

Urban subsidized housing in Spain: heritage on the outskirts of Zaragoza (1939-1961)

Quartieri di edilizia sovvenzionata in Spagna: un patrimonio moderno a Saragozza (1939-1961)

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ABSTRACT – *This paper proposes an itinerary through the subsidized housing built between 1939 and 1961 in the city of Zaragoza, Spain. In this period, although housing was intervened by the State and its conception stemmed from need, an important variety of typological and constructive systems as well as urban environments arised. Its origin responds to the challenge of the city, which during the war had not suffered significant destruction, to generate accommodation for the strong migratory movement from the countryside. Its effect is perceived, both in the living conditions that these new dwellings offered and in their contribution to the evolution of the city, by acting as colonizers of new spaces and maintaining their identity over time. Four cases that represent the variety of the urban development and building standards favoured by the State during this period are selected and approached from the urban scale and current circumstances. The construction and evolution of these urban housing estates are studied bearing in mind the reasons leading to their*

generation, the policies that ruled them and the typological and building systems that they contributed with. The knowledge of what these estates are and mean is key to appreciate them and to face situations that arise from their evolution to the present-day. This tour values and interprets a part of the city's heritage, a type of architecture that, in a silent way, has contributed to the configuration of its outskirts. The documentation that this work provides with is especially interesting at a time when parts of the buildings have undergone individual interventions to update or adapt to new needs, altering their image, and others show symptoms of obsolescence and abandonment. Faced with these processes of change, this paper helps to maintain the memory of what they are and represent so that they can be redefined, contributing to the balanced development of the territory.

KEYWORDS – History of the 20th Architecture in Spain; Subsidized Housing; Modern Architectural Heritage; Zaragoza.

The origin of the subsidized housing built in Zaragoza in the decades following the Spanish Civil War is framed within certain specific socio-economic circumstances. Although the built-up area of Zaragoza was not badly destroyed in the war, the city had to face the challenge of providing most of its population with housing. This situation, which occurred since the end of the 19th century, became worse after the war as a result of intense migration from the country, which led to the collapse of the built-up area and caused uncontrolled growth. The housing built at this time significantly affected not only how the city's morphology evolved as a result of the new regime set up to alleviate the housing problem, but also the living conditions it offered. When we talk about urban morphology, we should point out that the decisive presence of subsidized housing estates in the city expansion acted as a coloniser of spaces that, regardless of their subsequent evolution, allows for a notorious identity maintained over time. When considering their contribution to the population's living conditions, their innovative vocation stands out given both by the criteria they introduced from legislation, and the architectural exploration they delivered.

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The intention of the study of those housing estates is to value and interpret them as a very different kind of heritage from that traditionally recognised as monumental architecture. These dwellings are dealt with as the remains of a given period that, if systematically studied, allows us to know its “opportunity factors”, which are needed to undertake any intervention nowadays.

Those estates that have come to the present day with greater signs of deterioration and worse habitability conditions, constitute the point of attention of the Municipal Society Zaragoza Housing (*Sociedad Municipal Zaragoza Vivienda*; SMZV), who in 2004 promoted a large-scale operation, focused on updating security, accessibility, habitability and efficiency of the building. During this time, financing difficulties have limited rehabilitations to isolated blocks, which highlight the need for clear guidelines and criteria that enhance overall environmental values. The study of these areas may be used as a starting point to provide greater guarantees to the rehabilitation processes in order to achieve their urban regeneration.

Theoretical and normative framework

This article studies the housing estates promoted in Zaragoza, subsidized by the State, between 1939 and 1961. The end of the Civil War led to a period of administrative streamlining, during which time housing was conceived only out of necessity. The authorities of the new regime, which was poorly capable of facing housing problems, set a national policy that used different organisations to execute it and a wide legislative package. In 1939, the National Housing Institute (*Instituto Nacional de la Vivienda*; INV) was created as an administrative-political organization to design, plan and control official housing actions. In 1942, it was also set up the Union Housing Work (*Obra Sindical del Hogar*; OSH), a management instrument to promote and build housing states¹. In the first projects, the lack of means led the building activity initiative to be mainly shouldered by Town/City Councils, which complemented their activities through Savings Bank and Charities, and also by the private sector which, given the building activity’s poor profitability, took a long time to deal with this matter.

The legislation that regulated the construction and allocation of these dwellings was put into practice by the Subsidized Housing Act of 19 April 1939 (*Ley de Vivienda Protegida*). The rush to develop it, based on former legislation as the Cheap Housing Act of 12 June 1911 (*Ley de Casas Baratas*), gave way to confusing criteria which, together with general factors like lack of resources, hindered its application. The first symptom of change came with the Housing Act of 25 November 1944 (*Ley de Viviendas Bonificadas*), which was amended on 19 November 1948, and was accompanied by the first National Housing Plan (*Plan Nacional de Vivienda*) for the next decade. However, this activity gained a wider knowledge with the slow renounce to autarky, the opening out to the world and the economic recovery in the 1950s when, due to a boost of the industrial sector, the housing problem became increasingly more pressing². As the objectives were not met, the INV unified procedures with the OSH and readapted its policy³. In order to combine the whole national system of housing aid, including the typologies destined for upper classes as well as the more affordable ones, the Restricted Rent Act of 15

¹ C. SAMBRICIO, *Un siglo de Vivienda Social, 1903-2003*, Madrid 2003, pp. 229-231.

² A. FERNÁNDEZ CARBAJAL, *La política de vivienda en España durante el Franquismo*, in “Ciudad y Territorio: Estudios territoriales”, n. 138 (2003), pp. 643-644.

³ C. SAMBRICIO, *La vivienda en Madrid en la década de los 50: el Plan de Urgencia Social*, Madrid 1999, pp. 51-53.

June 1954 (*Ley de Renta Limitada*) was published, taking the Italian Fanfani Plan and the German Federal Law (both of 1949) as references. In 1955, the Regulations pertaining this Act were passed, and the second National Housing Plan, which focused on areas with more demographic growth, including Zaragoza, entered into force. As these measures lacked efficiency, the Housing Ministry was created in 1957 in order to promote the commercial interests and confer more importance to the private sector. The economic openness, provided by the 1959 Stabilisation Plan along with the third National Housing Plan in 1961, meant that the sector no longer had to depend on official aid and became a merely speculative activity, which implied a complete change in the way architecture was devised.

Although regulations were somewhat ahead of the architectural response during this period⁴, at the same time a complementary line of thought was developed for the same purpose, that of solving the lack of housing problem. The 1940s witnessed only some guidelines being set up in order to build what was defined as State Art, but in the 1950s the discussion about minimum housing commenced, taking up the rationalistic approach once again, and searching for references in Holland, Italy, Germany or the USA, giving way to a new vision. New types were based on the exploration of more efficient building systems, which co-existed with traditional systems and provided new grouping ways. Thus, the regulative and theoretical minimum housing development in the 1950s allowed the modern concepts to be used in subsidized housing estates.

