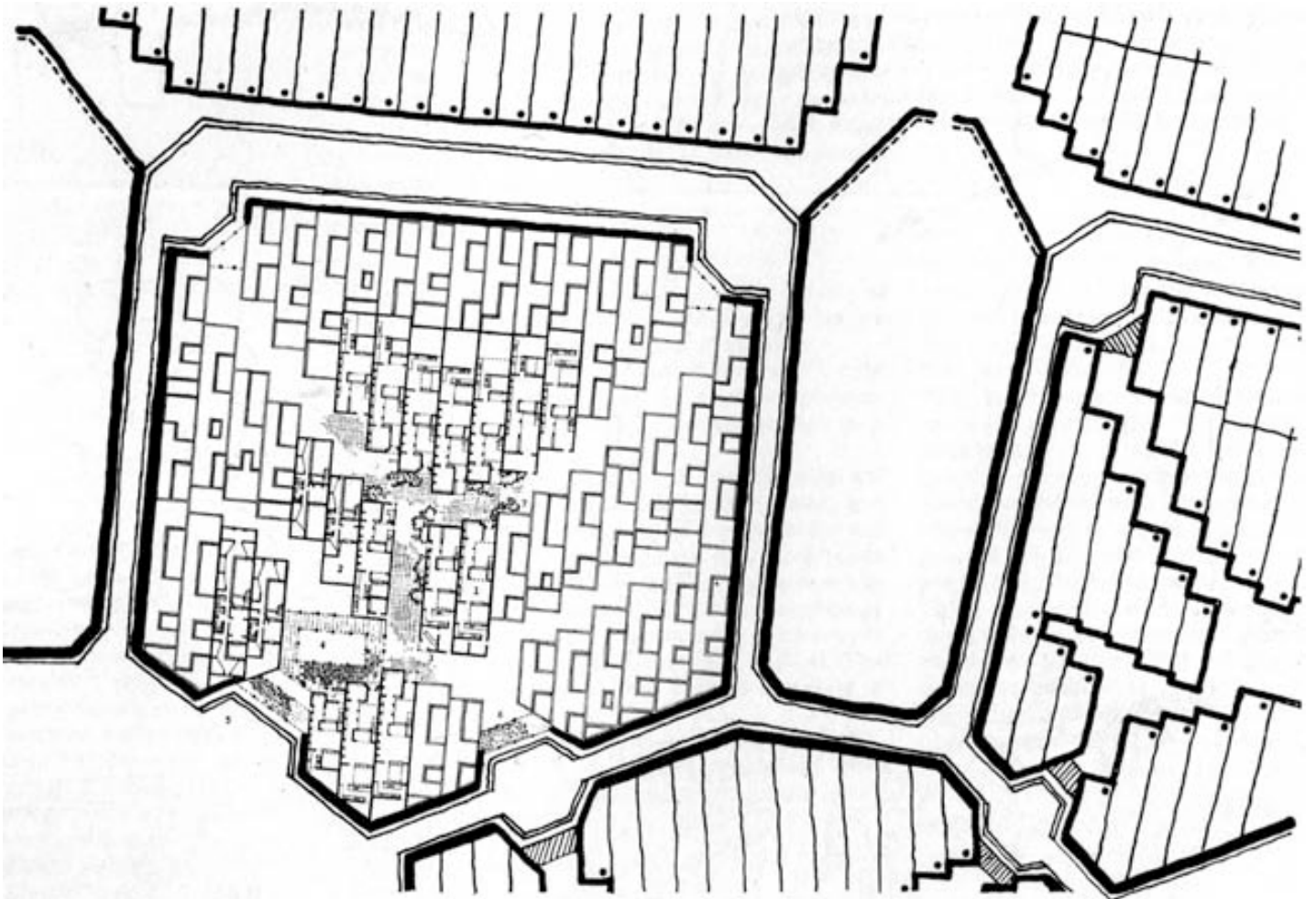
PREVI PP1 1-2, Knud Svenssons



PREVI PP1 1-5, Toivo Korhonen

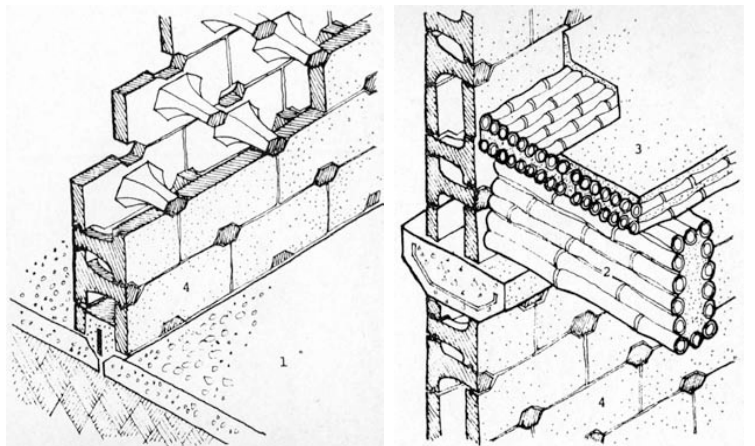


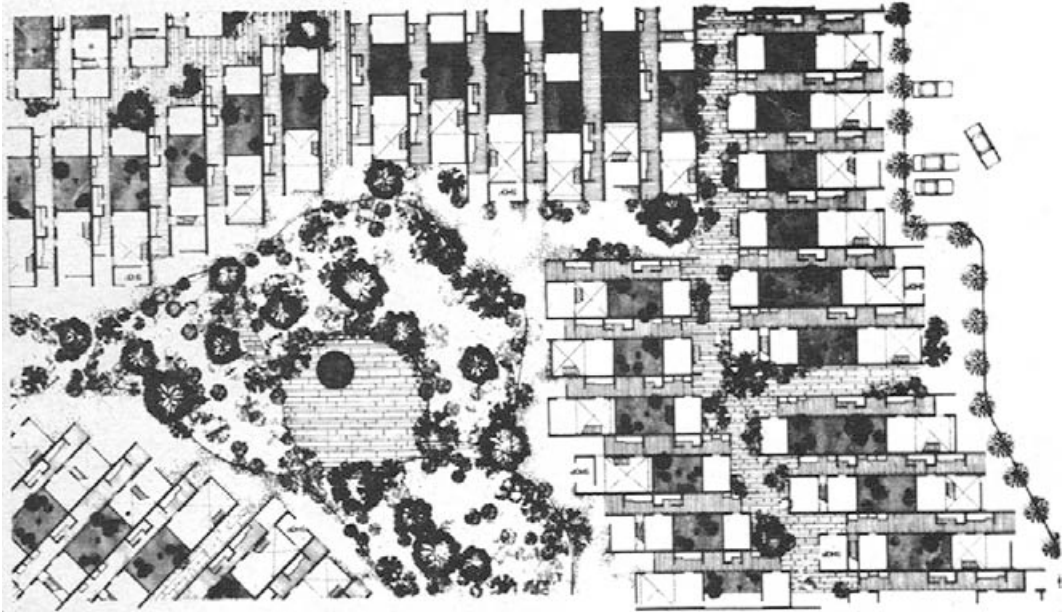
PREVI PP1 I-13, CES: Site plan



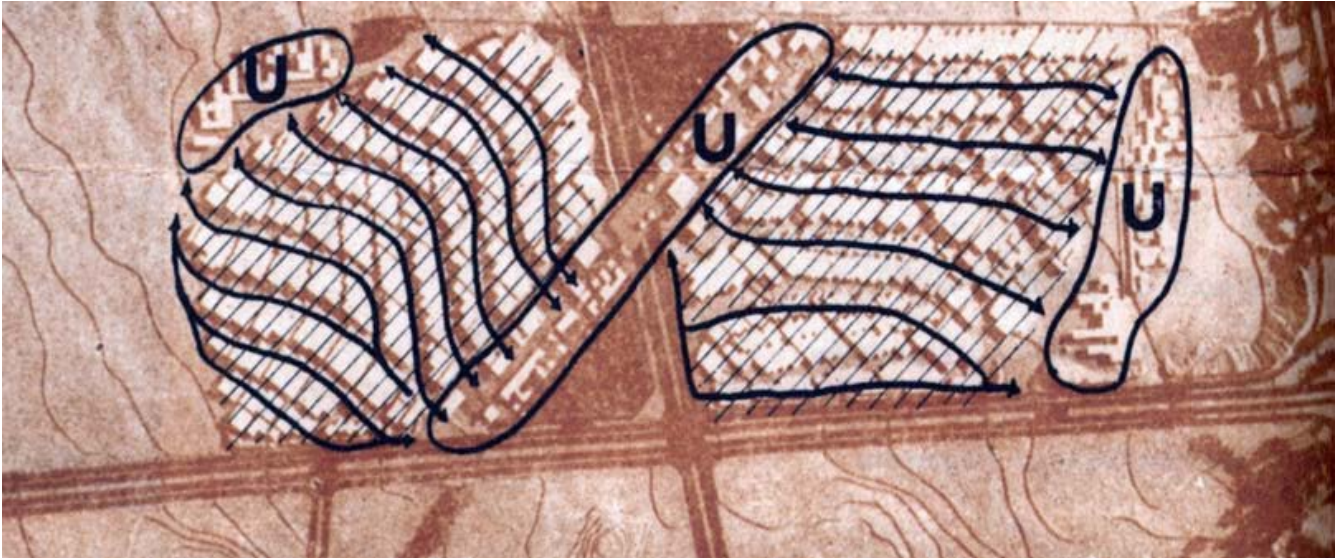
