

LOCAL HERITAGE OF THE MODERN MOVEMENT ARCHITECTURE: RE-THINKING HOUSING ESTATES OF THE SECOND HALF OF THE 20TH CENTURY HERITAGE IN IZMIR, TURKEY AND UPPER SILESIA AGGLOMERATION, POLAND, FROM A CONSERVATION PERSPECTIVE

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Abstract

The modernist "International Style" has evolved uniquely in distinct local contexts. Therefore, discussing and protecting Modern Movement architecture heritage necessitates an approach that harmonises universal principles with local nuances. This study reevaluates the housing legacy of the latter half of the 20th century in Izmir, Turkey and the Upper Silesian Agglomeration, Poland, as a research and conservation endeavour. These areas, characterised by industrial significance, dense populations and dynamic residential architecture, feature housing estates from the 20th century, bearing permanent traces of urban layouts. Our goal is to deepen our appreciation for 20th-century modernist architecture, with a specific focus on these estates. This study uses a qualitative data collection method that focuses on case studies and includes mixed analyses of primary and secondary sources. It stands as a pilot initiative for recognising and evaluating architectural heritage while identifying potential threats to its preservation. The result is to see these structures as heritage repositories, encapsulating comprehensive information at architectural and urban scales.

Keywords: XX-century modern architecture; Architectural heritage; Local modernism;
Housing estates; Conservation perspective

Introduction

The continuity of Modern Movement architectural heritage and securing its enduring presence become increasingly challenging. It is important to implement comprehensive measures to safeguard existing examples and heighten awareness regarding their value [1].

This study specifically focuses on rethinking the housing heritage of the latter half of the 20th century in Izmir (Turkey) and the Upper Silesia Agglomeration (Poland) while addressing it as a research and conservation issue. The housing products of that period represent the transition from traditional values to new ideas. This process deepens the architectural history and conveys the period's residential practices, technological developments and sociocultural, economic and political life. Changing societal demands, urban policies, renovation works, lack of documentation and negligible conservation awareness lead to destructive interventions. Another factor is that the state of knowledge about the heritage of housing estates from the period of Modernism is meager and the subject needs to be included within the scope of conservation approaches.

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The research hypothesis within the scope of the study is as follows: “Despite the initial radical assumption, the modernist style, known as the ‘International Style,’ has dynamically adapted, developed and transformed within distinct local contexts.” Therefore, the contemporary discussion and protection of the Modern Movement architecture heritage necessitate an approach that integrates universal and local guidelines. This research serves as a pilot study to identify local heritage, elucidate its universal background, determine its developmental impacts and represent its underlying meanings. This approach is deemed crucial for comprehending the dynamics of the conservation process and evaluating the sustainable effects of heritage. To substantiate the hypothesis, examples were selected from two culturally distant countries where local contexts influenced the process of implementing the postulates of the architecture of the Modern Movement.

The primary objective of this research is to enrich our understanding of 20th-century modernism’s architectural legacy, with a particular emphasis on housing estates. Aligned with this overarching goal, the study unfolds several key sub-goals:

- To scrutinize types of housing estates, providing in-depth insights into their origins, values and current status. To explore the impact of Modernism and its reception within local contexts.
- To assess housing estate architecture within the broader heritage context, actively contribute to unveiling local values embedded in these structures.

The study is mainly constructed on the following research questions: (i) What factors are the primary determinants influencing the heritage of Modern Movement housing estates and how have they manifested within local contexts? (ii) How is the Modern Movement housing estate architecture heritage perceived and protected today in these selected local contexts?

Materials and methods

This study employs a qualitative data collection method that focuses on case studies. The research includes mixed analyses of primary sources - observations, photographic documentation and document analysis— and secondary sources - archival records, published sources, municipal archives and literature sources. This theory-oriented research, focused on systematizing existing literature and knowledge, enriches the information collected with detailed descriptive and inferential interpretations.

The study covers existing housing estates in Izmir (Turkey) and the Upper Silesian Agglomeration (Poland) in the second half of the 20th century (1945-1990). The research covers critical moments in the history of modern architecture in Turkey and Poland.

The criteria for selecting these two areas as case studies were based on both similarities and differences (with reference to figure 1 showing the agglomeration of areas):

- The areas belong to culturally distant countries,
- There is a strong influence of local historical, social, political, cultural, economic, geographical and climatic factors on their spatial development,
- Both areas are heavily industrialized and highly urbanized,
- They show similarities in terms of scale and urban functions,
- There is a strong influence of the principles of modernism on the development of architecture in both areas,
- There is a gap in the state of knowledge and valorization of the architectural heritage and urban planning of housing estates and their urban layouts in both areas,
- The heritage is at risk of transformation and has no conservation protection.

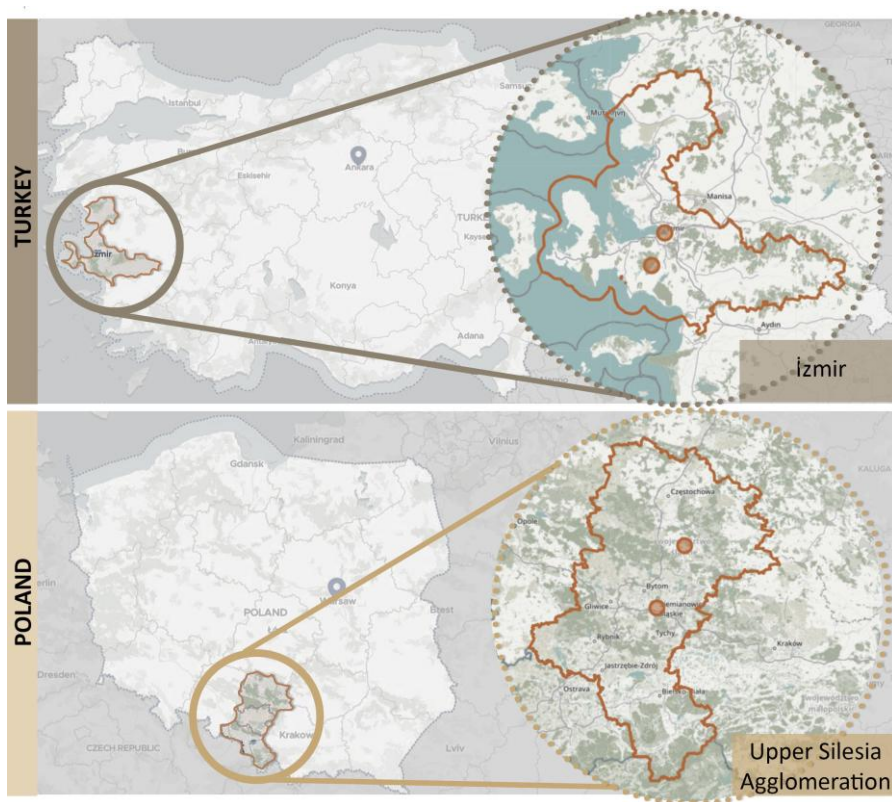


Fig. 1. Location of the research area: Izmir, Turkey and Upper Silesia Agglomeration, Poland (Maps are taken from OpenStreetMap and MapTiler, designed by the authors)

The research process involves five stages (Fig. 2): (i) discussing the theoretical background of the topic; (ii) delving into the historical aspect and background of the heritage of modernist housing estates globally - as a literature study; (iii) analysing the state of preservation of the local heritage of 20th-century housing estates through selected examples - case studies - archive research, documentation, in situ research, observation, data analysis, photo recording; a key aspect of this stage is to highlight the universal modernist elements and local influences in the cases studied; (iv) assessment of the state and system of preservation, research and documentation activities and threats destroying this heritage. The analysis is concluded with step (v), discussion and conclusions.

Focusing specifically on Izmir and the Upper Silesia Agglomeration, the study draws on international parallels to provide a theoretical background. Adopting a general-to-specific approach, the research explores three primary contexts: the international perspective with an emphasis on Europe, the local perspective with a focus on Turkey and Poland, and the specific cases of Izmir and the Upper Silesia Agglomeration.

