

“Concentrated responses to the issue of prefabricated mass housing: Bratislava, 1950-1995”by **Henrieta Moravčíková** (Slovak Academy of Science, Bratislava)**Introduction**

Mass production of housing in Slovakia is often regarded as a characteristic example of failure of modern architecture ideals. Under this interpretation, it is held that the mass production and construction of prefabricated housing estates drew the ideas of modern urbanism and unification – as well as the whole system of construction industry under socialism - into a trap. The situation in which the state (or its state institutions) played roles of the builder, investor and architect eliminated natural economic competition and it caused immense damages to the Slovak construction industry, with loss of responsibility for the built work, decrease in work production and low quality of work as a consequence. After mass housing was accepted at the beginning of the 1960s only with reservations, more complex analyses of concrete-slab housing estates in Slovakia appeared in the 1980s (the concrete-slab technology at that time comprised 93.5 % of all housing construction). Concrete-slab construction development was an inherent part of the official agenda of the authoritarian regime, and thus the critique only fully appeared after its fall.



The first concrete-slab apartment block in Bratislava: Montdom, 1956

Nevertheless, the housing estates were instrumental in contributing to solve the housing shortage. Between 1971 – 1980 there were 1,261,000 flats built in Slovakia. These flats provided a decent spatial and hygienic standard to inhabitants. Today the concrete-slab housing estates form the substantial part of the built environment of the majority of Slovak cities. (1)

The First Concrete-slab House

While some experiments in prefabrication of housing buildings took place in Slovakia in the first half of the 20th century, the first apartment block built in concrete-slab technology was realised in Bratislava in the 1950s as a result of local architects' and engineers' efforts to find the most suitable system of prefabricated housing construction. In a countrywide competition three possibilities were tested: wall system, frame-system and frame-concrete-slab system. The team of the Professor of the Technical University of Bratislava, Vladimir Karfik, designed a framed concrete-slab system. Karfik was already experienced in prefabrication from his previous work for the Bata construction department in Zlín. Together with his colleagues J. Harvančík and G. Tursunov he developed a concrete-slab house with reinforced frames, which allowed variations in inner space distribution using the empty frame and full wall. (2) The experimental concrete-slab block “Montdom” was built in 1956 in Bratislava. (3) Even though another system was later adopted in Czechoslovakia – the wall frameless system – this phase constitutes the key starting-point of the local Slovak prefabrication evolution.

The first postwar prefabricated mass housing estate

The first complex concept that stands at the dawn of concrete-slab housing estate construction in Bratislava is the housing complex on Račianska Street called Februárka (1955 – 1961). It was the result of a project by the then young designers, Václav Houdek, Štefan Svetko, Ondrej Dukát, Štefan Ďurkovič and Emil Vician who won a countrywide competition in 1956. The construction technologies applied here contain cast concrete, concrete-slab system BA and traditional brickwork. (4) Thanks to a favourable urban composition, refined architecture, well-solved flats and a high level of services and facilities, this housing estate is one of the best examples of the domestic housing production in the early postwar years. (5) Similarly to Februárka housing estate, other projects of the time were integrated into the older urban structure (Housing estates on Škultétyho and Kukučínova Streets). The concept of spatial planning of housing construction was soon confronted, however, with the growing pressure



The Februárka housing project, 1961

for fast production of houses and thus, already in the mid 1960s, the concrete-slab housing developments started to occupy vacant areas beyond the city limits.

Housing developments for incomers

The period of the 1960s and 1970s was the most intensive construction phase of concrete-slab housing estates in Bratislava. (6) As a result of the city's fast demographic development the regime representatives supported this trend to ensure a majority of working class citizens in the population. The pressure of industrialization and colonization with new settlements ensured a constant inflow of workers – the new citizens. The spatial misbalance of new housing estates in relation to the former urban structure, but also the process of estrangement of the incomers, caused a loss of cultural continuity to the city.

Ideology and construction

The newly founded factories producing concrete-slab prefabricates were an integral part of the mass production of housing. However, this industrialization was not merely a consequence of growing demand for flats and of natural evolution of technologies. The mass industrial production in construction processes was partially influenced by Marxist ideology, which preferred the industrial proletariat to the detriment of traditional construction workers. (7) Therefore the representatives of the regime forced the pace of industrialization of construction processes to eliminate the so-called wet processes of construction. A linear assembly

process of building along one side of a derrick track was applied. From this point of view the ideal building plots were those without any terrain barriers, areas behind the city edges divested of the former rural developments. The new characteristic model of concrete-slab housing estates construction started to be implemented - and speedily became a target of criticism.

