BARCELONA AND MILAN: TWO CITIES ONE ARCHITECTURE. TYPOLOGICAL SIMILARITIES IN RESIDENTIAL ARCHITECTURE FROM THE 1950'S - 60'S

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Abstract

The paper deals with mutual relationship between Barcelona and Milan concerning modernist architectural and urban design. Barcelona and Milano despite their different cities morphology and urban history, have similar characteristics.
They can be easily recognized as they relates to many pieces of modern architecture constructed from the early fifties of the twentieth century, when the most significant architects of both cities entered into a friendly, intense and continuous contact. One could speak of a reciprocal fascination between architectural cultures of the two cities, especially as concerns the relationship between architectural design and urban morphology. This relationship was accomplished by means of three remarkable factors: the way a building is located in the urban space, the arrangement of the plan layout of each floor, and the aspects of the building referred to tectonic.
The second one is a recognizable only through a carefully study of plans. Nevertheless it affects the identity of the two cities as involves the people way of living.
We can identifiy typological analogies and organisational similarities in many exemplary residential buildings like Antonio Coderch's ISM house in Barcelona or several house designed by Ignazio Gardella in Milan. The most remarkable topics about housing types are related to the H model plan, and double winged plan. These types are well-known in some small Italian residential building called *palazzine,* usually in central Italy but they are recognizable even in several housing building in Milan.

The last topic concerns the housing flexibility that was tested both by Francisco Barba Corsini in Barcelona and Gio Ponti in Milan.

Urban housing; organisation and domestic space

Between Barcelona and Milan it is easy to identify typological analogies and organisational similarities in many exemplary residential buildings from the 1950's and 1960's. It is rarely ever a question of direct similitude, but rather of affinities and analogies found in the vast phenomenon that is the mutual fascination between Barcelona and Milan's architectural cultures from that period (Armesto, 1996, pp. 84-85; Spinelli, 2003, p. 35; Torres Cueco, 1994, p. 127).

In Barcelona, many residential buildings have a particular floor plan configuration that is similar to a wide flange beam in which the web would correspond to the staircase and the flanges would be reserved for the sleeping and living areas.

This broad structure is built following a bilateral symmetry in which the central core, other than containing the stairs and services, functions as a symmetrical axis.

The H model floor plan is likely to have been established in response to the demand that required an efficient use of the rather large building plots in Barcelona's urban fabric: this allowed them to place sanitation services and staircases in the central part of the building, ventilating and lighting them with the help of small courtyards and patios; the relationship between solid and void gives the building its characteristic H shape.

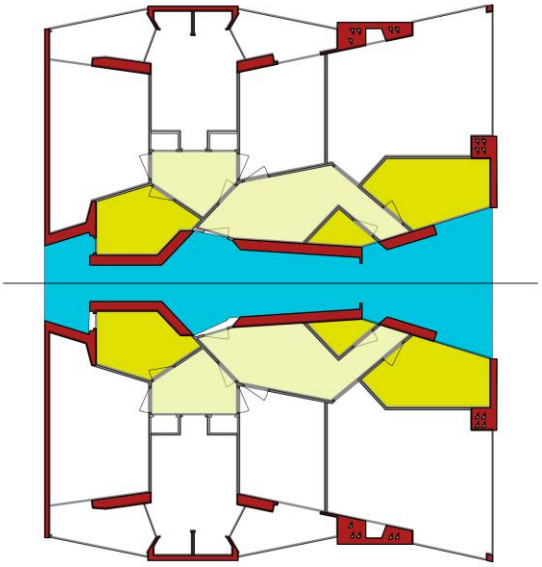
This type of floor plan appears in four important buildings from the 1950's: Josep Antoni Coderch and Manuel Valls Vergès' ISM building in Barceloneta (1952-55), Francisco Juan Barba Corsini's Mitre Building (1959-64), and two buildings by the architectural studio MBM; one in calle Roger de Flor (1954) and the other in avenida Meridiana (1959-65). In these buildings, the H model demonstrates a great versatility as it is applied at different scales and is able to relate with the existing fabric.

