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THE DISTINCTIVE VIEW FROM IAPS AND THE MODERN HOUSING SITING DESIGN

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ABSTRACT

A quick glance at the recent social housing production in Brazil may suggest that the low quality of the housing development is a constant. However, the history of social housing in our country highlights the production of Institutes of Retirement and Pensions - IRPs, or IAPs in the acronym in Portuguese, which built a significant number of households with high-quality architectural and urban design. The radical nature of some of those housing projects was a disruption with the traditional view of deployment of units and urban integration, motivated by modern ideas. This paper presents an analysis of the Várzea do Carmo housing complex (1938-1942), designed by the architect Attilio Correa Lima, to the industrial IRP in the city of Sao Paulo. This example is an emblematic expression of the modernist principles in architecture and urbanism adapted to the Brazilian context. Its relevance may be understood by the innovative and social character of associating to housing buildings social facilities, leisure, green area, road system, among others. It was sought to achieve spaces able to shelter and encourage a new working-class way of life which would be modern, collective, public and consistent with national development model stimulated at that time. The analysis focuses on the innovative aspects of the siting design proposal, linked to the housing typology, urban integration, density, design and

urban infrastructure and open and collective spaces.

Key-words: Social housing; Institute of Retirement and Pensions, IAP, Siting design.

1. INTRODUCTION

A quick glance at the recent social housing production in Brazil may suggest that the low quality of the housing development is a constant. However, the history of social housing in our country highlights the production of Institutes of Retirement and Pensions - IRPs, or IAPs in the acronym in Portuguese, which built a significant number of households with high-quality architectural and urban design. The radical nature of some of those housing projects was a disruption with the traditional view of deployment of units and urban integration, motivated by modern ideas. This paper presents an analysis of the Várzea do Carmo housing complex (1938-1942), designed by the architect Attilio Correa Lima, to the industrial IRP in the city of Sao Paulo. This example is an emblematic expression of the modernist principles in architecture and urbanism adapted to the Brazilian context. The analysis focuses on the innovative aspects of the siting design proposal, linked to the housing typology, urban integration, density, design and urban infrastructure and open and collective spaces.

2. THE SITING SCALE AND PROGRAMMATIC INNOVATION OF VÁRZEA DO CARMO HOUSING COMPLEX

The housing complex is located in the vicinity of Dom Pedro II Park, by the State Avenue and amidst the streets Luiz Gama, Otto Alencar, Leopoldo Miguez and Nina Rodrigues Square, in between the neighborhoods of Liberty and Cambuci. The design of Várzea do Carmo Housing Complex included two phases of implementation, comprising a total of 48 buildings, with 2880 housing units in the first phase and 59 buildings with 4038 housing units in the second phase¹. They would achieve a density of 1250 inhabitants per hectare, distributed in six different types of vertical buildings blocks set within an extensive green park (Bruna, 2010; Bonduki, 2010, 2014).

The siting design was based on the distribution of the two main types of laminar blocks, following a North-South longitudinal orientation, so that most of long-stay rooms would face East, allowing better insolation conditions. These blocks were arranged interchangeably in a park aiming at creating several small public squares and also providing good lighting and ventilation. The proposal of a park, green areas and collective open areas was meant to qualify the whole housing complex, but above all to enrich the places of social welfare and community leisure. The abundance of nature shaping the volume of spaces sought to integrate the whole complex to the city, opening up through the open spaces, integrating the urban space, creating clear and shaded areas and passages that would structure all paths. Finally, the expected movement of pedestrians would baste the whole complex, through the zigzag paths giving access to housing buildings (Fig. 1).

¹ Architectural design published in the *Revista Municipal de Engenharia* journal, 6(9), nov. 1942. pp.3-12.

