

**Pouke**  
**jugoslavenske stambene**  
**ekonomije u razdoblju**  
**prvog petogodišnjeg plana:**  
*propusnost granica*  
**između tradicije i modernosti**



**Lessons of Yugoslav Housing**  
**Economy in the Period**  
**of the First Five-Year Plan:**  
**Permeable**  
**Boundaries Between Tradition**  
**and Modernity**

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#### SAŽETAK

Tijekom prvog desetljeća nakon Drugoga svjetskog rata stambeno pitanje bilo je goruće pitanje u socijalističkoj Jugoslaviji, dodatno otežano izolacijom zemlje nakon krize Rezolucije Informbiroa 1948. godine. Planirana modernizacija i industrijalizacija cijelog građevinskog sektora odgođena je do sredine 1950-ih, kada su opće gospodarske i društvene prilike bile manje teške. Ova odgoda izravno se odrazila na uvođenje i provedbu inovacija u stambenoj arhitekturi, urbanističkom planiranju i tehnologiji građenja. Industrijalizacija proizvodnje stanova i izgradnja novih jedinica u stambenim naseljima smatrani su jedinim adekvatnim načinom ublažavanja sveprisutne stambene krize. Tijekom ovog razdoblja istodobno se, međutim, moralo primjenjivati drukčije pristupe pri aktualnoj izgradnji oslanjajući se uveliko na postojeće modele stanovanja i tradicionalne obrte. I jedni i drugi osuvremenjeni su organiziranim djelovanjem arhitektonske struke i unaprjeđenjem same izvedbe podignute na „lančanu” organizaciju rada, čime su povećani kapaciteti i konačni rezultat — veći broj stambenih jedinica. Razvoj i rast bazične industrije i upravnih središta rezultirao je izgradnjom brojnih radničkih naselja koja je povijest arhitekture 20. stoljeća gotovo u potpunosti zanemarila. Time je ujedno onemogućen cjelovit uvid u razvoj, skromne početke jugoslavenske masovne stambene arhitekture najpoznatije po svojim dostignućima ostvarenima u razdoblju od 1960-ih do 1980-ih.

→

#### ABSTRACT

During the first postwar decade, housing was a pressing issue in socialist Yugoslavia, further complicated by the isolation of the country in the aftermath of the Cominform Resolution crisis in 1948. Modernization and industrialization of the entire construction sector was planned, but it had to be postponed until the mid-1950s, when the circumstances were less dire. Because of this delay, innovations in housing architecture, urban planning, and technology came to a halt. Industrialization of the housing production and construction of new units in collective housing estates were considered the only credible path to alleviating the housing crisis. However, a different approach had to be taken during this period which was innovated through organized actions of the architectural and civil engineering profession. They relied extensively on the already existing housing types and on the traditional crafts, raised onto the industrial scale of operation and reorganized to enlarge the capacities and output. Their results achieved in the workers' collective housing estates around the core industries and administrative centers, which have been almost completely neglected by architectural historiography, provide an invaluable insight into the humble origins of Yugoslav mass-housing architecture, most known for its achievements from the 1960s to the 1980s.

#### KEYWORDS

Yugoslav housing economy, typifying, housing catalogs, traditional housing, modern housing, workers' housing, barracks

# Jelica Jovanović

Veliki broj projekata stambenih jedinica različitih tipova može se naći u malo istraženju dokumentaciji Komisije za reviziju projekata Ministarstva građevina Federalne Narodne Republike Jugoslavije (Arhiv Srbije, Beograd). Spomenuta dokumentacija odnosi se na projekte planirane i realizirane u Narodnoj Republici Srbiji u razdoblju od 1948. do 1953. i daje dobar uvid u formativne godine stambenog gospodarstva i stambene arhitekture Jugoslavije. Kako su problemi novog poslijeratnog i postinformbiroovskoga socijalističkog društva rasli i postajali sve složeniji, akteri koji su sudjelovali u razvoju stanogradnje morali su biti kreativni i pribjegavati modelima i praksama koje su prethodno proglašavane ostacima bivšeg, predratnog sustava. Preopterećeni građevinski sektor nastojao je zadovoljiti potrebe rastuće bazične industrije koja je prioritet prvog Petogodišnjeg plana, tj. temelj općega gospodarskog i društvenog napretka. Stanovanje je, iako vrlo traženo, istodobno imalo neznatan udio u ukupnim građevinskim aktivnostima. Inženjeri i graditelji specijalizirani u ovom polju bili su stoga primorani primjenjivati tradicionalne tehnike građenja i naslijeđene načine projektiranja, tj. proizvodnje stambenog fonda najmanje čitavo desetljeće, jer je to bio jedini mogući način da se ispune postavljene norme. Da bi se uhvatila u koštac s pitanjem prostornog uređenja i izgradnje zemlje, vlada je uspostavila nadležne institucije zadužene za razvoj svih vrsta arhitektonskih projekata i planova, ukupno trinaest arhitektonskih i planerskih zavoda i instituta u svim republikama Jugoslavije. Nadalje, brojna građevinska poduzeća imala su svoje projektante koji su bili uključeni u provedbu, radeći paralelno s državnim zavodima i institutima. Sve je njih federalno Ministarstvo građevina pozvalo da daju svoje prijedloge za tipske projekte, tj. nacрте obiteljskih kuća i višestambenih zgrada. Odabrani tipski projekti objavljeni su u *Pregledu osnova stanova*, koji je u osnovi katalog, alat za planiranje kojim će se u velikoj mjeri koristiti svi akteri uključeni u projektiranje i izgradnju stambenih objekata u nadolazećim desetljećima. Brojne su radničke četvrti izgrađene prema nacrtima iz ovog ili sličnih kataloga. Međutim, razlikuju se po odabranom tipu, obično više njih, upotrebi lokalnih materijala i tehnologija gradnje, kao i oblikovanju pročelja jedinica. Budućnost ovih četvrti ovisila je uvelike o njihovoj lokaciji. U Novom Beogradu uklanjane su kako bi se oslobodio prostor za nove, suvremenije stambene zgrade, dok ih u mjestima s manje unosnim nekretninama, poput Bora i drugih rudarskih gradova, većina i danas stoji usprkos planovima da će biti zamijenjeni novim modernističkim lamelama i neboderima.

#### KLJUČNE RIJEČI

stambeno gospodarstvo Jugoslavije, tipizacija, katalogi stambenih zgrada, tradicionalno stanovanje, moderno stanovanje, radničko stanovanje, barake

## INTRODUCTION

Yugoslav modernist housing has gained global recognition only recently, owing to its innovative models based on extensive experimentation. The usual focus of historiography has been the housing estates built from 1960–1990, the most representative output of Yugoslav vibrant housing economy, famous for producing diversity *en masse*. The roots of this large-scale phenomenon remain underexplored, blurred by confusion in the late 1940s and buried in the pits of complex administration in the 1950s. Dismissive and often ill-informed observations of historians put the production of the 1940s and 1950s in the proverbial basket of either “traditionalism” or “socialist realism”, while under-researching the architectural types and production circumstances that conditioned the architectural output: the modest but thought-provoking hybrids of modern and traditional housing architecture. This paper aims at discussing various aspects of this hybridization during the formative years of Yugoslav housing economy, which eventually led to the multifaceted and flexible industrialized housing production in the 1960s and 1970s. The analysis is based on rarely published archival sources and early catalogs of housing, focusing on the construction of temporary/permanent workers’ housing in the core industrial and mining towns of Serbia/Yugoslavia. This episode of Yugoslav housing history may offer some lessons for taking steps towards decentralization, “scaling-up-by-scaling-down”, and hybridization that so far we have failed to investigate.

### BETWEEN INSUFFICIENT AND NONEXISTENT: THE LINGERING (HOUSING) CRISIS OF THE 1940s

Forgotten in the little-known documentation of the Project Audit Committee of the Ministry of Construction (Komisija za reviziju projekata Ministarstva građevina FNRJ) lies the project of temporary two-room housing for the employees of the Ministry of Railways (Ministarstvo železnica), dated July 1949 (Fig. 1). This project stands out in several important details: it envisioned adobe as the construction material, foresaw a multipurpose kitchen that could also serve as a washing room and contained a spare bed, and had an outdoor toilet. Although it was a plan for housing in remote areas with no infrastructure, it was still an odd choice for government-funded housing, contrasting its proclaimed goals of development and modernization—of housing among other things. Other projects made for various governmental and ministerial bodies included materials such as regular bricks, concrete bricks, and timber.<sup>1</sup> Furthermore, roofs were mostly pitched and covered with clay tiles, the buildings consisted of “shoebox” rooms, usually spanning around 4,00 m but often even less, modular coordination was completely off, the spatial layout often contained transitory rooms, and the housing units were planned mostly as single-storey rows of typified flats under a single roof.<sup>2</sup> Many of the buildings had common utilities such as bathrooms and washing rooms, and some were designed as “flexible”—workers’ dorms with bed bunks that could become single-family units with only slight modifications.<sup>3</sup> The first

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 AS-134.

2  
 This comes as no surprise: although prominent architects such as Milan Zloković had been working on the development of modular coordination since the 1920s (Fondacija Milan Zloković, “Modular Coordination”), its systemic application came only after a broader consensus within the profession was reached: in April 1956, “The Unique Modular System in Building” was adopted (Mecanov, *Stambena arhitektura Beograda*, p. 48), and from September, 30 to October, 2, 1958 the Federal Institute of Labor Productivity (Savezni zavod za produktivnost rada), held an Advising on Modular Coordination in Construction in Belgrade, summing up the directions that the construction sector was to undertake in order to harmonize the practices within the country with the international practice in the years to come.

3  
 It was not uncommon to have shared and/or outdoor utilities in many urban areas, with ca. 2–3 apartments using one bathroom, especially in places where the infrastructure was severely damaged and/or lacking. As the workers’ colonies were often built on the periphery of the urban areas of prominent cities, the sewage had yet to be extended: there are many testimonies to these circumstances related to the colony of the “October 14th” enterprise in Kruševac (Jovanović, *Atlas tipologije*), while Bor was notorious for its problems with constructing the sewage system, which extended well into the 1970s (Jovanović, “Društveni i kulturni procesi u Boru”). Belgrade was struggling to repair and properly expand its sewage system well into the 1960s (Vasiljević, Čuzović, Klikovac, “Posleratni razvoj beogradske kanalizacije”). The layouts of flats often showcase storage rooms near the entrance, which were spacious and could easily be converted into bathrooms once the conditions were met. Furthermore, according to Branko Tučkorić, there were 5 categories of housing in terms of organization of cooking and dining—within the apartment or outside, in collective restaurants /canteens—which dictated the size of the flat, in particular of the kitchen, the dining room and the storage area. Krstić, *Atinska povelja i misao*, 283.





