

# Architecture and Rehabilitation of the Modern Movement Heritage

The case study of Bloco das Águas Livres

EXTENDED ABSTRACT

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*1 - Bloco das Águas Livres, common outdoor gallery on the top floor of the building; Photo: (2014) author*

## ABSTRACT

Designed and built during the 50s, the Bloco das Águas Livres is a hinge for the introduction of the Modern Movement in the Portuguese architecture. Influenced by social and ideological assumptions of modernity, the project designed by the architects Nuno Teotónio Pereira and Bartolomeu Costa Cabral, reveals itself programmatically innovative by the typological and formal solutions that it implements, approximated to the international methods of the collective housing unit - (unité d'habitation). So that the building - classified as Monument of Public Interest - can match the continually changing demands of contemporary comfort, it has been implemented, over time, some rehabilitation works.

Within this research, which fits into the theme of rehabilitation of sets and buildings of the Modern Movement, it is intended to be analysed in detail some experiences which are already made in Bloco das Águas Livres in order to relate intrinsically linked concepts to the architectural heritage and to foster the debate about the protection of spaces constructed during the modern period. Playing an important example of modern architecture in Lisbon, based on construction technologies used to respond to indicators of comfort, it matters to understanding how the organization of space, the built structure and functional typologies can influence the solutions implemented.

For this, it was resorted to study three specific rehabilitation interventions, applied to different areas of the block, confronting them simultaneously with their original matrices. This interpretation is particularly important within the scientific picture, especially as a framework and context for possible future interventions in the modern architectural heritage.

**KEYWORDS:** Modern Movement | Architectural heritage | Rehabilitation | Conservation | Bloco das Águas Livres



2 – Bloco das Águas Livres, bas-relief by Jorge Vieira; Photo: (2014) author

## CONTEXT AND FRAMEWORK

In a first approach, it is important to mention the innovation of Bloco das Águas Livres as “the first moment of maturation and sedimentation of the international method”<sup>1</sup>. There is an obvious influence of the notion of collective housing unit, developed in an international framework, for the definition of the building. In an attempt to introduce these concepts in residential buildings in Portugal, around the 50’s, and as expressed by Ana Tostões, the project meets in the *Unité d’Habitation de Marseille*, a clear source of inspiration<sup>2</sup>, regarding to supplement the function of housing with commercial places, public spaces and community services that enabled the formation of a life in which interrelation in various levels would be possible<sup>3</sup>. As a result of this complementarity between functions and services, the project is imbued with a true sense of ethic and social responsibility, in which the purpose of “creating a living environment more than just a place to hold people (...) translates the basic program of this building particularly studied with great formal clarity and imagination in its practical using”<sup>4</sup>.

Over time, some specific interventions were applied in the block that intended the maintenance of the building systems and the adaptation of spaces for contemporary uses. In many cases, more specifically in private fractions, the introduced changes were not properly informed and legalized and, for this reason, promoted not only the adulteration of the original matrix of the building, but also the degradation of some materials and spaces. Through the interpretation of three rehabilitation experiences that were conducted in three distinct fractions, the aim of my investigation is to contribute for the documentation of notable works that have been developed in the building, focusing attention on contemporary issues and strengthening guidelines for potential future requalification processes.

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<sup>1</sup> Ana Tostões – Os Verdes Anos na Arquitectura Portuguesa dos Anos 50. Porto: FAUP Publicações, 1997, p. 86 – “representa um primeiro momento de maturação e sedimentação do método internacional”;

<sup>2</sup> Ana Tostões – Edifício de Habitação, Comércio e Serviços, Bloco das Águas Livres. In: Ana Tostões (coord.) – Arquitectura e Cidadania, Atelier Nuno Teotónio Pereira. Lisboa: Quimera, 2004 – “Claramente inspirado no conceito de Unidade de Habitação corbusiana, este edifício multiusos dotado de serviços colectivos propunha grandes novidades em relação aos correntes edifícios de habitação.”;

