

House commune as a socio-architectural phenomenon

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Abstract:

This paper discusses the importance of studying and rethinking our understanding of the constructivist architecture development history in the 1920s and 1930s; in particular, house communes. A house commune is a residential building, or often a complex of buildings that unites a residential with common areas, such as households, leisure, sports facilities, and workshops. Typically, each house commune project is individually designed, based on the needs of future residents. As a result, many innovative solutions were made in their architectural organisation, such as double-height rooms and ramps instead of stairs. In this study, the architectural and planning solutions of house communes have been investigated while considering the chronology of their development. In addition, the experience of renovation (conservation) of house communes as a method for modern urban-space enrichment is considered. The modern creation of multi-apartment housing with the organisation of common communal areas and additional service provision is investigated in the context of cohousing.

Keywords:

House commune; house of transitional type; avant-garde; constructivism; restoration; conservation; cohousing

1 Introduction

At the beginning of the twentieth century, with the end of the First World War and large-scale industrialisation in Europe, there was a need to create housing for many people employed in the production industry. To solve this problem, the 'Modern Housing' exhibition was held in Stuttgart City, where the works of Peter Behrens, Ludwig Mies van der Rohe, Mart Stam, Bruno Taut, Le Corbusier, Walter Gropius, and others were showcased. Achievements in the field of production optimisation, construction processes, and the invention of new building materials and structures that simplified and reduced the cost of housing were presented. The Stuttgart exhibition influenced mass housing construction in the USSR—it aimed to rationalise, mechanise, and standardise construction processes.

House communes were the result of architectural surges in the 1920s and 1930s. Today, these monuments of Soviet architecture have been preserved in many cities of the former USSR. House communes form part of the constructivism field and exhibit excellent decorative works and reminders of that period [1], and provide housing for modern connoisseurs. This study presents the architectural and planning organisational features of house communes, transitional type houses, and their modern counterparts, to provide a basis for future studies on the housing stock quality of the socialist period, and identify architectural solutions and techniques, with prospects for use in modern settings.

2 Literature review

The theoretical foundation of this study is based on fundamental works, articles, and essays in the field of architectural development of residential housing in Ukrainian, Russian, and other countries with specialist architecture. Scientific and methodological studies in the field of architectural and planning development of residential housing have been reported in books written by Le Corbusier [2] and Ukrainian scientist Aleshin [3]. Ginzburg et al. [4] and Cheredina [5] studied the architectural features of house communes and their typological features. Methods for preserving the monuments of avant-garde architecture are highlighted by Cherkassova and Voloshin [6]. However, the chronology of development up until the present day, as well as the experience gained in preserving and restoring communal houses, has not been previously studied.

3 Methodology

The methodology for this study includes the review of scientific works and literary sources on the research topic—a retrospective analysis of the construction of house communes and similar objects—and a graphical analysis of master plans, floor plans, and façades. Systematic methods were used to compile Table 1 from factual material gathered in this study, considering the qualitative and quantitative indicators of the architectural and planning features of house communes. The analysis results include the primary methods for preserving and recreating house communes, as well as aspects used in modern practice for designing similar types of housing/cohousing.

4 Basic theory

4.1 The formation of house communes

Large-scale industrial growth and the peculiarities of socio-economic processes in the USSR during the 1920s and 1930s contributed to high rates of urbanisation and an urgent need for housing, particularly in large cities. Architects had to consider three important factors in their projects: the ideology of the early USSR, economic situation, and need for large construction volumes. In 1928, a regulation on the socialisation and collectivisation of everyday life was adopted, which influenced the emergence of new architectural forms.

At the end of the 1920s and 1930s, architects were conceptualising different types of apartment buildings: a house commune, mixed-type house, garden house, residential complex, and

social city [7]. The house commune was a unique housing type, with each being an experimental concept in the field of comfortable housing. As a rule, the construction initiators for new communes were enterprises that provided housing for their employees, while also serving as management organisations, ensuring general comfort and public order.

