



Superblocks, neighbourhood units and residential islands as fragments of the collage city. Housing estates in Italy and Spain in the 1960s.

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In the intense debate that surrounds modernist housing estates in Europe there is a common argument: the contrast between the high quality of urban spaces in the compact traditional city and the low quality of new mass housing developments. In our opinion, the comparison should be made not with the traditional city but with the remaining peripheral landscape. The question is: do those ‘fragments’ of the modern ‘collage city’ that float between infrastructures and urban voids have greater or worse urban quality than the so-called ‘ordinary peripheries’? In this regard, determining the level of isolation from or integration into the immediate urban tissue is a key issue. The aim of this paper is to study eight housing estates in four cities (Rome, Milan, Madrid, Barcelona) and analyse how these ‘fragments’ developed in regard to their immediate urban context. How were they designed and with what specific features, compared to their European counterparts? What role and impact did urban planning and projects have in their fragmentary development? What conclusions can we draw comparing these *quartieri* and *polígonos* fifty years later? What are the values and weaknesses of those ‘fragments’ in comparison with the urban tissues of the surrounding ‘ordinary peripheries’?

Keywords: modernist housing estates, *polígonos*, *quartieri*, neighbourhood units, superblocks, ordinary peripheries, Italy, Spain, urban forms, mapping urbanism, modernist legacy, urban design

“Together, these two conceptions of the city may be seen as the alternative readings of a figure-ground or solid-void relationship; the one, a city of isolated solids in a continuous void, the other, a condition of defined voids (streets, squares, etc.) contained within a virtually continuous built solid”¹.

Fred Koetter and Colin Rowe

Introduction

Koetter and Rowe’s Collage City approach has sometimes been used to demonstrate the loss in urban quality of modern developments which shaped the peripheries of European cities in the 1960s and 1970s. The acceptance of a piecemeal development led Rowe to coin the concept of the ‘city as a collage’, as an ‘aggregate of discontinuous fragments’ that rejects the utopian dream of modernist urban planning. From this perspective, housing estates can be seen as fragments that played an important role in the shaping of modern peripheries.

In the intense debate that surrounds modernist housing estates in Europe, and despite the variety of their urban locations, there is a common argument: the contrast between the high quality of urban spaces in the compact traditional city and the low quality of new mass housing developments. In our opinion, the comparison should be made not with the traditional city but with the remaining peripheral landscape. The question is: do those ‘fragments’ of the modern ‘collage city’ that float between infrastructures and urban voids have greater or worse urban quality than the so-called ‘ordinary peripheries’?

In this regard, determining the level of isolation from or integration into the immediate urban tissue is a key issue. The aim of this paper is to study eight case studies and analyse how these ‘fragments’ — superblocks, neighborhood units, or residential islands — have developed in regard to their immediate urban context fifty years after their construction.

1. Housing in post-war urban planning: neighbourhood units and superblocks

During the first two decades after the Second World War — with a time lag of 20-30 years — European cities began to implement the modernist principles of the Athens Charter (1933) on a large scale. Traditional extension plans changed to ‘open urbanism’, and modernist housing estates appeared, using Koetter and Rowe’s concept, as ‘isolated solids’ (superblocks) floating in a ‘continuous void’.



There were several factors explaining why housing estates became the new ‘urban pieces’ that, to a large extent, contributed to shaping the peripheries of the modern city. The four most relevant are outlined below.

First, the new scale of developments and their growing size. Residential units grew bigger, from plots and blocks to superblocks and large housing estates². Colquhoun refers to “large pieces of real estate, each of which is financed and organised as a single entity”³. Second, the triumph of the concept of the neighbourhood unit, which consolidated during the 1930s and 1940s and became “the most important planning paradigm after 1945”⁴. Several authors see this triumph as the result of the convergence of two parallel traditions: the Garden City and Modernist urban planning⁵. Third, the adoption of the typology of ‘towers and slabs’ or serial blocks as an urban form representative of modernist mass housing⁶. Fourth, the increase of road transport and highways and the growing importance of road systems. The main idea of 20th century highway design was that roads, like railways, should have their own permanent space for uninterrupted driving.

Housing estates thus became a kind of urban laboratory that facilitated the growth of the city through modular ‘fragments’ of housing units and superblocks, often floating in the ‘continuous void’ that characterised the peripheries of European cities. In such a laboratory, the role of renovated discourses, such as the ‘modernist organicist interpretation of urban planning’ — which dominated after the Second World War — together with a growing concern for the community, the human scale, etc, was essential⁷. These views were not so new; the modernist city was initially thought of as an organic system of aggregated ‘urban cells’ shaped like superblocks, residential units, neighbourhood units or urban districts⁸. The paradigm of an ‘organic modernity’, with the idea of planned communities that would structure urban growth, was shared throughout the international urban planning culture. Several variables led to a growing autonomy of the new residential units or superblocks — whether planned that way or not — especially in the planning of neighbourhood units⁹.

We will now explore the specific case of Latin European housing estates, which grew as piecemeal developments of a modern ‘collage city’.

2. Italian and Spanish post-war urban planning and mass housing experiences: *quartieri* and *polígonos*

This article focuses on Italy and Spain, two countries with a similar and deep urban tradition¹⁰. During the 1950s, both experienced a first cycle of urban modernisation, whereas a more explosive and less controlled second cycle took place in the 1960s. In this context, housing an increasing population became a critical issue, especially in large cities such as Rome, Milan, Madrid or Barcelona. Even though both countries faced similar implementation difficulties¹¹, it was an opportunity for planning and designing modernist housing estates following the principles of CIAM. *Polígonos de viviendas*, *quartieri* and other forms of mass housing were the urban units that characterised the fragmentary growth of Italian and Spanish cities in those years.

