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Fig. 1 The figure illustrates the completed Block 23 in New Belgrade, built in 1968 as part of the socialist-era urban development

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Shaping of Belgrade’s Residential Architecture in the Socialist Period

Belgrade School of Housing
Center for Housing IMS
habitological research
socialist period

The period from the 1970s to the 1980s had a great demand for apartment construction in Belgrade. The study examines how state policies in socialist Yugoslavia shaped architectural design principles, and how these design frameworks influenced everyday social life, with focus on Belgrade area. The research procedure includes the following methods: content analysis of professional and scientific literature in the field of architecture, urbanism and sociology of housing, historical-descriptive analysis of urban policies and housing construction in the period 1970-1980, through a review of available normative acts, publications and documents, interpretation of architectural elements characteristic of the Belgrade School of Housing and theoretical synthesis of philosophical views on space and home, with critical application in the context of specific architectural practices. The aim is to examine the way in which the architecture of residential space in socialist Yugoslavia, and especially in Belgrade, influenced architectural design principles and how that affected the lifestyle of the population. Through this two-tier relationship - policy shaping architecture and architecture shaping society – the paper reveals housing as an active medium of social engineering. This paper provides a qualitative analysis of historical and architectural sources, with an interpretation of theoretical frameworks of architecture, urbanism and social philosophy.

Introduction

Architectural design approaches reflect the culture from which they originate, the times, social values and ideas. Changes in architectural design approaches provide insight into corresponding transformation within society.

The Belgrade School of Housing emerged between the 1970s and 1980s in the Socialist Federal Republic of Yugoslavia (SFRY), during a time of intensive construction (Fig. 1, up). The name arose spontaneously and is not official. During those decades, numerous studies were conducted and design principles were established to regulate the creation of high-quality living spaces. The Center for Housing within the Institute for Materials Testing of Serbia, worked on the problem of designing apartments for the domestic market since its establishment. This period is also known for creating the so-called "Belgrade apartment". Designers used standards for designing housing units that were in line with the lifestyle of the local population.

Drawing on numerous studies they conducted, the Belgrade School of Housing developed a conceptual framework intended to raise housing standards. This approach combined principles traditionally applied in the design of individual housing with their implementation in collective housing. Several key characteristics that an apartment should meet at the design stage were defined, such as:

– designing rooms in accordance with the needs and habits of the family, whereby the apartment is divided into a day and night zone,
– dining room as part of extended communication,
– an apartment with two centers, divisible by generations,
– circular communication,
– a technical block as a central element,
– loggia as a constitutive element of the apartment,
– flexibility,
– individualization of multi-family housing,
– coordination of the dimensions of the functional and structural parts of the apartment (Alfirević, Simonović Alfirević, 2013: 45).

The result of the research is a large number of constructed residential buildings which have elements of the Belgrade School of Housing. They were based on the foundations of research conducted at the IMS Center for Housing. The investor of the majority of the apartments was the Yugoslav People's Army, which actively participated in the implementation of the regulations and built apartments for its employees.

Prior research on socialist housing in Yugoslavia has largely focused on architectural typologies and design methods (Baylon, Aleksić, Čanak, Lojanica), habitological research developed at the IMS Center (Mecanov, Petrović), and contemporary reinterpretations of the Belgrade School of Housing (Kušić, Alfirević). Additionally, philosophical perspectives on dwelling (Heidegger, Norberg-Schulz, Pallasmaa) and sociological studies of everyday life provided a broader conceptual foundation for understanding housing as a cultural and social phenomenon.

Although these studies provide valuable insight into typological development and theoretical interpretations, they remain limited in scope. Few works examine the relationship between state ideological frameworks, architectural design, and everyday social practices. The interaction between policy directives and spatial design, and their combined influence on social life in socialist Belgrade, remains insufficiently theorized.

The hypothesis of this paper is that housing space in socialist Yugoslavia was not merely a physical structure, but a social instrument shaping family life, gender roles, and collective values. The research problem examines how architectural concepts of the Belgrade School of Housing both reflected and influenced social transformations in late socialist Yugoslavia. The aim is to identify and analyse architectural principles and social intentions

behind housing design in socialist Yugoslavia, and especially in Belgrade.

The present study seeks to bridge these perspectives by examining how architectural form both shapes and reflects social transformation. Furthermore, this paper synthesises philosophical, sociological, and architectural perspectives to explain how the Belgrade School of Housing operated at the intersection of architecture and social change. This paper addresses the identified gap by integrating architectural, sociological, and philosophical perspectives to examine how state policies shaped architectural design, and how architecture, in turn, influenced patterns of social interaction and everyday life. In doing so, the study situates the Belgrade School of Housing within a broader interdisciplinary discourse and clarifies its role as a mediator between ideology and lived experience.

Methodology

The research applies a qualitative and interpretative approach. The main research question addresses how housing architecture in late socialist Yugoslavia impacted and reflected social transformation. The hypothesis assumes that housing design played a role in shaping collective lifestyles and social values. This is particularly evident within the framework of the Belgrade School of Housing. The methods include:

– content analysis of architectural, sociological, and policy documents from 1970-1980;

– historical-descriptive analysis of housing policy evolution;

– interpretation of philosophical perspectives (Heidegger, Norberg-Schulz) in relation to the social role of architecture;

– comparative analysis of architectural principles proposed by Baylon, Ćanak, and Aleksić with contemporary views (Kušić, Alfirević, Mecanov).

The analytical procedure involved categorizing sources by discipline and period, identifying key conceptual frameworks, and synthesizing them to explain the interrelation between architectural design and philosophical perspectives. The research is based on a qualitative analysis of diverse sources relevant to the development of residential architecture in socialist Belgrade.

The primary material includes:

– theoretical and scholarly literature in architecture, sociology, philosophy, and habitology, which provides conceptual frameworks for understanding housing as a spatial, social, and ideological construct;

– housing policies and state guidelines issued during the socialist period, which articulate the institutional objectives that shaped design principles;

– archival materials and period publications, including professional journals, conference proceedings, and reports produced by architectural institutions such as the IMS Centre;

– representative examples of apartment types and housing models, examined through a comparative analysis of their spatial and functional organisation;

– interpretative analyses of lived spatial experience, grounded in phenomenological and philosophical theories of residential space.