The presence of these housing estates, marked by necessity, on the outskirts of Zaragoza conditioned a new way to devise the architecture and the city. Regardless of the type of promotion and the year they were built in, they all shared an extreme budget restraint, due to the policy enforced by the State, which often meant an excessive reduction of total floor area and quality of the materials⁵. Anyway, the great degree of freedom that these typologies acquired weakened the links that had traditionally connected housing and urban planning, which became the mere result of aggregating housing units. This change of roles affected the public space, subordinating it to the building type definition⁶. The urban dimension of these processes, stemmed from legislation and theoretical research, reflects a reformulation of the traditional city models.

In 2001, a total of 21 estates were included in the General Land-Use Planning for Zaragoza (*Plan General de Ordenación Urbana de Zaragoza*; PGOUZ) Catalogue as Urban Estates of Interest when applying Aragonese legislation on protecting cultural heritage. Thus, the heritage value of these estates is acknowledged as urban estates which, “due to their special unitarian characteristics and building nature, urban morphology, building typology, setting, etc., they are subject to protection aimed at their conservation” (Revised Text of the 2007 PGOUZ, art. 3.2.2.4).

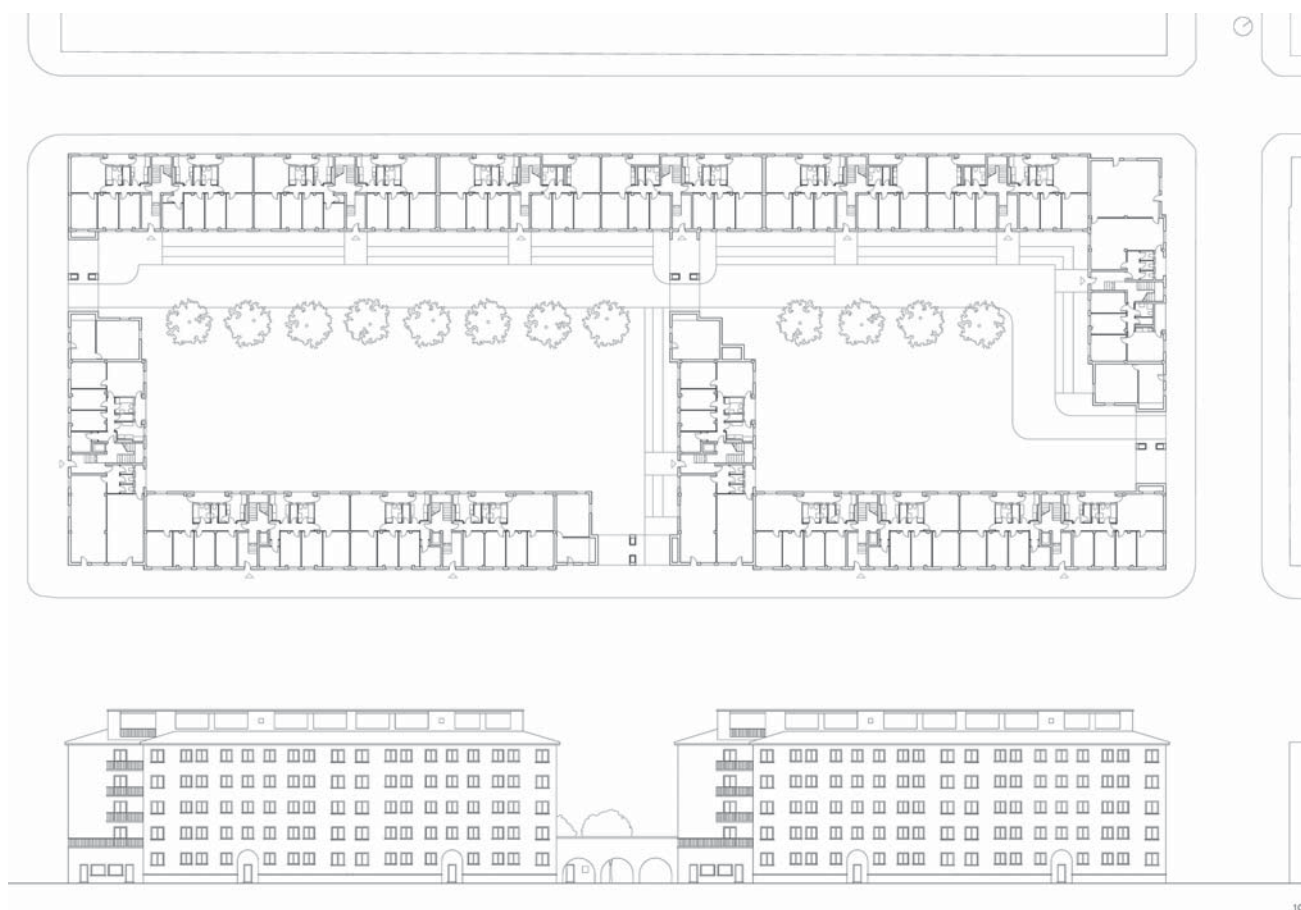
Methodology

To know the evolution of subsidized housing built during this period in the city of Zaragoza, the starting point is the situation of these housing estates in relation to both the city’s socio-economic distribution, and their continuity or discontinuity with the surrounding areas. The first link of this

⁴ C. SAMBRICIO, *De la arquitectura del nuevo Estado al origen de nuestra Contemporaneidad: el debate sobre la vivienda en la década del cincuenta*, in “Revista de Arquitectura”, n. 4 (2000), p. 90.

⁵ Archive references: *Francisco Caballero, Project 1941*. Municipal Archive of Zaragoza. Central [CAJA 200033 - 200035 EXP. S.N/1940]; Archivo Histórico Provincial Zaragoza; Archive José de Yarza <http://jdeyarza.archivosarquitectos.com/es/original/>; *El Picarral, 1st phase Project 1947 and 2nd phase Project 1952*. Municipal Archive of Zaragoza. Palacio de Montemuzo [CAJA 29334]; Archivo *Sociedad Municipal Zaragoza Vivienda*; *Andrea Casamayor or José Antonio Girón, 1st phase project 1954 and 2nd phase Project 1955*. Municipal Archive of Zaragoza. Central [CAJA 200715 EXP. 6640/1955] [EXP. 10504/1956]; Archive *Sociedad Municipal Zaragoza Vivienda*; *Salduba, Project 1958*. Municipal Archive of Zaragoza. Central [CAJA 200923 EXP. 30180/1958]; Archive José de Yarza <http://jdeyarza.archivosarquitectos.com/es/original/>.

⁶ C. MARTÍ ARÍS, *Las formas de la residencia en la ciudad moderna*, Barcelona 1991, p. 45.



1/ "Francisco Caballero", project 1940-1946. General plan and elevation (drawing by the author).

territorial nature is the housing estate own area, understood as a planning unit whose socio-environmental conditions affect its inhabitants' quality of life. Thus, the concept of habitability goes beyond the housing itself, as understood in the first regulations, which sought to develop healthy districts, and included amenities, open spaces and recreation areas in economical housing estates. The attention paid to open spaces, which structure circulations and condition urban life, the existence of vegetation and the setting up of services close by, is certainly interesting. Finally, the contribution of the building typologies to both estates' spatial quality and their inhabitants' quality of life is contemplated by bearing in mind the way the blocks are arranged, how they function, their constructive systems and the housing types included⁷.