PREVI PP1 I-13, CES: Cell

PREVI PP1 I-13, CES, drawing detailing the Mortarless block cavity wall; Bamboo-urethane foam plank and beam. Houses Generated by Patterns (1969).





PREVI PP1 I-8, Kikutake, Maki, Kurokawa



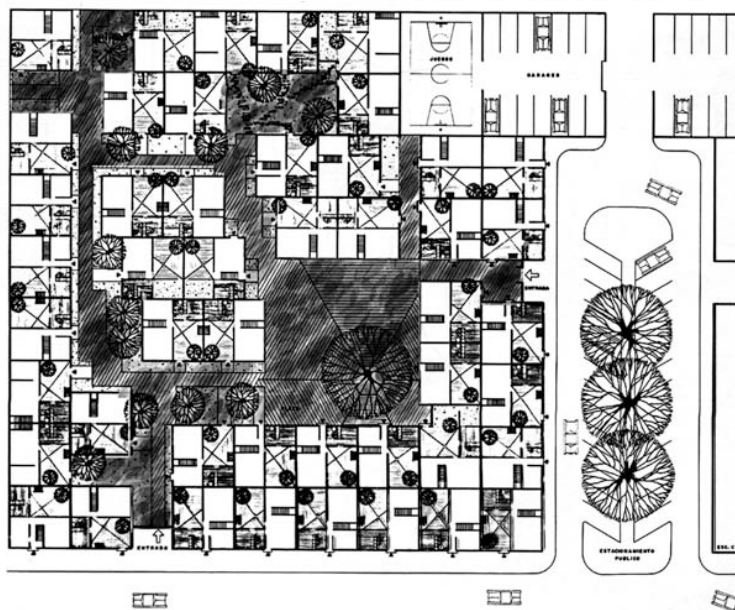
PREVI PP1 I-10, Oskar Hansen, Svein Hatloy



PREVI PP1 I-7, Charles Correa



PREVI PP1 I-3, Esquerra, Saenz, Urdaneta, Samper





Urban proposal for 14,000 dwellings; Unidad vecinal as realized. *Programa Piloto No. 1 PP1: Informe general*