Selection criteria were established to ensure relevance for the research focus. Sources were selected on the basis of their compliance with the following criteria: explicitly address socialist-era housing principles; contribute to understanding the ideological, social or functional formation of residential architecture, or form part of the scholarly discourse on the Belgrade School of Housing and habitological research. The material was then categorized into theoretical, policy-related, historical, and architectural-design sources, enabling a structured and targeted analytical process.

The methodological approach is grounded in an interpretative paradigm that understands architecture as a product of ideological and institutional frameworks. At the same time, it considers architecture an active medium that shapes everyday life. This integrated approach directly addresses the research question. It also provides a structured basis for evaluating the hypothesis that residential architecture in socialist Belgrade functioned as a mechanism for social shaping. In particular, it examines how this occurred through the interplay between state policy and design practice.

Philosophical and Experiential Dimensions of Architecture within the Institutional Framework of Socialist Housing

Heidegger encouraged considering space as a place for human existence. According to him, the function of architecture is complex, and its essence is not only in shaping the form. In this context, architecture should have content, it should be able to respond to the spiritual needs of a person to the same extent as it responds to functional needs.

In his book "Existence, Space and Architecture" Christian Norberg-Schulz (Norberg-Šulc, 1975), presented a similar idea. He ar-

gued that space should be examined through various concepts interconnected by rational relationships. The space serves to connect man with his biological environment, it manifests his character traits, represents the possibility of interaction with a person's social and cultural nature, it makes us think about the physical world.

Accordingly, it can be said that architecture, in addition to satisfying physical functions, influences the formation of emotions and the mental state of a person. The architectural design of space can have a positive or negative impact. The space in which a person carries out their daily activities can calm, inspire or disturb them. Architecture acts as a stimulus for self-discovery. While it cannot directly influence a person's character or change it in a certain way, it can serve as a guide or reminder of the ideals and values to which a person subscribes.

The idea that architecture shapes a person, and vice versa, was presented by Professor Dr. Mako (Mako, 2015) through an analysis of the adaptation of space to the Christian way of life. He stated that, in the early centuries, Christians were expected to behave in a certain way. They were to inhabit spaces that reflected virtues and a lifestyle aligned with Christianity and the saints they venerated. Further analysis indicated that residential spaces were used to instil these virtues. This practice helped Christians distinguish themselves from pagans.[1]

In the modern era, the emphasis is on the construction of buildings, which are designed by determining their primary goals. That is, by considering the requirements in terms of location, purpose and materialization. And then the focus is on shaping the form and interior of the building. The aesthetics of the building are harmonized with its function.

In this way, architecture emerges as a combination of the designer's intuition and professional expression. It serves to foster connections and emotions (Mako, 2005). Such architecture can be created by an architect who combines childhood memories of spaces with knowledge gained from professional practice. In this type of space, the user feels inspired to identify with and engage actively in the environment.

Personal Trajectories in Shaping the Complexity of Residential Architecture

Architecture is shaped in accordance with social issues. It does not only represent the aspiration to reaching aesthetic ideals. A well-designed space is one that is in the service of humans and is designed in synergy with the specific era in which it was built.

In order for residential architecture to be shaped in a functional manner, a complex system should be implemented, one which includes planning, cost-effectiveness and construction technology, ease of maintenance, and continuous adaptation to new criteria in the field of legal regulations. It is also necessary to keep up with the development of residential conditions and current lifestyles. Residential architecture must meet basic human needs, reflected in the desire for shelter, privacy, sociability, and, in the long run, a sense of security as an investment (Petrović, 2004).

An architect shapes a space under the influence of numerous factors. These include the environment in which they grew up, the environment in which they live as an adult, and the professional principles they have learned (Zumthor, 1999). Therefore, every architect designs differently and architectural design cannot be repeated indefinitely. This is desirable, because through the improvement of architecture, society develops, and the user is also invited to develop.

From a user's point of view, a house in the sense of a residential space is the embodiment of personal identity, an indicator of the individual's personal character and habits. It is also a reflection of the time in which the user lived and an indicator of social changes. Architecture shapes a person in the same way that a person shapes architecture with his biological nature (Norberg-Šulc, 1975). The earliest and most intimate memories are linked to the house. Residential space is to some extent a treasury of memories and a space for free daydreaming (Gaston, 2005).

A person develops their needs in accordance with the environment and their own affinities (Vranicki, 1957). By designing space, architects strive for a balance between needs and the possibility of satisfying them. That is, they aim to fulfil specific residential functions within a given space. These functions can be passive or active, depending on the activities carried out by the individual (De Botton, 2006).

When a person finds himself in a new space, he unconsciously tries to find and recognize the architecture that he is familiar with (Zumthor, 1999). Accordingly, it can be said

1 A Christian home should aim to remove and completely eliminate extravagant, unnecessary, and insignificant furnishings from both private and public spaces. The focus should be on spiritual development. A common premise underlying these perspectives is that spatial design should respond to users' habits

that architecture, in addition to satisfying physical functions, serves as a stimulus for self-knowledge, influences the formation of emotions and the mental state of a person (Pallasmaa, 1995). However, it cannot directly influence a person's character or change it in a certain way, but it can serve as a guide or reminder of the ideals and values to which a person subscribes.

Without being aware of it, people analyse architecture through all their senses (Pallasmaa, 2005). A residential space can thus be viewed as a kind of a medium (Kušić, 2024).

The daily use of residential space is greatly influenced by the technology used in the household, the relationships between users and the immediate environment. The overall variability of a building largely depends on the available materials and technologies. It must be borne in mind that the construction system is a constant work in progress, which affects the final shape and dimensions of the components, as well as their finishing and assembly techniques. Variability of a building is also affected as well as the fulfilment of environmental requirements such as material recycling and reduced energy consumption and environmental pollution (Krstic, 1997).