In 1928, a group of architects headed by Ginzburg M. (Barshch M., Vladimirov V., Pasternak A., et al.) began to rationalise dwellings in the typification section of the Construction Committee, which forms part of the Russian Soviet Federative Socialist Republic. For the first time, architects began studying the scientific organisation problems of everyday life on a national scale. They wanted to simulate a smooth transition from an individual bourgeois lifestyle to a public one; thus, producing the 'houses of transitional type' concept, which allows for minimal living areas while maintaining a comfortable level of housing—a cell apartment with access to a public area. Therefore, they focused on rationalising the planning and equipment of apartments [8].

Table 1. Characteristics of house communes

№	Name	Constructi on period	Country, city of establishment	Number of storeys	Current state
1	House commune on Shabolovka (architect Wolfenzon G., Volkov E. and engineer Aizikovich S.).	1928	Russia, Moscow	6	Reconstructed; functions as an institution.
2	House commune for students (hostel) in the Ordzhonikidze street (architect Nikolaev I.).	1929–1930	Russia, Moscow	8	Reconstructed; functions as a residential building.
3	Narkomfin House on Novinsky boulevard (architect Ginzburg M. and Milinis I.).	1928–1930	Russia, Moscow	6	Reconstructed; functions as a residential building.
4	House on Gogolevsky boulevard (architect Barshch M., Vladimirov V., Milinis I., et al.).	1929–1930	Russia, Moscow	7	During 1961–1964, two floors were added; functions as a residential building without major repairs.
5	House on Rostokino (architect Ginzburg M., Lisagor S.).	1928–1930	Russia, Moscow	5	Preserved and occupied.
6	House of the Uraloblsovarkhoz (architect Ginzburg M. and Pasternak A.).	1928–1929	Russia, Sverdlovsk (modern day Yekaterinburg)	5	Preserved and occupied.
7	House of the Society of Political Prisoners on Petrogradskaya Embankment (architect Simonov G., Abrosimov P., Khryakov A.).	1931–1933	Russia, Leningrad (modern day St. Petersburg)	6	Preserved and functions as a residential institution.
8	House commune in Smolensk (architect Vutka O.).	1929–1930	Russia, Smolensk	8	In disrepair; does not function.
9	House commune of engineers and writers in Troitskaya street (architect OI A.).	1929–1930	Russia, Leningrad (modern day St. Petersburg)	6	Functions as a residential building.
10	House commune for workers, shareholders of RZHSKT on Proviantkaya street (architect Lisagor S.A.).	1930–1931	Russia, Saratov	8	In disrepair; does not function.
11	House commune of Gosstrakh (architect Ginzburg M.).	1926–1927	Russia, Moscow	5	Partially rebuilt; functions as a residential building.

Spatial arrangement variations of residential cells were developed using a through-corridor serving one, two, and three floors. For example, a residential cell of type F allows a corridor

arrangement serving two floors by reducing the height of the apartments' auxiliary premises and alcove—a light corridor with cross ventilation for each apartment (residential building on Gogolevsky) [9, p.83].

The result of the typification section in 1928–1929 included the development of 'standard projects and structures for housing construction' recommended for the 1930s [10], and the construction of six experimental house communes in Moscow, Sverdlovsk, and Saratov (Table 1). In these houses, diverse options for typical spatial residential cells, methods of interconnection between the residential and public parts of a house commune, new structures and materials, and methods of organising construction work, were evaluated.

Housing-commune projects typically include several buildings. In a house-commune complex, a collective infrastructure should be provided, which enables everyday issues to be solved. This includes a space for cooking, such as a collective kitchen, public dining room, laundry, kindergarten, and nursery [11]. Each of the house communes were created for people of different social status: in Rostokino, for workers of the cotton factory; in Petrovsky Park, for teachers at the Institute of Experimental Veterinary Medicine; on Gogolevsky Boulevard, for architects; and on Novinsky Boulevard, for employees of the People's Commissariat of Finance [12].

