

NEW PERSPECTIVES ON THE URBAN SEMIOTICS OF MASS HOUSING NEIGHBOURHOODS IN SLOVAKIA: A CASE STUDY OF PETRŽALKA

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The identity of a city is represented not only by its attractive historical centre with its landmarks, but also by the peripheral parts. Large parts of Slovak cities and neighbourhoods are covered by residential areas of panel blocks of flats built in the 1970s and 1980s. These communities and settlements are often more than 30-40 years old and have their own history, social climate and narratives. The unique and specific metatext of almost any Slovak city would remain unfinished without residential areas of panel blocks of flats. These areas have generated a specific identity based upon specific examples of urban semiotics. Urban semiotics considers the city/urban environment as a multilayer text based upon the social meaning and grammar of spatial patterns, signs and symbols. During recent years, it can be seen that Slovak mass housing neighbourhoods are not monolithic sense-less places, but rather chronicles of various stories and experiences which overcome the obsolete and uniform architectural language – landmarks and symbols of their identity are not only mere physical (architectural) forms but rather common experience and shared stories. It is obvious that Slovak mass housing neighbourhoods have failed to deliver the unique “tomorrow’s quality of life” as once declared but, on the other hand, they have never become completely excluded localities without any vital contacts with the city’s organism. Their semiotics have absorbed the overall societal development with all its ambiguity, manifoldness and uncertainty. Petržalka, as the largest Slovak mass housing neighbourhood, is particularly in the spotlight of this contribution. Once an alternative modernist vision of old Bratislava, then a drab grey dormitory without any flair, it is now transformed into a polyvocal and versatile urban environment full of opportunities, as well as challenges.

Key words: urban semiotics, symbols, urban metatext, mass housing neighbourhoods, modernism, Petržalka.

The very word “modern” expresses something continuously shifting, like the shadow of a person who is walking. How can one free oneself from one’s shadow?

Paolo Portoghesi, After Modern Architecture, 1982

MASS HOUSING NEIGHBOURHOODS – AN INTEGRAL PART OF CITY IDENTITY

The identity of a city is represented not only by its attractive historical centre with its landmarks, but also by its peripheral parts. Large parts of Slovak cities and neighbourhoods are covered by residential areas of panel blocks of flats built in the 1970s and 1980s. This prefabricated typology of buildings in the form of panel-type, high-rise housing

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estates was favoured from the mid-1960s, while the state investment in areas of old pre-socialist housing stock usually involved the demolition of old, and the construction of new housing, rather than renovation (Sailer-Fliege, 1999). These communities and settlements are often more than 40 years old and have their own history, social climate and narratives. The unique and specific metatext of almost any Slovak city would remain unfinished without residential areas of panel blocks of flats. These areas have generated their own specific identity and social cohesion, as well as the social problems related to them. This massive-scale construction, the most visible of all the spatial changes to have affected the post-socialist suburban landscape (Leetmaa *et al.*, 2012), contributed to the overall urbanisation of Central and Eastern Europe – by 2000, the population of Central and Eastern Europe had reached 125 million with 60% in urban areas, the most rapid post- World War II growth in total and in the urban population of any region in Europe (Pichler-Milanovič *et al.*, 2007). By the end of the 1980s, about one third of Czechoslovak citizens inhabited this kind of settlement (Temelová *et al.*, 2011), and in Bratislava this number is estimated to be as high as 80% (Moravčíková *et al.*, 2011). It is obvious that Slovak panel block housing areas have failed to deliver the unique “tomorrow’s quality of life” as once declared, but on the other hand, they have never become completely excluded localities without any vital contact with the city’s organism. Petržalka, as the largest Slovak panel block residential area, is particularly in the spotlight of this contribution (Jaško, 2014; Moravčíková, 2012; Ferenčuhová and Jayne, 2013).

