

DESIGN AND FUNCTIONAL CHARACTERISTICS OF THE MULTI-FAMILY HOUSING ARCHITECTURE IN THE PERIOD OF MATURE AND LATE MODERN ARCHITECTURE OF NIŠ - CASE STUDIES

UDC 72.036(497.11)

728.2(497.11)

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Abstract. *The topic of this paper is the functional and design characteristics of multifamily (formerly collective) residential buildings created in the post-war period of Modern architecture of Niš. For the post-war period of intensive and mass construction of residential buildings, a time classification of constructed buildings was performed, and they are classified into two categories. The first category includes buildings built in the 1950s, in the period of the „mature“ Modern architecture, which is a continuation of modern architecture of Niš between the two world wars. The second category consists of residential buildings created in the late 1960s and 1970s, in the period of the late (industrial) Modern architecture of Niš. In this paper, two representative examples of residential and commercial buildings from the mentioned periods were selected, both built on the 14. Oktobar square, in the central core of the city of Niš. As typological representatives of the mentioned periodizations of construction, the buildings will be analyzed in the form of two case studies.*

Key words: *Modern architecture in Niš, functionality, design, building, form*

1. INTRODUCTION

The term "housing" can, in the context of this research, be defined as the elementary and existential need of human action in architecture and the living space in general. This was especially the task of modernizing the cities of former Yugoslavia after the Second World War, which was primarily researched as a topic of optimizing "invested and obtained", all with the aim of designing buildings for „the masses", that is a large number of inhabitants. The processes that were carried out within the socio-political context of socialism by the previous state apparatus and profession, took place as complete initiatives

Received September 27, 2020 / Accepted October 30, 2020

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with the general ambition of common improvement of the living conditions of citizens. The residential multifamily architecture of Niš in the period between 1945 and 1980 was based on social and humane ideas within the framework of construction, which were guided through the principles of the methodology of design and realization of buildings of that time. The aspiration towards rational, economical and humane housing was materialized through the optimal functionality of the apartments and the reduced architectural form of the buildings with emphasized primary-secondary plasticity of the facade planes. In addition to the above periodization and grouping of buildings in the previous chapter, the buildings of "mature" and "late" Modern architecture of Niš can be put into a certain spatial framework where residential and residential-commercial buildings within the central city core can be generally typologically grouped, in relation to buildings formed on the spacious boulevards, the former outskirts of the city of Niš. A characteristic example of representatives of authentic Niš architecture from the two mentioned periods in one place, on the 14. Oktobar Square, is a residential and business low-rise building from the period of the so-called „mature“ Modern architecture of Niš, built in the mid 1950s, and a high-rise building built twenty years later in the period of the late-industrial Modern architecture, opposite this low-rise building. The mentioned buildings will be analyzed as typological representatives of residential architecture from the mentioned periodizations of construction, in the form of two case studies. In addition to the selected buildings, the systematization of their parts and elements will be performed, all with the aim of objectifying the topic under research.

2. 14. OKTOBAR SQUARE - CITY-PLANNING LAYOUT AND SPATIAL ORGANIZATION OF BUILDINGS

One of the characteristic micro-urban city units - squares in Niš is certainly 14. Oktobar square. With its city-planning setting, it leans on one of the mentioned street backbones of the city from the time of "Winter's plan". The formed square represents the beginning of Obrenović Street (formerly Pobeda street) on the south side, which develops from there to the north through the main central part of the city all the way to the Oslobođenje Square, that is to the Fortress.

Fig. 1 14. Oktobar square - Schematic representation of the selected buildings (Source: author - based on part of the graphic documentation of PGR Mediana - first phase in Niš)



The city-planning layout of the square is an adopted model of the central park area - "islands" with high greenery that simultaneously form a roundabout. The island is mostly "framed" by residential buildings of different heights with commercial premises on the ground floor. On the north side of the square on both sides of Obrenović Street, there are residential buildings from G+3+A to G+5 in the original design, built in the 1960s. The residential buildings have a rectangular base and a double orientation, towards the street and the inner courtyard (Figure 1).

As a counterpoint to the longitudinal residential buildings, on the south side of the square there is a complex of residential tall buildings-towers also with business facilities on the ground floor. In this relatively small area, a high population density was achieved because in this case it was the height that was primary in the design process. (Figure 1.) The positioning of residential towers in that place proved to be a good solution, because in addition to a large number of inhabitants, other city-planning parameters were also met. Despite the great height, a sufficient distance from other buildings is provided, respecting the min. $H/2$ of a taller building, so there is enough insolation, especially on higher floors. Open views were achieved on all four sides, especially towards the central park, as well as towards the complex of the Orthodox Cathedral, which is located near the east side of the square. The only possibly disputable urban parameter is the number of parking spaces, especially from this perspective, but the standards from the period of construction which was in the early 1970s, should be taken into account. At that time, it was also not a practice to build underground garage levels near residential collective buildings, as it is today, almost half a century later.

3. CASE STUDIES

3.1. Case study 1

"Marger" residential and business building on the 14. Oktobar square in Niš

The residential and business building "Marger", B1+G+3+A, was designed in the architecture bureau "PROJEKTBIRO" from Belgrade, the author was the architect Mihajlo Mitrović. The design and construction period was 1955/1956. The building in question was designed as a building in a staggered row consisting of four bays.