An essential aspect of these contexts is assessing the modernist settlements in local contexts' current state of preservation, integrity, originality and conservation, and the possible prospect of protection resulting from legal conditions, ongoing research and documentation activities and threats resulting from local influences. The insights gleaned from this research facilitate contextualizing the two regions within the broader framework of modern architecture and enable analysis of their respective local contexts.

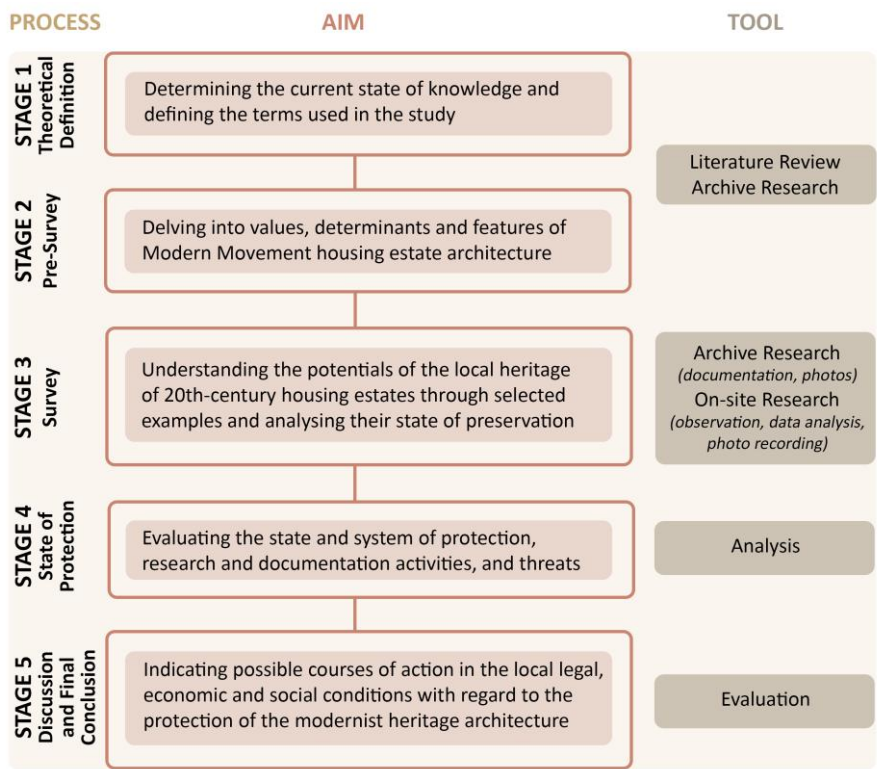


Fig. 2. Research method diagram

Stage 1 – Theoretical Definition

The Modern Movement Architecture Heritage and Its Conservation

The modern movement differs from previous social orders with its dynamism, globalism and rejection of tradition [2]. It has changed living conditions and sought solutions to improve the urban environment by moving away from traditions and values [3].

The synthesis of economic, social and technological developments with architectural practice illustrates the dynamic interaction that continually shapes the field. Modern architecture’s adaptability and responsiveness to changing contexts and needs underscore its relevance and enduring legacy. This historical overview not only enriches our understanding of modern architecture but also inspires ongoing exploration and innovation in architectural design and urban planning.

Different countries and international organizations have determined the definition, scope and period of “modern architectural heritage” differently. According to Salman [4], modern architectural heritage can be defined as buildings, groups of buildings and settlements produced in the 20th century representing international and national orientations or innovative techniques and technologies. The demolition of the Pruitt-Igoe residential complex (1955, Minoru Yamasaki, St. Louis) in 1972 due to social deterioration symbolizes the end of an era in architectural history but also marks the beginning of a new period in conservation. Since the 1970s, with the important demolitions (Imperial Hotel, Esder Atelier, Health Department), the definition and recognition of modern architecture as cultural heritage have started to be discussed by conservation theorists [5]. The demise of communism in 1989 across Central and Eastern Europe, which has important examples of early modern architecture, has sparked a

heightened fascination with the subject. In these nations, there has been a resurgence of interest in undocumented structures and housing estates within the framework of conservation efforts [6]. Concurrently, this period marked the revelation for Western nations that modern architectural products were destroyed and damaged due to neglect [7].

The time between the creation and the conservation of a building belonging to the heritage of the modern age has remained quite compressed. The limited time to evaluate the Modern Movement affects how conservation is approached. The most common difficulties associated with each other are lack of recognition and protection, lack of a common approach, life span and technical difficulties. The increasing types of buildings and the centrality of functionality by modernist ideology in the twentieth century are the major challenges to conserving modern architecture [8].

The conservation paradigm is a proposal that emerged against the effects of rapid transformations parallel to the “modern.” It has become a discipline to prevent old savings with various values from being damaged by the radical transformations experienced in the 19th and 20th centuries [9]. Conservation discipline is a set of preventive and remedial interventions, practices and associations that investigate the cause and solution of problems and focus on maintaining the integrity of the existing historic fabric [10]. Conservation is about the continuity of the transformations of objects and places over time and the dynamic operation of change rather than preserving the traces of the past [11].

Conservation Science includes a set of measures aimed at preserving heritage and the messages it conveys as close as possible to the current situation through a continuous process of valorization [12]. According to *F. De Pieri* [13], discovering aspects of a building or urban environment worth preserving beyond the physical evidence provides a clue to accepting social change over time and constructing a complex narrative about the urban past. Conservation, therefore, encompasses the specific selection of appropriate buildings and the built environment as a whole, which can be seen as a backdrop to specific social, historical, economic and political conditions. The goal of the conservation process is to enhance the value of cultural and natural heritage assets while safeguarding their historical significance [14].

Divergent viewpoints persist in the approaches taken towards recognizing, identifying and conserving contemporary architectural artifacts from the recent past within the scope of heritage. As these structures undergo rapid transformations, the imperative of establishing objective definitions and conservation criteria, coupled with the systematic organization of inventories, becomes progressively more significant. In this article, we define the protection of architectural heritage as a series of activities, including legal protection, scientific and documentary research, social and educational activities raising awareness of the value of heritage and activities aimed at eliminating threats. By this definition, we will analyze the protection of the examples of settlements in Izmir and the Upper Silesia Agglomeration selected for the study.

Stage 2 – Pre-Survey

Determinants of the Modern Movement Housing Estate Architecture

In the early 20th century, the requirements in housing and urban areas resulted in different building forms. New technical possibilities, materials and mass production brought new strategies in architecture and urban planning and shaped the modern city.

The International Congress of Modern Architecture (CIAM, 1928-1959), which concentrated on all aspects of architecture, significantly impacted the spread of the Modern Movement throughout the world. It was an international coalition of European architects, including new ideas for the urban design of houses and cities in the socialist context. The modular construction system, different plan solutions, standard and mass production and optimum efficiency from natural variables and topography like ventilation, lighting and green

space were among their design tenets [15, 16]. Decisions taken and proposed strategies at CIAM were gradually introduced. A new city concept was created aiming at good living conditions, seeking solutions to urban and architectural problems and creating a modern city with machinery, mass production and new technical possibilities [17].

Housing was addressed as a financial and economic issue following the 1929 economic crisis and functionality began to be considered through cost [3]. Representatives at the CIAM 2 in Frankfurt in 1929 and the CIAM 3 in Brussels in 1930 discussed the “Existenzminimum”, a family housing unit that can be afforded at minimum wage. As a result of the first worldwide comparison of minimum dwellings, representatives decided that the minimum unit was the appropriate solution to the housing problems of societies. This strategy has been frequently used to deal with housing shortages, unsanitary living conditions and post-war social changes [18, 19]. Ideas and decisions made by CIAM that influenced the growth of architecture and urban planning were later used for housing estate projects around the world [16].

