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RESEARCH ARTICLE

Spatiality of the urban commons: Typo-morphology of the open common spaces in New Belgrade mass housing blocks



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Abstract The article examines the existing infrastructure of open common spaces within two New Belgrade mass housing blocks (Blocks 23 and 70a) through a typo-morphological analysis. These *spaces between the buildings*, although the most neglected, underused, and deteriorated components of mass housing neighbourhoods, are at the same time crucial to the quality, vitality and integrated governance of these neighbourhoods. They represent *the primary tangible commons* in cities and neighbourhoods. The question of urban commons is increasingly present in scientific literature, urban and architectural discourse. Nevertheless, approaches exploring the *spatiality of the urban commons* are scarce, leading to insufficient understanding of the spatial aspect and potentials of the already existing commons. Therefore, this study includes (1) identification, typological decoding and classification of the common spaces, focusing on the case of New Belgrade blocks, followed by (2) analysis of the spatial patterns and integration of the identified spaces within the blocks. The study confirms the complexity and diverse typology of the common spaces. It finds that the in-between, common spaces contribute to higher integration of different segments of the blocks. The open common spaces have an essential role in *humanisation* of the blocks, and thus the quality of life in the blocks as integrated neighbourhoods. The findings indicate that the spatial setting of the open common spaces in New Belgrade blocks allows for (re)emergence of collective practices, leading to inclusive and integrated rehabilitation of the neighbourhoods.

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1. Introduction

Mass housing neighbourhoods represent the leading pattern of urbanisation in the second half of the twentieth century. They are the core typology and the most widespread manifestations of modern architecture and urbanism, and accordingly the most significant architectural legacy of the twentieth century. The typology condenses a great variety of concepts profiled in different contexts, however, what is common for all is the contemporary phenomenon of urban decay and deterioration of these neighbourhoods. In particular spaces between the buildings, outdoor (open) common spaces, are the most neglected and deteriorated components of these neighbourhoods. New Belgrade, one of the largest modernist post-war mass housing areas in Europe, is the object of the research.

Due to a radical transformation of ownership—privatisation of housing units—and stifled sense of community and interest in the common activities in New Belgrade neighbourhoods, the common spaces became obsolete. Underutilization and problems with management and maintenance of the open common spaces were the main arguments put forward by the city authorities to justify the sale of urban development land and the promotion of intensive construction in New Belgrade (Milojevic et al., 2019). Re-evaluation and re-affirmation of the common spaces as a resource and spatial manifestation of *the right to the city* (Lefebvre, 1967, 1996) is urgent, in order to address the intensifying socio-spatial polarization and inequalities in the city and deterioration of these mass housing neighbourhoods. This article examines the existing infrastructure of open common spaces in case of two New Belgrade mass housing blocks, Block 23 and Block 70a. Through an extensive, iterative and multi-level examination of the common spaces in two New Belgrade blocks, the article aims to show the design principles related to these common spaces and offer an approach for exploring the spatiality of the urban commons.

2. Theoretical framework

The discussions on urban commons, common interest, and processes of *commoning* are increasingly present in the urban discourse and different studies on integrated, just, and inclusive urban planning and urban development, especially in relation to housing questions. Elinor Ostrom, economist and Nobel Prize winner, had a major contribution to development of the urban commons' narrative. Ostrom (1990) is addressing the issue from the economics perspective, and is showing how the natural resources (e.g., forests) are highly effectively managed by "commons-like organisations", that, as Bingham-Hall (2016) notes, "allow a self-managed community of users equal access, without private ownership or state control" (Bingham-Hall, 2016). Harvey (2012) offers a comprehensive understanding of the nature of commons and common spaces in particular, correlating it with *the right to the city* (Lefebvre, 1967, 1996) discussion. As he argues, the recent revival of emphasis upon the supposed loss of urban commonalities reflects the seemingly profound impacts of the recent wave of privatizations and control of urban life in general (Harvey, 2012, 66). Stavrides (2015) explores common spaces as threshold spaces and institutions of expanding *commoning*.

Urban commons consist of three key aspects: the common and shared resource, the *commoning* institutions and rules that regulate care, management, and use of the resource, and the community of commoners (Kip and Oevermann, 2022). Hess (2008) classifies the commons (common resources) across different sectors: cultural, knowledge, market, global, traditional, infrastructure, neighbourhood, medical and health commons. Referring to Hess's classification, Feinberg et al. (2021) define several common resources as part of the neighbourhood commons category: homeless habitat, housing, community gardens, parks and greenery, security, sidewalks, streets and silence/noise. Most commons from Hess's typology are present in the urban commons discourse, and diverse fields address them from different perspectives. Nevertheless, detailed studies on the spatiality of the common resources within the urban residential neighbourhoods, and in particular mass housing, are scarce. This article contributes to a better understanding of the spatial aspects and potentials of already existing commons in the residential neighbourhoods, offering approaches for exploring the spatiality of urban commons.

As Feinberg et al. (2021) argue, space is a key resource for *commoning* in the city. Accordingly, common spaces are primary tangible commons in cities and neighbourhoods — especially relevant in case of modernist post-war mass housing neighbourhoods. These neighbourhoods were planned in a different socio-political context, when the sense of community had an important role, and so the notion of common space was truly significant. The case of New Belgrade (Serbia, or, at the time of construction, Yugoslavia) is particularly relevant for the issue, as it is one of the largest modernist post-war mass housing areas, planned and built as socially owned, transgressing the conventional narratives of private and public. Yugoslav legacy of housing communities, self-management and social ownership of housing correlates with the second and the third key aspects of the urban commons as defined by Kip and Oevermann (2022): the *commoning* institutions and rules that regulate care, management, and use of the resource, and the community of commoners. Accordingly, common and shared spaces within New Belgrade housing blocks correlate with the first key aspect of the urban commons: the common and shared resource. The article focuses on the first aspect of the urban commons: the common and shared resources, and is focusing on the common spaces of New Belgrade housing blocks.

3. Methodology of spatial analysis

This study on the common spaces within the two New Belgrade blocks, Block 23 and Block 70a (See Fig. 1), applies multi-level examination in three parts: (1) morphogenesis of the two blocks and their common spaces in Section 4, (2) identification, typological decoding and classification of the common spaces in Section 5, and (3) analysis of the spatial patterns and integration of the identified spaces within the blocks in Section 6.

According to Djokic (2009), the typo-morphological analysis is important, firstly, for establishing precise space codes as a combination of principle of individualization and principle of classification of urban elements, and secondly, for defining their physical and spatial structure. These are



Fig. 1 Position of block 23 within the central zone of new belgrade and block 70a within the Sava river zone. Illustration© Anica Dragutinovic, April 2022.

the characteristics of the buildings with the open spaces corresponding to them, inclusion of land as a constituent element in the typology of form and all observed in “morphogenetic way” meaning the time during which the city has formed, developed and changed.

The second part of the study—identification and classification of the common spaces within the two New Belgrade blocks—had two phases (see Fig. 2) and it integrated two complementary methods: (1) photo-walk and (2) typological decoding. The first phase, a photo-walk, was organised within a student workshop “Unforeseen Impulses of Modernism: The Case of New Belgrade” at the University of Belgrade – Faculty of Architecture.¹ It was combining on-site observation, identification and photo-documentation as an explorative reading of the architecture of urban commons (see Dragutinovic and Nikezic, 2020). The thesis that *the dialogue between the public and private, reflected through the common, is the basic element which defines quality of the urban spaces of New Belgrade blocks,*

was a basis for setting the thematic framework of the workshop. The students were searching for these patterns through architectural photography, intuitively identifying and mapping these “in-between” spaces and elements of architecture.