States' Housing Policies in the Socialist Period

To understand how the socialist period in architectural space shaped everyday life, it is essential to examine the state policies that guided the formation of residential design. These policies shaped the institutional framework that underpinned the phenomenological and experiential constitution of residential space.

While the previous section explored the experiential and phenomenological aspects of residential space, the following discussion examines the policy frameworks that structured residential architecture in socialist Yugoslavia. Together, these two dimensions reveal how ideological intentions were materialised in lived spatial practices.

States' housing policies consist of four basic phases. They are defined based on the analysis of some factors from the past (Petrović, 2004). The first is the restrictive phase in which the aim was to suppress speculation in the housing market. The second is the formative phase, which is reflected in the measures implemented by the state to support the non-profit sector with the aim of balancing the housing market. The next is the supply phase, where the state played a major role in the supply of apartments, and the fourth phase is the one in which the state played a minimal role in financing housing construction but was present as support for other factors in the housing regime.

The first phase, the restrictive one, is characteristic of the late 19th and early 20th centuries, when a mass migration of the population from rural to urban areas took place. As a form of aid, the state then introduced the so-called "housing allowance" (Petrović, 2004: 16).[2]

The second phase includes state participation to enable the construction of state-owned housing or housing owned by companies and non-profit organizations. After World War II, housing policy changed as private rent was replaced by public rent. Further changes involved an increasing share of private ownership in the housing stock.

The third phase is characterized by the fact that private ownership became more numerous. In other words, the share of privately-owned units in the overall housing stock expanded considerably.

What these phases demonstrate is that, similar to architects, the socialist states operated within defined constraints and planning regulations that shaped the development of residential architecture. Their actions, therefore, were not entirely autonomous or unrestricted.

European countries that were organized according to the principles of socialist policy, had a large share of the private rental sector in cities in the period before the rise of socialism. That means that they entered the first and second phases of housing policy.

Throughout the socialist period, the dominant stage was the "supply" phase, classified as the third phase in housing policy; a transition to the fourth phase did not occur. The sudden privatisation of apartments led to a rapid shift from state-owned to privately owned housing. In a short period of time, numerous households that were in a challenging financial situation became homeowners. As a consequence, certain financial incentives were abolished. This change had a direct impact on the living patterns of these households.

The vision of the Yugoslav Party was that "Socialism cannot subordinate a person's happiness to some higher goal, because the highest goal of socialism is precisely the personal happiness of the individual." (Kušić, 2024: 47). The goal was to increase wages, strengthen consumption, improve working

and needs, taking into account their religious, physical, emotional, and intellectual dimensions.

2 This was a measure to reduce the differences between the new expenses that the family had and the income it had during the adjustment period.

and living conditions, and develop trade activities.[3]

During the socialist period in Yugoslavia, an apartment was considered a necessity that met the requirements of the modern basic unit of society, i.e. the family. The idea of family life in an apartment was associated with the stability and longevity of the married couple.

The late socialist period, often referred to as the period of industrialization, introduced new models of family housing. In such households, members were equal. There were usually two generations, that is, apartments were meant to accommodate parents and children. There was an ongoing emancipation of women, which resulted in both parents working outside the home. Life in an apartment was promoted as a desirable transitional period from the extended family. It was also advertised as a simpler and faster way to maintain a household and raise a family (Aleksić, 1975). Before this period, multi-generation families mostly lived in one house (Dinić, 2003).

Great attention was paid to organizing the apartment in accordance with the needs of the housewife. The goal was to enable her to comfortably use the residential space.[4] In addition to family obligations, the apartment needed to accommodate all activities necessary for the household to function properly. It also had to support the housewife in meeting her responsibilities as an employed individual.

Understanding these policy-driven transformations clarifies the reciprocal relationship between ideology, architectural form, and everyday life and provides an essential foundation for the central argument of this paper.

When the philosophical and sociological viewpoints analysed so far are considered together, they support the hypothesis that the development of socialist housing was influenced by multiple, intersecting intellectual currents. This convergence of perspectives reinforces the complexity of factors shaping housing design. Despite their differing emphases, they reveal a coherent and mutually reinforcing influence on the formation of residential space.

Residential Architecture from the Perspective of Designers in the Period of Late Socialism

Designing residential space is not an exact process. It is not always easy to predict what purposes and needs the space should satisfy for the general public. It is necessary for the architect to follow his instinct, because he has an innate idea of how to move around in space. During the finalization of the design, the architect's knowledge and experience have an impact (Benjamin, 2011). The space should be designed according to functional activities, according to what will happen in that space, what activities will be performed.

User complaints are important for architects, because users present problems they encounter when using the space. Those are not abstract problems (Baylon, 1976). Such complaints should be considered if they are not the product of acquired bad habits.[5]

Mate Baylon (Baylon, 1972) defined apartment as a space that should follow the development of a person's life and the growth of the family. It should be designed so that its shape changes in accordance with the growth of the number of family members and in accordance with needs that are constantly changing. The apartment should have the ability to transform as the family changes, through all life stages and situations.

In order for an apartment to be planned according to the size of a family, it needs to be designed according to the number of people who will use it. This brings a variety of possibilities for organizing the rooms and the contents of the apartment. On the other hand, when apartments are designed according to the number of rooms, the solutions are not of similar quality.

Baylon also stated that apartments should not be divided into categories imposed by social organizations. An apartment itself cannot be "social" or "workers'". It should be viewed only as a space for people to live and it should be developed in accordance with human needs. However, it is necessary to design it according to social requirements in terms of proper planning, economic viability and ease of maintenance.

The residential space has completely changed since the introduction of modern devices (Kušić, 2024). Such changes are constant and occur in accordance with innovations. According to Heidegger, a person does not free himself from obligations by using modern technology, he changes in accordance with the new technology, adapts to it and takes on

3 This means that socialism cannot give itself the task for which it was created and for which it exists, since socialism is already in the service of the person's personal happiness. One of the most notable outcomes of the program was the significant increase in the number of retail outlets established between 1956 and 1963.

