

Chapter 15

Influence of European Modernism on the Housing Typology in Mexico

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Introduction

The adaptation to the needs of different moments in history have continuously modified the built environment. Such adaptations have in time taken the form of new styles and new building typologies. In the case of Modernism, it was the result of the mechanization of part of the construction and of the necessary functionality to be able to provide housing to the rapidly increasing population.

Within the housing sphere, it was the German *Siedlung* in the 1930s that dominated the European thinking of housing planning as the modernist extension of the garden city (Ward, 2002). Although the Second World War interrupted its further development, the postulates of Modernism kept dictating the housing configuration and its immediate urban context after the end of the war (Monclús and Díez, 2015).

Architects like Ernst May, Bruno Taut, or Martin Wagner fully displayed their ideas through the first large *Siedlungen* and later, others –Le Corbusier, Walter Gropius –, took those concepts to larger scales of collective housing and spread them not only throughout Europe but also to other parts of the world, such as Mexico. The current paper is a thorough analysis of the development of modernist housing in Europe that later deepen in the influence of such movement in Mexican architecture. Examination of the existing literature as well as architectural and historical archives, along with visits and a photographic record, are the intended methods to complete the research. Such analysis aims to identify the built elements that remained as such in Mexico and those that changed according to the historical, social, and cultural context, and determine the extent to which the imported housing typology was adapted or its inhabitants adapted to it.

Existing literature review

Within the existing literature, there are various analyses of specific cases of modern housing development in Europe. However, there are very few comparisons, and those are mainly between European and rarely American study cases. Among the partial analyses of isolated cases in European cities, Fernández, Mosas and Ollero (a+t research groups) carried out a study of collective housing contributions in *10 Stories of Collective Housing* (2013), some of them following the ideas of Modernism. On the other hand, Eric Mumford (2002) addresses post-war urban planning and a new vision of socially engaged architecture within *The CIAM Discourse on Urbanism, 1928–1960*, which is the first complete history of CIAM. As for the specific studies of the *Siedlungen*, there is Pitz and Brenne's (1980) *Siedlung Onkel Tom, Berlin-Zehlendorf. Einfamilienreihenhäuser 1929 Architekt: Bruno Taut* [Single-family terraced houses 1929 Architect: Bruno Taut], as well as Dreyse's (1987) *May-Siedlungen. Architekturführer durch acht Siedlungen des neuen Frankfurt 1926-1930* [Architectural guide through eight *Siedlungen* of the new Frankfurt 1926-1930]. And finally, more recent research on how the modernist ideas of that time is still being applied and developed today, such as a reinterpretation of the *Existenzminimum* in contemporary housing solutions (Brysch, 2019), and New Perspectives on the II CIAM (Porotto and Monterumisi, 2019).

In terms of comparison analysis, in *Le monde des grands ensembles*, Dufaux and Fourcat (2004) compare French collective housing with other European cases as well as Asian and African examples. Such work presents large-scale

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housing as an embodiment of a modern movement with global horizons and a circulation of ideas, and not merely as a French exception, for instance. Meanwhile, Stephen V. Ward (2002) makes a more global comparison within *Planning the Twentieth-Century City*, where he introduces the *Siedlungen* as the “modernist derivative of the garden city” and how the principles of Modernism were represented in the collective housing that spread throughout Europe and America as well, with its adjustments according to the different cultures and political situations. Among the most recent studies, Jugana Heikonen (2021) and her analysis of the influence of the *Siedlungen* on the Helsinki’s Prewar Housing Companies, shows that this approach is mainly through CIAMs and direct contacts with architects such as Alvar Aalto.

As for the Mexican case, all literature is almost entirely dedicated to a historical examination of the emergence of Modernism in the country and its different works, with only vague mentions of the movement’s influence from Europe, especially Le Corbusier.