The process of explorative reading of architecture and urban space through photography as the research tool was drawing urban narratives of the two blocks. Moreover, architectural photography was an efficient tool for illustrative documentation of the urban environment – the two blocks. The collected set of photographs from Blocks 23 and 70a provide insights into the perceived and understood image of the two blocks, and in particular their common spaces and elements. In context of architectural teaching and learning, the photo-walk was expanding students’ capacities for observing, reading and understanding architecture and the built and unbuilt environment.

The additional, both methodological and substantive, contribution of this study was keywording and thematic clustering, leading to *typological decoding* of the urban space – within the thematic framework of the workshop. The typological decoding is important for understanding and further assessing of the specific spatial attributes of the urban common spaces and elements. As Bentlin and Stollmann (2021) state: “Through the decomposition and decoding of space, specific composition contexts can be described, examined, and evaluated by adding and removing layers.”

The place-based approach (Nikezic and Markovic, 2015; Dragutinovic and Nikezic, 2020) applied in identification and typological decoding of the common spaces (see Section 5) is complemented with typo-morphological analysis, exploring spatial configuration of the two blocks, and in

¹ The student workshop “Unforeseen Impulses of Modernism: The Case of New Belgrade” was organised and mentored by the authors and realised during Erasmus + Mobility of the first author at the University of Belgrade—Faculty of Architecture in the Fall Semester 2018/19. It was co-mentored and supported by the academic staff from the host institution: Prof. Dr. Ana Nikezic, Prof. Dr. Jelena Zivkovic, Prof. Dr. Jelena Ristic Trajkovic, and teaching and research staff: Aleksandra Milovanovic, Marija Cvetkovic, Nikola Popovic, Marko Bulajic, Teodora Spasic and Stefan Slavic. In the workshop participated 55 students of Bachelor, Integrated and Master studies at the Faculty of Architecture. Available on the website of arh.bg.ac.rs.

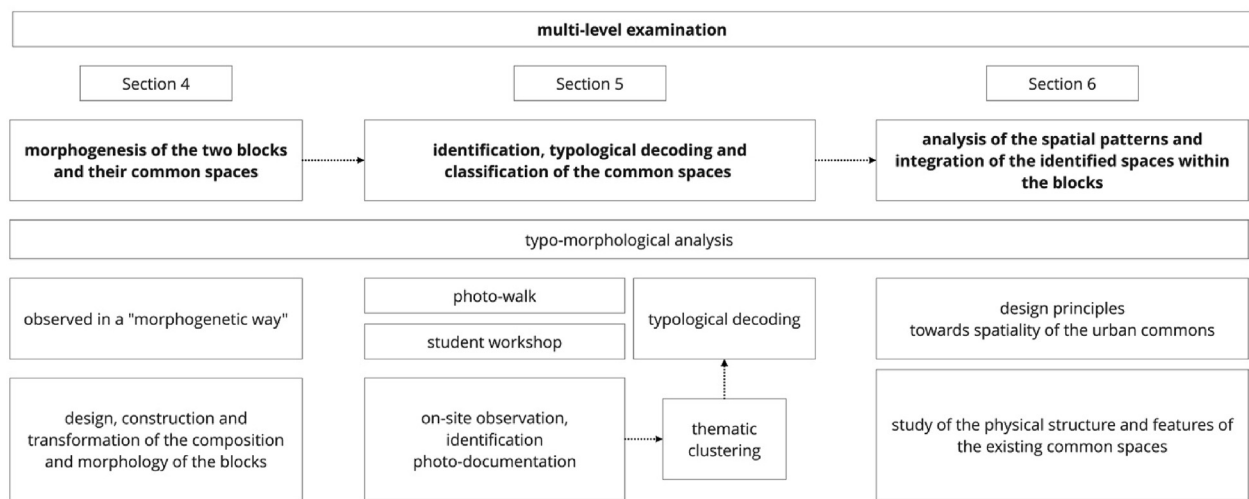


Fig. 2 Diagram of research phases and steps. Illustration[®] Anica Dragutinovic, September 2022.

particular the spatial patterns of their common spaces in relationship to the surrounding built and unbuilt landscape (see Section 6).

4. Morphogenesis of the New Belgrade blocks 23 and 70a

Being part of the Central Zone of New Belgrade, Block 23 is following its orthogonal grid and occupying the rectangular area of 600 m × 400 m (see Fig. 3). Perovic (1985, 119–175) recognised an “almost literal translation” of the structural elements of Le Corbusier’s Radiant City and Lucio Costa’s plan for Brasilia into the Central Zone of New Belgrade: axial composition, positioning of landmark objects and communication junction in top and bottom of the composition, central activities along the main axis, and positioning of the housing blocks on the sides—as noted by Kusic (2014, 213).

Following the principles of the Athens Charter (1933), the Central Zone blocks and, in particular, Block 23—one of the side housing blocks—was built as an open block. The architectural competition for its design was announced in 1968, and it was constructed in 1973–1976 according to the plans of the three architects: Aleksandar Stjepanovic, Bozidar Jankovic and Branislav Karadzic. Writing about the construction of the block, the authors claim that urban and architectural parameters were comprehensively analysed and included in the final design (Jankovic and Karadzic, 1972, 134–147). The block is composed of 8 residential buildings: 4 high-rise (G+21), 2 long linear (G+10, 280 m) and 2 meander buildings (G+4); several low-rise public buildings: a school, kindergartens, a community centre; and playgrounds, green open spaces and pedestrian paths in the inner, central part of the block (see Fig. 3). The high-rise buildings are positioned in the corner of Block 23 (same as in case of the other 3 corner blocks of the Central Zone: Blocks 21, 28 and 30) as “an architectural landmark of the whole Central Zone”, as Blagojevic (2007, 185) explains.

According to Kusic (2014, 104) the composition of Block 23 is different from the late modernist principles. As he explains,

the inner part of the block is treated as a unified surface with 3 free-standing objects (a school and two kindergartens) positioned within it, which resulted in a “disjointed structure”. A counter-point of this part of the block is the local community centre, positioned between the linear and high-rise buildings, and built in 1978 (Kusic, 2014, 104). The local community centre was conceived as two linear tracts emerging around the pedestrian path. According to Aleksic (1980), it was “organically integrated in the residential block and its vital flows”. It was positioned in the densest zone of the block (see Fig. 3) – “the zone of high frequencies and flows” (Aleksic, 1980, 28–32). The layout of the local community centre itself was further developed, nevertheless, maintaining the main principles and, most important, its *cumulative* role (see Fig. 3 (right) – bottom right part of the block).

As Aleksic (1980, 28–32) explains, the local community centre follows the flow in-between the four high-rises and merges with the porch of the linear building. In addition to this main longitudinal flow, there are several transverse flows—integrating it with the other parts and program of the block. Martinovic (2020, 106–107) argues that the local community centre in Block 23 was the first attempt to re-interpret the traditional city street in New Belgrade Central Zone. It was not planned as an enclosed building but as a porous, generic structure with many open spaces. The integration of the local community centre in the composition of the block – its position and inter-relation with the other elements of the composition – generated different spatial relations in this part of the block and contributed to the socio-spatial *humanisation* of the block.