4 It was designed with the intention of facilitating the upbringing of children from an early age, which meant easy supervision and monitoring of the development of children.

5 It has been noted that users experienced difficulties using the apartment, regardless of whether more

even more obligations (Heidegger, 1977). The imposed lifestyle often led to the omission of a room that served only for rest, relaxation and socializing, undisturbed by electromechanical devices and appliances.[6] Gropius defined such a phenomenon with the following words: "With our enthusiasm for technical inventions, we have infected the whole world, but we have not been able to give spiritual guidance for the wise application of these invented means" (Aleksić, 1975: 17).

Technological progress leads to a loss of individuality. Certain cultural values have been lost in the name of applying the global approach in design. However, the inclusion of local values would open up the possibility of restoring universality in architecture.

The history of architecture is a significant source of information about the principles of construction. Thanks to the architectural design approaches from the past, future architecture continues to evolve with deeper cultural and historical references. New directions do not have to and should not start all over again, but should build on existing ideas. In this way, architectural design approaches are improved, they are more interesting and better than the previous ones. In this regard, architecture is in constant transition, it is reshaped and changed (Radović, 2001) and new experiences are integrated with the previous ones.

Practitioners have reached the same conclusion as architectural theorists – that space should be designed in accordance with the diverse needs of human life. At the same time, it is essential to ensure that design does not move to the opposite extreme, but rather maintains qualitative functional value. The introduction of modern appliances has had a significant impact on changing everyday habits, posing an additional challenge for designers.

Basic Elements of Apartment Design in the Late Socialist Period

By observing family life during the day, designers were able to understand how to divide an apartment space into a day and night zone. They also noticed that there was a certain grouping of generations (Ristić Trajković et al., 2015), whereby the social activities of two generations did not mix. In this regard, the spatial organization allows for a flexible grouping of rooms – either around the sanitary core or the kitchen – depending on whether the intended use prioritizes social interaction or privacy. Thus, the layout of the apartment with two centres was developed.

Circular circulation within an apartment (Fig. 2) is a design solution for situations in which, during everyday use, there is a need to change the direction of movement. The idea was that this element in the organization of the apartment contributed to a better standard of living. This element can be seen in apartments built before World War II (Alfirević and Simonović Alfirević, 2018) and it was retained for apartments built after WW II. Apartments with this element had better connectivity of rooms without unnecessary corridors or separations and better interaction of family members. The circular circulation completely changed the concept of division into day and night zones. This enabled a softer division of the zones in the apartment and a direct connection of the zones was achieved, which allowed for more flexible movement through the space.

Baylon believed that a well-organized apartment, which positively affects the development of the family, cannot have a bed for one family member to sleep in the living room. According to him, the main purpose of the living room is to gather the family and use it for joint activities (Baylon, 1972). If one of the family members uses the living room as a bedroom, that can disrupt that person's peace, personal time and intimacy, and he is in unequal living conditions compared to other members. Furthermore, his study on the organization of the apartment has demonstrated that every dwelling has both upper and lower limits in terms of its spatial area. Within these parameters, the apartment must be designed to meet the needs of the family while remaining within the boundaries of the economic plan, that is ensuring cost-effectiveness (Mecanov, 2008).

The element of extended communication was one of the ways in which the problem of planning a bed in the living room was solved, while also providing the option of family gatherings without disturbing the intimacy of a family member who is located in the living room. The concept was first introduced in 1957, when an extended circulation space was placed at the centre of the apartment and used for family gatherings (Baylon, 1975). The focal point of family gathering and

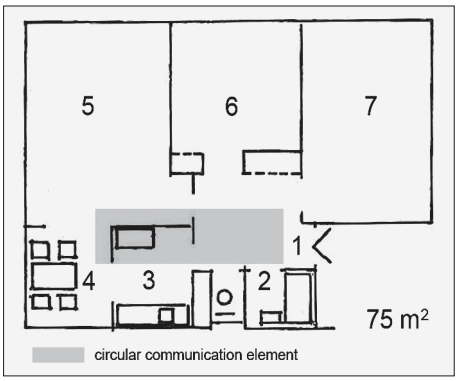


Fig. 2 Apartment with a circular communication element:
1 – entrance, 2 – bathroom, 3 – kitchen, 4 – dining room, 5 – living room, 6 – bedroom, 7 – bedroom

members lived in it than originally planned. Complaints included the inability to install and arrange furniture to meet basic needs, as well as the challenge of organizing daily life according to the requirements of the modern family emerging during the socialist period. A lack of flexibility, necessary to accommodate household changes and development, was also observed.

6 Although devices are intended to accelerate and simplify certain actions, an emphasis on constant innovation can weaken the connection between people and their residential space. This focus may reduce the meaningful interaction with the environment in which they live.

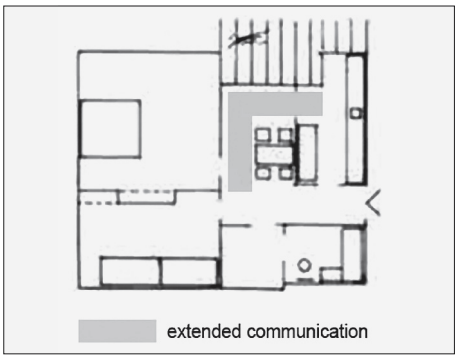
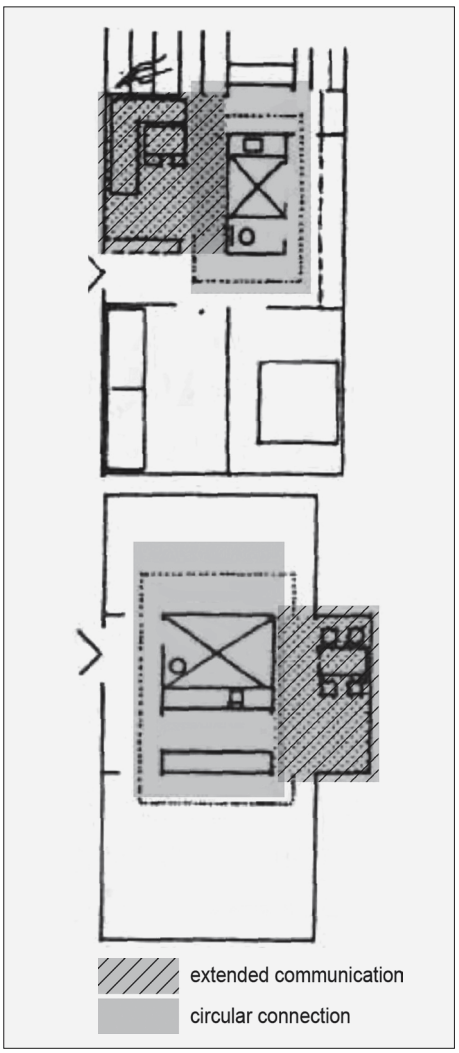