Housing estates of Bratislava and lines of their development

The large-scale development of housing estates was possible thanks to the change in proprietary circumstances. The nationalization in 1948 cancelled or severely limited the private ownership of land, so urban planners could design new city quarters from scratch (and according to the Athens Charter), using as much free land as they wanted. The first wave of construction outside the inner city followed a northeast direction (Krasňany, Rača). The biggest breakthrough was the unusually large housing estate of Ružinov, occupying the easily accessible eastern sector of the city. The same process was followed in the southeastern direction (Medzi jarkami, Dolné hony) and the idea of building a housing estate on the right bank of the Danube soon appeared (Petržalka).

By the end of 1970s the housing estate developments spread on to the complicated terrain on the hills of the Little Carpathians (Karlova Ves, Záluhy, Dúbravka). In 1980s the city was spatially exhausted, and new construction only complemented the old rural settlements on

northeast (Záhumenice) and northwest (Devínska Nová Ves); more important still, it compelled the urbanization of a visually strongly exposed and topographically exclusive natural locality on the slopes above the left bank of the Danube river (Dlhé Diely).

The planning institutes

Projects of housing estates and regional variants of individual concrete-slab systems were elaborated in planning institutes. Within the system of territorial competences, the development of housing estates in Bratislava belonged to the sphere of activities of the Stavoprojekt Institute. The research on types and evolution in design of new concrete-slab systems took place in the Planning and Typification Institute in Bratislava. These were the two centres of design of the new concrete-slab construction systems that were to operate under the economic limits and the so-called economic indicators, to provide a decent housing construction and secure the optimal spatial distribution of flats.

The flat in the concrete-slab block

The flat in a concrete-slab apartment block was a realisation of ideals of leftist modernity. It was determined in function, standard and universality, it provided housing for everybody. It was a materialisation of the idea of the minimal flat. However, in the hands of the undifferentiating socialist system it became a tool for the regime's aims to homogenise society. Categorisation provided the groundwork for the control of planned housing



Variations of flat systems, 1979

development. It defined the number of inhabitants per flat. The main scope was given by categories I. – VI., while the most prolifically built were flats with 2 – 3 rooms with a kitchen.

Construction systems

The type of system used determined the external appearance of the concrete-slab blocks of flats. The dimensions, finishing of concrete-slabs, their colour, the gap solutions, form of balconies and loggias, shaping of entrances were variable. Since the early 1960s the concrete-slab blocks were equipped with prefabricated installation units containing kitchen, bathroom and toilet. The

BA system applied in Bratislava was the oldest one. It was characterized by expressive verticality of balcony structures in the facades, staircase glazing, dynamic figures in entrances and round openings in the concrete-slabs. In the mid 1960s the blocks did not evince much plasticity, using the systems T 06 B and T 08 B. The tectonics of their variable entrance solutions were still applied.

In 1966 in designs by the Stavoprojekt Institute in Bratislava, the structures of the T 06 B system and the spatial distribution of T 08 B system were united into a new structural system ZT (unitary 5 system) characterised by the wide range of sections and types. The horizontality and dense

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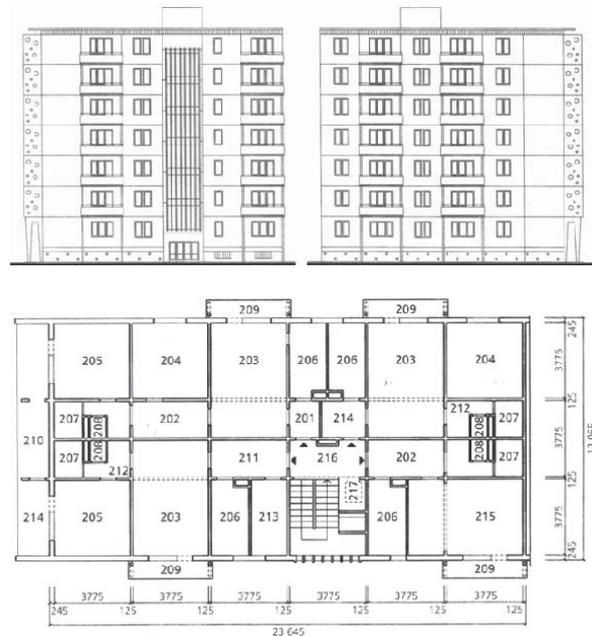
colours of the loggias dominate the exterior face of blocks of flats built in this system. The concrete-slab housing system that was developed next in the sequence, ZTB, was designed to cope with the demand for so-called open typification, providing a more free distribution of inner spaces.

The clumsiness of the supply system prevented this effort from being very successful. In order to enhance the quality of concrete-slab housing construction, the state bought various licensed systems from abroad. The development of the largest Slovak housing estate was supplied from the factory using Danish technology, which was built in Petržalka. (8) However, these changes did not produce better quality of the aesthetics or standard of housing construction.