Humanisation of the blocks was an important parameter in the design of the Block 70a as well, yet addressed in a different way. Block 70a belongs to the Sava River Zone, whose design encourages the idea of socialization in the open common spaces and in particular highlights the strong relationship with nature (Rakonjac et al., 2022). The Sava River blocks (70a, 70, 44 and 45) stretch along the left bank of the Sava River in the south-western part of New Belgrade (see Fig. 1). The first competition for a residential neighbourhood in the Sava River Zone, the left bank of the river, was the competition for conceptual design of blocks 45 and

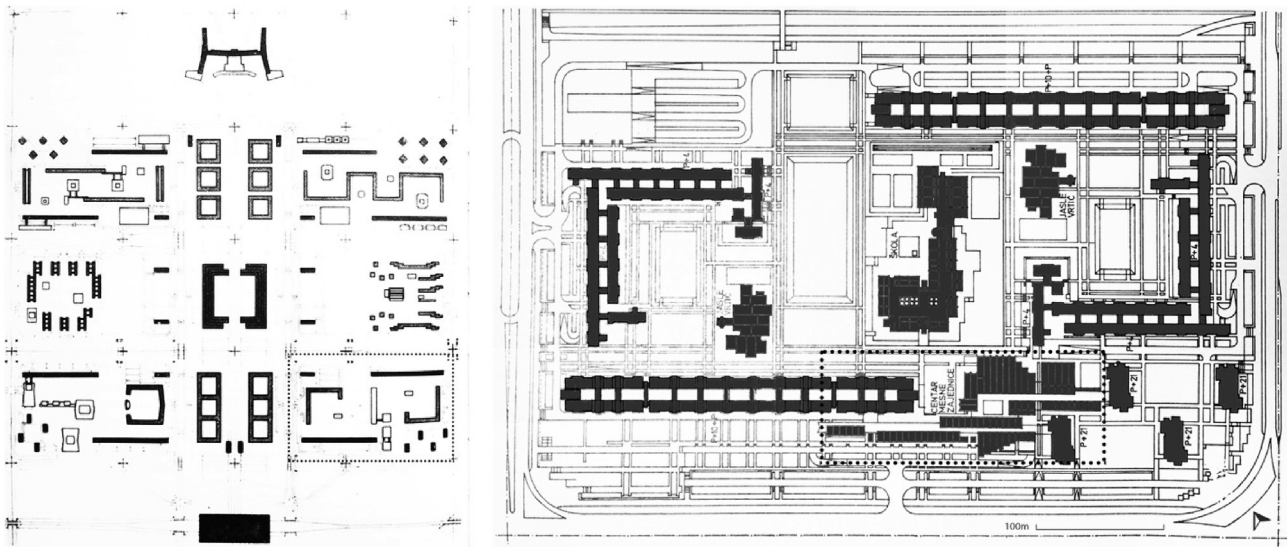


Fig. 3 Situation plan for the Central Zone of New Belgrade, 1967 (left). Illustration reproduced from Blagojevic (2007, 194), position of Block 23 marked by Anica Dragutinovic, April 2022; and Situation plan of the Block 23, B. Jankovic, B. Karadzic and A. Stjepanovic, 1967–1979 (right). Illustration reproduced from Stjepanovic and Jovanovic (1976, 9), volumes highlighted, scale and north arrow added and the local community centre marked by Anica Dragutinovic, April 2022.

70 announced in 1965. The first prize winners were Ivan Tepes and Velimir Grdelja, and their idea served as a basis for development of the *Detailed urban plan* for this part of New Belgrade, prepared by the Town planning institute of Belgrade in 1966 (Petrovic Balubdzic, 2018, 99). The main urban concept was based on the orientation of the blocks

towards the river and integration of high level of greenery — in case of block 45 71% of the block's area was planned and developed as green areas (Simic, 2022). The blocks 45 and 70 were built in the period 1969–1975. Block 70a was not part of the initial conceptual design for the Sava River Zone. Nevertheless, 5 years later (in 1980) a plan for this

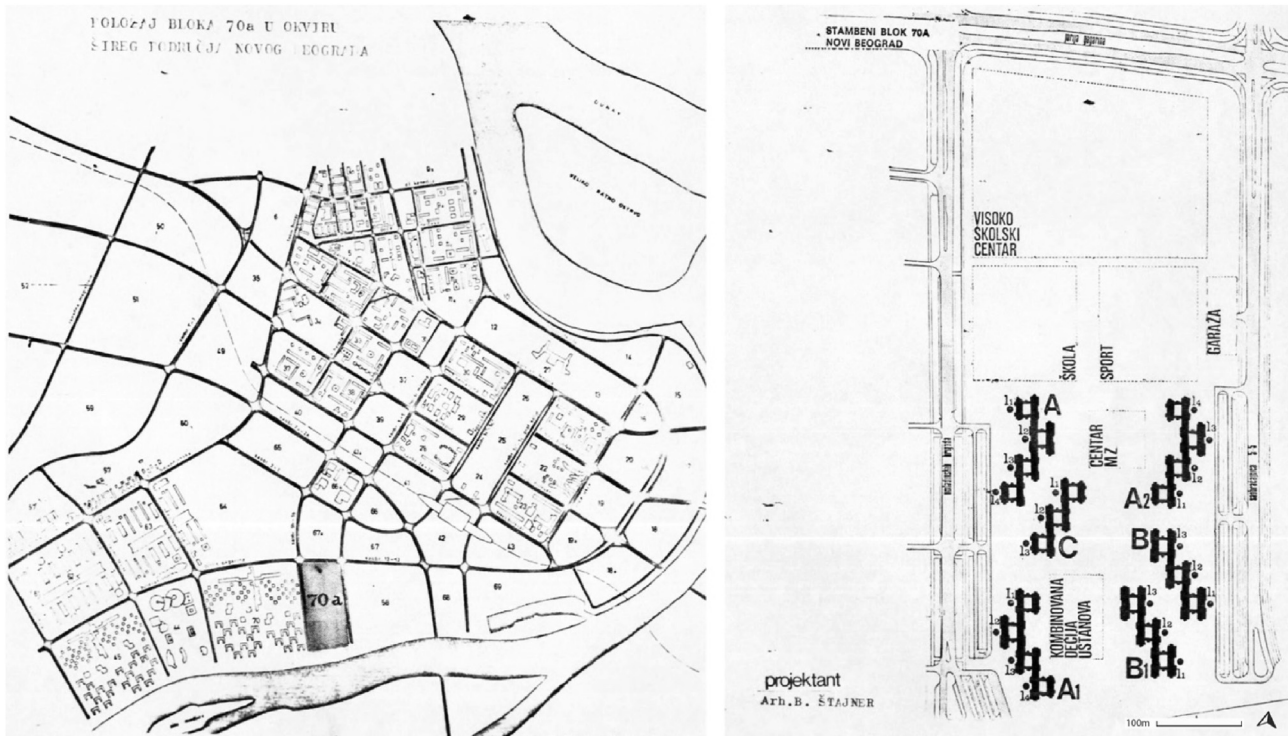


Fig. 4 Position of Block 70a within New Belgrade (left) and situation plan of Block 70a, B. Stajner (right), 1980. Illustration reproduced from Djordjevic (1980), scale and north arrow added by Anica Dragutinovic, April 2022.

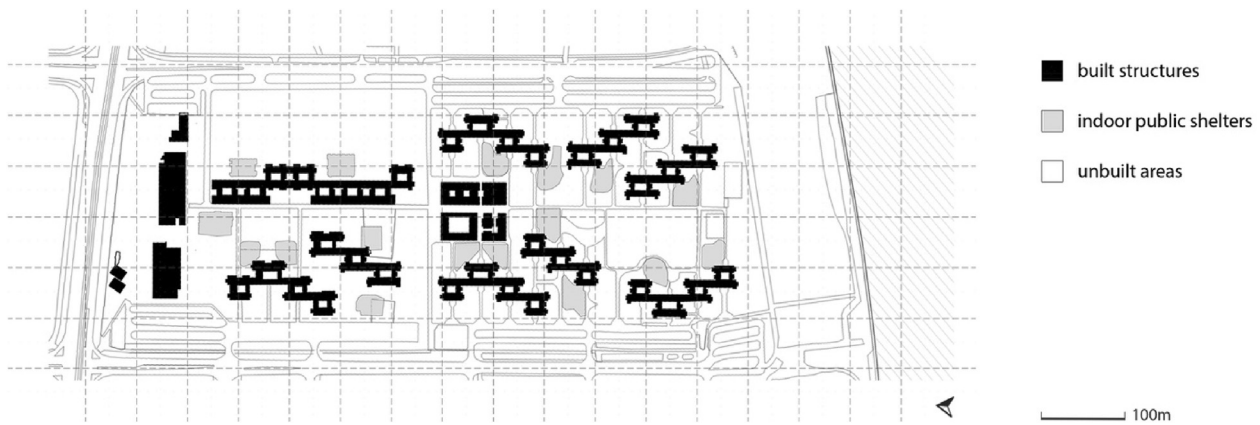


Fig. 5 Block 70a: built-unbuilt structure. Illustration © Anica Dragutinovic, May 2022.

block was developed as well, following a similar urban concept (see Fig. 4).