3.1.1. Architectural-urbanistic structure and form of the building - volumes and facade surfaces

The structure of the set volumes at the given location primarily represents a corner single tract on the corner of Obrenović Street and 14. Oktobar Square. By moving the part of the facade plane, that is shifting the part of the west facade towards the interior of the block, seen from the direction of Obrenović Street, four connected residential and residential-business bays with open views in all directions were obtained (Figure 2).

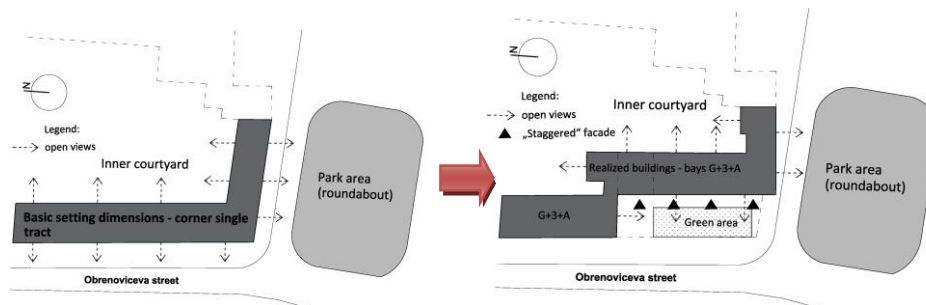


Fig. 2 Analysis of displacement- "staggering" of the part of the facade plane
(Source: author)

In addition to the disunity of the volume and the movement of the masses, the architectural form-facade composition represents a human-dimensional and discreet play of primary and secondary plasticity, primarily materialized in two levels. At the level of volume-mass and at the level of facade planes. The volume-mass level means the ratio of the basic volumes of the above-ground floors and the volume of the retracted attic in relation to the main western facade plane, as well as the mutual ratio of bay windows - balconies oriented towards the central park and the basic cube of the southern facade. The first level of "plasticity" of buildings includes subtractive openings in parts of the ground floor for the formation of passages to the inner courtyard-atrium, as well as subtraction of basic volumes at the ground level at the corners where accentuated uneven entrances to residential buildings are formed.

The next level in the installation of primary-secondary plasticity is the level of facade planes. "Plastic displacements" at this level are primarily characterized by the "full-empty" principle which is presented in the form of the main volumes ratio and openings in them, or walls, given in the form of windows or retracted balconies-loggias. At this level, there is a sub-level of tertiary plasticity that is formed in relation to the primary plane of the facade in the form of protruding frames or retracted parts of the facade around window openings, as well as slight "movements" of certain architectural elements in parts of balcony fences (Figures 3 and 4).



Fig. 3 Main street front - west facade of residential-business buildings
(Source: author - based on part of the graphic documentation of the final design from the Historical Archive of Niš)

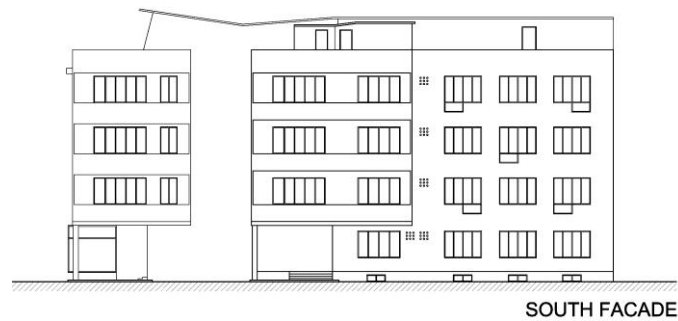


Fig. 4 South facade of residential-business buildings - facing the park

(Source: author - based on part of the graphic documentation of the final design from the Historical Archive of Niš)

Unlike the "moving" and dynamic facades of the buildings observed from the street front, the inner courtyard facades are characterized by a certain simplicity, "calmness" and uniformity of window openings without decorative plasticity. One-dimensionality is emphasized in the setting of the basic planes of the facade tracts, except in the part of the common vertical communications - staircases which are partially protruding in relation to the basic plane. Slightly protruding inner balconies - loggias, which are "supported" on both sides by the mentioned staircase, represent elements of "interruption" of monotonous facades. The manner of treating the facades of the street front "richer" than the interior-courtyard facades is a continuation of the matrix taken from the early Modern architecture of Niš, residential architecture that was created between the two world wars (Keković A., 2008).

3.1.2. Detail

In the case of the observed buildings, we can recognize two established levels of architectural details:

- design-plasticity (architectonics) and
- spatial-design detail (volumetry).

The protruding accentuated frames around the window openings on the west facades of the main street front are primarily design-plasticity shaped. In the immediate vicinity of the accentuated frames, a contrast was made by gently pulling in certain parts of the facade around the windows of the adjacent rooms. In that way, the frames in the "negative" were obtained, and the parts of the horizontal ring beams on the buildings were additionally highlighted. In the extension, a kind of "architectural play" of fence elements on the retracted balconies-loggias was used. By vertically shifting the "wavy" parts of the concrete fences covered with "salonit" slabs due to the visual effect, the perception of dynamic movement of the facade elements was created. It can be stated that all three types of the mentioned "details" form a unique facade unit and the main motif of the western (street) appearance of the buildings (Figure 5).