Identity and place attachment are considered to be some of the most vital soft factors in contemporary spatial development. Unique, plausible and sustainable identity is a fundamental precondition for any meaningful concept of place attachment, binding communities to their place of living and creating a framework for the social cohesion and vitality of the community, as well as further development of its values and behavioural patterns (Murzyn-Kupisz and Gwosdz, 2011). Territorial identity has been crucial in the concept of social identity and sense of belonging, while identity is one of the weakest points of the big modernist dreams (see e.g., Brasilia, Chandigarh). Big utopian modernist efforts have neglected the local specifics and uniqueness of any given urban metatext, trying to replace the unrepeatable social and historical context with unshakable truths derived from political and ideological macro frameworks. It has led to the de-semantization of place – the never-ending repetition of the same prefabricated urban forms and architectural shapes has massively reduced the unique symbolics of specific places and their spatial and social significance. Monotonous visual appearance, overscale and an insufficient human approach have taken away many social codes necessary for building mental maps and constructing meaningful social realities.

Mass housing estates from the 1960s and 1970s might be considered to be one of the most visible and tangible impacts of 20th century modernity (Murzyn-Kupisz and Gwosdz, 2011). On the one hand, they offered a certain standard of housing and dwelling (Ira, 2015), but on the other hand, they brought mass scale, uniformity, standardisation and



Figure 1. Location of Petržalka in the context of Bratislava
(Source: Authors, 2023)

a monotonous environment (“form followed function” ad absurdum). This is connected to another equally inherent characteristic of the socialist system – the constant underfunding of “unproductive” sectors such as urban housing construction, the service sector, and infrastructure, with the goal of equalising housing conditions for all households, whereby the character of a dwelling as a commodity was to be eradicated (Sailer-Fliege, 1999). What was once avant-garde (Le Corbusier’s models of housing estates as “machines for dwelling” or famous Czechoslovak functionalism (Lizon, 1996)), was later lost through the mass proliferation of all progressive elements and became a symbol of misunderstanding of human complexity. The state, as the only investor, could not keep the standards of quality, and it ignored the local specifics, melody of the landscape and any stories bound to the territory (Musil, 2001; Nedović-Budić, 2001). On one hand, these mass housing estates are often the stories of discontinuity, abrupt shifts within the built urban morphology and the broken melody of the landscape in the 20th century. On the other hand, mass housing estates were a largely accepted form of dwelling that have survived all of the societal changes (half the population of Slovakia live in them and none of them have become a ghetto).

During recent years, Slovak mass housing neighbourhood estates are no longer monolithic sense-less places, but rather chronicles of various stories and experiences which have overcome the obsolete and uniform architectural language. Landmarks and elements of territorial identity are never the mere physical (architectural) forms, but rather they represent the common experience, stories and unique social experience born and created there. Identification with place of living goes far beyond the positive distinction (image) and should be based upon the common vision and values, which are present in a given territory (e.g., environmental values, liberal values, values of social justice). Petržalka is lacking a large portion of great “flagship” elements in its identity (Stasíková, 2013), but there are some positive aspects from its past (water elements, greenery, horse racing, sport, cross-border cooperation and others), which are continually re-integrated into its evolving urban semiotics. Unlike the

big projects of e.g. Brasilia or Novi Beograd, its spirit was not based upon a “great utopian vision”, but rather it reflected the technocratic and “worn-down” zeitgeist of the 1970s in former Czechoslovakia, which was at that time one of the greyest socialist countries (Figure 1 and Figure 2). The result is that there has been no disappointment or hangover of failed dreams, and the urban fabric and morphology of Petržalka have proved to be surprisingly suitable for meeting the current challenges of the highly fluent, ambivalent and unstable society (see e.g., Jaššo *et al.*, 2022a).



Figure 2. Mass housing structure of Petržalka
(Source: GKÚ / NCL, 2020)

URBAN SEMIOTICS AND ITS REFLECTION IN MODERNIST URBAN DESIGN

Urban semiotics is the study of the social meaning of spatial forms and settings. It involves the exploration of physical objects and their endowed meanings, as mediated through a universe of signs and the symbols they evoke and convey (Keller, 1988). In urban semiotics, the city is seen as “the text based on the grammar of spatial patterns and structures generating meaning” (Jachna, 2004), creating a multilayer urban metatext or “pseudotext” (Gottdiener and Lagopoulos, 1986). Among the elements of urban semiotics there are orientation systems, colours, traffic marks, typography and letters, pictograms, photographs, streets, buildings, squares, and even addresses, maps, area codes, postal codes, and internet addresses. All this creates some of the most complex text systems produced by humans. The city is a polyvocal and polyphonic chronicle of many, often contradictory, ideologies, narrations and social experiences, externalized on a given territory.