Five-Year Plan in Yugoslav economy (1947–51) proclaimed industrialized and prefabricated construction as the imperative of the country's development, with extensive use of modern materials such as reinforced and prestressed concrete, glass, and steel. And yet, the housing built in the years covered by the Plan were still a far cry from the modern housing envisioned by the architects and planners.<sup>4</sup> Words of engineer Božidar Đikić, Head of the Planning Sector at the Ministry of Construction (Ministarstvo građevina) of the Federal People's Republic of Yugoslavia (FPRY) explain the situation quite bluntly: "Construction is the most backward branch of economy... it is stuck in the era of small crafts and manufacturing... but, the urgency of renovation has forced us to keep the old way of working and old organizational forms in construction... our new socio-economic reality has barely had a word in it."<sup>5</sup> In brief, the modernization of construction took place in the bare minimum, in order to serve the development of the core industries: major construction enterprises developed large-span structures for industrial halls, improved the use of reinforced concrete, and rationalized the use of materials based on experiments and precise calculations—which knowledge spilled over into the housing construction as well. As for other uses, modernization had to be postponed until the economy improved, or rely on the traditional construction methods. Housing construction was one of those areas open for improvisation and hybridization: all the actors had to work with whatever material and skillset were available on site. (Fig. 1)

After the end of World War II, the housing situation in the FPRY was, unsurprisingly, dire. With the staggering 20.5% of its housing stock destroyed, Yugoslavia was fourth on the list of the European housing toll according to the Economic Commission for Europe, right behind the USSR, Poland, and Greece, and just above the United Kingdom.<sup>6</sup> The situation looked even more grim when other parameters were taken into account, such as the availability of amenities, the number of residents or families per unit, or the total number of housing units, especially if broken down into the categories of rural and urban housing.<sup>7</sup> As part of the relief efforts, a new legal framework was created: the newly adopted *Law on the Use of Apartments and Commercial Premises* (Zakon o raspolaganju stanovima i poslovnim prostorima, 1945) introduced the institute of the housing authority, which managed and (re)distributed the residential and commercial premises, while the *Decree on the Right of Ownership over Physical Parts of Buildings* (Ukaz o pravu svojine na fizičkim delovima zgrada, 1947) legalized the condominium and flat ownership (instead of owning entire buildings), and the *Law on Compulsory Repair of Buildings* (Zakon o obaveznoj opravci zgrada, 1948) allowed the Commissions of the People's Committee to renew buildings even if their owners could not be located. The First Five-Year Plan was adopted by the Federal Assembly on April 27, 1947 (reassessed in 1948) and covered the period from 1947–51. The period of Renewal, although swift, was quite challenging: the traffic infrastructure

4

The best overview of the situation in the late 1940s is the material from the First Conference of the Architects and Urban Planners of Yugoslavia held in Dubrovnik in 1950, reprinted in Krstić, *Atinska povelja i misao*.

5

Đikić, "Borba za ostvarenje evidencije", 5.

6

Pjanić, *Stambeno pitanje u gradovima*, sheet 13, p. VII. The 20.5% stand for a total of 655,408 flats demolished, but on top of that, 190,000 were damaged; cf. Adžić (ed.), *25 godina građevinarstva*, 29.

7

The housing situation was also very difficult during the interwar period, especially in the cities and in particular for the lower-income families, as the researches of Zlata Vuksanović Macura, Tamara Bjažić Klarin, and Vladana Putnik Prica have shown.

8

The Renewal (*Obnova*) was a two-year period from 1945–46 (or 1945–47, 1944–47, depending on the source) in the development of Yugoslav post-war economy, aiming to restore the capacities and achieve the pre-war production outputs in economy. It was followed by the Construction period (*Izgradnja*).

9

"Izgradnja seoskih stambenih kuća"; "Izgradnja stanbenih zgrada"; Babić, "Tehničke baze"; Maksimović, "Obnova naselja"; Marasović, "Obnova naselja"; IAB–1944.

10

Branislav Marinković became the head of the Design Institute of Serbia (Projektantski zavod Srbije, later Srbijaprojekt), Nikola Dobrović became the director of the Urban Planning Institute of People's Republic of Serbia (Urbanistički institut NR Srbije), and prominent interwar architects such as Miladin Prljević, Vera Ćirković, or Dragiša Brašovan continued their practice after the war.

11

Đikić, "Borba za ostvarenje evidencije", 5.

12

Privredna politika vlade FNRJ, vol. 4, 205.

13

Rehnicer, *Tehnologija cementa*, pp. 3–10; Mihailović, *Proizvodne snage NR Srbije*, 432–437.

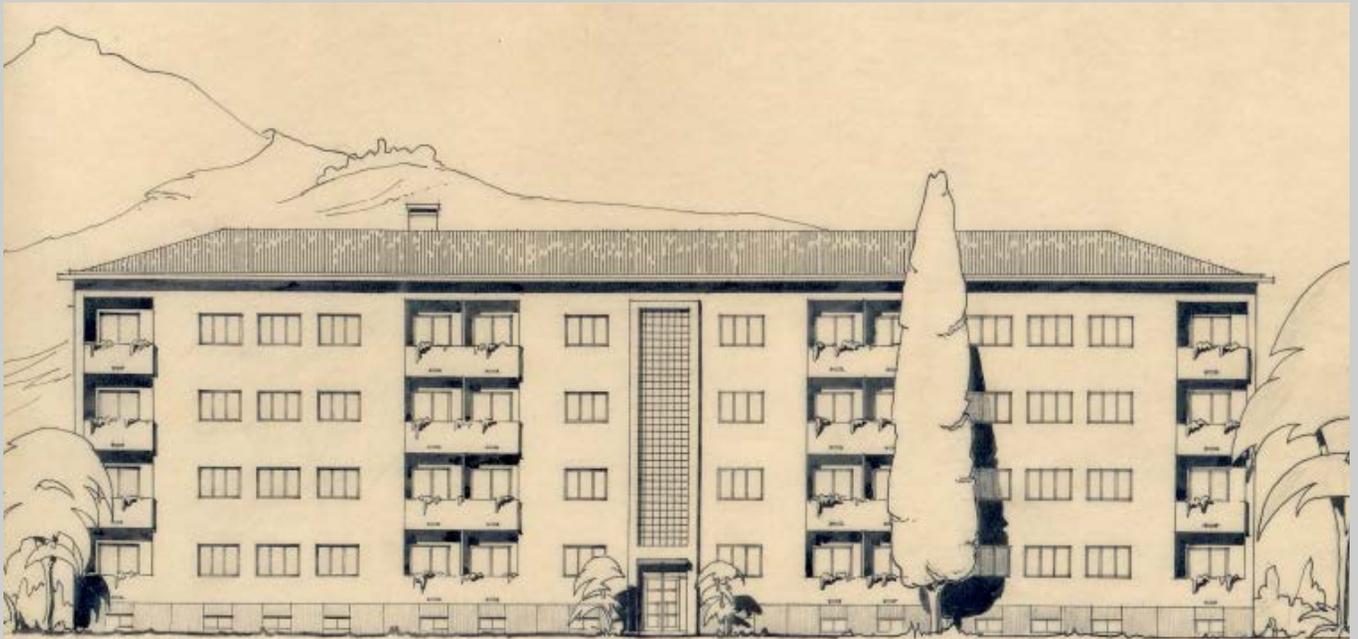
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Privredna politika vlade FNRJ, vol. 3, 191, 214; Manević, *The Interview with Branislav Marinković*.

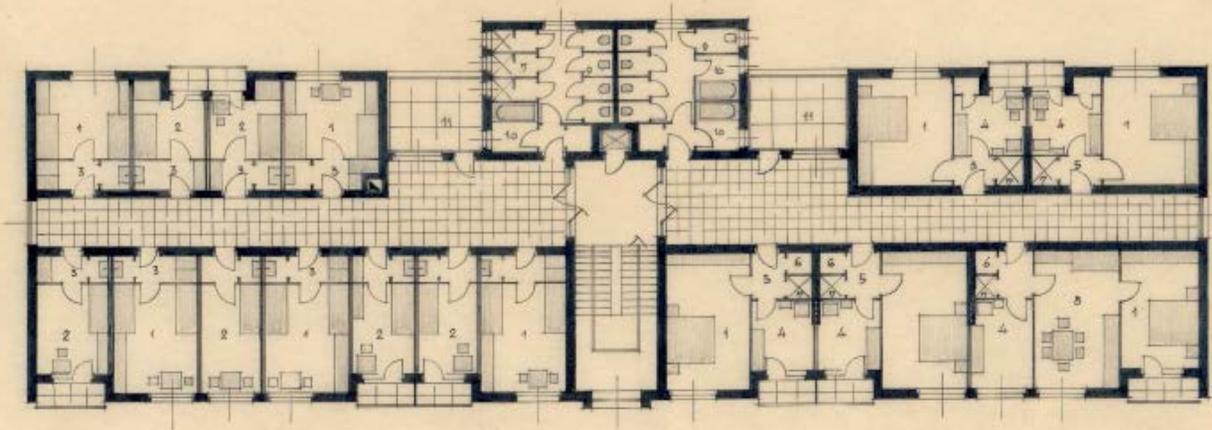
and the industrial capacities had been disabled during the retreat of the occupying armies, rendering the production and transportation of raw materials, goods, and equipment almost impossible for many months.<sup>8</sup> Demographic crisis resulted in a lack of tens of thousands of workers. By the end of 1947, when the Renewal period was over, the most important industrial capacities had been restored and many housing units repaired or replaced, both in the cities and in the countryside, although the completion of this process would take as long as 1951, especially in major cities.<sup>9</sup> (Fig. 2)