By contemplating those aspects that determine their performance and, hence, their evolution to the present-day, four housing estates are analysed in chronological order. They are representative of the forms of promotion, which, supported by public aid, succeeded each other throughout the period to solve the great need for affordable housing in the city. Their analysis allows knowing the evolution of the urban and building standards promoted by each of them throughout the period, and their current state of conservation. These case studies are: Grupo Francisco Caballero (1940-1946), by architects José de Yarza García and Alejandro Allanegui Fález, developed by the Zaragoza City Council. El Picarral (1947-1957), by José de Yarza García and José Beltrán Navarro, developed by the Zaragoza City Council. Andrea Casamayor (1954-1957), by Alejandro Allanegui Fález and Fausto García Marco, developed by OSH (*Obra Sindical del Hogar*). And Grupo Salduba (1958) by José de Yarza García, privately developed⁸.

⁷ M. CASALS TRES, *L'habitabilitat en evolució. Materials des de la història normativa per la seva redefinició vers la sostenibilitat*, Barcelona 2013.

⁸ N. CERVERO SÁNCHEZ, *Las huellas de la vivienda protegida en Zaragoza. 1939-1959*, Zaragoza 2017.

The housing estate “Francisco Caballero” (José de Yarza and Alejandro Allanegui, 1940-1946)

2/ “Francisco Caballero”, project 1940-1946. Exterior view, 1949 (Municipal Archive of Zaragoza, 4-1-0002843).

This housing estate covers 6,620 m² and includes 113 homes⁹. It was built by initiative of the Zaragoza City Council that, in December 1940, announced a public competition to build a subsidized housing estate in block 14 of the Miralbueno expansion district. The project devised by architects José de Yarza and Alejandro Allanegui won the competition and was built between 1942 and 1946, with some minor modifications. As specified by preliminary design, it was composed of low rent housing costing “an amount that equaled or was less than 1,200 pesetas per year”, according to the 1939 Subsidized Housing Act Regulations (fig. 1).

It was located at the Miralbueno expansion district¹⁰, on a regular block of the 1934 General *Ensanche* Plan and in accordance with the closed blocks and orthogonal urban scene of the middle-class city model set around the Gran Vía axis. Initially it was a far-off area, which underwent rapid growth and formed part of a wealthy area in the urban continuum¹¹ (fig. 2).

This housing estate includes three longitudinal L-shaped buildings adapted to the arrangement of the exterior streets, delimiting the block. One of them, ground floor and three storeys high, with a north-facing angle protects the block from prevailing winds and the noise of the busiest streets, as specified in the preliminary project. The other two buildings, ground floor and four storeys high, face south and generate two patios (fig. 1). After considering several solutions, this semi-open arrangement offered the most suitable proportions and blended in better with its surroundings according to the architects. It also allowed for a certain formal relation with some *siedlungen* in Berlin, which Yarza got to know as a student, such as the Wohnstadt “Carl Legien” by Bruno Taut and Franz Hilinger (1925-30), due both to the relation between the built volumes and the inner space, as for the way to solve the articulation between them. What this accomplished was that dwellings are all well oriented and sunlit, which favoured hygiene and health, as well as the interior spaces, open out on to the public space (fig. 3). Moreover, for a high buildability permitted (1.85 m²/m²), this also enabled the land occupation (45.00%) to remain below 50%, as required by the Municipal



⁹ *Francisco Caballero, Project 1941*. Municipal Archive of Zaragoza. Central [CAJA 200033 - 200035 EXP. S.N/1940]; Archivo Histórico Provincial Zaragoza; Archive José de Yarza <http://jdeyarza.archivosarquitectos.com/es/original/>

¹⁰ J.A. LORENTE, *La evolución de Zaragoza de 1908 a 1939*, in R. MARCO FRAILE, C. BUIL GUALLAR (ed.), *Zaragoza 1908-2008: Arquitectura y urbanismo*, Zaragoza 2009, pp. 181.

¹¹ E. ADIEGO, *Zaragoza barrio a barrio*, Zaragoza 1981, vol. 3, p. 196.

¹² J. YARZA GARCÍA, A. ALLANEGUI FÉLEZ, *Grupo de viviendas protegidas: Manzana 14-Miralbueno*, in “Revista Nacional de Arquitectura”, n. 95 (1949), p. 506.

3/ "Francisco Caballero", project 1940-1946. Interior view, 1949 (Municipal Archive of Zaragoza, 4-1-0002844).

Regulations¹². Housing was supplemented with a programme of services, located on the ground floor, which represented 4.30% of the 12,160 m² of the total built surface area. Among them, there are three porter's lodges next to the accesses, which included shared rooms and sanitary services; a power system that supplied the estate with central heating; and five commercial premises, which initially operated as food stores and a popular library¹³. There were also air raid shelters in the basement, which were transformed into storage rooms in 1948, as well as an open gallery under the roof with individual sinks and drying racks.

The open areas, classified in the Revised Text of the 2007 PGOUZ as a private open space, are an essential part of the project, designed to be used as shared recreation areas able to guarantee a certain quality of life. Subdivisions were avoided, just as the preliminary design specified, as they could favour a change of use, and a recreational area was provided for the community, similar to those quite usual in Danish and German housing estates which Yarza¹⁴ was familiar with. The gentle urbanization was provided with "evergreen trees and flowers around the transit areas", which the residents have maintained until the present-day, and provides the dwellings with an added value (fig. 4).

The twin-bay 9.20-metre deep building was built with no iron restrictions, which allowed for a more advanced structural system than that employed in subsequent estates, with reinforced concrete frames on the façade and intermediate lines. All the other materials were typical of the area: façades made of solid-brick with slip joints and a ridge roof with curved roof tiles on a wooden framework, in line with the Aragonese tradition. The façades, with a constant fenestration that varies according to

¹³ A. MARTÍ NASARRE DE LETOSA, *La vivienda obrera en Zaragoza: 1939-1947*, Zaragoza 1994, 40.

¹⁴ J. YARZA GARCÍA, *Notas de arquitectura actual en el extranjero*, in "Arquitectura", n. 175 (1933), pp. 314-315.





the orientation, were finished off with open galleries under the roofs, providing a higher shadow line (fig. 1). The composition was enriched by the several mechanisms articulating the building: arcades, that connected the building and led to the open interior spaces, and corner designs that kept the ground floor alignment with supplementary uses and setback at the top to allow for exceptional improvements in the way that houses were oriented (fig. 2 and 5).

Access to the buildings, linear and modular, was achieved by an open inner space or from the street, depending on each hub's location. These common staircases give access to two apartments per floor, and hold an elevator in the four storeys high modules, complying with the Municipal Regulations. The main criterion for the composition of typologies was the separation between the day and night zones, but not so much for the way they were used as for their orientation, which fell in line with those imposed by the INV for each climate zone.

These were houses with cross-ventilation in which the living-dining room and kitchen mostly looked out north-west, articulated by a service gallery that separated from the outside a hub made up of the bathroom and storeroom from, whereas the bedrooms faced south-west. This layout was applied to a basic type covering 84 m², which included three double bedrooms and a single one linked to the entrance that, in the project, was considered a service bedroom and was not present in the ground floor. This type could be cut down to 60 m² or enlarged up to 100 m² for larger families. Although standards were high, economic, hygienic and legal aspects were prioritised¹⁵ (fig. 6).