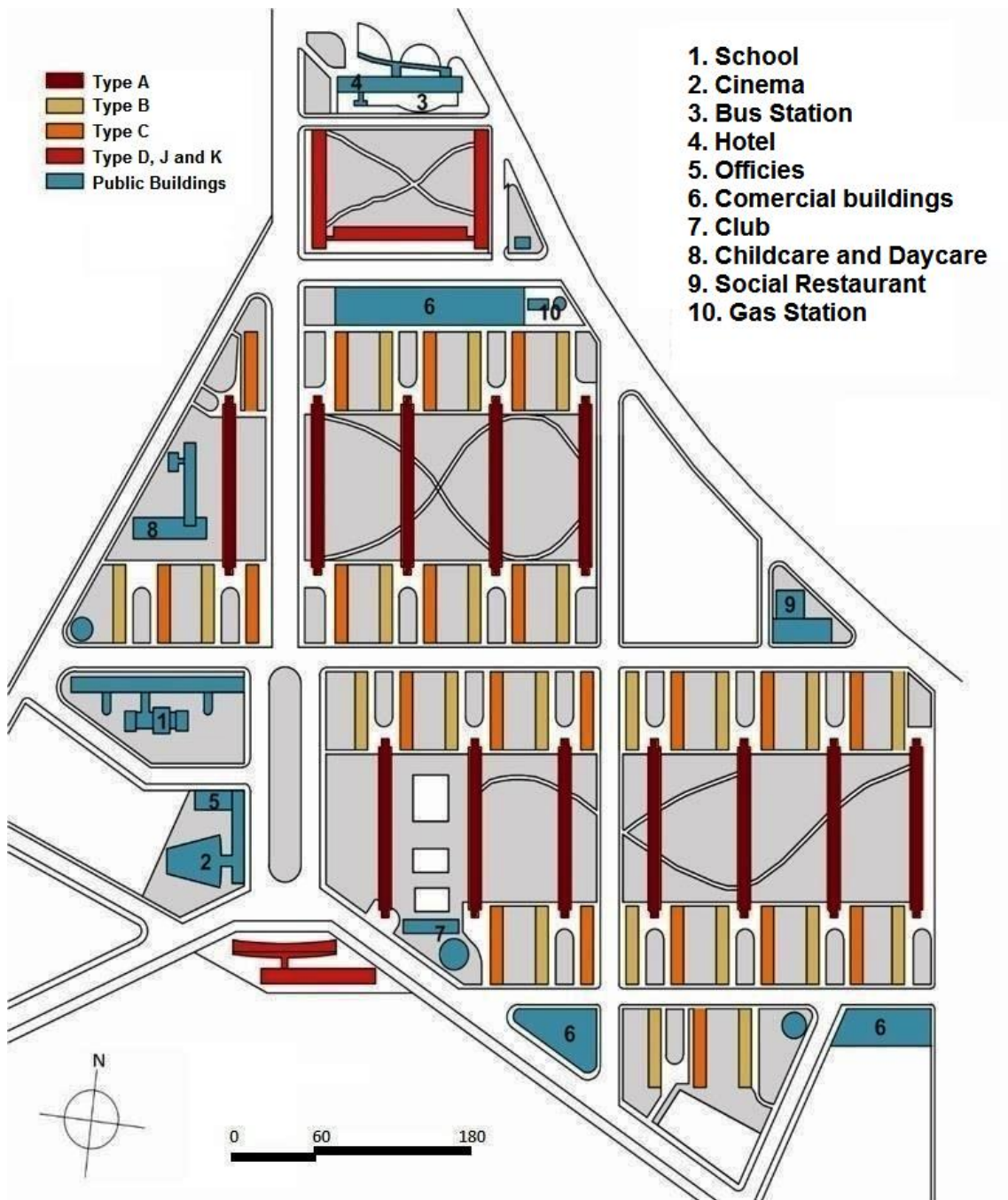


Fig. 1: Implementation of typologies and services in Várzea do Carmo Housing Complex. Source: Authors archives, 2014.

