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## Open Form: Oskar Hansen and Svein Hatloy's proposal for PREVI — Proyecto Experimental de Vivienda — Peru.

**FORMA ABERTA:  
A PROPOSTA DE OSKAR HANSEN E SVEIN  
HATLOY PARA O PREVI — PROYECTO  
EXPERIMENTAL DE VIVIENDA — PERU.**

**FORMA ABIERTA:  
LA PROPUESTA DE OSKAR HANSEN Y  
SVEIN HATLOY PARA PREVI — PROYECTO  
EXPERIMENTAL DE VIVIENDA — PERU.**



**Figure 0** Hansen and Hatloy's proposal for PREVI. Urban space as background and structure for urban events, one of the principles of Open Form. Source: free production of the authors based on data provided by the project.

Este artigo é fruto de pesquisa intitulada "Habitação e cidade na segunda metade do século XX: Alternativas à proposta funcionalista na habitação social no contexto ibero-latinoamericano", e contou com apoio da Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES), Brasil — código de financiamento 001 — e da Fundação de Amparo à Pesquisa do Estado do Rio Grande do Sul (FAPERGS), Brasil — bolsa de iniciação científica

## RESUMO

O concurso para o conjunto habitacional do PREVI (*Proyecto Experimental de Vivienda*), realizado em 1969, em Lima, se deu em um momento especialmente fértil de reflexões sobre as transformações da arquitetura e, principalmente, das cidades. Nesse contexto de crítica, temas como a participação cidadã e a transformação da arquitetura no tempo tornaram-se centrais e influenciaram decisivamente nas propostas das 13 equipes internacionais que participaram do concurso no Peru. Esse laboratório projetual, promovido pelo governo peruano com financiamento da ONU, tornou-se, na visão dos autores deste artigo, uma experiência fundamental em habitação social na América Latina no século XX, concentrando projetos seminais cujas ideias reverberam ainda hoje. Se todas as equipes internacionais convidadas a participar do concurso já tinham, naquele momento, um significativo repertório no tema da habitação e estavam em grande sintonia com a produção crítica de seus contemporâneos, a equipe polonesa, composta por Oskar Hansen e Svein Hatloy, trazia para o Peru uma bagagem de trabalho muito particular que vinha desenvolvendo no leste europeu. Dois conceitos estruturantes da produção prática e teórica de Oskar Hansen e de sua esposa, Zofia Hansen — a “Forma Aberta” e o seu desdobramento em escala urbana, o “Sistema Linear Contínuo” (SLC) — aparecem na proposta para o PREVI como instrumentos na busca por uma arquitetura flexível no espaço e no tempo, **aberta** à participação e intervenção do morador e adequada às suas particularidades socioculturais. Desse modo, o presente artigo tem por objetivo resgatar, em um recorte mais específico, as ideias norteadoras da proposta polonesa para o concurso e, em sentido mais amplo, trazer à tona a importância do PREVI enquanto referência fundamental para projetos de habitação social na contemporaneidade.

**Palavras-chave:** habitação social, PREVI, revisão do modernismo, Forma Aberta, habitação flexível.

## ABSTRACT

The competition for the housing estate of PREVI (*Proyecto Experimental de Vivienda* – Experimental Housing Project), carried out in 1969, in Lima, happened in a specially fruitful moment of reflections concerning changes of architecture and, mainly, of the cities. In this context of criticism, issues as the citizen participation and the change of architecture over time became central and influenced decisively in the proposals of 13 international teams that participated in the competition in Peru. This projectual lab, promoted by the Peruvian government with UN funds, became, according to the opinion of the authors of the present article, a fundamental experience in social housing in Latin America in the 20th century, concentrating seminal projects whose ideas still reverberate nowadays. If all international teams invited to participate in the contest already had, at the time, a significant repertoire in the housing issue and had a good understanding with the critical production of their contemporaries, the Polish team, with Oskar Hansen and Svein Hatloy, brought to Peru a very peculiar work experience that they had been developing in Eastern Europe. Two structuring concepts of practical and theoretical practice of Oskar Hansen and his wife, Zofia Hansen — the ‘Open Form’ and its deployment in urban scale, the ‘Linear Continuous System’ (LCS) — appear in the proposal for PREVI as instruments in the search for a flexible architecture in space and time, **open** to participation and intervention of the dweller and adequate to his/her sociocultural peculiarities. Therefore, the present article aims at redeeming, in a more specific clipping, the guiding ideas of the Polish proposal for the contest, and, in a broader sense, raising the importance of PREVI as fundamental reference for social housing projects nowadays.

**Keywords:** social housing, PREVI, Modernism review, Open Form, flexible housing.

## RESUMEN

El concurso para el conjunto de viviendas PREVI (*Proyecto Experimental de Vivienda*), realizado en 1969, en Lima, ocurrió en un momento especialmente fértil de reflexiones sobre las transformaciones de la arquitectura y, sobre todo, de las ciudades. En ese contexto de crítica, temas como la participación ciudadana y la transformación de la arquitectura en el tiempo se hicieron centrales. Se trató de un proceso en el cual influyeron decisivamente las propuestas de los 13 equipos internacionales que participaron del concurso en Perú. Ese laboratorio proyectual, promocionado por el gobierno peruano con financiación de la ONU, devino, en la visión de los autores que se exponen en el presente artículo, una experiencia fundamental en vivienda social en Latinoamérica durante el siglo XX, a través de proyectos seminales cuyas ideas reverberan todavía hoy. Si todos los arquitectos invitados a participar del concurso ya tenían, en ese momento, un significativo repertorio en el tema de vivienda y estaban en gran sintonía con la producción crítica de sus contemporáneos, la dupla polaca, compuesta por Oskar Hansen y Svein Hatloy, trajo a Perú una experiencia de trabajo muy particular que se venía desarrollando en el este europeo. Dos conceptos estructurantes de la producción práctica y teórica de Oskar Hansen y su esposa, Zofia Hansen — la “forma abierta” y su desarrollo en escala urbana, el “Sistema Lineal Continuo” (SLC) — se muestran en la propuesta para PREVI como instrumentos para la búsqueda de una arquitectura flexible en el espacio y en el tiempo, **abierto** a la participación e intervención ciudadana y adecuada a sus singularidades socioculturales. De ese modo, el siguiente documento tiene como objetivo rescatar, mediante un recorte específico, las ideas conductoras del proyecto polaco para el citado concurso y, en sentido más amplio, exponer la importancia de PREVI en cuanto referencia fundamental para proyectos de vivienda social en la contemporaneidad.