In 1946, the apartments were assigned directly to civil servants and middle-class workers¹⁶. Despite not being assigned to needier classes, as the press of that time claimed, and keeping an occupation beneath their capacity, the estate represents the values promoted by the new State housing policy.

4/ "Francisco Caballero", project 1940-1946. Interior view, 2018 (photograph by the author).

5/ "Francisco Caballero", project 1940-1946. Exterior view, 2018 (photograph by the author).

¹⁵ J. YARZA, *Grupo de viviendas protegidas...*, cit., p. 507.

¹⁶ A. MARTÍ NASARRE, *op. cit.*, p. 34.



6/ "Francisco Caballero", project 1940-1946. Housing typologies (drawing by the author).

The housing estate "El Picarral" (José de Yarza and José Beltrán, 1947-1957)

This estate, originally named Francisco Franco, covers 18,855 m² and comprises 478 apartments¹⁷. The Zaragoza City Council promoted it in two phases. The first phase consisted of a building with 120 apartments, designed by José de Yarza and José Beltrán in August 1947, and was built in 1948 and 1949. Construction took place while José María Sánchez Ventura was mayor, who named this housing as "ultra-affordable" (*Ultrabaratas*). It was a model of a more ambitious not-built project for 645 apartments, and responded to the criterion of reducing the budget to the limit and building dwellings apt for the neediest population's requirements, with lesser habitability demands than those proposed by the INV¹⁸. The second phase, once established the Municipal Housing Institute, completed the lands owned by the Zaragoza City Council with 358 apartments, as defined in the October 1952 project by José Beltrán. They were built in 1957 according to the standards set out in the regulations of the 1939 Subsidized Housing Act (fig. 7).

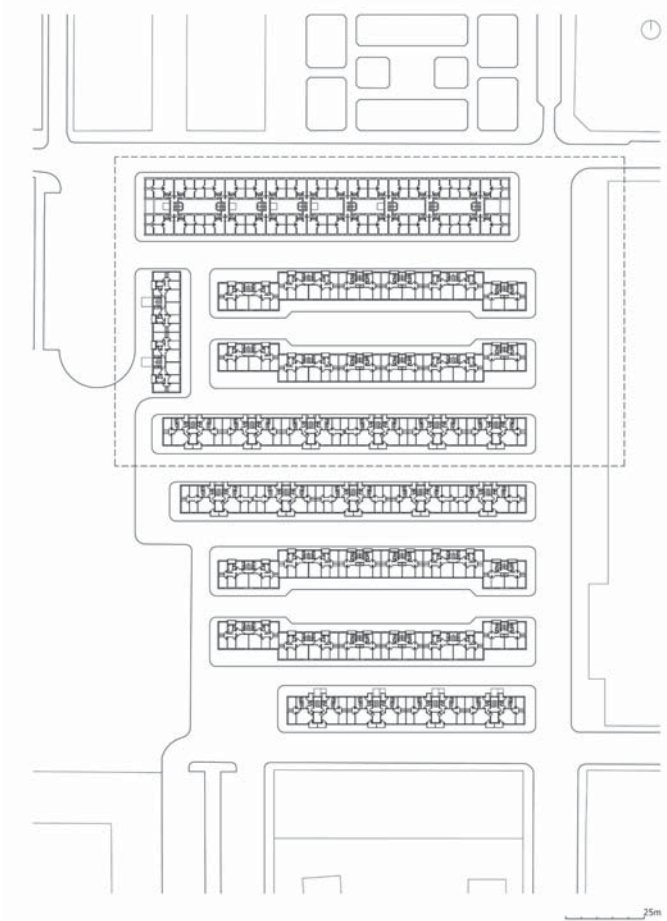
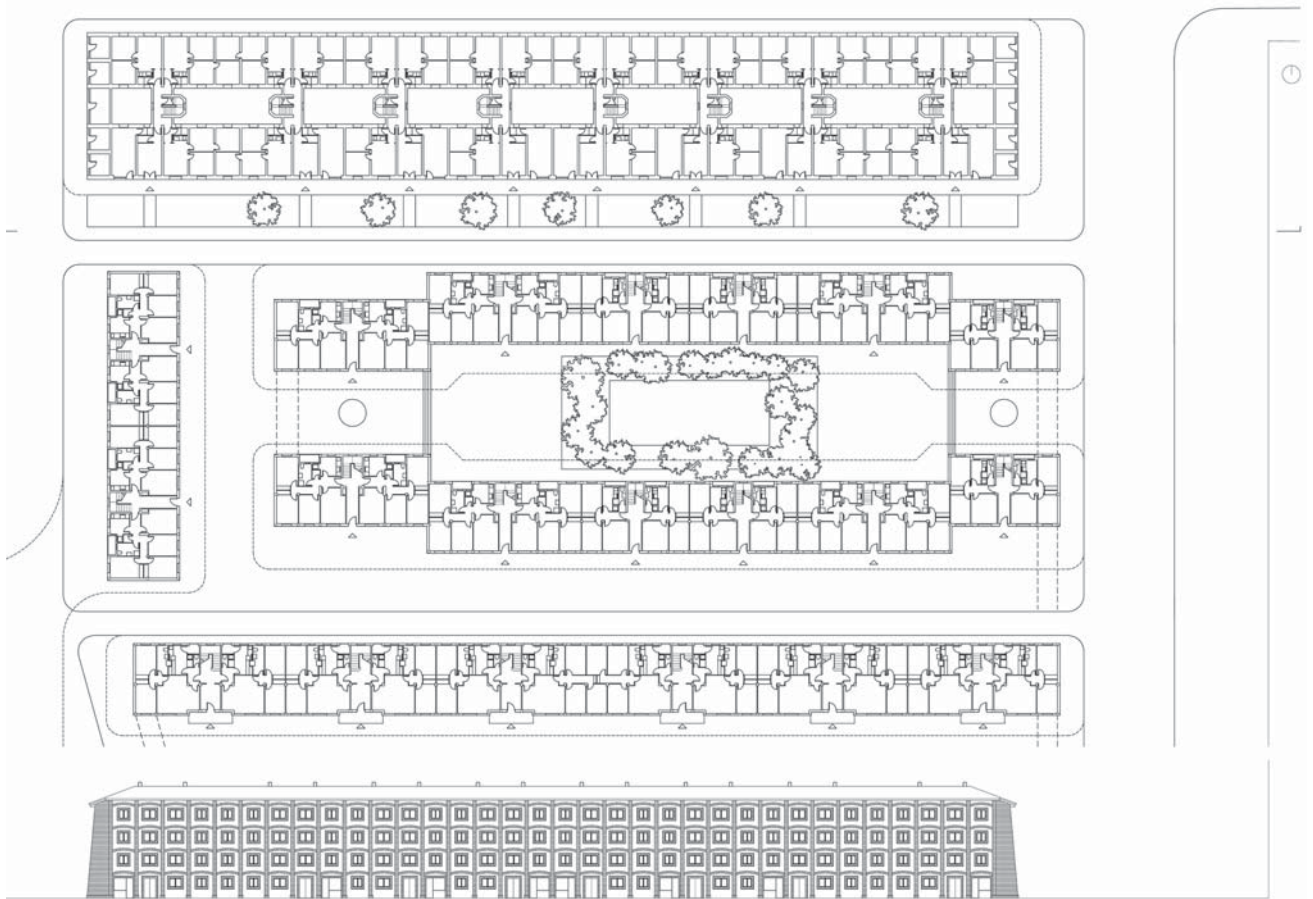
It stands on the left bank of the River Ebro in an industrial zone that did not connect with the nearest most well established area, and adjacent to some of the city's most important factories. The anarchical growth of the area, with no planning to regulate its ordering and inclusion in the urban continuum, generated an extreme mix of uses, with problems like pollution and unhealthiness, no basic services, and very few infrastructures, which gradually improved as of the 1980s¹⁹.

