

Chapter 263

A modernist Amazonian: Residential works of the architect Severiano Porto in Manaus/AM

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ABSTRACT

The present research is the result of an extension project linked to the undergraduate course in architecture and urbanism of the University Nilton Lins and has as its main objective the analysis of four residential works of the architect Severiano Porto in the city of Manaus/AM. The concept analysis is characterized by a reflective and critical reading of the architecture, being essential for the knowledge of the

processes and strategies of the architect's residential projects. Sandoval Porto was one of the pioneer Brazilian architects to act in the Amazon region, where he sought a regional identity for modern architecture, being aware that the regional factors should be studied for proper application in the project. In this research, the residences will be analyzed: "Casa do Cafundó", "Casa Porto", "Casa Robert Schuster", and the "Casa Alexandre ale dos Santos"; Through a methodological roadmap that uses the redesign and 3d modeling for the understanding of the projects in the framework concept, constructive, functional and plastic. The research is based both on the relevant concept and conceptual of the works of the architect, as for the fact that these productions are still little known and documented. Thus, the present research aims also to contribute to a better understanding of the works of the architect Severiano Porto and the studies sore the architecture Amazonense.

Keywords: Severiano Porto, Redesign, Regionalism.

1 INTRODUCTION

This article is the result of an extension project linked to the Course of Architecture and Urbanism of the Nilton Lins University and has as its main objective the design analysis of the residential architecture developed by the Architect Severiano Mário Porto, in the city of Manaus / AM.

The design analysis carried out here, is characterized by a reflective and critical reading of architecture, being essential for the knowledge of the processes and strategies of the projects of the architect Severiano Porto, who was one of the pioneering Brazilian architects to act in the Amazon region, where he sought a regional identity for modern architecture, being aware that regional factors should be studied for proper application in architectural design. This research will be analyzed the residences: "Casa do Cafundó", "Casa Porto", "Casa Robert Schuster", and "Casa Alexandre Ale dos Santos"; through a

methodological script that uses redesign and 3D modeling to understand the projects in the projectual, constructive, functional and plastic scope.

The research is based both on the design and conceptual relevance of the architect's works and on the fact that these productions are still little known and documented. Contributing thus, to the better understanding of the works of the architect Severiano Porto and the studies sore modern and post-modern Amazonian architecture.

2 THE REGIONALIST ARCHITECTURE OF SERVERIANO PORTO

The 1980s saw the discussions that took place in Latin America around regionalist ideas and their concern in the development of an architecture pertinent to the local reality. However, such ideas and concerns were already present in the Brazilian specialized media since the 1960s, such as the Architecture Magazine, edited by IAB-GB, which brought in its pages exemplars of architecture less committed to the international avant-garde and the use of reinforced concrete and more open to the use of various materials, in addition to the traditional ones (BASTOS, 2011).

Regionalist architecture refers to a line of thought originating from modern architecture, which is based on essentially pure architecture, using the cultural elements and raw materials of its region, thus seeking regional and cultural independence. This architectural characteristic contrasts with a current scenario, where the entire civil construction process is based on the reduction to a single typology, model, or standardization of the elements of production, with the sole purpose of obtaining economy and speed in the serial manufacture of the constructive elements.

Therefore, when we use the term regionalism, we are referring to an architecture proper to the country, region, or locality in particular, to which the work belongs, devoid of uniformity and opposing the standardization that prevails in the current architecture. Regionalist architecture is not a common practice among world architects. Very few are the architects who, even today, before all the uniformity of the elements of production, develop or develop projects that value the art of preserving regionalist concepts.

It is in this panorama that the architect Severiano Porto inserts himself as a "regionalist architect", showing that "architecture can be made of small and simple elements, closer to man and his universe, detached from international concepts" (SABAAG, 1972, pg. 15).