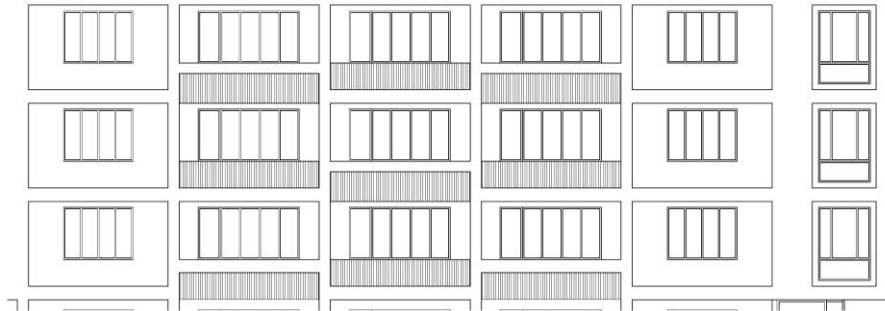


Fig. 5 Part of the western facade - "movement" of the facade elements and their mutual relationship
(Source: author - based on part of the graphic documentation of the final design from the Historical Archive of Niš)

On the concrete example of the presented buildings we can recognize all the mentioned cases and spatial-design details.

In addition to the passages and retracted attics, the dominant spatial-design architectural detail are the open living areas, balconies-loggias in the form of bay windows, designed so that they are oriented towards the central park (Figure 6).



Fig. 6 Balconies-loggias oriented towards the central Square - park
(Source: author)

The entrances to the residential parts of the buildings are especially emphasized, and they certainly belong to the group of spatial-design details. Although the entrances to the residential part of the buildings are "sidelined" in the corners of the bays, their visual experience is a reminiscence of the entrance covered porches of traditional Serbian houses, which in addition to their basic purpose also have the function of the viewpoint, resting and socializing. Also, within these entrance parts, the emphasized spatial element consists of dominant pillars, which also reminds of mostly wooden constructive elements of old houses from traditional Serbian architecture. In this segment, the contextual design approach in shaping and creating post-war modern architecture of Niš is clearly seen.

3.1.3. Typical storey assembly

According to its structure, the assembly of the typical storey of the subject buildings can be considered as a single-tract, angular and double-sided built-in assembly. It can also be characterized as an asymmetrical set of dispersed form, and generally two-sided orientation (G. Jovanović, 2007) (Figure 7).

The assembly of the standard storey has an optimal and favorable two-sided orientation of all bays individually, that is all apartments. Especially in terms of maximally used views towards the near and far outside environment, that is the inner courtyard, an optimal solution was achieved primarily through good structuring and quality layout of the buildings in the manner described in the previous presentation. Due to the two-sided orientation of the apartments of all buildings, this assembly belongs to the typology of shallow tract assemblies.

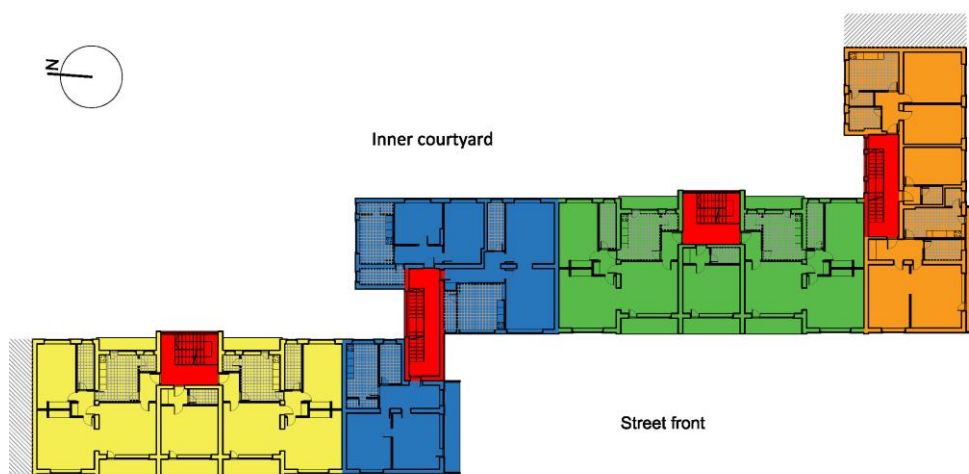


Fig. 7 Typical storey assembly

(Source: author - based on part of the graphic documentation of the final design from the Historical Archive of Niš)

A characteristic element that generates each assembly around itself are common vertical communications - stairs and elevators, as well as common horizontal communications - corridors, passages, galleries. (Jovanović G., 2007) On the subject example, there are two types of common communications in the form of U-shaped and straight stairs with corridor extensions. The two bays with U-shaped stairs are completely identical in their structure of the assembly, that is the structure of the apartments within them. They contain three apartments "on the staircase", two of which are symmetrically placed "as in a mirror" in relation to the staircase, while one studio is "inserted" between them. The other two buildings are equal according to a straight staircase with a corridor area and the number of apartments, three apartments in each bay. The structures of these apartments are all different and have different views (Figure 7).

3.1.4. Functional organization of characteristic apartments on a typical storey

Taking into account the fact that the investor of these residential and business buildings was the former JNA (Yugoslav People's Army), it already says about the "fulfillment" of quality not only in terms of design and material, but primarily in the functional sense of the designed apartments. As already mentioned in the previous chapter, the assembly of the standard storey consists of four bays with three apartments on the staircase, of different structures and areas. The representation of apartments by area ranges from a studio to two-room and three-room apartments.