In Italy, the ambitious, successful Piano INA Casa (National Insurance Institute) programme was defined by Samonà as “a magnificent machine for producing houses”¹². The results were, somehow, contradictory, but the experimentation was unquestionable. The drive of the INU (National Institute of Town Planning) and the new stage of the journal *Urbanistica* are evidence of the emergence of a strong social and cultural urban vision. Some architects of the cultural elite were protagonists of the new modernist ‘organicist urbanism’ developed during the 1950s and 1960s. In Italian urban planning culture, the most elaborate discourse was associated to the *Movimento Comunità* founded by the industrialist A. Olivetti, whose ideals were “an original re-interpretation of the regionalism of Lewis Mumford”¹³. The concept of ‘quartiere organico autosufficiente’ — understood as social, urban planning and an architectonic unit — was a domestic version of the urban quarter and neighbourhood unit ideology¹⁴.

In Spain, meanwhile, state institutions were created to address the housing shortage; among them, the INV (National Housing Institute), which launched plans to build hundreds of thousands housing units¹⁵. As in Italy, there were substantial continuities, but also, some important reinterpretations of the CIAM urban planning principles, with the adoption of the modernist organicist paradigm. The role played by the architect G. Alomar is a reflection of how organicist ideas were introduced in Spain, directly from L. Mumford first and then Gaston Bardet¹⁶. Special emphasis was placed on hierarchical “*estructuras nucleares*” (nuclear structures), with the ‘barrio’ as a sort of ‘town inside a town’ that should be as autonomous as possible¹⁷. Those organicist visions were included in the INV official regulations and general plans approved during the 1950, with the progressive adoption of the neighbourhood unit concept¹⁸.



The analysis of Italian and Spanish examples highlights the difficulty of their integration into peripheries characterised by piecemeal developments and a poor urbanity. This made it difficult to achieve the 'urban organism' that modern urban planning dreamed of in the post war years. On this basis, we will move on to analyse some examples.



Figure 1: Superblocks, neighbourhood units and residential islands as fragments of the collage city. Location of the eight case studies in Rome, Milan, Madrid, Barcelona (2015). Source: Maps and graphs made by the authors

3. Four cities, eight examples: Rome, Milan, Madrid, Barcelona

We will now explore some Italian and Spanish urban planning and design episodes in greater detail by contrasting eight case studies located in four Southern European cities (Madrid, Barcelona, Rome and Milan). The purpose of this analysis is to determine whether today, fifty years after their construction, they are still isolated 'fragments' and whether the quality of their urban spaces is better or worse than the quality of the immediate urban context. The selected case studies offer a significant sample that could be extended to many other cases¹⁹.

Rome: Decima²⁰. Located on the southern peripheries of Rome, it emerges as linked to the process that transforms the EUR into a directional centre. According to Tafuri, in those years the EUR represented the "only real directional pole of the capital"²¹ and its consolidation was accompanied by a policy that encouraged the construction of houses close to new jobs. Although it was a depressed area and not well communicated with the urban centre, its location was strategic, 1 km away from the new ministerial centre.

The new residential complex emerges as an island in the agricultural landscape that surrounds it. Two main roads divide it into four quadrants and ensure a connection with the city. Inside each quadrant, traffic circulation is more domestic²². The complex is created around a central void, from which blocks of four-or-five-storey curvilinear linear buildings 'grow', resulting in clean and dynamic visual perspectives. It is a 'self-sufficient' neighbourhood, a vast and 'organic' example of urban and architectural planning²³.

Over the years, the project, which radically altered the agricultural periphery landscape by 'drawing' a hierarchical system of streets and blocks, has proved its urban quality²⁴. Communication with the centre of Rome has improved considerably. However, this 'fragment' of a modern city that once 'floated' in agricultural fields is still seen today as a residential island, since the fabric used to consolidate the peripheries that surround it has not sought continuity through a connection with Decima²⁵.

Rome: Casilino²⁶. It is located on the eastern peripheries of Rome, on land that was occupied by car scrapyards, sheds and old buildings²⁷. Casilino corresponds to one of the 16 area plans from the first PEEP (Plan for Economic and Popular Construction) biennial programme. The context into which it is inscribed was no different from that of other peripheries in Rome, comprising scattered buildings that did not manage to create a recognisable area. The idea that a neighbourhood should convey the idea of belonging to the city emerged within that climate of criticism towards the contemporary city.

This new urban 'fragment' sought to radically distance itself from a periphery that has no identity, inserting itself with a 'modern' gesture recognisable from above. The planimetric scheme comprises 29 buildings of variable heights arranged in a 'fan' shape, according to directrices that converge onto four centres²⁸. The use of this dynamic geometry created perspective effects in the spaces between blocks and served as an open solution towards the adjoining areas that admitted future extensions²⁹.



Just as its architects intended, Casilino 23 stands out today as an easily identifiable city fragment, especially when compared to the chequered fabric of the neighbouring Centocelle or to the other adjacent areas of spontaneous peripheries. Its status as an enclave is made more manifest by the roads that surround it³⁰. The strength of the urban project has absorbed the variations of the architectural project³¹. Its appearance is that of a modern and functional urban complex, with wide avenues and well-maintained intermediate spaces. In the words of Quaroni himself: “In the middle of the chaos of the Casilino neighbourhood, this great island shines like a jewel”³².

Milan: Feltre³³. It is located in the northeastern periphery of Milan, next to Lambro Park, on the northern edge of the urbanised area of Lambrate. This favoured location helps it avoid taking on the same enclave character of other complexes. Although Pollini contravened the INA Casa prescriptions to build low-density neighbourhoods³⁴, Feltre is one of the most successful examples of the ‘coordinated initiatives’ policy, which in the 1950s and 1960s led to the construction of numerous ‘self-sufficient neighbourhoods’³⁵ in the Milanese periphery³⁶.

High ten-storey piecemeal blocks act as organic ‘curtains’, as a filter between the city and the park, allowing it to penetrate the housing estate thus creating three large green cores. A fourth smaller nucleus is interwoven to the West with the existing urban fabric by means of four-and-five-storey blocks that enclose semi-open spaces. The neighbourhood services, such as stores and collective facilities, are located in those spaces. Pollini sought to articulate large buildings of overtly urban character, similar to the neighbourhood of Harrar, but “with an attenuated rigidity”³⁷.