Some of the most important works include Edward Burian’s (1988) *Modernidad y Arquitectura en México* [Modernism and Architecture in Mexico] and Fernanda Canales’s (2017) *Vivienda colectiva en México* [Collective housing in Mexico], which draws on her doctoral thesis research *La modernidad arquitectónica en México* [Architectural modernity in Mexico, 2013]. Similar to Canales’ thesis, most of the existing literature on this topic can be found as master or doctoral research; for instance, Lino Braganca’s (1986) *La vivienda y reproducción de la fuerza de trabajo: consumo de los objetos arquitectónico en Tlatelolco* [Housing and reproduction of the labor force: consumption of architectural objects in Tlatelolco], where it is mentioned the unequivocally influence of Athens Charter in the urban design of the first large collective housing; Hector Polanco’s (1991) *Los Conjuntos Habitacionales en el Desarrollo Urbano* [Housing Complexes in Urban Development], which affirms the new housing features as the introduction of Le Corbusier’s functionalism.

And finally, Enrique de Anda’s (2001) and Luis Manuel Chacon’s (2015) *Arquitectura Mexicana de la década del cuarenta: La construcción de la modernidad* [Mexican architecture of the forties: The construction of modernity] and *Arquitectura moderna en México* [Modern Architecture in Mexico] respectively which are the most comprehensive study of European modernism influence from a historical point of view. De Anda’s research, as it reads in its subtitle, *Los multifamiliares durante el alemanismo* [Housing complexes during Germanism], refers to the cultural crossroads with central Europe, and the influence of European architects living in the country like Hannes Meyer, as a capital condition for modernity in Mexico.

The most recent literature has introduced a few comparison studies as articles. Luca Ortelli (2014) makes a brief analysis of the main differences between the *Siedlungen* and the *Höfe*; meanwhile, Monclús and Díez (2015) review the development of collective housing in both western and eastern cities in Europe. Regarding Mexican architecture, Sánchez Rueda (2009) makes more detailed research of the architectural elements of collective housing, which reflect modernist ideas not only within the urban sphere but also within the housing typology. And finally, among the works that have approached the direct influence of modernist ideas, not only in Mexico but also in other countries of Latin America are the analysis of Juan Manuel Heredia (2014) *Mexico and CIAM. Notes to Mexican Modern Architecture History*, which investigates the little explored relationship between Mexico and CIAM through letters between Mexican architects and figures of the European movement such as Walter Gropius and Sigfried Giedion; Jaime Sarmiento’s analysis (2024), which names the precepts of the Athens Charter of the 1933 CIAM Congress as one of the most important influences for the emergence and conformation of the so-called multifamily housing in Mexico; and the research of Jorge Correa (2018), who reviews the development of the concept of minimum housing in Colombia.

Key findings of Modernism in Europe

In the last century, the rapid urbanization of the cities around the globe caused an increasing demand for built space to live in. National immigration to the most industrialized cities was one of the main reasons for such urbanization, leading to a housing shortage, mainly for the low-income classes. Therefore, experiments were carried out to find an adequate and prompt solution. In the case of Germany, for instance, the situation was even more serious considering the financial and moral crisis at the end of the war, the construction and adequate standards of workers’ housing was the major problem, in addition to the need to break with the rigidity of the urban fabric under the rule of the *Mietskaserne* (Arredondo, 2018). And it was in Berlin and Frankfurt where the experiments led to the creation of the *Siedlungen*, one of the first approaches to deal with the housing problem. These *Siedlungen* were originally settlements in border areas and agricultural colonies, the most common of which took the form of a circle or semi-circle for security reasons, and its configuration would stimulate the link between the new neighborhood-cities and the housing space of reduced dimensions but comfortable proportions – the *Existenzminimum* – (Carvahlo, 2021). This new typology was composed of continuous strips of houses from 3 to 5 levels, with both public and private

green spaces, creating a direct connection between the built and natural environment. One of the main features was the configuration of the apartments: standardized models that varied according to the size of the families. Such a configuration was a key point in the rationalism that architects were looking for, rationalism for construction that sought the maximum functionality of the spaces at more accessible prices for the inhabitants.

The so-called New Construction had clear lineaments such as speed of execution, mechanized and serial production, the incorporation of low-skilled construction trades, and the elimination of traditional crafts. For instance, within the construction processes, the use of an excavator and cranes was profitable for the first time, and there was also a more efficient way of transporting material, and a rational order of activities was regulated (Seelow, 2018). Among the architects in charge of the New Construction, Walter Gropius considered the means and organizational techniques as the goal for an adequate solution to offer dignified housing to the lower classes (van der Woude, 1999). As a result, architects became social beings, seeking not only an aesthetic ideal but also habitability and access to it to improve the quality of life of the inhabitants.

