

Public housing as urban heritage: experience and research approach in Spain

Habitação pública como património urbano: experiência e abordagem de investigação em Espanha

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Abstract

International conservation policies have incorporated the urban dimension of heritage, which considers the city as a historical *continuum* connected with the territory. However, the social housing complexes built in Europe throughout the second half of the 20th century lack legal entities and tools for their protection. Urban rehabilitation policies have substituted the initial demolition-replacement processes, by way of combining and coordinating protective measures. The rehabilitation of the Caño Roto Housing Estate (Madrid 1994-2004), as a precursor of a type of intervention widespread in Spain, is analysed with the aim of finding the actors, tools and decisions, so that the model can be optimised in future operations. The heritage dimension involves the development of the necessary means to make possible the conservation and functional updating of the buildings, as well as the development of new cultural, socioeconomic and environmental values, in order to add sustainability to the urban environment.

Resumo

As políticas internacionais de conservação têm incorporado a dimensão urbana do património que considera a cidade como um *continuum* histórico ligado ao território. No entanto, os complexos habitacionais sociais construídos na Europa ao longo da segunda metade do século XX carecem de entidades jurídicas e de instrumentos para a sua proteção. As políticas de reabilitação urbana substituíram os processos iniciais de demolição-substituição através da combinação e coordenação de medidas de proteção. A reabilitação do Conjunto Habitacional de Caño Roto (Madrid 1994-2004), precursora de um tipo de intervenção comum em Espanha, é analisada neste estudo com o objetivo de identificar atores, instrumentos e decisões para que o modelo de intervenção possa ser otimizado no futuro. A dimensão patrimonial abrange o desenvolvimento dos meios necessários para possibilitar a conservação e atualização funcional dos edifícios, bem como o desenvolvimento de novos valores culturais, socioeconómicos e ambientais a fim de melhorar a sustentabilidade do ambiente urbano.

KEYWORDS

Public housing
Heritage
Urban rehabilitation
Housing estate
Caño Roto
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PALAVRAS-CHAVE

Habitação pública
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Caño Roto
Madrid

Introduction

In recent years, a variant of the broad concept of heritage, which acknowledges the need to define cultural traditions and identities, has made necessary a professional and institutional system of preservation within an urban dimension. As a reaction to the anti-historicist and functionalist vision of the Modern Movement, new lines of thought added cultural, socioeconomic and environmental objectives for historical and artistic preservation. Based on them, several international conservation policies have been developed, surpassing the limited scope of the traditional city and incorporating a concept of heritage that considers the city as a historical continuum connected with the territory [1].

However, some urban environments, such as the social housing estates developed by the public administrations of different European countries in the second half of the twentieth century, have usually been oblivious to any conservation policy. Their role in the growth of the cities as semiautonomous colonizers of the periphery has been documented by the administration and specialized literature. Despite this, their historical nature is not recognized, due to their relatively recent construction. In general terms, their artistic or cultural value is not taken into account. They often lack uniqueness or an exemplary character and have been built with scarce means, which determine a questionable quality. From a socioeconomic point of view, their low habitability conditions have led to abandonment and degradation processes. As a result, the environmental value of the building and the intermediate spaces has also been diminished, which explains the low sustainability of these urban areas.

The difficulty of turning these housing complexes into a new category of heritage lies not only in their general lack of protection policies, but also in the distance from the established cultural scale of values. The incomprehension of their architectural and urban interest, by the inhabitants and public managers, leads to a lack of definition in the criteria that guide the rehabilitations necessary for their upgrading. This situation makes it necessary to analyse the factors that have determined these operations and the effects they have triggered, so that they can be reconsidered in the future.

This paper analyses the urban rehabilitation of a representative work of the Spanish Modernity, the Caño Roto Housing Estate (*Poblado Dirigido de Caño Roto*), located in Madrid, which was built between 1957 and 1963, and rehabilitated between 1994 and 2004. This case study is considered appropriate as it is a pioneering urban intervention on a territorial scale and provides important contributions to the policy that supports it [2]. The fact that it is completed and the time that has elapsed, make it possible to assess the true consequences of each action.

The research will also explore the approaches taken in the intervention and those that should be taken for the general regeneration of the public housing estate. It is, therefore, a revision of the traditional concept of heritage to incorporate new mechanisms capable of bringing together the improvement of the habitability and the population rate, with the protection of the original characteristics that underpin their intrinsic values.

Theoretical framework: Public housing estates as urban heritage

In the European context, the long list of problems affecting social housing estates, with increasing physical, social and economic deterioration [3], has tended to be considered as an inherent consequence of the negative effect of the massive and homogeneous architecture on the population [4]. As a reaction to a period of widespread demolitions, since the late 1990s (and before that date in some cases), there has often been a debate about "urban renewal", facing the need for new conservation policies that would incorporate the heritage status and the social factor.

Considering the housing estates within the context of heritage provides a perspective that links with the concept of “historic urban landscape” set out in the Vienna Memorandum [5], to review and update the modern paradigm of urban conservation. Although this concept is under debate, it addresses some of the limitations of a conventional approach and it is an instrument capable of identifying new values and tools for the conservation of the city in this century. Its main contribution, drafted in Paris in 2011 and ratified in 2019, consisted in understanding the tangible and intangible urban heritage, as a primary resource to improve cultural, socioeconomic and environmental aspects, essential in territorial policy:

The historic urban landscape is the urban area understood as the result of a historic layering of cultural and natural values and attributes, extending beyond the notion of historic centre or ensemble to include the broader urban context and its geographical setting. [6]

Despite the progress outlined in these International Charters for Heritage, which represent an evolution in the categories of protection towards large-scale and complex environments, social housing estates are not explicitly included. The consideration of these residential areas as a historical urban heritage could lead to a conceptual, methodological and, therefore, normative extension of their conservation. However, the legal and urban protection, especially of the sets built in the second half of the 20th century, is controversial in various European countries that often lack effective tools for action [7].