Once in the Amazon, Severiano Porto had the sensitivity to realize that the climatic conditions and the great distances demanded other architectural responses, different from what was being developed in the South and Southeast of the country. For him, architecture should start from simple solutions and constructive processes, and it is the role of the architect to understand what is most convenient for each case, leaving aside concepts and dogmas that can inhibit certain solutions, often considered outdated (SABAAG, 1972).

According to Bastos (2011), Severiano sought to learn about the local woods and the ventilation solutions, and protection from rain and solar radiation that was used in the traditional popular constructions

of the region. This attitude resulted in very unique works, whose language, very coherent with the Amazonian reality, earned him several awards, among them: In 1971, the Marcello Roberto Prize by the IAB/GB, with the "Architect's House"; in 1972, the award in the category "Building for supply purposes" for the Elevated Reservoirs of COSAMA; In 1974, the award in the category "Public Buildings" for the headquarters building of SUFRAMA; in 1978, awarded in the category "Single Family Housing", by the IAB / RJ, with the Robert Schuster Residence; in 1982, he was awarded in the category "Architecture – built work" with the Pousada in Silves; in 1895, he received the international prize *Universidad de Buenos Aires* at the Buenos Aires Biennial (CERETO et al, 2016).

The conceptual strategies of Severiano's projects are not limited to the mere application of techniques of adaptation of architecture to the place, but rather the strategies of conception that pay attention to the rigorous Amazonian climate and the constructive rationality because of the economy. Severiano then reacts to the principles of Amazonian architecture, rescuing the traditional constructive and typological techniques, and subtly adapting them to the modern repertoire. Protecting the building from heat accumulation, constant rains, the sun, and insects, and yet optimizing natural ventilation have always been one of the basic premises that Severiano adhered to obtain an architecture appropriate to the local climate. He observed these basic parameters when he realized that the riverside dwellers knew how to make their shelters according to the local climate, from the choice of natural materials to presenting solutions appropriate to their natural and cultural environment. As stated by Rovo and Oliveira (2004):

With a critical and sensitive eye, Severiano Porto takes up the principles of indigenous Amazonian architecture and rescues the traditional construction techniques and typologies, subtly merging them with the modern repertoire. This attitude of openness to the place results in contextualized architecture, coherent with the physical and cultural environment in which it is inserted. (ROVO; OLIVEIRA, 2004, s/p).

Through his architecture, Severiano questioned, for example, the housing models that, at the time, were emerging in Manaus, mere copies of an architecture distanced from the local reality and that took as a reference "the modern" developed in other places of the country. He always sought to know the regional techniques, elaborating projects that suited the local climate, the regions, and their users, without leaving aside the aesthetics and plasticity. As stated by Hespanha (2006):

The work of Severiano Porto shows us ways to operate our architecture, aimed at finding the appropriate form for the environment in which it is inserted without ignoring particular elements to a different reality - a reality that is worked by Severiano within the logic of the locality. In this sense, Severiano "regionalizes" or contextualizes what, inexorably, belongs at the same time to "all places" (HESPANHA, 2006, s/p).

Thus, in the works of the architect, "the concern to use the potentialities of the Amazonic region appears, whether in human resources or material resources, always with simple and original solutions" (SABBAG, 1972, pg. 16). Severiano Porto stands out as an important personality who contributed to the

development of the State of Amazonas and with his works took the name of the Amazon region to international recognition.

3 RESIDENTIAL PROJECTS

In the residential works of the architect Severiano Porto, there is a concern to use the full potential of the region with simple but original solutions. The architect who observed the constructive inadequacy of the architecture that was being developed in Manaus, often offering an internal temperature higher than the external one, sought to learn from the wisdom of the foresters, in their constructions and in the Indian culture and architecture that suited the Amazon region and integrated into the existing environment (BASTOS, 2011).

In Casa do Cafundó, according to Abraham (2014, pg. 30) "beauty, simplicity, in addition to a healthy respect for materials, construction techniques, and local climate", are the principles of this work. The house was built in 1967, to serve as the temporary residence of the architect in Manaus. With a simple program and simplicity in the elements and constructive materials, the architect "breaks a series of local architectural paradigms" (ABRAHIM, 2014, pg. 30).