4.2. Architectural solutions for house communes in the Soviet Union.

The first house commune in Moscow was in Shabolovka (Table 1. and Figure 1.). The complex configuration of the house plan consisted of adjoining corridor-type residential buildings, located on the sides of the communal building, which were partially submerged below ground level. The house commune consisted of five- and six-story buildings forming a single building, two apartment buildings with 40 three-room apartments, and three communal buildings with 230 residential cells. The communal buildings had a corridor system. Each residential floor had separate dwelling cells (9 and 14 m²) with a vestibule, built-in wardrobe, and shared washrooms, bathrooms, toilets, and kitchens. On the ground floor, there was a nursery for thirty-five children, kindergarten for sixty, and canteen for one hundred and fifty. On the first floor, above the canteen, there was a club that consisted of a double-height hall and several rooms for reading and section classes.

On the fifth floor of the central building, there were rooms for physical education, and on the flat roof, there was an open area used for summer cinema, and a solarium with showers [13]. Thus, the house commune on Shabolovka reflected the broadest views of future residents: it had residential apartments, buildings with minimal residential cells, and a relatively developed public area.

During this period, an experimental student house commune for two thousand people was built in Moscow, according to the winning project of architect Nikolayev along with his students (Table 1. and Figure 2.). It represents one of the most radical architectural embodiments of the principle of everyday life socialising, expressed in the rigid organisation of the living environment, which minimised the personal sphere of everyday life. The versatility of an H-shaped building is reflected by its structure. The large eight-story building contained small rooms of 6 m² and was intended for sleeping only. This building was connected to a three-story public building that housed a sports hall, an auditorium for one thousand seats, dining room, reading room for 150 people, training room for three hundred people, and booths for individual lessons. In addition, there are laundry rooms, repair rooms, nurseries for one hundred places, and rooms for sections [14].

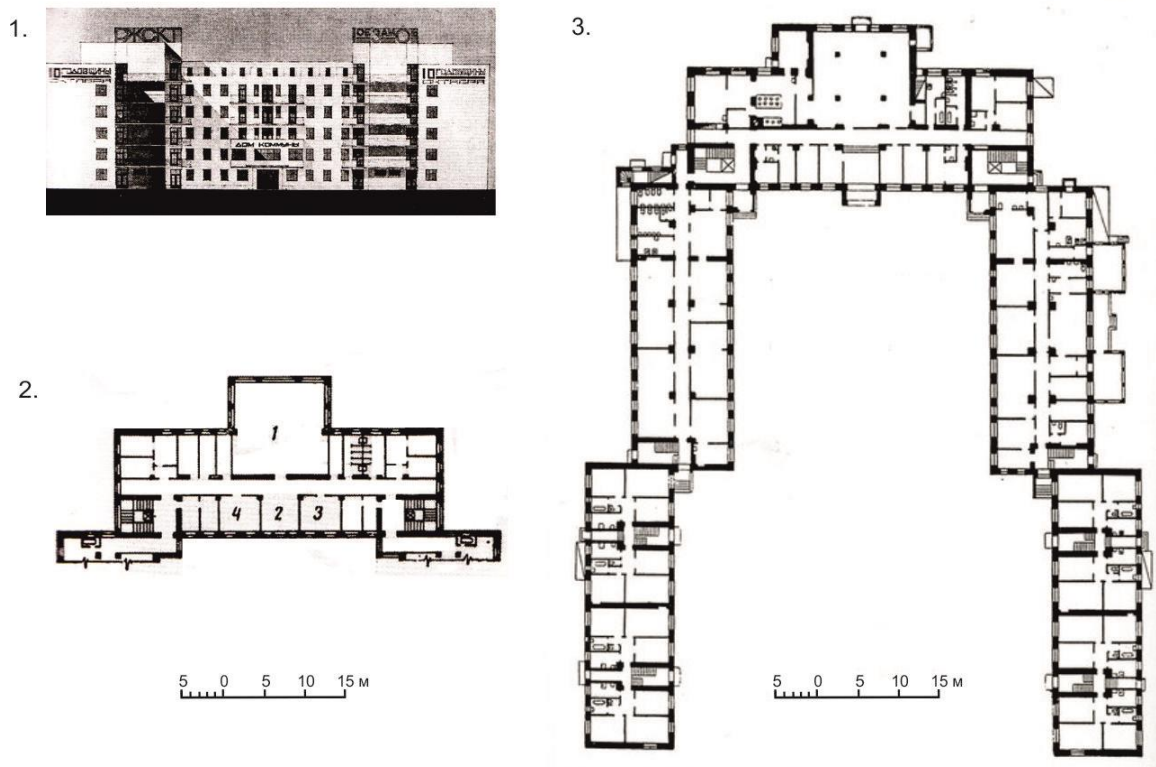


Figure 1. First house commune in Moscow: 1. Façade. 2. Second-floor plan: detail (1 - meeting room, 2, 3, and 4 - library and study rooms) 3. Residential floor plan. [12]