The architectural and urban planning institutions established after 1944 stemmed from the specialized units within the People's Committees (*Narodni odbori*) of the liberated territories, organized by prominent left-wing architects. The interwar modernists—some of whom worked for the Ministry of Construction of the Kingdom of Yugoslavia and for various municipal offices, while others designed private villas, rental housing, and various mixed-use buildings—were instrumental for the development of the above-mentioned institutions.<sup>10</sup> However, both the organizational and the material side of the construction sector turned out to be a major obstacle to overall architectural production. The official reports show that the construction sector was disorganized, that there were problems with the lack of organized education and standardization, and that the local companies lacked experience in complex works due to the previous excessive presence of foreign companies.<sup>11</sup> Furthermore, the production of construction materials was in serious disarray due to the damage and disorganization of the existing production capacities on the one side, and the lack of materials and components on the other. For example, firebrick was in such demand that the whole industry had to be reorganized and highly decentralized through scaling down and multiplication of the production capacities by opening field furnaces in almost every municipality, even at the risk of flooding the market.<sup>12</sup> With the cement, the opposite strategy was adopted: the scattered capacities were grouped and enlarged, depending on which equipment was salvaged and the estimation of quality and size of the raw material deposits.<sup>13</sup> High quality steel and iron for prestressing and rebar had to be imported because Yugoslavia still lacked the production capacities, while only one factory produced bitumen—hence the construction of flat roofs and large-span structures was not possible until the industrial production stabilized, which happened at the end of the 1950s.<sup>14</sup> (Fig. 3)

The political crisis around the Cominform Resolution in 1948 further aggravated the previously mentioned problems: loans and imports from the Warsaw Pact countries came to a halt. In this context, the reality of housing production became entirely shaped by the domestic capacities and expertise, by carefully allocated resources, and the already tested and proven architecture. It was not the right time for experimentation and innovation. Although full industrialization and modernization of the construction sector was one of the goals of the state leadership, its much-needed overhaul could not be done in parallel to the other sectors of economy. The construction sector needed to service the buildup of the industries' physical



ИЗГЛЕД



ОСНОВА I, II И III СПРАТА  
ПОВРШИНА = 718,35 м<sup>2</sup>



- ЛЕГЕНДА
- 1 КОБА. СЛ. 2 КО.
  - 2 - " - 1 КО.
  - 3 ТИЛС
  - 4 КУЛЛА
  - 5 КУЛС
  - 6 ОЕТ
  - 7 ТИМ
  - 8 ДА. СЛ.
  - 9 В.С
  - 10 КУЛ
  - 11 КОБА

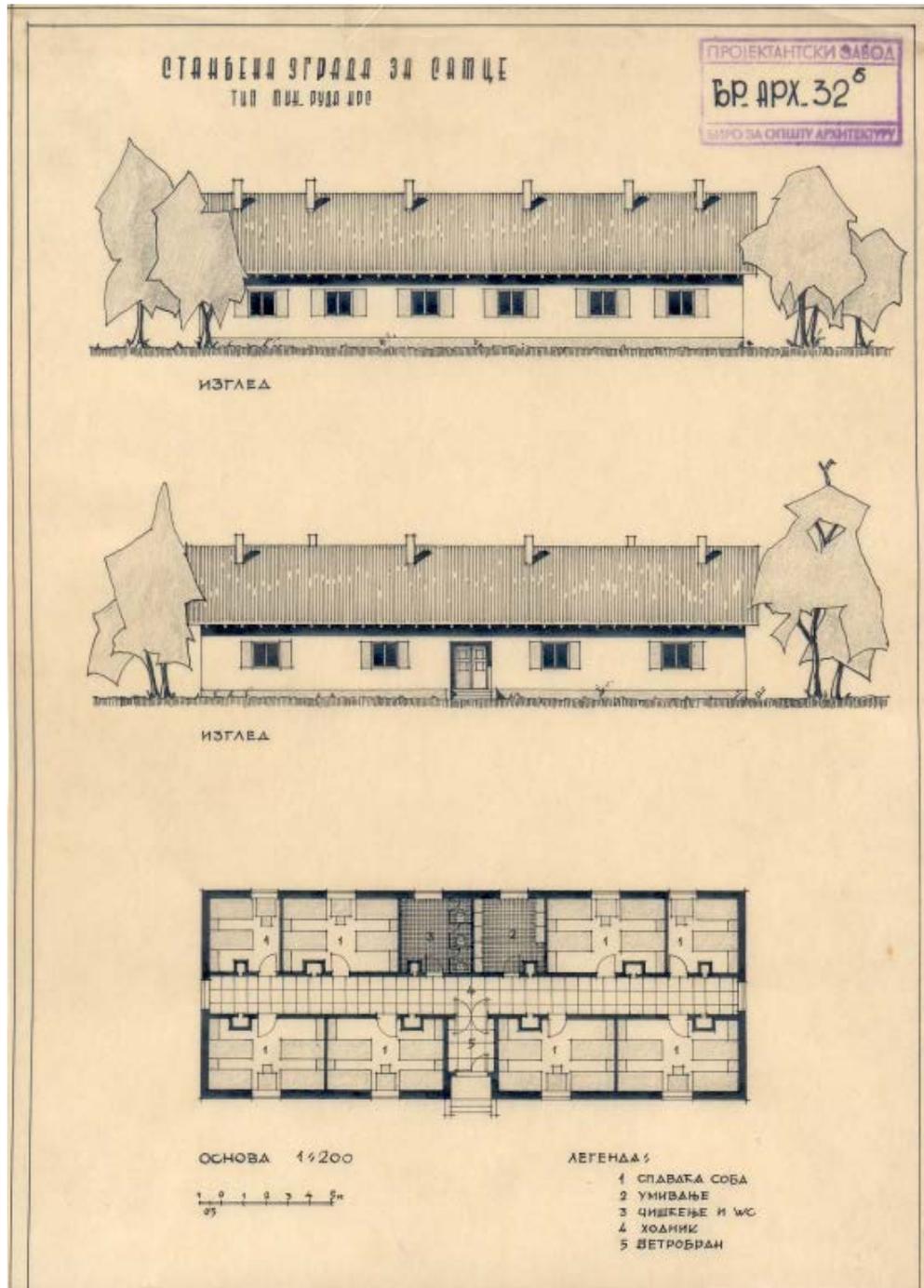


Fig.2 Branislav Marinković, Typified residential building, competition entry. Call for proposals by the Ministry of Construction FPRY, 1949. Personal archive of Branislav Marinković, Belgrade / Sl.2 Idejni projekti tipskih stambenih zgrada, natječajni rad. Raspisivač Ministarstvo građevina FNRJ, 1949. Privatni arhiv Branislava Marinkovića, Beograd

← ↑

capacities; hence its modernization was postponed further into the future. In urban areas, architects continued the interwar practice of designing multistory and multifamily modernist typologies, building with traditional materials and traditional techniques, using brick, reinforced concrete, and timber. The buildings of the interwar period and the first decade of the post-war period are almost indistinguishable. (Fig. 2, Fig. 3) In peri-urban and rural areas, the tradition of building with timber, adobe, and rammed earth remained, preserving even the archetypal layouts that originated in vernacular construction, due to the limited access to the contemporary expertise and craftsmanship. The Ministry of Construction had to assess, reorganize, and coordinate the existing capacities to meet the pressing demands, but also gradually prepare for future modernization.<sup>15</sup>

ARCHITECTURE BY PRESCRIPTION:  
HOUSING CATALOGS  
AS A DEVELOPMENTAL STRATEGY

Although self-management started unfolding in 1949, the main investors in the housing stock were still various governing bodies of the state. During the first post-war decade, which is referred to as the *administrative budgeting period*, around 310,000 flats were built.<sup>16</sup> With 344,987 flats rebuilt after the war, this effort provided housing for around 2 million people, which resolved almost entirely the housing crisis caused by the war damage. However, the industrialization of the country shifted the residency of the workforce from the countryside to the cities, and consequentially the housing crisis as well. The excess of housing in the countryside could not resolve its shortage in urban areas, although many industrial giants did organize designated transport for their employees from villages. During the Renewal, the Government approved the loans for housing construction via the Investment Bank (*Investiciona banka*) both for urban and rural areas, but the owners could also use the assistance of mass organizations. After 1947, there were basically three options for funding the housing construction: the first was via state budget—federal, republic, or local—which was basically the construction of the housing stock of the state; the second was via bank loans amounting up to 80% of the value of the building, with the owner's participation through organizing/paying workforce; and the third was privately organized, usually through *moba* (collective assistance of friends and relatives) in rural and peri-urban areas, often by recycling old construction materials and using the traditional techniques of building with earth, timber, and stone.<sup>17</sup> Faced with the scale of housing crisis and the expected demand, the government tasked and funded credible organizations to collect proposals and publish catalogs of typified designs for single-family and collective housing.<sup>18</sup> These catalogs were to be used by the investors: government bodies, state owned/self-managed enterprises, but also individuals, in order to speed up and ease the process of designing and obtaining permits.

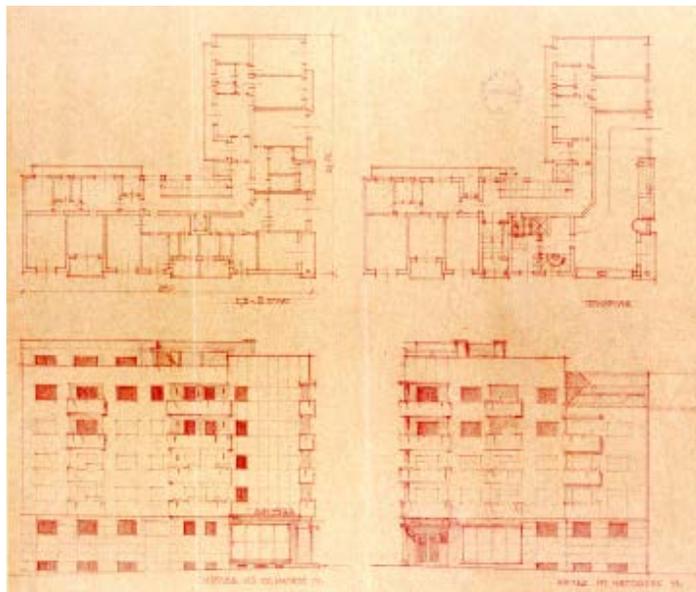


Fig. 3 Residential building of the Transportation Ministry—General Directorate of the Railways, Prote Mateje and Njegoševa street in Belgrade, 1948. AS-134, folder 202-3-48 / Sl. 3 Stambena zgrada Ministarstva saobraćaja—Generalne direkcije železnice, ugao Prote Mateje i Njegoševe u Beogradu, 1948. AS-134, Fascikla 202-3-48  
←