Several countries share a recent consideration of the value of massive post-war estates, with similar scale and construction characteristics, although very different management systems [8]. In the United Kingdom, post-war public housing was included in the late 1980s as a specific category in a campaign for the state protection of key twentieth-century buildings. Since the 1990s, outstanding mass housing projects have been included; in some cases, under the threat of disappearance or insensitive reparation, but the most representative ensembles of the period have been neglected [9]. In the Netherlands, after decades of programs focused on the demolition-replacement of the existing housing estates, there has been a paradigm shift. The adoption of conservation criteria, insufficient to preserve post-war ensembles, was complemented in 2011 by a selection of neighbourhoods that the Cultural Heritage Agency of the Netherlands considered of national interest due to certain distinctive qualities that included their social value [10]. In France, the threat of successive public intervention programmes based on mass demolition operations has also come to a halt [11]. Despite their stigmatization, a small number of *Grands Ensembles* (1950-1970) have recently been identified as urban areas of heritage interest [12]. These outstanding policies in Europe show the beginning of the implementation of a series of criteria and action tools whose generalization is still in process.

Spain has begun to incorporate conservative urban planning instruments developed by some city councils, although they generally lack effective protection measures. The rehabilitation of the public housing states began to be promoted in 1983, when the National Law Royal Decree 2329/83 on Rehabilitation of the Residential and Urban Heritage (*Real Decreto 2329/83 sobre Rehabilitación del Patrimonio Residencial y Urbano*) extended the protection of the built heritage of urban centres and historical-artistic sites to any area with buildings over ten years old, which were renamed as Integrated Rehabilitation Area (*Área de Rehabilitación Integrada*).

In Madrid, the results obtained previously in a housing demolition-replacement program applied to the entire periphery, such as the permanence of the inhabitants and access to a good quality dwelling, were considered basic when setting the criteria for intervention. The 1985 Local Development Framework (LDF) (*Plan General de Ordenación Urbana*) determined the protection of the historic Housing Estates (*Colonias históricas*) as heritage because of a movement that, since the 1970s, supported the high-quality non-emblematic architecture of the nineteenth and twentieth centuries. The primary objective of the LDF was the preservation

and improvement of the whole city, so the maintenance of the buildings (for economic reasons) was given priority in most public estates.

After a first phase that involved the privatization of 7700 public dwellings, in 1994 the rehabilitation of urban areas was promoted by the signing of a protocol of cooperation between the State, Regional and Local Administrations, to act in seven Areas for Preferential Rehabilitation (*Áreas de Rehabilitación Preferente*) with the conservation of the built heritage, the urban space and the socioeconomic conditions of the residents. The 1997 LDF, currently in force, abandoned the safeguarding of the city as a whole and awarded protection to several public housing estates as "Homogeneous Estates".

This evolution in the Spanish Legislation and the Madrid Ordinances allowed the rehabilitation of the Caño Roto Housing Estate, with an important boost from the Administration for its promotion. However, the lack of an adequate regulatory system has made it difficult to apply conservation and heritage restoration criteria, as discussed below.

Case study: The rehabilitation of the Caño Roto Housing Estate

Origin and architectural value

The Caño Roto Housing Estate constituted, in the words of Juan Daniel Fullaondo [13], "the pinnacle of Madrid's social experience". Its construction took place between 1957 and 1963 by the architects José Luis Íñiguez de Onzoño and Antonio Vázquez de Castro who, in tune with the rest of Housing Estates, provided a new architecture and urban project up to that time [14]. It is a group of 1606 dwellings and community services in an area of 19.46 Ha, which constituted a unitary set adapted to both the environment and the needs of the population [15-16] (Figure 1).