The two bays within the assembly (bays A and C according to Figure 8) are completely identical, with the identical structure of the repeating apartments, and where the larger apartments have a two-sided orientation. For that reason, these characteristic apartments will be analyzed in more detail. The apartments within bays B and D are mostly two-room apartments, except for one studio apartment, while they differ in the structure of functional organization and state of equipment (Figure 8).

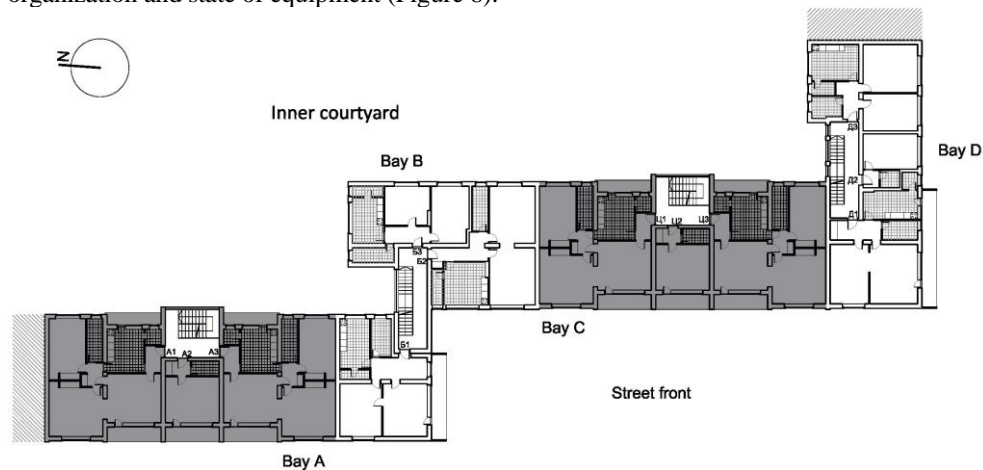


Fig. 8 Structure of apartments within the bays

(Source: author - based on part of the graphic documentation of the final design from the Historical Archive of Niš)

The three-room apartments of identical bays A and C are also completely identical in terms of their functional layout and areas, and face each other according to the "mirror" system in relation to the corresponding staircase, that is the middle, centrally positioned studio. Thanks to the small depth of the tract, the apartments have an open two-sided east-west orientation, while they are also two-sided "built" in the north-south direction. One of the basic characteristics is the "non-existence" of hallways, except for the entrance party, which is the result of striving for greater rationalization and maximum use of space. This results in the concept of a "passage room" in the west part of the apartment, which is also multifunctional: it has the function of a living room, common gathering (gathering center), drawing room for guests, dining room, communication with another room or other parts of the apartment. This design concept is partly taken from the Early Modern architecture between the two wars and the so-called "Belgrade" drawing room apartment, with clearly separated zones for residential and household area (Keković A., 2008).

In the specific case of the observed apartments, the zone for household, that is food preparation (a kitchen with a pantry) is physically separated in the east part of the apartment, but it also has a direct connection with the hallway to access the rooms and the bathroom. It can be stated that in that way a double "circular connection" was achieved in the communication within the apartment (Figure 9).

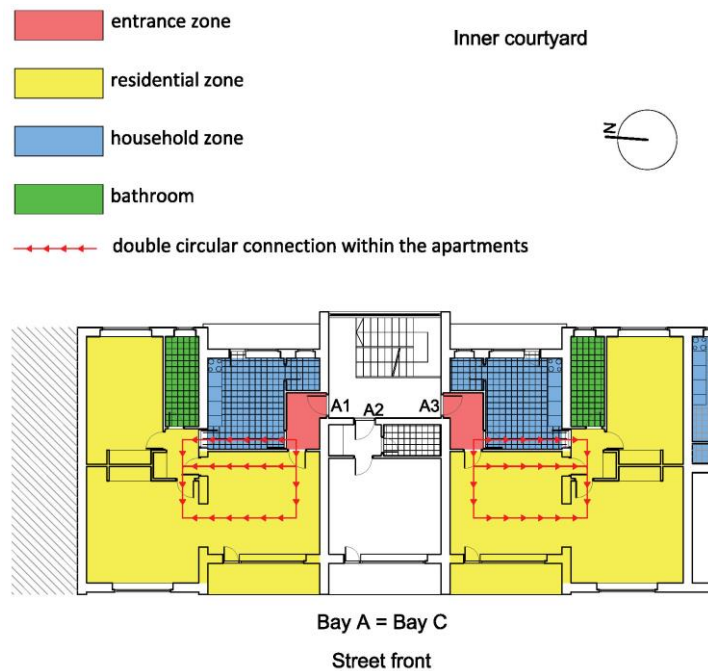


Fig. 9 Apartments in a "mirror" with a double circular connection

(Source: author - based on part of the graphic documentation of the final design from the Historical Archive of Niš)

In addition to the two balconies-loggias on the west side and in the part of the east kitchen block, the apartments also have built-in closets in the children's room - study and the bedroom, which further increases the quality of these apartments since other apartments on that floor do not have them.

3.2. Case study 2

Residential and business complex on the 14. Oktobar square in Niš

The residential and business complex with the number of storeys from B1+G+3+A to B1+G+2M+16 was designed in the architecture bureau "GRAĐEVINAR" from Niš, the author was the architect Predrag Janić. The design and construction period was 1974/1976. The building complex in question was designed as a free-standing system of staggered bays.