An organic integration with the park and the city (morphological, but also because the neighbourhood facilities function well) is largely responsible for the way the complex ages so well³⁸. The urban project achieves a convincing balance between the idea of the city as a compact phenomenon and the extension plans adopted by principles of modern urbanism (zoning, neighbourhood units, superblock, etc.). This is a case that serves to reinforce the thesis of the neighbourhood as a filter between the ‘community’ and the city, while subdivided into ‘neighbourhood units’³⁹.

Milan: Monte Amiata⁴⁰. Located on the northwest outskirts of Milan, it is part of the Gallarate 2 neighbourhood. In the 1940s, the mining company Monte Amiata acquired an agricultural field which the 1953 Piano Regolatore (PR) zoned as residential. For the 1956 PR, Bottoni put forward an interesting proposal for the Gallarate 2 that included those plots, but it was never developed⁴¹. The 1963 Piano di Zona of the Milan City Council zoned the area for the construction of popular affordable housing⁴².

The complex can be described as an ‘architectural artefact’ that is distinctly separated from the anonymous panorama of the surrounding periphery⁴³. It represents the expression of the discourse of the ‘autonomy of architecture’ and the strategy of designing fragments as urban pieces which could qualify the disorder peripheries of Milan and prefigure new more complex ways of life⁴⁴. Monte Amiata shows how the Italian architectural culture of the explored the link between building typology and urban morphology as an instrument of knowledge of the city and as a methodological foundation of the project⁴⁵.

This is a clear and deliberate example of a ‘residential island’. Today, perimeter fencing contrary to the project’s initial spirit of openness contributes to its isolation and the abandonment of community and commercial facilities, which were designed at a neighbourhood scale, but have lost meaning due to the complex being privately managed⁴⁶. The project, based on the hypothesis that the city is made up of ‘finite parts’, is, in Tafuri’s words, “too open to the environment (...) to really be a self-sufficient fragment while, at the same time, too ‘designed’ to become a methodological reference”⁴⁷.

Madrid: Gran San Blas (Unit F)⁴⁸. Located on the eastern outskirts of Madrid, it is one of the seven superblocks — or residential units — comprising the original Gran San Blas project; the most representative social housing complex of those years⁴⁹. Driven by the 1958 Madrid Social Emergency Plan, Gran San Blas could be considered an instance similar to Comasina in Milan⁵⁰, an example of the intense activity by official bodies created in Italy and Spain to construct social housing.

With the modest means that characterised the Spanish interventions of those years, Unit F proposes a solution that is faithful to rationalist orthodoxy. Compared with the other three Gran San Blas units, where the teams worked together to obtain a homogeneous design, the architects of Unit F shared out the design of the houses.



The result was that unit F had the most varied image, with 10 different typologies. Barbero leaves his mark with the three porticoed squares created by grouping the blocks into a helix.

Although the scale of both the buildings and the intermediate spaces is controlled, the construction and urbanisation are of very low quality. The status as an enclave has been maintained, mainly because the city grew around it with urban and architectural typologies that are different from those of the modest rationalist experiment, which was crystallised inside the perimeter road system. The life of the residential unit is concentrated in the three aforementioned squares with the presence of shops and bars that heroically resist the dominance of shopping centres⁵¹.

Madrid: Saconia⁵². In 1963, Antonio Perpiñá developed the Saconia Partial Plan for 8,000 homes in the Dehesa de la Villa in Madrid. The plots were barren and significantly sloped, with almost 50 metres difference in altitude from one end to the other.

As in the Decima *quartiere*, the streets were assigned to road traffic, defining the urban fabric of the neighbourhood. However, in this case it was hexagon-shaped, in line with the structuralist explorations of the time, which formed irregular polygons that are assimilated into neighbourhood units⁵³. These units are pedestrianised, interconnected and leave the central space free to place facilities with the aim of creating socially recognisable communities. A canonical urban centre is also proposed to serve as a community and commercial centre. The result is an architectural continuum that “evades becoming a linear block through the way the houses are grouped”⁵⁴.

As in most of the cases studied, the status as an enclave is perceived both by the limit established by the road on two of the three sides of the perimeter and by the peculiar morphological solution, which makes it an anomaly in the disordered landscape that surrounds it. Although the initiative was valued at the time for its organic quality⁵⁵, the neighbourhood presents obvious problems⁵⁶. For locals and the local government alike, the initiative of open private spaces for public use resulted in a continuous source of problems that, even today, are reflected in the lack of maintenance in some of those spaces.

Barcelona: Besós Southwest⁵⁷. It is located in the northeastern periphery of Barcelona, with a delimitation defined by the 1958 Social Emergency Plan. The partial plan was drafted by the same architects who designed the project in 1959. It was proposed as a development of provisions of the 1953 General Plan for the entire “Levante area”, a plan that responded strictly to the organicist conceptions of the period, and that included partial plans comprised in the 1956 Land Law, essential to Spanish urban legislation.

Unlike other Barcelona *polígonos*, this one is inscribed in the orthogonal grid of the *Ensanche*, projected by Cerdá in a sector that had not yet been developed or urbanised, but with an innovative planning that associated the general scale with the sector layout scale⁵⁸. The Partial Plan has a low-height construction central hub, which is surrounded and protected by taller constructions (14 storeys). The superblocks are defined by six-storey blocks and two-storey rows, combining a variety of housing typologies and configuring the intermediate spaces through educational or commercial facilities.

The subsequent urban growth processes explain the substantial changes in the relative integration of the complex with regard to the adjoining neighbourhoods, diluting those marked edges that, separately, endow the complex with an original identity. In particular, since the 1990s, the barriers that for decades represented ‘vacant’ plots or poorly developed urbanisations⁵⁹ gave way to the requalification of public spaces (with the configuration of the new road systems and pedestrian promenades (Rambla de Prim).

