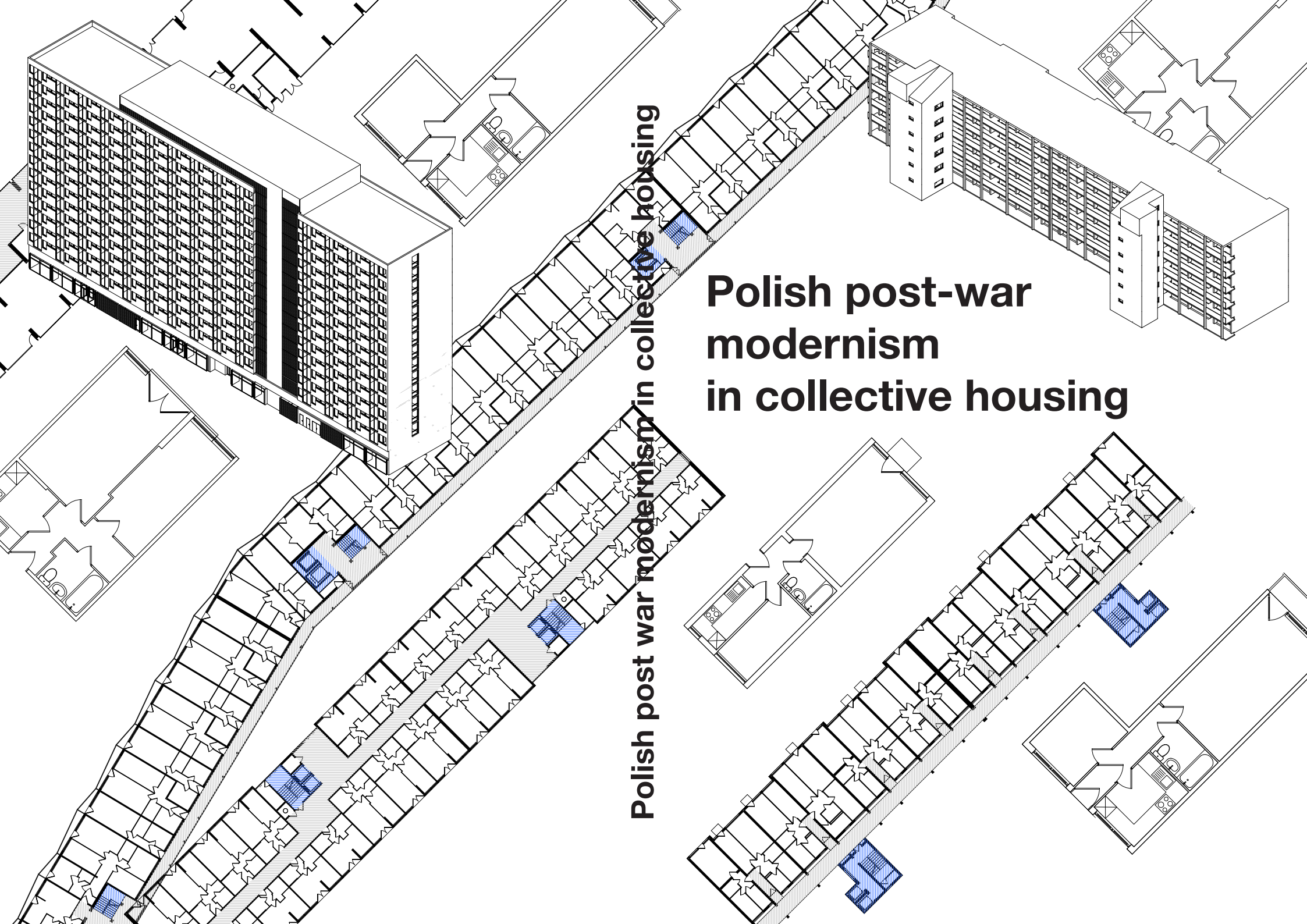

Polish post-war modernism in collective housing

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Comparative analysis of three study cases constructed between 1964 and 1974 in Poland.

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preface

This work aims to reconsider post-war modernist housing architecture in Poland, its meaning at the moment of creation, and the way it is understood today. The buildings, which I am going to use as study cases, have become ingrained in my memory in my earlier life. Right now, being on the verge of graduation and entering professional life, I can look at them through the eyes of a young architect. This comparative analysis is based on defined criteria. It focuses on the architectural and urban design features that characterize each of the three references.

Collective forms of housing in Poland used to fascinate me due to its slightly conflicting character. The English word "collective", which already appeared in the paper's title, according to the dictionary means "denoting a number of persons or things considered as one group or whole[1]". This draws attention to the unifying idea of people being seen as a community, reducing privacy, and putting emphasis on the communal aspect. At the same time "housing" means "shelter, dwelling provided for people, something that covers or protects[2]", which makes a reference to the origins of architecture conceived to satisfy basic human needs such as safety. Privacy and security are related in a way that a lack of the first may result in the loss of the second. It is particularly conceivable in the context of a working-class housing estate in a country ravaged by wars. Because of that, living as a shared experience remains in tension with living understood as the highest form of privacy[3]. Over the years in those post-war

1 Merriam-Webster.com Dictionary, s.v. "collective," accessed January 4, 2022, https://www.merriam-webster.com/dictionary/collective.

2 Merriam-Webster.com Dictionary, s.v. "housing," accessed January 4, 2022, https://www.merriam-webster.com/dictionary/housing.

3 Schmid, Susanne, Eberle, Dietmar and Hugentobler, Margrit. A History of Collective Living: Models of Shared Living. Berlin, Boston: Birkhäuser, 2019.

habitation blocks, there was a sliding boundary between what should be private and what ought to be common or public. Obviously, these circumstances are followed by a debate on whether such an architecture is indeed suitable to accommodate its residents.

Last but not least, we should reflect on the timeless values carried by those housing estates. It might be beneficial for architects today to profit from this heritage as a starting point for new designs. Certain architectural and urban developments from the years of the communist regime offer residents something that was not continued after the transition to democracy in 1989. Their uniqueness will be discussed later in this paper.

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introduction

Economical, political and cultural context

To understand projects analyzed in the following chapters, it is necessary to study the circumstances in which they came into being. At that time, architecture was strongly influenced by political, social, and economic changes taking place in Poland.

Before the Second World War

Modernist movements in Poland emerged already at the beginning of the 20th century. Avant-garde architects spread their manifestos by producing influential books, articles, and pictures filling the pages of new architectural magazines all over Europe. Ideas from the west inspired the Polish architects, but they were also fascinat-

Image 1 | Example of Polish modernist avant-garde architecture

ed by the Soviet Union constructivism. So they formed small groups to exchange views and opinions, whose main idea was to investigate the new possible ways of living.

Shortly after the First World War, the housing shortage felt throughout Europe became one of the main driving forces behind the development of modernist architecture. The manifesto of the Dutch group De Stijl notes that "the war had destroyed the old world with its contents". In parallel with the development of technologies and machinery, it was a precondition for the quick spread of avant-garde movements. Significant political and social changes followed by modern architecture were essential to making sense of a catastrophic experience such as the war.

Having regained its independence after 123 years of partition, Poland was a particularly fertile ground for the development of modernism. Rebuilding the architecture of the new state consisted of choosing modernist solutions for monuments, public and residential buildings. They were often dictated by specific practical requirements and the expected cost-efficiency of standardized and rationalized proposals[1].

The Polish avant-garde also intensified their collaboration with the housing cooperative WSM[2], which had existed since the early 1920s. They hoped to achieve some practical realizations in parallel to the theoretical focus[3].

Established in 1928, the Congres Internationale d'Architecture Moderne (CIAM) was a unique way of organizing architects around a shared cause – modernism – and stressing the added value of internationalism. Polish architects played a significant role in the organization

1 Kohlrausch, Brokers of Modernity, 2019, p. 48.

2 Warszawska Spoldzielnia Mieszkaniowa (WSM) - Warsaw's Cooperative

3 Kohlrausch, Brokers of Modernity, 2019, p. 105-106.

through many contributions to the congresses. Warsaw's massive need for social housing and urban improvement meant that the problems addressed by modernist Polish architects intersected with the CIAM program. Among other things, they attempted to answer technical housing questions, such as the minimum-dwelling. The idea was to deliver tiny but optimally planned apartments with natural light access, easy to ventilate, and surrounded by green spaces.