In 2007–2013, the building was reconstructed. The craftsmen tried their utmost to restore the external appearance of the building while the rooms were enlarged; for one person, they were 11 m² and rooms for two were 17 m². The two rooms had shared bathrooms, and an elevator was installed. The building was successfully functioning and inhabited by both master and graduate students.

The Narkomfin house commune on Novinsky Boulevard was one of the primary monuments of constructivism and early Soviet experiments in Moscow (Table 1). The Constructivists adhered to the main principle of twentieth-century architecture: 'Form follows function'.

The Narkomfin house consisted of different geometric volumes, each of which corresponded to its task. On the general plan, the residential block was a parallelepiped, with the addition of a detached rectangular laundry room, cubic communal building with a gym, reading room, and dining room. Only the round kindergarten building was not built and was replaced by a gym in the communal building. The gym was set up on a flat roof of a residential block.

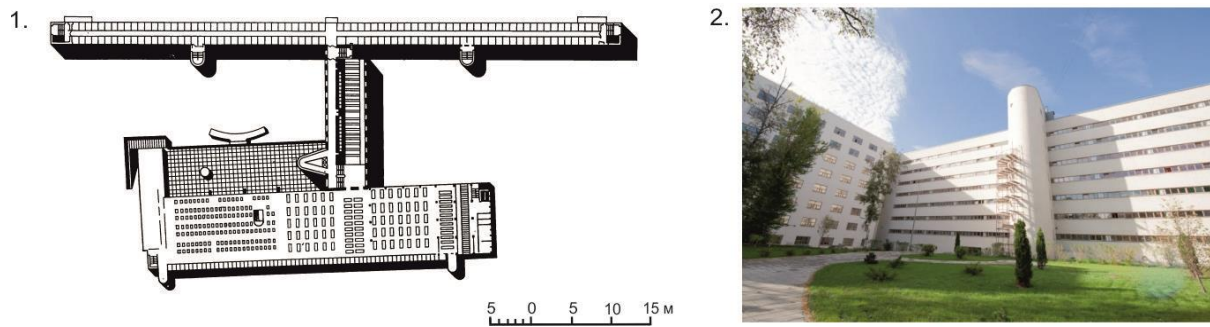


Figure 2. Student hostel: 1. Plan. 2. Fragment. [4]

Structurally, the building featured a load-bearing–reinforced-concrete frame with a grid of round pillars. This allowed the construction of continuous ‘ribbon’ windows on the facade, and to arrange a free layout in the house without tying apartments to load-bearing walls, while allowing the house to ‘float’ on pillars above the ground.

Cell apartments have become the primary innovation in Narkomfin buildings. Architects set themselves the task of creating an apartment format that is economical in terms of space and living comfort. The result of their work was the emergence of six types of apartments: A, B, C, D, E, and F. Four of them—B, D, E, and F—were two-level. This technique allowed two corridors to be equipped in the residential complex at the level of the second and fourth floors. Access was two stairs, comprising the main and evacuation stairs. In the central part of the house, on the second and third floors, Ginzburg placed eight two-level–K-type cells, suitable for families with an area of 90 m². The K-type cells on the first floor of 78 m² were two-level with a ceiling height of 5 m in the living area. At the level of the fourth and fifth floors, there were twenty-eight small F-type cells for small families (37 m²), designed for a maximum of two people. The height of the ceilings in the living area was 3,5 m, whereas in the common corridor, bedroom, and shower cabins, it was 2,25 m (Figure 3). Large, non-standard-type 2Fcells were placed at the ends of the house.