Barcelona: Bellvitge⁶⁰. Located in the southern peripheries of Barcelona, in the adjoining municipality of L’Hospitalet, its construction was promoted by the private company Ciudad Condal⁶¹, in delta area lands dedicated to irrigated agriculture. Its borders were road and railway infrastructure: the prolongation of the Gran Vía to the south; train tracks from the coast to the east; Bellvitge Medical Complex to the west; and an industrial estate separating Bellvitge from the centre of L’Hospitalet to the north⁶².

The order is radical rationalist, with all blocks southern-facing, very narrow and of great height⁶³. The road layout is also aggressive: a powerful central axis — the Rambla de Bellvitge — that divides it into two, and a ring road. Small sections of cul-de-sac streets that give access to the buildings emerge from this road system⁶⁴. Each unit in turn contains a commercial building on the ground floor with a tree-lined perimeter that structures the complex into a totally autonomous and recognisable urban piece⁶⁵.



The transformation processes of Bellvitge have contributed to its improvement, both due to the centrality acquired during the urban transformation experienced by the entire sector located in the vicinity of the airport and the Barcelona fair tertiary spaces, and to the improvement in public spaces⁶⁶. The incorporation of small buildings for commerce has worked very well. Although nowadays the *polígono* continues to be an enclave in first metropolitan periphery, it establishes new relationships and integrates relatively well in the city, without continuously ‘anchoring’ itself to traditional urban spaces.

These eight cases are just a sample of the hundreds that were built during the 1960s and 1970s all over Europe⁶⁷. They were all projected as ‘unitary fragments’ of a modernist city conceived as an ‘organic system’ of aggregated ‘urban cells’ and are still perceived today as ‘anomalies’, ‘islands’ and ‘enclaves’, units with their own identity, which is intrinsic to the concept of ‘neighbourhood’, ‘*barrío*’ or ‘*quartiere*’.

4. Conclusions / Epilogue. Enclaves vs. islands in an urban archipelago

How were the Italian and Spanish modernist housing estates designed and with what specific features, compared to their European counterparts? What role and impact did urban planning and projects have in the fragmentary development of those housing estates? In both countries the consolidation of urban planning occurred with some delay compared to its steady development in countries such as the United Kingdom, Holland and Germany after the Second World War. This gap meant that the attractive theories of functionalist organicism and organic urban plans — with their urban cells, superblocks and neighbourhood units — could not be implemented because of a lack of the mechanisms needed to control the processes in progress⁶⁸. The result is that these ‘urban fragments’, instead of being part of an organic plan, remained ‘floating’ in the surrounding ‘ordinary peripheries’. That does not mean that city shaping through housing estates projected and managed as units proved unsuccessful. Occasionally, they served to qualify the anodyne peripheries by endowing them with recognisable elements. In other cases, the often obsessive attempt to create ‘self-sufficient’ and ‘clearly separated’ complexes affected their excessive isolation from the urban environment, hindering their subsequent integration.

What conclusions can we draw comparing these *quartieri* and *polígonos* fifty years later? What are the values and weaknesses of those ‘fragments’ in comparison with the urban tissues of the ‘ordinary peripheries’ that gradually grew in parallel? A comparative morphological perspective can help to better understand the achievements and limits of modern urban strategies; in other words, the advantages and problems of planning a city based on fragments⁶⁹. However, this analysis must be carried out in the context of the parallel construction processes of nearby urban peripheries that make up the traditional and ‘ordinary’ fabric of the peripheries of that period. Thus, this analysis allows us to verify, on the one hand, the widespread use of open block superblocks — more or less ‘organic’ — as an urban management strategy (the Italian cases studied presented more formal, spatially dynamic and riskier geometric solutions than Spanish ones); and, on the other hand, the contrast between street and block networks that made up the traditional and ‘ordinary’ fabric of the urban peripheries of that time in different cities, even when these were consolidated after the complexes themselves did. When analysing morphological integration, we have considered both street patterns and social and functional land uses. Regarding the road systems, the situations vary considerably. In some estates, the road systems are connected to the surrounding street pattern; in others, they have remained isolated due to the boundaries of arterial roadways. ‘Ordinary peripheries’ are normally well integrated with earlier urban developments, since their growth has been gradual. With respect to social characteristics, there are not significant differences between the housing estates and the surrounding peripheries. However, there are relevant differences in the activities. In most occasions, housing estates are just residential — with few commercial facilities; in the surrounding ‘ordinary peripheries’, commerce concentrates in commercial streets.

The problems of fragmentary development evidenced by the construction of these *quartieri* or *polígonos* have been widely considered in the multiple critical views of functionalist urbanism. However, it is also possible to think, as Colin Rowe did, that there is a certain balance between the city of those constructed fragments, or ‘solids isolated in a continuous vacuum’, and the continuous city, in other words, the city of the voids contained in a continuous solid. From this perspective, certain virtues can be recognised in the method of making a city with the superblock in centre stage and the somewhat naive aspiration of setting up neighbourhoods composed of neighbourhood units. That is when the ‘modern islands’ shine like jewels in an urban archipelago. In any case, the processes undergone over the last fifty years have modified the initial situations, sometimes improving the integration with the environment and other times accentuating their condition of enclaves, which hinders reaching the virtues that are attributed to a traditional compact city where streets and blocks act as supports for intense urban life and recognised urbanity.