In the 1980s, reflecting the current criticisms of modernity, experiments in attaching new facade elements were applied to hide the monotonies of the concrete-slab buildings. (9) Historicist elements and colours on the facades together with typology of the traditional urban structures like squares and streets provided means to enrich the austere face of the concrete-slab housing estates' environment. (10) In Bratislava these tendencies culminated in the project of the experimental housing complex Dlhé Diely. (11) Out of this entire experiment, however - under preparation for more than 10 years - finally only a fragment was built. (12)

Concepts

The emphasis that was put on the quantity and



The BA construction system, applied in the 1960s (13)

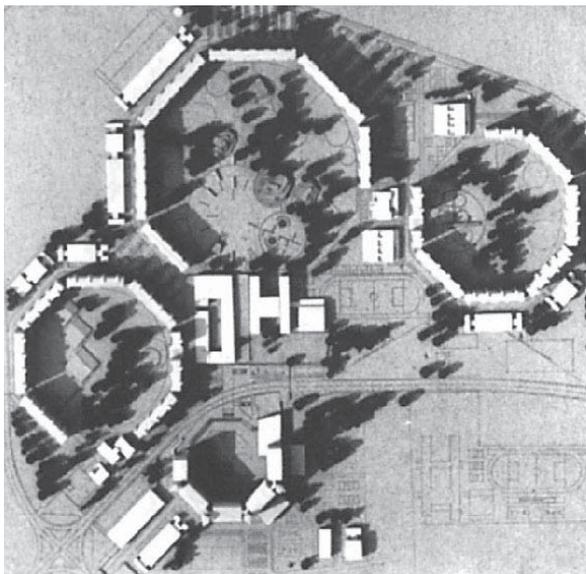
speed of construction pushed aside the architectural attributes of concrete-slab housing estates. In spite of the fact the architects claimed their need for comprehension of these aspects of the housing development, the feedback from the industrial sphere was minimal. In some cases, though, a valuable living environment was achieved, but almost entirely thanks to the concepts of progressive urbanism, rather than through the architecture of individual blocks. It was in the housing estate of Trávniky by Ferdinand Milučký and Štefan Ďurkovič that different levels of terrain break the monotony; and in the development at Medzi jarkami by Štefan Svetko, an unusual spatial structure attracts attention.

Overall, arguably the most successful is the case of the housing estate Karlova Ves, where Stanislav Talaš and his team skilfully used the natural morphology of the terrain and the fragments of

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the original rural development to form a structure with hierarchy of intensive facilities and traffic axis complementary to the adjacent housing environment.



1973 proposal for Medzi Jarkami housing project



Petržalka under construction, 1975

The biggest Slovak housing estate: Petržalka

The construction of the largest Slovak housing estate, Petržalka, was related to the penetration of new urban concepts. It corresponded to the then ideal of an independent city quarter comprising all

urban functions. The successful plan to build the new satellite town on the right bank of the Danube led to an international competition, called for by the city in 1967. 84 teams from 19 countries took part. All proposals shared generous spatial concepts, dynamic structures and strong visions. (14) The five prizewinning projects were later analysed for any potential suggestions that they might provide as to desirable policies for the future construction.

The project by Jozef Chovanec and Stanislav Talaš, the result of previous phases, was not realised entirely. The central avenue has been left in fragments and the housing construction reflected the decaying construction production. In the end Petržalka was widely seen as epitomising all the negative aspects of concrete slab housing estates – bigness, mono-functionality, monotony, isolation from the city etc. Thus, it became a field for revitalization and humanization activities after 1989.

Critiques of the mass production of housing

By the end of the 1980s the deficiencies of concrete-slab housing estates had become targets of massive public critiques. This development paralleled the wider critiques of the whole socialist political regime. The samizdat publication, Bratislava Aloud, signalled a breakthrough; it was hailed by Václav Havel as a Slovak equivalent to Charter 77. After 1989, the mass production of housing in Bratislava was officially stopped. However the last mass housing project, Dlhé diely, was only realised in 1995.

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Conclusion

The more than forty year history of concrete-slab housing scheme construction left its imprints on the face of the city, and they determine its character to a large extent still today. In spite of their seeming similarity, the housing estates in Bratislava represent a heterogeneous mixture of housing complexes of different size, structure, facilities, preferences. Regardless of the fact that housing estates are the focus of many serious economical and social problems, they also still provide shelter for the majority of the city's population (70 % citizens of Bratislava live in postwar mass housing schemes today), and they constitute the truest document of the ideas of modern architecture and planning in the period of socialism – in both their positive and negative aspects. Taking into account the highly diverse amenities that housing estates provide to their occupants, a correspondingly selective, discriminating approach must be adopted today in their evaluation, reconstruction or demolition.