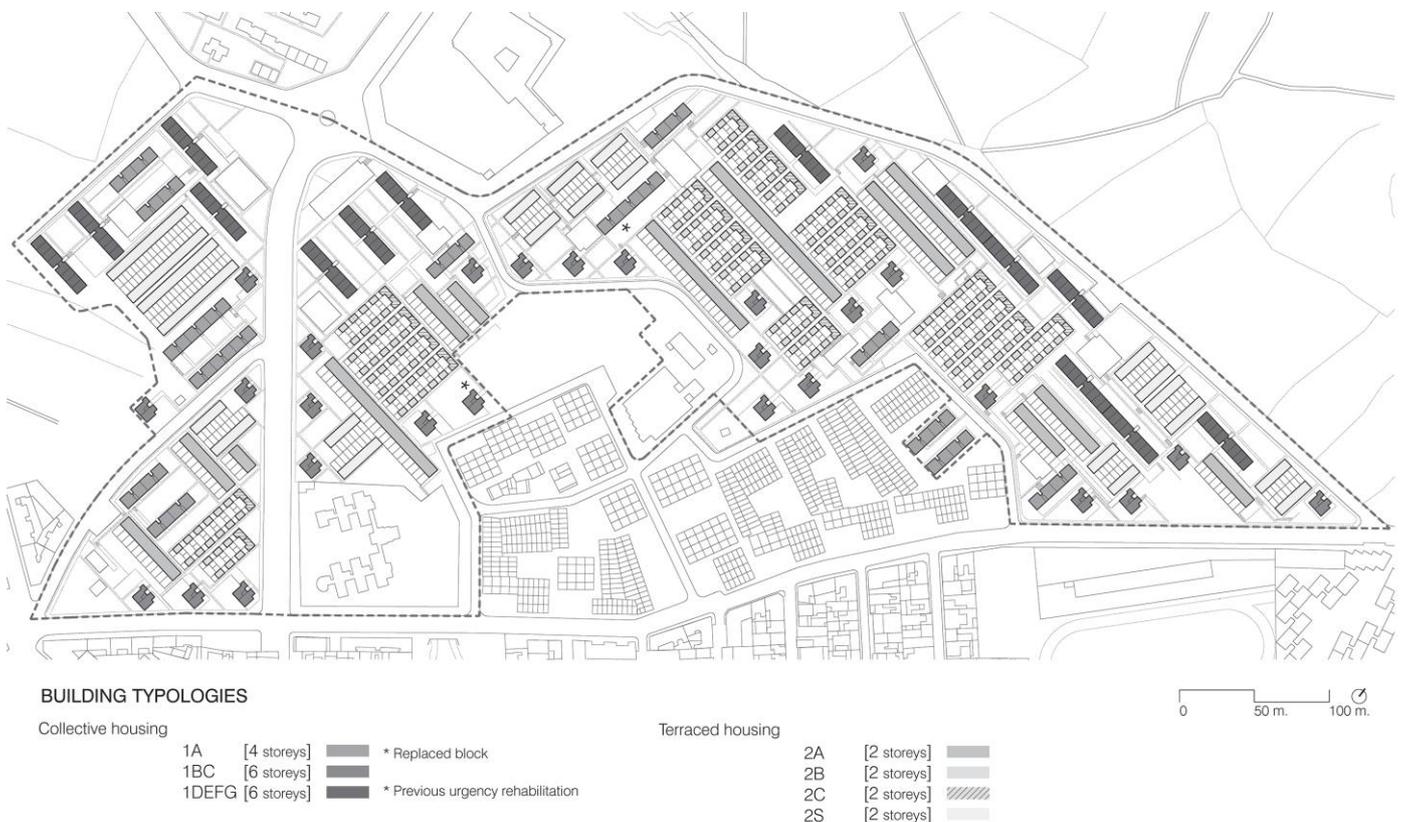


Figure 1. Caño Roto Housing Estate. General plan and situation of the building typologies. Drawing by the author.



Figure 2. Caño Roto Housing Estate. Aerial view, 1960. (Source: Centro de Documentación de Medio Ambiente y Ordenación del Territorio de la Comunidad de Madrid).

It was designed in continuity with a temporary housing complex (*Poblado de Absorción*), meaning to create a joint and self-sufficient unit. The ordering of the buildings, on a plot of great complexity due to its uneven topography, followed a criterion of harmony with the territory. The architecture was intended to represent the Modern Movement, taking into account the local requirements through a variety of volumes and material uniformity that provided the complex with a high degree of abstraction.

The construction is mixed, formed by 43 linear blocks (680 dwellings), 27 towers (324 dwellings) and 602 terraced houses (single-family dwellings). The six-storey linear blocks are arranged in the lower and exterior areas limiting the views into the distance to separate the public space from the surroundings. The terraced houses are grouped in compact series situated in the interior, from where the views are determined by four-storey blocks that provide an intermediate scale, and six-storey towers that are arranged on the higher ground areas favouring the views and acting as a backdrop to the perspective (Figure 2).