ITALY

early 1970's

2015

current aerial view

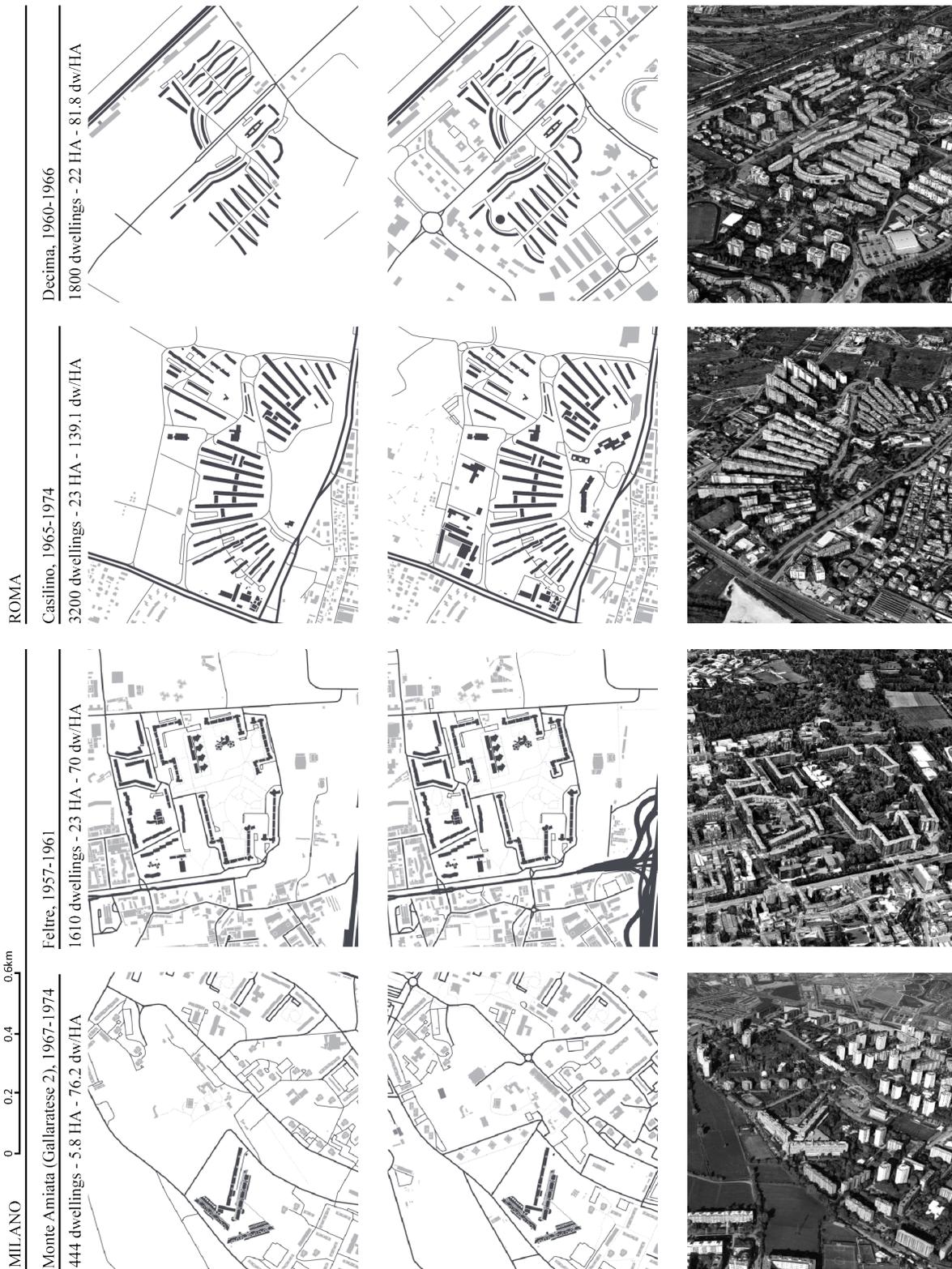


Figure 2: Morphological urban processes: Italian housing states and surroundings peripheries. Source: Maps and graphs made by the authors. Urban morphological approaches such as figure-ground maps can give some clues to better understand similar processes and specificities of housing estates and ordinary peripheries in different cities during the last 40 or 50 years. They help to identify different levels of integration into the surrounding urban tissue.