The fundamental assumptions of housing estates were formulated in the Athens Charter of 1943. This charter resulted from CIAM IV in 1933, which set the guidelines for the functional city for urban planning. With this charter, it was appropriate to divide functional zones within urban landscapes and to consider factors such as topography, climate, open space and greenery when designing residential areas. Additionally, it emphasized the need to enhance urban living circumstances and served as the ideological basis for housing estates [20, 21].

Despite the changes and socio-political divisions experienced after WWII, the production of housing estates accelerated and this typology radicalized the functionalism of the Modern Movement and the Athens Charter [19]. As a result, modern technical solutions such as reinforced concrete construction and prefabrication and new materials such as steel and concrete fundamentally influenced the architectural language of modernist cities and shaped urban spaces [17].

Since the ideas of the modern era are aimed at improving human life, many attempts have been made to solve problems. The Pruitt-Igoe urban residential complex, which was demolished in 1972 due to increased crime, racism, extreme poverty and social deterioration manifested by mistakes in modernism, was considered the sign of the symbolic end of the modernism period and the end of the large panel application in Western countries. This destruction also represented the birth of new ideas [22, 23].

Just as the development, features, problems and renovation of housing estates vary, so too does the future that awaits each one. By highlighting the positive aspects of these housing estates, we can foster sustainable urban conservation. As *P. Spiridon, I. Sandu and L. Statulat* [24] mentioned, understanding the underlying motivations allows us to devise strategies to prevent and monitor human activities and behaviors, whether intentional or accidental, that pose a threat to heritage assets. Overall, the history of housing estates in the post-war period is a testament to the ambitious, yet sometimes flawed, pursuit of modernist ideals in urban planning. While these efforts significantly influenced the architectural landscape and improved living conditions, they also highlighted the need for flexibility, adaptability and a more nuanced approach to urban development. The lessons learned from this era continue to inform contemporary housing and urban planning strategies, emphasizing the importance of balancing innovation with the practical needs and preferences of residents.

The social, economic and technical issues faced by these housing estates, which once symbolized modern and egalitarian ideals, are interconnected, leading to a cascade of additional problems. The challenges behind these housing developments, often criticized as monotonous and inadequate, are varied in various local contexts, necessitating equally diverse solutions. It's essential to recognize that although specific modernist housing projects encountered difficulties, numerous others are still valued as significant architectural achievements. In today's age of commercialized environments, there is a growing appreciation for the Modern Movement and its lasting architectural heritage, which deserves to be conserved. Despite their decline or

transformation, these estates remain a significant legacy of their era in every local context. Their abundance and historical importance make them impossible to overlook. In the next part, we examine the current status, values, developments and future prospects of these sites in selected local contexts: Turkey and Poland.

Stage 3 – Survey

Local Heritage of Housing Estates of the Second Half of the 20th Century

To understand the transformation of the modern architectural housing estate heritage in local contexts with the influence of an international background, it is important to follow the breaking points of these sites in the historical process (refer to Fig. 3). This information is shaped by many economic, political, social and political factors and leads to the adaptation of accepted methodologies in the heritage conservation process to the conditions of the sites.

Turkey: With the establishment of the Republic of Turkey in 1923, new changes were experienced in the social, cultural, economic and political fields, and as a result, in the architectural field. Universal modernization movements began and radical reforms were implemented by adopting occidental models [25]. The housing modernization program of the new state included mass housing projects, cooperatives, public housing, lodgment houses and rental houses adopted from the West [26]. In the mid-1930s, Turkey promoted cooperative housing and the Emlak & Eytam Bank, founded in 1926, aimed to provide credit for housing. Bahçelievler in Ankara began in 1935 as the country's first cooperative housing project based on the garden-city model and became a model for other settlements [27].

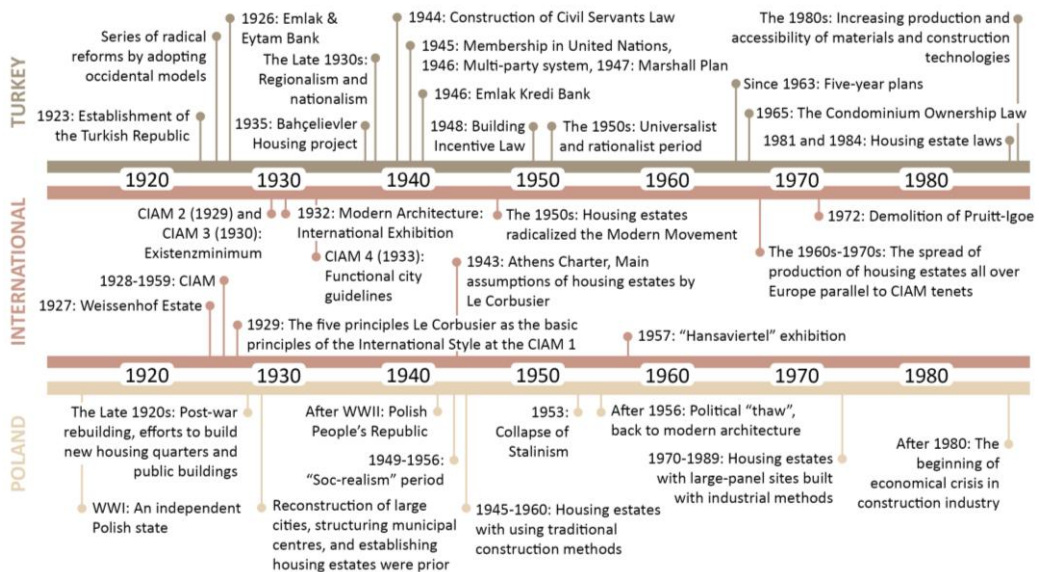


Fig. 3. Summary of the determinants of the Modern Movement housing estate architecture in Turkey, Poland and international contexts

After WWII, as in many other countries, Turkey entered a new era of increased social mobility as a result of modernization [28]. Due to the increase in migration from rural areas to cities, a new culture of life has emerged. The population of workers and civil servants who prefer to live in apartment buildings in cities has increased. The Construction of Civil Servant Law in 1944, a public housing construction model for public employees, influenced the emergence of the first significant housing estates, such as the Saraçoğlu Neighborhood, Ankara (designed by Paul

Bonatz in 1946) [29]. Emlak Kredi Bank was established in 1946. Credit and tax exemption opportunities increased and housing estate projects emerged with reinforced concrete slab block construction. The Building Incentive Law was enacted in 1948 to prevent illegal construction in cities. This law has been an important turning point in the spread of apartment buildings. The 1950s, when the population increased rapidly, became a universalist and rational period in which foreign publications and factors influenced Turkish architecture [30].

With the Condominium Ownership Law in 1965, each flat in the apartment began to be defined as an independent unit. This has been a breaking point in the increase in demand for housing and the spread of apartment buildings [31, 32]. During the 1960s and 1970s, developments were made and numerous architects dedicated their professional endeavors to progressing construction materials and techniques.

A new development process started with the socio-cultural, political and economic background, which transformed after the military intervention of 1980. Housing estate laws enacted in 1981 and 1984 encouraged meeting housing needs through mass housing production and supported large enterprises. In the post-1980 period, the insufficient number of houses and the increasing problem of slum areas were solved by housing estate production. Forms of large-scale production have increased and urban spaces offered different products with large investments [33, 34].

Poland: the source of Polish architecture lies in political, economic and social backgrounds. An independent Polish State was established as a result of the First World War [35]. Problems of urban planning and housing reform emerged with population growth, changing social realities, the rapid growth of towns, the spread of industrialization and the onset of the housing crisis. Reconstruction of large cities, structuring municipal centers and establishing housing estates there were prioritized [36].

After World War II, Poland underwent a significant transformation, evolving into the Polish People's Republic and joining the burgeoning bloc of communist states associated with the USSR. The first post-war years were a time of repair and reconstruction of the country's war damage and the architecture of this period was influenced by and continued the pre-war traditions [37]. The first stage of development of Polish housing estates was as standard blocks or tenements built with traditional construction methods [38]. To fill the construction gap, integrate the population and adapt to the modern period, large-scale housing estates suitable for the industrial era and social life began to be built after World War II [39].