Fig. 3 Apartment with an extended communication, built in Belgrade between 1957-1958

Fig. 4 Apartments where the circular connection element is united to the kitchen via extended communication



socializing was the dining table, which took on a multiple role. It usually served as a place for family meals; however, when combined with the extended circulation space, it could also be used for other activities such as sewing, studying, hobbies, and ironing (Fig. 3).

During the 1960s, the circular connection element was united with kitchen via extended communication (Fig. 4). The extended circular communication served as an additional space for the family's shared activities. It was positioned in front of or next to the kitchen (Baylon, 1977-1979).

In order to advance the social development of the family, the possibility of transforming the living area and gathering family members was considered. Given that the average family had limited financial resources to purchase a housing unit, the transformation occurred through the planning of one bed in the living room. This solution was a bone of contention among architects, who believed that allowing a bed in a room intended for joint activities disrupted the social life of family members and negatively affected any gatherings without the interference of other members. Although the reasons against organizing the apartment in such a way were identified, the instructions for designing apartments still provided for a bed in the living room.

Flexibly designed apartments are those that allow for the adaptation of living space to the growth or decrease in the number of family members and to adaptation due to innovations in standards. Such apartments allow for a change the internal organization of the apartment according to the needs of the household, by moving certain partition walls (Lojanica, 1975).

The example of an apartment in Fig. 5, which changes in accordance with the change in the number of family members, involves converting the loggia into a children's room. The apartment in Fig. 5-d, originally designed for a small family – parents with a baby, after adaptation becomes suitable for accommodating parents and two children. When the first child grows up enough for his own room, and the second child is still in a crib and placed in the parents' room, the loggia becomes a children's room, which is shown in Fig. 5-d2. Then, when both children reach school age, the former loggia becomes a room for two children, which is shown in Fig. 5-d3. And the last change shown in Fig. 5-d4 involves dividing the rooms so that children of different genders have their own rooms at the position of the former loggia and part of the living room.

The flexibility of a housing unit can be achieved during design, construction or during use (Kara-Pešić, 1980). The apartment has a greater utility value if the possibilities of adapting the rooms to the needs of future users are well planned during the design and construction phases.

According to architect Mihailo Ćanak, apartments with multiple single rooms are more flexible than apartments with double-bed rooms or apartments with small floor area (Čanak, 1974).

Although the analysed examples of residential architecture from the late socialist period reveal a diversity of spatial concepts and author-specific approaches, they nevertheless share several underlying architectural and social intentions. Rather than forming a single, uniform pattern, these projects demonstrate a heterogeneous set of design strategies shaped by the technological and ideological conditions of their time. Across this diversity, certain recurring objectives can be identified. The use of circular connections, extended communication zones and flexible room arrangements reflects an effort to accommodate changing household structures. These strategies indicate that residential design was not driven solely by functional optimisation, but also by a broader ambition to mediate social behaviour and articulate the values of late socialist society.

This shows that spatial organisation functioned as a mechanism through which architecture participated in shaping everyday life.

The spatial reorganizations often reflected a deliberate effort to preserve areas where immediate family members could gather. They did not promote layouts in which each individual would retreat exclusively to their private room during their free time.

In apartments constructed over the past few years in the Belgrade region, the design of apartments that would enable the former lifestyle has been omitted. Apartments are increasingly designed according to the number of rooms that are required, and not according to the number of people who will use them. In practical terms, this creates problems for apartment users. The lack of pantry, closets, wardrobes and household rooms leads users to narrow the space they have by arranging the necessary storage furniture.

7 The regulation that dealt with the conditions and technical standards for the construction of apartments for the needs of the Yugoslav People's Army defined the functional characteristics and dimensions of the rooms (*"Objašnjenje za primenu tehničkog uputstva o izgradnji stanova za potrebe JNA"*, 1988). In this way, it was ensured that all apartments were designed equally for all members of the Yugoslav People's Army. Also,

Insufficient attention is given to the spatial organization of apartments, particularly to the inclusion of a common area that would enable interaction among all household members. As a result, shared activities within the home are diminished and increasingly transferred to external spaces. Moreover, little emphasis is placed on the efficient organization of interior layouts to optimize available space in relation to the number of occupants – an aspect once advocated by architects such as Baylon and Čanak.

Habitological Research Conducted at the IMS Center for Housing

During the 1970s, a need for research in the field of housing construction emerged. The demands for the rapid construction of residential buildings with quality-designed apartments led to numerous notable studies. The studies led to the formation of regulations for the design and construction of residential units according to the needs of domestic users. One of the most important investors in the research was the Yugoslav People's Army, which formed its own regulations for the construction of residential buildings for its own needs (Čanak, 2014). In most cases, military regulations coincide with civilian regulations.

Analyses have been conducted that provide insight into which life functions must be planned in the same space, and can or must be performed simultaneously (Čanak, 2013). As well as which functions can be planned for the same space but cannot be performed simultaneously, or functions that cannot be in the same space at all. For example, sleeping and raising animals can be in the same space but under certain conditions, while it is not advisable to plan sleeping and cooking together (Fig. 6).