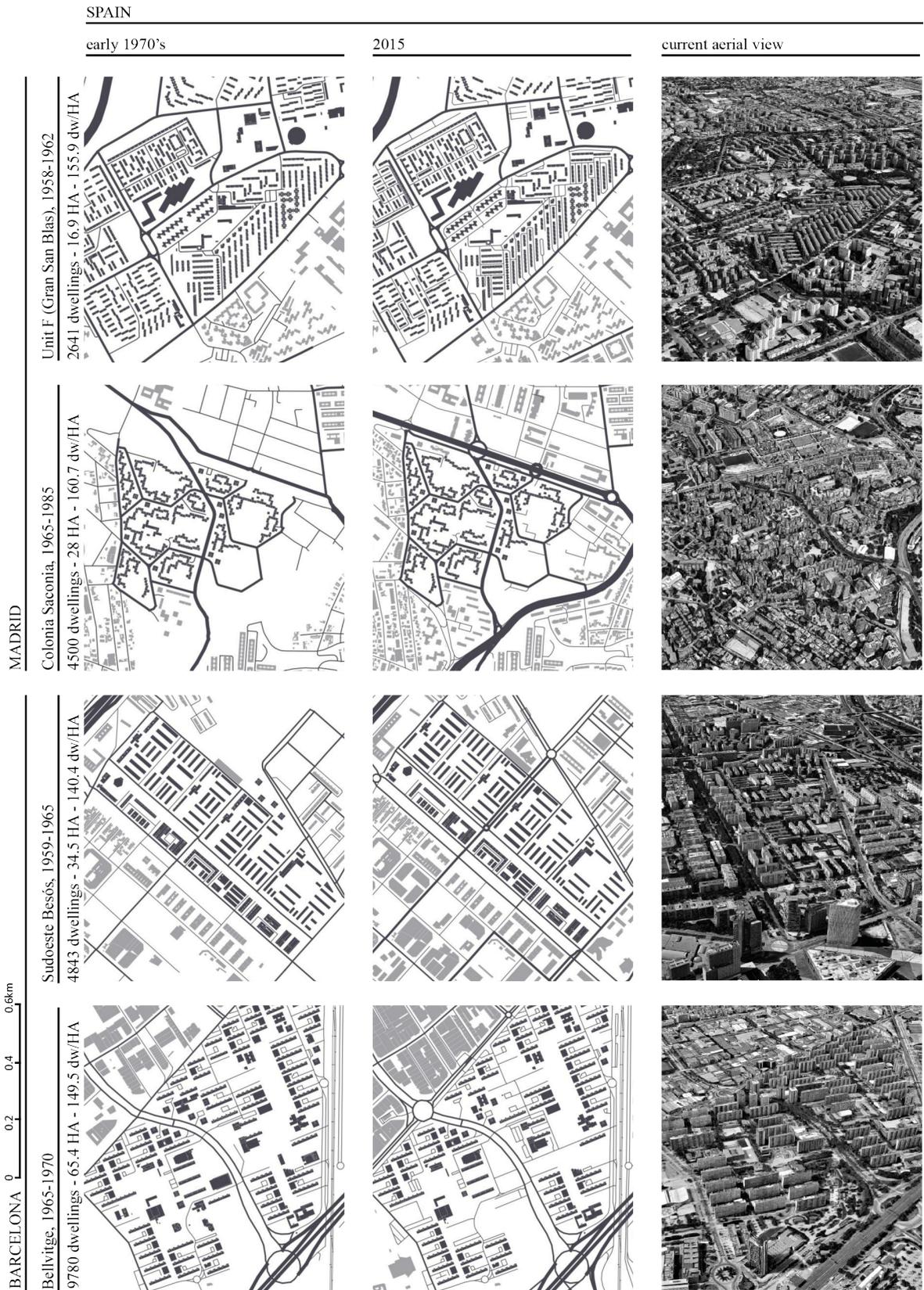


Figure 3: Morphological urban processes: Spanish housing states and surroundings peripheries. Source: Maps and graphs made by the authors All these maps and images shown in figures 1 and 2, however, are not enough to explain deeper transformations, such as changes in land use (from industry to housing), size, densities, etc. We have addressed them in other works, see: Monclús, Diez, 2017.



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Disclosure Statement

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¹ Koetter, F., Rowe, C. 1980, 1978.

² “This building type, together with its different variants and modalities, is usually arranged in a basic aggregation unit, which is not the typical quadrangular block with a surface area of between half and one hectare, but rather a much larger block, which is why it is called a “superblock”. López de Lucio, 2013.

³ And not only concerning housing but also infrastructure, institutions and facilities. Colquhoun, 1985, 82-127.

⁴ Schubert 2014. See also J. Gold, 2007.

⁵ Abercrombie, P., *Planeamiento de la ciudad y del campo* [Planning of Town and Country, 1930]. Madrid: Espasa - Calpe, 1936.

⁶ ‘Towers in the park’ was more than a slogan, Urban, 2011. A wide historiography shows how this complex process was developed in different countries, both in Western and Eastern Europe. See Monclús, Díez, “Modernist Housing Estates...”, 2016.

⁷ The diverse and broad definitions of the concept of organicism hindered a standard understanding of its role in modernity, both in architectural and urbanistic historiography. Monclús, 2017.

⁸ For a global and cross-sectional approach to the culture of urban planning and ‘other urbanisms’, see Díez, Monclús, 2018, chapter 9.

⁹ Indeed, this was one of the critical issues identified by Lewis Mumford in an important article published in *Town Planning Review* in 1954: “Perhaps the first question of importance is what degree of isolation should be accorded the neighbourhood, apart from the inevitable separation made by major traffic arteries”.

¹⁰ In both Italy and Spain, modern urban planning emerged and was institutionalised later than it was in the UK or Germany, due to a slower process of industrialisation.

¹¹ With obvious differences, such as diverse historical political contexts and the existence of a more advanced urban planning culture in Italy. Monclús, Díez, 2017. Piccinato, 2010.

¹² Samonà, G., “Il piano Fanfani in rapporto all’attività edilizia dei 360 liberi professionisti”, *Metron* 33-34, 1949, 14. (in Díez, 2018).

¹³ Even if it underwent “much simplification and misrepresentation”, Mazzoleni, 2003; see also Saibene, A., *L’Italia di Adriano Olivetti*. Roma: Edizioni Di Comunità, 2017. Adriano Olivetti was the sponsor of the review *Urbanistica*.

¹⁴ Associated with the experience of residential units being promoted by the INA Casa programme, “The *quartiere organico*” appeared to be the most suitable way of expressing ideological assumptions, according to which, as stated by Astengo, organic form and cellular structure were the mirror of a democratic society”, Mazzoleni, 2003.

¹⁵ The first Plan Nacional de la Vivienda (National Housing Plan) built almost 100,000 houses per year during the first period (1955-1960). During the 25 years (1939-1964) the Organización Sindical del Hogar (Home Union Organisation) was active, 200,662 were built, in addition to other public housing built by municipal authorities. Sambrić, 2008.

¹⁶ Especially through the Institut international et supérieur d’urbanisme appliqué in Brussels (International Institute of Applied Urban Planning).

¹⁷ The concept of ‘nucleación orgánica’ and the role of the ‘cells’ and neighbourhood units were explained in his exceptional book *Teoría de la ciudad. Ideas fundamentales para un urbanismo humanista (Theory of the City. Key Ideas for a Humanist Urbanism)*, Madrid, in 1948.

¹⁸ An important Italian handbook on urban planning was also translated into Spanish: see Rigotti, 1947, 1952 (translation by A. Perpiñá).

¹⁹ The criteria for choosing this eight case studies are as follows: first, all of them are paradigmatic examples of ‘modernist housing estates’ and represent a good sample of this relevant episode for the history of functionalist urbanism; second, they also offer a sample of locations in the urban structure of each city which allows to comment different ways of integration or isolation regarding the surrounding urban tissue.

²⁰ INCIS *Quartiere* in Decima, 1960-62. L. Moretti (urban project); V. Cafier, I. Guidi, A. Libera, L. Moretti (architectural project). Part of the 1962 Urban Plan. Constructed between 1960 and 1966. INCIS: Istituto Nazionale per la Case degl’Impiegati Statali (National Institute for State Employee Housing).