The plan for block 70a envisioned 21 residential buildings (G+7), grouped into 6 clusters: A, A1 and A2 (4 residential buildings per cluster), and B, B1 and C (3 residential buildings per cluster) — all in the southern part of the block (the half towards the river) (see Fig. 4 right). Within that part of the block, in its central zone in between the residential clusters, a local community centre and a kindergarten were planned. In the northern part of the block, no residential buildings were planned, but area for sport facilities, garage, a school and a high-school centre (Djordjevic, 1980).

The construction of block 70a started in 1981 and lasted until 1986. During this period, the plan for the northern part of the block was re-designed, and the same type of residential buildings were introduced in this part of the block as well (with some variations in the clusters organisation) — in total 36 residential buildings (G+7) were built (see Fig. 5). The education and sport facilities have never been realised. Nevertheless, a high level of greenery sustained —

64% of the block's area was realised as green areas (Simic, 2022). The total area of the block is around 350 m × 800 m, which is almost 3 times smaller than the neighbouring blocks 45 and 70 — and similar to the Central Zone Blocks, in particular the Block 23.

Within the post-socialist transition, the construction shifted back to the Central Zone, and its densification followed, proving, as Perovic (2008) claims, that these changes were “inevitable”. However, Kusic (2014, 218) questions whether Perovic's critique of the modernist city (1985) was at the same time “undermining the ideology of socialist self-management”, and how “natural” the processes of the post-socialist city actually are. Comparing Perovic's proposal for reconstruction of New Belgrade from 1985 and the contemporary condition of New Belgrade reveals significant similarities and yet some differences between the two (see Fig. 6).

Kusic (2014, 218) argues that the *Lessons of the past* (Perovic, 1985a,b) appears as “a manifesto of the post-socialist urbanisation” and his study for reconstruction of

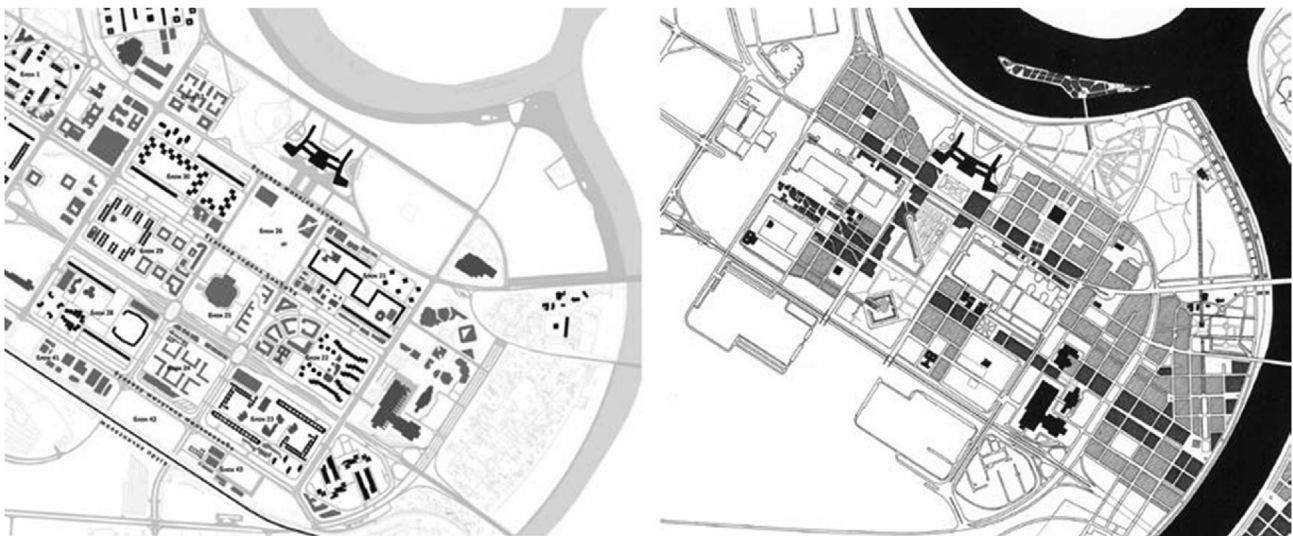


Fig. 6 Comparative overview of the New Belgrade development, 1980–2013 (left) and the proposal for reconstruction of the Central Zone of New Belgrade by Perovic and Stojanovic, 1981–1984 (right). Illustration reproduced from: Kusic (2014, 365), originally published in: Milakovic (2013, 185) (left) and Perovic (1985a,b, 165) (right).

New Belgrade as “inauguration of potential of New Belgrade” for “a polygon for circulation of the capital” (Kusic, 2014, 246), while Blagojevic (2004) describes these urbanisation practices as follows:

What is seen on site of New Belgrade, is persistent, street by street, block by block advancement of new development. On the one side, the open non-private space of community, that notoriously not-cared for common space of the housing blocks is rapidly being consumed by the commercial drive of the private capital expanding its boundaries into the green areas in public/social property. (Blagojevic, 2004)

In case of Block 23 itself, however, there were no major transformations of the modernist composition and morphology. Both Perovic’s proposal for reconstruction and the real urban practices were focusing rather on the unbuilt blocks (e.g., blocks 24, 25, 26) and larger parts of the blocks (e.g., part of block 22). Nevertheless, there are some new objects emerging within the other blocks as well. In case of Block 23, there is a new office building in the north-west corner of the block — under construction since 2009 (see Fig. 7). Although the office building was not part of the “initially built” structure in 1970s, it was part of the “planned” (see Fig. 3). This transformation was rather a completion of the modernist project — yet, within the changed socio-political context and architectural language.

5. Identification and classification of the common spaces in blocks 23 and 70a

Within the first-step identification and classification (photo-walk), multiple socio-spatial phenomena, as the basic urban common spaces and elements of the blocks, were identified and photo-documented. The identified types, based on the data (photographs) collected within the photo-walk (see Fig. 8 for a selection of photographs), were atriums, paths, facades, greenery (lawns, parks, trees, small-scale gardens), playgrounds and social spots with urban furniture. All the types were present in both blocks.

The identified types can be classified in the three basic forms of urban structures: *point*, *line* and *area* (Curdes, 1997; Humpert, 1997), occupying parts of the inner-block landscape of commons. The (micro-)points of the landscape are social spots with urban furniture, playgrounds and greenery as trees and gardens; the lines are horizontal pedestrian paths, and vertical voids — atriums; the areas are vertical edges of the open common landscape — facades and horizontal areas of greenery — lawns and parks.

According to the criterium of openness, all the types identified within the photo-walk were outdoor, open common spaces. Nevertheless, there are some indoor common spaces as well, which were excluded from the previous study (not identified by the students). These spaces can be found within the residential buildings, such as entrances, corridors, stairs, elevators, roofs, collective rooms; but also, as separate buildings within the blocks, such as local community centre (Serbian: *centar mesne zajednice* — CMZ) in Block 23, and public shelters (Serbian: *objekat javnog skloništa*) in Block 70a. There are also schools, kindergartens and shops within the blocks, however they do not classify under the category of common spaces — as they are either completely private or public (state-owned) with restricted access.