<sup>3</sup> Bloco nas Águas Livres. in: Arquitectura nº65, Junho de 1959, p. 4 – “formação de uma vida interna mais ou menos coesa em que o convívio e a inter-relação em diversos escalões fosse possível.”;

<sup>4</sup> José Augusto França – A arte em Portugal no século XX. Lisboa: Bertrand editora, 1984, p.454;





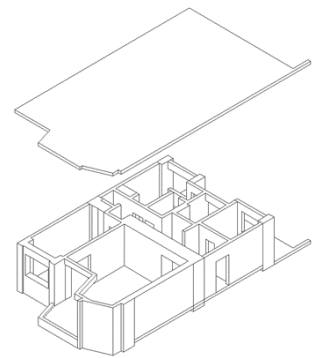
3 – Apartment after the intervention of the architect Rui Órfão (vestibule and toilet); Photo: (2011) Rui Órfão

## THE INTERVENTION OF THE ARCHITECT RUI ÓRFÃO

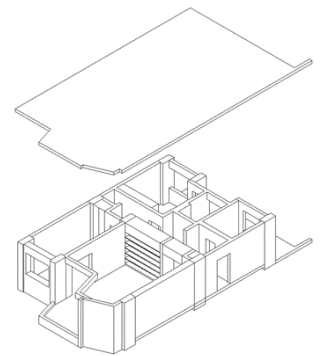
The project of rehabilitation developed by the architect Rui Órfão (b. 1958), in a two bedroom apartment, is located on the penultimate floor of the building. During the previous occupations of space, some interventions were applied at the level of material finishings that adulterated the language of the apartment. Even though the originality proposed has been hidden, the logic of spatial organization remained unaffected. So that the apartment could gather the necessary comfort conditions for habitability, and due to its adulteration, it was required to plan a global intervention. In this context, the principles of intervention intend not only to preserve, but also to restore the general characteristics of the apartment. This requires a thorough understanding of the options that had been taken in a primary stage, as many elements had been camouflaged by the addition of new materials. The intervention was like a restoration work on the existing, wiping the layers that have been introduced over time. In short, the criteria were based on preserving as much as possible the spatiality, the volume, the lighting, the materials and the equipment, in a careful and almost mimetic restoration of the initial design.

The biggest change made in the apartment was focused on the aggregation of toilet/laundry to the adjacent maid's room. By removing this service area (laundry space) it was allowed to have a bigger room, according to the intentions of the current owner. In the case of the division of the vestibule and the living room, which was guaranteed with the complementarity between a masonry wall and a cabinet, the architect opted to destroy the pre-existent wall and give a new valence to the furniture. Taking advantage of the profundity of the previous system, it was installed a new cabinet facing the circulation zone and a bookshelf in the living room. Consequently, the stowage area of the apartment was maximized.

In terms of building systems, as intended to maintain the spatial organization and the materials, the construction specialties have not advanced further than the elimination of layers that have been introduced by previous users, the application of finishing materials and restoration of some components. According to the architect Rui Órfão, the window frames of the building were the most debated component over the point of view of energy efficiency and comfort. However, he chose to preserve this detail, which is not so unimportant, without in any way prejudicing the language of the facades.



4 - Diagrammatic axonometry of the original configuration



5 - Diagrammatic axonometry of the apartment after intervention



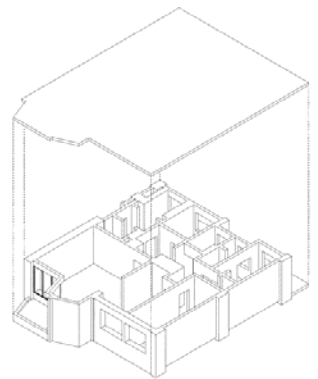
6 - Apartment after the intervention of the architect João Pedro Falcão de Campos (living room); Photo: (2007) João Pedro Falcão de Campos