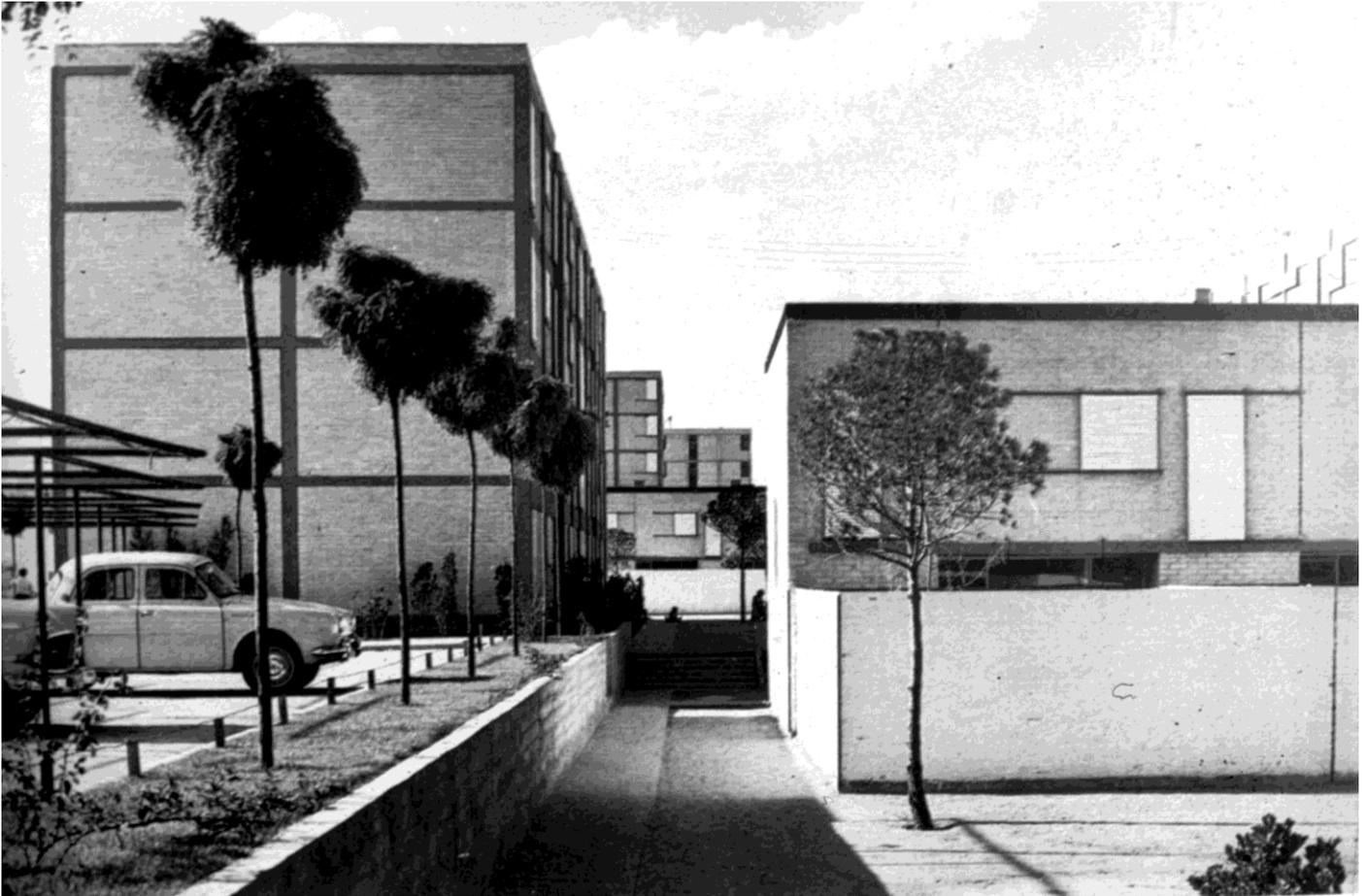


Figure 3. Caño Roto Housing Estate. Building and public area, 1960. (Source: *Centro de Documentación de Medio Ambiente y Ordenación del Territorio de la Comunidad de Madrid*).

The arrangement of this variety of buildings generates several intermediate spaces, with a variety of open areas in contrast with narrow pedestrian streets, keeping a close relationship between the scale of the built volumes and the free spaces. Antonio Vázquez de Castro called these areas “measured open spaces” [17], as they are of a limited scale manageable by humans, evoking the vernacular public spaces of England, Northern Europe or Italy. These are dynamic spaces of variable size, partially constrained by different building types – which form fragmented and stratified backgrounds – and by diverse materials, whose combination of textures contributes to providing character and control of the scale (Figure 3).

The dwellings adhered to the 1954 low-income standards (*Renta Limitada*) (1486 dwellings), and social standards (*Tipo Social*) (120 dwellings), with twelve different types that offered an alternative to the proposed participative process involving the residents in the project (Figure 4). This typological laboratory provided some of the most brilliant innovative housing types, not only for the Housing Estates but also for all the public housing projects built during the time.

The housing variety combines functionalist schemes aiming to optimize the surface area with others that have a wider scope of comfort and leisure. From the constructive point of view, they provide a basic quality within the technological level allowed by the regulations, heavily focused on economy and rationality. It was an essential requirement that the construction of the estate could be carried out by a non-specialized labour force. Such circumstances caused them to eschew technology in favour of traditional systems for which modern innovative types of composition were created.

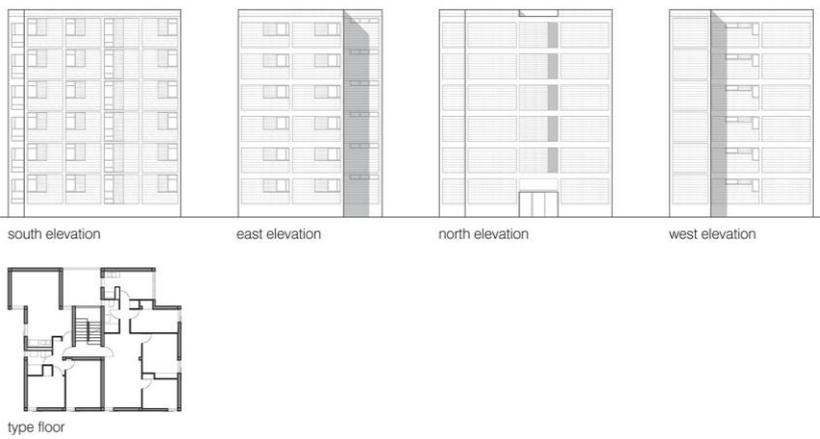
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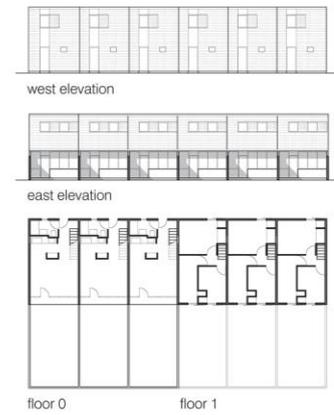
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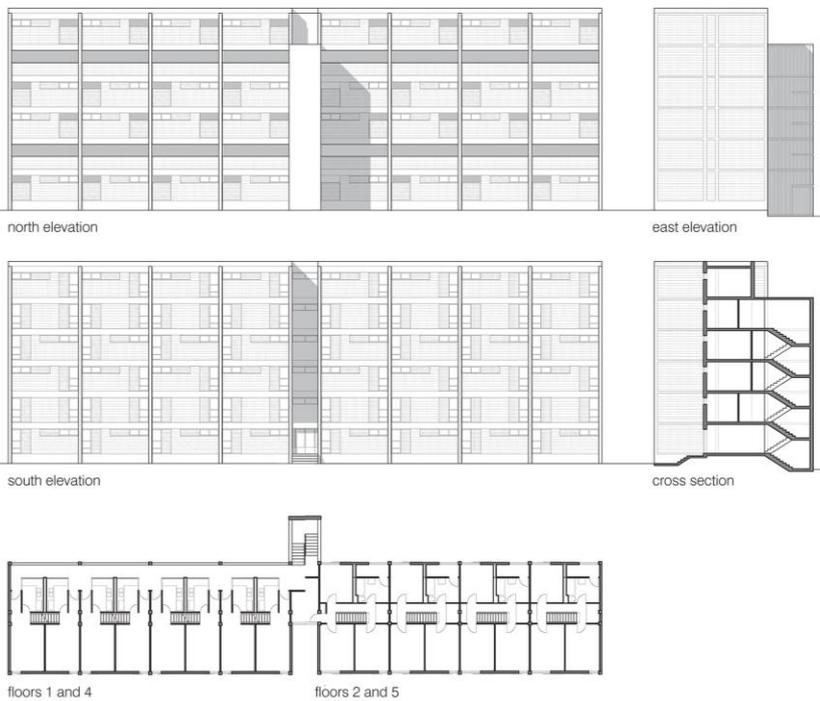
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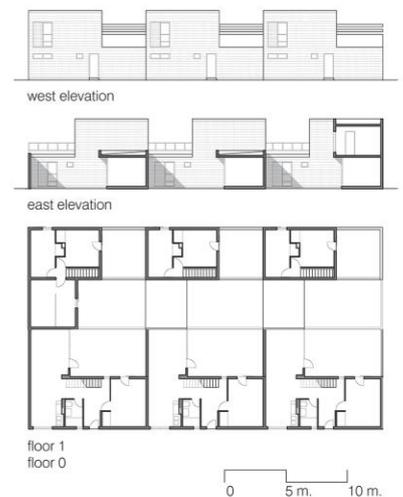