The fundamental elements of the “grammar of the city” were elaborated by Lynch (2004) and his “Image of the City” – including paths, edges, districts, nodes and landmarks. These elements enable the “legibility” and understanding of the city/district/quarter. At the time of Lynch’s research (the 1950s and 1960s), this typology was one of the most precise and conceived theories suitable for any urban environment (even a virtual one), and it is probably “culture-free” i.e., not dependent on the unique cultural background or individual

social experience of the user. It fully reflects the extremely positivist and behaviourist ideological position of Lynch: behavioural patterns and manifestations were considered to be the only “true” socio-psychological characteristic of the human mind. His typology leans merely on visual semiotics and is based on the cognitive-behavioural approach. Lynch ignored other substantial psychological elements such as the existential value of place, motivation, emotions, aspirations, and others. Even the need for orientation is saturated in the current urban milieu differently – the systematic hierarchy of signs and information (interlinkage of public transport hubs, parking places) is more important than the physical spatial relations (near-far, above-below, northern-southern, etc.). The orientation of urban environments in physical spaces resembles orientation in virtual spaces (hierarchization, legibility, etc.). Urban elements (landmarks, nodes, paths) are not mere stimuli but rather they act as symbols – urban semiotics is conceptual rather than behavioural. Meaning is not generated by the mere visual perception but it is created by the social experience!

This is further reflected in other studies from the second half of the 20th century, when urban semiotics more often adopted the suffix “socio”-semiotics. Space has been approached as a socio-political construct and its production is derived from the ruling ideological, political and power relations within the society (see e.g. Lefebvre, 1991; Moghadam and Rafeian, 2019). Ledrut (as cited in Gottdiener and Lagopoulos, 1986) considers the complexity of the urban milieu so developed that in most cases the connotative meaning precedes the denotative one. The relation of people toward the urban environment is more determined by multilayer ideological codes than by mere physical essence or the function of architectural objects/shapes. The inhabitants of contemporary metropolises do not need to adapt to urban environments per se, but they play an active role in the process of its shaping by social practice. Ledrut (see Gottdiener and Lagopoulos, 1986) argues that the semiotic essence of the urban environment consists of the following norm aspects: the ethical dimension (freedom/restriction), vital dimension (easiness/uneasiness), aesthetic dimension (ugliness/beauty) and functional dimension (functionality/non-functionality). Remm (2018) sees the main lines of spatial semiotics in following dimensions:

- the syntax of morphological structures in the spatial environment (more in concordance with the Lynchian approach, based on the work of sociologist G. Simmel);
- the field of various spatial practices (based on the work of Mead and Blumer); and
- the spatial environment as a signifying system of ideologies or of culture (socio-spatial synthesis, based more on theories of production of space or various culture-centred theories).

An interesting contribution towards the discussion on urban semiotics is Greimas’ (as cited in Gottdiener and Lagopoulos 1986) theory of socio-semiotics. His theory is an analysis of social reality from the semiotic point of view. Each social behaviour is outgoing from the intentions and goals of individual decision-makers, and the external environment (i.e., the city itself) is an arena for the externalisation of

social roles and the creation of competing narratives. Remm (2018, p. 43) argues that the “social logic of space and spatial logic of society” are closely intertwined, and that morphological and physical structures mirror social solidarity and social control. Spatial language is, thus, not only the mere expression of societal morphology, but it is an expression of the degree of societal dynamics and stability/instability of urban communities. Greimas’ (see Baik and Kim, 2012) concept of the so-called “micro axiological universum” is based upon similar contradictions (public/private, euphoric/dysphoric, individual/collective). Mass housing neighbourhoods, with their high density, diversity of actors and high degree of polarity of spatial conflicts, might be considered as an interesting playground for the manifestation of these polarities. According to Greimas (see Baik and Kim, 2012, p. 964), the urban fabric is in a process of “dynamic signification”, characterised as an eternal process of conversion of the meaning. The dynamic signification of any unique urban place should address four specific needs contributing to the iconicity of a place (Baik and Kim, 2012):

- to be walkable, especially for residents;
- to be sustainable;
- to be memorable in order to stay in people’s minds; and
- to be culturally unique generating the values.