3.2.1. Architectural city-planning structure and form of the building - volumes and facade surfaces

The structure of the set volumes of the residential and business complex primarily represents a free-standing building of disparate form, positioned in the northern part of the residential block. The unique architectural whole has been decomposed into several smaller bay units in order to enable optimal natural lighting and ventilation of as many residential and auxiliary rooms as possible. This is usually achieved by subtraction and incision of the basic volumes, as well as partial discharges of certain spatial elements in relation to the main facade plane. In addition to the movement of the masses at the plan level, the shearing was also performed vertically by designing bays with different number of storeys. The result is a unique architectural composition of the entire organic form, which is composed of several smaller parts, subunits-modules, with open views in all directions (Figure 10).

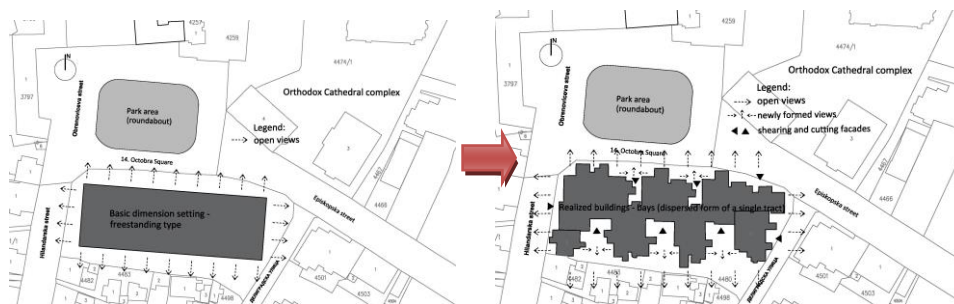


Fig. 10 Analysis of the formation of dispersed volumes of the residential-business complex (Source: author - based on part of the graphic documentation of the final design from the Historical Archive of Niš)

"Organic treatment of the architecture of the complex is reflected in the strong connection of the blocks with the terrain without pulling masses and discharges in the form of bay windows or overhangs. The movement of masses is emphasized by clearly expressed elements of concrete bearing walls, vertical articulation with horizontal elements of parapets and loggia railings." (Janić P., 1974)

In addition to the disunity of the volume and the movement of masses on the horizontal and vertical level, the architectural design-facade composition represents a discreet play of primary and secondary plasticity at the level of the facade planes. The plasticity of the dispersed form is additionally emphasized according to the "full-empty" principle, which is realized in the part of the indented balconies-loggias in relation to the full walls. The dominant motif of prefabricated concrete elements in the form of window frames with sloped corners and edges, is a recognizable visual detail of the entire spatial structure. Slight slopes on the final parts of the semi-prefabricated and prefabricated facade elements also contribute to the complete impression of "softened" orthogonality.

At the level of the facade design and art treatment, there are also vertical flutes on the horizontal division of the facade prefabricated panels, reinforcing the impression of gradation of the entire architectural complex (Figures 11 and 12).



Fig. 11 Main street front - United north facade of all bays of the complex
(Source: author - based on part of the graphic documentation of the final design from the Historical Archive of Niš)

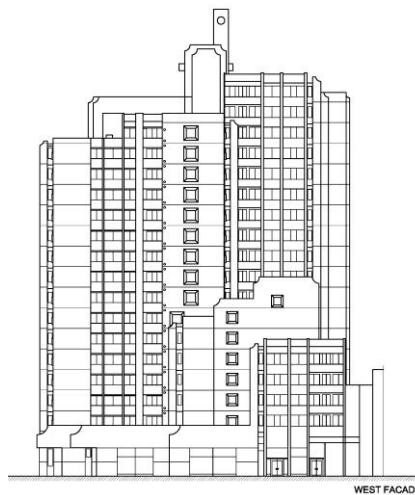


Fig. 12 Side west facade of residential and commercial bays - street view
(Source: author - based on part of the graphic documentation of the final design from the Historical Archive of Niš)

3.2.2. Detail

As in the previous case, in this example of the observed buildings we can recognize two established levels of architectural details:

- design-plasticity (architectonics) and
- spatial-design detail (volumetry).

The first group primarily includes protruding and accentuated frames around window openings on prefabricated facade panels, while the panels themselves are a detail of

secondary plasticity on facade planes due to their accentuated horizontal division (setting) and vertical structure of cut-in flutes. A special detail are the side openings in the wall panels of the balconies-loggias with vaulted (bent) edges. The arched ends of the facade panels are also a kind of dominant detail in the space, which gives a special feature to the overall size, that is the silhouette of the entire structure (Figure 13).