The short period after WWII (1945-1949) was a time of continuation of modernist thought in architecture from the pre-war era and was soon replaced by the dictates of "socialist realism", which in 1950-1956 became the prevailing imposed style with Soviet sources. This mandatory official style, far from modern functionalism, was adopted "nationally in form and socialist in essence" [37]. The housing problem was one of the important indicators of socialist ideology and the shape of architecture, especially housing, clearly reflected political changes. The entire period was a complete retreat from modernist architecture. After the revocation of the doctrine in 1956, Socialist Realism disappeared from the workshop of architects as quickly as it appeared on it [40].

After the end of the Socialist Realist period, architecture immediately returned to the tracks of modernity and the avant-garde. This period was called the "thaw" for, among other reasons, architects' almost total freedom despite the prevailing political conditions. The late 1960s and the decade of the 1970s saw a marked shift toward utilitarian and economically effective architecture. New construction systems and prefabricated sections were introduced, which were used to produce large slabs in house factories nationwide. It was the standardization period in housing and the state produced housing estates with similar arrangements [36].

In the 1970s, rapid and industrial solutions were sought to solve the housing problem in society [22]. In this profound economic and social change period, design solutions were

produced to meet human needs, housing estates and recreational constructions were developed and new communication facilities were built [21, 41].

Izmir, Turkey's third most populous city, has been a pivotal and evolving urban center due to its strategic location. Over the course of history, the city has played a crucial role in economic, historical and socio-cultural domains, solidifying its status as a prominent hub. The city's growth as a port and cosmopolitan commercial center has significantly influenced its architectural culture, incorporating international elements and giving rise to a diverse and dynamic housing architecture. The reconstruction of the urban fabric of *Izmir*, which was destroyed by the great fire in 1922 after its liberation, allowed the creation of a modern city. Each of the architectural developments throughout history shaped housing estate areas in *Izmir*.

1923 – 1944. While fire areas were being developed, the municipality built single- or two-story houses called “Sanitary Houses” (*Sihhi Evler*) to create healthy and modern environments. These houses were introduced to attract workers to the city and enable them to live in sanitary houses, with state support and the slogan “cheap and healthy housing” (Fig. 4). These examples, designed as row houses or garden-city models, were important in urban planning. Cheap construction techniques were used due to the country's economic conditions [33, 46].

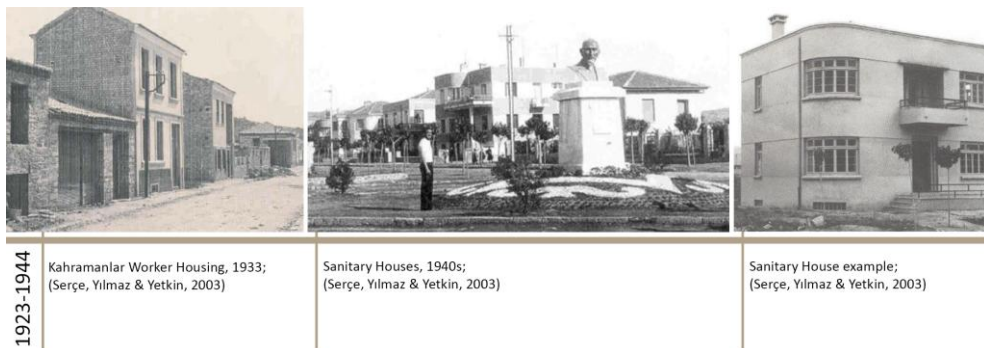


Fig. 4. Examples from 1923-1944, *Izmir*

1944 – 1965. The urban population increased during this period due to changing state policies, economic reasons and migration. To solve the housing problem of civil servant families whose population increased, housing settlements produced by cooperatives were seen in several districts at the end of the 1940s with the Construction of Civil Servant Law in 1944. With the Building Incentive Law in 1948, the municipality's land allocation efforts to housing cooperatives were another factor [43]. The cooperative examples produced in this period contributed to the construction of modern society with the new lifestyle they offered (Figs. 5 and 6). These cooperatives, consisting of low- to mid-rise buildings, created a new urban texture as competent examples of the modern in *Izmir*, with their modernist design approaches and simple facades. Additionally, in these examples, the construction and material features resulting from the climatic, social and economic characteristics of *Izmir* and the elements of the national architectural movement, which was the common understanding of the period, were brought together [30].

1965 – 1984. The Condominium Law of 1965 rapidly increased the construction of apartment buildings, especially in the city's coastal areas. In the first half of the 1970s, there was a significant increase in the production of high-rise apartments and uniform housing approaches with similar plan layouts became widespread. Social housing projects for low- and middle-income people emerged mainly on the city peripheries during this period. Emlak Bank Bostanlı Housing Estate I Stage houses (1972-1977) stand out as one of the local examples in *Izmir* of the “garden-city” concept developed at CIAM conferences held within the scope of the Modern Movement [44]. After the 1970s, large housing estate projects began to be

implemented in which new technologies were used and the universal modernist style was adopted with its forms and production techniques (e.g., Emlak Bank Bostanlı Housing Estate II-III-V Stages, 1977-1984) (Fig. 7).

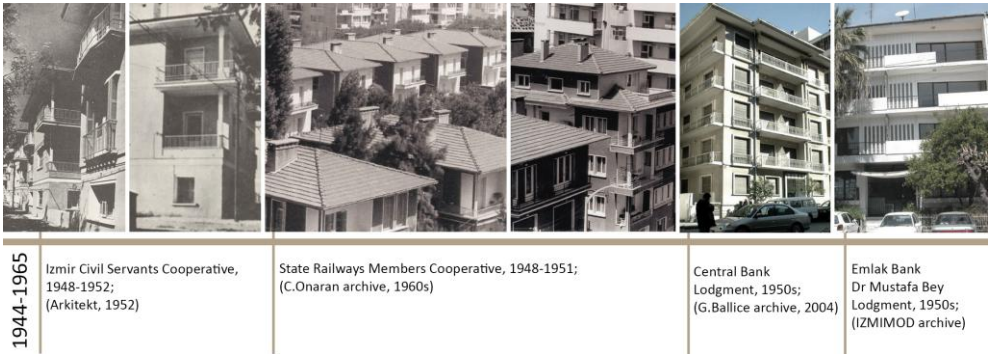


Fig. 5. Examples from 1944-1965, Izmir



Fig. 6. Examples from 1944-1965, Izmir



Fig. 7. Examples from 1965-1984, Izmir

1984 – 1990. With the housing estate laws (1981 and 1984), which encouraged meeting housing needs with mass housing production and supporting large enterprises, housing estate practices gained momentum between 1985 and 1995. In addition, by adopting the concept of social housing, which allows low-middle-income people to own a house, fast and economical houses have started to be produced [33, 34]. In the post-1980 period, large-scale modes of production began to be seen and the problems of insufficient housing and squatter areas were

tried to be solved with housing estate approaches [45]. The flagship example is the Emlak Bank Atakent Housing Estate VI Stage houses, 1986-1989. Key Modern Movement principles include the segregation of pedestrian and vehicular traffic, the distinction of areas for housing, leisure and communication, expansive open spaces and a commitment to greenery for all (Fig. 8).



Fig. 8. Examples from 1984-1990, Izmir

The Upper Silesian Agglomeration, the southeastern part of Silesia, is an industrial region in southern Poland. Political transformations and economic and border changes directly impacted the region's architecture and urban planning.

1900 – 1914. The spatial development of the Upper Silesian Agglomeration began at the turn of the 20th century when the region was part of Germany. Industry development caused a huge population migration to industrial centers offering jobs. Numerous organized, invested industrial plant owners' colonies and workers' settlements clustered near the plants were then established. They ranged from very simple multi-family brick housing (familoks) to sophisticated settlements modeled on European models of collective housing, e.g., "garden city" or quarter housing (Fig. 9).