In Coderch's ISM building, we can see in the floor plan how the load bearing structures, partitions and rooms correspond to three essential "shapes", respectively characterised by geometries that are orthogonal, oblique and radial: these define three overlapping layers that, in turn, determine the relationships between each environment and the shape of the internal space.

The first layer is of orthogonal geometry and concerns the residence's overall layout: the staircase is in the centre of the building echoed by other vertical components alongside it in which the principal functions are found: clearly identifiable is a central vertical section, corresponding to the staircase, a second section containing utility rooms for bathrooms and kitchens, an intermediary section that accommodates bedrooms and living rooms, and the last section, perimetric, comprised between the load bearing structure and the external envelope. This case of organising the building by vertical blocks is present in all H model types.

The load bearing walls and external envelope are inclined in an arrangement of oblique angles that dilate and compress space, giving it a unique formal characteristic. Coderch provides this solution starting from a traditional orthogonal layout and successively introducing deformations. (Coderch, Fochs, 1999, pp19-26; Armesto, 1996, pp.31-54).

Figure 1. Coderch's ISM house, Barcelona.



Source: redraw by the author

This geometry corresponds to the second layer, making a large portion of the walls and elements forming the external envelope angled in respect to the building's symmetrical axis. This choice is probably due to a desire to improve the project, from the experience gained in the Ugalde building with organic forms (Coderch, Fochs 1999, 22) and from the desire to comply strongly with the order of nature. The inclined geometry deforms the building's central core and the envelope's walls, decreasing, in the spatial layout, the importance of the bedrooms' orthogonal partitions that become subordinated to the furniture, which in turn is treated as one of the space's main protagonists.

The third layer relates to a radial geometry and was studied by Antonio Armesto. He recognises a radial morphology in the centrifugal relationship between the utilities and the perimeter of the building, comparable to the structure present in the Disa lamp (1957) (Armesto, 2008, 70).

The presence of numerous centre points and inclined geometries combined with the corner entrance to the living room and bedrooms determines a greater fluidity of the apartments' internal circulation, meaning the relationships between rooms are more dynamic than in examples using only orthogonal walls.

The Borsalino building in Alessandria (1949-1952) by Ignazio Gardella is unanimously considered a paradigm of the ability of Italian Modernism to combine rationalist research with improvements in quality of living and of interior space, with the specificities of the Milanese school of thought, aimed at enhancing the relationship with context and history. (Guidarini, 2002, 99).

The building is composed of two independent blocks joined at the thinnest side. Each block contains two apartments with a circulation system that is based on a central path, coinciding with the longitudinal axis that ends in the walk-through living room.

The building's perimeter walls are angled at 15 degrees compared to the centre line of the building in a way that deforms the interior spaces. Such deformations are particularly noticeable in the living rooms where the volume containing the main bedroom protrudes into the living