Choay (as cited in Gottdiener and Lagopoulos, 1986, p. 160-175) leans in her semiotic analysis of the city on the diversity of the texts on city development, the theory of urban planning, and analysis of theoretical models of the optimal city. The contemporary city has gone through numerous systematic processes of de-semantization (authoritarian modernity and purist functionalism, with their universality and strict dogmatic rules, have suppressed symbolism and individual interpretations) and re-semantization (post-modern double coding, advertising, the city as a pop culture scene, the city as a videoclip screen). Today’s city is a domicile for many parallel discourses, which are often the antithesis of the main discourse (e.g., the metaphor of the street as “the last jungle where you can experience the adventure”, see Schmeidler, 2001, p. 156), although its key significance – economic production, remains intact. The endless rationalisation of urban space in the 20th century led to the articulation of needs which were not rational anymore (nostalgia, adventure, urban fun) and were directly thwarting modernist dogmas. Moreover, the modern city is deleting its borderlines between historical and modernist structures, and the flexible spatial and temporal utilisation of various types of spaces makes a city resemble a screen more, thus interchanging various motifs, emotions, atmospheres and physical settings.

Agrest and Gandelonas (as cited in Pipkin *et al.*, 1983, p. 105) consider urban space to be the material product of three relatively autonomous structural systems: economic, political and ideological. The intersection of those three systems creates the central and dominant meaning of the given space and gives it a new quality – the quality of a social context. The authors tried to identify the “sequence mechanisms”, which are the result of many actions of the creators and users of the spaces. These sequences make the meaning of the space in a socio-semiotic sense. Space

is always an intersection of various cultural codes and behavioural practices. This intersection is thus a “node”, not only in the physical/local sense, but also in the sense of the general perception of societal hierarchy. Mass housing neighbourhoods with their once noisily proclaimed egalitarian essence have metamorphosed toward their polyhierarchical presence – and today, almost all societal niches are represented there, which might be one of the reasons why they have avoided the process of ghettoization.

The central role of language (*lingua*) in the production and consumption of urban space was emphasised by Vuolteenaho *et al.* (2012). On the horizon of everyday human interactions, language is the primary tool, which people use to establish meaning in their lives and express their Lefebvrian “spatial competence” (Vuolteenaho *et al.*, 2012, p. 17). Through speaking, chatting, listening, reading and writing, various actors (from mayors and top managers to homeless people) linguistically shape the city as a lived space, enabling them to externalise diverse social activities within the territory of the city, sometimes challenging even the ruling power structures. Especially in Central Europe, yielding a rich heritage of language as the central topic of human existence, and having in mind that Central Europe was constructed not only by planners and architects, but also by personalities like Kafka, Musil and Wittgenstein (“back to language”), this thesis is still surprisingly strong (see e.g., Jaško and Finka, 2018).

METHODOLOGY, GOALS AND BACKGROUND OF THE RESEARCH

The Petržalka neighbourhood, especially its modernist residential structures, have been the object of analysis and investigation in many recent research projects and analyses. Outputs and results from the following sources were collected and included in our study (Figure 3):

- a) projects dedicated to the city of Bratislava as a whole and its position in cross-regional and international relations, in which Petržalka played a substantial role, especially in terms of cross-border cooperation with Austria (the CENTROPE region), as well as the positioning of the metropolitan region Vienna-Bratislava, and projects focused on environmental management related to the Danube River. POLYCE projects (Metropolisation and Polycentric Development in Central Europe) analysing the competitive and cooperative potential of 5 Central European Cities including Bratislava, Metronet (Cross-border metropolitan governance in Europe) and project Bratislava – Prognosis 2030 were especially in the spotlight, delivering precious knowledge gathered by interviews with experts, politicians, decision makers and residents. Petržalka has been confirmed as a vital area significantly contributing to the overall competitiveness of the city/region of Bratislava at the national and international level. The area of Petržalka was one of the main topics during research devoted to the changing perception of the CENTROPE region within a project funded by Austrian-Slovak scholarship bilateral programme focused on mapping out the CENTROPE project, in which two decades of regional development of the CENTROPE region (covering the

border regions of Austria, Slovakia, Hungary and Czech Republic) were studied and analysed. Interviews with the mayors of small municipalities in Austria, Slovakia, Czech Republic, as well as interviews with former regional politicians, researchers, scholars and decision makers, shed light on the roots and perspectives of the CENTROPE region, its cultural background, and the importance of cultural compatibility in the entire planning process.