## THE INTERVENTION OF THE ARCHITECT JOÃO PEDRO FALCÃO DE CAMPOS

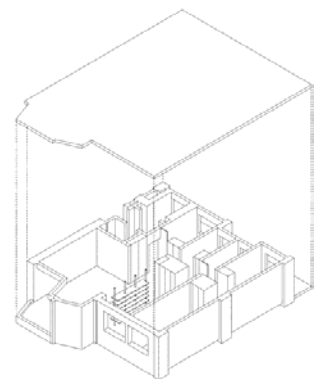
The following case study refers to the intervention developed by the architect João Pedro Falcão de Campos (b. 1961), during 2006 and 2007, in a 3 bedroom apartment. The apartment is located on the penultimate floor of Bloco das Águas Livres. Considering that the apartment was profoundly altered in previous occupations and the essence of the original matrix was destroyed, it was justified the option to intervene with a contemporary reinterpretation of the original project.

The project was characterized by an almost complete cleaning of the formal and spatial constructive systems. It was intended to inculcate greater comfort to the living space, something that was achieved by adapting the spatial organization of the apartment to new uses and the improvement of the constructive finishing and furniture. For the restructuring of the special organization, there was a parameter of the initial composition that should be preserved. The project focused on the relationship established between the apartment and the outside spaces, through the balcony and the contact with the service gallery. In order to the east-west light illuminate the entire apartment, the walls that were perpendicular to the passage of light were destroyed and, with them, the lintels of the doors. It was created a new space division system, redesigning it through a strategy of using prefabricated cabinets by IKEA. With this solution, which complements the design of a type of cabinet, as divisive element, it was intensified the fluidity of space and the unified language of the apartment. The uniformity and simplicity also became the assumptions of higher order in the field of construction systems and materials used, looking for a formal cleaning. One of the main concerns of the project focused on reconciling the original construction with the current requirements for energy efficiency. For greater thermal comfort, the original window frames, in galvanized iron, were replaced by steel frames.

As seen, the need to rehabilitate the space for a current and proper use became a predominant reason to restructuring the apartment but following a completely refined and contemporary architectural language. Without pre-existences that allowed a mimetic intervention, the apartment has followed its natural course of evolution, in order to continue serving the needs of users and believing that architecture is also established by comparing different historical and social moments.



7 - Diagrammatic axonometry of the original configuration



8 - Diagrammatic axonometry of the apartment after intervention



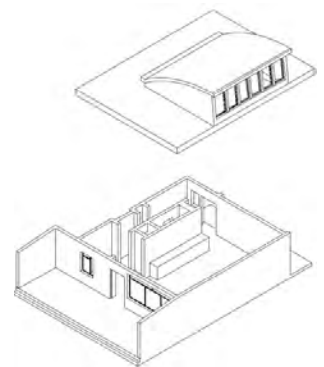
10 - Apartment after the intervention of the architect Teresa Nunes da Ponte; Photo: (2013) Teresa Nunes da Pontes

## THE INTERVENTION OF THE ARCHITECT TERESA NUNES DA PONTE

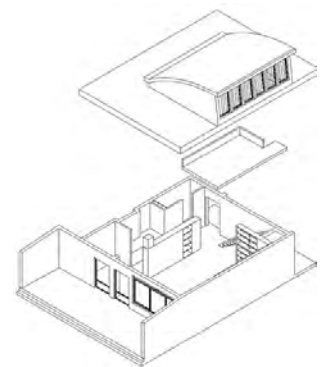
The presented project corresponds to the rehabilitation process conducted by the architect Teresa Nunes da Ponte (b. 1955), during 2013, located on the top floor of the building. Since the space was fairly disfigured, the criteria of this intervention were based on the recovery of the values defined in the project of Nuno Teotónio Pereira and Bartolomeu Costa Cabral. In the cases where it was necessary to introduce modifications, these should be performed in compliance with the initially established rules.

Considering the original solution, the volume corresponding to the bathroom and the kitchenette was transferred to the perimeter of the fraction, by exchanging their position in relation to the circulation area. Even if the initial volume of the toilet was not designed in the same place, the delimitation of the workspace was planned by the introduction of a new cabinet. The situation of the area with double height also deserves to be subjected to analysis. In order to meet storage needs and to support the activities of the new atelier, it was designed a mezzanine. Even though there is this need to create a new stowage area, the mezzanine was designed with the minimum possible size in order to maintain the downstairs perception of the curve roof and the circulation of natural light within the workspace.