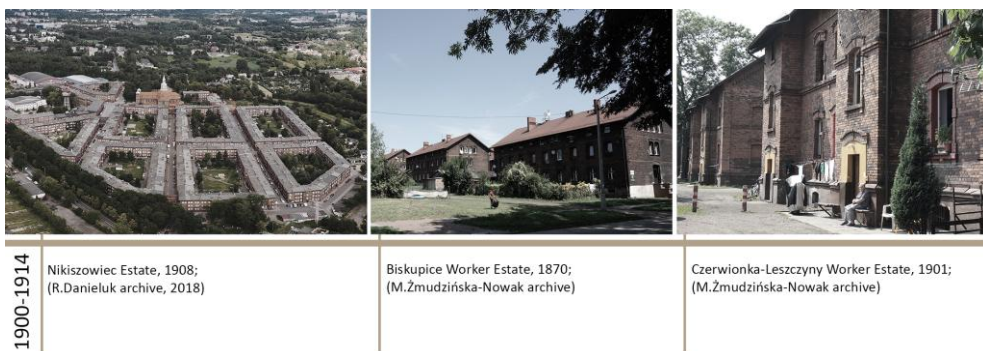


Fig. 9. Examples from 1900-1914, Upper Silesia Agglomeration

1921 – 1939. The dynamics of political change left a significant mark on the form of architecture and land use. After the end of World War I, this region was divided between two states, partly belonging to Germany and partly to the Polish Republic. In the years following the end of World War I, after the division of Upper Silesia, Katowice found itself in the Polish part of the agglomeration. As a city of extraordinary prestige within reborn Poland, buildings were built here that were examples of the most avant-garde modernism architecture and luxury villas

(Fig. 10) [46]. It is also possible to identify many examples of social housing from this period, distinguished by their modern form.



Fig. 10. Examples from 1921-1939, Upper Silesia Agglomeration

With the changes in the state borders after the Second World War, the entire Upper Silesia region was included in the Polish People's Republic. Each of the periods of architectural development in the second half of the 20th century left housing estates representative of a given period in the Upper Silesian Agglomeration:

1950 – 1956. Socialist Realism—well represented, among other things, in the newly emerging city of Tychy in the southern part of the agglomeration since 1950. Tychy's first housing estate, Anna, directly references the then-current slogan “national architecture in form and socialist in content.” At the end of this period, there are references to the scale and layout of small Polish cities—for example, the Barbara estate in Tychy (Fig. 11).

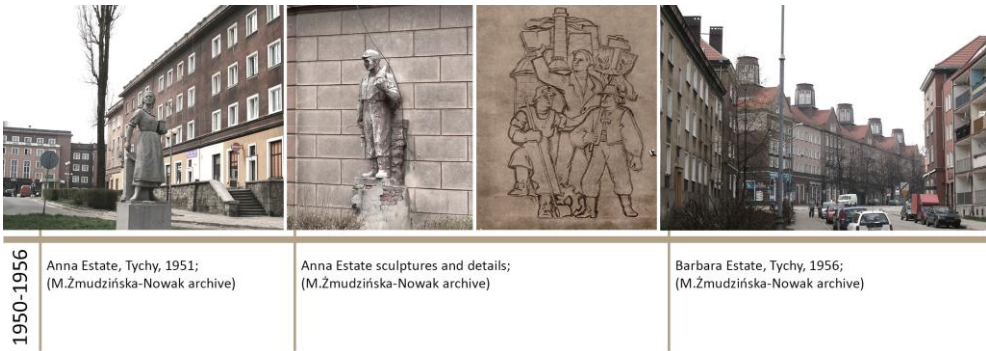


Fig. 11. Examples from 1950-1956, Upper Silesia Agglomeration

1957 – 1965. Immediately after the end of the Socialist Realist period, there was a period called the “thaw.” Architecture immediately returned to modern and even avant-garde trends. Many examples of urban assumptions refer entirely to the ideas of the Athens Charter. An outstanding example is the Millennium Estate in Katowice (from 1961). Many housing estates adopt simple forms, reduced detail and small-scale buildings but with plenty of neighborhood greenery and social spaces, such as the Grunwaldzkie estate in Mikołów, the Ewa estate in Tychy and many others. Experimental buildings were also being built, such as the “Super Unit” in Katowice, inspired by Le Corbusier's Marseilles Unit (Fig. 12).



Fig. 12. Examples from 1957-1965, Upper Silesia Agglomeration

1965 – 1980. The second half of the 1960s brought very rapid development of housing construction in Poland. So-called “house factories” were being established where mass production of prefabricated units built as ready-made system walls and ceilings began. Such industrialization of the construction process had a very negative impact on both the quality of residential architecture and its architectural form. Buildings began to be more and more repetitive and the creative participation of the architect was reduced. Huge housing estates were erected around the largest cities of the agglomeration, including the largest clusters of new housing estates in the so-called new cities like Tychy and Jastrzębie. One can also point to examples of individually designed residential buildings that became icons of the agglomeration, such as the “Stars” estate (1970-1978) or “Corns,” built in the mid-1980s in Katowice (Fig. 13).



Fig. 13. Examples from 1965-1980, Upper Silesia Agglomeration

1980 – 1990. It was a period of great economic and political crisis in Poland. Many state investments were halted. But it is also the decade when the socialist system in Poland begins to end. In terms of architecture, the first voices of postmodernism began to arrive, along with a complete change in the way we think about urban development. The first and very few settlements appeared that implemented the idea of “architecture of the place,” referring to Silesian building traditions, architectural forms and materials (Fig. 14).

By considering two sites with different backgrounds, it becomes clear that the concept of housing estate is a social, political and economic phenomenon as well as an architectural and urban one. Each period in each local context stands out as proof of architecture and an ideological approach that is mainly influenced by social, political and economic transformations and legal regulations. They have been shaped by the needs of different lifestyles while remaining sensitive to global changes. The examples from Izmir and the Upper Silesian Agglomeration convey the housing, design and production approaches of the periods. These

residential areas of housing estates in particular periods were mostly created in a short span of time and in light of similar problems.



Fig. 14. Examples from 1980-1990, Upper Silesia Agglomeration

Although these two sites have completely different social, economic, political and cultural backgrounds, we can deduce that the reasons behind the development of housing estates showed similarities with European countries in general: (i) Finding a solution to the housing shortage resulting from the migration from rural areas to cities, (ii) ensuring fast and standard production with increasing technical possibilities with the development of construction technologies, (iii) building more houses at less cost, (iv) revealing the social and functional role of housing and urban planning with government support or individual initiatives, (v) drawing the lines of the modern city adhering to the CIAM principles representing healthy living, improved environmental conditions and an egalitarian society, (vi) implementing well-designed modern facilities at both indoor (central heating, elevator, garbage system, hot-cold water etc.) and urban (various facilities, shops, urban furniture etc.) scales, suitable for high living standards and comfort.

The emergence of housing developments in particular local contexts after the First World War—continuing until the Second World War in Izmir and the Upper Silesian Agglomeration—was driven by the need to fulfill housing needs (Figs. 4 and 10).

The first decades after the Second World War in Izmir, until 1965, were characterized by the development of cooperative construction combining the characteristics of traditional architecture with the guidelines of the modernistic style (Figs. 5 and 6). During this period (1950-1956), there was a brief but radical period of ‘socialist realism’ in the Upper Silesian Agglomeration, in which the features of traditional, classical architecture tried to dominate modern architecture and urban planning (Fig. 11).

With the end of the Socialist Realist period in the Upper Silesia Agglomeration in 1957 and the use of new technologies and the adoption of the universal modernist style in Izmir after the 1970s, various examples of urban assumptions referring to the ideas of the Athens Charter were encountered in housing estate examples. In both local contexts, numerous housing estates stand out for their simple forms, reduced details and prevalence of small-scale buildings. Beyond the architectural simplicity, these examples underscore a commitment to the natural environment, featuring open spaces and greenery. Notably, these housing estates captivate attention with their meticulously planned urban spaces and social areas, reflecting a harmonious blend of functional design and social considerations (Figs. 7, 8, 12 and 13).

