

need for regulation, and its exterior will be a consequence of this.

The observance is now towards a few internal laws. The facade is not made up; it is a coherent system per se. The meteorization of the opening redistributes the full and the empty, by merging the mechanisms of solar control with the wall in a universal form: the lattice-wall.

The game of shadows, organized and geometric, gives way to geometry, equally rigorous in its approach, but illusory and changeable in its reading, producing a moiré effect.

This optical effect, deeply exploited by kinetic art, gives the volume a plastic quality which raises the architectural box to an artistic level. The intention of integrating art into a body created under these principles requires that the integration leads to universal solutions which correspond to the result of this operation, where there are no gaps between the structures. Thus, the plastic intervention is focused on the elements of mobile solar control, in the chromatic game of its slats or using these as a base for the pictorial composition that, in turn, assumes and integrates these components and their movement as part of the same.

#### **The standardized construction**

The structural system of the pavilions, with great load bearing required only in the spaces with the laboratory machinery, is a standard system of porticoes. What stands out is the effort to maintain a continuous and thin line in the façade, which frames the pivoting slats, or the lattice-walls (Fig. 6). To accomplish this, the slab of the roof hangs from the beams, leaving the exterior of them exposed on but reducing the section of the projection span in an inverted cantilever mode, making it invisible to pedestrians and keeping the continuity of the upper vertex of the façade. Once fulfilling its rational function, the structure could transcend in a plastic fact, serving as an ornament to its surfaces and as a symbol of functionalism".

The auditorium is practically a reissue of the concert hall of the central complex of the UCV, with the same system and number of porticoes that sustain the curved roof. This building, along with the great projected marquise, which is also similar to the access of

the Rectorate building in Caracas, but sustained by tensors, are the greatest efforts to make the structure expressive.

Also regarding Caracas, a reduced palette of standardized materials is even further evidenced for all the enclosures, in a clear intention to accelerate the construction processes by means of industrialized materials and the plastic exploration of them. The fretwork blocks and the pivoting shutters constitute practically the entire enclosure of the pavilions. Only in a few lower floors, retracted under the projection of the higher floors, the traditional windows with romanilla blinds are used, very effective in a more localized climate control. For Villanueva, the shape is built, its creation" is an imposition of the matter and the construction procedures, but its real value cannot be translated by only, taking into account the structure".

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## Residential unit "El Paraiso"

Paulina Villanueva

### **1 Public housing as a cause**

In June 1965, during the celebration of the XI Pan American Congress of Architects held in Washington, Carlos Raúl Villanueva presented a short paper under the brief title: Housing. Modern architecture had at this moment shown signs of evident fatigue and had found its way back after arriving at countless dead ends. In his paper Villanueva reaffirmed his status as a modern architect and reminded his fellow colleagues that their goal as architects "which concerns them with an irrefutable urgency is the creation of a definitely more human and better world."

The happiness of man, the attainment by all of us of a full and satisfying life, is the cause, the purpose of the new architecture, the essence of the spirit that gave impulse to the architecture of the early twentieth century. Villanueva was trained in these ideals in the Paris of the first quarter of the century; his concerns took him beyond the doors of the School of Fine Arts where he studied architecture.

In this cause, the voice of Le Corbusier is the guide, the light in the way of this tireless search which opened up with the turn of the century for architecture. Corbusier was a "chercheur" who embodied his ideas in his designs and profuse writings, searching to build a new language for architecture and urban planning, but beyond that, and in essence he did it to convince, persuade and educate his followers on the path towards the tomorrow. Villanueva was one of those followers who likewise devoted all his efforts to lay the foundations, to forge this new architecture in a country where everything or almost everything was to be done.

Venezuela offered fertile territory and Villanueva worked tirelessly, not in a private professional office, but in the service of the state, firstly for the Ministry of Public Works, then the Workers' Bank and finally for the University City. Housing, Education, Art and Urbanism constituted the centre of his pro-

fessional work.