The House of Robert Schuster is located in a rural subdivision with large areas of dense vegetation, the banks of the Tarumã Açú Creek, intended mainly for the use of weekends. The construction makes use of wood in the structure, frames, floors, and roof. According to XXX (1979, pg. 61), the sizing of the pieces was made that meet the "stability and the tools used in the preparation of the wood, responsible from the obtaining and preparation of the parts to the assembly and finishing of the residence".

The Casa Porto built in 1967, brings a series of design solutions that show the architect's concern with the Amazonian climate, through the appropriation and re-elaboration of regional techniques and materials, but without mimetic or nostalgic traits. The project received the Marcelo Roberto Award in the category "Building for Housing" in the IX Annual Award of the IAB – RJ, in 1971.

The House of Alexandre Ale dos Santos, designed by Severiano Porto in partnership with Mário Emílio Ribeiro, despite being located in the urban area, "is covered with many unusual elements in Amazonian home architecture" (ABRAHIM, 2014, pg. 89), such as the use of hewn wood in the structure, *jalousie udinese* type frames and wooden trusses, in the external areas.

The residential projects mentioned above confirm the importance of the architect Severiano Porto in the scope of Brazilian architecture that adapted the modern postulates to the sites, climate, and materials of the Amazon region.

4 METHODOLOGY APPLIED TO ANALYSIS

The present research starts from the assumption that the graphic analysis of an architectural project is configured as an important theoretical-methodological instrument for knowledge and design

apprehension. In this context, the research and analysis of the four residential works of the architect Severiano Porto were structured in two stages:

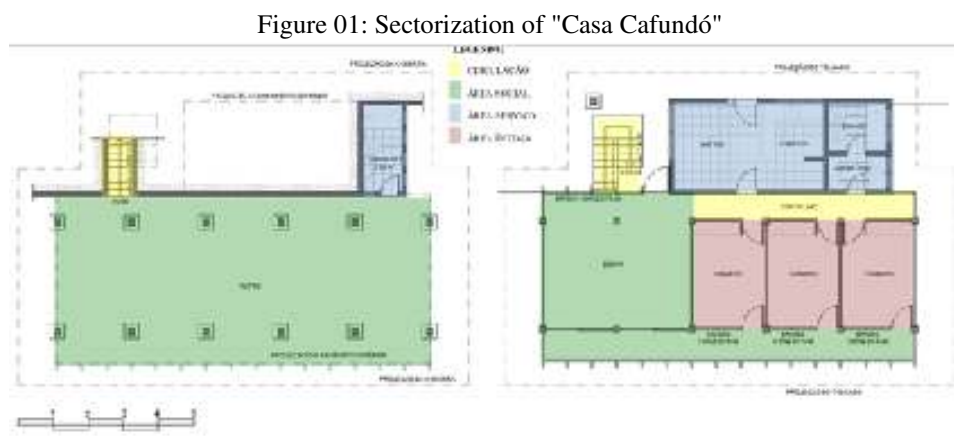
1. Redesign and 3D modeling of residential projects that were chosen based on the availability of materials such as graphic drawings, photography, and sketches.
2. Graphic analysis in the projectual, constructive, functional, and plastic scope generates new information in the form of analytical drawings and their description. The design analysis covers the following items: A) Functional characterization of the Work: through its location, accesses, and sectorization; B) Physical characterization of the Work: through the identification of the two- and three-dimensional organization of the Work; C) Constructive characterization of the Work: through the identification of the different materials and structural components used in the work;

5 RESULTS AND DISCUSSIONS

From the materials found, the digitization of the drawings was initiated for the elaboration of the redesign, in 2D and 3D, using AutoCAD and SketchUp software, respectively. After the elaboration of the drawings, the design analysis began, paying attention to the various details of the work, following the previously elaborated script.