**Palabras-clave:** vivienda social, PREVI, revisión del modernismo, Forma Abierta, vivienda flexible.

## INTRODUCTION

The debate on the scope and limitations of citizen management on their habitat occupied a prominent space in the field of architecture and urbanism in the second half of the 20th century, both in the context of the reconstruction of Post-War Europe and in the framework of the rampant growth of Latin American cities due to countryside-city migration. Under these two scenarios, issues such as the construction and reconstruction of urban centers, population growth, economic difficulties, and increasing social inequalities brought to light the need to incorporate participatory processes and self-construction in housing research projects.

The participation of citizens, on one hand, and the details of social subjects on the other, are thus going to be fundamental issues that arise at various levels, whether in a more objective and direct perception - the desires and needs of each resident, or each family, focusing on the project, and from this demanding greater flexibility - or in a broader and indirect interpretation - the cultural aspects, the vernacular construction tradition, and informal housing development, for example, are taken as a reference in the project. The possibilities of making this direct or indirect contribution, of the individual or the collective in the construction of their habitat, have become the focus of a vast field of methodological research, challenging, to some extent, the traditional role of the architect as the creator of a definitive and irrevocable form.

In this participatory context - which was part of a more general debate in the 50s and 60s, based on the differences regarding the functionalist dogmas of the Modern Movement -, works, such as those of Giancarlo De Carlo (1919-2005) and Ralph Erskine (1914-2005) on social housing, were key. De Carlo, as Farias (2019) highlights, foresaw the inclusion of the resident in an architectural operation that proposed housing as an unfinished object, and that incorporated time and use in its various stages. In turn, Erskine included, in the Byker Wall (Newcastle-upon-Tyne, England, 1973), to mention just his most important project, consultation with the local community, resulting, as P. Campos (2017) witnessed, in a “very human” project that connects the community to its territory.

These proposals in the field of architecture and urbanism are parallel in a whole “poetic of openness” that, at that time, was effervescent in the intellectual and artistic fields in general, as Umberto Eco pointed out in his *Open Work* (1962): The compositions of the German, Karlheinz Stockhausen, the writing of James Joyce in *Finnegan’s Wake*, and the mobiles of Alexander Calder are some examples that demonstrate this broad movement of paradigm change, already present in previous decades, which came to consider a more active subject in the very constitution of the work and/or its interpretation (H. Campos, 1975; Melo, 2016).

Within this context of such profound renovations, which reverberated directly into contemporary city-building projects from the Second Post-War period, the *Experimental Housing Project* (PREVI, in Spanish), carried out in Peru between 1968 and 1975, can be considered as one of the most important experiments on social housing ever conducted in Latin America. In this sense, the perspectives of Alejandro Aravena and Kenneth Frampton concur, who equated PREVI with *Weissenhofsiedlung* (1927), in Stuttgart, ranking them as the two greatest moments in the history of social housing, due to their

experimental character and large international scope (Aravena, 2004; Frampton, 2015).

The laboratory installed in Lima in the PREVI call, with 41 projects presented - among them, 13 by some of the most renowned teams of the 60s in Europe, the United States, and Japan-, becomes a very important event of abundant and fertile experimentation that can be confirmed both in archives, through publications, and in the Experimental Unit built in the Peruvian capital. The goals of a broader investigation undertaken by the authors, from which this article is derived, were to study this in detail, while taking lessons on architecture and social housing relevant to contemporaneity from this rich production.

One of the teams that took part in the call, who had the most experience in participatory projects —and that was deeply inserted in this environment of new proposals in the Second Post-War period - was the Polish team, comprising the Finnish architect, Oskar Hansen (1922-2005), and graduate of the University of Warsaw, and his pupil Svein Hatloy (1940-2015) (Ruiz Alonso, 2018).

In his professional career, that brought together art, architecture, and teaching, Oskar Hansen developed, together with his wife, the architect Zofia Hansen (1924-2013), the concept of Open Form, key to understanding both the legacy of the couple and the project for PREVI. This concept, presented at the CIAM of Otterlo in 1959 (Hansen & Hansen, 1959), represented the commitment of replacing an idea of traditional, rigid, and univocal work - of art, architecture, and urbanism — with non-crystallized forms, *open* in the sense of the extensive possibility of results and the free reaction and action of the user.