Figure 4. Caño Roto Housing Estate. Plans and elevations of the building typologies according to the original project. (Source: Drawing by the author).

Thus, the Caño Roto Housing Estate, as a result of the 1950s research that incorporated Modernity into the Spanish reality, constitutes an unquestionable work with urban, historic and architectural value. Evidence of the interest it has aroused ever since its construction is found in the Spanish media, which began to discuss it assiduously in journals such as *Arquitectura* (1959), *Hogar y Arquitectura* (1964) and *Nueva Forma* (1973 and 1974). Likewise, in foreign media, with articles in *L'Architecture d'Aujourd'hui* (1959), *Werk* (1962), *Arquitectura: Revista de arte y construção* (1963), *Zodiac* (1965) or *Baumeister* (1967). In addition, it has become a work that, individually or as part of the architecture of the Housing Estates, continues to be analysed by experts and critics of Architecture up until today. Photographed extensively by Kindel, Carlos Flores [18] included it in *Arquitectura española contemporánea: 1950-1960*, a compilation of the most estimable works carried out by Spanish architects in recent decades. It was the most widely covered project, highlighting the value assigned to it within the Spanish panorama. Years later, together with Eduardo Amann [19] he stated that in addition to its spatial and volumetric features, “the greatest significance of this work unquestionably lies in the design approach, so innovative at the time”. His opinion was shared by Luis Moya [20], who emphasized how its urban and architectural quality “denotes a serious commitment to research, both regarding the housing typologies and the urban morphology”. Its complexity, which stands out in comparison with the other Housing Estates, has been praised by, to state a few examples, Luis Fernández Galiano, Justo F. de Isasi and Antonio Lopera [21] in *La Quimera Moderna*, and by Antón Capitel [22] in *Arquitectura española: años 50-60*.

This recognition of the interest in the project as an urban and architectural work was reinforced by the mention awarded by the Madrid Official College of Architects (COAM) Prizes in 1972 and its inclusion in the catalogue of the DOCOMOMO Ibérico. Although it is listing as a heritage site since 1977 [23] did not have great relevance or official value, it allowed the Administration to plan its rehabilitation according to its unitary character.

Urban Rehabilitation

The urban rehabilitation of the Caño Roto Housing Estate – declared Area for Preferential Rehabilitation – was carried out between 1994 and 2004. To get the operation started, the initiative of the residents, with continued protests led by the Neighbourhood Association, which intensified in 1990, was essential. The population put together socioeconomic and urban demands with those arising from the living conditions of the dwellings.

In the 1980s, the proliferation of marginal settlements in the surrounding plots became an important factor of urban exclusion, due to their links to criminal and illicit activities, which created a climate of great insecurity. The population, of humble condition, included a high percentage of pensioners, who had lived in the estate since the origin, and a sector under 30 years old, with little training and difficult access to the labour market, which was sometimes involved in the conflicts of the district. A sign of the vulnerability of the complex is the gradual deterioration of the public spaces, due to situations of abandonment and reduction of commercial and local business activity, which limited the access to basic products and the resident community interaction. Likewise, the lack of infrastructures, with deficiencies such as health facilities, recreational and cultural centres and public security services were denounced.

Throughout the thirty years that elapsed until the rehabilitation, the buildings were conditioned by the action of the users and by frequent pathologies in this type of low-cost construction. The residents performed individual and uncoordinated actions that altered the distribution of dwellings and the composition of the facades, with changes in the size of the fenestration and interventions in stairwells and courtyards. These actions resulted in an aesthetic disorder of the buildings and an alteration of the resistance to the brickwork that caused its degradation. The extreme budget constraints under which the complex was built and its lack of maintenance, caused significant degradation in the early 1970s, which by the 1990s developed into a generally precarious situation (Figure 5).