Above all, the organization sought to create a new social and political role for architects by introducing scientific methods into a domain perceived as unregulated and chaotic. In 1941 Le Corbusier published the Athens Charter, based on the conclusions of CIAM IV in 1933. It was considered a founding text of modern architecture and urbanism, answering longstanding questions. It had a significant impact on the reconstruction of Europe after the Second World War and since the end of the 1960s, also on the appearance of many Polish cities.

Rebuilding from the War: 1945-1949

In 1945, there was a housing shortage in a ruined country like in the aftermath of the First World War. Almost entirely destroyed cities were uninhabitable. In addition to that, survivors of the War, having felt the loosening started families. They were urgently looking for a shelter. Rebuilding from the War had become the main objective for both architects and the newly established government.

The second half of the 1940s was an unusual "in-between" period when, on the one hand, it was clear that Poland's future would be linked to its entry into the Soviet sphere of influence, but, on the other hand, memories from before the war remained vivid in people's minds. Moreover, the architects who undertook the reconstruc-

Image 2 | Rebuilding Warsaw after the Second World War

tion of the country had been educated before or secretly during the War in the spirit of modernism and modernity. During that short period, polish architecture was not yet subject to the total nationalization and centralization introduced later by the communists.

Socrealizm: 1949-1955

Years between 1949 and 1955 was a period of a solid ideological injection in all spheres of life. The Polish United Workers' Party became the dominant political faction, officially making Poland a socialist country. Like other Eastern Bloc countries, Poland was regarded as a satellite state in the Soviet sphere of interest. The new movement in art and architecture that arose from those

changes was socialist realism.

The motto taken from art, "socialist in content, national in form, » was quite challenging to apply to architecture[4]. Searching for a "national form", they looked at the achievements of Polish architecture of the past. Socialist realism ultimately took the logic of the classical principles of composition and details as its basis. Therefore, following the example of the Soviets, it fought manifestations of any sign of modernism, primarily with totalitarian neoclassicism[5].

Socialist realism consists of many complex issues involving several non-artistic elements. It was created based on a contradictory, incoherent ideology and was kept alive thanks to the decrees of a totalitarian state[6].

Back to modernism: 1956-1970

In 1956 the Congress of the Communist Party of the Soviet Union took place. The First Secretary Nikita Khrushchev gave a speech criticizing the former Stalinist regime. It had become a symbolic turning point in the politics of the entire Eastern Bloc, including Poland. This event marked the beginning of the so-called 1956 thaw. It was a call for a new quality of architecture - a turnback towards modernity.

When in Western Europe modernism was slowly stepping out of the stage, it was blooming in Poland. One reason was matching socialist ideology differently from

4 Cymer, Anna. Architektura w Polsce 1945-1989. Warszawa: Centrum Architektury. Narodowy instytut Architektury i Urbanistyki, 2019, p. 67.

5 Rozbicka, Małgorzata. “The Legacy of Post-War Architecture in Poland as a Record of Political, Social and Economic Changes.” Thesis, Cultural Heritage Protection, 2017, p. 51.

6 Cymer, Anna. Architektura w Polsce 1945-1989. Warszawa: Centrum Architektury. Narodowy instytut Architektury i Urbanistyki, 2019, p. 65-66.

the hated Socialist Realism. The modernist concept of a city with megastructures and skyscrapers interspersed with green spaces was attractive to the communists. Firstly, through minimal, modular dwellings, it referred to the vision of social equality. Secondly, architecture made of simple volumes from prefabricated materials was a cheap and quick solution perfect for the times. The new movement was then called socmodernism.

After 1956 the attitude towards historic areas changed. While the renovation of individual, historically valuable objects was unquestionable, the additions required in some districts of former towns no longer had to imitate the original form. Instead, these areas, extremely valuable due to their central location, were allocated for housing development following state policy[7].

The number of city dwellers grew dynamically. Between 1946 and 1978, the population of Poland increased from 23.6 million to 35 million[8]. The post-war baby boom generation was entering adult life, and they were planning to start a family of their own. In addition to that, the establishment of large industrial plants offered numerous working places in big cities. As a result, people were massively migrating to find employment. They needed a significant number of dwellings immediately.

Because of the vigorous development of housing, the state authorities established official structures responsible for the supervision of construction and the delivery of the apartments. In 1956 the concept of housing cooperative from before the Second World War was reactivated. The co-financing of the new housing by the government and future tenants was beneficial for both sides. Neither

7 Cymer, Anna. Architektura w Polsce 1945-1989. Warszawa: Centrum Architektury. Narodowy instytut Architektury i Urbanistyki, 2019, p. 125-128.

8 Data from: Główny Urząd Statystyczny (GUS) - Central Statistical Office

the state nor the citizens themselves would be financially able to build as many dwellings as they have managed together. Moreover, in the Polish People's Republic, central urban planning and architectural projects were always preceded by architectural competitions. The SARP carried out the organization and selection of winning projects. This had allowed the best ideas to be realized.

At the beginning of the 1960s, the authorities established the Ministry of Construction and Building Materials Industry to regulate current constructions. It introduced a lowering of building standards from the start, prioritizing fast and cheap technologies. The result was the development of the prefabrication of materials on a large scale, the reduction of the surface area of dwellings, and the simplification of building forms. The industrialization of housing construction resulted in a visible decline in quality. On the other hand, mass construction made it possible to improve living conditions in cities rapidly.

It was a large opening up of Poland to the West in a political and economic sense[9], resulting in exceptionally dynamic housing development. There was an urgent need to provide people with as many apartments as possible. The new party leader, Edward Gierek, took large loans abroad to pay for numerous housing estates. They were mass-produced from the beginning of the 1970s[10].

9 Cymer, Anna. Architektura w Polsce 1945-1989. Warszawa: Centrum Architektury. Narodowy instytut Architektury i Urbanistyki, 2019, p. 161-163.

10 Rozbicka, Małgorzata. "The Legacy of Post-War Architecture in Poland as a Record of Political, Social and Economic Changes." Thesis, Cultural Heritage Protection, 2017.

Image 3 | The longest building of the Przymorze Wielkie housing estate

Housing references

The analysis's three study cases are emblematic examples of modernist architecture in collective housing constructed between 1964 and 1974 in Poland. As mentioned before, they resulted from the political, economic, and social changes that occurred in the post-war period.

In 1959 the SARP competition for the design of the Przymorze Wielkie housing estate was settled. The group of architect, whose proposal won, was: Józef Chmiel, Stanisław Różański, Danuta Olędzka and Jan Morek[1]. This first reference, which we will be looking at, was erected between 1964 and 1973 in Gdansk, a port city on the Baltic Sea. It is the longest building ever erected in

1 Cymer, Anna. Architektura w Polsce 1945-1989. Warszawa: Centrum Architektury. Narodowy instytut Architektury i Urbanistyki, 2019, p. 182.

Image 4 | Aerial view of the Za Żelazną Bramą housing estate

Poland, measuring 800 meters long. The estate was built outside the city center, between the seaside and the hills of the Oliwa district, as a project aiming to develop suburban areas.

Za Żelazną Bramą, the second housing reference, occupied an empty parcel in Warsaw's city center, where during the Second World War was situated the Warsaw ghetto. The project built between 1966 and 1971 was a reconstruction from the War in the spirit of modernity. It was the winning project of a competition organised in 1961 by the SARP. The architects who came up with the idea were Jerzy Czyż, Jan Furman, Andrzej Skopiński and Jerzy Józefowicz working as a group[2].

2 Encyclopedia of Warsaw. Warsaw: Wydawnictwo Naukowe PWN, 1994, p. 1010.

The third housing estate called Przyczółek Grochowski was designed by a couple of architects and visioners, Zofia and Oskar Hansen, whose ideas were presented on CIAM congress. The blocks were erected between 1969 and 1974 also in Warsaw. A particular interest was paid to this one because of the unusual urban form it takes.

In the following chapters the full names of the settlements will be used alternately with the corresponding numbers (1) for Przymorze Wielkie, (2) for Za Żelazna Brama and (3) for Przyczółek Grochowski.

Image 5 | Picture of a model presenting the Przyczółek Grochowski housing estate

typology

Typology is a study of types, which makes it a very useful tool while analyzing diverse forms of collective housing. Classifying types in architecture offers us the possibility of recognizing recurrent elements. For example different types of building forms: tower building, courtyard building, etc[1]. In the context of this research, it is crucial to understand that the state intended to influence people's way of living in a socialist country. In order to achieve that they controlled the formation of new housing types, which in turn were intended to make people live in a particular way. In this chapter, we will deal with the model of dwelling for a socialist working class.