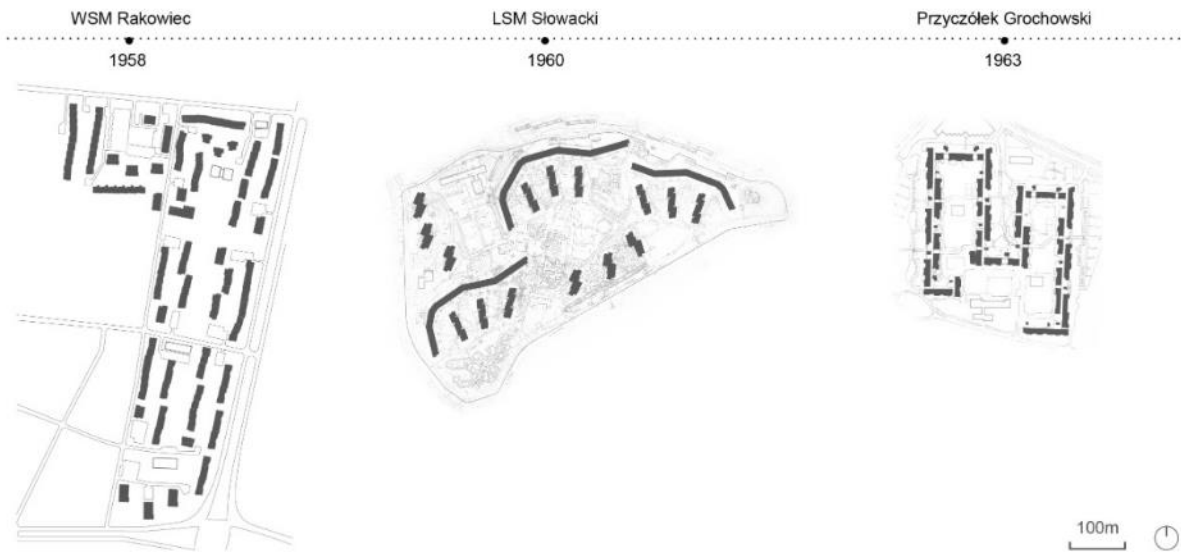
Thus, Oskar Hansen referred to the architectural space conceived following this principle:

It must absorb the most varied permanent functions (work, food, leisure), as well as accidental, spontaneous ones —which occur in the coexistence of residents over time. [...] It must emphasize the individuality of the inhabitants and the scale of their feelings. The architectural space must be transformed over time, from an individual form to one of multiplicity, and vice versa. <sup>1</sup> (O. Hansen, 1958, p. 436)

Open Form, as López-Marcos (2015) explains, broke down the rigid spatial conception - typical of the “closed” form -, and was proposed as a flexible spatiality where individuals played an active role again, through their ability to produce a reflective space. Thus, architecture and urbanism would generate a base on which the resident/inhabitant could, even as a participant in a collective process, be able to perceive, generate, and adapt their space to their needs.

Oskar and Zofia Hansen initially applied the concept of Open Form in 1958, in the *Warsaw Housing Cooperative (WSM Rakowiec)* project, where they developed a typological diversity of apartments, giving future residents the opportunity to choose (Z. Hansen, N. d.).

Later, the *Juliusz Slowacki Housing Estate (LSM)* project in Lublin, of 1961, showed progress regarding the possibility of choosing between predefined types, tested in Rakowiec, for a “construction that allowed far-reaching transformations” (Z. Hansen, w/d, p. 33)<sup>2</sup>, with several flexible housing



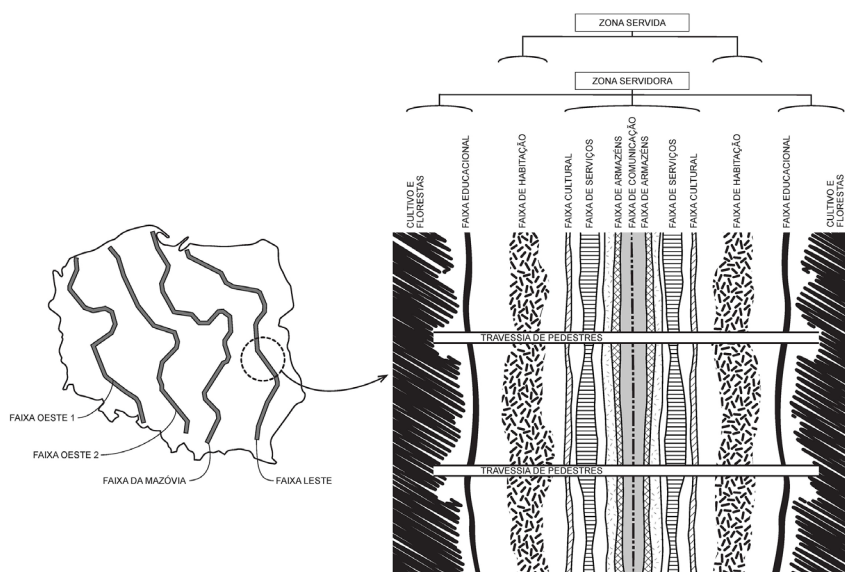
**Figure 1** Layout of WSM Rakowiec, LSM Słowacki and Przystółek Grochowski. Source: Prepared by the authors based on the original projects, available in the Hansen Family Archives. (<http://www.hansen-family.net/>).

modules of different sizes, for families of 2 to 5 people. For each pre-defined module, several internal layout options were developed, presented as a questionnaire to the residents, who also had the autonomy to prepare their own proposal (López-Marcos, 2015; Stanek, 2014). A prefabricated independent structure gave the project flexibility including, for example, beams with tenon joints for the construction of balconies, coupled to the facade following the internal layout defined for the apartment.

In 1963, the couple began the *Przystółek Grochowski* housing complex project, in Warsaw, with blocks supported by a prefabricated system of transverse frames that allowed flexible layouts, including the future knocking through of adjoining apartments on removing internal partitions. The 1.5km long gallery, which connected the blocks, was considered as a meeting point for the residents, and its “folded” setup formed open protected areas for leisure, and for facilities such as a primary school, kindergarten, infirmary, and administrative offices (Kedziorek & Stanek, 2012).

All these housing experiences (**Figure 1**) were trials on how to live in a community, which the architects considered compatible with the Polish socialist regime and that would be suitable for this (cf. Stanek, 2014; Springer, 2017).