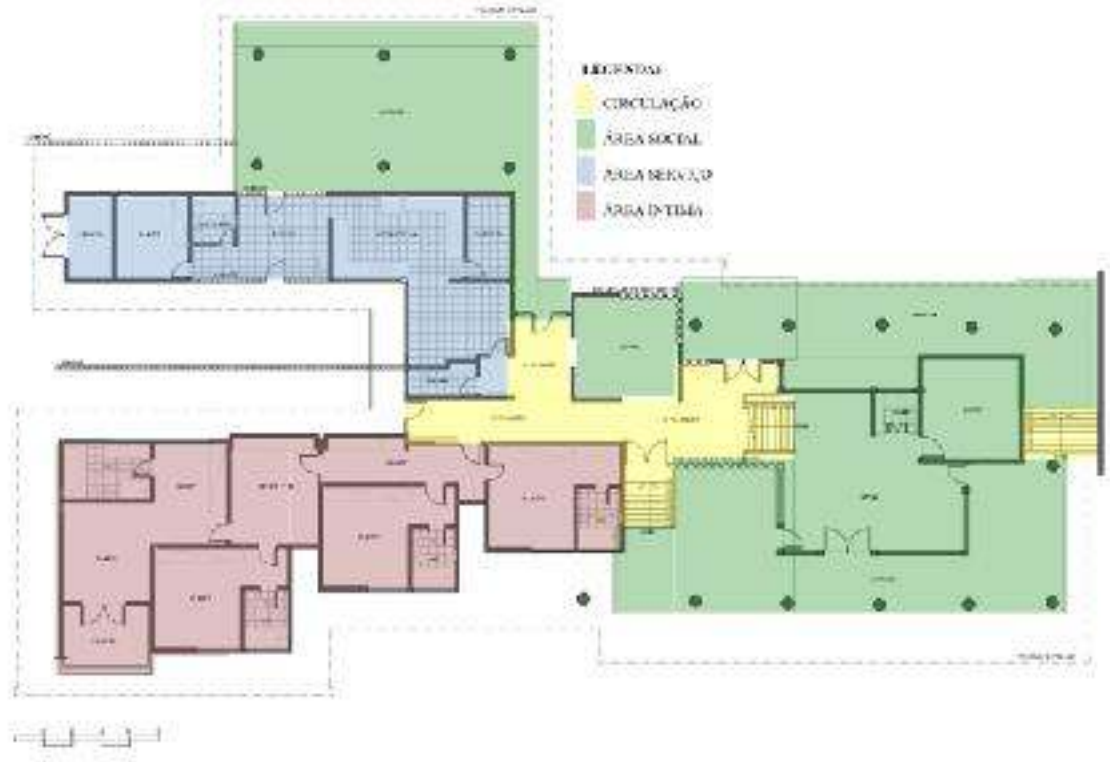
1. *Functional Characterization of the Works*

In the analyzed works, it is perceived the architect's concern is to protect the buildings from solar incidence, due to the regional climate being quite intense. For this reason, the facades that receive much of the solar incidence are protected by elements of wooden louvers. Another important feature that relates to the adaptation of the building to the local climate is the cast elements in concrete and/or frames type shutters and tippers that provide the soft entry of natural lighting in practically all environments, além and allow cross-ventilation.