The necessary dimensions of residential premises in which the average person feels comfortable were investigated. Various situations in which residential premises are used were studied and the dimensions of the elements and the premises themselves were dimensioned in relation to the dimensions of a person.[7] Each situation was analysed with and without furniture in the room. In preparation for this exhaustive research, all the furniture available and used in Yugoslavia at the time was reviewed, all dimensions and possibilities of use were entered. Along with the presentation of the dimensions of the average human body, a database was created which was later used for setting the dimensions of the rooms in the residential unit.

The "Explanation for the Application of the Technical Instructions on the Construction of Apartments for the Needs of the Yugoslav People's Army" *("Objašnjenje za primenu tehničkog uputstva o izgradnji stanova za potrebe JNA",* 1988) from 1988 stipulated that apartments of smaller sizes and structures should be designed on the ground floor and in the attic, and they should be smaller than 2,5-room apartments. Such apartments were described as temporary solutions while waiting for a larger and more spacious apartment. It was noted that it was necessary to improve the use value of such apartments. On the ground floor, by choosing appropriate materials and with increased protection against possible break-ins or unwanted views, for example by building a front garden. And in the attic, by increasing the area in cases where the building is designed with a sloping roof.

Apartments for the Yugoslav People's Army were designed according to special rules and conditions (Kušić, 2024). Compared to other organizations that were investors of housing in Yugoslavia, more precisely for Belgrade, the Yugoslav People's Army financed research and construction of apartments for the highly educated population (Kušić, 2024).[8]

The observed limitations stem from the rapid pace of implementation and the need to address housing issues as they arose. Frequent changes in regulations over several decades prevented the establishment of a consistent set of design principles. Consequently, theo-

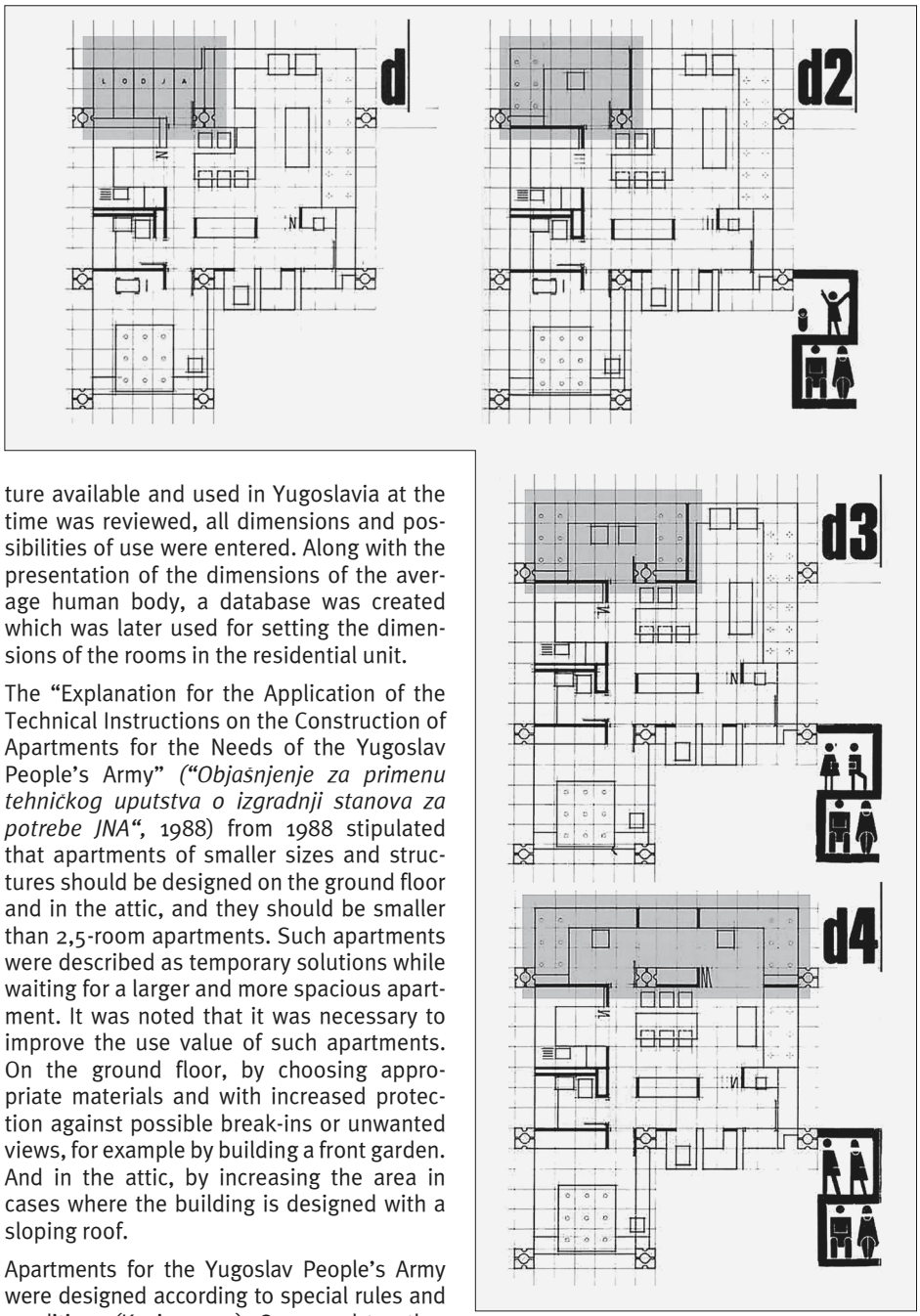


Fig. 5 The example of an apartment which changes in accordance with the change in the number of family members:
d) Originally designed apartment;
d2) Loggia as a children's room: loggia is transformed in a bedroom for 1 child;
d3) Loggia as a room for two children: former loggia and a smaller part of the living room are transformed into a bedroom for 2 children;
d4) Dividing the rooms at the position of the former loggia: former loggia and now half of a living room or in 2 single rooms, for 2 teenagers of opposite sex

the level of detail of the rules that were developed contributed to faster and more economically acceptable construction.