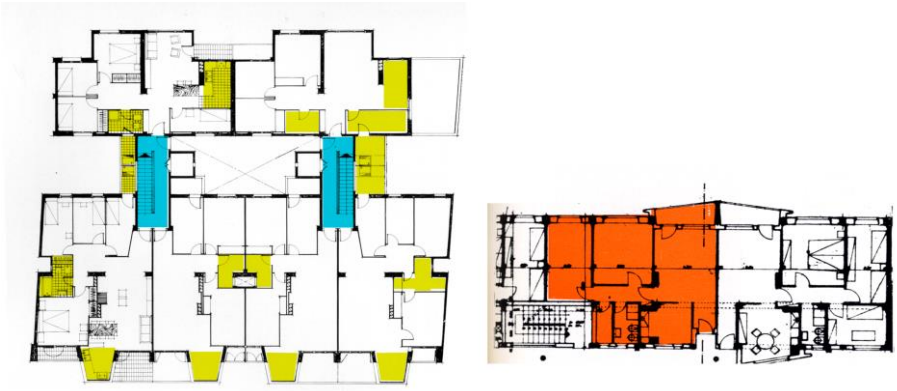
space. The compression and expansion of space, the manner in which the walls' geometry is dealt with and certain structural similarities demonstrate apparent analogies between the Borsalino building and José Antonio Coderch's ISM house in Barceloneta. Both buildings present wall surfaces that are curve-like, even though they are actually constructed with broken lines. But the alikeness between Coderch and Gardella is more complex than the Italian architect's mere influence, also chronologically unlikely[1]; Gardella served as an important reference in Barcelona's architecture during the 1950's, sharing with Coderch the same empirical and concrete approach to architectural design as well as the same ability to interpret a site's characteristics, adapting them through personal expression. The Borsalino building and the ISM building both share the same spatial and structural concept that emanates from a dynamic relationship between geometric deformations, pathways and positioning of staircases.
Both buildings are linked, beyond the somewhat limited common ground of formal resemblance, by a "necessary schematism" (Argan, 1966, p. 7) that considers the relationships between permanence and invariability in the articulation of spaces. Each of the two buildings is a key to interpreting the other.
Later analogies are recognisable between the Barcelona H model and another famous residential building in Milan: the Casa in via Quadronno designed by Angelo Mangiarotti and Bruno Morassutti (1959-1960). The staircases present in this Milanese building coincide with a guideline that divides the floor plan in two, each half corresponding to two or more apartments. A rather obvious characteristic, also present in Coderch's ISM vivienda, is the geometrical variation in the arrangement of the walls, with a broken line that creates a geometry based on right angles in the sleeping areas, and the creation of obtuse angles in the living areas.

The H model in continuous façades

In Emilio Donato Folch's[2] building in avenida Hospital Militar (known today as Vallarca) (1961), the architect works with two successive modules. He deforms the central symmetry usually found in the H model, putting more emphasis on the apartments that align with the road.
The most radical innovation is the position of the kitchen, located in the bow-window with a trapezoidal floor plan; the kitchen counter is shaped to be supported by the bow-window's wall, directed towards the exterior. In the project designs published in 1965 in *Cuadernos*, the kitchen is presented both as an open space and a closable room that can be separated from the living room. The folding dining table is supported by a short wall that separates the living area from the master bedroom. This configuration brings up the subject of the traditional subdivision of rooms, moving towards a spatial organisation more similar to Frank Lloyd Wright's workspace, conceived for various buildings of which the Baird Residence (1940) and the Sondern Residence (1940): the space reserved for food preparation is very compact and there is no separate room for dining, instead a space defined by a breakfast bar or folding table. (Ottolini, De Prizio, 1993, 44).

[1] The Borsalino building precedes by some years the Barceloneta building and was published for the first time in July 1953 in *Domus* and in *Casabella* in december of the same year. The definitive projects for the ISM building were approved in February and May 1953. The preparation of the definitive project for the Borsalino building occurs in 1950, at the same time as Coderch decides to alter the inclination of the walls in 1951-1952. Coderch's direct knowledge of the Borsalino building is therefore unlikely, while a correspondance, in the sense imagined by Baudelaire, can be proved.
[2] With X. Boix, A. Mirò, J. Verdraguer, R. Torres

Figure 2. House at av. Vallarca, Barcelona. Ponti's housing building at INA-casa Harar district, Milan



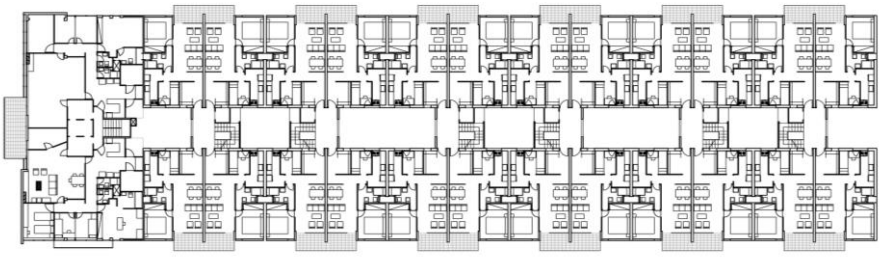
Source: Cuadernos, no. 62, 1965; Domus, no. 270, maggio 1952

Gio Ponti, one of the most prolific, oldest and culturally influential architects of Milan's Modernist movement, in collaboration with Gigi Gho for the C Building in the INA-casa Harar district (also known locally as the "white and yellow" building), presents a kitchen space similar to Donato's residence in avenida Hospital Miliat. The kitchen is in fact projected towards the exterior, occupying the right-angled triangle created by the conjunction between the gallery and the facade.