Based on the previous, the common spaces in the two blocks (see Fig. 9) can be classified into the four groups:

- (1) indoor common spaces - shared spaces within the residential buildings (stairs, entrances, corridors, galleries, attic spaces, basement, collective room, etc.), common elements of the building construction (eaves, facades, roof, chimneys, ventilation ducts, skylights, construction and areas for elevators and other special constructions) and common installations,
- (2) outdoor (open) common spaces and elements within the parcels of the residential buildings (facades, atriums, squares, paths, sidewalks),
- (3) outdoor (open) common spaces and elements within the blocks and in-between the residential buildings and their parcels (green areas, playgrounds, paths, different types of greenery, urban furniture, etc.),

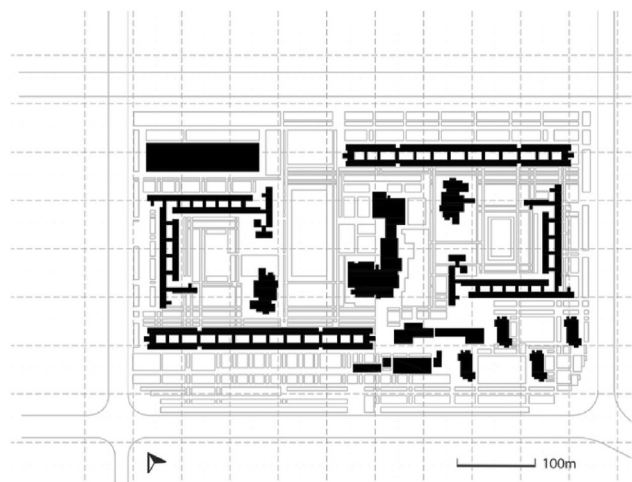
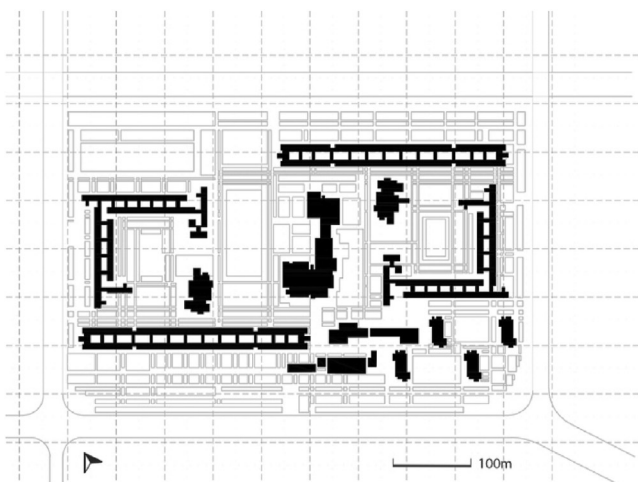


Fig. 7 Comparative overview of the built-unbuilt structure in the Block 23: initially built (left) and nowadays (right). Illustration © Anica Dragutinovic, April 2022.



Fig. 8 Photo-walk New Belgrade, Blocks 23 and 70a, Selection of photographs. Photography © Research teams C1: A. Maksimovic, N. Djuric, K. Dimitrijevic, M. Bozovic; E1: M. Mladenovic, A. Dodic, A. Djalovic; E3: A. Ristic, S. Stankovic, T. Koneska, K. Ognjenovic, Student Workshop, December 2018.

(4) specific types – separate objects (local community centre in Block 23, and public shelters in Block 70a).

The Fig. 9 (left) shows the distribution of the identified types of the common spaces in the Block 23. The unmarked areas of the block (the top left and the 3 central parcels) are kindergartens, school and office spaces, which, as previously explained, are not part of the study. When it comes to the residential buildings, only the shared spaces and elements (e.g., facades, atriums, etc.) are involved. The in-between open common spaces (number 3 on the illustration) are mostly defined as green areas (based on the

Plan of General Regulation of the system of green areas in Belgrade from 2019), with the exception of the big central area and the area surrounding the local community centre (marked grey on the illustration). The situation with the in-between open common spaces is similar in the block 70a (see Fig. 9, right). They are mostly defined as green areas as well. The specific type of the common spaces in the block 70a are the public shelters (number 4 on the illustration). They are dispersed all over the block, as partly underground structures yet a part of the green infrastructure, perceived as artificial hills within the block. The residential buildings are two-tracts structures with atriums and

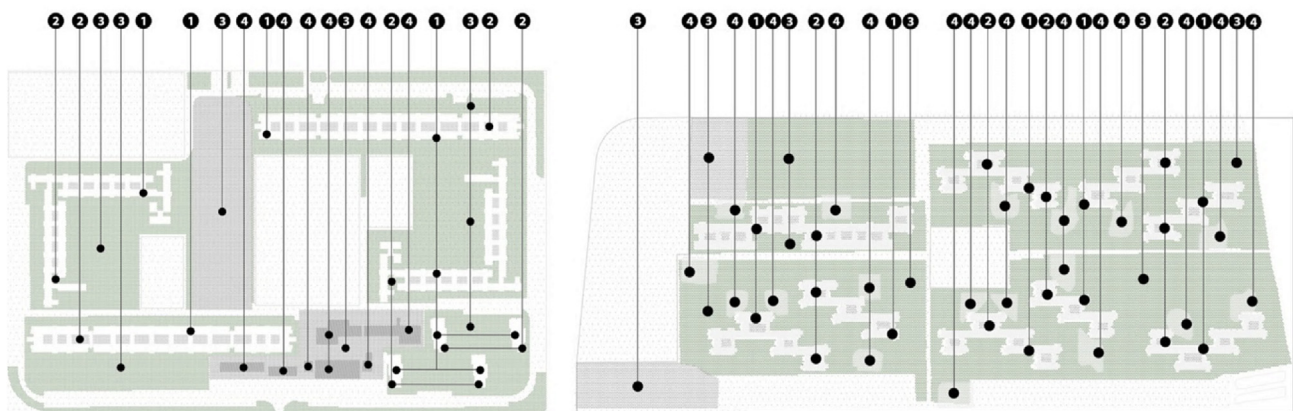


Fig. 9 Mapping the types of the common spaces, Block 23 (left) and Block 70a (right). Illustration © Anica Dragutinovic, June 2022.

relatively high level of porosity in the parterre, in case of both block 23 and block 70a. As such, they integrate different kinds of micro-ambiences and common elements, blurring the transition from private towards public. Further analysis of the spatial configuration and integration of the identified outdoor (open) common spaces will follow in Section 6.

6. Spatial patterns of the open common spaces in blocks 23 and 70a

The urban tissue of the Blocks 23 and 70a, the form and size of the built structure, but also the unbuilt spaces, as well as the street network and the inner-block mobility patterns, have not changed so far. Therefore, the outdoor common spaces and elements within the blocks and in-between the residential buildings and their parcels remain as initially planned and built.

Perovic's proposal for reconstruction of New Belgrade (1985) — previously mentioned in the morphogenesis part — is in line with a broader critique of the modernist city and the open block configuration, present until nowadays. It is promoting traditional block values and compact urban form, thus addressing the need for an enhanced network structure of the local urban street pattern:

Main routes have to go through neighbourhoods instead of around neighbourhoods. This assures that visitors travel through the neighbourhood and thus become potential customers to the neighbourhood's micro-economic market of local businesses. Further, visitors add to the natural surveillance mechanism of the neighbourhood due to their presence. The variety of different types of people in the streets throughout the day creates a safer neighbourhood, but social safety is often sacrificed in favour of traffic safety. If main routes are planned and implemented to go around a neighbourhood, the effect will most likely be segregated and mono-functional neighbourhoods. (van Nes and Yamu 2021, 215)

However, the intensity of social activities in the common spaces within the blocks is higher due to reduced traffic (almost car-free inner-block areas) and spatial capacities, facilitated by the spatial configuration of the blocks (see Fig. 10 for the case of New Belgrade Block 23). The strong relationship between spatial configuration, accessibility and social interactions was recognised by Ferguson (2007) and the advantage of open block configuration for pedestrians and sustainable mobilities paradigm by Banister (2008):

In addition to cul-de-sacs, pedestrian circulation was not confined to the roads, but people could walk via direct routes through the courtyards and between buildings. This kind of pedestrian movement exhibits the thinking of Le Corbusier and Perry for whom the superblock form provided freedom for people on foot. (...) Planning for pedestrians and restricting car mobility are important principles within the sustainable mobilities paradigm. (Banister, 2008, as cited in Tuvikene, 2019, 326)

Moreover, the residents' perception of the open common spaces in the two blocks is rather positive (see Dragutinovic et al., 2021) — they emphasise the importance of the green areas and the relationship with nature in these neighbourhoods as crucial for the quality of life in these blocks.