The construction of the estate, mainly with north-south orientation, was arranged in relation to the phase one building, ground floor and three

¹⁷ *El Picarral, 1st phase Project 1947 and 2nd phase Project 1952*. Municipal Archive of Zaragoza. Palacio de Montemuzo [CAJA 29334]; Archivo Sociedad Municipal Zaragoza Vivienda.

¹⁸ J.M. SÁNCHEZ VENTURA, *El problema de la vivienda barata*, Zaragoza 1949, p. 88.

¹⁹ E. ADIEGO, *op. cit.*, vol. 4, p. 104-105.



7a-b/ El Picarral, project 1947-1957. General plan. Fragment and elevation (drawing by the author).



8/ *El Picarral, project 1947-1957. View of phase 1, 1950 (Municipal Archive of Zaragoza, 4-1-0004069).*

9/ *El Picarral, project 1947-1957. View of phase 2, 1978 (Picarral Salvador Allende Neighborhood Association).*

storeys high, which acted as north limit (fig. 8). The eight linear buildings built later came in two types: one, ground floor and three storeys high, with both end modules slid to extend the intermediate open spaces; the other one, ground floor and four storeys high, kept the arrangement and combined with the former (fig. 9). It covered a total built area of 36,127 m², with a very high density (253 apartments/Ha) and high buildability (1.90 m²/m²), with some critical points in the initial block and higher storeys. Its residential use was only supplemented, in the ground floor of the first phase, by common rooms linked to the staircases, plus eight commercial premises on the sides.

According to the project report of the second phase, “the Zaragoza City Council is in charge of urban development, with the characteristics of the city’s paved streets”, and included roadways and footpaths “with green areas that are 8 m wide all along the length of each housing block”.





The plans of this estate showed that these pedestrian areas spread out to the better oriented and larger sized areas, connecting several buildings to offer areas for recreation, known as the “children’s play field”, which had vegetation, pergolas and common services (fig. 7). This work’s limited budget prevented it from being carried out, and even conducted a minimum urban development beyond the building’s perimeter. At the beginning of the 1970s, its current function as a public roadway was adopted according to the criterion of limiting pedestrian areas to tree-lined footpaths and leaving the rest for a roadway and parking area.

The first phase housing block was built by seeking maximum budget economy and by using easily accessible materials from the area near Zaragoza, while avoiding the use of iron²⁰. The building, ground floor and three storeys high, is 116.00 m long and 18.40 m deep. It holds an inner longitudinal patio 4.50 m wide, divided by eight vertical communication hubs. It was built with solid-brick load bearing walls that lay perpendicular to the façade, linked by tiled vaults (fig. 7). The load is absorbed on the ends by thick buttresses, kept inside the volume holding habitable areas and terraces. This system appears on the façade, marked with adobe sections and small-sized gaps opened. It had a traditional ridge roof with curved tiles. The building’s rotundity was emphasised by the compositive force of the buttresses, which conferred it a solid robust nature, and fell in line with the image that the Administration wished to portray²¹ (fig. 10).

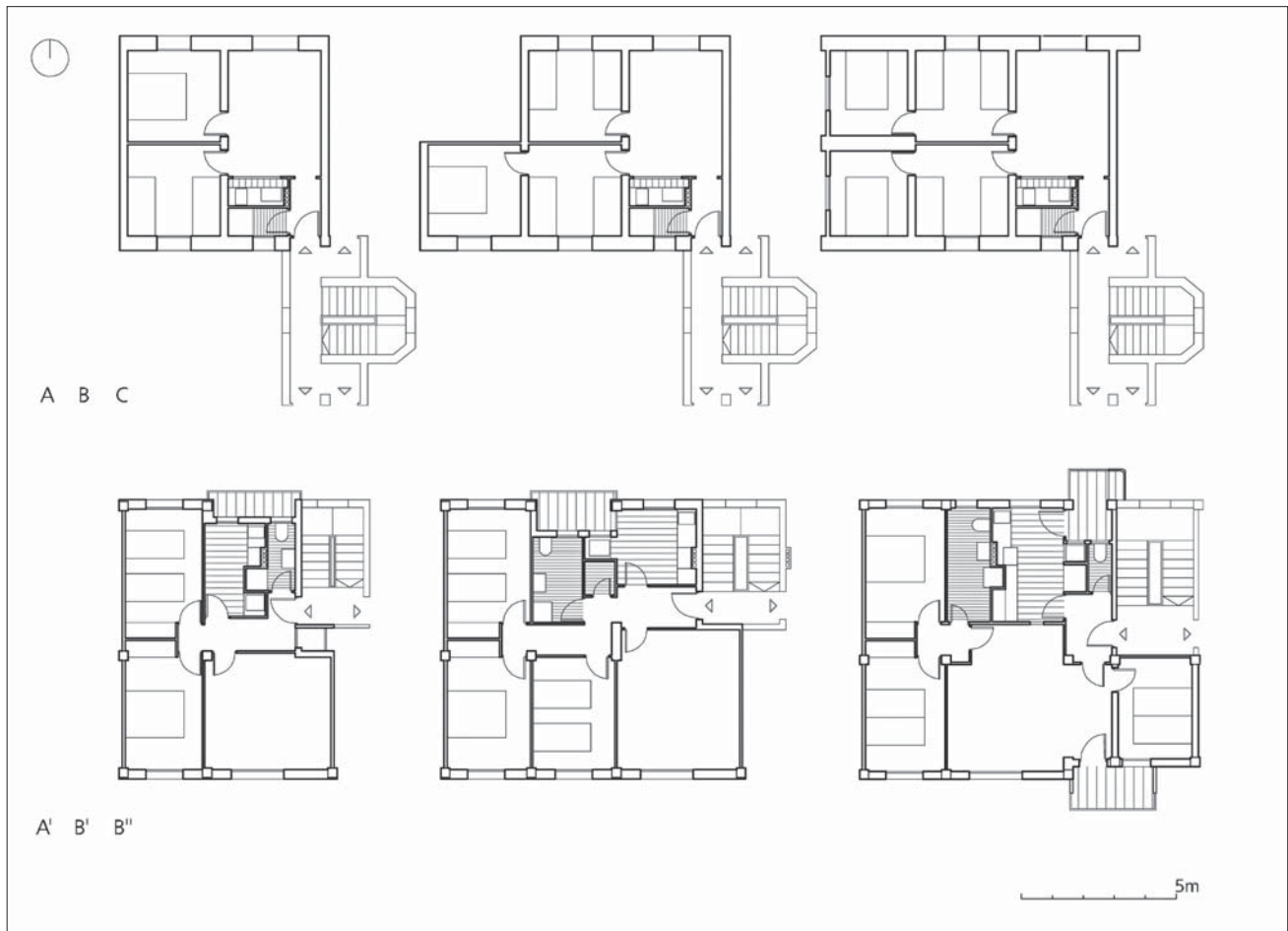
The staircases, with access from the southern façade, served four apartments per storey, whose orientation was either north or south. These units grow by adding minimum-sized rooms, starting with a 36 m² basic type of two bedrooms, which could be extended to three and four bedrooms in the 45 m² and 54 m² types. The access module is composed of a WC, named “WC-shower” in the project, plus a dining room that includes the kitchen, leaning to *enfilade* bedrooms. This arrangement did not meet the Regulation of 8 September 1939, regarding its capacity and surface area requirements, nor its hygiene criteria derived from its orientation and related with intimacy and morale (fig. 12).