The idea of standardized housing and its rational construction became central arguments, which were thoroughly exposed thanks to the inauguration of the International Congress of Modern Architecture, CIAM, in Frankfurt in 1928. In the following years, the topics discussed were focused on the field, such as the minimum housing [*Die Wohnung für das Existenzminimum*], high-rise collective housing, and its urban planning to be inserted within the city (Molina Ramírez, 2014; Mumford, 2019; Porotto and Monterumisi, 2019). This last premise was included within the *Siedlungen* that are recognized as an early social urbanism that paid attention to issues such as the geopolitical structure of the city, the layout and density of buildings, the usefulness and need for green space, and the growth-transportation relationship (Bosch, 2020). Regarding the concept of the existential minimum, Ernst May, together with other collaborators such as architect Grette Schütte-Lihotzky, conducted functional, anthropometric, ergonomic, and perception studies to reduce the living space to a minimum while offering the maximum possible comfort at a reasonable price. This research also led to the *Frankfurter Küche* (Frankfurt kitchen) project, which would later lead to a different way of designing housing (Martínez and Díaz, 2018; Korbi and Migotto, 2019). And although Modernism and the growth of *Siedlungen* were interrupted by the Second World War, such ideas were reclaimed and developed after the conflict ended.

New residential units were designed throughout Europe and other countries following the premises of the Modernist movement. Its construction proliferated, especially from the end of the 1950s to the 1970s, with exceptional case studies in several cities, such as Sarcelles in Paris (Figure 1) and Bijlmermeer in Amsterdam (Figure 2), closely following the rationalist principles of the CIAM. The scale, however, was much larger compared to the *Siedlungen*, with housing blocks up to 14 levels, large green areas and recreational spaces between blocks, and services such as nurseries and laundries (Monclús and Díez, 2015). Modernism was fully displayed in both the architectural and urbanism spheres.

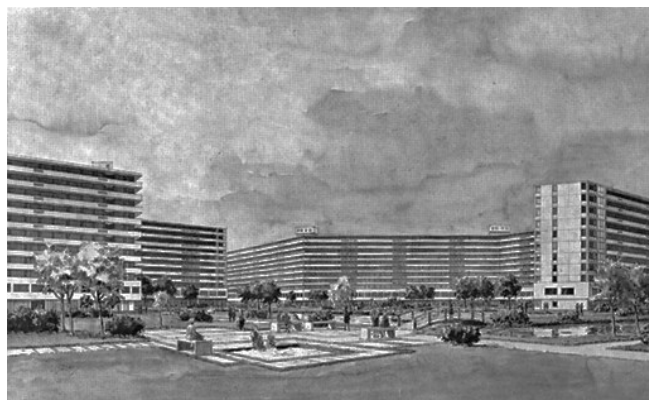


Figure 1. Sarcelles, Paris (Source: AFP) **Figure 2.** Bijlmermeer, Amsterdam (Source: Bijlmermuseum)

The influence of the movement initiated in Europe had a great reach, as it was in the case of Mexican architecture, thanks in part to architects who have studied or traveled to Europe and brought back such new knowledge, as well as the contributions of European architects who arrived in the country at that time.

Interpretation of key findings of the influence of Modernism in Mexico

In Mexico, as in Europe, immigration to the main cities between the 1920s and 1930s, due to better job opportunities, caused an accelerated urbanization and a great demand for housing. The government saw European modernity as a solution to the growing population's shelter needs, hoping that machines and technology would lead to mass progress (Sánchez, 2009). It was in the 1940s that the first housing units of the Modern Movement were built in Mexico; this typology is known in the country as *multifamiliar* (Gómez, 2022). One of the first projects, *Ciudad Obrera* [Worker City], followed rational urbanism, having a strong basis in the principles of the German *Siedlung*. The project consisted of unit blocks with 4 levels that housed 30 apartments each (Figure 3), a model that refers to some works by Ernst May. However, the project was not carried out due to the collectivization of some services, such as the kitchen and the children's bedrooms, a principle seen in the *dom-Komuna*, developed in the Soviet Union (Sánchez, 2009).