This constant research with linear layouts, where circulation gains increasing importance as a structural-spatial element, is a small-scale experimentation of the Linear Continuous System (LCS), a principle that the Hansens were developing at that time. This system, which proposed a new form of urban settlement in Poland, consisted of functional strips, arranged in parallel, that proportionally alternated serving and served zones, giving people equal opportunities to access public facilities and urban life in general, through transverse and longitudinal mobility. On breaking with the traditional and hierarchical centralized urban forms —with peripheral diametric growth in relation to a fixed central region—, in the LCS, thanks to the linear layout, housing and services would maintain a balanced relationship, even with the expansion of urbanization (O. Hansen, 1969; Kwiatkowski, 2019).



**Figure 2** The layout of the LCS crossing Poland, on the left, and a detailed approximation, on the right. Source: Compiled by the authors based on the material available in the Hansen Family Archives (<http://www.hansen-family.net/>).

Thus, Hansen applied the idea of the Open Form to an infinitely larger, regional dimension: Four strips of this system would cross all of Poland, connecting the European demographic center to the sea (Figure 2). In these strips, the interpretation of the Open Form, translated into an idea of a city that was essentially conceived as an infrastructure, a base on which residents would be provided with basic urban functions and would have the freedom to set out their habitat. Drawings and approach models of the so-called West Strip 1, for example, showed a staggered structure, like a colossal continuous grandstand where the inhabitants would build their homes<sup>3</sup>. Then, the LCS was in the same vein as the megastructures proposed in the same period—for example, by Japanese Metabolists—whose primary reference was the Obus Plan (1931), by Le Corbusier (Banham, 2020). In these projects, a large structure served as the basis for smaller units, with a shorter life cycle and susceptible to replacement (residences, buildings, etc.), constituting an expandable and flexible system.

The LCS would thus form the basis for a more egalitarian society, closer to “the positive aspects of the city, i.e., the comforts of civilization, and the positive aspects of the countryside, namely, closer contact with nature” (Hansen, 1969, p.2).<sup>4</sup>

At the same time, the Hansen’s background on social housing, developed under the concepts presented here, would culminate in the invitation of the British architect Peter Land to take part in the call for large scale urbanization of social housing to be implemented in Lima, Peru, within the PREVI program. On that occasion, Oskar was accompanied by his young colleague Svein Hatloy (1940-2015), a Norwegian architect, who had been in Poland since 1965, collaborating with the Hansens.

The *Experimental Housing Project* (PREVI, in Spanish), managed under the leadership of the architect Fernando Belaúnde Terry, and financed by the UNDP (United Nations Development Program) in the late 1960s, was a proposal developed within the framework of the rapid migration from the countryside to coastal cities, particularly to Lima, which caused a housing

<sup>3</sup> Images available at <http://www.hansen-family.net/> (Oskar-Concepts-LCS Western 1)

<sup>4</sup> Free translation

deficit, like other Latin American urban hubs, with the proliferation of many informal and precarious settlements on its periphery.

With the goal of being a large laboratory for housing in Latin America, PREVI had several programs, among them PPI<sup>5</sup>, which foresaw the construction of a new neighborhood with 1,500 residential units and, for this, the holding of the call, in 1969. 28 Peruvian teams took part in the open call, and 13 international teams, in the call by invitation (Gonsales & Bertinetti, 2019).<sup>6</sup>

The architects from the international teams were somehow inserted in the context of criticism of the dogmatism of the functionalist city, with some even participating in Team X (such as Aldo Van Eyck and the Candillis group, Josic, and Woods) and others in its *milieu* (such as Hansen, the Japanese team, and James Stirling). Not by chance, the call to tender announcement was very much in tune with the new paradigms that emerged from this critical production—which encompassed the entire critical scenario built by the Situationists, by Jane Jacobs, by Christopher Alexander himself, a participant of the call, among many others- and it closely considered the socio-cultural and geographical peculiarities of Peru, along with the economic and technological feasibility of the project.

Among the mandatory requirements and recommendations of the call, the teams had to follow parameters such as the flexible and evolutionary character of the houses and incremental growth, giving families a chance to take part in the progressive conformation of their habitat, and taking into account Peruvian family setups. On an urban scale, for example, the need for high density combined with low rise buildings, as well as giving priority to pedestrians, with multipurpose open spaces—the interpretation of traditional open spaces in Peru, such as *squares* and *boardwalks*- was encouraged (“PREVI/Lima”, 1970).

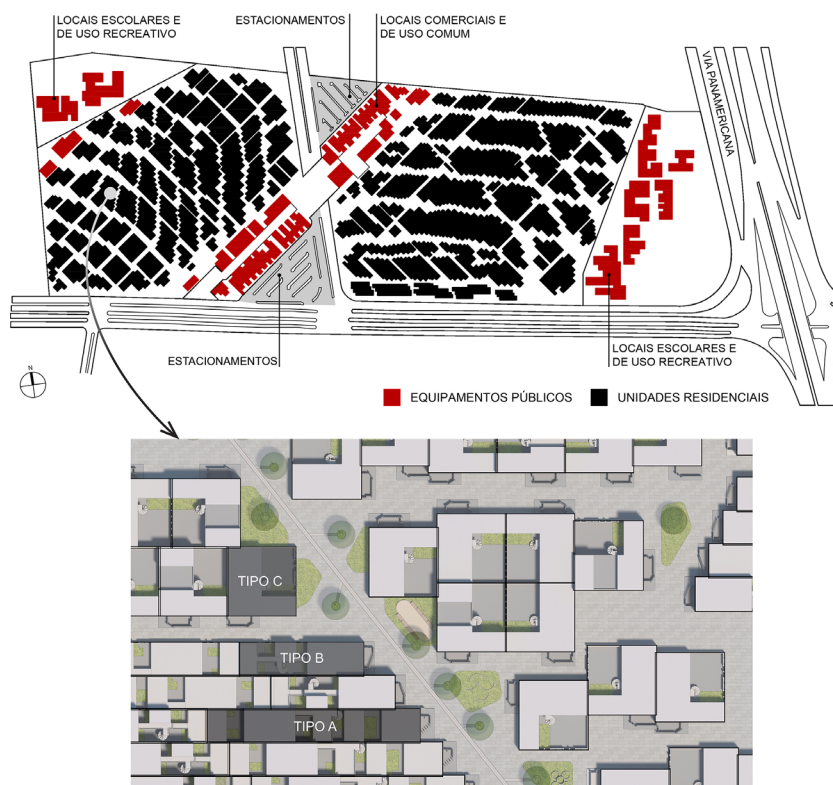
The PREVI housing competition thus constituted a large experimental field, where architects from the northern and southern hemispheres were able to test out or expand upon research that they had been working on with housing, in the context of criticism of the “abstract and universal space” of the functionalist matrix, which included a more contextualistic approach to the project and to the idea of a more active subject.