Figure 5. Caño Roto Housing Estate. Building and public area before rehabilitation, 1994.

With evidence of the bad structural condition of the buildings and the great media and political pressure exerted by the residents, the Madrid Housing Institute (*Instituto de la Vivienda de Madrid*) commissioned two technical studies that coincided in the feasibility of the rehabilitation, considering the replacement of three blocks. This action was consistent with the classification of the estate by the 1985 LDF as "urban land regulated by Zonal Standard 3, with maintenance of the buildings" [24].

For its development, a special planning figure (*Estudio de Detalle*) was necessary, which exclusively concerned the high-rise buildings. Its purpose was the planning of extensions to improve the accessibility and increase the built area within the established margins, and substitutions due to ruinous state, maintaining position, surface and use. The rehabilitation of single-family dwellings was carried out after the approval of the 1997 LDF. Its declaration as a homogeneous complex with volumetric protection allowed the following types of intervention: conservation, typological recovery, conditioning and demolition. In these works, materials and techniques should be respectful of the values for which it was catalogued (art. 4.4.7).

The intervention area included the entire estate and therefore affected all the residential buildings, except for a tower previously replaced, totalling 1594 dwellings [25]. It began with a systematic and planned informative campaign of the actions and an economic forecast of the works. In the high-rise buildings, the similarity of the pathologies homogenized the actions by adjusting them to the initial estimate. However, in single-family dwellings, the impossibility of knowing the magnitude of the works due to greater structural damages made these

preliminary studies very difficult to carry out. Although the participation of the owners of both typologies was similar, 1165 dwellings took part, all of the high-rise buildings, and 30 % of the single-family dwellings [26].

The operation was carried out through a mixed financial model, led by the Administration, which constituted a stable body with economic capacity. The development and management of the process were performed by a management entity, composed of the Administration and a representation of the dwellings' owners, run by a private company. Funding was raised, after tough negotiations between the Neighbourhood Association and policymakers, with a joint subsidy from the State, Regional and Local Administrations, which contributed approximately 50 % of the investment.

The organizational system guaranteed assembly participation of the Homeowner Associations, with communication and decision-making capacity. In both the diagnostic and intervention phases, the technical and administrative aspects of each project were considered and analysed for subsequent approval by a majority of affected residents. Two of the factors that conditioned most of the intervention were: that the process should be carried out without the need to resettle the residents during the process and that the updating of the buildings should attend, if possible, to the regulations for new constructions.

It consisted of the adequacy of the elements and common spaces of the buildings, taking into account the structural and functional spheres (Figure 6) and the adaptation of the public space, with the re-urbanization and improvement of the infrastructures.

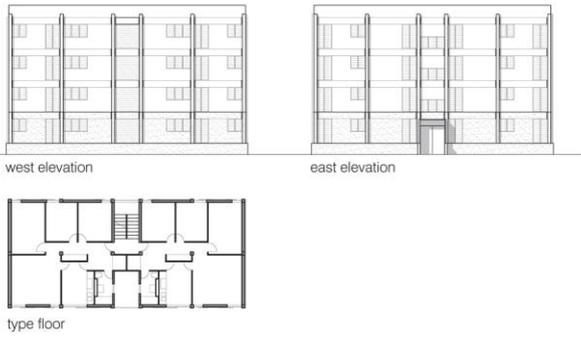
The structural retrofit was considered with the aim of providing firmness and solidity to the buildings by stabilizing the foundations, which required micro-piles and repair, as did the concrete structures and loadbearing walls that were stabilized with reinforcements.

The functional renovations were centred on improving the general systems, the insulation and waterproofing of the roofs and facades, and the accessibility. The most complex intervention was the sanitation and drainage, because of the leaks that aggravated the low loadbearing resistance of the soil. The water-tightness and insulation of the buildings' envelope were updated with new finishes on facades and roofs. This measure was intended to improve thermal comfort and efficient energy use, with a consequent reduction in the heating demand, primary energy consumption and emissions. Furthermore, it contributed to changing the estate's image with a new single-layer mortar façade finish that replaced the silicic-lime brickwork with externally visible concrete structure. It also involved the rearrangement of the enclosures, which were reunified by removing the alterations that the residents had introduced, to recover a composition inspired by the original, of Modern inspiration, but which lacked the nuances and variations that it had brought to the building (Figure 7). The improvement of the accessibility to the high-rise buildings was achieved by making accesses for disabled residents and installing elevators in the six-storey buildings, as had been demanded. The criterion was to maintain the original staircase and add prefabricated steel cores that held the elevators and contributed to changing the careful initial volumetry.

The intervention in the public spaces was realized at the same time as the main building works and consisted of an improvement of the estates' common facilities, infrastructures, roads and open spaces. The renovation improved its functionality and accessibility, but it increased the green spaces without proper maintenance and changed the materials employed, erasing any connections with the avant-garde nature of the original complex (Figure 8).

These actions were carried out following the project of the technicians hired by the Neighbourhood Association, who prioritized the security and habitability requirements in force at the time of the intervention, under strict economic settings. The visual impact of the measures of functional adequacy was based on the modification of the materials and compositions and the alteration of the volumes. The estate was stripped of the aesthetic values that made it part of the history of Modern Spanish Architecture.