In the digital repository of the state geodetic authority of the Republic of Serbia (Republički geodetski zavod, 2008–2022), the outdoor (open) common spaces of the blocks which are not part of the parcels with buildings are defined as "urban green areas" for Block 70a and as "the land surrounding the buildings" for Block 23. However, the Plan of General Regulation of the system of green areas in Town Planning Institute of Belgrade (2019) provides a more detailed overview of these spaces. Under the category of "green areas in open housing blocks" the parcels within the block 70a (see Fig. 11) and most of the mega-parcel within the block 23 (excluding road infrastructure and the central area of the block within the parcel) are mapped (see Fig. 10).

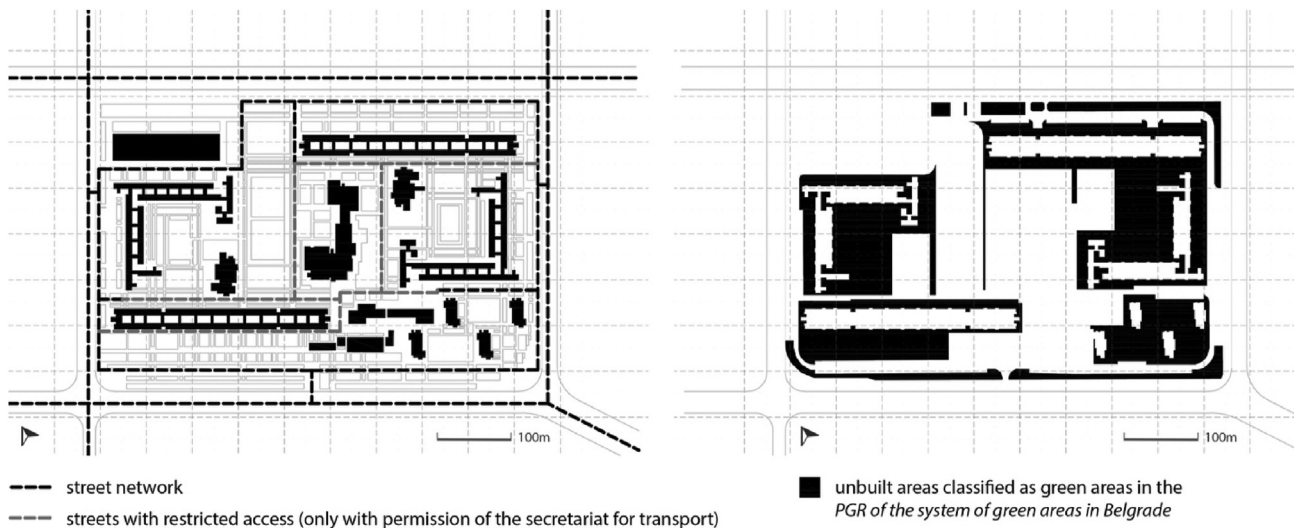


Fig. 10 Block 23: street network (left) and green areas as identified in the Plan of General Regulation of the system of green areas in Town Planning Institute of Belgrade (2019) (right). Illustration © Anica Dragutinovic, April 2022.

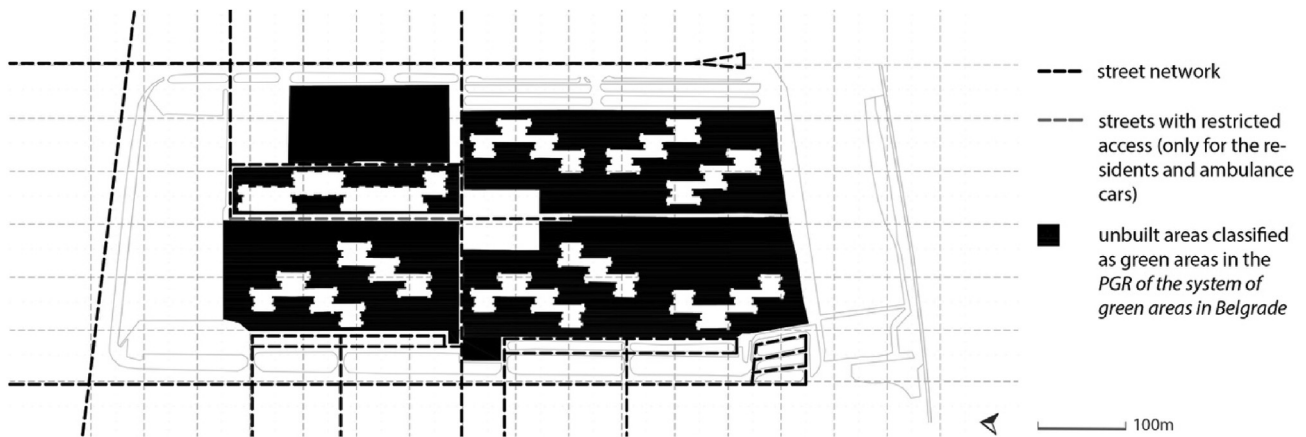


Fig. 11 Block 70a: street network and green areas as identified in the Plan of General Regulation of the system of green areas in Town Planning Institute of Belgrade (2019). Illustration © Anica Dragutinovic, May 2022.

Although defined as simple green areas, they are more complex, integrating playgrounds, pedestrian paths, different types of greenery, urban furniture, etc. Within the student workshop in December 2018 (see Section 3), the students were analysing this landscape of outdoor common spaces in Block 23 — both on the micro level and landscape as a whole, creating an imaginary grid from the in-between spaces of buildings and existing micro points in the landscape (see Fig. 12).

As Petricic (1975) states, the buildings are inseparable from the surrounding landscape of the blocks, and thus the structure and design of the vegetation and the outdoor spaces in-between the buildings are equally important for the whole composition.

In case of Blocks 23 and 70a, the outdoor common spaces and elements within the parcels of the residential buildings (immediate vicinity of the residential buildings) are mainly related to (1) the facades of the residential buildings and (2) the atriums and sidewalks within the parcels.

Within the previously mentioned student workshop, the students were analysing existing facades of the residential buildings in the blocks, aiming to map and classify the existing users' interventions, and therefore identify the

users' aspirations which should be considered within a possible re-design solution (see Fig. 13). The users' interventions are mainly related to replacement of windows, glazing of balconies, adding air-conditioners and similar small-scale non-structural interventions. Besides this, the facades are mostly in the original state. Nevertheless, renovation, refurbishment or re-design of the facades is urgent due to weathering and degradation of materials, low energy efficiency but also aesthetics and users' needs.