Double winged buildings

The H model has been on many occasions the basis for double winged buildings in which two parallel entities are joined by the staircase and separated only by a series of patios. The important foundation of this building type[3] is the Mitre in Barcelona (1959-1964) designed by F. Barba Corsini. The Mitre is a double winged building parallel blocks (Monteys, Fuentes, 1998, p 19) that are 24,70 metres long. The floor plan arrangement does not derive from a simple juxtaposition of two long buildings but from the aggregation of six H modules to which is also added a main front portion bordering Ronda del General Mitre.

Figure 3. F. Barba Corsini, Mitre building, type plan, Barcelona



Source: redraw by Patrizia Benaglio.

[3] The starting point of this typological serie is represented however by the vivienda de Flores in Madrid (1930-32) designed by the rationalist architect Secundino Zuazo Ugalde. He assembled the double winged building, transforming a closed entity into a dual unit system composed of two parallel entities so as to allow for better lighting and ventilation conditions. (Centella, Jordà, Landrove, 2009, p. 201).

The H type module is composed of two areas per wing, each with a surface of 123,50 gross square metres. Each of these areas can be occupied by one single apartment, divided in two sub modules creating two apartments, or further divided into three apartments creating an accommodation of 46 m² in the centre of the module. The Mitre's apartments have been configured above all depending on the housing demands: as a result, different sized apartments are available, suited for couples without children or for families with between one and five children.

The versatility of this configuration is confirmed in the Mediterráneo building (1964-68) designed by Antoni Bonet Castellana in calle Consell de Cent. Like in the Mitre, the four H modules correspond to several autonomous residential units. The basic module measures 28m in length and allows space for four apartments, each measuring 146 m². The spatial layout accommodates two long blocks, one in which are located the main bathrooms, positioned on the centre line of each of the H module's two wings, and the other, in which are located the kitchens, second bathrooms and utility rooms, positioned towards the patios.

The large dimensions of the Mediterraneo's apartments allows for a fairly spacious living room, positioned in an almost central position. Neither the Mitre nor the Mediterraneo make use of corridors, and circulation between rooms follows a path that moves around the living room; in Bonet's building the separation between living and sleeping areas is much more obvious, as is the definite distinction between served and servant spaces. From this angle, the Mitre presents a higher level of flexibility due to the necessity to overlap multiple functions in a reduced space.

The Mitre, Bonet's Mediterraneo, and other buildings such as Francesco Mitjan's Seida vivienda are large residential units that are references to the Unité d'habitationn and to the distanced contemplation of the urban landscape.

Concerning the Mediterraneo, its urban significance is slightly different. The double winged building borders the edge of a block of buildings in Ensanche, following the rules imposed by the neighbourhood but also modifying them. The project "represents an effort to revitalise the Plan Cerdà" (Álvarez; Roig 1996, p. 170): the 28 m width enables control over the relationship between settlement typology and the continuous facade, as the double winged model results in a more efficient management of the typically deep plots that are characteristic of the Ensanche neighbourhood. Furthermore, while adopting the Plan Cerdà's isotropic system, the Mediterraneo offsets the wings of the H model, meaning the road-side façades exist on separate visual planes, creating a chaflán that is different to the usual oblique façades of Ensanche.