In two-level cells, the architect developed the idea of a flowing space using combinations of different heights; for example, in a cell of type F. Access from the corridor of the fourth floor was possible, where two doors adjoined the staircase: one led to the ‘F-top’ cell, and the other to ‘F-bottom’. The corridor was inscribed between the two apartments. Because of this technique, Ginzburg managed to save space by making the house only 10.5 metres wide, while trying not to deprive the tenants of comfortable spaces. The building had good insulation and cross ventilation; bedrooms faced east and living rooms faced west [15].

The house had a large glazing area; therefore, there was no feeling of closed space, even in small rooms.

Even though the house was not restored for many years, cultural life continued—artists and musicians lived here, editorial offices of magazines worked here, and excursions were held.

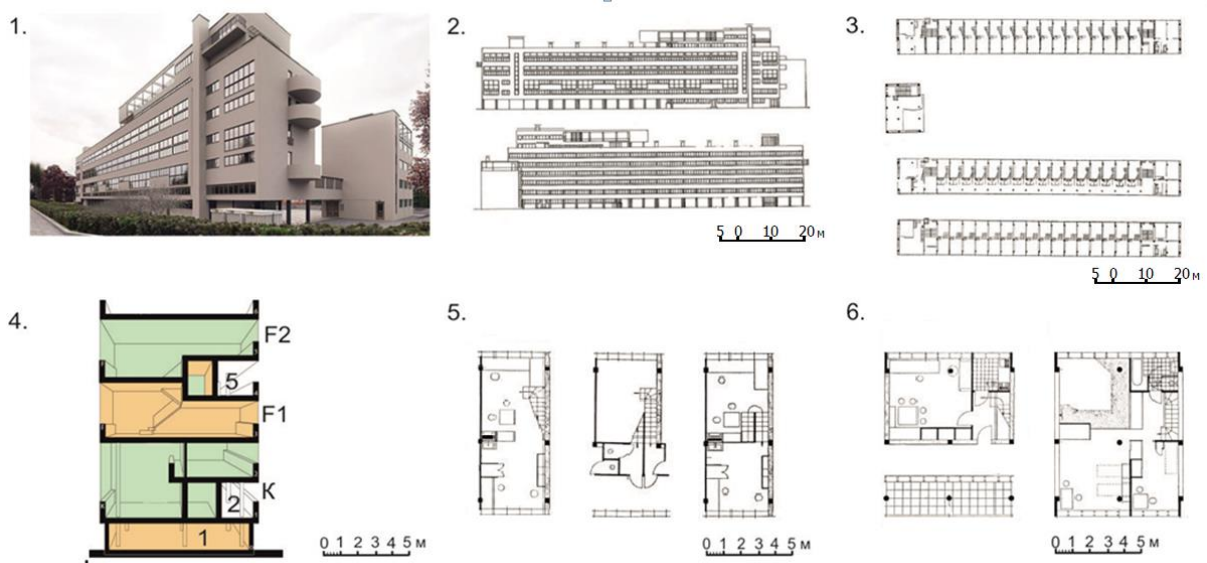


Figure 3. Narkomfin house: 1. General view. 2. Façades. 3. Plans for the fourth to sixth floors. 4. Section. 5. Plans of apartments F1 and F2. 6. Floor plan of apartment K. [15]

It can be termed the house of the society of political prisoners in Leningrad (Table 1.) among the implemented house communes, public, and communal premises which successfully functioned in a complex with residential units. It consisted of three housing units that were connected by internal transitions. There were small two-room apartments in two-gallery-type buildings and large three-room apartments in the sectional building. Common areas on the ground floor included lobbies, foyers, auditoriums, dining rooms, and library-reading rooms. [15].

The idea of everyday life socialising embraced all the social groups of working people. The cooperation of engineers and writers, built in Leningrad between 1929–1930, was indicative of this (Table 1.). The six-story building included fifty-two apartments without kitchens, with one to four rooms. The entire ground floor was occupied by public premises: a dining room with two hundred seats and a kitchen block, children's rooms, and a library-reading room. Today, the building is functioning successfully, and apartments have been equipped with kitchens. Instead of a canteen that has been inactive for an extended period, a restaurant was opened on the ground floor.