This siting design proposal clearly broke with the traditional urban design found in the city at the time, including the vicinity near the housing complex. Especially it broke away from the concept of urban plot, noticeable in the modernist distribution of blocks in the park and its morphology distinctive from the surroundings characterized by the permeability of the urban grid. Therefore, a proposal for apartments was held, with two bedrooms, living room, kitchen and bathroom whose area ranged from 45 sqm to 67 sqm. However, derived from this typology a variety of types of units, ranging from one to four bedrooms and corresponding variation both built area and the distribution of rooms (Table 1).

Here, innovation should again be highlighted, since design not only considered the constructive rationality praised by Modern Movement, but also provided flexible and adaptable typologies: for example, in buildings B type, one of the bedrooms can be incorporated either by an apartment, either by a neighboring unit. Such device allowed alterations even after the end of the construction process, which clearly shows an intention to adjust the units to the families' demands.

Housing Building Type of apart	A	B	C	D	J	K
Type 1 (1 bedroom) 50,96 sqm	72			48		
Type 2 (2 bedroom) 67,34 sqm	36			24		
Type 3 (1 bedroom) 41,14 sqm	54			36		
Type 4 (2 bedroom) 54, 39 sqm	36			24		
Type 5 (3 bedroom) 75,04 sqm		8				
Type 6 (4 bedroom) 85, 04 sqm		8				
Type 7 (2 bedroom) 60,04 sqm		8				
Type 8 (2 bedroom) 54,03 sqm			32			
Type 9 (2 bedroom) 66,15 sqm					88	55
Type 10 (2 bedroom) 66,15 sqm						55
Total	198	24	32	132 + stores	88	110

Table 1: Number of unities per housing typologies at Várzea do Carmo Housing Complex.
 Source: Municipal Engineering Journal, 1943. Edited by the authors.

However, the housing complex was not fully implemented. Only the blocks of B and C types were constructed, totalizing 22 blocks with four floors each, 584 housing units and some public gardens (Fig. 2).



Fig. 2: Current implementation of Várzea do Carmo H. C., 2013.
 Source: Google Earth, 2013. Edited by the authors.

Over the years, the Várzea do Carmo H. C. underwent some changes. It is remarkable the closing of the buildings into condominiums. The courtyards between buildings were transformed into parking areas (Fig. 3). Condominiums exhibit different degrees of conservation and maintenance and, despite the individualized aspect of each set of blocks; greenery presence in open spaces is still notorious, as well in semi-public places then privatized, as in public spaces (Ranga, 2015).

Although the current complex materializes only a part of the project's ambitions, its construction was relevant to the city, as it enriched the landscape in which it is inserted, being clearly identifiable within the urban grid, without losing its integration with the neighboring landscape. The proposal's grandeur exemplifies how social housing was the way envisioned by some architects as a means of introducing habits and a modern way of life, and also how it could be able to break away from social injustice and retrograde production practices in urban areas. Its prevailing progressive orientation instilled in working classes habits distinct from those brought from the countryside, or even from prior urban experiences in spontaneous environments considered undeveloped.

The distribution of the units in the park and especially the complex and extensive architectural program associated with the housing project reflect the particular view and intention of some architects in the period to create collective parks able to house working class social life. This expresses how Brazilian architecture and urbanism could face the challenge to introduce modernity into the city and society. The main component of these modern ideas was the neighborhood unit, which put in relationship services and urban facilities, on one side, and the social life of a



neighborhood, on the other side, highlighted in the present study of the complex siting.

Interventions such as the Várzea do Carmo H. C. encouraged the construction of major urban complexes, which contributed to implement in Brazil several principles of the Modern Movement. Their relevance is due not only by their extensive built area, but also for their innovative social character which associated residential buildings with social facilities, leisure, green area, road system, among others. It was a search to achieve spaces that would house and encourage a new working-class way of life, modern, public, consistent with the national development model fostered by the Government at that time.

The initial proposal of the housing complex - with no closings, such as walls and fences - intended making that circulations between blocks created connections with neighboring adjacent areas, especially locating public and collective buildings the edges of the housing estate. This would create a gradation of flows within the complex, forming a protection for residential areas located in the plot most central areas. Moreover, this would contribute to the control and security of open areas, allowing for housing areas the gradual reduction of flows, increasingly directed for residents.