It was expected that this method would have the best outreach and alleviate the deficit of trained architects.<sup>19</sup> Archival records show that beside catalogs printed as publications, there were more informal ones—copybooks that were distributed among architectural offices. (Fig. 4a, 4b)

Like all the other parts of economy, construction—and architectural practice within it—was aligned with the Five-Year Plan. Even with the abandonment of planned economy and shift towards self-management, the societal planning (društveno planiranje) through short-, mid- and long-term plans remained an important aspect in the country's functioning. The Ministry of Construction organized state architectural offices in every republic: there were 4 institutes in Serbia (2 in Belgrade, 1 in Niš, and 1 in Novi Sad), 22 in Croatia (besides the 4 institutes in Zagreb, Split, and Rijeka, the rest were design departments within the construction companies), 6 in Slovenia (2 institutes and 4 companies), while Bosnia and Herzegovina, Montenegro, and Macedonia each had one state institute.<sup>20</sup> Although in other republics there were construction companies and architectural departments within various enterprises and ministries (i.e., Railways, Ministry of Mining / Ministarstvo ruda, etc.), they did not partake in the production of typologies or typified designs, but they further developed and implemented the projects upon approval. At the end of 1947, the Ministry of Construction called upon them to make their proposals for the typified designs of single-family and collective housing units.<sup>21</sup> From the received proposals, the ministry selected 49 typified designs and published them in an *Overview of the Apartments' Layouts (Pregled osnovna stanova)*.<sup>22</sup> To make the communication easier, an indexing method was developed, marking the typology with numbers from 1 to 4: row family houses, semi-detached family houses, detached buildings, and units in a slab block (usually for collective housing).<sup>23</sup> The designs were divided into three categories: large apartments (marked V) sized 84–93 m<sup>2</sup>, middle sized apartments (marked S) of the total area 73–81 m<sup>2</sup>, and small sized apartments (marked M) of the total area 56–68 m<sup>2</sup>. These type-building plans, and catalogs in general, were to be used as instructive tools to ease the planning and design process, and it was up to the lead architect or investor to decide if some features should be modified, for example the configuration of the layout or the envelope materialization.

Many prominent architects participated in the production of typified project designs and catalogs—in Serbia, these included Ivo Kurtović, Mate Baylon, Bogdan Bogdanović, Nikola Nestorović, Milorad Pantović, and Ivan Antić.<sup>24</sup> Nestorović and Baylon were very active in university teaching, as well as in researching, standardizing, and building housing architecture, while others eventually specialized in other typologies such as elementary schools, public health institutions, etc. As the appearance of these typified housing units from the 1940s was rather modest and considered as a design for “emergency response” which was not particularly creative, many architects were not keen on showcasing them in their respective portfolios. The architectural production of this period and housing within it is generally less known, as little was published at

15

Đikić, “Borba za ostvarenje evidencije”, p. 5; Maksimović, “Osvrt na rezultate građevinarstva u Srbiji”, p. 1; Marasović, “Osvrt na građevinarstvo NR Hrvatske”, p. 21; Valentičić, “Zadaća građevinske operative”, p. 187; Vuksan, “O štednji u građevinarstvu”, 92.

16

Gojko Bežovan has identified 5 periods: the second period of (self) contribution and the first housing reform from 1956–65, the third period of the second housing reform 1966–75, and the fourth and last period of the Socially Directed Housing Construction—SDHC (Društveno usmerena stambena izgradnja—DUSI), which lasted from 1976 until the dissolution of the federation. Antić (ed.), 81–90.

17

Pjanić, *Stambeno pitanje u gradovima*, 30–31.

18

Early in the 1940s, it was the bodies of the federal Ministry of Construction, but later in the 1950s, as housing shifted from the jurisdiction of the construction towards the social and communal sector, this role was assumed by the Republic Institutes of Economy, which had a housing and communal section, and other institutes in charge of the specific problems of housing construction.

19

Krstić, *Atinska povelja i misao*, 102–105, 367–368.

20

*Pregled osnovna stanova*, 119.

21

Besides federal tenders, there were also those held in the republics as well as the catalogs of their design institutes, which were referred to in several papers presented in Dubrovnik in 1950 (Krstić, *Atinska povelja i misao*, 90–91), and the housing projects developed for industrial enterprises (ibid, 364–365).

22

Although at the moment it cannot be located in any of the libraries in the region, apparently there was a federal catalog published in 1947 as well, as it was referred to in the project documentation for the workers' housing in Bor. AS-134—folder 206–11.

23

In collective housing, there were mostly two flats per floor.

*Pregled osnovna stanova*, 4–13.

24

Among the Croatian architects were Stjepan Gomboš, Lavoslav Horvat, Mladen Kauzlarčić, Kazimir Ostrogović, Vladimir Potočnjak, etc.

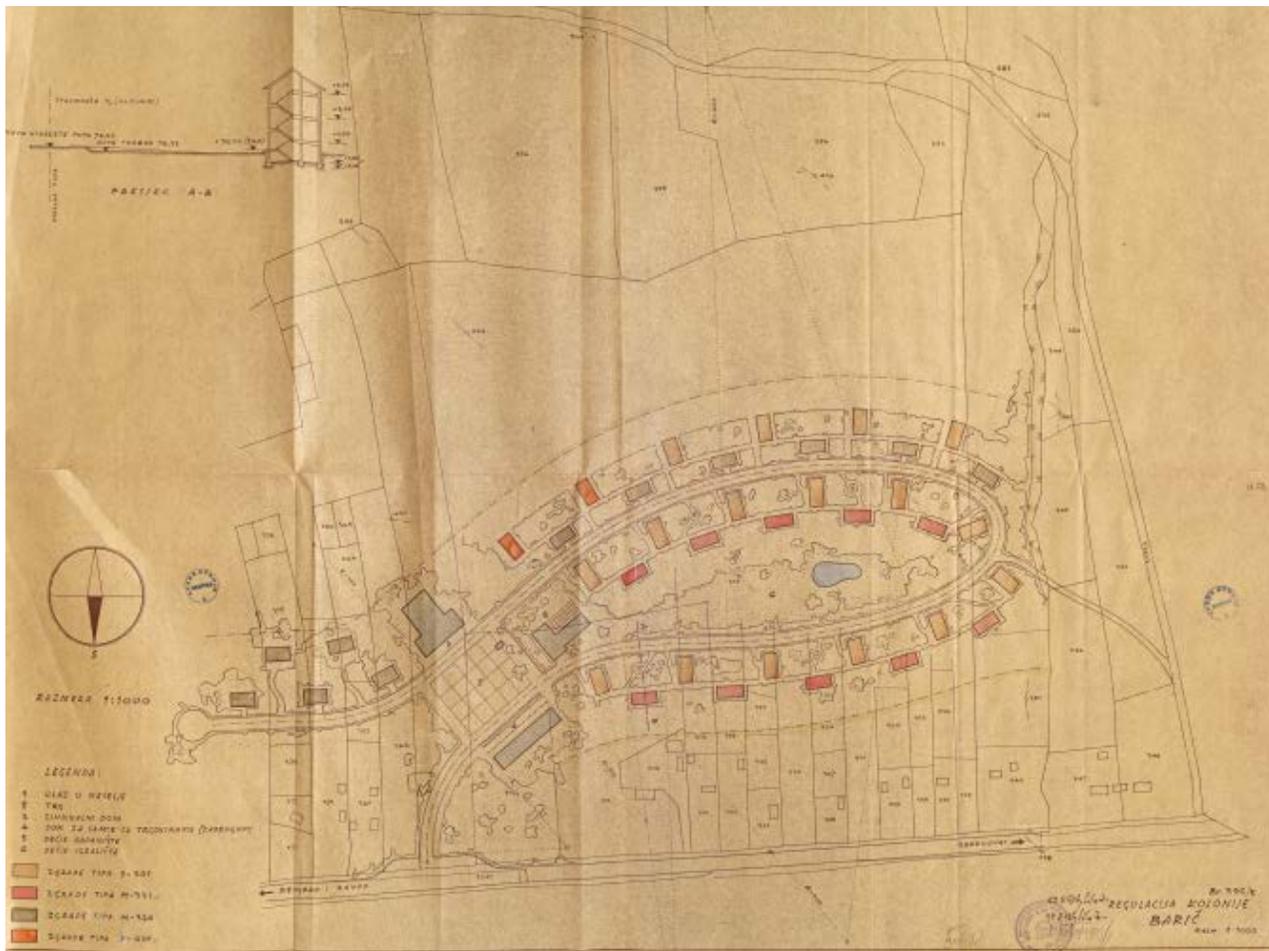


Fig. 4a The urban layout of the residential buildings in the workers' colony of "Prva Iskra" enterprise in Barič near Obrenovac, designed using solely the housing units from the *Pregled osnova stanova za 1948*. AS-134, folder 192-10-48 / Sl. 4a Regulatorna osnova radničke stambene kolonije tvornice „Prva Iskra” u Bariču kraj Obrenovca. Projekti svih zgrada preuzeti su iz *Pregleda osnova za stanove za 1948*. AS-134, fascikla 192-10-48