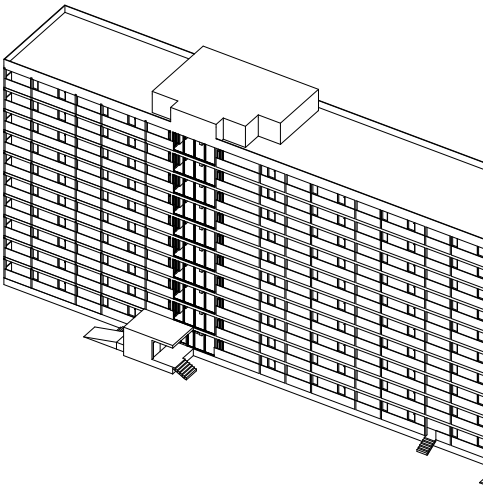
1 Data from: personal notes from Luca Ortelli's Housing and Cities course.

Image 6 | Przyczółek Grochowski, trench with car traffic

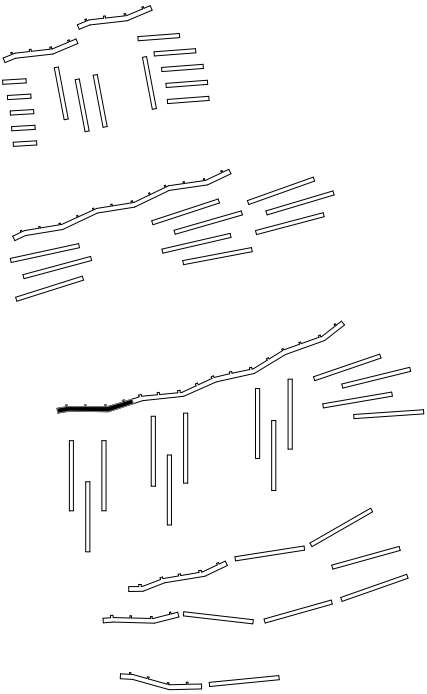
Urban forms

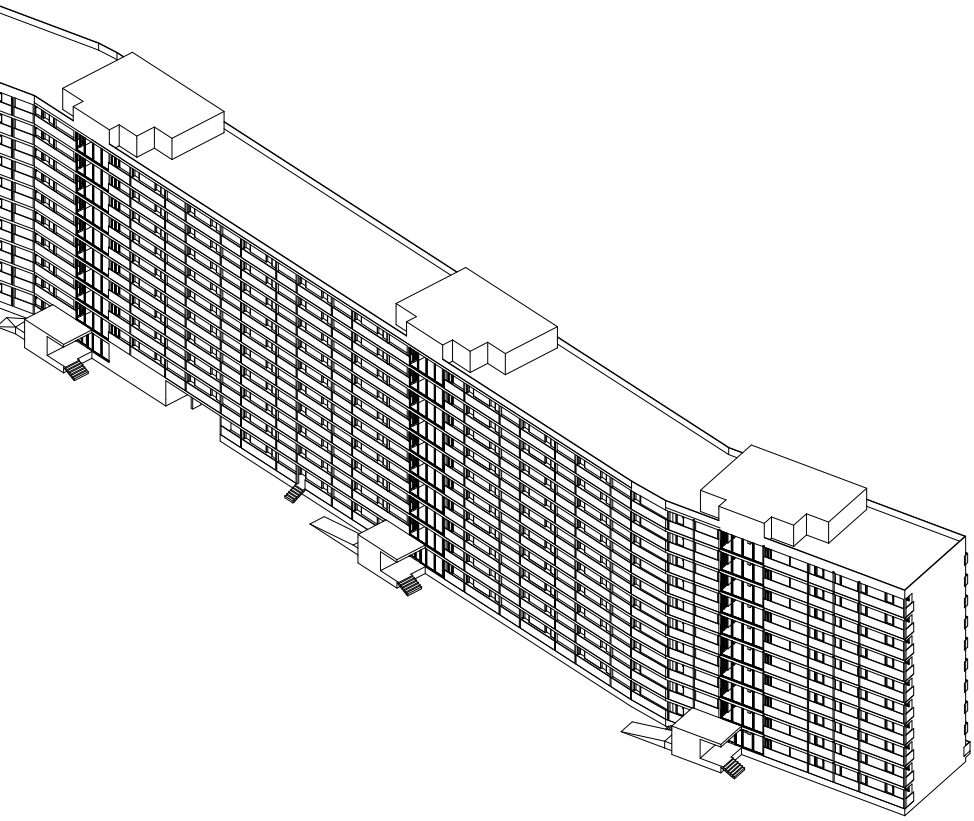
Those large housing estates quickly became new parts of the city due to their size and certain autonomy. In terms of urban form, both Przymorze Wielkie and Za Żelazna Brama housing estate are composed of high solitary volumes. The (1) is composed of seven linear 11-story megastructures regularly bent, called wavers as reminiscent of a wave and oriented perpendicularly to the sea. In-between spaces are filled with thirty-seven 5-story, long blocks called morek type after their architect Janusz Morek. Those last have the traditional shape of large multi-family blocks of habitation and will not be discussed in the following sections. Finally, the (2) forms an ensemble of 19 solitary buildings regularly distributed on the site. Each has 16 floors above the ground. Visually and pro-

1.



Site plan, 1:20000





Axonometry, 1:1000

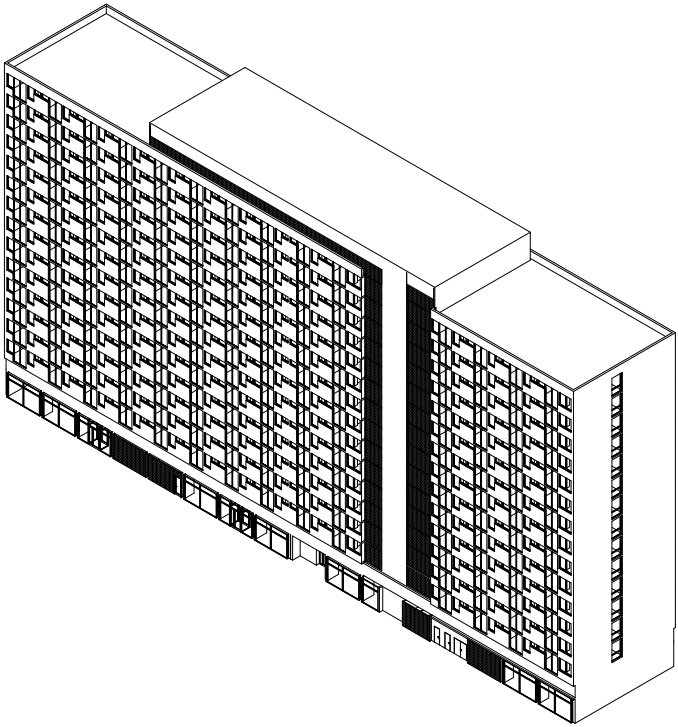
Image 7 | Za Żelazną Bramą, facade detail

gramatically the architects made a direct reference to the Unitée d'habitation de Marseille of Le Corbusier[1].

Unlike those two references, which we can perceive as a closed form, Przyczółek Grochowski comprises 22 staggered connected buildings, forming a long meandering form. The floor number varies between 4 and 7 above the ground, making it about half as high as (1) and

1 Cymer, Anna. Architektura w Polsce 1945-1989. Warszawa: Centrum Architektury. Narodowy instytut Architektury i Urbanistyki, 2019, p. 183.

2.



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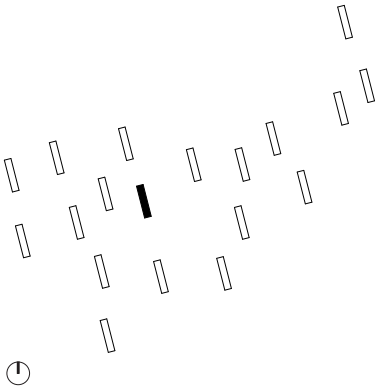
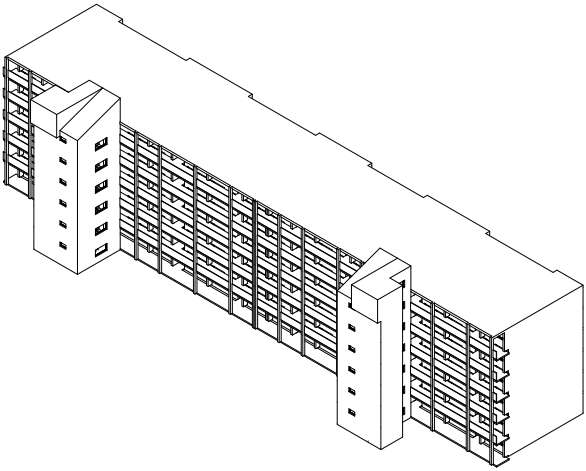
Site plan, 1:20000



(2) housing estates. The Hansens put into practice their original idea of open form, in which they broke with the traditional principle of separate habitation blocks. Instead, the two architects privileged a strong connection between units by a continuous communication system and high-quality common outside spaces. The form encloses two large courtyards, where only pedestrian traffic takes place. The cars are only allowed to move in a separate from the housing area one-story trench, which hides streets, car parks, and garages. The (1) and (2) estates are not entirely devoid of being surrounded by green spaces; on the contrary, large distances between them are seen as a significant advantage. Nevertheless, streets and car

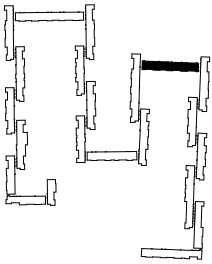
Image 8 | Przyczółek Grochowski, facade detail

3.