The house commune and the transitional type did not develop, as it was not possible to displace most of the household processes from the boundaries of the residential cell. However, restored and preserved house-commune functions are currently in demand. Some factors influence this: the individuality of the architectural solution, successful planning techniques, a convenient location in the city, and historical and cultural factors. Most often, these are houses of smaller capacity, which provide cosiness and comfort to their residents.

In Ukraine, house communes were also built as large residential complexes and social city structures (Figure 4.), such as in Kharkiv and Zaporizhzhia: «NovyyKharkiv», «Krasnyyluch», and «Novyybyt». Unfortunately, there are no examples of modern reconstruction of houses. Moreover, there is a greater extent of lost and rebuilt buildings in the period under study [13]. Typically, incorrect changes include the replacement of windows and stained-glass windows, glazing of balconies, and a neglected state of the building. Currently, in Ukraine, there is an acute issue of the theoretical and practical task of restoration and monument conservation activities regarding buildings at the time of constructivism.

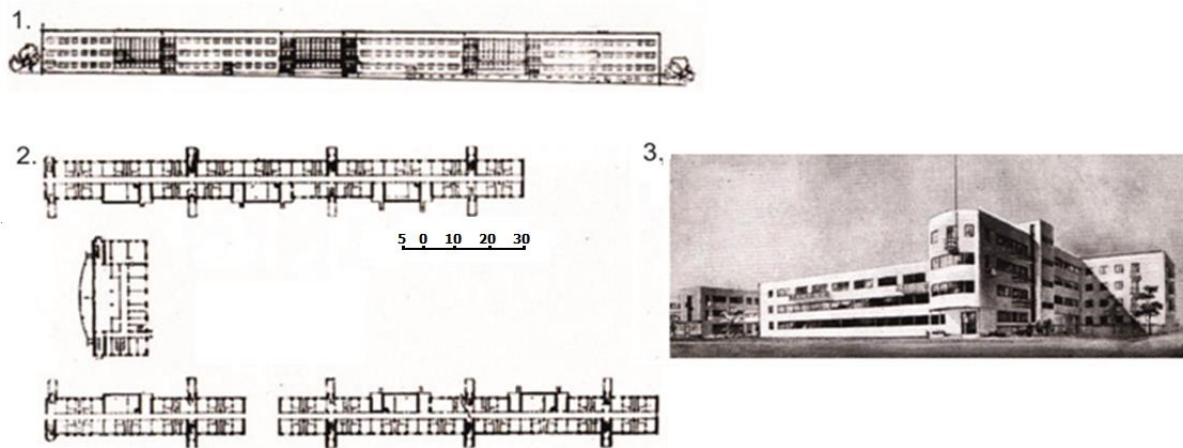


Figure 4. Dormitory of the second quarter in the city of Socialism (Sotsgorod), by architect, G.M.Orlov in Zaporizhzhia, Ukraine(1930–1931): 1. Façade. 2. Plan. 3. General view [12]

4.2 Architectural solutions for house communes in Europe.

Studying the architectural and planning features of house communes, one should recall the Marseille residential unit (architect Le Corbusier), because it was created in their model. This was a seventeen-storey single residential complex in Marseille (1945–1952), located in the middle of a park. The building was elevated with strong supports and included 337 apartments of twenty-three types. Each apartment had a double-height living room of 3.36m, which opened into a deep loggia with a sun visor, and a narrow 1.66m wide section with a bedroom and rooms for children, extending from the living room through the entire depth of the building to a small balcony on the opposite façade. Apartments are complex, multidimensional and private [2]. The corridors were located on the third floor. The entrance to some apartments was at the mezzanine level of the living room, whereas the entrance to others was at a lower level. The innovation of the project lies in its vast public facilities in four levels of public areas: downstairs, ground level, entrance lobby, and a public green area. On the seventh and eighth floors were shops, gyms, restaurants, cafes, and hairdressers. On the roof, there was a stage, kindergarten for 150 places, and a ramp leading to a roof terrace with a relaxation room, swimming pool, and playgrounds. On the other side of the terrace, there was a gymnastics area, outdoor sports ground, and jogging track.