The coincidence of conceptual and ideological terms and conditions put forth in PREVI, with the precepts of the Polish architects, would make the call in Peru a unique opportunity of application, for Hansen and Hatloy, of the Open Form theory and of the Linear Continuous System. This article looks to study the project of Hansen and Hatloy for the PREVI call, revealing the concepts and procedures contained within it, rescuing its spatiality and trying to shed light on an experiment that, due to its complexity and maturity, involves an even greater role in research.

In this sense, the notes of the Peruvian Housing Ministry (ININVI, in Spanish, 1971), where the projects of the PREVI call and their memorials are published, as well as the most recent publication, The Experimental Housing Project (PREVI), Lima, (LAND, 2015), a broad catalog of proposals for PPI authored by Peter Land himself, are

**5** PREVI initially consisted of three pilot projects: PP1, urbanization project; PP2, improvement of existing areas; and PP3, support for self-construction of housing and facilities. Subsequently, PP4 was incorporated, with the aim of rebuilding the areas affected by the 1970 earthquake (Land, 2008).

**6** The teams invited were: Kiyonori Kikutake, Fumihiko Maki, Kisho Kurokawa (Japan), Christopher Alexander (USA), Toivo Konhonen (Finland); Rafael Esguerra García, Álvaro Saenz Camacho, Germán Samper Gnecco, and Rafael Urdaneta Holguín (Colombia); Knud Svenssons (Denmark); Hansen and Hatloy (Poland); Herbert Ohl (Germany); and Studio 5 (Switzerland); Íñiguez de Onzoño, and Vázquez de Castro (Spain); Georges Candillis, Alexis Josic, and Shadrack Woods (France); James Stirling (England); Aldo Van Eyck (The Netherlands), and Charles Correa (India) (“PREVI/Lima”, 1970; Land, 2008).



**Figure 3** General urban design:  
Public and private domain.  
Source: Redesign by the authors  
from images available in Ininvi &  
Ministry of Housing (1971, v. 18).

essential sources of this study. On the other hand, access to the Hansen Family Archive (<http://www.hansen-family.net/>) was key to completing the information about the Hansen and Hatloy project found in the bibliographic references cited above.

### The City Scale: The Linear Continuous System

The area of the land designated for the call was 40 hectares. It was in the expansion region north of Lima, next to the Pan-American highway, and was part of a residential area that was ten times larger, to which the estate could expand later (“PREVI/Lima”, 1970).

The setup proposed by the Polish team alludes to the Linear Continuous System, and the project as a whole is an exercise of direct application of the Open Form. A central strip of stores, services, and facilities, which acts as the backbone of the estate, appears diagonally on the ground, obeying the direction of the prevailing southwest to northeast winds, and channeling them through belts of vegetation.<sup>7</sup> At the east and west ends of the estate, complementing the service areas of the central strip, following the proposed cross-section of the LCS, there are two areas for school and recreational activities with green areas, promoting a kind of isolation for the estate from the busy roads, especially the Pan-American highway.

Set amid these public facilities are the two large residential areas of the estate (Figure 3). In them, different types of housing units are associated with different sized plots that, from a fairly open geometric pattern, form the urban space. Hence, the implementation would be

<sup>7</sup> The original plans of the project can be seen in full at <http://www.hansen-family.net/> (Oskar-Projects-Housing, tab “UN Previ”), a file that has several explanatory diagrams about the proposal and is the basis for much of the information that will be presented in the course of this work.



incremental and would involve some flexibility. The proposal of terraced residences would provide a high density to the estate —if a maximum height of three floors is considered-, reaching an average of 250 inhab/ha (Ininvi & Housing Ministry, 1971, v. 18), but this could be almost doubled with the expansion of residences over time.

The PREVI proposal as a linear continuous system (LCS) outlines the day-to-day movement of the inhabitants: living, services, production/work, leisure, and contact with nature. This organization implies that these strips could easily extend as the estate expanded, demonstrating the great *openness* -in Hansen's lexicon- of the estate and always the latent potential of connection with the surroundings. On the other hand, the fairly open association between units generates diverse and not very rigid paths that connect the central area and the lateral recreational ones, leading to a constant and diverse transversal flow of people throughout the day, promoting social contact.

The diagrams presented by the architects demonstrated a pedestrian-oriented organization, with a maximum of 10 minutes' walk for the residents to common facilities and spaces, as well as to the highways connecting with the rest of the city. The car only reaches the parking spaces, located at the ends of this central strip, next to the highways. The road that crosses the site, transversely passes underground through the "service area", helping residents walk through the entire estate.

Several levels of groupings are proposed on the estate. The internal courtyards of the residences, which are the private spaces, are the first opportunity to gather, meet, and for recreation, especially for children. On the other hand, the design of streets for pedestrians, with their recesses and small places for living and playing, values the reading of intimacy and characterizes these "semi-private" spaces as extensions of the home, fostering small gatherings, and a relationship among neighbors, through a measurable and private interconnected public space. The multi-age leisure areas, gardens, and some infrastructure, such as flowerbeds and drainage, would be found in these potential places of coexistence.