- b) projects dedicated to mass housing neighbourhoods in Slovakia, and in Bratislava particularly. The METSID project dealt with the methodology of renovating and revitalizing mass housing structures in Slovakia and its reflection in planning instruments and planning processes. One of the further research sources was PhD research focused on GIS modelling of the suburbanisation of Bratislava (Hajduk, 2023). Various other theses and dissertations by students, including PhD students at STU have been dedicated to Petržalka and its spatial, urban and regional development (innovative public spaces in mass housing neighbourhoods, the concept of a 15-minute city, the management of waterfront areas, participative planning in Slovak mass housing neighbourhoods, etc.). These research activities have delivered a plethora of information illustrating the social, urban, spatial and economic processes running in Petržalka over more than four decades of its existence.

The conclusions are a form of meta-analysis from various methods and procedures that are the combination of analytical and synthetical methods based on the desk research process, personal experience of the authors and results from interactive work with stakeholders and actors (questionnaires in the POLYCE project, interviews

in the Metronet and CENTROPE projects, and collaborative workshops in Bratislava 2050 Territorial Prognosis (Finka *et al.*, 2021)).

The main goal of the research was to investigate how the socio-semiotics of the Petržalka mass housing estate has evolved and changed over nearly 40 years of its existence. The public perception, the place attachment of residents and the symbolic meanings of this place have gone through an arduous journey from an almost idyllic pastoral landscape outside of the city, through being a grey depressive dormitory, to a multidimensional presence. The participative planning culture in Bratislava, which has prevailed in the last two decades, gave birth to the new semiotic and symbolic content related to the territory of Petržalka. The inhabitants and local actors have also become one of the decisive driving forces in the process of redesigning the mental maps of this highly volatile territory. Only thorough investigation of this process might help to reveal the future potential and enrich planning practice not only in Bratislava, but also in Central Europe as a whole.

PETRŽALKA'S EVOLVING URBAN SEMIOTICS

Petržalka was built in the late 1970s/early 1980s and it lacks the “great utopian vision” typical for New Belgrade and Brasilia. Its initial idea was born in times when modernity had started to lose its appellative almost “eschatological” character and was transformed into more managerial and technocratic positions. Moreover, the former Czechoslovakia was characterised by a different political situation: communism was implanted from outside by the Soviet invasion, without a particular “peculiar” or idiosyncratic version of Czechoslovak socialism led by a charismatic