The Marseille house served as a prototype for the ‘residential units’ built by Le Corbusier between 1957–1959 in Nantes-Reze, Berlin, Brieu-en-Forêt, and 1968, according to his project in Firmini [2]. This building had a significant impact on the next generation of architects and helped free them from the idea of a house as a simple number of individual apartments and expanded it into the wider framework of a collective dwelling. It has currently been restored, and excursions are conducted. Several apartments are rented at night as hotel rooms, but the building itself is not inhabited. Unlike the house communes, Le Corbusier’s residential unit is designed for a large capacity; perhaps the scale of this building influenced the lack of comfort and, as a result, the demand for living here as well.

4.3 The idea of a house commune in contemporary architecture

To date, house communes are being reconstructed and continue to function, while remaining in demand among certain categories of people. To a greater extent, these are art enthusiasts, young couples, and single people. Therefore, the restoration of Narkomfin House was completed in the summer of 2020.



Figure 5. House of Narkomfin. The conservation. [15]

The building remains residential and all apartments are sold. The solarium and terraces are restored on the flat roof (Figure 5). This is a restoration and conservation project; therefore, the original preserved elements of the building were protected and left in their original form. The replicas were designed to show the differences between the old and new. The next stage of restoration is the reconstruction of the public space. According to this plan, a unique environment with a restored park will appear around the three buildings that make up the house, and the complex will retain its social functions and remain open to visitors. On the seventh floor, there are apartments with a recreated layout of the 1930s, where those who wished to stay for several days are accommodated.

This project shows that constructivist architecture deserves restoration. With the help of local changes, small apartments can become comfortable, modern, and in-demand housing. Based on this experience, it is possible to further develop similar conservation processes without losing the authenticity of buildings, while at the same time achieve modern urban environments [15].

Cooperation of functions in the structure of multi-apartment housing and the implementation in projects of house communes, are widely used in architecture currently, in activities ranging from architectural objects of social orientation (Vrijburcht, Amsterdam, 2001–2007, see Figure 6.), projects of multi-apartment residential buildings of ‘standard’ and ‘premium’ classes in calm city centres (‘The d’Orsay residential building’, New York, Hill West Architects, 2019, see Figure 7.); to big residential complexes (complex in Air-Tam, Penang, Indonesia, studio SPARK Architects, 2018, see Figure 8.).

The modern practice of designing and constructing residential buildings for communal settlements combines apartment-based living with the organisation of additional service premises intended for joint use by residents. This principle was born from the noble idea of providing inexpensive but comfortable housing to those in need, as well as those who demand the creation of multi-apartment-housing, cohousing, or both for self-employed youth and for families with children [16, 17].



Figure 6. Social type. Vrijburcht in Amsterdam, Netherlands (2001–2007): 1. First floor, 2. General view [11]



Figure 7. Central city type. d'Orsay Residential Building in New York, USA (2019), by Hill West Architects: 1. General view, 2. First floor 3. Second floor 4. Seventh floor. 5. Eleventh floor [16]