Axonometry, 1:1000

Site plan, 1:20000



parks are packed tightly between the blocks due to their size.

Estates of this size risk being monotonous, so the architects have used tricks to diversify their appearance in each of the three examples. Looking at them in terms of morphology, (1) and (3) have numerous features in common. First of all, in both cases, the opposite facades are diametrically different, as one is entirely residential and the other contains circulation. In (1), the side that apartments face possesses horizontal character, enhancing continuity. Regularly repeated balconies are in the shape of adherent triangles, creating the impression of waves, which break down the length of the buildings.

On the contrary, in (2), balconies and windows are distributed somewhat accidentally on the articulated facade, making it irregular. In both cases, the gallery side

Image 9 | Przyczółek Grochowski, inside a courtyard

uses a regular grid to form an impression of continuity and accessibility. In (3), the overall form of the main body of the building was made rhythmic. The identical eastern and western facades may be seen as a tissue with a repetitive motif of windows and french doors. This volume is intersected by a vertical form made of glass brick containing lifts and stairs, which helps eliminate the severity and even monotony of a large block. Finally, the façade has its significance and reveals which functions are located in the different zones.

Secondly, in (1) and (3), flats alternating with passageways on the ground floor guarantee permeability. As opposed to the previous two, in (3), the ground floor contains an entrance to the building and public facilities that contrast with typical residential floors. This is due to the transparency achieved by a 3 meters high glass curtain wall, which opens up to the city and encourages customers to use the services. In addition, in (1) and (2), staircases are in the body of the building, while in (3), they are separate volumes.

As we see in these three examples, some design teams have succeeded in creating individualized housing complexes even within the framework of imposed norms. These three housing estates are a rare example of the variety of forms of housing construction at the time.

Further analysis of the estates will look at the buildings from a typological point of view. For this purpose, the survey will be narrowed down to a unit that is a single address.

Access and circulation

Until 1956, the only form of a residential building used in Poland was the longitudinal block in which one staircase served three or more apartments on one level. Over time it was recognized that other building types and circulation schemes sometimes had more advantages[1].

Regarding access to the building, the elevated ground floor in (1) guarantees entrance by 6-step stairs, somehow isolating it from the public. Both (2) and (3) have ground-level even with the street, suggesting a more significant opening towards the city. In (3), it is perfectly justified, as it provides entrance to the main lobby and commercial premises located on this floor, while residential surfaces start from the 1st floor. However, the apartments of (3) located on the ground level can be accessed directly from the street, which could cause insecurity. There is a particular space characteristic to (3) reference - a vestibule, which precedes the entrance to every two apartments. As it is a communal space accessible for two families only, this disposition notably increases the level of safety. Also, inhabitants of (1) and (2) can access the building from two sides to not have to walk around the longitudinal form.

(1) and (3) buildings are examples of galleried forms with long external corridors occupying the entire façade leading directly to the apartments. The galleries' system connects all the units in both references and allows the residents to walk through the whole premise. Galleries are located on the northern side of both analyzed forms leaving the sunny side to flats with balconies. However, this solution has its drawbacks: the floor can become icy in winter and make it challenging to move around the gal-

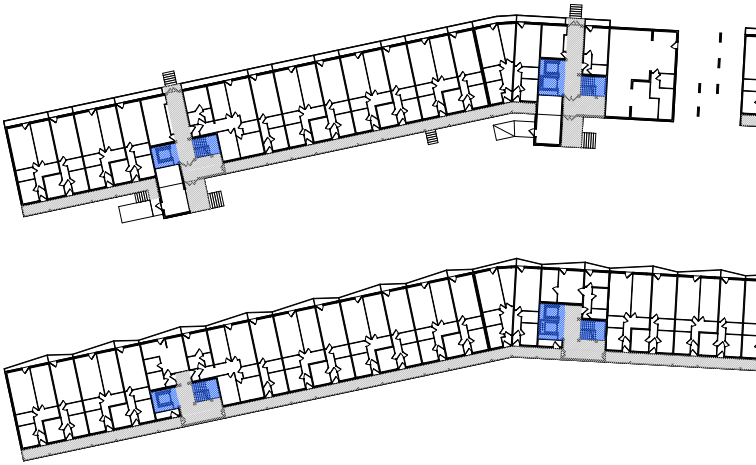
1 Cymer, Anna. Architektura w Polsce 1945-1989. Warszawa: Centrum Architektury. Narodowy instytut Architektury i Urbanistyki, 2019, p.170.

Image 10 | Przymorze Wielkie, view on an external gallery

leries. Therefore, a different solution was adopted in (2): an interior corridor with natural light access on each floor passing across the building. It connects two staircases and provides access to all the apartments. It seems that such a horizontal distribution is more efficient in the Polish climate than the external galleries of the other two references.

Speaking of the vertical circulation, it consists of staircases equipped with two lifts in all three blocks. Communication risers are part of the main building in both (1) and (2) blocks, whereas in (3), these are volumes separated from the block of habitation. In (1), every fourth staircase has an additional, larger so-called goods lift, which has a greater capacity and is slightly wider. Despite similar dimensions, lifts supply different numbers of flats. One staircase serves about eight apartments per floor in

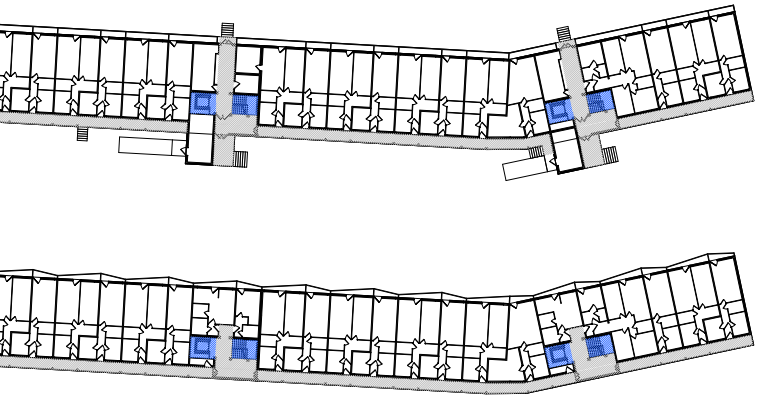
1.