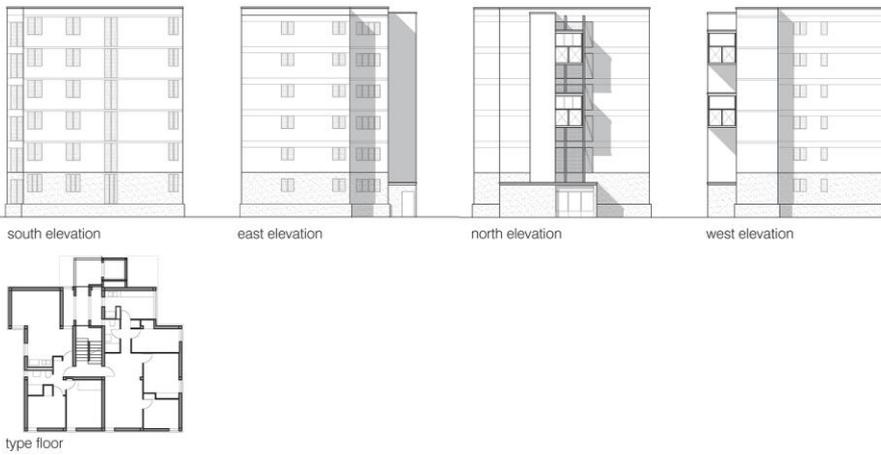
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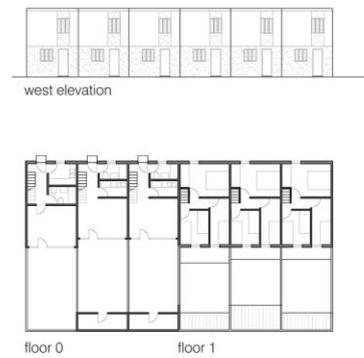
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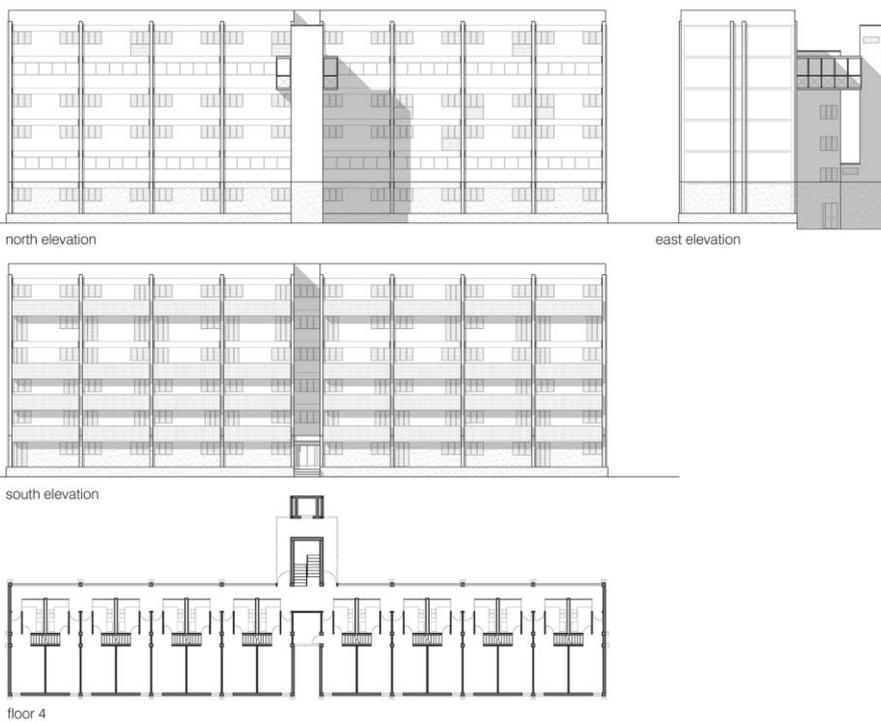
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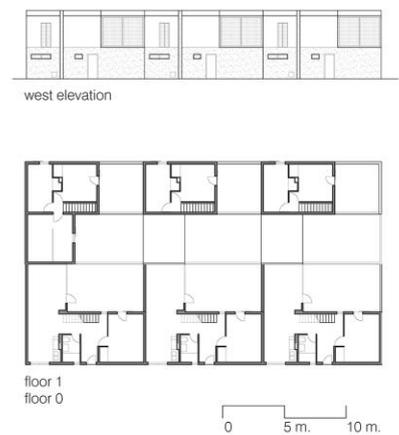


Figure 6. Caño Roto Housing Estate. Plans and elevations of the building typologies after rehabilitation. (Source: Drawing by the author).



Figure 7. Caño Roto Housing Estate. Building and public area, 2021. (Source: Photograph by the author).



Figure 8. Caño Roto Housing Estate. Building and public area, 2021. (Source: Photograph by the author).

The functional principles defended by the neighbours prevailed over the proposals of the General Directorate of Architecture (DGA) (*Dirección General de Arquitectura*) of the Regional Administration that, in collaboration with the architects that authored the original project, put the architectural interest first. DGA, which during the three years leading up to rehabilitation

tried to be an active part of the project, argued that the intervention could not be conceived as "a consolidation-repair, but respect for the original architecture was essential". DGA, therefore, considered of great interest the participation of the architects of the estate, still active, beyond the exclusive relationship with the owners of the dwellings and issues outside the project, which over-conditioned the outcome of the operation. In the opinion of Antonio Vázquez de Castro [27], the strength of the Neighbourhood Association required from the Administration a "tailored" operation in payment for the conditions under which their homes had been for years. As it was a private intervention, despite the subsidies, the Regional Administration ended up giving in to the pressure from the population and the media, continuing a type of non-conservative policy that since the 1980s had led to renew -with a large number of demolitions- the outskirts of the city. Its approach to the intervention on the estate would have been one that, providing it with the conditions of habitability according to the time, was respectful of the original composition and materiality.