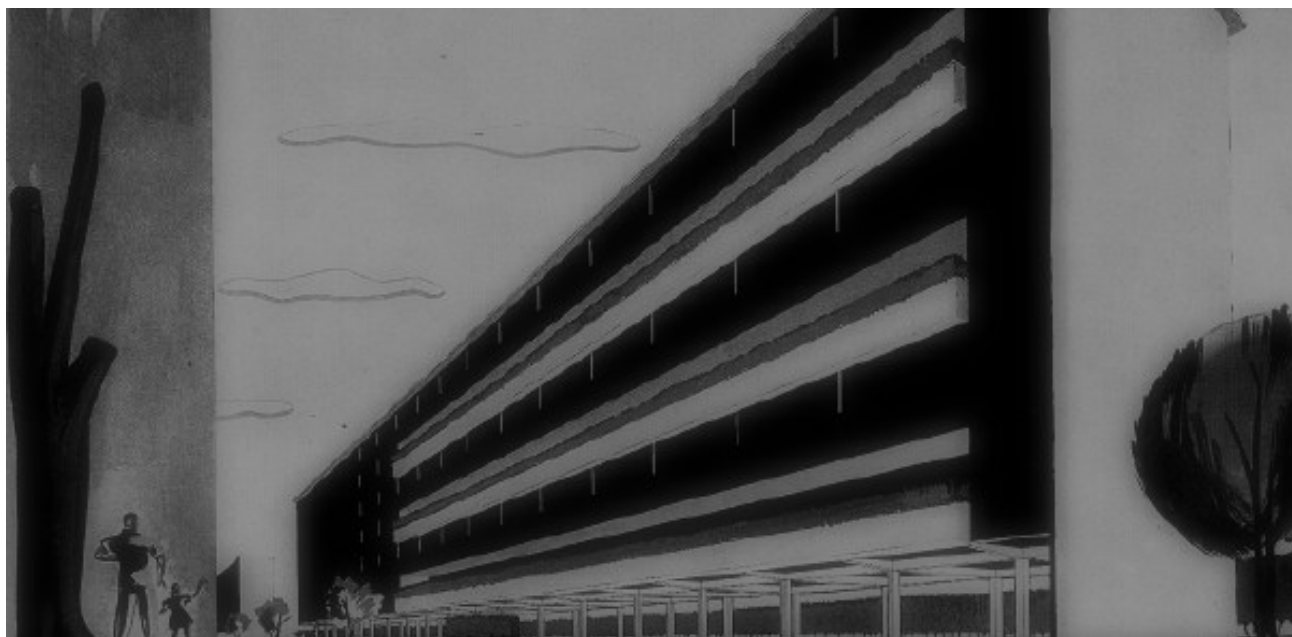


Figure 3. *Ciudad Obrera* (Source: UNAM magazine)

Nevertheless, the modernist ideals were eventually displayed both in teaching and in completed projects, and it was from the hands of architects who closely followed the movement in Europe. On the one hand, Swiss architect Hannes Meyer - director of the Bauhaus from 1928 to 1930 - came to Mexico to give a conference in 1938, later settled in the country and dedicated himself to teaching the new architecture (Rivadeneira, 1982). Among the projects of Meyer, one of the most relevant is the *Colonia Obrera* [Worker Neighborhood] to the west of the city (Figure 4).