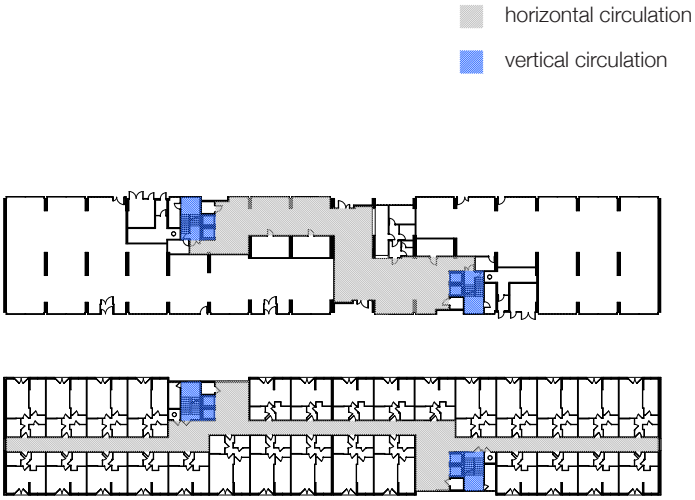


Ground-floor and typical floor plans, 1:1000

horizontal circulation

vertical circulation



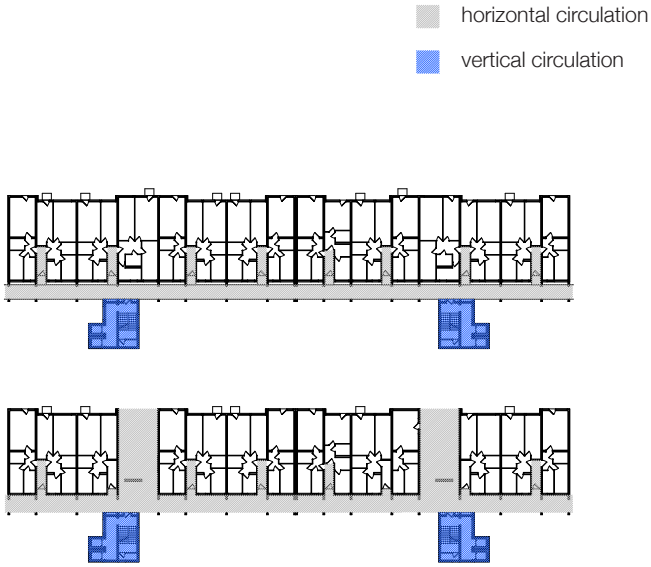


Ground-floor and typical floor plans, 1:1000

(1) and (3), while in (2) almost twice as much, fifteen flats. Given the number of storeys, as the tallest building, it may encounter circulation problems, especially in case of evacuation. All analyzed staircases have access to natural light through windows or glass brick walls.

All three circulation systems are provided with a natural source of light. This seems quite unusual even for present-time architecture because freeing up space for corridors and staircases in direct contact with the façade, at the expense of a private living surface, is a very generous gesture for the shared space. This shows that the architecture of that period, although controlled by the state, took care of an even distribution. Nowadays, it is quite the

3.



Ground-floor and typical floor plans, 1:1000

opposite; private investors who want to maximize their profits reduce the circulation areas and increase the usable floor space of the apartments.

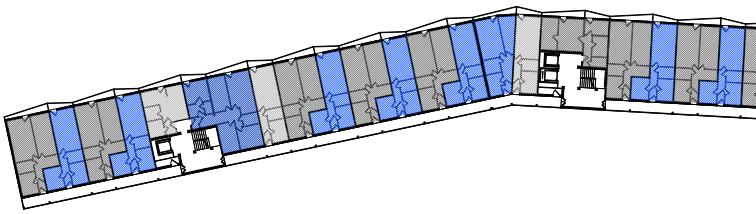
Engineers chose prefabricated concrete elements for the main structure in both (1) and (3) references. In the Przyczółek Grochowski estate, structural walls and slabs were thought of as an ensemble using a large-block Ż system. The structure of (1) was based on prefabricated concrete monolith transverse walls and prefabricated perforated slabs. Construction material prepared in advance and assembled on-site was a standard solution of that era as it saved time and money. On the contrary, for (2) was used a monolithic cast-in-place concrete technol-

Image 12 | Przyczółek Grochowski, view on an external gallery

ogy, making the construction of the building more robust. Concrete was poured into formwork for the structural elements, and after setting, masons repeated the activity for the following floor. In all three study cases, non-structural walls, such as façade curtain walls, were built of aerated concrete blocks. At that time, engineers used them frequently in construction due to good insulating properties[2].

2 Piliszek, Eugeniusz. Systemy Budownictwa Mieszkaniowego I ogólnego: W-70, szczeciński, SBO, SBM, SBM-75. Warszawa: "Arkady", 1972, p. 109.

1.



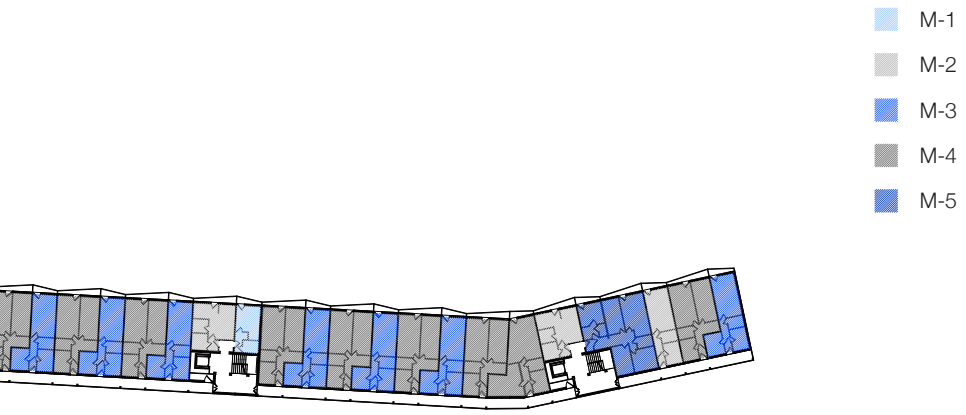
Typical floor plan, 1:1000

Moduls

In the Polish People's Republic, the state influenced almost all life areas. In the late 1950s they invented the first norms concerning the size and layout of housing estates and individual apartments, which were further tightened as the crisis progressed. The standard living surface for one person was supposed to be 11 square meters[1]. At that time the authorities introduced a classification of apartments according to the number of occupants: M-1 for one person, M-2 for two, and so on.

Regarding the disposition of apartments on a floor, we can identify some patterns in each of the three references. In (1) the most numerous living units are M-3 and M-4 accounting for 78% of all dwellings. The same

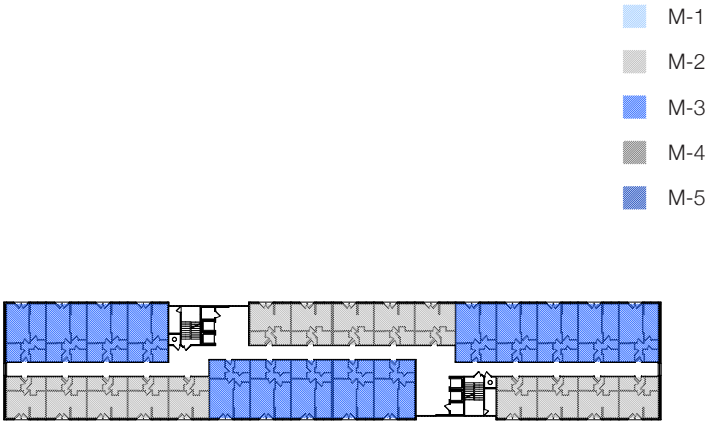
1 Fryze, Magdalena. "Próba Analizy Osiedla Za Żelazną Bramą w Warszawie." Artifex, no. 11 (2009): p. 52.



tendency can be observed in (3) where 82% are three- and four-persons flats. There is a more radical way of distribution in (2) than in the two previous ones because, in one building type, such as the one we focused on, there are only two types M-2 and M-3 in the same quantity. Whereas in the other type, there are 80% of M-4 and 20% of M-5 modules. Considering the two building types as a whole and a basis for calculation, it appears that in (2) reference, like in (1) and (3) , three- and four-person dwellings play a significant role. Surprisingly, in (2) there are proportionally many more two-persons flats than in the other two.

The most popular was M-3 and M-4, models of dwelling for three and four persons, which in all three analyzed references was increased to about 38 square meters.

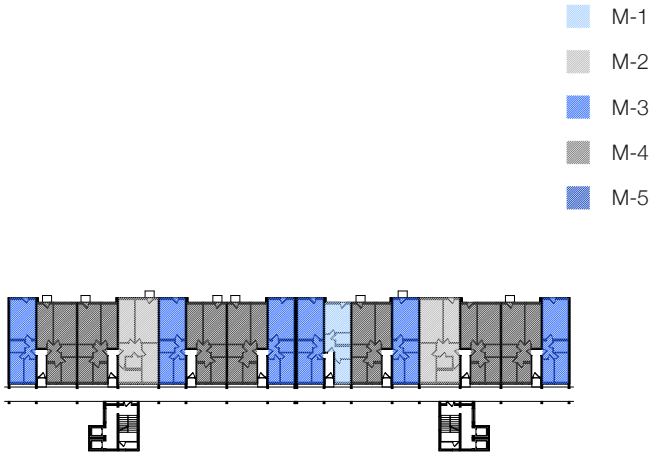
2.



Typical floor plan, 1:1000

As mentioned before, the standard defined the surface per person and the area of specific modules. Therefore, the corresponding units have almost the same surface area differing only by a few square meters in the three cases. The flat for one person, which is offered only in (1), has an area of 19 square meters on which a small bathroom, a hall with a kitchenette, and one room are located. M-2, designed to accommodate two people, appears in all three references and covers an area of approximately 28 square meters. Its layout may vary in different buildings, but it always consists of one large room, a separate kitchen and bathroom, and a hallway. The following types, M-3 and M-4, designed for a family of three or four, differ from the previous one by an extra room and have a surface area of around 38 or 48 square meters in all three

3.