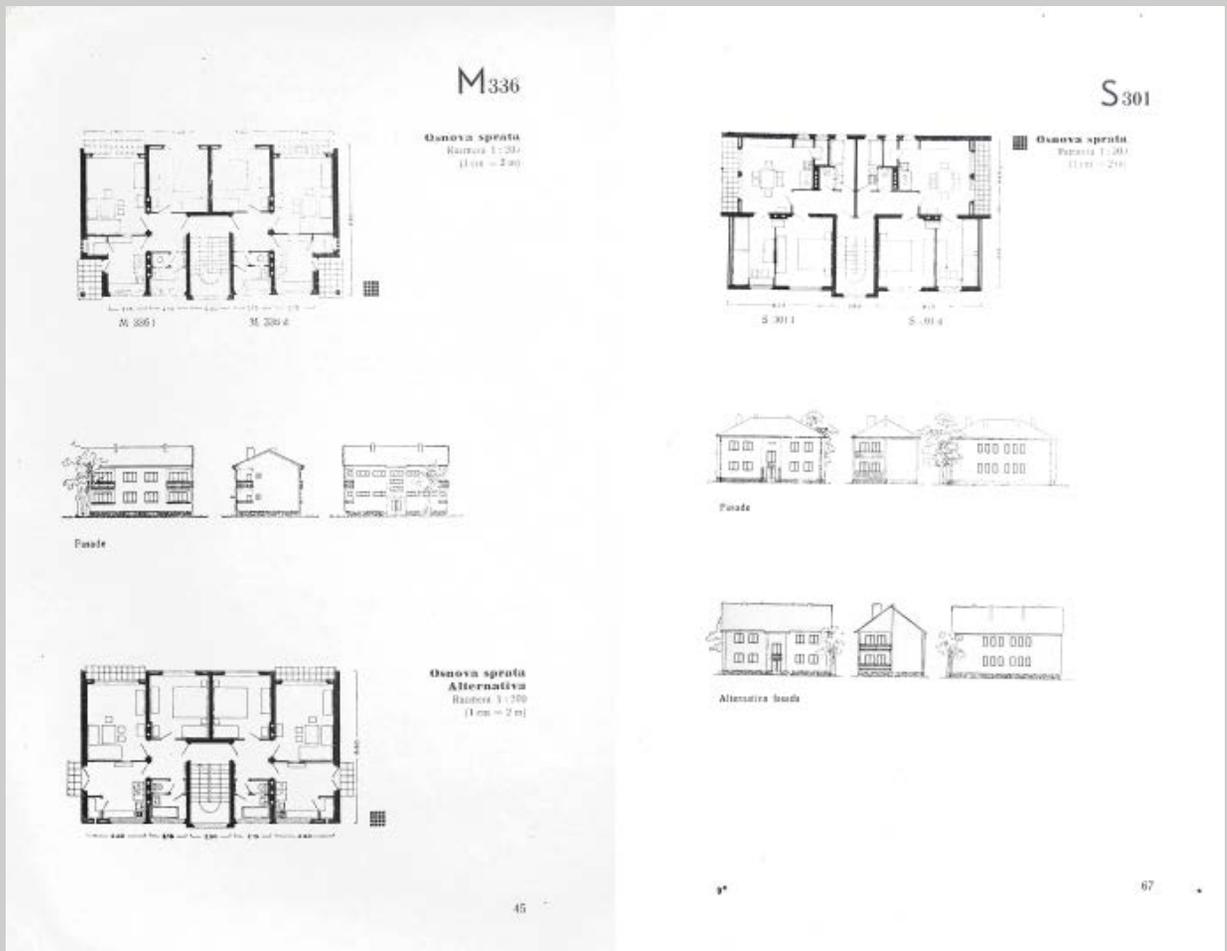


Fig. 4b The types M 336, and S 301 constructed in Barič / Sl. 4b Tipovi stambenih zgrada M 336 i S 301 upotrebljeni za izgradnju u Bariču. (Pregled osnova stanova za 1948. Beograd: Izdavačko preduzeće Ministarstva građevine FNRJ, 1948.)

↑

the time, especially compared to the proliferation of architectural publications in the 1960s and 1970s.<sup>25</sup> In the scarce journals and architectural compendiums of the era, there are very short briefs of the most prominent examples, largely focusing on the urban planning of towns and neighborhoods that used these typified designs.<sup>26</sup>

#### HOUSING THE BUILDERS OF THE SOCIETY: SHIFTING BETWEEN TEMPORALITY AND PERMANENCE

The housing built in the previously described processes was most common in settlements around the strategic facilities and resources, mines, and heavy or defense industry plants. Given the geopolitical circumstances, many of these projects have fallen into oblivion, since they were (until recently) classified or just buried in archival documentation that no one would have thought to look at. (Fig. 5a, 5b) Large systems, such as the Yugoslav People's Army, Yugoslav Railways, and various industries under the auspices of the Federal Directorate for Investment Development (Savezna uprava za investicionu izgradnju), were the major investors, as they were present in all parts of the country, coordinating the activities of importance for the federation: construction of the road network, mines, industrial plants, defense systems. Various departments within these systems constructed everything from barracks to multistory buildings to accommodate their employees, but the Army was by far the best organized among them. A particularly interesting group within these investments were the miners' and workers' colonies such as those in Bor and Barič, two contrasting examples of industrial settlements, built using the same basic planning principles and typified housing designs. Mining and defense industry were two highly prioritized economy branches, since the development of the country depended on them—especially in the years following 1948—hence, the influx of workers from other parts of the country to these towns had to be managed well.

Bor was one of several new mono-economy legacy towns of socialist Yugoslavia, built around (and by) the copper and gold mines in Eastern Serbia.<sup>27</sup> It was at the top of the state's priorities, based on the strategic importance of copper for the development of the country. The long-term exploitation plan for the mine spanned decades into the future, which meant that the accompanying industry and infrastructure had to be built, and given the expected size of the workforce, it was obvious that a city ought to replace the existing town. Already in the late 1940s, varied housing was built for the rapidly growing population basically flocking the small mining town. Housing was both permanent and temporary, for families and singles, with more or less densely built neighborhoods. Single-story buildings were usually planned as temporary, while those with two stories were planned and built as permanent. Barič, on the other hand, was a settlement in the string of towns and villages situated in the area between Belgrade

25

Issue 1/1952 of the journal *Arhitektura*, edited by Vladimir Antolić, was dedicated to housing. A considerable number of the presented designs dated back to the prewar years.

26

This was used as a model at the exhibitions of the Ministries of Construction and at the exhibition of Yugoslav architecture presented at the Second Congress of the International Union of Architects (UIA) in Rabat in 1951.

27

In general, Bor was often not considered as a new town in the literature of the period, as its development came somewhat later. However, if the size, quality, content, and scale of the built stock is compared with the previously existing town, it is clear that Bor was a new one. Development of new towns usually served a certain purpose and was planned as a means of balanced regional development. New Belgrade, Majdanpek, Sevojno, and Donji Milanovac in Serbia, and Velenje and Nova Gorica in Slovenia were considered by the contemporaries as *the new towns/cities of Yugoslavia*. Owing to the exploitation of mines in their territory, Resavica, Aleksinac, Lazarevac, Obrenovac, and Trepča/Kosovska Mitrovica grew, and so did many other industrial towns and cities that outgrew the previously existing ones by many times: Jagodina (Svetozarevo), Zenica, Banja Luka, Bar, Nikšić, Zagreb, Belgrade, Podgorica (Titograd), and Ljubljana were additionally budgeted from the Federal Funds as the republic capitals to undergo extensive reconstruction and expansion due to the immense war damage.

28

Železnik was the most prominent among these, often referred to as a new industrial town of Yugoslavia, but quite unknown and little researched. It was built around the machine tool plant "Ivo Lola Ribar". Noteworthy are also the towns and cities developing in the Sava and Danube basins, which were the centers of chemical, heavy, and power supply industry, such as Šabac, Obrenovac, Pančevo, Smederevo, Kostolac, and Kladovo, as well as Lazarevac further to the south.

29

Barracks (barake) are usually prefabricated wooden structures, aimed either for housing or offices. It was not uncommon for schools to have additional classrooms in barracks after the educational system was reorganized in the mid-1950s. In the materials of the Project Audit Committee, however, almost all workers' and miners' housing that was to be replaced at a certain point was referred to as barracks, regardless of the material: even those structures that were built with solid materials were often considered to be just a temporary solution. In many places they remained in use until today and have not been demolished. AS-134—folder 206-12.

30

In a letter to the State-Owned Company Copper Mines and Smelters, the Urban Planning Institute of Serbia voiced the opinion of its planners that "the Northern Neighborhood will not enter the Regulation Plan of Bor as a residential zone" as the buildings were considered as "provisory" (AS-134—fascikla 206-13-6). New Belgrade's barracks did not appear in any of the regulation plans of the city, and all the planning documentation for them was allocated to the Peoples' Committee of the New Belgrade Municipality, which was dismantled in a 1955 governmental reform. For further reading, see Martinović, *Jugoslovensko samoupravljanje u arhitekturi*, 29-46, 73-85.

31

For a more detailed insight, see Jovanović, "Emerging from the Ore."



Fig. 5a The types M 131, M 134, M 135 in the miners' neighborhood Staro Selište in Bor in 1950s. The public library of Bor, COBBIS. SR-ID: 23862281. Photo: Đuro Kolvratar / Sl. 5a Rudarsko naselje Staro Selište u Boru s tipovima obiteljskih kuća M 131, M 134 i M 135 1950-ih. Narodna biblioteka Bor, COBBIS.SR-ID: 23862281. Foto: Đuro Kolovratar  
↑

and Obrenovac, where important industrial facilities were built, since traffic routes and the proximity of a river were a major convenience.<sup>28</sup> Its housing colony built in 1948 for the employees of “Prva Iskra”, an explosive production facility, was much smaller, and the logic behind its construction was that it would promptly accommodate around 160 families, while the rest of the employees would get a loan to build a house on their property in this or the neighboring villages. All the units were medium-sized, positioned in a low-rise and low-density neighborhood, built with solid materials and of an overall good quality, with all the necessary amenities within the apartments. However, there was no difference in the quality of construction materials or typologies used, as these were standardized on the federal level, and the institutions supervising the processes imposed the equitable quality of housing in the entire country.