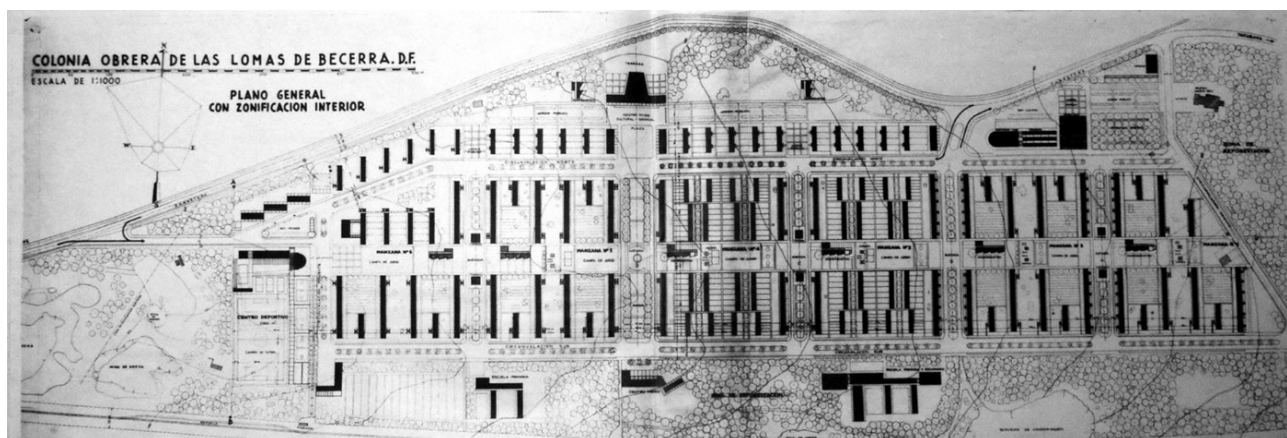


Figure 4. *Colonia Obrera* (Source: Stiftung Bauhaus Dessau)

The housing units were intended for workers from the Tolteca cement factory and the Eureka factory, which recalls the same purpose for which *Siemensstadt* was built. The unit consisted of rows of housing blocks linked to the central area by a 40-meter green pedestrian axis, along which the recreational spaces and schools were located. The blocks had 3 and 4 levels with 4-bedroom apartments of the same typology. The rationalist design based on the *Siedlungen* is evident: typified, systematic, and normalized design of the blocks, emphasizing the orientations and adjustment to the urban context (Infonavit, 1988). Meyer advocated a more social role for architecture (Sarmiento, 2023), and while his teaching and ideas remained in the country, his socialist political stance - although never publicly expressed - was one of the main reasons that these projects remained only on paper. Looking at the master plan for Meyer's project, the influence of the configuration schemes of Ernst May is evident. In 1930, May published in the magazine *Das Neue Frankfurt* a synthesis of the dense Berlin blocks (Figure 5), where the single- and double-row schemes stand out, where multi-storey buildings with grouped housing predominate (Bosch, 2024).

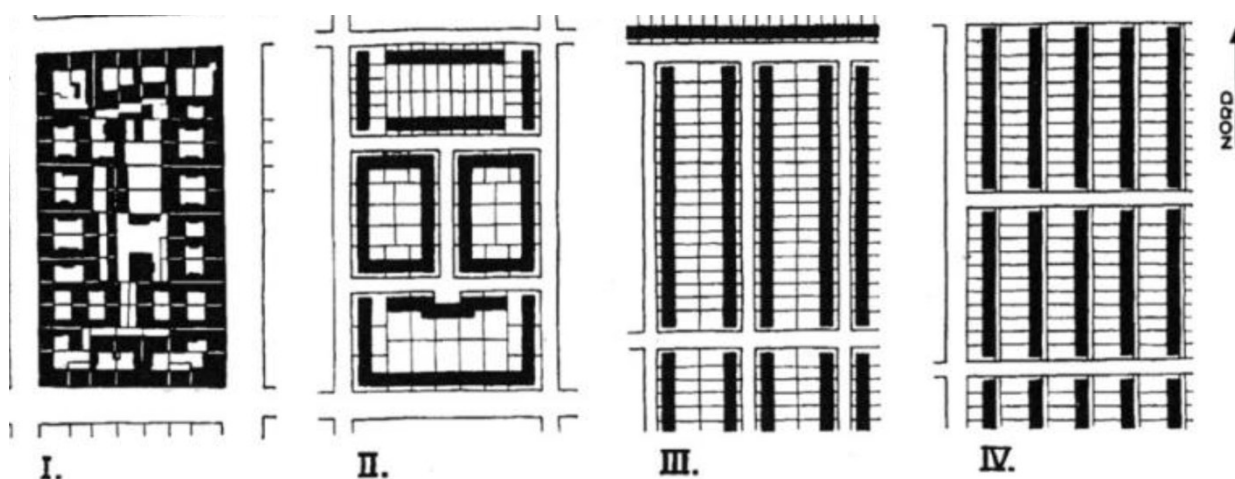


Figure 5. Synthesis of the dense Berlin blocks (Source: May, E., 1930)

With increased awareness of Modernism in the country, thanks in part to Meyer's efforts, the construction of housing superblocks was on the rise, particularly in the works of Mario Pani. Pani studied architecture at the Paris École des Beaux-Arts between 1929 and 1934, a time when Le Corbusier was pointing his architectural proposals in an urban direction, for example, with the *Ville Radieuse* (Figure 6).