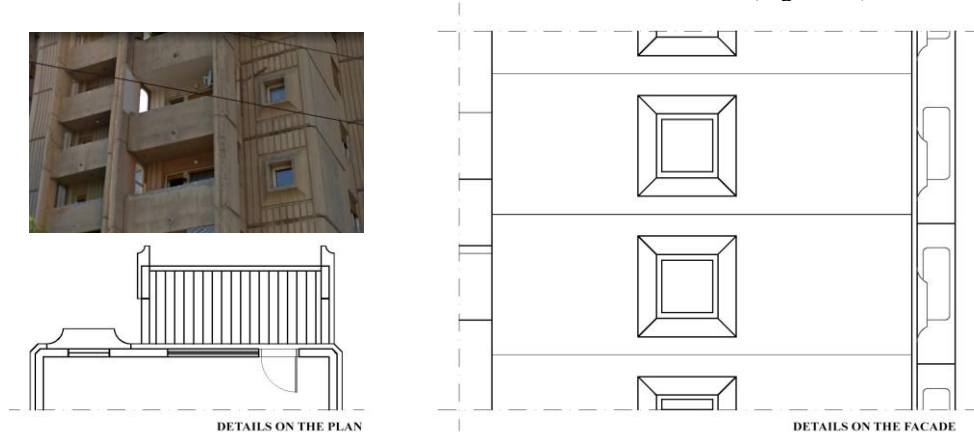


Fig. 13 Details of facade elements and their mutual relationship

(Source: author - based on part of the graphic documentation of the final design from the Historical Archive of Niš)

In addition to the playful form of dispersed "organic modules" of housing units treated as parts of a larger "house-organism", the dominant spatial-design architectural details are cantilevered overhangs in the form of entrances to business premises on the ground floor, designed so that they are all oriented to the central park (Figure 14).

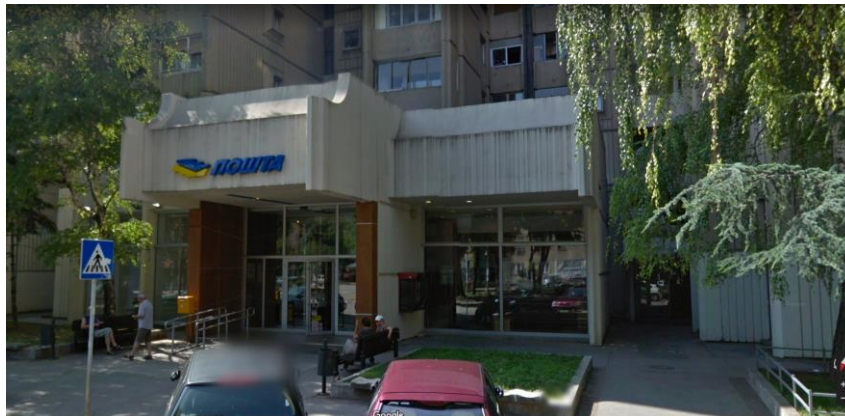


Fig. 14 Overhangs at the entrances to business premises oriented towards the central Square - park
(Source: author)

3.2.3. Typical floor assembly

According to its structure, the assembly of the typical floor of the buildings of the residential-business complex can be considered a free-standing assembly, of asymmetrical and dispersed form (Figure 15).

The type of floor assembly has an optimal and favorable multilateral orientation of all bays individually, that is all residential units. In terms of used views towards the near and far exterior to a maximum degree, the optimal solution was achieved primarily by good structuring and diversification of the elementary form of the deep tract. In that way, an excellent multilateral orientation was achieved, especially in the interior of the apartment block on the south side, despite the fact that the basic layout of the assembly has a great depth of the tract.

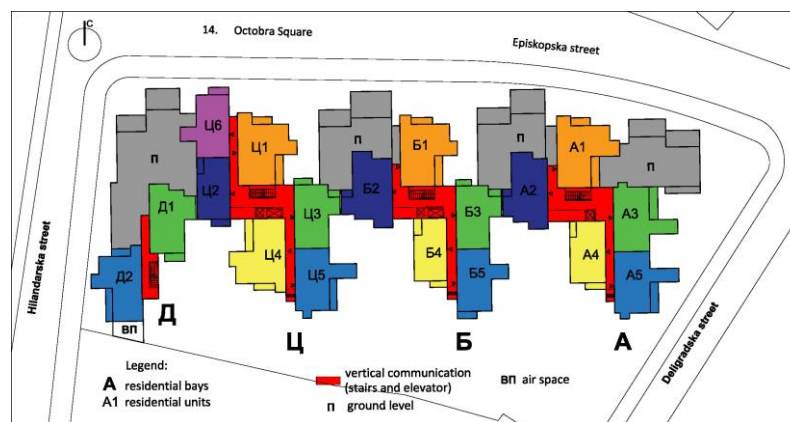


Fig. 15 Typical floor assembly

(Source: author - based on part of the graphic documentation of the final design from the Historical Archive of Niš)

In the presented example, all four bays have common communications in the form of a straight staircase with corridor extensions. Depending on the number of storeys of the bays, the required number of elevators is planned within the framework of joint communications. According to the structure of represented housing units within the assembly of the standard floor, A and B bays have five apartments on the staircase of different structures and apartment areas, C bay has 6 apartments, while D bay has only two apartments on each floor. The first three bays generally have a very similar structural organization of apartments and vertical communications, while the alternate solution of apartments of the D bay is somewhat more significant compared to the others (Figure 15).

3.2.4. Functional organization of characteristic apartments on a typical floor

The investor of this residential and business complex was also JNA (Yugoslav People's Army), with its strict requirements and conditions especially related to the respect of the former standards and regulations, the organization of space within the housing units, as well as the quality of installations and equipment. Within the technical description, that is, the design brief signed by the investor, it is stated, among other things:

"In each apartment, there should be a direct connection from the hallway and corridor – a hallway with a living room – a kitchen, a bedroom, a bathroom and a

separate toilet. The walk-through room is not generally accepted. The dining area can be placed in a suitable place depending on the organization of the apartment, so that it is connected to other rooms in the apartment, and with a small increase of area, a secondary living room can be created. In order to organize apartments more rationally and elastically, it is allowed to let the bathrooms, toilets, food and household pantries be without daylight, or with indirect daylight, provided that proper air exchange is supplied by ventilation. Halls and connection corridors do not have to have direct sunlight and special ventilation. It is enough to provide indirect lighting for them from the adjacent rooms that are directly lit.” (Janić P., 1974).