RESEARCH METHODOLOGY ON PETRŽALKA AND ITS MODERNIST RESIDENTIAL STRUCTURE

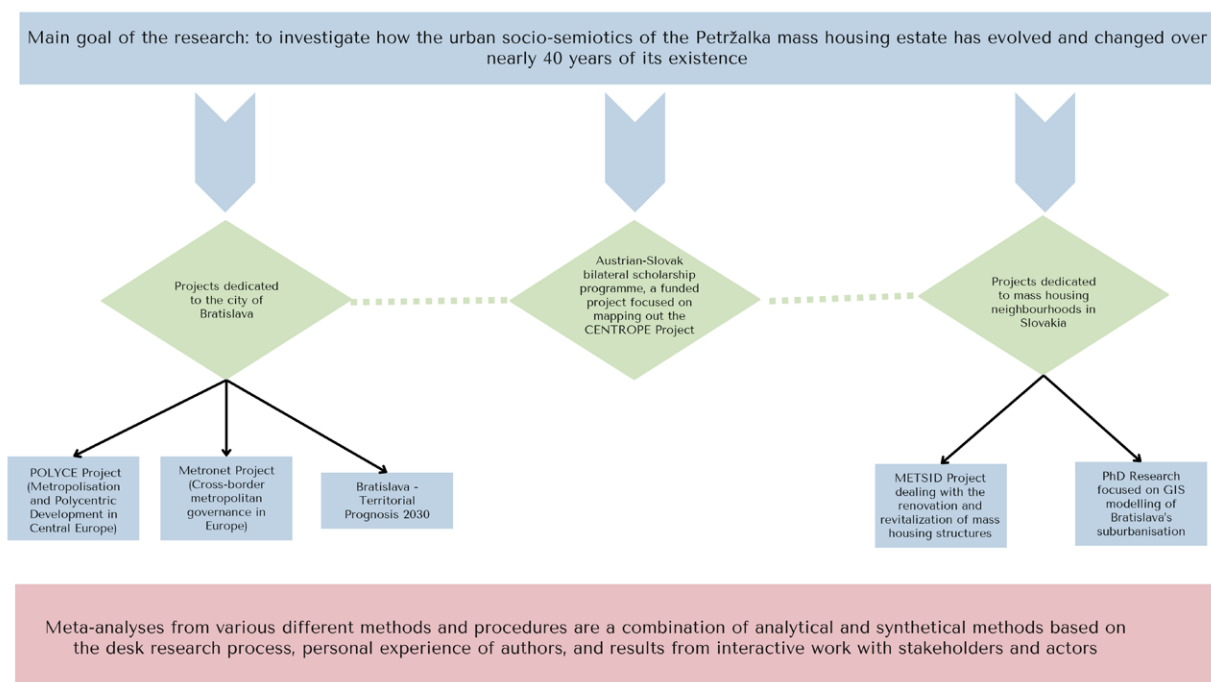


Figure 3. Research methodology diagram (Source: Authors, 2023)

leader. Moderately liberal, the 1960s delivered a sense of new hope, with a slight meltdown of communist dogmas, but this short period of hope was crushed by the Soviet military invasion in 1968, and the reformists were defeated. Even the relatively liberal zeitgeist of the 1960s was based upon pre-war Czechoslovak functionalism, not on any special heresy of communism (unlike in e.g. Yugoslavia).

Hence, in the former socialist Czechoslovakia, the 1970s were the years of despair, emigration and total withdrawal from the public sphere. People were not interested in participation, and hardliners in the communist political elite held a grip on power. Therefore, there is a lack of any whole-societal general symbolic meaning of the Petržalka project; and although some rare technological and architectural masterpieces have appeared (Bridge of the Slovak National Uprising - SNP Bridge), the worn down modernity of alienation and its mundane presence, metaphorically speaking, was the resulting social connotation of the beginning of the 1970s, when the idea of the Petržalka mass housing district was born. Petržalka, as an overambitious socialist project, was never completely finished, which is considered an advantage today (Jaško, 2014).

The first Czechoslovak republic was founded on October 28, 1918 as the democratic state of the Czechs and Slovaks. The territory of Petržalka was joined to the Czechoslovak state in 1919, but this territory remained a disputed legacy and never shook off its transitional “borderline” character. In the 1920s and 1930s, it was a garden colony of Bratislava, with its mental image shaped by sun, river basins and green pastures, a kind of marginal idyllic pastoral country, which never truly felt like a part of Bratislava (the second largest city in then Czechoslovakia). In the war years, 1938-1945, it was a part of Nazi-Germany, with all the related grim consequences. After WWII, Petržalka became an area where the iron curtain was hung. For decades of socialism, it was rather a “terra incognita”, a kind of plain buffer zone between the East and West, full of guards and patrolling soldiers. Residual remnants of the semantics and vocabulary related to this era might be found in Petržalka even today (“Námestie hraničiarov” – Border Guard Square).

In 1973, the largest mass housing neighbourhood in Central Europe was approved and started to be constructed. In the late 1970s, Petržalka became home for thousands of people, a kind of socialist dormitory, providing accommodation for the growing industrial human resource capacities, a housing estate with a lower quality of life (“never been there”, “not dangerous but eerie and depressive”, “it has never been part of Bratislava” according to respondents interviewed e.g. in POLYCE and METRONET projects). The hopelessness and helplessness of late socialism in the 1980s were present there in every spot. Unfinished public spaces, the lack of services and confusing orientation systems were the hallmarks of this former bucolic pastoral landscape. The material shortage of late communism, and the lethargy of a society devoid of any trust toward the state and its leadership were readable in the Petržalka streets, with their over-dimensional grey apartment blocks and user-unfriendly infrastructure. There was no celebration of finishing Petržalka – the socialist regime sidelined the discussion of this project with easiness. The whole society was waiting for the collapse of the

regime, of which Petržalka was undoubtedly an urban and architectural symbol. The urban semiotics of Petržalka lost any meaning or direction – the official regime was suddenly speechless, silent and anomic. This was not the end of any dream or utopia – only the silent acknowledgment that there was never any dream.