Residential construction has gained momentum in the Upper Silesian metropolitan area since the mid-1960s, while its roots in Izmir date back to the 1980s. The drive for rapid, profitable and large-scale residential development negatively affected the quality of residential architecture. The post-1980 economic and political crisis in the Upper Silesian Agglomeration

followed and changes in the social and political structure were also clearly visible in Izmir. At this time, the first effects of postmodern architectural trends became visible in both contexts (Figs. 8 and 14).

Since the 1990s in Izmir, the convergence of changing social needs and increasing material opportunities has given rise to a distinctive trend in residential architecture—characterized by the visible embodiment of consumption and luxury living. An analogous scenario took place in the Upper Silesian Agglomeration a little later. The economic and political changes after 1989 and the slow overcoming of the economic crisis gave rise to the characteristic development of residential architecture in the early 2000s. These prestigious estates, usually designed on the city's outskirts, differ from the existing structure in scale, height and density.

In the examples discussed, as in many others, the ideas of modernism were influenced and pressured by political, economic and social conditions, often manifesting their modernity only in the formal layer. Although the general principles of this process are common, the final effect in the different cultural contexts was now significantly different. They sought to represent an international modernist language by incorporating traditional elements, materials and production techniques into housing production. The discussed housing estates include excellent examples of the adaptation of the modernist style to local conditions in the 1950s, avant-garde solutions from the 1960s, the rapid development of housing in the 1970s and subsequent transformations. All of them are a valuable record of cities' architectural and urban development and some are worth documenting and protecting. Regrettably, both in Izmir and the Upper Silesian Agglomeration, the dominant approach to solving current housing problems focused primarily on quantitative measures, which leads to the predominance of buildings that are not adapted to the existing urban fabric, often resulting in over-density and loss of open green areas. A dangerous consequence of this trend is the widespread commercialization of space and the development of mass construction by private corporations at the expense of the neglect and destruction of modernist buildings. However, many examples of modernist assumptions of that period constitute a very valuable architectural and urban heritage and require proper conservation and strict protection as often innovative monuments of the past.

Stage 4 – State of Protection

Legal System, Recommendations and Informal Protection of the Architectural Heritage of Modernism - European Background

It is accepted by many that the development and achievement of international conservation activities took place in the second half of the 20th century. The Athens Conference of 1931 and the International Congress of Modern Architecture of 1933 influenced the scale and content of conservation theory in the 20th century [5]. The Second International Congress of Architects and Technicians of Historic Monuments was held with restoration experts. As a result of this congress, the Venice Charter of 1964, the most important guide that offers remarkable principles for protecting architectural heritage, was published. The conservation process has evolved over a long period, beginning with the Venice Charter in 1964 and further shaped by various international documents and events [47]. In 1985, the Convention for the Protection of the Architectural Heritage of Europe was adopted as the first international agreement to include integrated conservation principles [48].

DOCOMOMO, founded in the Netherlands in 1988 and becoming an international organization aiming to document and preserve individual or urban-scale examples, is an important step in conserving modern architectural heritage. The 1990 Eindhoven Declaration, accepted as the founding text, is the first international text emphasizing the need to create public opinion on documentation and protection [4]. The Council of Europe Recommendation on the Protection of the Twentieth Century Architectural Heritage, dated 1991, foresees the

development of strategies for the identification, study, protection, conservation, restoration and public awareness of twentieth-century architecture [49].

Many international organizations, such as DOCOMOMO (Documentation and Conservation of Modern Movement), UNESCO WHC (World Heritage Convention), ICOMOS (International Council on Monuments and Sites), mAAN (Modern Asian Architecture Network), ERIH (European Route of Industrial Heritage), TICCIH (The International Committee for the Conservation of the Industrial Heritage), UIA (International Union of Architects) and the Council of Europe, have been working on the evaluation of the buildings of the modern architectural period as cultural heritage and determining the protection criteria since the 1990s. The ICOMOS Twentieth Century Heritage International Scientific Committee conserves mid- to late-twentieth-century heritage by coordinating projects, conferences, declarations and publications [50]. In addition to these organizations, the Getty Conservation Institute, another initiative in the field of conservation, conducts international research to improve conservation practices. In 2012, it launched the Conserving Modern Architecture Initiative to advance the preservation of modern architecture through research, publications, projects and educational activities. It launched the “Keep It Modern” project initiative in 2014 to preserve 20th-century buildings worldwide. In 2021, ISC20C published the Twentieth Century History Thematic Framework—A Tool for Assessing Heritage Places [49, 51].

International Scientific Committee on Twentieth Century Heritage (ISC20C) members undertake international and regional collaborations through projects such as the Socialist Heritage Conservation Initiative. Annual meetings and conferences have produced many solutions and standards, such as “Approaches to the Conservation of Twentieth Century Heritage” (known as the Madrid-New Delhi Document), endorsed by the ICOMOS General Assembly in Delhi in 2017.

These discussions increase intercultural dialogue and make it possible to combine universal and local features in conservation. An important voice in the global discussion is the book “Time Frames: The Politics of Conservation of Twentieth-Century Architectural Heritage” [52]. The book is a cross-sectional overview of conservation policies toward 20th-century architectural heritage in more than 100 countries worldwide.

System of Legal Protection of Modern Architecture, Research and Social Activities in Turkey and Poland

Turkey

The legal protection of movable and immovable heritage is regulated by Law on the Conservation of Cultural and Natural Property No. 2863 of 1983. The foundations of the understanding of conservation in Turkey were established in 1964 with the internationally accepted Venice Charter. Turkey has approved and legalized many decisions of the Council of Europe and UNESCO, such as the Convention for the Protection of the World Cultural and Natural Heritage, 1972 (acceptance date in Turkey: 1982), the Convention for the Protection of the Architectural Heritage of Europe, 1985 (acceptance date in Turkey: 1989) and the European Convention on the Protection of the Archaeological Heritage, 1992 (acceptance date in Turkey: 1999).

Activities supporting the protection of heritage take various forms, both institutional and social. The Directorate General for Cultural Heritage and Museums, managed by the Ministry of Culture and Tourism, deals with identifying, protecting, evaluating and transferring movable cultural and natural assets and immovable cultural assets. There are Cultural and Natural Heritage Preservation Boards in various regions of Turkey. These boards are responsible for protecting and managing historical and cultural heritage within their respective regions [53].

The Chamber of Architects, founded in 1954, informs its members about architectural heritage and draws attention to the importance of threatened examples of modern heritage. The

congress “20th Century Architectural Heritage,” organized by the Bursa Branch of the Chamber of Architects in 2001, was one of the first meetings where the modern architectural heritage subject was discussed in Turkey [5]. In 2002, the “Conservation of the 20th Century Architectural and Industrial Heritage” symposium was organized by ICOMOS Turkey. In 2003, the “Architectural Evaluates Its Past” investigation was conducted by the Chamber of Architects to attract the attention of all architects to the buildings of this period and in line with the opinions of the members, “20 Leading Works of Contemporary Architecture in Turkey (1923-2003)” were tried to be determined [54, 55]. The ICOMOS Turkey Architectural Heritage Protection Declaration was published in 2013.

Turkey participates and collaborates in international efforts and organizations for heritage conservation, such as UNESCO, ICCROM and ICOMOS. Docomomo Turkey working group, established in 2002, carries out studies on the documentation and conservation of Turkey’s modern architecture by conducting inventory studies, developing necessary regulations, organizing scientific meetings and preparing publications. Additionally, the working group makes registration applications to protect modern architectural products that are threatened by demolition in many cities [55, 56]. Docomomo Turkey Interior Design Committee was established in 2019 to develop a holistic understanding of the spatial aspects of modern living culture under the Docomomo Turkey working group. It aims to research interior spaces to understand their role within the Modern Movement, explain the importance of their preservation and present them as a research field where many disciplines meet [57]. The Architects Association 1927 initiated the “Modern Architectural Research Program” in 2020, a pioneering endeavor to provide research funding to facilitate the preservation and identification of Turkey’s modern architectural heritage.