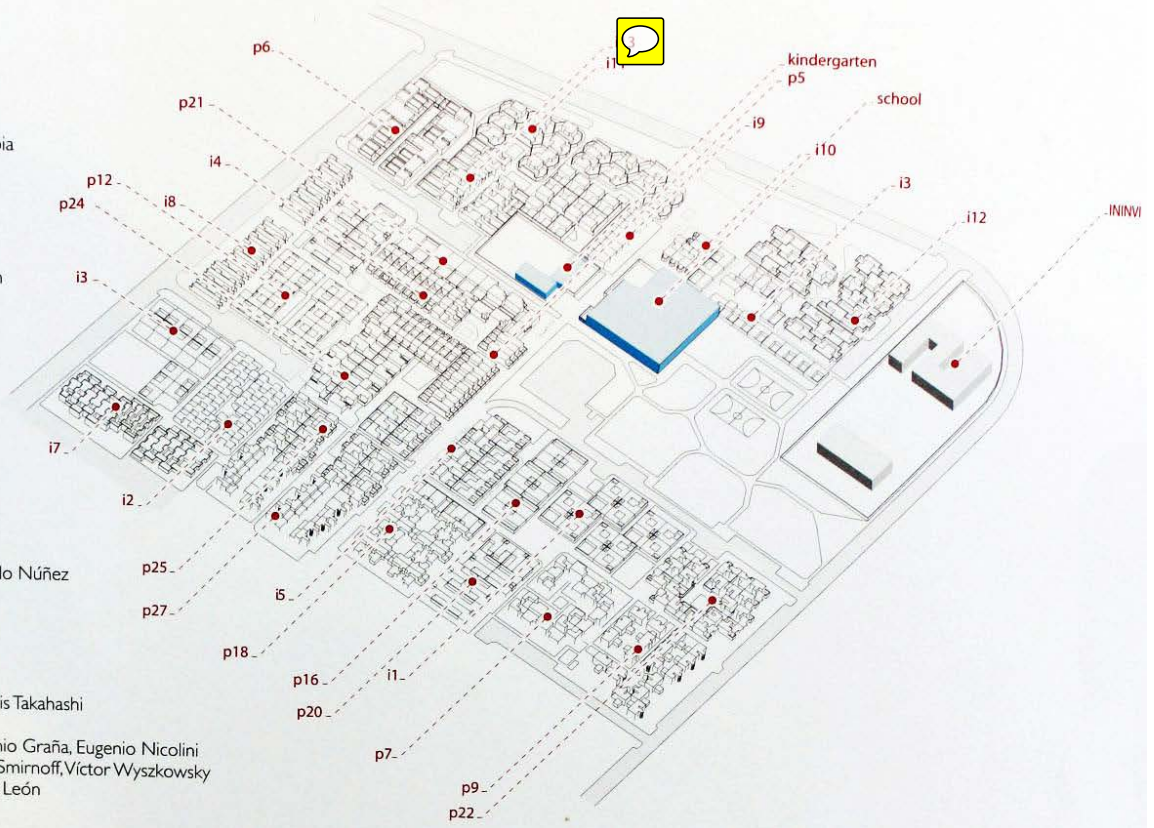
**partecipanti internazionali/
international participants**

- i1. James Stirling/UK
- i2. Knud Svenssons/Denmark
- i3. Esquerro, Samper, Sáenz, Urdaneta/Colombia
- i4. Atelier 5/Switzerland
- i5. Toivo Korhonen/Finland
- i6. Herbert Ohl/Germany
- i7. Charles Correa/India
- i8. Kikutake, Maki, Kurokawa/Japan
- i9. Íñiguez de Ozoño, Vázquez de Castro/Spain
- i10. Hansen, Hatloy/Poland
- i11. Aldo van Eyck/The Netherlands
- i12. Candilis, Josic, Woods/France
- i13. Christopher Alexander/USA



**partecipanti peruviani/
peruvian participants**

- p5. Miguel Alvaríno
- p6. Ernesto Paredes
- p7. Luis Miró-Quesada, Carlos Williams, Osvaldo Núñez
- p9. Juan Gunther, Mario Seminario
- p12. Carlos Morales
- p16. Juan Reiser
- p18. Eduardo Orrego
- p20. Luis Vier, Consuelo Zanelli
- p21. Franco Vella, José Bentín, Raúl Quiñones, Luis Takahashi
- p22. Manuel Llanos, Elsa Mazzarri
- p24. Frederick Cooper, José García-Bryce, Antonio Graña, Eugenio Nicolini
- p25. Fernando Chaparro, Víctor Ramírez, Víctor Smirnov, Víctor Wyszowsky
- p27. Jacques Crousse, Jorge Páez, Ricardo Pérez León



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James Stirling



Maki, Kurokawa, Kitukake



Aldo Van Eyck