Results

The urban rehabilitation of the Caño Roto Housing Estate resulted in an upgrade of the buildings and open spaces. The treatment applied, although focused on producing a unitary image for the urban complex, on occasions did not anticipate the repercussions of functional solutions that removed its initial conception. Safeguarding this type of property should combine adequate conditions of habitability, efficiency and accessibility, with a value of the urban image of the complex.

When the operation was planned, the option of the rehabilitation of the buildings was taken rather than their replacement because of political, urban and constructive reasons, leaving aside any considerations regarding heritage. This exclusive consideration for matters that ignore the architectural interest of the estate demonstrates the need to respect, when making decisions, a proper articulation with history through an appreciation of its origin and identity.

The approval of the intervention projects by the City Council involved compliance with the regulations of the 1985 LDF. In its ninth title, dedicated to the safeguarding of urban aesthetics, it requests (art. 9.11.3) "the defence of the urban image and the promotion of its valuation and improvement". The Administration considered that the action was convenient and appropriate without questioning whether the complex could demand a more conservative treatment or related to its original values. This flexibility in the application of the regulations reveals the lack of awareness of the aesthetic values that should be protected.

Both the requests of the residents and the objectives defined for the Areas for Preferential Rehabilitation included actions on the physical condition of the estate and on aspects related to the urban complexity and social conflicts. The operation, however, focused on the built environment and did not consider aspects linked to the relationship of the estate with the surroundings, the profile of the population and the urban complexity. These factors are part of the definition of historical urban heritage and have proved to be decisive for the evolution of the complex to the present day. That is why they highlight the need to evaluate, not only the physical factors but those that identify the urban area as a habitat and guarantee a good articulation with the city.

The initiative of the process came from the residents, who had a unique promoter-manager led by the Administration, an economic forecast and an important public subsidy, issues that favoured that the operation could be successfully developed and completed.

Through the Neighbourhood Association, as a representative body, the residents managed to realize this type of intervention, despite the resistance of the Administration. Advised by their own technicians, they achieved advantageous economic conditions and acquired representativeness throughout the process. This reveals the importance of a pre-structured organization with the capacity to dialogue with the rest of the stakeholders involved. However,

in this case, the activist and imposing attitude of the residents, which makes sense in a particular political context, needs to be nuanced and weighed, until a balance with the technical and administrative criteria is struck. An evolution of the model that channels the residents' participation is, therefore, necessary to make their contribution positive for project decision-making and sensitive to heritage issues.

Conclusions

The case of the urban rehabilitation of the Caño Roto Housing Estate is representative of a type of intervention demanded in the international scene that, due to its lack of consolidation, is subject to reflection and evaluation.

Like other mass housing complexes, such as the Dutch post-war neighbourhoods or French Grands Ensembles, the legitimacy as heritage of the Spanish Housing Estates is under construction. The identification and protection of these ensembles have been hindered. They are stigmatized urban areas, in which the community and the Administration have not recognized their architectural, urban or social values. However, there is a long road ahead for these estates to become heritage, due to a lack of consolidation of their legitimacy, and the criteria of protection. Therefore, before considering social housing as heritage, the process that social housing complexes must undergo should be discussed. Following socially accepted values and expectations of conservation, this process should include their cataloguing through a legal declaration and urban protection.

The fledgling acceptance of post-war ensembles as heritage coincides with a generalization of public functional and energy rehabilitation programmes, necessary to provide adequate levels of habitability and efficiency. Hence the need to simultaneously and co-ordinately implement rehabilitation and protective measures, adapting the preservation of the architectural and urban quality of the existing buildings to the compliance with contemporary regulations. The protection of the estates must not only be understood as a way to preserve the past, but to update the urban heritage with criteria of comfort and values that connect it to the city.

Given the diversity of factors involved in these processes, it is of great importance to compensate for the leadership of the Administration with the collaboration of the citizens through local partners and long-term agreements. The aim is to achieve inter-administrative cooperation through the integration of a vertical policy, between National, Regional and Local Administrations, and a horizontal policy, between the residents and the public and private sectors. The vertical policy manages the level of public resources that are committed to undertaking the operation and regulates the instruments of urban planning, heritage protection and building regulations. The owners, as beneficiaries of the intervention strategy, are largely responsible for its viability. Active participation, channelled by appropriate means, is the most effective protection of the built heritage.

The incorporation of criteria, policies and intervention processes implies a conceptual, normative and methodological extension, which must be realized for the correct administration in the protection of post-war ensembles. The knowledge of these urban areas, their origin and their contribution to today's Architecture and way of life, is considered a preliminary step in reaching a global awareness that, linked to the concept of historical urban heritage, triggers an extension of the ways of protection. The documents derived from the 2005 *Vienna Memorandum* and the 2011 *Paris Recommendations* show an important evolution of the heritage criteria, by setting out new starting points for their recognition as inhabited and dynamic urban environments.

The articulation of urban heritage with the history and the city opens new lines of reflection necessary to define, in the future, principles and practices of conservation. The state of review to which this discipline is subjected responds to a flexible way of understanding heritage, as

part of a city in constant need of adaptation. In this context, the conservation of post-war social housing complexes opens up to new objectives involving habitability, social balance, economic activity, environmental efficiency and sustainability [28]. The challenge affects the nature of heritage, with an integrated and territory-linked conservation approach.

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