Scientific and academic research, documentation studies and promotion and education activities support the conservation of heritage. The Arkitekt database was prepared and made available by the Chamber of Architects. Mimarlık magazine, published by the Chamber of Architects in 1963, is another important archive. Salt Research collections consist of physical and digital documents and resources under art, architecture and design and city, society and economy [58].

Among the important theoretical studies in the literature on the documentation, preservation and evaluation of the modern architectural heritage in Turkey are Kuban [59]; Omay Polat [5, 60-62]; Kayın [63-66]; Cengizkan [54]; Madran [67]; Madran and Altan Ergut [68]; Özgönül [69] and Özkaban [55]. While these studies contribute to the definition, scope and valorization of the modern architectural heritage in Turkey, they also make suggestions that will form the basis for various conservation interventions.

Poland

The legal protection of monuments is regulated by the “Act on the Protection and Care of Monuments” of July 23, 2003. This basic legal protection is rooted in the Constitution of the Republic of Poland of 1997. These guidelines are consistent with the recommendations of the Venice Charter, 1964. Similarly, the 1985 Convention on the Protection of the Architectural Heritage of Europe (date of adoption in Poland: 2012) also calls for preserving this heritage for future generations [70].

Activities supporting the protection of monuments take various forms, both institutional and social. The Polish National Committee of ICOMOS was established in 1965. The protection of heritage is supported by the Polish Committee for UNESCO. There is also a Polish branch of DOCOMOMO International, a non-profit organization dedicated to documenting and preserving buildings and sites associated with modernist architecture and urbanism.

The National Heritage Institute is a state cultural institution that constitutes the basis for sustainable conservation of cultural heritage by collecting knowledge about heritage, setting and

disseminating standards for the protection of monuments and shaping public awareness of the value and preservation of cultural heritage. In 2017, the institute began digitizing the resources of the National Register of Monuments [71].

In 2000-2003, on the initiative of members of the Warsaw Branch of SARP, criteria were developed to help select contemporary cultural products. On this basis, the List of Contemporary Cultural Properties in Warsaw was developed and similar criteria were later developed by other SARP branches [72]. The 1st Congress of Polish Conservators, held in 2005, was considered an important event at which the most important experts in the protection and conservation of monuments debated [73].

The session “Register of Monuments or List of Contemporary Cultural Properties”, organized in May 2006, played a pioneering role. In 2007, a group of experts was established within the National Centre for Research and Documentation, aiming to develop criteria for protecting 20th-century architecture and to select a nationwide list of the most valuable objects that should be protected. The commission first dealt with buildings from the first half of the 20th century [72]. The debate on the need to preserve the heritage of modernism is very lively in Poland, undertaken by the Association of Polish Architects, cultural institutions and universities.

Education, promotion and social activities. The National Institute of Architecture and Urbanism develops public awareness by popularizing knowledge of architecture and urbanism through education, publications and exhibitions. The institute cooperates with architects, local authorities and local communities. The Museum of Architecture in Wrocław, on the other hand, is the only museum institution in Poland fully dedicated to the history of architecture and contemporary architecture. The museum cooperates with the local self-government to protect and conserve the architectural heritage. Elements of architectural education also appear sporadically in the programs of many other cultural institutions in Poland, such as museums, cultural centers, associations and schools, as extracurricular activities. Polish cultural institutions have actively participated in the European Cultural Heritage Days since 1993.

The State of Modern Movement Housing Estate Architecture Protection in Izmir and Upper Silesia Agglomeration

Izmir showcases a rich tapestry of housing developments spanning the latter half of the 20th century, reflecting diverse social, economic and political contexts. According to the data of the General Directorate of Cultural Assets and Museums (from the end of 2023), Izmir is the city with the second largest tangible cultural heritage in Turkey, with 7976 registered buildings, 5244 of which are examples of civil architecture [53]. However, this registration does not guarantee the continuity of protecting housing estates and preventing their demolition.

Activities supporting housing protection: One of the main sources introducing the architectural environment and structures of the period is Arkitekt magazine [5]. The journal of Mimarlık, published by the Chamber of Architects of Turkey since 1963, has articles covering architectural news, current issues, evaluations and theoretical discussions about Turkey’s modern architecture and conservation awareness. The journal of “Ege Mimarlık,” published by the TMMOB Chamber of Architects Izmir Branch, is an important resource about Izmir housing. In addition to various research articles that promote local architecture and introduce the products of influential architects, it also includes building introductions. Ahmet Piriştina Izmir City Archive and Museum (APIKAM), which was established in the Izmir Fire Department Central Building (built in 1932) in 2004, is an archive collection containing various materials reflecting the historical and cultural background of Izmir [74].

Docomomo Turkey working group has started to promote and document different building types in different cities with poster presentations on “Local Expansions of Modernism” organized every year since 2004 to create a national inventory [56].

“Our City Izmir Association,” founded in 2012, is a non-governmental organization that works to preserve tangible and intangible cultural heritage through restoration and

functionalization projects, research and inventory studies and awareness-raising activities. The Izmir Cultural Heritage Platform was established within the scope of the “A Stronger Civil Society in the Protection of Cultural Heritage” project, which received grant support with the initiative of this association. This platform continues its work to raise awareness in the fields of tangible and intangible cultural heritage and protection, to improve cooperation and coordination between institutions and to bring solutions to needs in the fields of research, documentation and promotion [75].

The Izmir Urban Memory research group, in which the author of this article is an active participant, undertakes comprehensive investigations focused on the identification and analysis of multi-story buildings in Izmir dating from the latter half of the 20th century.

The Upper Silesia Agglomeration is an area with over two and a half million inhabitants and a high population density. Most of the housing stock was built in the second half of the 20th century. Unfortunately, they do not have legal conservation protection, as they are listed in the register of monuments of the Silesian Voivodeship. So far, only two estates, A and B in Tychy, have been entered in the municipal register of monuments, but this form of entry does not guarantee protection. While workers’ buildings from the beginning of the 20th century and early-modern buildings from the 1920s and 1930s are often already protected by conservation regulations.

Activities supporting the protection of monuments: The Upper Silesian Agglomeration is strongly associated with the tradition of heavy industr, and, as a member of the European Industrial Heritage Trail (ERIH), it develops the Industrial Monuments Trail of the Silesian Voivodeship related to the traditions of mining and metallurgy in the region [76]. In addition, the Katowice Modernism Trail project, consisting of 16 protected buildings built in the 1920s and 1930s, was financed by the regional board [77]. Recently, residents have been increasingly interested in buildings from the second half of the 20th century and tours organized by cultural institutions and associations, e.g., the Association of Polish Architects branch in Katowice.

The Center for the Cultural Heritage of Upper Silesia operates in the region. It was established in 1992 in Katowice to document the material, spiritu and spatial resources of the region’s cultural heritage. In 2016, it was transformed into the Regional Cultural Institute, which continues research related to cultural heritage [35]. The Silesian Library is an important research center in this field. The Institute of Architectural Documentation, a branch of the Silesian Library headed by the author of this article, has been cooperating with the research team since 2011. The institute conducts work serving many purposes related to the architectural heritage of Upper Silesia and the Silesian Voivodeship, such as participating in archival and documentary research, transferring materials to the digital environment, taking actions to preserve objects and creating resources for research. It performs digital documentation of demolished buildings [78].

The museum in Tychy was established in the 1980s and is dedicated to researching and promoting the city’s history, architectur and urban planning (<https://muzeum.tychy.pl>). The Faculty of Architecture of the Silesian University of Technology is also an important partner in research, promotional and educational activities in modernist architecture [80].