These alleyways in the estate lead to wider open spaces, of a public nature, associated with the facilities in the center and on the edges of the site. This positioning, while moving away from vehicle traffic to housing, opens the estate to its surroundings. The relationship of the different open spaces is one of the translations of what was thought of as a place of "social relations" by the architects:

The open areas around the houses offer a wide variety of paths for pedestrians, as well as places for children to play near their homes. These paths comprise open private areas and are connected by the central service area and by the lateral recreational ones. The conditions created are favorable for having a variety of social contacts ("PREVI / Lima", 1970, p. 200)<sup>8</sup>.



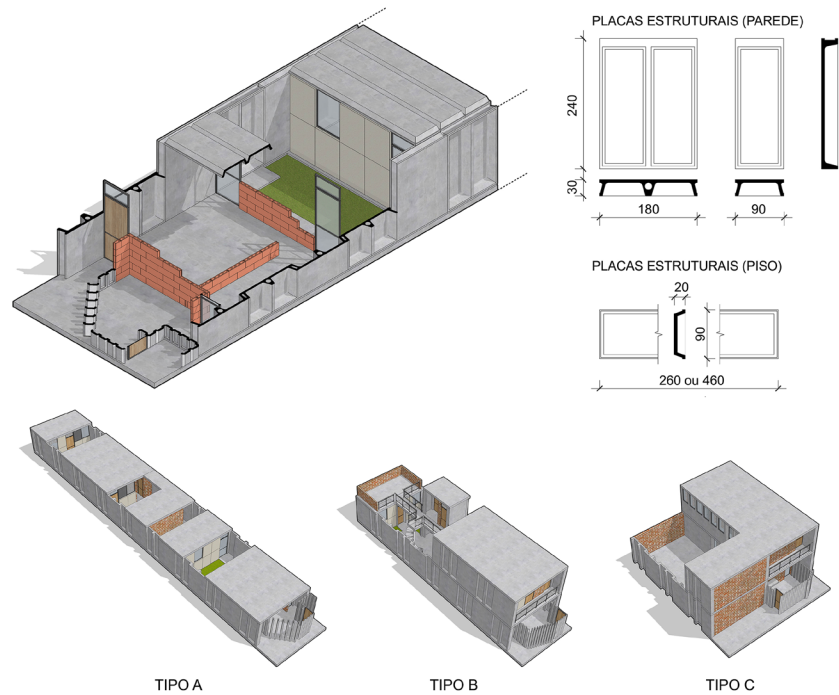
Through the connection between these different categories of open spaces, repeating strategies used in the Juliusz Slowacki and Przychówek Grochowski housing estates,<sup>9</sup> the architects planned the general activities considering the different age groups and with appropriate distances to the house: in the first group, children up to 3 years of age would be accompanied by their parents, using the open spaces inside the residence. The second group, from 3 to 6 years of age, would already have the autonomy to use the playground, which would be within a radius of 30m of each dwelling, usually located in the various recesses generated in the urban space through the displacements of the buildings. The final group covers children from 6 to 14 years of age, who would be able to go to clubs and sports areas, which are located up to 500m from the residences. This care about the project's suitability for different age groups demonstrates an attempt to promote from early on, the progressive and secure appropriation of collective spaces.

The concept of architecture as a support — that had been worked on by the architects — is clearly explored in this project, from a proposal of urban space with clear boundaries and an apprehensive setup, where the physical elements act as a continuous background that highlights the figures — people and activities — while linking them at the same time (Figure 4).<sup>9</sup>

**Figure 4** The urban space.  
Source: Prepared by the authors based on the data provided by the project.

<sup>9</sup> They broke from the basic strategies of Modern urbanism —especially that consolidated in the Interwar CIAMs and the Athens Charter (1933)—, which put the physical elements —and architecture— as figures against an infinite and amorphous spatial background.

**Figure 5** Residential unit:  
 Constructive elements and  
 typological arrangements.  
 Source: Prepared by the authors  
 based on the data provided by  
 the project.



### The scale of the residential unit: The Open Form

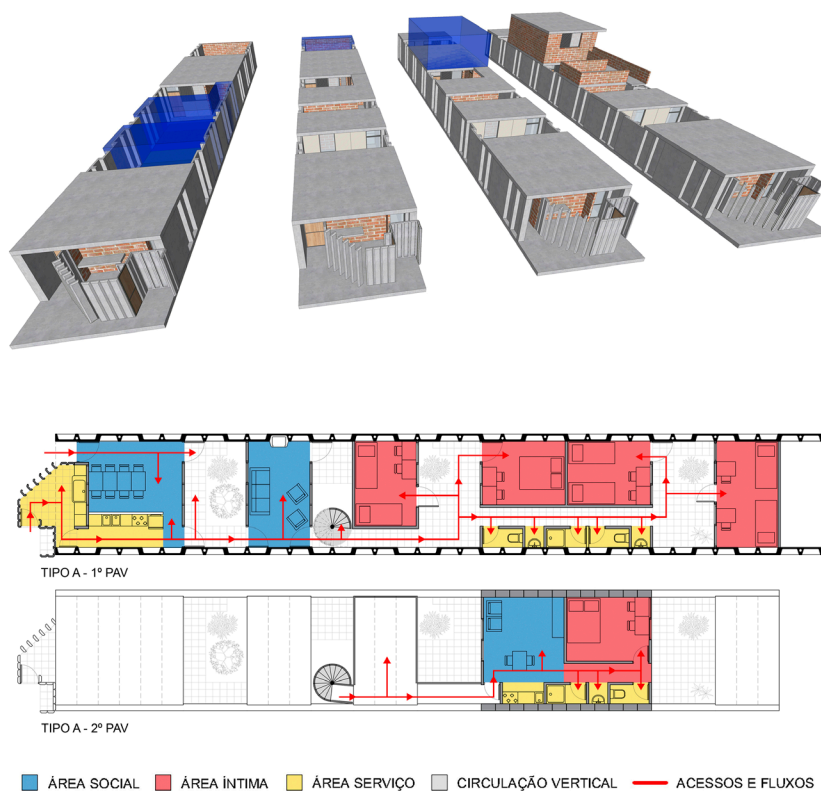
Although PREVI did not foresee direct participation of the future resident in the initial phases of the project, the possible diversity of dimensions and internal organizations of the dwellings, as we will see, assumed their intervention in later housing occupation phases.