10/ El Picarral, project 1947-1957.
View of phase 1, 2018 (photograph by the author).

11/ El Picarral, project 1947-1957.
Interior view, 2018 (photograph by the author).

²⁰ A. MARTÍ NASARRE, *op. cit.*, p. 55.

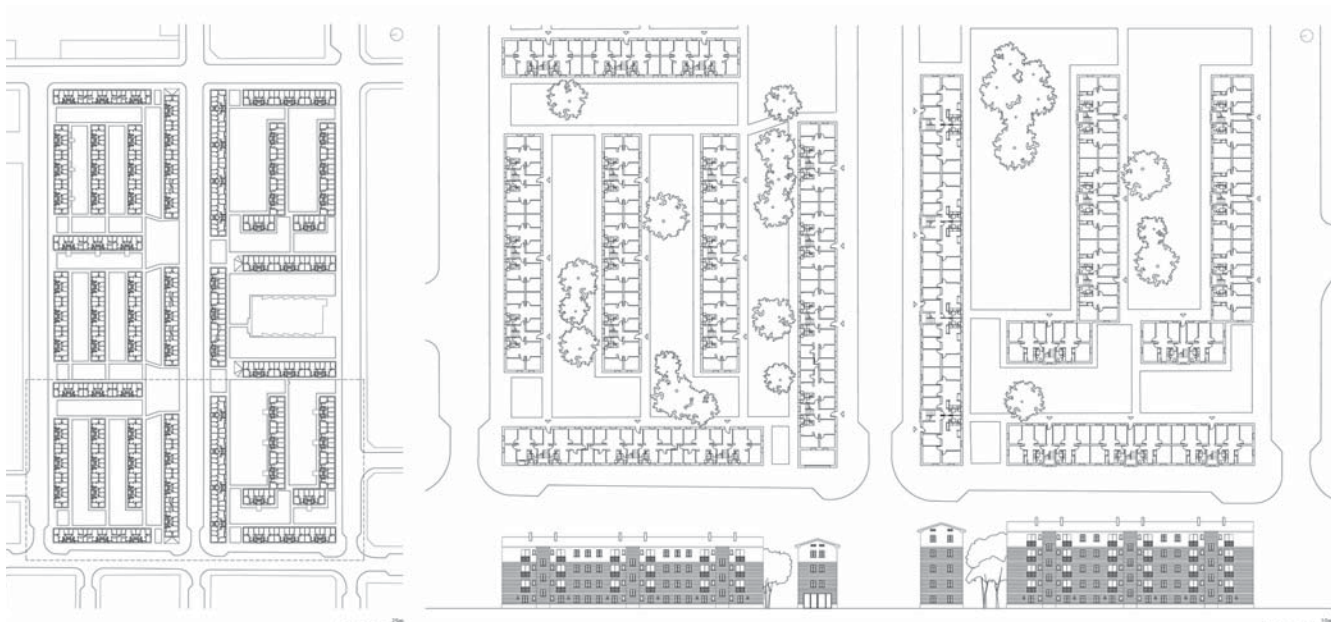
²¹ J.M. SÁNCHEZ, *op. cit.*



12/ El Picarral, project 1947-1957. Housing typologies (drawing by the author).

13/ “Andrea Casamayor” (Girón), project 1954-1957. General plan. Fragment and elevation (drawing by the author).

Given the experience acquired from this first phase, the apartments’ habitability conditions increased in the second phase, but keeping the principle of reducing the use of iron. Two systems were adopted, both with a twin-bay and with 9 m depth, built with traditional materials, where brick was basic. The singularity of these systems is perceived in the slabs, built with tiled vaults in the ground floor and three storeys high housing blocks, and with reinforced ceramic joists in the ground floor and four storeys high ones (fig. 7). The volume was stabilised with solid-brick buttresses in the





14/ "Andrea Casamayor" (Girón), project 1954-1957. Aerial view of phase 1, 1954 (Gran Archivo Zaragoza Antigua, Zaragoza).

staircases, inner walls and façades, covering the building with a curved tile ridge roof on top of hollow-brick slabs or a ceramic joists, on each case (fig. 11). The cement rendered brick façades opened out with service galleries to the north and terraces to the south, giving away any variation at the ends finished with blind wall-headers.

The buildings were formed by a series of staircases that served two apartments per storey, with a double orientation that can be classified into two groups. The first with two and three bedrooms measuring 47 or 69 m². The second with family-type compositions measuring 63 or 87 m². Both groups keep as constant elements the situation of the service hub next to the stairs and the dining room's southern orientation. Despite the small size of the first group, it had a hallway that led to the rooms, a function performed by the day zone in the second group, supplemented with more important services and a south-oriented terrace (fig. 12).

Despite their social vocation, the first phase apartments remained unused until 1952, when the Zaragoza Savings Bank (*Caja de Ahorros de Zaragoza*) took over and rented them until they were sold in the 1970s²², while the second phase apartments were assigned to owners in 1958. The limited construction and typological conditions of the building led the SMZV in 2004 to carry out the first rehabilitation of a pilot block. For the time being, work has been completed on five staircases of phase one, incorporating elevators in the patios and also on two second phase buildings which have placed them on the outside, changed the stairway, and closed the terraces in one of the types, which has noticeably modified the volume.

The housing estate "Andrea Casamayor" (Alejandro Allanegui and Fausto García Marco, 1954-1957)

This housing group was also known as "José Antonio Girón" or "Grupo Girón"²³. It covers 29,300 m² and includes 790 apartments, built in two phases by the OSH²⁴. Architects Alejandro Allanegui and Fausto García Marco devised a project with two phases. The first phase project, of July 1954, contained 400 social-type minimum-rent apartments in line with a Decree-Law of 29 May 1954, according to planning permission granted in

²² J. MARTÍNEZ VERÓN, *Zaragoza. Arquitectura. Siglo XX*, Zaragoza 2015, p. 372.

²³ *Andrea Casamayor or Grupo Girón, 1st phase project 1954 and 2nd phase Project 1955*. Municipal Archive of Zaragoza. Central [CAJA 200715 EXP. 6640/1955] [EXP. 10504/1956]; Archive *Sociedad Municipal Zaragoza Vivienda*.

²⁴ F.J. MONCLÚS, et al., *Paisajes urbanos residenciales*, Zaragoza 2013, p. 44.



15/ "Andrea Casamayor" (Girón), project 1954-1957. Exterior view, 2018 (photograph by the author).

16/ "Andrea Casamayor" (Girón), project 1954-1957. Interior view, 2018 (photograph by the author).