The first neighborhoods built in 1947 to accommodate the employees—mostly miners—of the Mining and Smelting Basin Bor were near the old mine: the Jama (Pit) neighborhood consisted of newly built sheds repurposed as temporary housing (which have remained in use until today) on the previous site of a German forced labor camp, and the Northern Neighborhood was located on the edge of the Old Surface Pit. These neighborhoods were planned as a temporary housing solution, as the city needed to urgently accommodate at least 6000 workers in order for the mine to operate. In 1948, the city continued to develop further to the south, on the location Staro Selište at its second kilometer (measured from the mine). In December 1947, the General Directorate of the Mining and Smelting of Colored Metals Bor (Generalna direkcija rudnika i topionice obojenih metala Bor) wrote to the Project Audit Committee of the Ministry of Construction, asking for the permission to build temporary barracks. According to Committee’s recommendation, solid materials were used for construction instead of temporary solutions. The barracks’ designs were based on the *Overview of the Apartments’ Layouts*—types M-131 (ca. 66 m<sup>2</sup>), M-134 (ca. 56 m<sup>2</sup>), and M-135 (ca. 65 m<sup>2</sup>).<sup>29</sup> These neighborhoods provided accommodation for around 700–800 people per year, both singles and families. Their demolition has been long overdue, they are still standing and serving their original purpose, and after many alterations and modernizations done by the residents, they are still in use.<sup>30</sup> Besides a canteen, no auxiliary structures were built in these new neighborhoods. Instead, they used the already existing, adapted structures during the late 1940s and early 1950s, which indicates the expected short use-span of the neighborhoods, often referred to as provisory. As the mine’s production grew, the town of Bor expanded towards the south with grandiose mass-housing neighborhoods, whose urban development and even the use and maintenance are today deeply entangled with the operations and investments of the Mining and Smelting Basin Bor (Rudarsko-topioničarski basen Bor-RTB Bor).<sup>31</sup>

In October 1948, the General Directorate of the Explosives Industry of the FPRY (Glavna direkcija industrije eksploziva FNRJ) submitted to the Project Audit Committee a conceptual

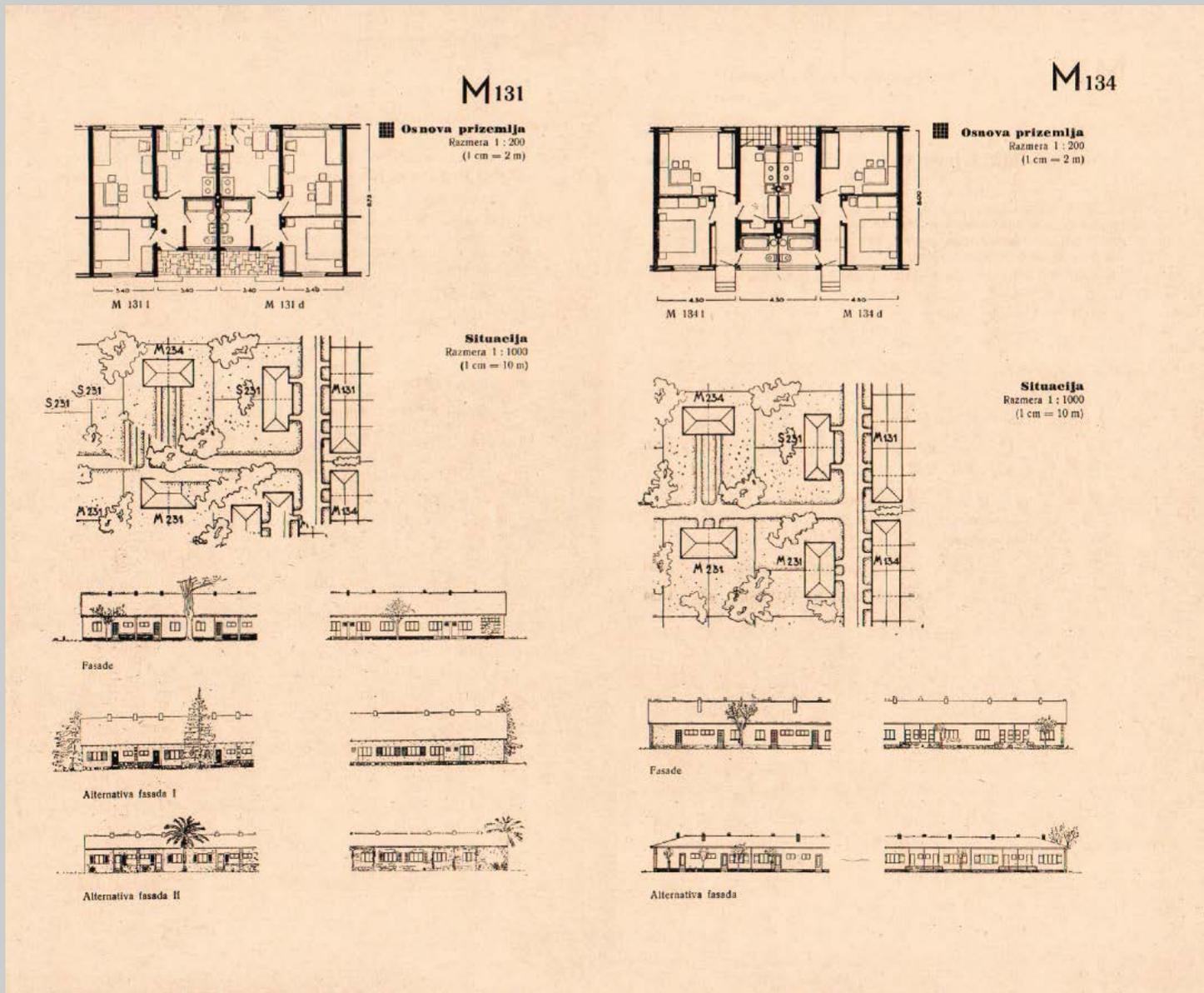
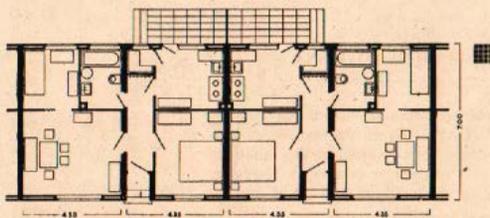


Fig. 5b The types M 131, M 134, M 135 used in Staro Selište in Bor / Sl. 5b Tipovi M 131, M 134 i M 135 korišteni u Starom Selištu u Boru. (Pregled osnova stanova za 1948. Beograd: Izdavačko preduzeće Ministarstva građevine FNRJ, 1948.)

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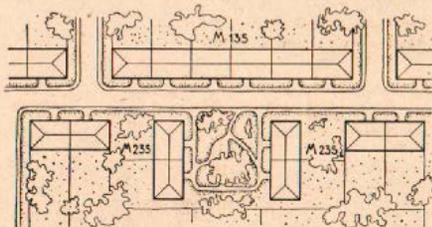
M135



M 135 I

M 135 d

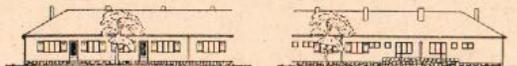
**Osnova prizemlja** : Razmera 1 : 200 (1 cm = 2 m)



**Situacija** Razmera 1 : 1000 (1 cm = 10 m)



Fasade



Alternativa fasada

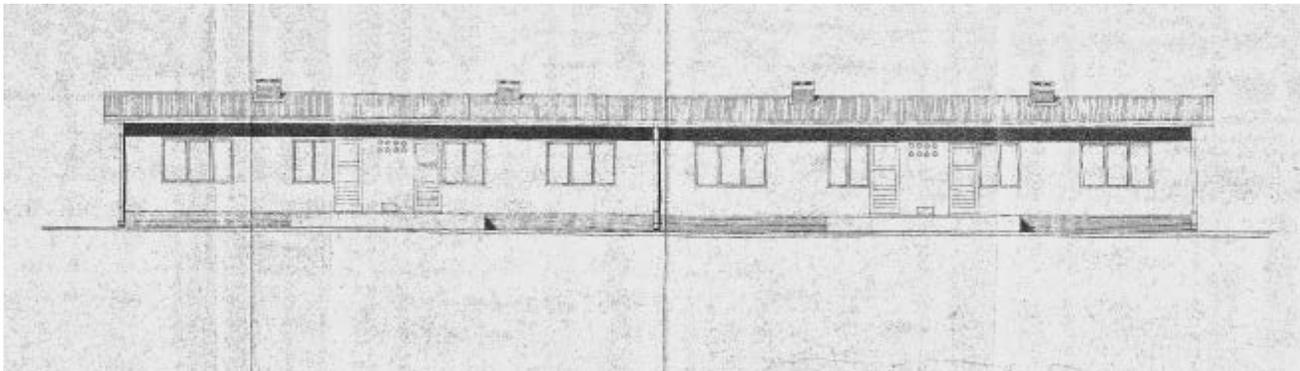
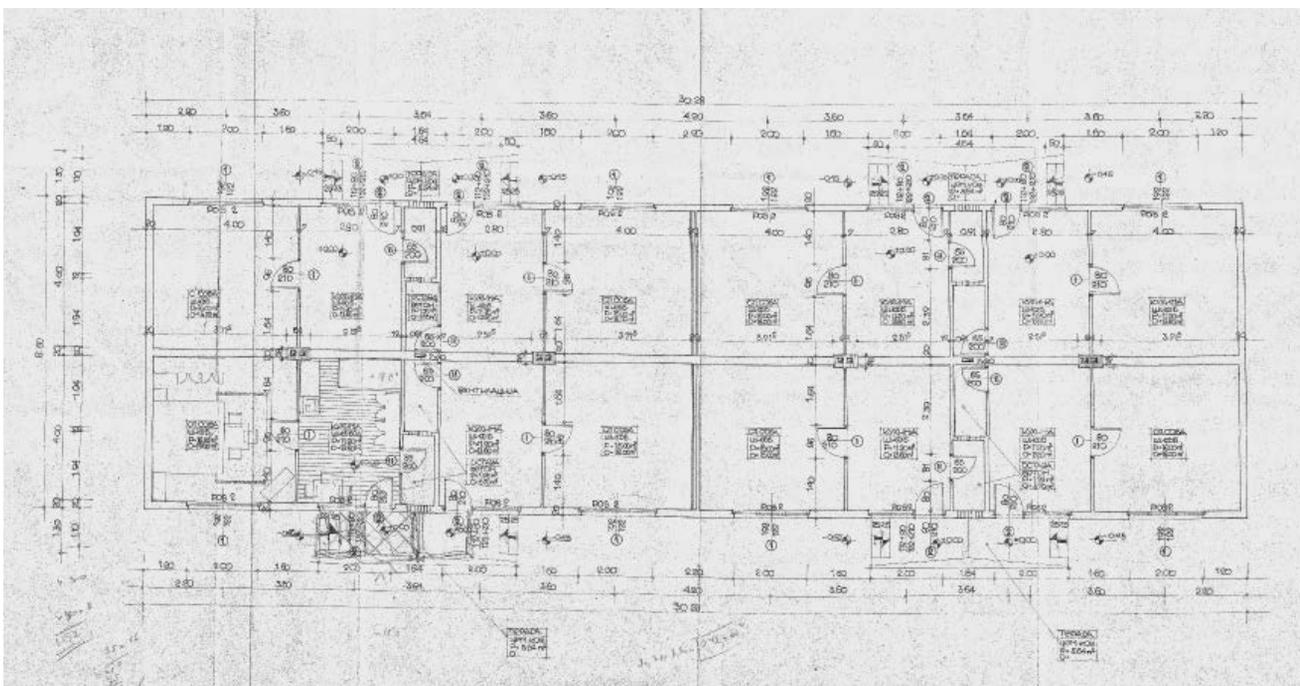


Fig. 6a Temporary buildings for New Belgrade—workers' barracks in Old Fairground. Historical Archives of Belgrade, IAB-189 / Sl. 6a Privremene zgrade za Novi Beograd—radničke barake na Starom sajmištu. Istorijski arhiv Beograda, IAB-189

↑↓



32

AS-134—folder 192-10.