Oskar Hansen's experiments with resident participation as a complement of their home, serve as the basis for PREVI, now with the theme of single-family housing. A prefabricated concrete construction system forms the perimeter closure of the lot and the mezzanine and roofing slabs. In the later stages, enclosures with ceramic or concrete blocks, panels, frames, partitions with fabric, etc. would enable the residents themselves to implement them according to their usage needs and their economic possibilities (Figure 5). The strategy of using heavier building elements to define the boundaries of the lot allows, from this "base", great internal flexibility — demonstrating a simultaneous concern with the principles of Open Form and with the integrity of urban spatiality.

Thus, three general types of units (A, B being elongated lots; and C, compact lots) with several subtypes, from the depth variation of the lot, are proposed, producing an extensive range of possibilities for housing setups.

The project on a home scale sought to contemplate the different Peruvian family makeups, especially the polynuclear ones. Cohabitation was a recurring situation, and house extensions had to consider this family development over time. Thus, the base residence housed a first nuclear family and, as the family grew and the children formed new families, the dwelling allowed extensions with a certain functional autonomy of the spaces.

In Type A, quite elongated in nature, the intercalation of the



**Figure 6** Residential unit, type A: Extension process; sectoring and flows. Source: Prepared by the authors based on the data provided by the project.

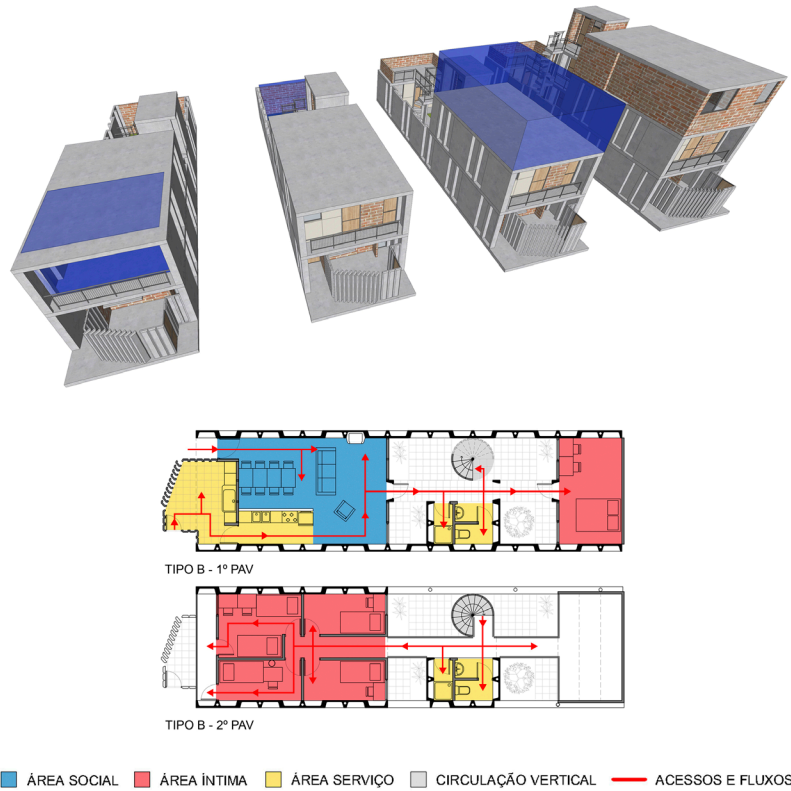
built spaces and their private yards finds, in the perimeter structure, the suggestion of modulation for future growth, aiming at a good relationship between enclosed and open environments, with suitable yard sizes for isolation and natural ventilation. This organization generates a very clear grading of privacy, from the most social environments, at the entrance, to the most intimate, at the back. In principle, this type would house a maximum of two floors, the upper one -equipped with its own kitchen, bathroom, living room, and bedroom— reserved for a second family unit (Figure 6).

In Type B, with less depth than the previous one, a single central courtyard separates, on the ground floor, the social area, and one bedroom. Among these volumes are bathrooms and vertical circulation. On the upper floor, a hallway connects the three areas of the floor — bedrooms, bathrooms, and terrace—, and acts as a roof for circulation on the ground floor. This type and the previous one would house up to two nuclear families, reaching a total of eight to nine people, respectively (Figure 7).

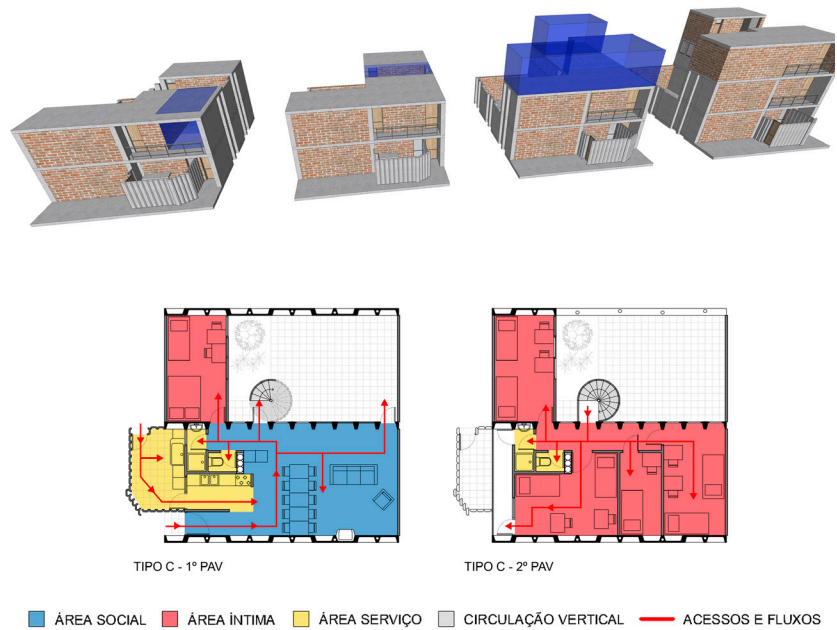
On the ground floor, Type C has more defined spaces and, on the second floor, it has the possibility of spatial rearrangement inside a previously constituted shell. This type would have 3 floors with the possibility, then, of housing up to 3 nuclear families and a total of twelve people (Figure 8).