All of the above speaks a lot about the required quality, not only in terms of design, but primarily in terms of the functional sense of designing apartments. The assembly of a typical floor generally consists of four bays with a different number of apartments on the staircase, different structures and areas. Representation and structure of apartments by area ranges from two-room and two-and-a-half-room apartments to three-room and three-and-a-half-room apartments.

The two bays within the assembly (bays A and B) have the same number of designed apartments per bay (five apartments each), a very similar structure and area of the represented apartments. The difference is in the alternate solutions of the housing units of the corner bay A in relation to the apartments of the bay B which is positioned between two bays (A and C). The number of planned apartments within bay C is six, with one apartment more in the northern part compared to bay B, while the functional organization and area of the other five apartments is very similar to apartments of bays A and B. Within the bay D, which is also a corner bay on the west side, there are two apartments on the floor of different structures, which also represent alternate solutions in relation to similarly positioned apartments within the first three bays. The figure below shows the basis with the functional organization of the characteristic apartments of bays A and B, while the apartments within bays C and D are only alternate solutions of fundamentally identically structured apartments as well as apartments within the first two bays (Figure 16).

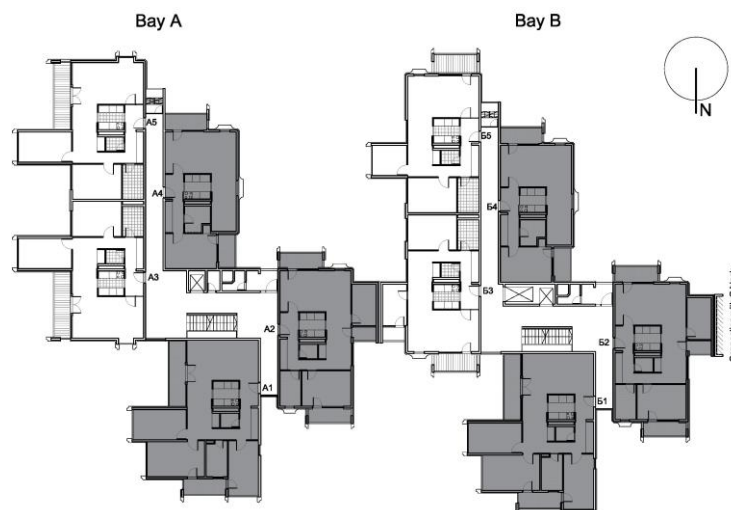


Fig. 16 Structure and functional organization of apartments within bays A and B.

(Source: author - based on part of the graphic documentation of the final design from the Historical Archive of Niš)

As can be seen in the figure, the three-and-a-half-room apartments A1 and B1 of bays A and B are completely identical in terms of their functional layout and areas, as well as the two-and-a-half-room apartments A2 and B2, and the two-room apartments A4 and B4. For apartments A3 and A5 it can also be stated that they are identically structured according to the principle of "mirrors" within the same bay, while apartments B3 and B5 are basically with the same functional organization but with certain variations in relation to each other and in relation to equally positioned apartments within the bay A. The main characteristic and the main motif of the structural and functional organization of all apartments, generally on the typical floor, is the positioning of the sanitary block (kitchen and toilet) in the central part of the apartment, around which there is circular communication, that is "circular connection" in the apartment. A certain degree of polarization into day and night zones was achieved in this way, between which expanded communication with the dining room and additional space for children to play or work was intended, so instead of a rigid "demarcation" between the two zones, a spatial connection that was more elastic, direct and flexible was created. The shortest direct access to the living room and central sanitary block from the entrance was also provided, as well as the dining area directly through the kitchen, without violating the elementary level of privacy and comfort in the area intended for resting and dining. Extended circulation and communication from the entrance provides access to the night zone (bedroom and children's room), which can also be accessed through extended communication, that is the mentioned circular connection (Figure 17).

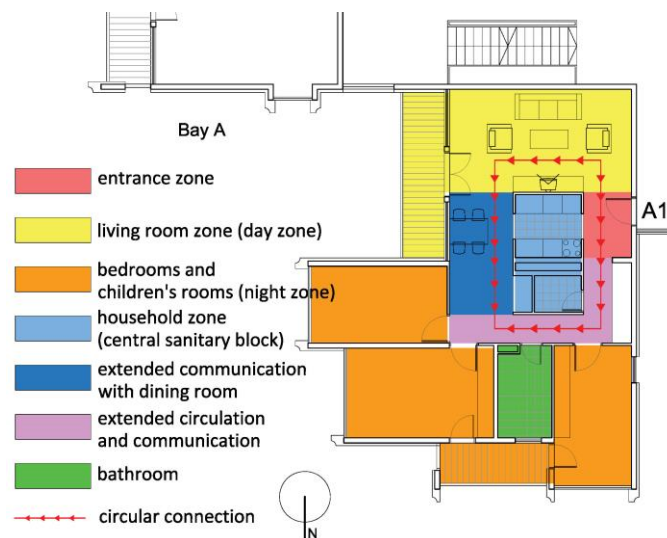


Fig. 17 Apartment A1 in a with a circular connection within bay A

(Source: author - based on part of the graphic documentation of the final design from the Historical Archive of Niš)