Architecture was for him the noblest profession, destined to serving society. For Villanueva "Architecture is a social act par excellence, utilitarian art, as a projection of life itself, linked to economic and social problems, not solely aesthetic standards. That is why, form is not the most important, its principal mission: resolve human acts. "

## **2 Villanueva and the Workers' Bank**

Since its creation in 1928 and up until 1945 the Workers' Bank mission had only been that of lending loans to private developers to develop housing projects of social interest. In 1941 this agency undertook what was to be its first major housing development in the city of Caracas: The re-urbanization of "El Silencio". The projected urban plans for Caracas at the time, started in 1937 by Maurice Rotival as principal assessor, outlined a new urban order. The major axis of the Bolivar Avenue would have the zone "El Silencio" to its extreme west. "El Silencio" was a very unhealthy and degraded neighbourhood. Caracas' Urban Development Plan known as Plan Rotival eradicated the neighbourhood in order to build a large political-administrative complex of monumental stature. The final decision to replace this complex with a centre of community life meant a major bet in the Venezuela of the time and a great impact on the city of Caracas. Villanueva won the competition and developed the project with the construction of seven blocks of 7,797 apartments and 207 shops, which was completed in 1945. Since then a new phase in the activity of the Worker's bank that went from 1946 to 1958, a phase in which Villanueva was to be a major figure in the development and implementation of housing schemes, one hundred and eleven urbanizations in that period, as well as his participation in the National Planning Commission.

Since 1933 Le Corbusier had insisted in the need to plan before doing; to plan is to investigate, analyze, opt for, choose, decide, organize and overcome obstacles before designing. The Plan is in itself a necessity before the speed and magnitude of the changes that now mark a different rating in the architect's activity. One plans for the future and on a large-scale, facing totally new issues and problems which have many implications.

The Venezuela of the early forties already started to show its future volution which was to crystallize in the next decade and that was to signify a great leap into the void in a country of which you could say had skipped the XIX century.

Rotival returned to Venezuela in 1945 and began a new stage in the Caracas Urban Development Plan which was now to cover the entire valley expanding the horizon of the Plan to the east and west of the central body of the city. TABO was created in 1946, the Architectural Workshop of the Worker's Bank, under the direction of Villanueva and formed by architects, an engineer, six draftsmen and eleven students. TABO faced the housing problem on a national scale and started with a study of what had been done to date, recognizing the existing typologies of each region, the cultural and environmental values of each one of them. The National Urban Planning Commission working in parallel initiated the elaboration of a study of the Regulative Plans of the major cities keeping Rotival as adviser in charge of these new cases of study. With respect to the Worker's Bank his work was realized in what was known as the National Housing Plan which was to be developed between 1951 and 1955.

The Plan's projects were varied (Neighbourhood Units, Residential Developments, Cooperative Groups) mixing houses and low-rise buildings depending on each particular situation, complementing the home with all the amenities of community life; Jose Luis Sert was called in to work on one of the Plan's projects, the urbanization "La Pomona" built in the city of Maracaibo in 1954.

The Residential Unit "El Paraíso" formed part of this plan and of a new route of investigation into the construction of the so-called superblocks, an experience that ended the existence of TABO in 1958 with the construction of the urbanization "2 de Diciembre" today known as "23 de Enero"; the urbanization was built in three stages: East Sector, 1955 (12 superblocks one of them double, 26 blocks of 4 floors, 4 kindergartens, 4 nurseries, 4 commercial buildings); Central Sector, 1956 (13 superblocks, three of them double, 9 double blocks of 4 floors, 2 primary schools, 6 Kindergartens, 4 nurseries, 1 market, 11 commercial buildings and 1 Civic Centre);

West Sector, 1957 (13 superblocks including five triples and three doubles, 7 blocks of 4 floors one triple and three doubles, 3 primary schools, 7 Kindergartens, 1 market, 10 commercial buildings and 1 civic centre).

A commitment to the future through a monumental intervention in housing never before equalled that made Gio Ponti of the DOMUS journal ask himself admiringly if: "Caracas would not be transforming itself into the capital of modern architecture?".

## **3 The residential unit "El Paraíso" 1952-1954**

The accentuation of the migration process and the exponential growth of uncontrolled housing areas in western Caracas, were the reason why in the Housing Plan of 1951-55 they had already began to project high-rise residential units. There were three prototypes of which two were only built: the Residential Unit "El Paraíso" and "Cerro Grande" by the architect Guido Bermudez. The third project, "Quinta Crespo", by Villanueva and Carlos Celis was not carried out.

"El Paraíso" and "Cerro Grande" were the first step in a longer-range plan where Villanueva assumed all the risks of the new scale both in architecture and urbanism. Different types of blocks of free combination were designed; several combined blocks gave place to a superblock.