Notes

1 Concrete-slab housing estates, their history, present and perspectives have been object of research under the research project ‘Plattenbausanierung in Wien und Bratislava’ of the Institute for Regional and Urban Development of Austrian Academy of Sciences in collaboration with the Institute of Construction and Architecture of Slovak Academy of Sciences. Results of the project have been published in: MORAVČÍKOVÁ, Henrieta – DULLA, Matúš, DORICOVÁ, Slávka – HABERLANDOVÁ, Katarína – TOPOLČANSKÁ, Mária: Zur Geschichte der Plattenbausiedlungen in

Bratislava. In: Plattenbausiedlungen. Erneuerung des baukulturellen Erbes in Wien und Bratislava. Ed. Vera Kepeller Stuttgart, Fraunhofer IRB Verlag 2009, s. 90 – 105.; MORAVČÍKOVÁ, Henrieta – DULLA, Matúš – TOPOLČANSKÁ, Mária – DORICOVÁ, Slávka – FAJGLOVÁ, Katarína: Plattenbausiedlungen in Bratislava: Architektonische und städtebauliche Aspekte. In: MAYER, V. (Hg.): Plattenbausiedlungen in Wien und Bratislava zwischen Vision, Alltag und Innovation. Verlag der Österreichische Akademie der Wissenschaften, Wien 2006. ISBN 3-7001-3698-6. s. 64 – 78.; MORAVČÍKOVÁ, Henrieta – DULLA, Matúš – DORICOVÁ, Slávka – HABERLANDOVÁ, Katarína – TOPOLČANSKÁ, Mária: Prefabricated Housing Estates in Bratislava and their General and Specific Contexts. *Architektúra & Urbanizmus*. Vol. 40 (2006), No. 1 – 2, p. 73 – 96.; MORAVČÍKOVÁ, H. – DULLA, M. – DORICOVÁ, S. – HABERLANDOVÁ, K – TOPOLČANSKÁ, M.: Panelové sídliská v Bratislave: stručný prehľad. In: *Architektúra & Urbanizmus*. Vol. 40 (2006), No. 1 – 2, p. 97 – 113.

2 TURZUNOV, G.: Obytný dom z predpätých panelov typu BA v Bratislave. *Architektura ČSR* 16, 1957, s. 176 – 179.

3 Authors: V. Karfík, J. Harvančík, G. Turzunov, K. Šafránek

4 System LB with load-bearing transverse walls and inner longitudinal load-bearing wall in cast concrete was applied in district parts A and D. Except system LB the systems T16a and BA were applied too.

5 SVETKO, Štefan: Progressive system of traditional construction in Februárka housing estate in Bratislava. *Projekt 3*, 1957, N.5, p. 3 – 5.

6 J. Zeman, I. Jankovich a J. Lichner define six phases of post war housing construction and this phase is

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the longest of them. (ZEMAN, J. – JANKOVICH, I. – LICHNER, J.: Housing construction development in Slovakia. Bratislava, Alfa 1990. 300 p., here p. 122 – 123.

Miyakawa – H. Taginuchi – J. Onuma – O. Myojyo – T. Hongo (Japonsko); G.V. Russel – A. Iemeric (USA); R. Reiner – A. Arzberger – H. Karere (Rakúsko). GROSS, Kamil: Medzinárodná súťaž Bratislava Petržalka. Bratislava, Vydavateľstvo SFVU 1969. 102 s.

7 According to Marx the most class-conscious and best communicating class of proletariat was the industrial proletariat.

8 The Institute ŠPTU elaborated the typification base for the so-called un-unified variant of construction of BA NKS system on the basis of the licence by Thomas Schmidt Company. JANKOVICH, I. – LICHNER, J. – ZEMAN, J. : c. d. 1990, s. 209.

9 Here the model was the prefabricated construction in the centre of the East German cities. Compare: HANNEMAN, Ch. : Eine Technologie für Alles. Archithese 33, 2003, 2, p. 16 – 21.

10 Such concepts were at the dawn of the 1980s initiatives of the Technicky magazin (Technical Magazine) under the title Urbanita.

11 T. Gebauer, P. Paňák, L. Kušník a i. , 1979 – 1995.

12 The central multi-functional square was situated in the heart of the housing construction development according to the experimental project using above-standard elements.

13 STERNOVÁ, Zuzana: Fyzický stav bytových domov postavených v stavebných sústavách hromadnej bytovej výstavby do roku 1970. Bratislava, Stavebné informačné centrum Slovenskej republiky, 1997, ISBN 80-88836-38-7.

14 The jury did not award 1st and 2nd prizes, but five 3rd prizes were awarded to : T.Alexy – J. Kavan – F. Trnkus (Slovakia); K. Typovský – J. Nováček – V. Adamec (Česko); S. Vamane – D. Ogura – V. Okuma – M.