8 It is also noticeable that in the settlements of New Belgrade, where the largest number of apartments for the Yugoslav People's Army were built, the smallest number of hand-operated activities was foreseen compared to the Belgrade average for that time.

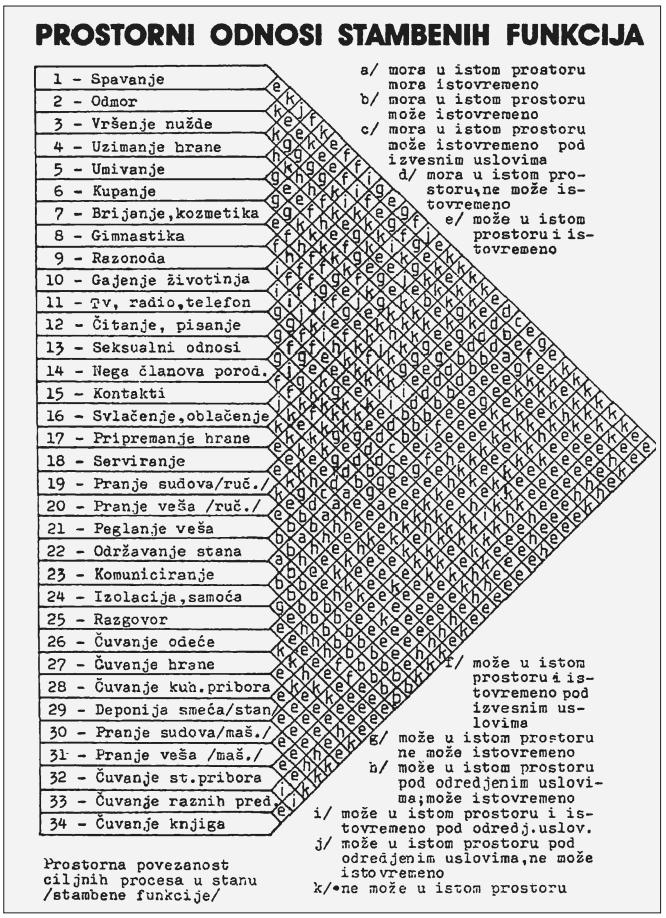


FIG. 6 CONNECTIONS BETWEEN HOUSING FUNCTIONS

Legend: 1 – sleeping, 2 – resting, 3 – use of sanitary facilities, 4 – consumption of food, 5 – performing basic hygiene, 6 – bathing, 7 – shaving and grooming, 8 – home exercise, 9 – recreational activities,10 – pet keeping, 11 – tv, radio, telephone, 12 – reading, writing, 13 – intimate relations, 14 – family member care, 15 – interactions, 16 – undressing, dressing, 17 – food preparation, 18 – serving, 19 – manual dishwashing, 20 – manual laundry washing, 21 – ironing, 22 – home maintenance, 23 – communication, 24 – social isolation, 25 – conversation, 26 – clothing storage, 27 – food storage, 28 – kitchen utensil storage, 29 – in-apartment waste disposal zone, 30 – mechanical dishwashing, 31 – mechanical laundry washing, 32 – utensil storage, 33 – storage of miscellaneous items, 34 – storage of books; a – must be in the same space, must occur simultaneously, b – must be in the same space, can occur simultaneously, c – must be in the same space, can occur simultaneously under certain conditions, d – must be in the same space, cannot occur simultaneously, e – can occur simultaneously within the same space, f – can occur simultaneously within the same space under certain conditions, g – can occur in the same space but not simultaneously, h – can occur in the same space under specific conditions, can occur simultaneously, i – can occur simultaneously within the same space under specific conditions, j – can occur in the same space under specific conditions, cannot occur simultaneously, k – cannot occur in the same space

retical insights were rarely reflected in practice during the construction process.

While phenomenological theories highlight the existential meaning of space, sociological and habitological studies focus on its regulatory and practical aspects. The present study seeks to bridge these perspectives by examining how architectural form both shapes and reflects social transformation.

The originality of this study lies in connecting philosophical and habitological interpretations of housing with empirical examples from late socialist Yugoslavia. This chapter highlights how architectural space was employed as an instrument of social shaping, mediating between state intentions and everyday cultural practices. In doing so, it reveals how architectural space functioned as a mechanism of social engineering and everyday cultural formation.

CONCLUSION

In each historical period, dominant societal values are reflected in architecture through carefully crafted design elements, shaped by the architect's knowledge, experience and intuitive response to the cultural context. It is up to architects to contribute to creating conditions for the spiritual development of a person when they stay in a designed space.

They have the task of leaving a personal mark and enabling a connection between the space and the user. Through architecture, symptoms of social, economic, scientific, technical and ethnological conditions can be interpreted. A house, or rather a residential space, is a reflection of time, an indicator of the degree of societal development, of acquired and created living habits.

This study has shown that residential space is not only a physical container but also a meaningful reflection of everyday life, shaped by the interplay between user needs, spatial organisation and broader societal values. It was designed according to the needs of the local population, so that they correspond to the needs of the traditional way of life. A space was created for various family gatherings, as well as for carrying out everyday life activities such as sewing, studying or engaging in various hobbies.

This research demonstrated that the Yugoslav socialist apartment was not an ideological cliché but rather a complex research-based product developed to respond to local social needs.

The paper establishes a critical comparison between former and contemporary models of housing, thus confirming its hypothesis both empirically – through case studies and documents – and theoretically – through philosophical and sociological concepts. The main limitation of the research lies in the qualitative nature of the analysed material and the focus on selected case studies.

To gain a better insight into the limitations imposed on residents in housing designed in the previous period, further research could be conducted by surveying residents in one of the recently built-up neighbourhoods in Belgrade. Such data would reveal experiences and opinions about the practicality of living spaces designed for the current period.