33

AS-134—folder 192-10, Bajlon, Zaključak, 2.

34

Based on the available photos of the area, as the plans of the residential buildings have not been found yet.

35

*Veliki objekti Petogodišnjeg Plana, 10-14;* IAB, Coll. NOO Novi Beograd.

36

Some "pockets" of these temporary settlements still remain in various areas of New Belgrade: in Tošin bunar, besides the traditional Vojvodinian/Central European houses built by new settlers in the 19th century, there are barracks near Radnički football club, workers' housing of the bankrupted construction company Rad in Block 68, many remaining barracks in the area of Staro sajmište, as well as numerous barracks of temporary stores and construction companies in blocks 21, 23, and 45 of New Belgrade.

37

Krstić, *Atinska povelja i misao*, 264.

design for the “Prva Iskra” workers’ colony no. 395–5 in Barič.<sup>32</sup> The workers’ apartment buildings were built around a recreational zone with a children’s playground in the center surrounded by abundant greenery. The permit for the colony, approved by architect Mate Baylon, says that it was granted for initial 10 out of the 40 planned buildings, which were to use the typified designs M331–1, 2, 3, 4, 5 and S301 from the 1948 *Overview* “to avoid the monotony of the neighborhood’s appearance.”<sup>33</sup> Furthermore, a Union House, a workers’ hostel with cooperative stores, and a kindergarten were planned around a small square at the gates of the neighborhood. Eventually, the construction company “Trudbenik” from Belgrade built 25 apartment buildings. On the edge of the site, there were two four-story apartment buildings erected around 1960, which probably covered the housing demand of the enterprise, while the southern part of the site has remained undeveloped to the present day. The centrally positioned playground was never developed as planned, but two sports courts were built instead, while the rest remained a green, uncultivated area. The kindergarten was situated in a prefabricated barrack that is in use even today, while the structure erected as a cooperative store is now used by a private company, probably rented or privatized in recent years.

Simultaneously, New Belgrade, the most known new town of Yugoslavia, was slowly emerging from the marshland between Belgrade and Zemun. (Fig. 6a, 6b, 6c, 6d) Although different from other new industrial towns, New Belgrade was envisioned as the new federation capital, a new administrative town to represent and serve the new socialist Yugoslavia. However, its construction was very complex, multifaceted, and labor intensive. Hence, it required thousands of workers for the amelioration of land, displacement of the old and construction of a new railway, construction of a highway and the corresponding infrastructure, and finally the buildings for administration and housing. In order to do that, thousands of workers had to be dispatched to the site, which also meant that at least some provisory accommodation had to be constructed near it.

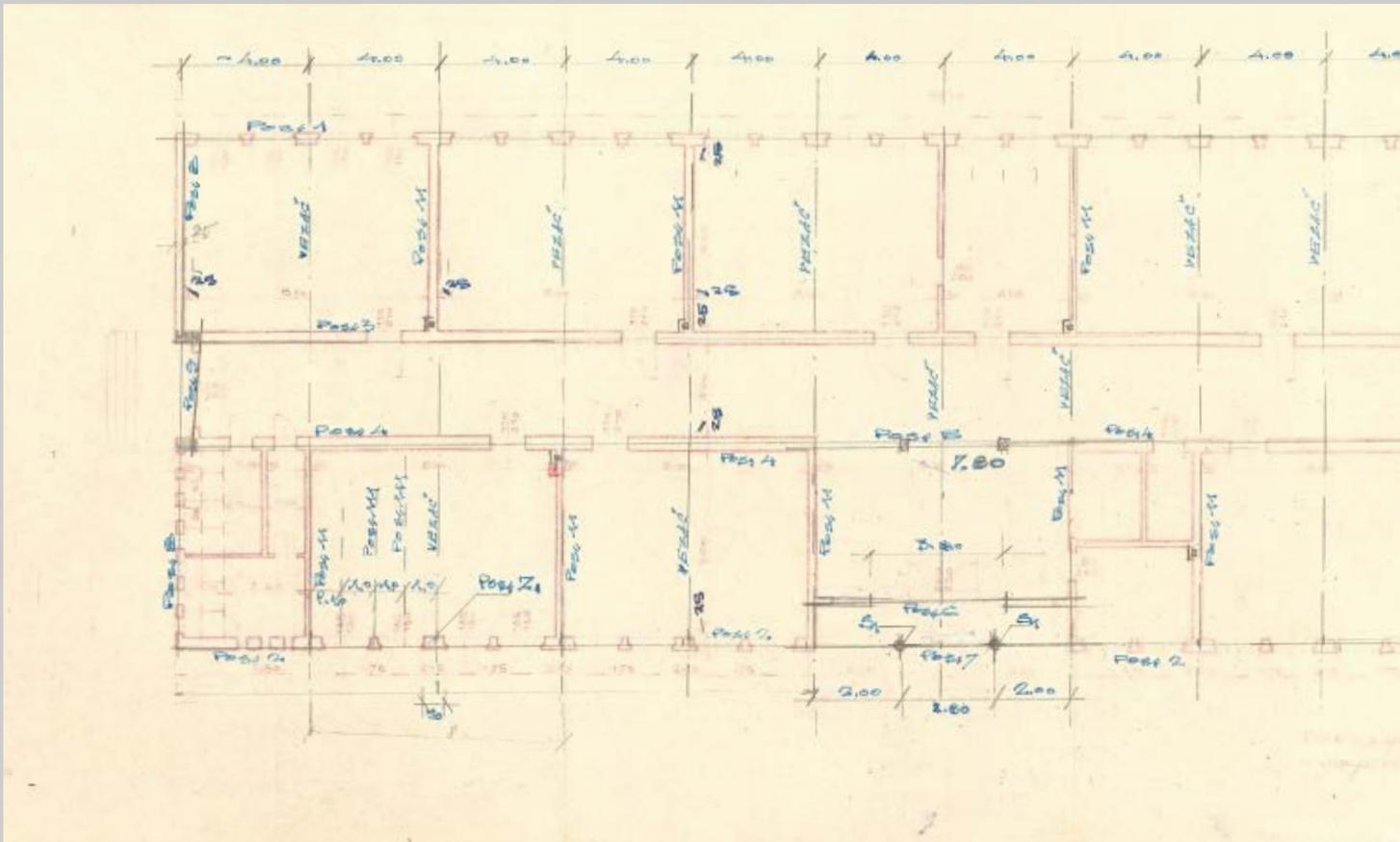
Belgrade had several zones where workers’ housing was built, usually near the large construction sites, with solid material barracks built for the employees of the construction companies, while wooden prefabricated barracks were aimed at housing the seasonal workers and youth brigades. By 1950, there were 63 solid single-story barracks in New Belgrade built to house around 4000 of its builders, utilizing most probably the types S131, S231, V131, and V201 from the *Overview*.<sup>34</sup> Furthermore, 124 wooden prefabricated barracks were assembled, with the capacity to accommodate up to 24,000 members of youth brigades involved in the construction works. The barracks were accompanied by a House of Culture, a Workers’ University, student dormitories, and 38 km of industrial railway, as well as many

temporary buildings with public facilities such as schools and kindergartens, cinemas, markets, and outpatient clinics. The construction sites were the first to be ameliorated: Staro sajmište (Old Fairground) and the area from Tošin bunar to Bežanijska kosa, as the rest of the vast territory was still extensively flooded by the rivers.<sup>35</sup> As the planned town emerged from the sand block by block, these barracks gave place to new structures built in the 1960s and 1970s, which have been used ever since.<sup>36</sup> (Fig.7)

#### CONCLUSIONS: TRANSITIONING TOWARDS INDUSTRIALIZATION

Already in 1950, the attitude towards the barracks and provisory housing construction started to shift, which became most obvious with the presentations at the First Conference of the Architects and Urban Planners of Yugoslavia in Dubrovnik. However, the material and financial conditions remained quite difficult until 1952, when Yugoslavia slowly emerged from international isolation, started taking loans again, and became present on the foreign markets—which meant relieving the austerity measures in the country. The quality of housing changed and arguably rose, with multistory buildings becoming the focus of the housing economy, while the new set of loans for cooperative and individual housing construction boosted the housing developments in urban areas. The construction companies started investing more into development, hoping to obtain the lead position in the industrialization of construction and the consequential housing production, which slowly began to materialize after many years of various professions appealing for governmental support. Although many European countries had already made more or less successful attempts in the field of prefabricated mass housing, it was only in 1950s that this endeavor gained traction as a result of positive opinions voiced by international bodies such as the United Nations Economic Commission for Europe (UNECE) in 1950,<sup>37</sup> which stated that the housing demand might be better alleviated by a government-coordinated effort in large-scale standardization and prefabrication. The most prominent industrialized housing programs in Europe were put in motion on a mass scale during the 1950s, and Yugoslavia was no exception. All the previously mentioned experiences, expertise, and capacities of the construction industry started servicing the eventual transition towards large-piece prefabrication and an increased use of concrete in the process during the 1950s, and the default typology of this production were the (in)famous modernist towers-and-slabs.