June 1955. The second phase project, of August 1955, encompassed 390 limited-rent third-category apartments in line with the Regulation of the Law of 15 July 1954, whose works commenced in February 1956 (fig. 13).

Initially surrounded by orchards, it was built with a strong estate identity on the northeast of the city, an agricultural area near the river (fig. 14). This sector was included as an area of urban expansion in the 1934 Plan, and the intention was to relieve congestion in the busy city centre. Its reticular structure of rectangular east-west oriented blocks was passed with a Preliminary Urban Design of 1943, supplemented by the 1939 Regulations, which classified it as light industry compatible with semi-intensive housing²⁵. The district rapidly developed²⁶, and its foreseen density doubled at the beginning of the 1970s.

This estate occupied two practically identical blocks measuring 216 for 60 m. That corresponding to the first phase had linear housing blocks, ground floor and three storeys high, while the second phase, ground floor and four storeys high, was developed in the south block. The buildings in both blocks were orthogonally arranged, mainly east/west, and fitted with façades and wall-headers adapted to the alignments, also colonising the inner space. The northern phase comprised 16 buildings, of which four were north/south facing to "protect the other buildings and the spaces among them from prevailing winds", according to the project report. The southern phase, with 11 higher buildings, also adopted the previous criterion and transverse compartmentalisation on the north side, but also introduced L-shaped buildings that helped increase intermediate spaces (fig. 13). This estate had the highest density of those analysed (269 apartments/Ha), but had a medium buildability (1.55 m²/m²) with a low land occupation rate (35.55%), which evidences the small size of its apartments and their compaction to provide space for common uses. Of the total built surface area of 44,863 m², only 1.55% was destined for supplementary uses: a parish church in the second phase, which occupied the central position of the block and opened out to the south, plus four commercial premises, two in each phase, which included the wall-headers of the buildings next to the intermediate street (fig. 15).

The open interior spaces of the blocks, accessed from the outer road, longitudinally arranged were bigger in the estate's second phase. Conceived

²⁵ E. ADIEGO, *op. cit.*, vol. 1, p. 182-190.

²⁶ F. AGUERRI, *La evolución de Zaragoza de 1940 a 1960*, in R. MARCO FRAILE, C. BUIL GUALLAR, (ed.), *Zaragoza 1908-2008: Arquitectura y urbanismo*, Zaragoza 2009, pp. 238.

to separate the housing blocks, they were paved on the perimeter to protect the buildings from humidity and to guide the pedestrian routes, supported by large local tree species. The Revised Text of the 2007 PGOUZ classified them as private open spaces. However, the fact that they were not assigned any use as either play or recreational areas, and the lack of maintenance, perhaps due to their ownership not being identified, which is still registered as being the responsibility of the Government of Aragón, means that their conservation is deficient and void of any particular activity (fig. 16).

The structure of the building with its twin-bay and 7 m depth included solid-brick load bearing walls on the façade and intermediate lines, covered with a curved tile ridge roof on ceramic slabs. The façades, on top of concrete plinths, reveal bricks with cement mortar joints, a cement rendered last storey, and reinforced steel eaves. The composition was homogeneous with openings in the wall-headers and bigger fenestration, corresponding to service galleries on the north and west façades. The arrangement formed by L-shaped buildings was achieved by joining two housing blocks, with no mechanism to facilitate the transition, which gave way to improvised joints in the volumes (fig. 13).

As the works were quickly done at low cost, their comfort standards were poor, as ratified by the typologies. Formed by staircases that served two apartments with a two-sided orientation, they used a simple aggregation system by juxtaposing parts and extreme adjustments of their dimensions, in the main types; those with three bedrooms had an area of 36 m² in the first phase and to 43 m² in the second phase. In both cases, the most favourable orientation was occupied by the living-dining room, which was linked to the kitchen and bathroom, putting the bedrooms together, and showing true minimum housing practices (fig. 17).

The ownership of the apartments was assigned to OSH workers, and now they have very poor habitability conditions. Thus, the estate has been added to the project that the SMZV promoted in 2004 to rehabilitate such buildings. Four buildings have been renewed, improving their accessibility, façades, installations and common elements. In formal terms, this involves incorporating volumes containing elevators and drying racks, and giving the façades different finishings and new compositive orders to help update the estate's image.

17/ "Andrea Casamayor" (Girón), project 1954-1957. Housing typologies (drawing by the author).





18/ Salduba, project 1958. General plan and elevation (drawing by the author).

The housing estate “Salduba” (José de Yarza, 1958)

The recovery of business and commercial activity in Spain, and the State’s interest in boosting private developments, brought about a forerunner real-estate sector of that we know today. One example of this is Grupo Salduba, with its 200 subsidised apartments protected by the Law of 13 November 1957, developed by Luis Madre Ribau²⁷. Although the project devised by José de Yarza in March 1958 contemplated 230 apartments, with building permission granted in September 1958, of the 13 scheduled housing blocks, only 10 were built (fig. 18).

It stands on a plot covering 8,870 m². It was delimited on its southeasterly side by the natural bed of an irrigation canal zigzagging through thick vegetation (fig. 19). The far off, and slightly raised over its surroundings, plot lay southwest of the city centre, in a transition area standing between the city’s biggest park, a middle-class residential area with semi-intensive isolated housing and a more modest and rapidly developing residential area²⁸.

This group occupied one block of the Preliminary Urban Design of 1943, which prohibited building closed blocks. According to the project report, an open arrangement was expected to ensure that housing had: “One southerly or south-easterly facing façade; its two façades providing direct views of green areas and separated with a minimum 20 m distance between gaps; lateral façades that, combined with neighbouring housing blocks, would create pleasant retreats; and maximum protection from winds”. The buildings, ground floor and four storeys high, were arranged along the plot, and took a different position depending on whether they were located near the irrigation canal. This provided an organic response by turning to capture maximum sunlight and to adapt to its irregular path. In case they were located towards the urban front and arranged perpendicularly to the

²⁷ Salduba, Project 1958. Municipal Archive of Zaragoza. Central [CAJA 200923 EXP. 30180/1958]; Archive José de Yarza <http://jdeyarza.archivosarquitectos.com/es/original/>

²⁸ E. ADIEGO, *op. cit.*, vol. 3, p. 198-199.



road, they interspersed with four service pavilions. Their composition was supplemented with a small porter's lodge, setback to the street alignment in order to mark the estate's main access (fig. 18). As a result, and despite its high density (225 apartments/Ha), the minimum surface area of the apartments and their high rise ($1.45 \text{ m}^2/\text{m}^2$) gave way to moderate buildability and an occupation rate of 31.00%, which enabled an interaction between the housing blocks and the open space. Of the whole built surface area of $12,775 \text{ m}^2$, 5.44% corresponded to supplementary uses set out in the project, such as: children's nursery, restaurant, casino-club, shops with everyday articles and a cleaning service. These services conferred the estate self-sufficiency and helped create "a community spirit, which did not interfere with each apartment's absolute freedom" (fig. 20).