Figure 6. Ville Radieuse (Source: archdaily)

Pani developed three of the largest housing blocks in the country (Figures 7-8), also introducing the concept of high-rise buildings, favoring the use of land for large green areas and disconnecting pedestrian and vehicular circulation (de Garay, 2010). Apart from the standardized design of the minimum dwelling with a reduced typology, which allowed for faster and more affordable construction. Within the urban sphere, however, such housing blocks were built within the city and not on the outskirts to expand the city and create new urban developments, as was the case in European cities (Sánchez Rueda, 2009). Pani wanted to create what he called “urban cells” interconnected by parks and organized around an administrative and commercial center, that is, with an autonomous structure. It was, as he called it, the first stage of an integral program for the city's problems, whose final solution would be a communications network of such cells (Valenzuela-Aguilera, 2020).



Figure 7. *Miguel Alemán*, housing blocks, units designed by Mario Pani (Source: arquine)

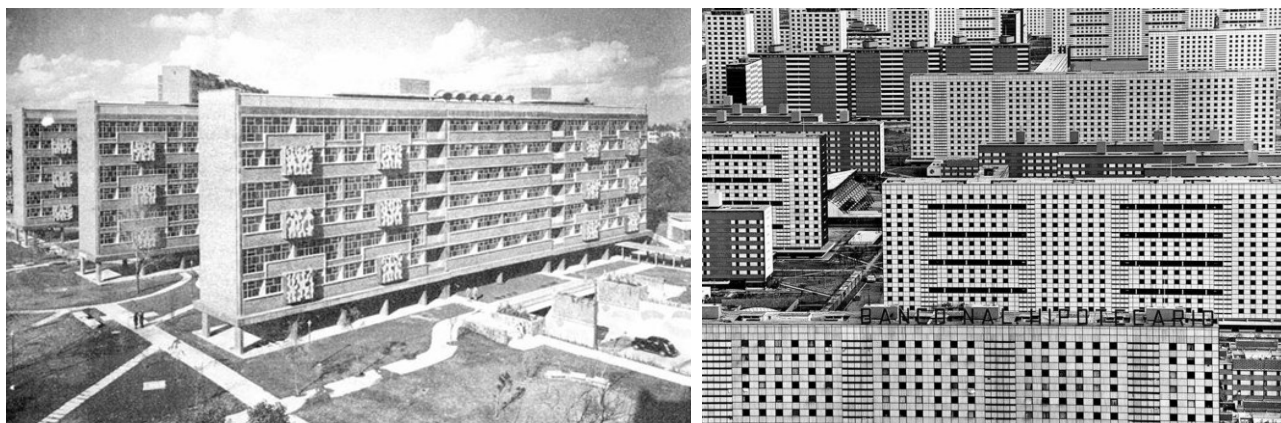


Figure 8. *Presidente Juárez*, and *Tlateloco* housing blocks, units designed by Mario Pani (Source: arquine)

Conclusions

In summary, within the existing literature, the clear influence of the principles of Modernism in architecture that emerged in Europe is evident, but it is simply mentioned and ambiguously analyzed. Furthermore, although similarities and differences in both housing and urban design may be apparent immediately, there are plenty of details that can be analyzed and questions to be asked and answered. For instance, which elements were straight imported and built but had a different outcome or effect on the inhabitants? What were those effects? Which spaces couldn't find a place in the new context?

Through this brief analysis, the ideas of Modernism applied to the development of housing in Mexico are clear. However, more detailed research is necessary to know to what extent such ideas arrived without any change and to what extent they were modified to adapt to the national context according to the social and economic moment. And there are even more questions that can arise in this regard: did this new typology have the same effects? Is it possible to reach a universal typology? And going even to the present moment: does this architecture still respond to the life of today's society? Can it be adjusted to current needs?

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Conflict of Interests

The author(s) declare(s) no conflict of interest.

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