The three types have functional solutions in common, such as the demarcation of the external service area, where there is a secondary access. If the front positioning of the service sector distances the residence from direct contact with the street, making the house more introspective,

**Figure 7** Residential unit, type B: Extension proposal; sectoring and flows. Source: Prepared by the authors based on the data provided by the project.



**Figure 8** Residential unit, Type C: Extension proposal; sectoring and flows. Source: Prepared by the authors based on the data provided by the project.



the courtyards then become key instruments for the sense of extension of the internal environments.

Thus, since they originate from the same constructive logic and share some formal/functional solutions, the different types of houses coexist and connect, generating a whole with a very cohesive language, despite the high complexity and even unpredictability of their implementation.

The proposal of Oskar Hansen and Svein Hatloy for PREVI shows a constant dialectic between repetition and change, rule and individual freedom, rigid support and Open Form, where the role of the architect is essentially different from that based on the design of a final form, of which they would have an absolute control. In this project, the spatial form assumes a process nature, where the project is a sublayer that gives room to new possibilities.

This reduction in the project's degree of determination does not necessarily mean a simplification or reduction of the role of the architect, but perhaps a greater complexity, evidenced, in the case under study, by the different typological variations, possibilities of growth, and adaptation to different family arrangements, use of different building materials, and foresight for the progressive occupation of the space. The flexibility of the project when facing these factors is combined with a certain control of the designers over the form, whether architectural or urban and, therefore, over the environmental quality of the spaces, seeking a qualified relationship between the rigidity of the support and the freedom given to the residents.

The effort to adapt such a universal proposal as the LCS (whose layouts showed the possibility of extension to the entire European continent) to the idiosyncrasies of Peru sheds light on the great complexity that involved the work of Post-War architects, those of the so-called "third generation", linked to discussions of review and criticism within the Modern Movement itself.

On one hand, the "universal man" from the first phase of modernism became a specific individual—"subject before object," in Hatloy's terms—as an increasingly sociological approach to think about the city. Categories like *identity*, *community* and *association*, key in the work of Alison (1928-1993) and Peter Smithson (1923-2003), to quote two architects whose research matched Hansen's, were clearly opposed to the functional categories of the Athens Charter, evidencing from the start of the 1950s, the paradigm shift underway. On the other hand, quite often this same generation of architects, who sought in real and local experiences a sense of place, focused on planning and project concepts whose matrix was still essentially universal and totalizing, with a focus, of course, on giving practical and efficient solutions to the vulnerabilities of a world shaken by war and in a dizzying population and urban growth.

Thus, urban concepts in vogue at that time, such as mega-structuralist proposals or even the idea of *mat-building* -which are reflected in Hansen's theoretical and project propositions and, in a certain way, in his project with Hatloy for Lima-, carried in themselves something of an internal contradiction: if local aspects were taken as a reference and the freedom of action of the individual in the establishment of their habitat was a fundamental premise, this would be achieved through large structural elements using advanced technology, which imposed a blunt and somewhat rigid order. The freedom of the inhabitant would therefore be conditioned to a structural matrix whose construction would require collective strength and consensus, in a process of apparently difficult intermediation between two diametrically opposed scales, that of the megastructure and that of spontaneous and autochthonous housing.

On the other hand, a new notion of temporality and flexibility was also incorporated in these proposals, where LCS and the Open Form were imbued: the great ordering structure of the form should be capable of adaptation, transformation, and growth over time. Given this context of rich complexity, the

## DISCUSSION AND CONCLUSIONS

project of the Polish team for PREVI becomes especially interesting, and the more general exercise contained therein, namely that of the translation and feasibility of a repertoire such as that of the LCS - developed essentially as a theoretical proposition and on a very broad territorial scale— in the particular Peruvian peripheral context, in a set of single-family houses so different from the large blocks proposed in Eastern Europe. The establishment of the support structure is manifested, in PREVI, by a less comprehensive scale, especially in housing, but also through public facilities and basic urban infrastructure, which would allow some flexibility in the general implementation of the estate and would facilitate its expansion.

The project of Hansen and Hatloy, based actually on the tension between the universal and the local, the technological and the autochthonous, the planning and the contingency, eloquently expresses the debate on architecture and city of their time. The final form of yesteryear enters into a frank dissolution, well represented by the Hansen dichotomy between closed and Open Form<sup>10</sup>, and it becomes procedural and flexible, and is traversed by agents that, no matter how much they have always acted on architecture, did not, until then, have such a prominence in the hegemonic discourse and practice: time, change—in social or family arrangements, in the wishes of users, on so on-, freedom of choice, and participation of the population; in short, openness to the unpredictable and changeable.

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**10** The trial Hansen and Hatloy conducted in Peru in 1969 cannot be measured in its entirety. What was built from this call was an Experimental Unit with 500 units which brought together, as a showcase, the proposals of the 24 international and Peruvian teams that took part, adapted to an urban project made by Peter Land.

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