Typical floor plan, 1:1000

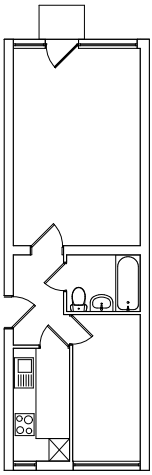
buildings. Finally, the M-5 flats for five or more people, which constitute the vast minority, range from 56 to over 70 square meters and have diverse layouts[2].

In these housing estates, the principle was that flats were allocated according to family size. This meant that a single person could only count on an M-1 apartment, while parents with two children could live in an M-4. An exception was made for young couples who had the prospect of expanding their family and were given flats larger than M-2[3].

2 All the numbers presented in this section are the result of own calculs based on original buildings' plan. Please check the catalog at the end of the book for more detailed information.

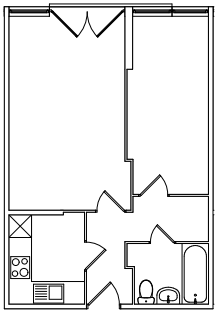
3 Jerzy Majewski. Z góry spadały kieliszki z wiśniówką. „Gazeta Stołeczna", 8 july 2016, p. 13.

1.



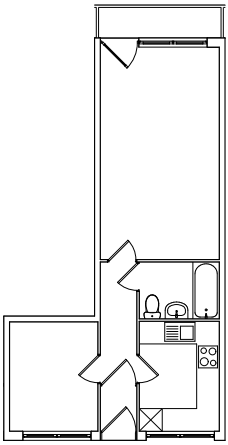
Typical apartment plan, 1:200

2.



Typical apartment plan, 1:200

3.



Typical apartment plan, 1:200

Apartment types

The following section will consist of another close-up in the research to compare housing layouts. Present in all three sites, the M-3 apartment model will be the object of further analysis.

The first common feature of the flats is their two-dimensionality[1]. In addition to the surface, the volume influences the feeling of space and the quality of life. In his realization in Marseille, Le Corbusier envisaged two-story flats with a generous double-height living room and an outdoor space, assigning other rooms a single height. This concept used the third dimension and articulated the area making it more adapted and pleasant to live in. On the contrary, a measurement from floor to ceiling

1 Ebner, Peter. Typology +: Innovative Residential Architecture. Birkhäuser, 2010, p. 113.

of 2.50 meters in analyzed references makes it impossible to plan an apartment with varied heights and differentiates spaces only in 2-D. Obviously, Polish architects had no room for maneuver in this matter as the state-regulated the height of living spaces in collective housing.

The luminosity of inside spaces, which depends on the orientation and depth of the building, is directly linked to the comfort and well-being of its inhabitants. Due to the disposition and external galleries, all flats in buildings (1) and (3) are two-sided, crossing the building and always oriented in the same way. As a matter of fact, both analyzed apartments have short sides with openings facing the north and the south, which makes one side much sunnier than the other. Unlike the previous two, (2) block was situated on the north-south axis, including one-sided flats facing west or east. Such an orientation allowed optimal sunlight access to all the apartments, not privileging anyone.

Despite the similar surface of about 38 square meters, apartments (1) and (3) have a longitudinal shape while (2) is relatively compact. As (1) and (3) have two sources of daily light and can be easily ventilated, the depth of the flat reaches up to 10.6 meters in the first and 11.4 meters in the second, whereas in (2) it remains less than 8 meters. The living rooms of the three flats are located in a privileged position, facing the south in two galleried forms and the east in (3). A significant number of windows guarantee perfect lighting and opening onto the outside.

Another similarity between (1) and (3) are located on the southern side balconies, extending the private inside space to the outside. Given the significantly reduced floor space, they were a great added value for the residents. In (2), balconies were abandoned and replaced with french doors after it was impossible to obtain planning permission due to economic reasons. It was difficult

for the designers to convince the authorities of specific "social amenities" suitability and necessity at that epoch.

There is a private bathroom with a bath and a fully equipped kitchen in each of the three study cases. That last in (3) due to the building's layout has no window. People consider lack of natural light and difficulties in airing to be one of the main drawbacks of this type of flat[2].

In terms of visual comfort, a layout oriented toward two sides is more advantageous for an apartment than one facing just one side. However, regarding the thermic economy of galleried disposition, a significant downside is a way larger surface in contact with the exterior in comparison to (2) reference. It means that with the poor insulation used in those days, heat escaped from the flats in winter, and there was a risk of overheating in summer.

2 Fryze, Magdalena. "Próba Analizy Osiedla Za Żelazną Bramą w Warszawie." Artifex, no. 11 (2009): p. 51.

Image 13 | Za Żelazną Bramą, lobby and kiosk

Common spaces

The concept of creating a "housing estate community" was already promoted by representatives of the Polish architectural avant-garde in the inter-war period[1]. As the idea was getting along with the socialist doctrine, it was applied or at least attempted to be in the housing estates of the People's Republic of Poland from around 1960-1980.

For that reason, each reference includes rooms designed for the common use of the residents in its volume. At the entrance to buildings (1) and (2) on the ground floor, storage rooms for strollers and bicycles are only accessible to the inhabitants. In type (3), there are no such facilities, but in turn, people could store such things in vestibules that led to apartments and were shared by two

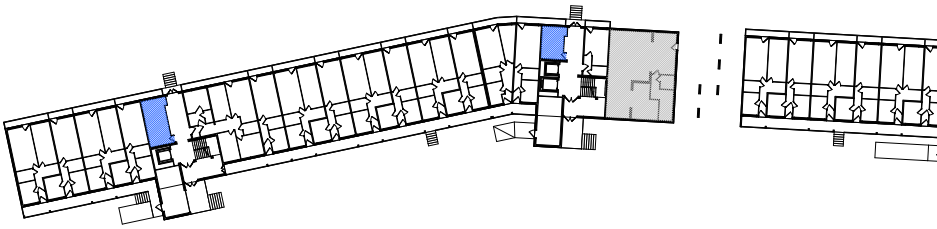
1 Fryze, Magdalena. "Próba Analizy Osiedla Za Żelazną Bramą w Warszawie." Artifex, no. 11 (2009): p. 50.

Image 14 | Przymorze Wielkie, playground in front of the building

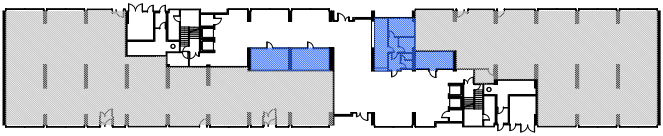
families. Such an arrangement additionally provided security against theft.

It is worth looking at the ground floor of the building (2), which in contrast to rather cramped apartments surprises with generous space. In the perfectly illuminated from the outside lobby, there is seating furniture and tropical plants in pots, creating a familiar environment for forming interpersonal relationships between residents. An additional facility is located in this space kiosk, where inhabitants can buy magazines, drinks, and cigarettes. The person working there also performs the function of a porter of the building.

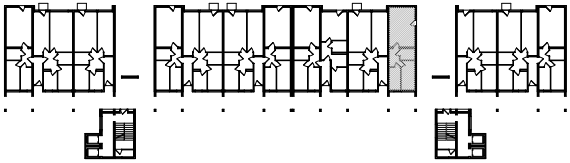
There are cellars in each of the three buildings, but people soon stopped keeping their belongings there due to the rodents that quickly settled in there and regular thefts. In (2) on the top floor, architects envisaged a sur-



1.



2.

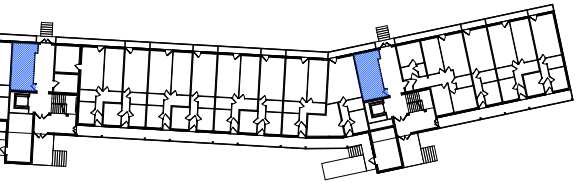


3.

public use

collective use

Ground-floor plans, 1:1000



face destined to serve as laundry and drying room, but it finished having multiple usages[2].

Furthermore, all three have commercial areas open to the public. As in the linear form (1) and (3), there are passages on the ground floor, where local shops have been opened. Thanks to this solution, the residents only have to take the lift to buy essential products. In (2), commercial surfaces occupy a more significant part of the ground floor than in two others. They include shops, a hairdresser, a restaurant, or even a library and are accessed through individual doors. Although part of the building, these premises are entirely separate from the residential area.