The projects based on the H module and the double winged building by the studio MBM are also turned towards integrating the urban fabric. The residence in calle Pallars (1958-61) is organised into one single unit in which the primary module is based on the H model, but doesn't have the space between the staircase and the apartments. The staircase is left visible using the voids created to give rhythm to the roadside façade. The building therefore appears to be a sequence of tower, each of which is composed by the two wings of the H model. The four apartments in each block are served by a double staircase located in the centre of the module meaning there is half a level's difference between the apartments located on side of the building facing the road and those on the opposite side. Kitchen areas and sanitation facilities are

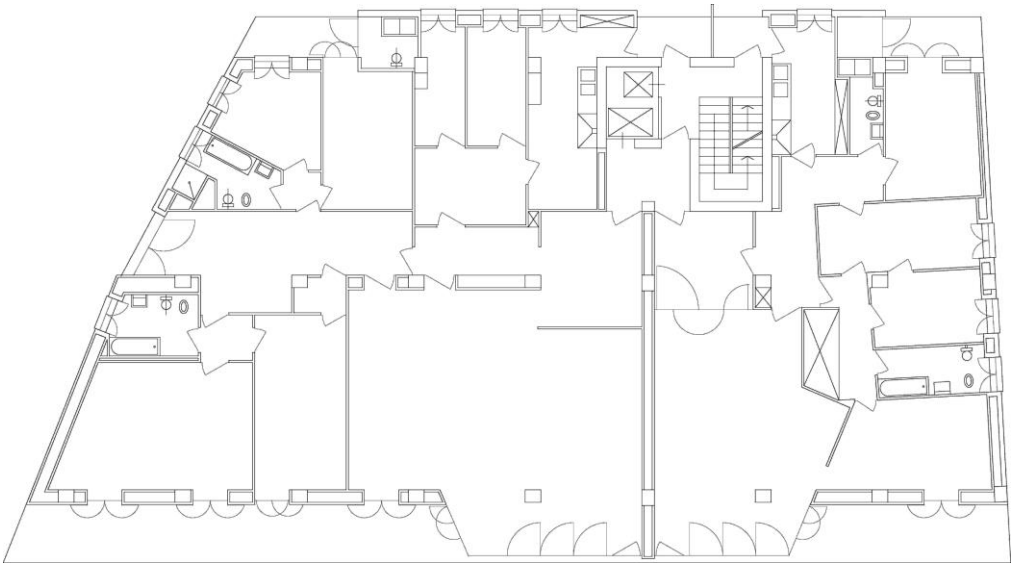
assembled around the staircase, the former being ventilated by the said staircase and the latter through a small ventilation shaft. The apartment measuring 60m² is a great accomplishment in spatial organisation, succeeding in providing two or three bedrooms each equipped with the essential in terms of furniture. The project was originally designed to occupy all four sides of the city block in the area of Poblenou, at the time an industrial district, adopting the foundation principles of the Plan Cerdà. It was then only built on one side, with at each end an oblique facade that characterises the chaflan.

In Milan, double winged and H model buildings are more rare although not entirely absent.

The Tognella building, named “casa al Parco” by Ignazio Gardella (1947-54), and the residential and office building designed by Gigi Gho in via Legnano (1956), characterised by a thickness wider than the usual Milanese construction, making it similar to Barcelona’s double winged typology.

The Casa al Parco represents for Gardella the beginning of a path of research exploring wider buildings that are structured into several sections. The bedrooms and facilities are located in the longer block that faces the road, whereas the living and dining areas and study are located in the block that faces the park. The apartments are distributed by a corridor located on the most internal part of the building in proximity to the connection between the two blocks. The floor plan is ordered slightly more rigorously compared to the built project and the refining of certain solutions: the kitchen, for example, initially located in the block containing the bedrooms, is moved towards the centre of the building, in contact with the staircase it closes the corridor and acquires a more obvious role as an area of passage, becoming a welding element between the two blocks. The living room, on the other hand, is defined by a perimeter drawn by a broken line (instead of being straight) that incorporates two of the pillars, anticipating a solution used later on in the building via Marchiondi, becoming more dynamic in its relationship with the outside.