Fig. 3: Buildings of Várzea do Carmo H. C. (2013): general status of conservation, parking areas in former courtyards, and blocks closed in current condominiums.
Source: Authors archives, 2013.

The proposal of a green area was associated with designed circulations, such as sidewalks with different sizes for each flow contingent, as wider sidewalks are found in places for public use. Housing areas could be accessed by serpentine paths surrounded by green areas, within large blocks, interrupted by transitional areas formed by the ground floor of the building type A, those with 11 floors over pilotis (Fig. 4). Thus, it is possible to note the constant intention of modern aesthetics application to the composition of the entire complex.



Fig. 4: Organization of access and road system and use of areas.
 Source: Authors archives, 2014.

Currently, paths that would lead pedestrians from the street to the stairwells, in the core of the blocks, are unorganized, including some small buildings that cluttered the original buildings marking. The major loss carried by the changes made by residents over the years was undoubtedly the modernist frame of loose housing blocks in the park, by a numberless of subdivisions in fenced and walled condominiums with access control (Fig. 5). Such divisions evidence a return to traditional city: the urban plot redesigned by residents in condominiums have transformed collective and public spaces in controlled and private spaces, partially eliminating the sense of collective life that the architect intended to foster in his proposal. Social conditions for collective experience intended in the original design were totally changed by setting more sterile spatial relationships between the housing estate and its environment. In some parts of the housing complex, it is no longer possible to realize the permeability of the original urban grid due to the construction of so many walls and fences surrounding the open spaces between housing blocks. Indeed, their spatiality became identical to that of a street-corridor (Fig. 5), completely compromising the permeability of public space through the complex.

Most of IAPs projects did not provide parking areas, since at that time private cars were not as frequent as nowadays. This problem was solved by inhabitants over the years, which got used to occupy free areas for parking, as well as other public spaces such as interstitial squares between building blocks and areas left empty where eleven floors blocks were initially planned. However, if the whole complex was fully implemented, free areas could provide parking in pockets along the housing development.



Fig. 5: Várzea do Carmo H. C. (2013): closing in condominiums, loss of urban permeability, built walls and fences to close the original collective open areas and access control. Source: Authors archives, 2013.

Despite the treatment of full accessibility, as mentioned above, the implementation of public buildings in the edges ranks flows and valorize collective areas. Thus, also public open spaces, connected to green elements, conciliate a transition between public and private sectors, in addition to the uses flexibility. This sets up various kinds of occupation and appropriation according to the scale of those locations. Spaces between housing buildings as open courtyards, for example between B and C blocks, are convenient for staying and leisure. Their situation offers to residents of nearby apartments an overview, making control easier.

Even with closings and fences, open and green areas are remarkable in the landscape and allow the neighborhood to develop convivial relationships (Fig. 6). It is noticeable the search for a sense of community, as the sitting design created places that conform transitional areas of flows and privacy, such as the space between the housing buildings, besides areas intended for buildings public and collective use, ensuring the safety of these locations for their proximity to housing units.



Fig. 6: Várzea do Carmo H. C. (2013): current collective open areas. Source: Authors archives, 2013.

The open spaces that permeate buildings create green areas at different scales.

Buildings entrances are opened to green areas as well as the balconies provided in buildings type A. They provide transition areas between public spaces and housing units (Fig. 7) putting in evidence the architect's concern to qualify the park as a place for conviviality and leisure.



Fig. 7: Green areas of Várzea do Carmo Housing Complex.
 Source: Authors archives, 2013.

The proposal of a large neighborhood unit, which should be self-sufficient related to the environment, determined a layout design with large open blocks and buildings higher than the neighboring ones. Thus, high density combined with a low 18.5% soil occupancy rate enabled the provision of several open spaces, taking advantage of the best conditions of the terrain, fostering identity somehow, despite the rigid framework defined by laminar blocks perpendicularly to the main streets.