It should be noted that the circular connection contributes to:., a) raising the general quality of the apartment, b) reducing useless communications, c) better usability of the apartment area, e) better social integration of family members, etc. (Alfirević Đ. i Simonović Alfirević S., 2018), which is why it was often applied in residential architecture throughout

Yugoslavia. In relation to the first post-war examples in which the circular connection is present in a reduced form, later examples created during the 1970s indicate the ability of designers to achieve complex circular schemes by functional structuring of space, which in some examples border on the concept of "liquid" space.“ (Alfirević Đ. i Simonović Alfirević S., 2016)

In addition, as Jovanović-Nenadović points out, locating the technical block in the central part of the apartment so that it represents a kind of constitutive motif of the apartment - the command bridge - the central point of household management control, has become recognized as a characteristic approach to apartment organization. (Ristić Trajković J., Stojiljković D., Međo V., 2015)

The analyzed example of a three-and-a-half-room apartment A1 within the bay A clearly shows the application of the already mentioned and established design principles of the 1960s and 1970s, which appeared as concepts of habitological efforts in housing in the form of an apartment with extended communication, with central sanitary core, apartments with circular connection, etc. In the specific case of the presented apartments, it is a combination of these principles, which raised the achieved quality of housing to a higher level.

4. CONCLUSION

Based on selected and analyzed representative examples of buildings in Niš, created in two periods of one epoch that we call Socialist Yugoslavia, several conclusions can be drawn. First of all, that the presented buildings, as well as many others built in those time periods, were the result of a huge effort and aspiration at the level of the state to achieve, in addition to a large built-up fund of housing construction, a certain quality in the realization of buildings, primarily in the structuring of the functional organization of apartments. Then, that there is an obvious technological progress in the second period of the so-called "Late" Modern architecture, which enabled an even greater increase in standards, the use of new structural systems, prefabricated construction and prefabrication of elements, as well as more storeys. That the influence of the Army, that is JNA as an investor, greatly contributed to the mentioned quality, primarily in the functional, and certainly in the formal sense, reaching the required level. The period of post-war intensive housing construction, both in Belgrade and other larger and smaller cities of former Yugoslavia and in Niš, must be viewed through the prism of self-governing socialism, which according to (Ristić Trajković J., Stojiljković D., Međo V., 2015) *„is primarily connected with the achieved quality of housing in terms of humanization of the environment and functional organization of housing units. Modern residential architecture and city planning were viewed as a representation of social, political, economic, demographic and cultural changes in the period of socialism.*“ Also, supporting the facts about the special characteristics of the residential architecture of the post-war Yugoslav Modern architecture in general, as well as in Niš, there is a consideration which (Alfirević Đ. And Simonović Alfirević S., 2018) in their scientific research work state that among other things: *„Establishing the boundaries of the subsistence in collective housing, maximum spatial "packaging" and optimal functionality of apartments were the basic imperatives within which over time there was a tendency to experiment with new housing patterns in order to find more pragmatic and humane solutions in mass housing construction of high densities. ... it can be characterized by a large number of different examples of*

apartment organization, between 1945 and 1991 in Yugoslavia, which were based on at least one of the presented habitological concepts - expanded communication, circular connection, central sanitary core or extended views in the form of enfilades.“

Undoubtedly, such a global movement as Modern architecture is, brings with it many objective shortcomings at all levels of construction. However, if architecture should reflect the state of mind of a certain period, political and economic conditions, and represent a cultural and social phenomenon that sublimates the diversity of a particular environment in which it is built, then certainly the Modern architecture of Niš in the postwar period deserves attention in the form of research and more detailed analyses, because it is an indisputable fact that at that time it was designed and built paying full attention both to the community and the individual, both to the city and the apartment.

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OBLIKOVNE I FUNKCIONALNE KARAKTERISTIKE ARHITEKTURE VIŠEPORODIČNOG STANOVANJA U PERIODU ZRELE I KASNE MODERNE NIŠA – STUDIJE SLUČAJA

Tema ovog rada su funkcionalne i oblikovne karakteristike višeporodičnih (ranije kolektivnih) stambenih objekata nastalih u posleratnom periodu niške Moderne. Za posleratni period intenzivne i masovne izgradnje objekata za stanovanje izvršena je vremenska klasifikacija izgrađenih objekata koji su svrstani u dve kategorije. U prvu kategoriju spadaju objekti izgrađeni pedesetih godina 20.tog veka, u periodu „Zrele“ Moderne koji predstavlja nastavak niške moderne arhitekture podignute između dva rata. Drugu kategoriju čine stambeni objekti nastali kasnih šezdesetih i sedamdesetih godina, u periodu „Kasne“ (industrijske) Moderne Niša. U ovom radu su odabrana dva reprezentativna primera stambeno-poslovnih objekata iz pomenutih perioda, oba izgrađena u okviru trga 14.tog Oktobra u centralnom jezgru grada Niša. Kao tipološki predstavnici pomenutih periodizacija izgradnje, objekti će biti analizirani u vidu dve studije slučaja.

Ključne reči: *Moderna Niša, funkcionalnost, oblikovnost, objekat, forma*