Bibliography and sources

1. Aleksić, B. (1975) 'Stan i stanovanje'. *Arhitektura i urbanizam,* 74-77, pp. 16-17.
2. Alfirević, Đ. and Simonović Alfirević, S. (2013) 'Belgrade Apartment (Beogradski stan)'. *Arhitektura i urbanizam*, 38, pp. 41-47. https://doi.org/10.5937/a-u38-4770
3. Alfirević, Đ. and Simonović Alfirević, S. (2018) 'The 'Socialist apartment' in Yugoslavia: paradigm or tendency'. *Spatium*, 40, pp. 8-17. https://doi.org/10.2298/SPAT1840008A
4. Baylon, M. (1972) *Neka pitanja u vezi sa upotrebnom vrednosti stana*. Izgradnja: Stan i stanovanje, pp. 27-38.
5. Baylon, M. (1975) "Stan u Beogradu". *Arhitektura i urbanizam*, 74-77, pp. 23-42.
6. Baylon, M. (1976) *Upotrebna vrednost stana*. Arhitektonski fakultet. Poslediplomske studije. Kurs stanovanje.
7. Baylon, M. (1977-1979) *Stanovanje, Tema 1. Organizacija stana.* Arhitektonski fakultet. Poslediplomske studije. Kurs stanovanje.
8. Benjamin, A. (2011) *Filozofija arhitekture*. Beograd: Clio.
9. Čanak, M. (1974) 'Fleksibilnost stambenih struktura kao činilac upotrebne vrednosti stana'. *Bilten Centra za stanovanje IMS*, Institut za ispitivanje materijala. 15, p. 22.
10. Čanak, M. (2013) 'Otvoren ili zatvoren stan'. *Arhitektura i urbanizam*, 38, pp. 66-77. https://doi.org/10.5937/a-u38-4997
11. Čanak, M. (2014) *Automonografija*. Belgrade: ARD.
12. De Botton, A. (2006) *The architecture of happiness*. New York: Vintage international, Vintage Books, A Division of Random House, Inc.
13. Dinić, M. (2003) *Analiza odnosa strukture porodice i organizacije i structure stana.* In: Zbornik radova Građevinskog fakulteta, Belgrade, 19, pp. 135-150.
14. Gaston, B. (2005) *Poetika prostora*. Čačak-Beograd: Branko Kukic i Umetničko društvo Gradac.
15. Heidegger, M. (1977) *The question concerning technology and other essays*. New York & London: Garland publishing, Inc.
16. Kara-Pešic, Ž. (1980) *Fleksibilnost i stanovanje*. Centar za stanovanje. Institut za ispitivanje materijala.
17. Krstić, A. (1997) 'Promenljivost stambenih struktura – Uslov za ispunjenje zahteva korisnika'. *Arhitektura i urbanizam*, 4, pp. 44-49.
18. Kušić, A. (2024) *Negativnosti: Arhitektura i stambeno pitanje u Beogradu kasnog socijalizma*. Novi Sad: Akademska knjiga.
19. Lojanica, M. (1975) 'Zapisi sa crtaćeg stola'. *Arhitektura i urbanizam*, 74-77, pp. 18-22.
20. Mako, V. (2005) *Estetika-arhitektura: sedam tematskih rasprava*. Knjiga 1. Beograd: Orion-art.
21. Mako, V. (2015) 'Ethics of dwelling: early Christian principles of the city life and urban transformation'. *SAJ*, 7(2), pp. 123-134. https://doi.org/10.5937/SAJ1502123M
22. Mecanov, D. (2008) 'Tipologija oblika stambene arhitekture pedesetih godina XX veka u Beogradu'. *Nasleđe*, 9, pp. 129-153.
23. Norberg-Šulc, K. (1975) *Egzistencija, prostor i arhitektura*. Beograd: Građevinska knjiga.
24. Pallasmaa, J. (1995) 'From Metaphorical to Ecological Functionalism'. *Arhitektura i urbanizam*, 2, pp. 39-44.
25. Pallasmaa, J. (2005) *The eyes of the skin: Architecture and senses.* Great Britain: Wiley-Academy.
26. Petrović, M. (2004) *Sociologija stanovanja, Stambena politika: Izazovi i mogucnosti*. Beograd: Institut za sociološka istraživanja Filozofskog fakulteta u Beogradu.
27. Radni tim Instituta za ispitivanje materijala SR Srbije (1988) Objašnjenje za primenu tehničkog uputstva o izgradnji stanova za potrebe JNA, SSNO Uprava vojnog građevinarstva.
28. Radović, R. (2001) *Savremena arhitektura: Između stalnosti i promena ideja i oblika*. Novi Sad: Stylos izdavaštvo.
29. Ristić Trajković, J., Stojiljković D. and Međo V. (2015) 'Influence of the socialist ideology on the conception of multi-family housing: new urban landscape and the typological models of housing units'. *Arhitektura i urbanizam*, 13(2), pp. 167-179. https://doi.org/10.2298/FUACE1502167R
30. Vranicki, P. (1957) *Filozofske studije i kritike*. Štamparija „Kultura".
31. Zumthor, P. (1999) *Thinking architecture*. Birkhauser – Publisher for Architecture.

Illustration sources

Fig. 1 Baylon, 1975: 58
Fig. 2 Baylon, 1972: 33
Fig. 3 Baylon, 1975: 35
Fig. 4 Baylon, 1977-1979: 39
Fig. 5 Lojanica, 1975: 22
Fig. 6 Čanak, 2014: 169

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Conceptualization: A.R. and N.K.; methodology: A.R. and N.K.; software: A.R.; validation: A.R. and N.K.; formal analysis: A.R.; investigation: A.R. and N.K.; resources: A.R. and N.K; data curation: A.R. and N.K; writing – original draft preparation: A.R. and N.K.; writing – review and editing: A.R. and N.K.; visualization: A.R.; supervision: A.R. and N.K.; project administration: A.R.; funding acquisition: A.R. and N.K. Both authors have read and agreed to the published version of the manuscript.

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During the preparation of this work, the authors used ChatGPT for grammar and spell check, in order to refine the language and it was reviewed by the first author's menthor. After these steps, the authors reviewed and edited the content as needed and take full responsibility for the content of the publication.