3. CONCLUSIONS

The example of Várzea do Carmo housing complex, aside to other IRPs projects, presents its siting plan as one of its major innovations, sufficient for insertion into the city from a modern point of view, especially to avoid the usual segregation of working class dwellings. By including in the siting plan urban facilities such as schools, kindergartens, parks and sports fields, among others, the proposal targeted far more than meeting residents' daily needs: it also allowed such places to play an integrating role among communities beyond the housing complex borders.

This aspect could have been a much larger scope if the original architect's design had been fully implemented, especially by integrating urban scale facilities such as a hotel and a bus terminal.

The creative aspect of IRPs housing production is precisely its proposal of a modern solution in a Brazilian way in connection to a new social order once revealed. Freed

up from rigidity, yet employing Modern Movement social aspects, Várzea do Carmo's housing solutions contributed to the breaking of a conservative view of the urban, without completely embrace progressive rules, but still far from the socialist utopia. Even though not concluded, Várzea do Carmo H. C. reveals a promising vision of a more inclusive and egalitarian city. The design choice of rental collective housing blocks, with a large number of social and communitarian facilities can be considered a clear expression of the view of some architects opposed to the concept of the detached houses, model encumbering the city by extensive horizontal expansion and prioritizing individualism over collective feelings.

The radicalism of IRPs' modern collective housing proposals aimed, above all, at constructing a society that demanded a new way of living and its consequent innovation, treating the working class housing from new formal perspective, as well as productive, social and cultural. More than that, the so-called programmatic indiscipline of Brazilian modern solutions (Arantes, 1977) was here expressed through the application of modern lessons in a diverse social context which underlined more clearly the ideology of the new international order.

Currently, concepts referring to the humanization of living claim that dwelling construction must be directly related to the development of local communities (Coelho, 2009). Since the 1980s, several studies emphasize the importance of the sense of community in association with urban design to the conservation and maintenance of residential areas, especially because of its connection with users satisfaction related to the built environment. It mainly takes into account scale relations for better social cohesion, as the dimensional aspect of flows and streets, and the inclusion of mixed use into these sites (Shigeharu and Kanashiro, 2014). Therefore, it is stressed that the housing design undertaken by IRPs, due to the quality of its public spaces layout, is aligned with these issues, proposing a variety of transitional spaces, pathways, privacy and uses, approaching buildings scale to the human one.

Public housing provision remained unaltered since over half a century and, from the BNH programs - [the National Housing Bank, discontinued in 1986], relevant public facilities are absent from housing complexes design. The same standard type has been continuously repeated which only includes dwellings, streets and parking plots. This choice sets a barren and monotonous landscape on the peripheries of cities which is being also repeated unfortunately through the production of the *Minha Casa Minha Vida* federal housing program. Thus, in addition to segregation, the location of such complexes in areas far from urban centers seems to create a pattern for large-scale housing developments, '[...] that prioritize the high population density in neglected areas of the periphery and have generated environmental impact not consistent with acceptable parameters, as well as hindered physical and emotional users well-being' (Barros and Pina, 2010, p.122, our translation²).

Urban integration of IRPs complexes related to their siting design allowed their development in approaching human to urban scales through their public spaces, proposed as transition areas between dwellings and the city, entering and expanding urban housing as a cell inseparable from its adjacent areas.

The study of this IRPs architectural project demonstrated that the success of such projects was directly related to the quality of public spaces, approximating dwelling

² **From the original in Portuguese:** 'empreendimentos [...] que priorizam o alto adensamento populacional em territórios negligenciados da periferia e que têm gerado impacto ambiental não condizente com os parâmetros aceitáveis, bem como dificultam o bem-estar físico e emocional dos usuários' (Barros and Pina, 2010, p.122)



provision and urban development with a special view to community scale, ie, the neighborhood unit. The relevance of IRPs housing production is not only an example of architectural and urban design, but it is also a warning fostering new reflections within Brazilian architecture in relation to its social role in the production of a more dignified and egalitarian city.

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