When discussing shared places, the spaces between the blocks cannot be overlooked. The parks between the blocks were supposed to be spaces where people relax and enjoy nature while spending time together. In estate (3), the form of two generous courtyards additionally privileges pedestrian traffic and makes it the heart of the complex.

2 Fryze, Magdalena. "Próba Analizy Osiedla Za Żelazną Bramą w Warszawie." Artifex, no. 11 (2009): p. 52.

Image 15 | Za Żelazną Bramą, infrastructure between the blocks of flats

Due to numerous new inhabitants of the developing areas, there was an urgent need for adequate public infrastructure. In parallel to housing blocks, architects designed buildings accommodating diverse facilities in response to that problem. By no means the most crucial of them were commercial pavilions and schools, but kindergartens, playgrounds, medical practices, and libraries were also constructed[3].

3 Cymer, Anna. Architektura w Polsce 1945-1989. Warszawa: Centrum Architektury. Narodowy instytut Architektury i Urbanistyki, 2019, p.195.

Housing is typically the place where a combination of public and private space could produce the third stage, which we call collective. It has to be understood here as a transitional form from the public and the private. An example can be a courtyard, a gallery or a rooftop terrace. The production of collective space is a key factor for the definition of the real quality of an urban system.

Image 16 | Przyczółek Grochowski, collective spaces

prolog

Projects over the years

In their early days, the estates were fashionable and popular. They were inhabited not only by the working class but also by artists, actors, and intellectuals. However, it soon became apparent that living conditions were not the same as in the sold dream. The architects faced combining the guidelines of the state investor and imposed norms with the desire to create a comfortable and safe living space. Unfortunately, utopian visions of a modern way of inhabiting the city, shown in the competition designs, had lost to the political and economic reality of the Polish People's Republic.

Residents of all three estates complained about the small size of the apartments, especially cramped bathrooms and kitchens. In (2), the latter were deprived of access to light and fresh air, making them difficult to ventilate and spreading the most unpleasant smells in the corridors. The innovative idea of throwing rubbish into chutes, which regularly clogged up, rapidly worsened sanitary conditions in such large populations. As a result, plagues of insects, especially cockroaches, ants, and spiders, appeared in the flats. In addition, due to savings on construction materials and problems with the heating, the poorly insulated apartments were damp and cold in winter.

Communication systems also proved to be unsuccessful in these buildings. There were not enough lifts, and they took a long time to arrive if they were not broken at the moment[1]. In (1) and (3), the outside galleries were iced up when it snowed, and it became dangerous to move around. Moreover, it was easy to see into people's homes, which made the residents complain about the lack of privacy. In addition to that, over time, all these communal

1 Trybuś, Jarosław. Przewodnik Po Warszawskich Blokowiskach. Łódź: Księży Młyn Dom wydawniczy Michał Koliński, 2018, p. 123.

Image 17 | Za Żelazną Bramą, surrounding

spaces began to deteriorate as the communities did not have the money to keep them clean or renovate them.

When, at the turn of the 1980s and 1990s, capitalism took the place of socialism in Poland, the city centers was redeveloped. The patches of land left between the buildings in (2) turned out to be a place for new investments. Even more monumental office blocks, luxury hotels, and apartment buildings were erected in the middle of the housing estate. Instead of being surrounded by greenery, the old blocks of flats found themselves in the center of a district full of skyscrapers.

The residents of (1) and (2), despite the designed for this purpose communal spaces, were not integrated as a community and often did not even know neighbors from the same floor. As could have been foreseeable, it turned out that people prefer to go out to the city center

rather than sit in front of a building or in the lobby[2]. On this basis, it can be proved that another assumption of the architects has not been successful.

However, the social situation has always looked slightly better in (3), probably due to the smaller perimeter. Inhabitants often knew each other from daily activities centered around two courtyards, the heart of communal life[3]. They enjoyed living in a space where they could do most of their affairs, separated from vehicle traffic and drenched in greenery. Nevertheless, this housing estate had other drawbacks.

In Poland, thefts and robberies were commonplace in the 1990s and early 2000s. For safety reasons, numerous modifications have been made to the communication system inside the buildings. At the beginning of theirs use, in (1) and (3), it was possible to enter any stairwell of the block and, by walking down the gallery, access any apartment. Moreover, windows facing the galleries facilitated possible burglaries. Therefore, the residents installed bars in concerning windows and across the outside passages[4]. Because of that, any flat could then be accessed only through one staircase, which contradicted the original aim.

Over time, renovations of the blocks of flats have been carried out but have not always been successful. For example, at the end of the 1990s, the buildings of (2) were insulated and painted, which brought out the rhythm of the white-grey facades from under the layer of dirt. Unfortunately, the vertical bands of glass bricks, which initially illuminated the stairwells, were bricked up at the

2 Fryze, Magdalena. "Próba Analizy Osiedla Za Żelazną Bramą w Warszawie." Artifex, no. 11 (2009): p. 54.

3 Springer, Filip. Zaczyn: O Zofii I Oskarze Hansenach. Wydawnictwo Karakter, 2018.

4 Springer, Filip. Zaczyn: O Zofii I Oskarze Hansenach. Wydawnictwo Karakter, 2018.

Image 18 | Przymorze Wielkie, view on the south facade

same time because it was too expensive for the community to replace them[5].

Initially, architects of (1) intended the wave towers to be white, which is how they appear in the first photographs. It is hard to imagine that, looking at the current colorful facades, where nothing is harmonious[6]. The same happened to (3), which turned orange-yellow after insulating. These cheerful colors on elevation are not an exception in polish cities. Most of the architecture from after the collapse of communism looks like that, which is probably a reaction to many years of the grey reality in post-war Poland.

5 Trybuś, Jarosław. Przewodnik Po Warszawskich Blokowiskach. Łódź: Księży Młyn Dom wydawniczy Michał Koliński, 2018, p. 123.

6 Perkowski, Piotr. "PSTROKATE MIASTECZKO." issuu, December 4, 2020. https://issuu.com/teatrminiatura/docs/publikacja_beton_s/s/11436922.

Image 19 | Przyczółek Grochowski, green space in the courtyard

Possibilities for the future

It is certain that all three types of buildings currently offer poor living conditions, and a long list of deficiencies has overshadowed the qualities. Since the estates were built during the crisis not much has changed for the better. The question is, what could be done to make these places finally attractive to live in?

Oskar Hansen, the architect of the housing estate (3), predicted that when times change in Poland, and there will be no longer any guidelines for the size of apartments, people will no longer have enough floor surface. This is why he inserted door frames in the walls between neighboring flats to connect them in the future. Extending the apartments in this way would be possible in each of analyzed references. However, it would be necessary to prevent the transverse structural walls between the

flats from significant damage. The partition walls inside the apartments can be freely adjusted. Such an operation would reduce the number of flats and, as a result, decrease population density.

There is great potential in the communal spaces of each housing estate. In (1) and (3), the residents appreciate the wooded areas between the blocks of flats as places to walk their dogs or take the children to the playground. Due to their central location, blocks of (2) have lost their intimate character and green spaces. How about enriching them with additional sports fields, jogging paths, and other amenities in place of car parks while keeping these last underground? Similarly, the architects' initial ideas for arranging green terraces with cafés on the roofs in (1) and (2) could be revived.

When it comes to safety measures on housing estates, bars in windows and galleries do not add to the charm to the buildings. Nowadays, armored glass technology is available, which could be used for the windows of rooms facing the galleries. The access of unauthorized persons to the residential floors has already been solved by installing intercoms, and in (2), additionally, a security company has been employed. Moreover, the community has changed a lot since the housing estates were built, and the number of burglaries has decreased significantly.

As we see, the demolition of apartment blocks seems impossible not only because there is still a shortage of housing in Warsaw[1], which would be economically and environmentally unsustainable. Designed in communist times as a temporary solution, these housing estates have the potential to last for many years as long as they keep up with the times. The thing that should be done is to modernize and improve this architecture to finally make its creators' dreams come true.

1 Trybuś, Jarosław. Przewodnik Po Warszawskich Blokowiskach. Łódź: Księży Młyn Dom wydawniczy Michał Koliński, 2018, p. 123.

outcome

Value of the heritage

The analysis of designs from the past can be a valuable source of knowledge for architects today. Tracking how these buildings have been perceived over the years and how people live in them today gives clues as to which characteristics and solutions are good and which ones should be avoided. For example, a galleried building such as Przyczółek Grochowski and the Waver in a temperate climate needs refining to prevent overcooling during cold winters. In addition, it should not be possible to look into people's homes from passages. Nevertheless, the concept of a continuous circulation system with the potential to become a collective space for residents remains a good design concept. Also, the idea of double-sided flats is worth repeating in the new architecture, as it creates hygienic conditions through balanced lighting and good ventilation. Finally, it is worth pointing out that an east-west orientation that the designers of the Za Żelazną Bramą chose is preferable to a north-south one, as it does not privilege either side.