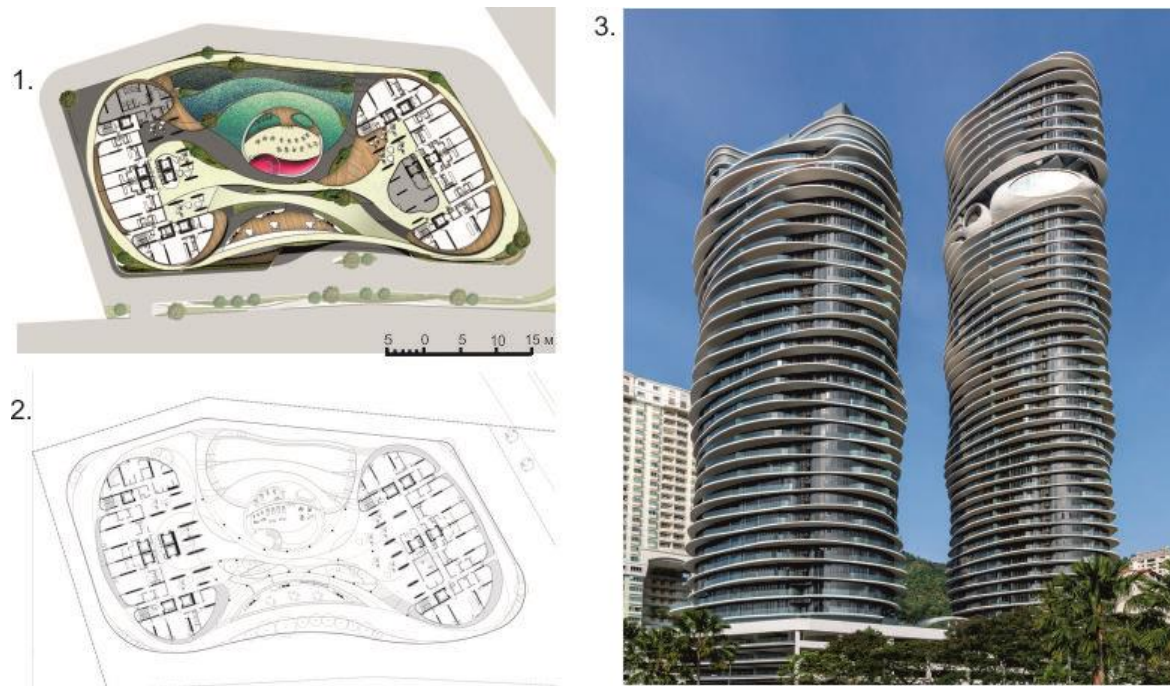


Figure 8. Large residential complex. Complex in Air-Tam, Penang, Indonesia, studio SPARK Architects (2018): 1. Deck floor plan. 2. First floor plan. 3. General view [17]

An interesting phenomenon in the modern development of the idea of house communes is the phenomenon of cohousing, which is in demand in modern cities: several families or single people live in the same house in a common communal area. As a rule, these houses are designed to have a smaller capacity than house communes. It is a temporary residence, on a social or professional basis. This phenomenon originated in Denmark in the sixties, and rapidly spread to Scandinavia and Germany, where after it spread to the rest of Europe and the United States. Cohousing is always designed with a significant percentage of shared areas (for example, 35m² of private space and 21m² of total space per tenant). Typically, it includes gyms, work rooms, laundry areas, and occasionally kitchen with a dining room. Additionally, cohousing tenants may have communal terraces, flower gardens, or saunas with swimming pools. Striking examples of this type of residential building include Vrijburcht (Amsterdam, built in 2001–2007); Alte Schule Karlshorst (Berlin, built in 2006–2008); and Ostello Linda (Milan, built in 1999–2004). Such projects allow us to rethink the concepts of ‘home’, ‘personal space’, ‘community’, and therefore implement innovative ideas affecting how we live [11].

5 Conclusions

The following conclusions were drawn from the results of this study.

- A house commune is a residential building, or often a complex of buildings that unites a residential complex (residential apartments or buildings with minimal residential cells) with a common developed complex, such as households, leisure, sports facilities, and workshops. The structural features of the house-commune buildings typically included a load-bearing–reinforced-concrete frame with a grid of pillars, which made it possible to place continuous ‘ribbon’ windows on the façade and to arrange a free layout in the house. Usually, a flat roof is an open area used as a summer cinema or solarium. Variants in the spatial arrangement of residential cells were developed using a through-corridor serving one, two, and three floors. The distinctive features of house communes are two-level apartments, a combination of heights, large glazing area, good insulation, and cross ventilation.

- Thus, constructivist-style architecture can be restored. With the help of local changes, small-sized apartments can be made comfortable, modern, and in-demand housing, because their features include the individuality of the architectural solution, successful planning techniques, advantageous locations in the city, historical and cultural factors, as well as often small capacity, cosiness, and comfort.
- To date, in Ukraine, there is an acute issue of theoretical and practical tasks of restoration and monument conservation activities regarding buildings at the time of constructivism. Heritage support should be conducted systematically in the architectural, historical, cultural, technological, and constructive fields.

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