Contemporary Threats to Modernist Housing Estates in Izmir and Upper Silesia Agglomeration

The above-described activities carried out in Izmir and the Upper Silesian Agglomeration support the process of acceptance and conservation of heritage and have potential for the future, but they are not able to offset the threats currently associated with modernist housing estates. As modern architectural heritage becomes part of architectural history, numerous threats are observed, causing the destruction of modernist housing estates and the loss of features derived from the Athens Charter guidelines and their local character.

Thanks to research and observations, common threats to Izmir and the Upper Silesian Agglomeration have emerged. They result from many factors and the lack of legal protection for conservation makes them completely defenseless against contemporary factors that destroy the original modernist ideas and their local manifestations.

Urban Scale

Development Factors: The current requirements of a free-market economy transform estates deprived of legal conservation protection. Open housing estate spaces originally planned as recreational green areas are being transformed into residential buildings for sale or rent by private construction corporations. As a result of such actions, the values of Modernism, such as extensive green areas for residents, access to sunlight and a balanced road system, are irreversibly destroyed [80]. The constant increase in the number of private cars and the increase in car traffic result in a constant lack of parking lots, which is compensated by the appropriation of green areas. In the Upper Silesia Agglomeration, one of the model examples of this process is the transformation and densification of the Millennium housing estate in Katowice, which was originally intended to be an example of the Athens Charter idea. Similarly, in Izmir, vulnerabilities related to the current housing heritage result from a combination of factors, including insufficient land availability in city centers, tensions caused by high population density and rent concerns and the accelerated rate of building destruction as a result of urban transformation. Many examples of cooperatives that left their mark on the 1950s were affected by these transformations and, unfortunately, destroyed.

Social & Economic Factors: Upper Silesia, where a significant percentage of the population was employed in heavy industry, also had inhabitants of “block housing estates,” which often served as sleeping quarters for the agglomeration cities [37]. The period of systemic transformation was also the time of the decline of heavy industry in Silesia, which resulted in a significant deterioration in the maintenance of housing estates, which in the past were often managed by industrial plants. With the privatization of apartments, the social structure of residents also changed. Residents purchased some apartments at preferential prices, while others were inhabited based on municipal and social housing. This raises further problems related to managing and properly maintaining housing estates.

Since the late 1960s, housing estates have been heralded as a solution to Turkey’s housing deficit. However, shortcomings persist in the urban and architectural aspects of these developments, which primarily aim to bridge the numerical gap. The diminishing spatial diversity and scale issues pose significant threats to the sustainability and livability of housing estates in the present day. In Izmir, there is evident neglect stemming from an inadequate response to the concept of modern housing estate heritage. This negligence serves as the primary catalyst for a cascade of associated issues. This, in turn, hampers the development of effective intervention strategies to address economic and social sustainability concerns.

Architectural Scale

Development Factors: Individual buildings in modernist housing estates transform in form and function. The reasons for these transformations are diverse and result from changing user needs and new modernization technologies. In Poland, the current expectations and standards of apartments are so different that radical reconstructions of apartments are taking place, often combining several apartments into one, which also affects the layout of the entire building. The most striking and common change is the uncontrolled replacement of windows and doors with new ones of different shapes and colors. Another serious problem for buildings is their need to comply with the European Union Directive (2018/844/EU) of 30 May 2018 on energy efficiency [81]. While legally protected buildings entered into the register of monuments are thermally modernized under the strict supervision of a conservator, unprotected buildings, such as the discussed residential buildings in housing estates from the second half of the 20th century, are insulated in ways that change their form, material, detail, color and texture. The object is irreversibly destroyed.

A parallel scenario unfolds within the Izmir context, where unconscious interventions and changes are implemented in architecture and interior design, especially focusing on facades. These modifications encompass various actions on facades and existing structures, such as incorporating additional insulation, replacing windows, altering colors and materials, closing balconies and adding new floors. Moreover, alongside individual preferences, imperative factors drive interventions to enhance energy efficiency, optimize functionality, ensure safety and integrate cutting-edge technologies. This underscores the necessity for all architectural and interior design interventions to adhere rigorously to legal regulations and undergo thorough inspections.

Social & Economic Factors: In the years of socialist reality in Poland, living in a new apartment in a modern housing estate was a sign of success and even social prestige. The situation in the new political and economic reality after 1989 began to change slowly and the 2000s increased society's wealth and aspirations [37]. Wealthy residents began to leave apartment blocks and move to newly built suburban estates of single-family houses. In Izmir, Turkey, a parallel trend emerged following the 1990s, characterized by the development of housing estates with closed, luxurious and advanced equipment along the coastlines and near urban centers. This phenomenon gained momentum in the 2000s, propelled by the surge of neoliberal urbanization, which saw a proliferation of luxurious housing options and high-rise mixed-use (office/house) developments. These properties, sought after by residents, offer prominent locations within the city, designs by important architects and a strong architectural approach to creating privileged urban environments.

Conclusion

Izmir and the Upper Silesian Agglomeration, characterized by industrial importance, high population density and dynamic residential architecture, are full of housing estates from the 20th century, each of which bears permanent traces of appropriate urban layouts. However, the architectural heritage was deeply shaped by the interwar period and its political environment in the Upper Silesian Agglomeration, as well as the socio-cultural influences underlying the cosmopolitan commercial center of Izmir. Both regions boast a rich heritage that remains insufficiently appreciated. In this context, this study presents a methodological proposal for recognizing and assessing architectural heritage and identifying threats to its protection.

Despite the steadily increasing number of research studies on determining the value and conservation approaches of objects and settlements from the 2nd half of the 20th century in Europe, including Turkey and Poland, there is still a lack of effective legal protection tools and sufficient awareness of their use to protect the “young” heritage of modernist architecture. Given the dangers posed by systemic neglect and uncontrolled commercial activities of the development market, current measures must be considered highly ineffective. Some of the inferences we obtained by applying this study are listed below.

The integration of universal and local studies. This is in line with the research hypothesis within the scope of the study, which argues that the contemporary discussion and protection of the Modern Movement architectural heritage requires an approach that integrates universal and local principles. Research should not only remain on a local scale but also reach a global level and reach the effects of the Modern Movement reflections on a larger scale. Taking advantage of the experiences of other countries will guide the local scale by providing an international framework. Developing universal research and incorporating it into local contexts can better assure sustainable results.

Exploration of the housing estate's potentials. Many modern-period housing estates are still waiting for investigation with their multi-layered tangible and intangible information potential. Research and studies need to be increased to learn and disseminate information and this could actively incorporate knowledge about the housing estates' legacy of Modernism as an important element in terms of values and conservation.

Raising awareness for social acceptance of heritage. This requires the engagement of diverse interest groups, from researchers to designers and from non-governmental organizations to residents, to actively maintain and preserve the heritage. Social and popularization activities on heritage issues have a unifying and guiding effect. Joint participation of all stakeholders can help discover aspects of the building that are worth preserving beyond its physical meaning. In extending the meaning of heritage to the present day, the efforts of non-professionals and professionals play a critical intermediary role. Communities' ability to realize their values and to be involved in the conservation process can make it possible to reach more comprehensive results regarding social circumstances.

The persistent stigma attached to modernism reflects a broader challenge in heritage conservation: the need to reconcile historical and cultural biases with the objective evaluation of architectural significance. The international discussions and collaborative efforts are crucial steps toward a more inclusive and nuanced understanding of modernist heritage. This highlights the dynamic and evolving nature of heritage conservation. It underscores the need for a flexible, inclusive approach that adapts to changing socio-political, technological and economic contexts. Merging global and regional research insights, investigating the potential of housing estates and promoting awareness and social acceptance of heritage are crucial in ensuring that modern architectural heritage is recognized, valued and preserved for future generations. By fostering greater appreciation and developing robust conservation strategies, we can ensure that these valuable cultural assets are preserved for future generations.

Any effort to analyze and interpret heritage as the set of meanings and beliefs we perceive in the relationship between the past and the present will allow the heritage's values to expand within the historical continuum. Beyond conservation, this is our responsibility as individuals.

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