In 1957, the Federal Assembly of the FPRY enacted the *Resolution on the Perspective Development of Construction* (Rezolucija o perspektivnom razvoju građevinarstva), aiming to stimulate the domestic construction industry to invest in research and development, which resulted in modernizing the construction sector of the country, shifting towards extensively industrialized and prefabricated



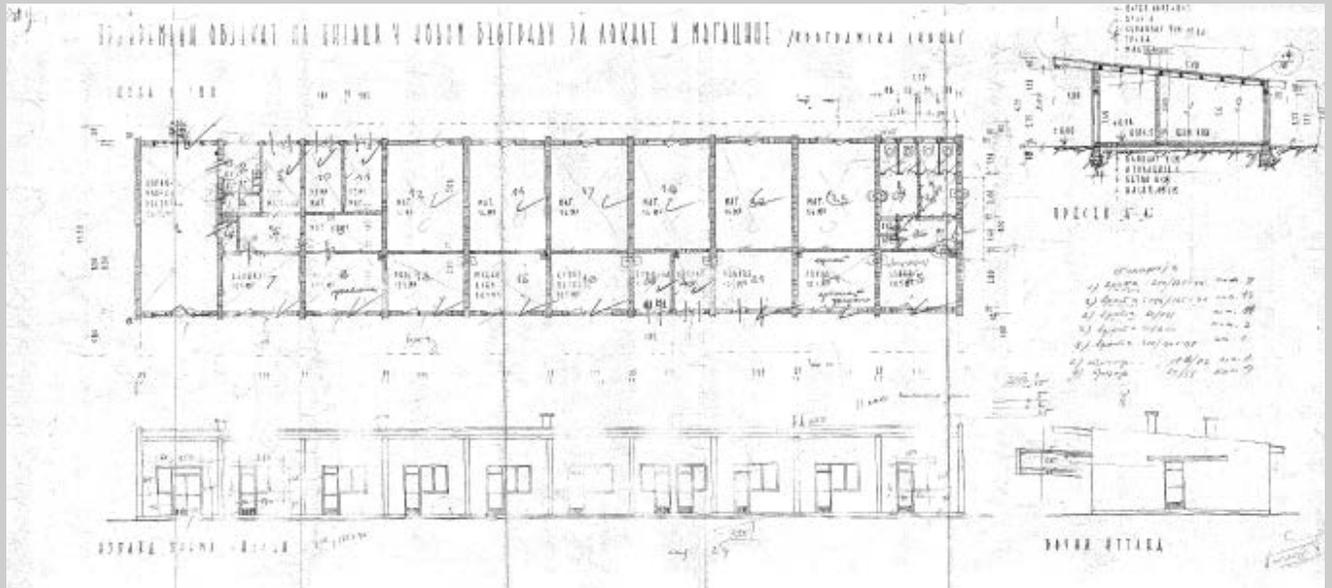
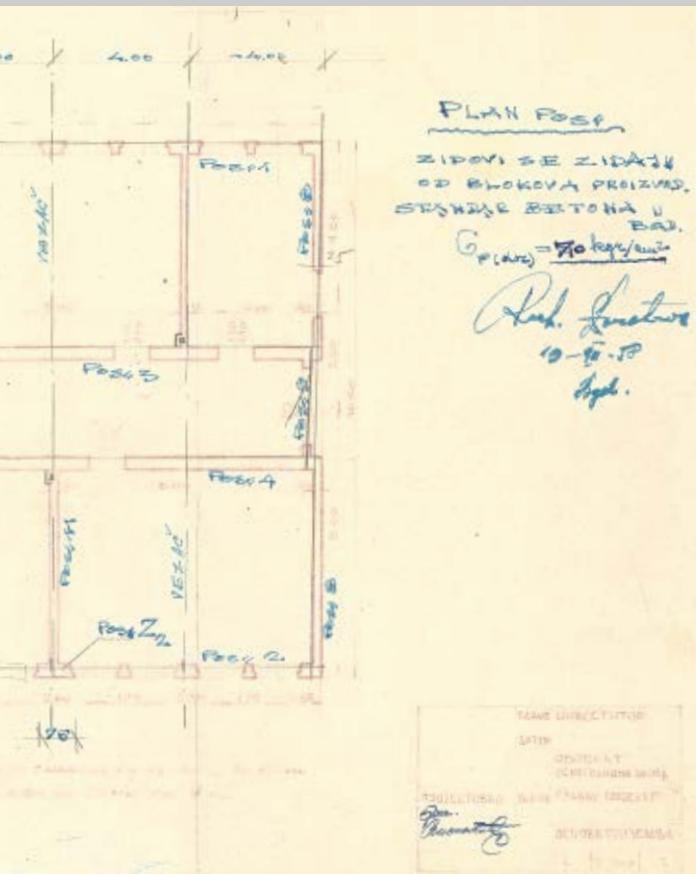


Fig. 6a/b/c Temporary buildings for New Belgrade (in order of appearance)—kindergarten and storages for the market in Tošin Bunar, elementary school in Old Fairground. IAB-189 / Sl. 6 a/b/c Privremeni objekti za Novi Beograd (po redosledju objavljivanja): dječji vrtić i skladišta robe na Tošinom Bunaru, osnovna škola na Starom sajmištu. IAB-189  
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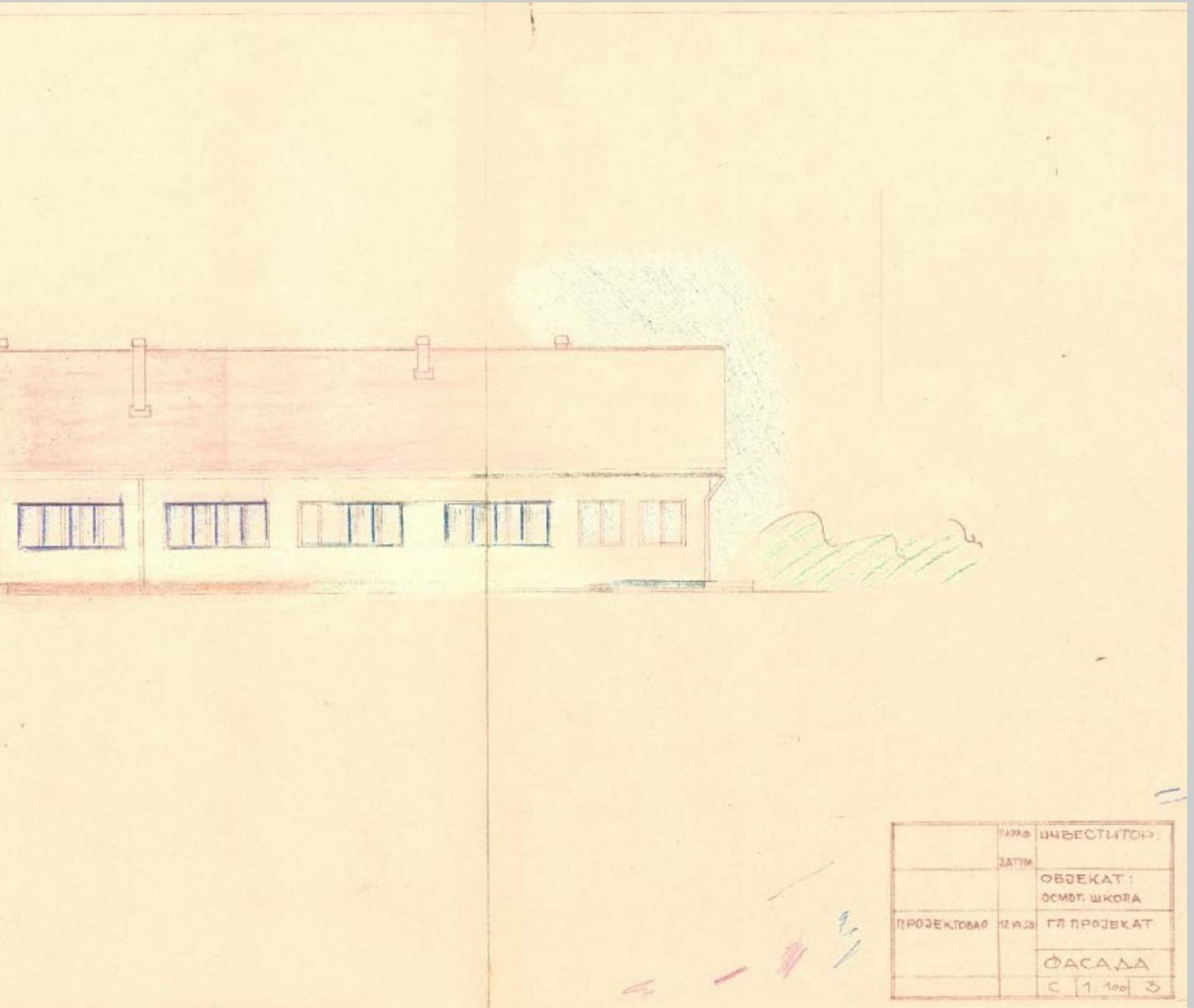




Fig. 7 Barracks near Tošin Bunar, on the site of present-day Block 4 in New Belgrade. The construction sites of Blocks 7 and 3 are visible in the background, 1964. Belgrade City Museum, Ur\_11981. Photo: Miloš Miša Pavlović / Sl.7 Barake u blizini Tošina bunara, na mjestu današnjeg Bloka 4 u Novom Beogradu. U drugom planu gradilišta Blokova 7 i 3, 1964. Muzej grada Beograda, Ur\_11981. Foto: Miloš Miša Pavlović ←

production. Before 1963, when a massive earthquake hit Skopje and enforced the promulgation of stricter laws and regulations, a vivid medley of construction occurred all over the country, as traditional and modern construction methods were in use simultaneously. The practice of utilizing catalogs remained in force and further expanded, and many architectural offices and studios issued their own catalogs as part of the competitive struggle to acquire more commissions. The country's key prefabrication systems, such as Jugomont and IMS Žeželj, developed in Zagreb and Belgrade as a direct result of the governmental stimulus, gradually pushing out and reforming the traditional construction techniques and materials. Over time, many barracks and provisory housing units were replaced by permanent structures, built with solid materials, especially those in prime urban locations such as New Belgrade, but there were also many instances of preserving the temporary housing. The industries of prefabricated barracks remained active, often within timber industry and large-object industries (airplane, vehicles) such as Utva-Pančevo, Soko-Mostar, ŠPIK-Ivanjica, ŠIK Crvena Zastava-Kruševac, but their target market shifted: their products were used by the construction enterprises for remote construction sites, by youth brigades for their activities, even for private housing, and many years later some of their production shifted to furniture pieces, carpentry, and joinery. However, the abundant experience of the Yugoslav construction sector with the emergency temporary housing *en masse* was not forgotten and abruptly abandoned. It was especially useful in the aftermath of natural disasters, such as the Skopje earthquake in 1963, when emergency accommodation was built within months by allocating the prefabricated barracks of various Yugoslav companies in the neighborhoods of Dračevo and Kozle. Most of the knowledge and experience from the 1940s and 1950s remained in the profession, and slowly morphed into newer technologies during the 1960s, as the production lines grew and shifted towards reinforced and prestressed concrete and large prefabricated pieces such as panels and waffle slabs. It is worth noting that the first organized typified mass housing in (socialist) Yugoslavia originated from postwar scarcity and hardship, and it was cultivated within the country—not imported from abroad as often believed. The housing program did not start with grand, flat-roofed modernist towers and slabs, but rather originated in the profession's stringent, yet indispensable gathering around humble detached houses, maisonettes, and barracks, which—albeit mass produced—contained one or at most several modest flats.

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