The composition of the volumes, through continuity, sliding, obliquity or combination with others on a smaller scale, which arise from the linkage to or the independence of the open space and road, clearly referred to the German estates from the end of the 1920s. *Siemenstadt Siedlung* by Hans Sharoun (1924-1934) in Berlin, in whose construction Yarza worked during his student years²⁹, retrieved some of its formulae to overcome the garden city using a repertoire of open spaces, typical of organic architecture³⁰. This facilitated a gradual transition towards what is private by performing the twin function of arranging built pieces and structuring routes. The marked geometry of the longitudinal axis that distributed the accesses through different pathways co-existed with the winding outline of the canal, which passed through the garden via a series of small pools. This natural element, along with thick and cared for vegetation, became the main feature for all the views, and accompanied the movements and perceptions from the apartments (fig. 21).

19/ Salduba, project 1958. Aerial view, 1960 (José de Yarza Archive; <http://jdeyarza.archivosarquitectos.com/es/original/>).

²⁹ G. YARZA BLACHE, *José de Yarza García; vínculos europeos en la modernidad periférica española*, Madrid 2016, p. 97.

³⁰ A. MARTÍ NASARRE, *op. cit.*, p. 135-137.



20/ Salduba, Project 1958. Exterior view, 2018 (Photograph by the author).

21/ Salduba, Project 1958. Interior view, 2018 (Photograph by the author).



The building, with its twin-bay and 8.7 m depth, showed a linkage between construction and the typological model, based on the criterion of maximising resources. The structure, brick load bearing walls laid perpendicularly to the façade, allowed to: “do away with lintels and main beams; achieve a single slab type, as a continuous series with two to five stretches without forms; and use the interior separation thick walls that lay perpendicularly to the façade as vertical supports, and closing it with lightweight materials”. The use of brick, which was essential in this work, demonstrated Yarza’s commitment with the traditional materials, typical of the area, participating in a novel compositive language. This was possible when placing them in relation to the standardized and distinctive elements of modern architecture, such as the flat roofing system with an asphaltic concrete finish. This structure worked as a modulation of the floor plan by separating its functions from those of the façade, which provided it with freedom to open bigger windows on the southern façades, where covered terraces co-existed. The accesses and staircases were marked with vertical bands that broke down the roofing and fragmented the housing blocks, decorating them with randomly arranged glass *oculi*.

These staircases provided access to two apartments per storey, which responded to a single type covering 49 m², based on racionalist principles, to obtain maximum space utilization. There was a day zone with a kitchen, dining-living room and terraces facing south or southeast, and a night zone, with two north or northwesterly facing bedrooms, differentiated by a hallway and a bathroom. In turn, the wet rooms formed a hub where installations were shared, walls turn and the position of the parts was studied to reduce their surface as much as possible (fig. 22). When building the whole estate with this type, a type that belonged to the smallest category according to the Subsidised Housing Act, matters of economic profitability were prioritised over the social commitment of working towards a greater variety of occupants. Nonetheless, the vast demand of such apartments, which still continues today, reveals its adaptability to ways of living at both that time and in the present-day.

By way of conclusion, this exemplary small-scale housing development managed to use very few means to contribute with a minimum housing type, which blended in with the surrounding nature as a response to the place's requirements and regulations in line with this new way of understanding. The emphasised community feeling it harbours is noticed in not just the way residents have made common spaces their own by taking care of them and making their contributions, but also in the building in which they have intervened by noticeably modifying the original perception of the materials, but keeping its unitary nature.

Conclusions

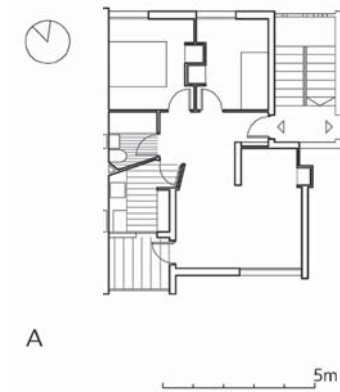
Studying these housing estates allows us to learn about the creation and evolution of the building models that provided the subsidized housing in Zaragoza. The reasons that originated them, the policies they were based on, and the typological and building systems that they contributed with, which evidence their contribution to the growth of the city's periphery and its urban landscape.

The trend in their nearest environment defines how the estate is integrated and influenced by processes of rupture and discontinuity. Their initial location in areas that lay close to the *Ensanche*, or colonising the natural environment, conditioned their good connection with the city's socio-economic distribution or its displacement to areas more on the outskirts, occupying a position on the limits. In any of these situations, even if these estates maintained their strong identity, the context directly influences them and determines their nature.

The estates' evolution as a formal unit is also directly related with their internal functioning and morphology, which transmits to the urban space's social use. The way they operate started with a way of understanding the building habitability that exceeds housing and relates them with the socio-economic scenario and the public space. The existence of typical amenities or community services varied depending on both the time the projects were developed and the organisation that undertook the projects. Moreover, their use depended on the subsequent linkage with their surroundings, which they generally ended up depending on. Their morphology dealt with a concern for certain technical aspects, such as the set of volumes, modulation or orientation, which gave way to some spaces different from those of traditional streets and squares. They were formalised as open to the city or closed blocks, looking to gain interior continuity with a double mission defined from the form, to delimit and continue.

Open spaces were devised to provide a network of pedestrian itineraries and green areas, which contributed to the estate's socio-ecological development. In some cases, it was not achieved, due to either a privatisation trend or budget limitations that reduced their quality and functional definition, which increased with time given the usual lack of control and maintenance. In other cases, they accomplished a permeability with the urban environment that favoured them being put to good use, a suitable community development as well as its physical and emotional well-being. The outer space supplemented the domestic space by converting it into relational element for the estate's integration and stability.

The fact that, during the study period, subsidized housing was conceived as a quantitative solution to the lack of housing problem has, at times, led to



22/ Salduba, project 1958. Housing typologies (drawing by the author).

oversimplify its typological and building criteria. The habitability concept, which derived from several considerations that conditioned the quality of life and comfort, is submitted to constant restructuring. Such cases could entail the need to adapt to minimum current requirements because some factors were not taken into account when built, such as physical accessibility or energy efficiency, but today are basic. Likewise, the housing types have been gradually adapted by the owners to respond to the conditions and co-existence models demanded today.

Knowledge about what these estates are and mean today is essential to assess them and to face those situations derived from their evolution to the present-day. Considering them as part of the heritage domain provides with a new vision, as they possess a very different value from the artistic or architectural one, as has been traditionally recognised for real-estate assets. The interest that their unitary morphology contributes to the city amplifies the heritage concept. Thus, the situations that arise from their evolution mean that a very particular way to intervene is necessary and has, therefore, to be independently studied.

In such cases, buildings cannot be considered in an isolated manner because any change made to them affects its integration into the city and the population who lives in it. For all these reasons, they affect urban development, natural environment, building, and also socio-economic, political and management aspects. This complexity of factors leads us to consider updating these areas from the perspective of ensuring their good articulation with the city.

This documentation work is particularly interesting at a time when, in some cases, both the urban space and the buildings face symptoms of obsolescence and abandon, while irreversible transformation processes are being carried out in other cases. Therefore, the present research aims to contribute to maintain the memory of what these estates are and represent by moving, studying them from the urban scale to a domestic one in order to understand the values that they received when projected and which have accompanied them to the present-day. Thus, the intention is to diffuse the identity of these forgotten housing estates that, by being redefined to adapt them to new conditions, contribute to the territory's balanced development.