The atrium is a typical spatial element that emerged between the two-tract residential buildings, a residential building-type very common for the New Belgrade Blocks. It is an important element for the quality of dwellings, as it enables better *light, air and sun* and increases the utility value of the dwellings. However, Alfrevic (2014) argues that the atriums in Block 23 are too narrow (approx. 7.5 m distance between the two tracts in case of the linear buildings G+10) and do not provide optimal daylight in the rooms oriented towards the atriums. Nevertheless, as he shows (Alfrevic, 2014) the functional conception of the units partly compensates for this issue, orienting kitchens and dining rooms towards the atriums. According to the typo-morphological analysis of the atriums in Block 23,

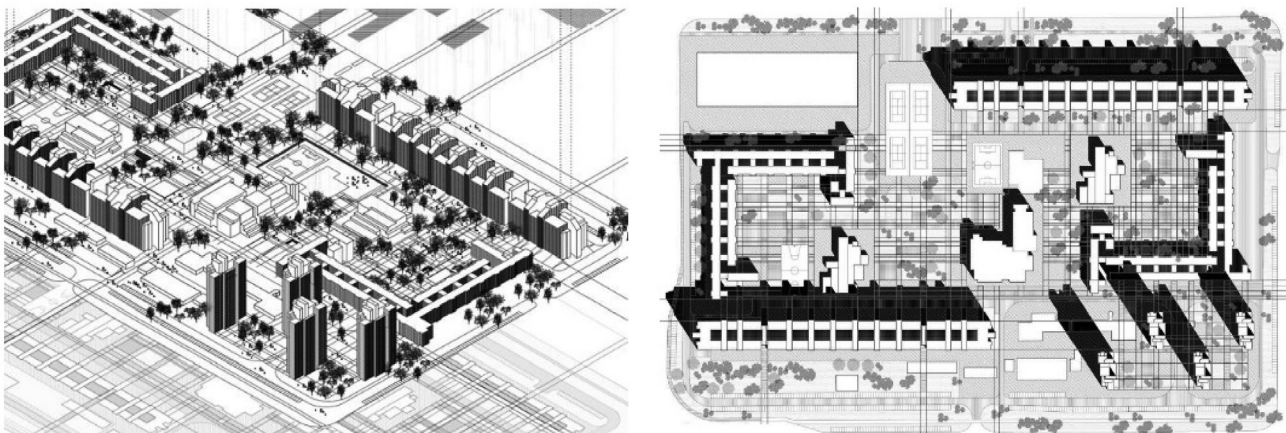


Fig. 12 Common landscape in the Block 23, axonometric view (left) and block layout — imaginary grid and the in-between spaces. Illustration © Research team C1: A. Maksimovic, N. Djuric, K. Dimitrijevic, M. Bozovic, Student Workshop, December 2018.

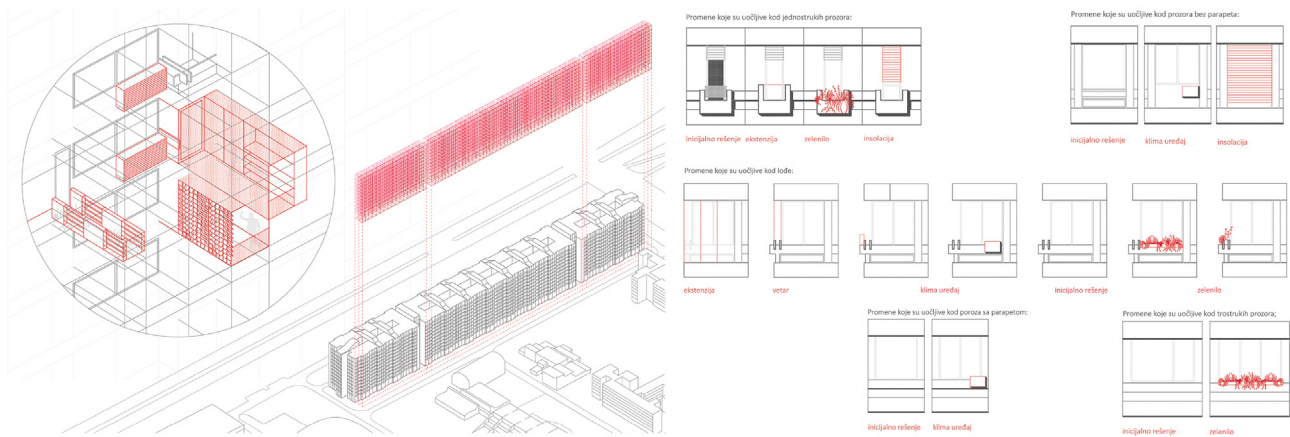


Fig. 13 Facade of the linear building in the Block 23, users' interventions/new needs analysis: axonometric view (left) and facade elements (right). Illustration © Research team C2: Z. Stanojevic, A. Stojanovic, N. Lalic, O. Miskovic, Student Workshop, December 2018.

conducted within the student workshop in December 2018, the atriums within the block differ in size and shape. The students identified 11 sub-types (see Fig. 14). The atriums were observed not only as volumes but as open common spaces in the parterre and the *public interior*, and explored through drawings, documenting and visually interpreting ambiances and character of these spaces.

The typo-morphological analysis of the atriums in Block 70a, conducted within the follow-up student workshop in September 2020,² reveals less differentiation between the atriums. All the atriums have the same form and the same level of porosity in the parterre. They differ in size — all have same height (approx. 25 m), but the area in the parterre, and thus the volume, is different. The students concluded that the porosity of the atriums is a significant feature, important for inner-block flows and mobility (pedestrian paths), inter-connectivity of the open spaces and quality of the built and unbuilt structures in general (see Fig. 15).

There are no physical barriers between the two types of outdoor common spaces within the blocks (the ones within the parcels of the residential buildings, e.g., atriums and sidewalks, and the ones in-between the residential buildings' parcels, here defined as the "green areas"). Both have no restricted access or use — and in both cases, the most frequent users are the residents of the blocks. The criterium of everyday use, which is in case of these two blocks mainly by the local community—due to the *neighbourhood* setting and inner-block space — is one of the key parameters differing them from the conventional public

spaces, such as city parks and streets. Thus, the question of governance and models of use of these spaces is currently critical.

The in-between, common spaces, contribute to higher integration of different segments and parts of the blocks. They have an essential role in *humanisation* of the blocks and quality of life for the inhabitants within the blocks as *integrated neighbourhoods*.

7. Discussion and conclusions

The theoretical framework presented in the article emphasizes the need for investigation of the spatiality of the urban commons. The article therefore explores the issue, based on the argument that the common spaces within the residential neighbourhoods represent *the primary tangible commons* in cities and in these neighbourhoods in particular.

Based on an extensive, iterative and multi-level examination of the existing common spaces in New Belgrade mass housing blocks, the article has shown the design principles for development of these common spaces — towards spatiality of the urban commons. This article is focusing on typology and morphology of the common spaces, while other aspects and quantitative parameters are not focus of this study, but could be further explored in another research (e.g., daylight analysis, ventilation and temperature development in case of atriums or similar).

As this study has shown, the physical form of the common spaces of New Belgrade blocks is very diverse, sometimes clear and distinguishable from the surrounding, but usually without a clear sense of enclosure. Nevertheless, as Carmona (2019) argues, a strong sense of enclosure is "not a prerequisite for a successful public space as increasingly very successful more informal local spaces have been created". The study on New Belgrade showed that the common spaces take on different shape and structure, have different levels of permeability and range of uses.

The current spatial setting of the New Belgrade mass housing blocks and the scarce physical barriers between

² The student workshop "Reuse of Common Spaces of New Belgrade Blocks: Co-Designing the Urban Commons" was organised and mentored by the authors and realised during Erasmus + Mobility of the first author at the University of Belgrade—Faculty of Architecture in the Fall Semester 2020/21. It was co-mentored and supported by the academic staff from the host institution: Prof. Dr. Ana Nikezic and research assistants Aleksandra Milovanovic and Tamara Popovic. In the workshop participated 13 students of Bachelor, Integrated and Master studies at the Faculty of Architecture. Available on the website of arh.bg.ac.rs.