As often happens in countries like ours, the Residential Unit "El Paraíso" was a more ambitious project in the beginning and it was reality which terminated the project by only building the superblock and two low-rise blocks of housing. The superblock was erected at the back of the complex and was oriented towards the best views of the city which at the time was far away, the rear part of the two articulated arms of the central body allow it to qualify that rear part by marking a distance with the strong inclination of the land, apart from offering a noble space for vehicle access and to give access to the parking lot. The vehicle and the pedestrian are separated and in the front part the pedestrian access is qualified with a ramp leading to a partially covered large terrace and a commercial area that has all the basic commercial services for daily living. The building's volume shows its skeleton nakedly, its skin is diverse due to the different levels of solids and voids, light and shadow, where they only make a subtle diffe-

rence in the plane face of the facade where the circulation cores coincide. The structure is treated with simplicity and elegance, it is drawn on the facade giving rhythm and scaled volume, something which Villanueva began to explore in the buildings of the University City along with the use of colour as a necessary partner in architecture, Alejandro Otero was to be responsible for the building's polychrome.

Upon the completion of the Residential Units of "El Paraíso" and "Cerro Grande", Villanueva embarked in TABO on a project far more ambitious and on a different scale, the "Cerro Piloto" Plan 1954-1955.

For this Plan a new type of superblock was projected, more simplified, more economical and of faster execution.

Thus were built the urbanizations of "Lomas de Pro-Patria", "Diego de Losada", "Lomas de Urdaneta" and "Atlántico Norte"; and the Residential Units "Altos de Cúpira", "Cotiza", "Artigas" and "La Vega". A gigantic intervention in western Caracas which did nothing else except anticipate what was to be the final experience in the "23 de Enero" and "Simón Rodríguez" starting from 1956. Given the scale of the intervention a new type of block was selected which had been developed by one of the students who participated in TABO, Carlos Brando, it had been presented by him as a thesis for his grade, thus demonstrating to what extent the workshop was integrating and democratic. Each block was erected in two months and the whole urbanization was built in three years, a real feat.

The Residential Unit "El Paraíso", beyond its architectural merits, can only be understood within this experience which gives it greater meaning. Today, despite having passed more than half a century and having lost their beautiful polychrome, it is still there, haughty, vigilant, now surrounded by the city, reminding us of Villanueva's final words of the conference Some observations on the current development of Ibero-American Architecture dictated at the Ministry of Housing in Madrid in 1965: "In seeking a solution we shall have to find it for the quantitative demands and for the qualitative demands. To the changes in its content must correspond, in a coherent architecture, changes in its form; we hope that these will also occur and in a certain sense,

they do not worry us. What does interest us is to present, with precision, the need that design systems should also be altered, to convert them into efficient instruments, gradual and self-regulated, even admitting experimental verification.

It will therefore open a vast field of experience and research. Many of them, of course, are not new, nor original, but we have our conviction intact and firm that others newer and more advanced will help us, if not to discover a new architecture, which would be a miracle or something absolutely disproportionate with our efforts, values and knowledge, yes to go on resolving, with the powerful tools of reason and method, each time with more serenity and security, the many problems that face this tormented world and yet extremely Live".

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From Le Corbusier's boîte to Villanueva's cube.  
The pavilion of Venezuela, in Montreal, 1967.

José Javier Alayón González

Anyone who knows the Boîte à Miracles, before knowing the tales that arise that suggest Le Corbusier's drawing as an inspiration for Villanueva, at once intuitively understood that the Montreal Pavilion was in debt to this concept of the empty box or magic box, beyond the simple drawing and its architectural sensation, the geometric thing that the Swiss architect defined. Villanueva's interpretation becomes even more faithful to the original idea of a box of miracles, than that developed by the inventor himself in his various versions, a recurring idea in evolution from the beginning of his career. The tendency towards what is simple is an inclination of the spirit, it is "the sign of command" explained Le Corbusier. A tendency that would be translated into one of the four types of the modern house, represented by the Villa Stein in Garches: "[...] a rigid case, absolutely pure. A difficult problem, perhaps a pleasure of the spirit [...]".

This building, small and ephemeral, liberated from the social load -in its quality of basic service- which should govern architecture and keep, despite of its experimental nature, the key to Villanueva's last architecture. Defined by some critics as a "zero moment" of his career, a re-start, is for us exactly the opposite: the distillation of certain principles long matured and succinctly explained. The project of the petroleum school of Maracaibo, is the link that shows the progression in the construction of "an ideal form, without anything useless, so logical and so pure that no significant difference existed between the roof, walls and natural spaces".

This desire of Villanueva is always preceded by the idea that: "The building has significance only for the content that it shelters". Nevertheless, there are situations in which a changeable or nonexistent content -as in the case of the Pavilion- requires an empty box. The utilitarian principle of the building minimized -the contents-, its form and its construction will be the main problem to solve.

**From the boîte to the cube**