Of the three case studies, this intervention was that which was applied a wider variety of new construction systems. Due to the fact that the original spatial organization has been very adulterated in previous occupations, the strategy of demolition of the spurious elements demanded a profound renovation of the constructive systems. This renewal was done as a reinterpretation of the original ideologies, giving the atelier new more efficient systems focusing on contemporary concerns: acoustics, energy and security. Regarding these different strategies of intervention we may highlight: the roof insulation with a BASWaphon system; the insulating covering of the boundary walls of the atelier with ISODUR system; the thermal insulation of the ceilings with stone/rock wool and, finally, the replacement of the window frames, introduced by previous owners, using aluminium frame systems.



9 - Diagrammatic axonometry of the original configuration



11 - Diagrammatic axonometry of the apartment after intervention





12 – Bloco das Águas Livres, main entrance atrium with a mosaic panel by Almada Negreiros; Photo: (2014) author

## FINAL CONSIDERATIONS AND DRAFTS FOR FUTURE INTERVENTIONS

Being proven the uniqueness of Bloco das Águas Livres, as an unmatched reference for understanding the context of modern construction in Portugal, it is clearly justified its protection and preservation, as a way of transmitting its memory for the future. Alongside the need to preserve the original matrix of the block, there is another point that should be taken into consideration – the notion that the building must respond continually to new contemporary requirements. The search for a compromise relationship between current requirements and the unique structure of the block is not always easy, mainly because it is a collective housing building where, naturally, many families adapt the spaces to their own needs. Not only the earlier adulteration contexts of the three case studies, but also the inevitable adaptation of the building to new uses, reflect the need for new challenges regarding the preservation and conservation of Bloco das Águas Livres.

From the interpretation of the three rehabilitation processes conducted in the block, it is notable that they respected the function for which each space was initially planned, even though the adapting to the new requirements for usage were conducted with different types of approach. If, on one hand, it is worth noting the presence of a rehabilitation that adopted more mimetic principles of preservation of both original spatiality and materials, led by architect Rui Órfão, on the other hand, the other interventions, by architects João Pedro Falcão de Campos and Teresa Nunes da Ponte, made proposals for requalification in accordance with an updated reinterpretation of the block ideologies. However, the fact that these two areas were not available with their original essence, was a major reason for the restructuring of the spaces, in a notion of natural evolution of the construction to continue serving the necessities of its users. Nevertheless, even if the formal language of rehabilitation mirrors the contemporary living, there were preserved the original guiding principles "called" to participate in this dialectic between the past and the present way of inhabiting.

In general, the three interventions conducted demonstrate that the structure of the building is easily adaptable to the new needs, mainly due to the great constructive and structural qualities of the

block. From a structural point of view, the fact that it has been implemented a system of fungiform massive slabs, witch avoided the presence of beams, contributes substantially to the flexibility in the use of space.

In another perspective, the comfort requirements were naturally progressing and, through the interpretation of three selected interventions as case studies, it is possible to highlight a pattern on the adaptation of the building to the requirements of contemporary comfort. Clearly, the window frames of the building were the most debated point in terms of questioning their energy efficiency. For all purposes, I think the work that I have developed also contributes to the identification of the technologies used to respond to indicators of contemporary comfort and energy constraints. These elements are on the contemporary agenda and should be fully integrated and well resolved in current rehabilitation processes, being more like a challenge of the projects.

Considering that Bloco das Águas Livres is a prominent example of Modern Portuguese architecture, its future must be safeguarded. It is crucial the process of raising awareness of different type of actors to the historical and architectural value of this building, mainly for that the future interventions may be well thought and to not lead to progressive disfiguration of the block spaces. Well beyond the definition of standards of action that may be too restrictive, it is necessary to have common sense and understand that every case of rehabilitation has a specific circumstance and should be thoroughly understand in order to find the right path of action.