Figure 4. I. Gardella’s house at via Marchiondi, Milan



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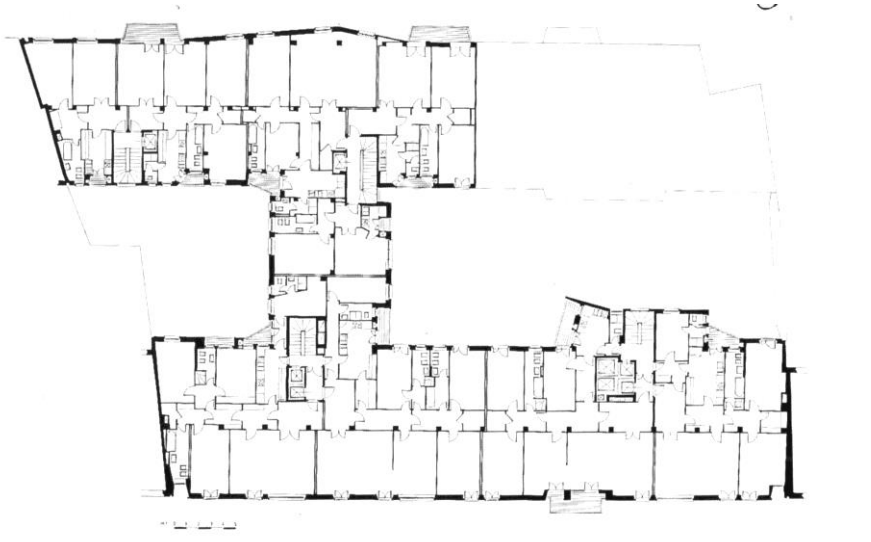
In the building via Marchiondi in Milan (1951-1953) (with Roberto Menghi and Anna Castelli Ferreri), the research in double winged buildings with several structural sections continues. Much like in the Mitre, among the clients were the same architects that reserved certain apartments for themselves. The distribution system as designed to be like a “superimposing villas” (Guidarini, 2002, 110), as the apartments built were of a prestigious character and the site of great environmental value, located in the area of the “Giardino d’Ercole” of the ex-Palazzo Melzi. The topic of superimposed villas combines individual living with urban conditions typically found in collective buildings.

The floor plans are not identical on each level. The structural system that uses pillars allows for an adaptable open-plan organisation that depends on the clients’ wishes. The floor plan for the building in via Marchiondi has been considered a unique stranger to the possibilities of type classification (Morresi 1995, 66-67) because of the obvious impossibility to design another building identical to it. In reality, the building falls into a precise type category, that of the open-plan (or better, adaptable), wide bodied building: in Milanese “condominiums”, the spatial potential of the pillar based structure to introduce variations in the floor plan from one floor to the next (as it can be needed for a system of superimposed villas) is frequently praised.

Gigi Gho’s complex in via Legnano (1956) is composed of two parallel, but offset, entities that are each 12m wide, separated by this same width and connected by a small transversal block. The utilities and staircases are assembled on the two internal facades; this is the most obvious similitude with the Spanish double winged buildings. The internal apartment distribution is served by a central corridor, as is often the case in Milanese residential buildings. As opposed to the Mitre or the Mediterraneo, Gho’s design does not make allusions to the residential unit, nor to the machine for living, but rather the project strives to come in tune with the urban fabric of an area in the city centre characterised by monuments such as the Arena or the Sforzesco Castle and its park, to which are turned the living rooms’ generous glass surfaces.

Figure 5. I. Gardella’s house at via Marchiondi, Milan



Source: Cesare Gho’s archive

The building was published in 1958 in the issue n°342 of Domus, directed by Gio Ponti, who, nearly ten years later, designed a commercial building for the INA[4] in a narrow triangular plot of the historic centre, between via Agnello and via San Paolo. The foundation type consists of two linear entities that touch the perimeter of the plot: the urban composition makes the complex plan similar to that of a double winged building, and could be a true evocation of those built in Barcelona.