- ²¹ Tafuri, 1986. The EUR expanded towards the South as a business district and a residential area for the upper-middle class between the 1950s and the 1960s.
- ²² The typical road scheme consists of tree-lined streets, with large parking spaces, some of them in a *cul-de-sac* form, which alternate with green spaces between two blocks.
- ²³ The project provided sufficient services and facilities to respond to the usual demands of a community (comprising mostly civil workers). Although it was not completed in its entirety, as was the case for most of these complexes, the facilities were completed over the years.
- ²⁴ In addition to the urban planning system, the quality of the architectural project, modern construction systems and building typologies are worth noting.
- ²⁵ Eight-storey *palazzine* and five-storey blocks. Neither have the projects which are requalifying the green areas of the neighbourhood.
- ²⁶ Casilino *quartiere*, 1964-65. L. Quaroni (team leader).
- ²⁷ Like the neighbouring neighbourhoods of Mandrione and Pigneto, whose physical degradation and social marginalisation were dramatically depicted by Pasolini in his films.
- ²⁸ The radial arrangement and, therefore, the increasing distance between the buildings, also determines their height: those closest to the centre vary between two and seven floors, while the furthest ones reach a maximum height of 14 floors.
- ²⁹ Together with Casal del Pazzi-Nomentano, Tor de'Cenci and Prima Porta, the Casilino was part of that first generation of projects that directly (perhaps also due to a certain formalism) included research done into town design, which, in those years, were in the focus of interest of a significant part of the Italian architectural culture. Rossi, *Roma: guida all'architettura moderna 1909-1984*. Roma, Laterza, 1991, 266.
- ³⁰ One of those roads acts as a barrier to the urban park Villa de Sanctis, in a clear contrast to the integration with green spaces achieved by the Feltrine *quartiere* in Milan.
- ³¹ The intermediate spaces are rarely frequented. The presence of a shopping centre located in the core of the northernmost fan is, as in other neighbourhoods, a reality against which small businesses in the interior of the neighbourhood cannot compete. The complex is equipped with green spaces and facilities and with a large square that aspires to become the heart of the neighbourhood. Muso, Labanca, "Spazio sociale, identità e funzione urbana. Il caso di Casilino 23", in Giuseppe Strappa (ed.), *Studi sulla periferia Est* (Milan: Franco Angeli, 2012): 75-92.
- ³² Solà Morales, M. "Entrevista a L. Quaroni", *UR* 7, 1989. In fact, Casilino has come to be called 'the Parioli of municipality VI', referring to one of the best known Roman residential areas. Strappa, 2012, 82.
- ³³ Quartiere INA Casa - INCIS Feltrine, 1957-60. Gino Pollini (main team leader), Mario Bacciocchi, Luciano Baldessari, Giancarlo De Carlo, Ignazio Gardella, Gianluigi Giordani, Angelo Mangiarotti, Mario Terzaghi, Pier Italo Trolli, Tito Varisco (team leaders).
- ³⁴ Together with the contemporary Vialba I *quartier*, it answers to the management of Milan INA Casa, an entity that in 1957 published a *Guida per l'esame dei progetti*, which included the requirement of low density in new projects. Pollini responds with a high-density solution.
- ³⁵ In Milan, the definition of a self-sufficient neighbourhood was produced through an evolution that started at the heart of the rationalist culture: from its pragmatic and reductive application in the Istituto Autonomo Case Popolari, IACP (Autonomous Institute of Popular Housing) and City Council's recent achievements, more than from the immediate anti-war projects' theoretical positions. Grandi, Pracchi, 2008, 259.
- ³⁶ Boriani, M., Morandi, C., Rossari, A., *Milano contemporanea. Itinerari di architettura e di urbanistica*. Milan: Libreria Clup, 2006, 331.
- ³⁷ Grandi/ Pracchi, 2008, 262.
- ³⁸ In addition, the nature of unitary intervention, from the perspective of the architectural project, prevails over the individual contributions of the buildings' authors (not in vain, most of them are top-leading authors).
- ³⁹ Fabbri, 1975, 38.
- ⁴⁰ Monte Amiata residential complex, in Gallaratese 2, 1967-74. C. and M. Aymonino, A. De Rossi and S. Messaré. Promoted by the Società Mineraria per Azioni Monte Amiata (Monte Amiata Mining Company).
- ⁴¹ Following a canonical urban planning solution, which was not built, consisting of four neighbourhood units divided into neighbourhoods linked by a '*strada vitale*' as the core of the complex, around which the facilities were located. The complex hangs from via Gallaratese as a fast connection to the city centre.
- ⁴² The masterplan was commissioned by Carlo Aymonino, who directly commissioned one of the residential blocks to Aldo Rossi.
- ⁴³ A private periphery, as the authors themselves state, of natural or artificial suggestions: "(...) it has been sought, therefore, to accentuate 'the separation', resorting to a general form that is as compact and constructed as possible, which, at its limit, could almost be a single building or, better yet, a single construction". Aymonino, 1970, p. 27. However, its vocation is open, as it tries to "break the traditional conception of a 'private' building, whose only relationship with 'public' areas in the city is the entrance (...)". Aymonino, C., "Progetto architettonico e formazione della città", *Lotus* 7, 1970, 32. (Quoted in Grandi, Pracchi, 2008, 349).
- ⁴⁴ Molinari, 2014.
- ⁴⁵ Grandi, Pracchi, 2008, 348.
- ⁴⁶ The decision to fence the complex highlights the contradiction implicit in its double condition of open fragment and object/monument imposed on the periphery, exiled from the metropolis but loaded with metropolitan values, as pointed out by Tafuri (1982, 151-153). However, paradoxically, it is possible that closing off the complex probably prevented community spaces from being degraded, as is the case in other examples.
- ⁴⁷ Tafuri, 1982, 151-153.
- ⁴⁸ Plot F in the Gran San Blas neighbourhood, 1958-62. M. Barbero (team leader), V. Benlloch, F. Riestra and R. de la Joya.