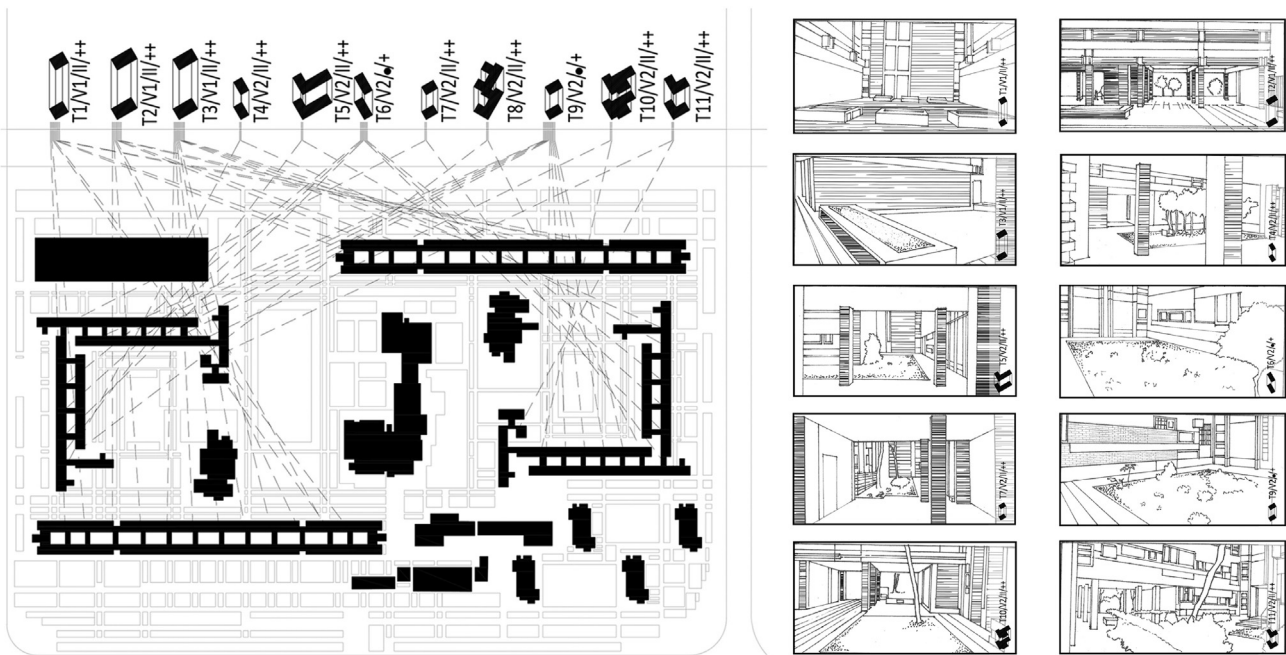


Fig. 14 Identification of the atrium typology in the Block 23 and visual interpretation of the atrium ambiances. Illustration © Research team C3: T. Ciric, M. Ristic, J. Ristic, J. Korolja, Student Workshop, December 2018.

different segments and spaces of the blocks are crucial to preserving the openness and accessibility, and thus ensure the rights to use the common spaces. As [Stavrides \(2015\)](#) claims, the porosity of their boundaries “permits acts of sharing to expand the circles of commoning”. Moreover, they “explicitly symbolise the potentiality of sharing by establishing intermediary areas of crossing”. ([Stavrides, 2015](#)) Different from the conventional public spaces due to the specific spatial setting and composition of the modernist blocks, the common spaces have a potential for spatialisation of the right to the city, bottom-up

governance and direct democracy in cities. High inner-block integration allows for collective experience and reinforces social cohesion and the sense of community.

This study of the physical structure and features of the existing common spaces of New Belgrade blocks provides a clearer picture of the spatial patterns of the common spaces in the selected city. Besides the case study-related results and conclusions, the article offers an analytical framework, which integrates different methods, in particular: observation, photo-documentation, typological decoding, spatial analysis — morphogenesis, spatial

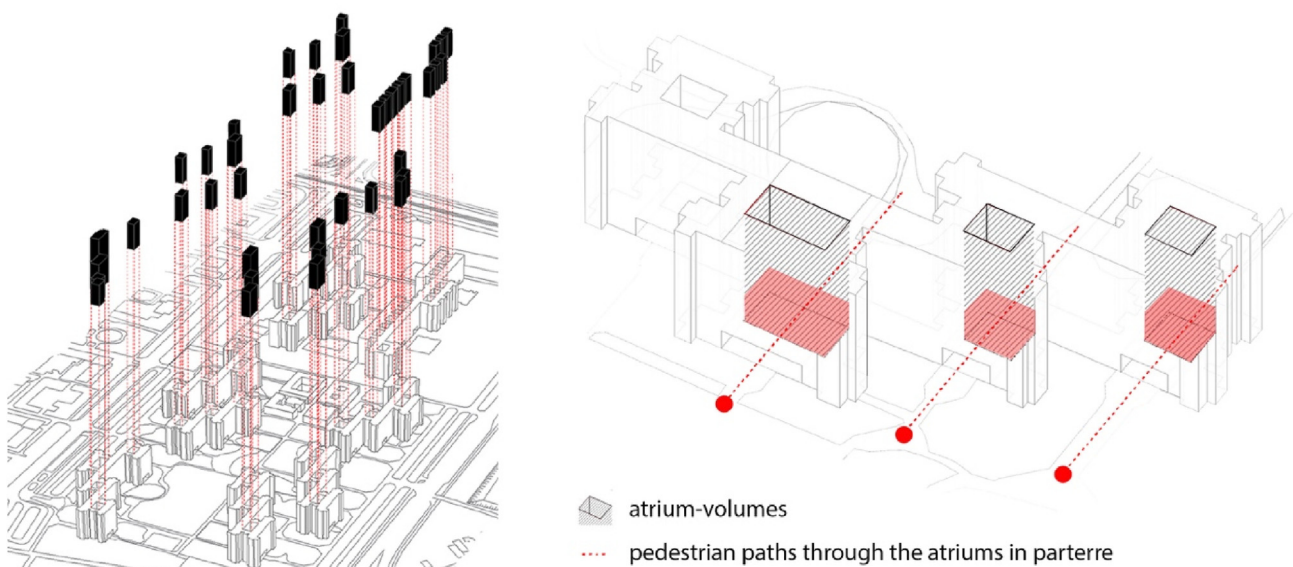


Fig. 15 Identification of the atrium typology in Block 70a. Illustration © Research team 2a: D. Petrovic, R. Petrovic, B. Cirovic, Student Workshop, September 2020.

patterns and integration of the common spaces. Therefore, the contribution of the study is two-fold: (1) it can contribute to the socio-spatial revitalization strategy development, as it is the first step towards understanding the existing spatial infrastructure for (re)emerging urban commons in New Belgrade; (2) although it is focusing on a specific case study, it provides a methodological and analytical framework which could be applicable to other examples of post-war modernist residential neighbourhoods or comparable cases, but also for spatial analysis of the urban common spaces, spaces of *commoning* in a broader sense.

8. Further research

The common spaces struggle with land use and management policy. A lack of formal recognition, rigid public institutions and their failing management strategies (under-management and under-maintenance) result in neglected and deteriorated spaces. Spatial representation and physical condition of these spaces affect the aspiration and motivation to use these spaces, but also diminish and obscure their architectural quality. The position and notion of these spaces as semi-public or in-between spaces require a new institutional architecture related to management and use of these spaces. Besides improving the physical structure of these spaces, encouraging community self-organisation and integration of diverse social programmes is needed.

Building upon the results of this research, further assessment of the current land policy, ownership and management relations within the scope of these spaces is needed. Further studies may also analyse multiple approaches for collaborative governance of the common spaces of residential neighbourhoods, and the neighbourhoods as a whole, that would promote participatory decision-making, empower local communities, and help achieving resilient and inclusive cities and societies.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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