Flexibility

The search for flexibility, intended as the possibility to overlap various uses and efficiently connect spaces in different ways, is a shared goal among many modernist architects. Such research appears at a time of crisis in the modernist ideal of unique correlation between form and function that came about in the early 1900's. A series of innovative works, such as Gerrit Rietveld's Schroeder House (1924), the villa in Mattoni designed by Mies Van Der Rohe (1924) or the Petit Villa of Le Corbusier (1925), signal the passage from a partitioning of space in separate rooms to an idea of continuous and open-plan space (Ottolini 2010, pp. 46-48). This type of research responds to the growing importance of the topic of movement present both in architecture and in figurative and literary arts.

Barba Corsini in the Mitre, the residential project succeeds in not only making the spaces communicate with one another, but also in connecting them as part of a "unified whole". The architect uses the term "elasticity" but it effectively used to mean flexibility. Such choices were already experimented with in rationalist works such as the famous Schroeder House by Rietveld in Utrecht (1924) and Le Corbusier's Housing project in Loucher (1929). The Mitre therefore falls within the experimentation process brought forward by rationalism in which the apartment's entire spatial structure is redesigned, eliminating the rigid partitions and substituting them with "mobile barriers", obtaining also a better continuity of space (Ottolini, 2010, p. 45).

One of the most interesting elements in Barba Corsini's Mitre project, that greatly determines its relevance today, is the conception of domestic space thought for "small, elastic and versatile" apartments. The modest surface that occupies each dwelling, due to the necessity of maintaining a high population density and containing the cost of rent, requires the development of overlapping uses in the same space within each apartment. This type of operation constitutes one of the fundamental principles of flexibility, a technique that allows for variation in the organisation of space in relation to the different and changing demands in use, adapting the dwelling to possible adjustments in a brief period of time.

In the Mitre, the smaller apartments of type A or B occupy a quarter of the basic module and are designed for couples without children or for families with three to five members. The overlapping of functions allows a great difference in the available surface for each person. While the location of the double bedroom, positioned towards the external facade, remains constant, as does that of the sanitation services and kitchens, the space located towards the internal facade, comprised between the kitchen and entrance, can vary, becoming the *comedor* (dining room) or

[4] INA stands for Istituto Nazionale di Assicurazioni

a bedroom for a number of people from one to three. In the first case, the bedroom is of a conventional arrangement, but in the other cases it contains niches in which beds and other furniture are arranged in order to use a minimum of space. The entrance overlaps with the sleeping area, obtaining a “walk-through” bedroom where the sleeping niche is separated from the path by a folding wall. The theme of the mobile wall appears also in the master bedroom where the wall that separates it from the living room is mounted on rails, generating a contamination between rooms and a perception of expanded space.

In the building in via Dezza (1956-1957) Gio Ponti designs an apartment for him and his own family in which he deepens his research on living that started with his participation in the “Novecento”[5] movement, and achieved a refined ability to combine spaces, furniture and materials. Among the key points of his research, he experimented in 1956 with certain flexible solutions considered quite radical in a design for a four person dwelling: a residential module based on non-orthogonal geometries equipped with folding partition and furniture fitted following oblique arrangements in a way that facilitates the circulation of light and ventilation.

The distribution system limits the use of corridors and even the concept of separate rooms is questioned: the spaces aren’t divide with the aid of walls and doors but with mobile walls and partitions. Towards the facade, the mobile “modern fold” walls are arranged in a sequence that allow to visually connect the main bedroom, the living room, and the children’s’ bedroom. The same type of visual continuity is obtained, using the same system, between the master bedroom, the living room and the kitchen. The bedrooms can serve varying uses connected to rest – that require isolation – or connected to shared activities. There are no predefined rooms but spatial nuclei that penetrate each other in a varying and dynamic way so as to create a unique spatial dominance *(Una casa a pareti apribili, 1957).*

Conclusions

What distinguishes Milan and Barcelona’s architecture from rash professionalism is its capacity to establish precise design topics and treat them coherently: the relationship between architecture and the city, seen as an architectural entity bound by the city, making architecture a constitutive part of the urban fabric and not an object of design subject to the dialectic between progress and tradition. Indeed, one of the elements of continuity between the Schools of Barcelona and those of Milan is to consider architecture as a representation of its construction: the typological and technical choices give consistency to the architectural entity, combining it with intention of form. In concrete terms, the formal aspects are not derived from volubility but must comply with grammatical and syntactic rules upon which the coherence between elements derives, a coherence from which the architecture is composed.