It is also possible to observe a model of timeless building morphology, which please peoples' eyes today as much as 50 years ago. Modernist blocks with rhythmic facades in shades of white and grey and an artistic touch surrounded by greenery are something that will never go out of fashion. However, the research based on the housing estates built in the 1960s and 1970s allows us to conclude that architects more easily achieved varied, original forms in complexes of a smaller scale, such as housing estate designed by the Hansens.

Finally, this work intends to show that the housing estates built in the 1960s and 1970s during the communist period in Poland, despite extraordinary circumstances and numerous limitations, are characterized by an incredible generosity in the urban dimension. Never since

has it happened that housing estates were so spacious and open to the public. In the age of capitalism, profit per square meter of usable floor space counts the most for investors. The result on the conceptual level is a low-quality architecture trying to reduce common areas in favor of flats. Although the society is more affluent, they live in enclosed cramped housing estates out of harmony with their surroundings. The quality of the projects analyzed in this paper is that not only a limited number of residents have enjoyed them. Instead, they have become an integral part of the city and contributed to the general infrastructure.

These analyzed references from the previous era allow the new generation of architects to learn from their designers' mistakes and at the same time convey some universal values of suitable housing.

catalog

Przymorze Wielkie

Gdańsk, 1964-1973

Tadeusz Poznański, Janusz Morek, Józef Chmiel, Tadeusz Różański, Danuta Olędzka

Number of buildings: 11 waver type + 37 morek type
Number of floors: 5-11
Area of intervention: 200 ha
Number of fats: 12’550
Number of inhabitants: 30’000[1]

Percentage share of different types in the total number of dwellings:

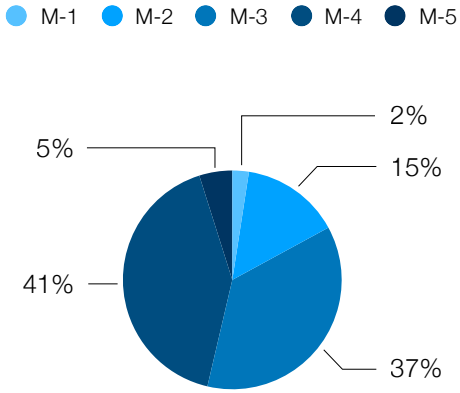


Image 20 | Przymorze

1 Kalendarium - Przymorze. (n.d.). Retrieved November 22, 2021, from https://www.przymorze.gda.pl/wp-content/uploads/2021/02/Kalendarium-1.pdf.

e Wielkie, view on the northen facade

Za Żelazną Bramą

Warsaw, 1965-1972

Jerzy Czyż, Jan Furman, Andrzej Skopiński,
Jerzy Józefowicz and Marek Bieniewski

Number of buildings: 19
Number of floors: 16
Area of intervention: 60 ha
Number of fats: 7'600
Number of inhabitants: 27'000[1]

Percentage share of different types
in the total number of dwellings:

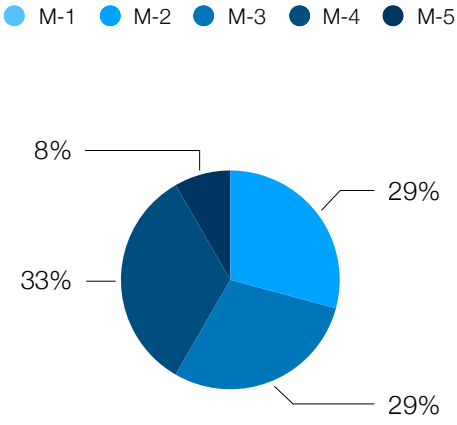


Image 21 | Za Żelazną

1 Cymer, Anna. Architektura w Polsce 1945-1989. Warszawa: Centrum Architektury. Narodowy instytut Architektury i Urbanistyki, 2019.

ą Bramą, aerial view

Przyczółek Grochowski

Warsaw, 1969-1974

Zofia and Oskar Hansen

Number of buildings: 19
Number of floors: 4-7
Area of intervention: 11 ha
Number of fats: 1’800
Number of inhabitants: 7’000[1]

Percentage share of different types
in the total number of dwellings:

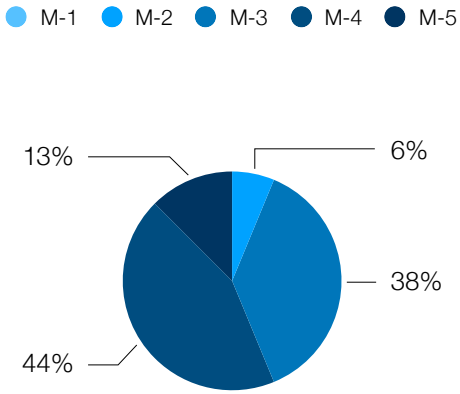


Image 22 | Przyczółek

1 Cymer, Anna. Architektura w Polsce 1945-1989. Warszawa: Centrum Architektury. Narodowy instytut Architektury i Urbanistyki, 2019.

k Grochowski, view of a facade

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Image 1 | Example of Polish modernist avant-garde architecture | Bohdan Lachert's own house at 9 Katowicka Street in Warsaw, view from the garden, photo: Witalis Wolny, 1972, Institute of Art of the Polish Academy of Sciences

Image 2 | Rebuilding Warsaw after the Second World War | photo from: https://warszawa.wyborcza.pl/warszawa/51,34862,17418851.html

Image 3 | The longest building of the Przymorze Wielkie housing estate | photo from: https://polska-org.pl/7413806,foto.html

Image 4 | Aerial view of the Za Żelazną Bramą housing estate | photo from: Narodowe Archiwum Cyfrowe, Archiwum Grażyny Rutowskiej

Image 5 | Picture of a model presenting the Przyczółek Grochowski housing estate | photo from: Oskar Hansen Archive, courtesy of Igor Hansen.

Image 6 | Przyczółek Grochowski, trench with car traffic | photo from: https://fotoforum.gazeta.pl/72,2,746,48725409,48725409,0,2.html?v=2

Image 7 | Za Żelazną Bramą facade detail | photo from: Narodowe Archiwum Cyfrowe, Archiwum Grażyny Rutowskiej

Image 8 | Przyczółek Grochowski, facade detail | photo from: https://fotoforum.gazeta.pl/72,2,746,48725409,48725409,0,2.html?v=2

Image 9 | Przyczółek Grochowski, inside a courtyard | photo from: Oskar Hansen Archive, courtesy of Igor Hansen.

Image 10 | Przymorze Wielkie, view on an external gallery | photo from: https://pl.wikipedia.org/wiki/Falowiec#/media/Plik:Gda%C5%84sk_Przymorze_falowiec_%E2%80%93_galeria.JPG

Image 11 | Za Żelazną Bramą, view on a corridor | own photo

Image 12 | Przyczółek Grochowski, view on an external gallery | photo from: Oskar Hansen Archive, courtesy of Igor Hansen.

Image 13 | Za Żelazną Bramą, lobby and kiosk | own photo

Image 14 | Przymorze Wielkie, playground in front of the building | photo from: https://www.gdansk.pl/wiadomosci/porozmawiajmy-o-architekturze-i-urbanistyce-spacer-pomiedzy-falowcami-przymorza-w-niedziele,a,151346

Image 15 | Za Żelazną Bramą, infrastructure between the blocks of flats | photo from: Narodowe Archiwum Cyfrowe, Archiwum Grażyny Rutowskiej

Image 16 | Przyczółek Grochowski, collective spaces | photo from: Oskar Hansen Archive, courtesy of Igor Hansen.

Image 17 | Za Żelazną Bramą, surrounding | own photo

Image 18 | Przymorze Wielkie, view on the south facade | photo from: Wojciech Strozyk/REPORTER /East News

Image 19 | Przyczółek Grochowski, green space in the courtyard | photo from: https://fotoforum.gazeta.pl/72,2,746,48725409,48725409,0,2.html?v=2

Image 20 | Przymorze Wielkie, view on the northen facade | photo from: M. Tyminski

Image 21 | Za Żelazną Bramą, aerial view | photo from: Ireneusz Sobieszczuk, Leszek Wroblewski FORUM

Image 22 | Przyczółek Grochowski, view of a facade | photo from: Oskar Hansen Archive, courtesy of Igor Hansen.