⁴⁹ The Gran San Blas project is a paradigmatic example of the application of the principles of urbanism of the Modern Movement: seven large superblocks of different shapes and sizes — those of a residential nature range between eight and 23 hectares — delimited by the arterial road system, and include in its barycentre, as prescribed, a smaller piece (3.26 hectares): the community and commercial centre, which will paradoxically be the area that takes the longest to occupy and construct. Each of the superblocks was designed by a different team of architects. López de Lucio, R. “El Gran San Blas”, in Sambricio, C. (ed.). *Un siglo de vivienda social en Madrid 1903-2003*, vol. II. Madrid: Nerea, 2003, 214-215. See also Bataller, López de Lucio, Rivera, 2004/2017.

⁵⁰ The *quartiere* Comasina, located in the northwest of Milan, represents the paradigm of a ‘self-sufficient *quartiere*’, the largest intervention carried out in the 1950s in Italy by an official entity, the Istituto Autonomo Case Popolari, IACP (Autonomous Institute of Popular Housing).

⁵¹ From a design perspective, one of the most interesting singularities of the complex and also the area of highest urban quality. Díez, 2017.

⁵² Known as City of Poets or SACONIA, as a reference to the name of the property development company (Sociedad Anónima de Construcción e Industrias Auxiliares), 1965-1985. Antonio Perpiñá, Carlos de Miguel y Luis Iglesias.

⁵³ The perimeter streets are defined on a hexagonal grid. The building is projected on a 4.2-metre lattice on the side, a multiple of 30 centimetres, which corresponded to the structure’s centre line and which is signalled throughout the entire plot with a striped concrete pavement. It reinforces a dynamic image that distances it from the rigidity of the orthodox groups of blocks and towers, such as Gran San Blas’ F Unit, which clearly identifies with the principles of urbanism in the Modern Movement and largely with the open block typology.

⁵⁴ Three dwellings in a T-shape, two joined dwellings and two juxtaposed dwellings, as well as the composition of four- or five-storey buildings and eight- or twelve-storey towers. Hernández Aja, A., “SACONIA”, in Sambricio, C. (ed.), *Un siglo de vivienda social en Madrid 1903-2003*, vol. II. Madrid: Nerea, 2003, 120-121.

⁵⁵ When compared to the usual urban poverty of Spanish cities’ peripheries.

⁵⁶ The most significant of which include, accessibility difficulties in the interior to the neighbourhood units, the emergence of residual spaces between the proliferation of ramps, platforms and stairs, and the difficulty in keeping a sense of direction in the dense labyrinthine spaces.

⁵⁷ Besòs southwest *polígono*, 1959-65. Authors: Guillermo Giráldez, Pedro López Íñigo and Xavier Subías (LIGS). The LIGS team (together with E. Giralt Ortet and J. Puig Torné) presented the Besòs Southwest Partial Plan in 1958.

⁵⁸ Thus, the introduction of a new urban structure that furthered the experimentation begun in the 1930s with Le Corbusier and the GATCPAC group’s proposals for the Macià Plan and its organisation through 400 x 400 m superblocks that also correspond to the idea of a neighbourhood unit was essential to the planning of the Besòs complex. See Torres i Capell, M., *La formació de la urbanística metropolitana de Barcelona. L’urbanisme de la diversitat*. Barcelona: AMB, 1999.

⁵⁹ With infrastructure such as towers and high voltage cables... Although “at present we can see how none of the three zones that surround the settlement have followed the original Plan”. Tena, P., *Universalidad y adecuación en la obra de LIGS. 1956-1966* (Barcelona: Universidad Politècnica de CaTaluña, 2010, 144.

⁶⁰ Bellvitge *polígono*, 1965-70. Author: Joan Salichs

⁶¹ The Bellvitge *polígono* was promoted as part of 1958 Barcelona *Social Emergency Plan* (which delimited the land to be occupied), although it underwent a complicated administration process. It was finally developed during the second half of the 1960s. Ferrer, 1996, 124.

⁶² An area that has undergone substantial changes in recent years. Hormias, E., Bestraten, S., “Bellvitge, 50 años después: la vivienda como proyecto de ciudad que hace barrio”, in *I Congreso Internacional de Vivienda Colectiva Sostenible*. Barcelona: Máster Laboratorio de la Vivienda Sostenible del Siglo XXI, 2014, 226-231.

⁶³ The first project for Bellvitge (1957) was created by the architect Antonio Perpiñá (1957), with the interesting initiative of a fan, although the final version was carried out by Joan Salichs. The rigidity of the outlines should not be attributed solely to the authors’ interpretation of the principles of modern orthodox urbanism, but also to the willingness of the property developers (in this case private) to simplify the construction process and the production of houses through an extreme standardisation of buildings by using industrialised systems; this case and La Mina are probably the best examples of this in the city.

⁶⁴ The introversion of the complex is reinforced by the clusters that these streets help to shape, with land reserved for parking space and pavements.

⁶⁵ The building is arranged according to a repeatable module that is supported by a central space. Ferrer, 1996, 190. The neighbourhood has 1,140 productive units with a minimum size of 50m² that allows aggregation. Hormias, Bestraten, 2014.

⁶⁶ Rubert, M., “Polígonos sin alrededores”, in AA.VV. *Alrededores* (Barcelona: Fundación Tapies, 2005).

⁶⁷ Monclús, Díez, “CIAM Urbanism revisited”, 2016.

⁶⁸ Terán, 1978; Picinatto, 2010.

⁶⁹ Urban morphological approaches such as the one adopted in this paper can give some clues to better understand similar processes and specificities of housing estates and ordinary peripheries in different cities, as well as the changes taking place during the last 40 or 50 years. They focus on the different levels of integration into the surrounding urban tissue, but, of course, other aspects are also important, such as size, densities, road systems, land uses, etc. We have dealt with them in other works. See: Monclús, Díez, García-Pérez, 2017

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