Regarding the topic of spatial organisation, it is clear how it influences people’s lives and the way they occupy a dwelling. Between Barcelona and Milan in the 1950’s and 1960’s, basic theories are put forth so as to control in an innovative way the reciprocal relationship between different spaces.

[5] The Novecento is a stylistic and cultural Milanese movement conventionally starting in 1922 with Giovanni Muzio’s Ca’ Brütta, and continued until the arrival of rationalism. Among its principal protagnists are Aldo Andreani, Giuseppe De Finetti, Alberto Alpago Novello, Piero Portaluppi, Emilio Lancia and Gio Ponti.

Bohigas, when talking about the School of Barcelona, affirmed that a general attitude was present and could be recognised in method, and that such a method concerned the desire to design in an environment of internal constraints and technical restrictions, and, with a system based on reality, was defining a field of action. It's a theory similar to the one applied in the School of Milan, in particular by Franco Albini, who considered that "true" freedom in a project was in the voluntary compliance to a rule (Garzena, Salvestrini, 1979, p. 46).
The research concerning the H model, the geometric variations of the walls, and the double winged entities, are all expressions of a desire to search for the highest possible limit in an environment in which construction is predetermined by regulations, clients' demands and the lack of freedom, for both Milan and Barcelona, to significantly transform the city. With Franco's dictatorship on one hand, and the economic miracle on the other, advanced social programs such as the heroic rationalism of the Siedlungen were no longer permitted. It was however possible to express modernity through the mutation of typological conception and through the design of facades. This, however, is another story.

References

Álvarez, Fernando; **Roig**, Jordi: *Antoni Bonet Castellana. 1913-1989*. Barcelona: Col·legi d'Arquitectes de Catalunya, 1996.
Armesto, Antonio; **Díaz**, Rafael. *José Antonio Coderch*, Barcelona. Santa Cole, 2008.
Centellas, Miguel; **Jordá**, Carmen; **Landrove**, Susana. *La vivienda moderna. Registro Docomomo Ibérico 1925-1965*. Barcelona: Fundación Caja de Arquitectos, 2009.
Argan, Giulio Carlo. Ad vocem tipo*, Enciclopedia Universale dell'Arte*. Roma: UNEDI, 1966 .
Coderch, Gustau; **Fochs**, Carles. *Coderch. La Barceloneta*. Barcelona: Col·legi d'Arquitectes de Catalunya - Actar, 1999.
Donato, Emili. Viviendas en la avenida del Hospital Militar, *Cuadernos de arquitectura y urbanismo*, no. 62, october 1965, p. 19.
Guidarini, Stefano. *Ignazio Gardella nell'architettura italiana. Opere 1929-1999*. Milano: Skira, 2002.
Monteys, Xavier; **Fuertes**, Pere. *Mitre. Barcelona. F. J. Barba Corsini. 1959-64*. Barcelona: Col·legi d'Arquitectes de Catalunya - Actar, 1998.
Morresi, Manuela. Lezione di architettura di Ignazio Gardella. *Zodiac*, 1995 – 1996, no. 14, september - february, pp. 62-87.
Ottolini, Gianni; **De Prizio**, Vera. *La casa attrezzata. Qualità dell'abitare e rapporti di integrazione fra arredamento e architettura*. Napoli: Liguori, 1993.
Ottolini, Gianni. *La stanza*. Cinisello-Balsamo (MI): Silvana Editoriale, 2010.
Spinelli, Gigi. *José Antonio Coderch. La cellula e la luce*. Torino: Arte e Immagine, 2003.
Torres Cueco, Jorge. *Italia y Catalunya. Relaciones e influencias en la arquitectura. 1945-1968*, 2 vols. PhD thesis, Valencia: Universidad Politécnica de Valencia, 1991.
Una casa a pareti apribili, *Domus* 1957, no. 334, september, pp. 21-35.