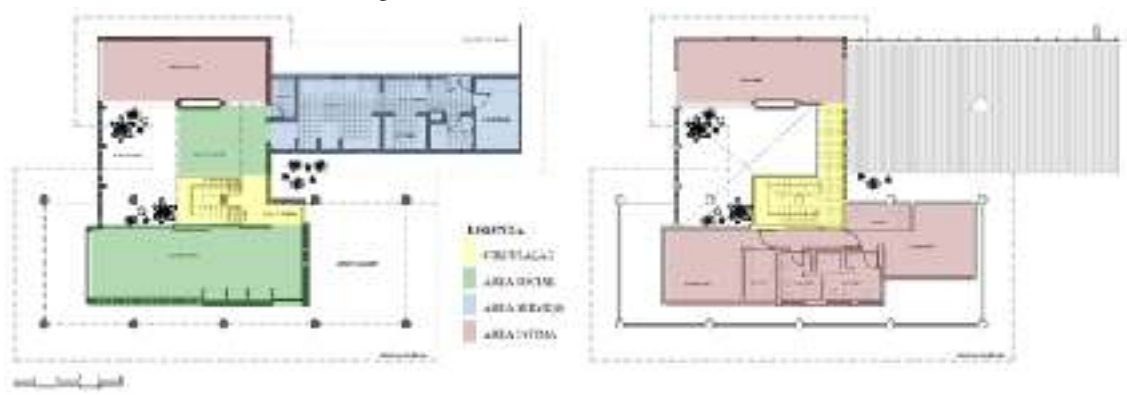
Source: Redesign by Anne Shirley Custódio, Gabriel Rodrigues, and Isabelle Valério, 2018

Figure 02: Sectorization of the "Casa Alexandre Ale dos Santos"



Source: Redesign by Hellen Jéssica do Nascimento and Monique Martins, 2018

Figure 03: Sectorization of "Casa Porto"



Source: Redesign by Sabrina Mycaela, 2016

Regarding the implementation of the buildings in the lot, it is noted that the works respect the geometry of the land, as well as its topography and existing vegetation. The architect takes advantage of these elements in the functional development and spatial organization of the residences. The sectors are divided into service, social and intimate, always seeking to integrate the interior space with the exterior through patios or balconies.

2. *Physical Characterization of the Bras*

In Casa do Cafundó the simple plan has as its central point the balcony that runs through the social area of the living room and intimate area of the rooms, providing these sectors with a view of the lake that was located just ahead. In the House, we have the design of the developed plant from a central courtyard with double height in which the sectors of the residence are distributed. In Casa Porto, the starting element is the staircase and a large internal garden with a double height that interconnects the two floors and the sectors of the residence. In Casa Alexandre Alê dos Santos, the internal spaces are connected to the external ones through large balconies, favoring the ventilation of the environment.

Thus, analyzing the geometry of the buildings is perceived as the intentionality of the architect in distributing the environments to provide freer environments and others more defined, developing asymmetrical plans. The free spaces are those destined for the social sectors managed by patios and/or balconies interconnecting the interior with the exterior and the most defined and reserved spaces are destined for the intimate sectors.

Analyzing the residences in the three-dimensional aspect, that is, in their volumetrics, we have all the works composed of simple monolithic volumes, configured by horizontal and vertical planes distributed in an asymmetrical, however, equilibrate way.

Figure 04: 3D modeling of Casa Porto showing its volumetric configuration.



Source: Modeling by Sabrina Mycaela, 2016

3. *Constructive Characterization of the Works*

The contact with the inhabitants of the Amazon region and the discovery of how they knew the environment of the forest from which they took the resources for their survival, as well as built their dwelling, always in the correct location and with the appropriate materials to the region (SABAAG, 1972), which Severiano Porto sought design solutions. The architect took up this indispensable knowledge and designed the residences analyzed here with wide eaves, balconies, and the traditional Venetian ones, always using wood as a structure and fence, in addition to the use of hollow elements and high right feet that provide air circulation and environmental comfort.

The woods most used in his residential works were itauba, maçaranduba, sucupira, cedar, mahogany, laurel, and macauba. The hewn wood appears on the floors, fence, and chips, and the corrugated wood on the roofs. (SABAAG, 1972).

In all the residences analyzed, it is perceived that the structure participates in the plasticity of the form through the structures in wood and/or concrete – pillars and beams – which are easily identifiable in the volumetry. The repetition of elements such as pillars, louvers, and frames creates a striking rhythm in the facades and has a direct effect on the perception and aesthetics of the buildings.

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