Petržalka partly became the “flagship” of all of the negative aspects of socialist mass housing construction and development, and the opposition focused on its mono-functionality, monotonous architectural language and its certain territorial isolation from the main corpus of the city organism (Moravčíková, 2012). In a broader sense, Petržalka served as a prominent example of an overall (entirely justified) critique of the communist regime (Budaj *et al.*, 1987), which proved to be utterly unable to deal with any problems of higher complexity.

The 1990s delivered freedom and democratic discussion on the ever-present needs for the humanization of this huge housing neighbourhood. The highly volatile transitive society also unleashed many negative social trends and tendencies – rising criminality, societal anomie and the disruptive behaviour of large segments of the population. This period yielded huge societal shifts and accelerating business careers, but also many setbacks and examples of desperation and bankruptcy. Participative mechanisms able to cope with these societal rifts were not yet ripe or available. The concrete jungle gave birth to the jungle of human relations, instilling the fear that the entire area of Petržalka would start the process of urban and societal decay, resulting in the ghettoization of the whole community. A grim escapist atmosphere was suddenly present, not only in the dialogues of newly established elites, but also in the everyday small-talk of the middle class.

But the new millennium surprisingly stopped this trend. Petržalka is slowly becoming (at least partly) a green neighbourhood, and the first refurbishment projects have yielded some positive results. In addition, new development projects have completed the missing gaps in the unfinished urban fabric (Zone Šustekova Street), and the population has become older; in fact, all of Petržalka has caught a new breath. The prices of real estate have caught up with other similar neighbourhoods in Bratislava, and Petržalka has slowly ceased to be the “bad address”. Between 2012 and 2022, a rapid developmental boom started, which gave birth to the polyvocal presence of many actors, and the first communities based upon “good neighbourhoods” arose. Contemporary Petržalka is struggling more with climate change challenges, accelerating real estate prices and obsolete parking policy than with violent criminality.

This has also accelerated the semiotic shift in the mental maps and cognitive frameworks of the citizens. Once a socialist mammoth real estate project, then a grey dormitory without perspective, Petržalka has recently become a multidimensional text with many opportunities for identification with the lived space. The official ideology of socialism has long gone and lost its repressive character, which was partly overshadowed by omnipotent neoliberal ideology or replaced by the defensive strategy of escapist “nostalgic” models of worldviews. The current population

of Petržalka is much older than in the 1980s, and this trend reflects a certain reconciliation with the obsolete ideological roots on which Petržalka is based. Nostalgic memories of sweet childhood and afternoons spent on horse races or ice-hockey matches played in improvised ice-skating playgrounds built between the concrete blocks have replaced the grim feelings of helplessness typical for the 1980s. For many people, Petržalka became a projection area of the unrealized dreams of their youth and childhood, when “things were in order”, despite the fact that reality was often much different.

One of the characteristics of Petržalka is the transport segregation, possibly inspired by le Mirail in Toulouse, which was built in the early 1970s by George Candilis and was initiated by the socialist mayor Louis Bazerque. The motivation to build such a large settlement for 50,000 people was, similarly to Petržalka, to accommodate up to 100,000 people, aiming for a social mix and quality space. The transport segregation followed the trend of private cars as the main mode of transportation dominating the public space. In order to allow barrier-free and quick movement and at the same time to protect people from being hit by car traffic, these modes were separated and roads were given generous space.

The composition of Petržalka was gradually developed over time, and it continues today. This way, various authors leave their footprint on the settlement, reflecting their background and recent trends. Since the 1990s, Petržalka has been developing again and filling the holes in its layout, which were the remnants of its “unfinishedness” due to political shifts in the 1970s and 1980s. These gaps also come from places that were reserved for building a metro transport

system that was never implemented due to economic and political, but also practical reasons linked to the low density of Bratislava’s settlement structure, rendering a metro system unfeasible. Looking at Petržalka today, an observer can see that the structure still is being complemented and new additions are being appended, not only on the outskirts (e.g., the Slnčnice development project on the southern edge that is extending the settlement towards Austria and Hungary), but also inside it, thus densifying the structure. These additions are different in character – their form, height, overall quality and quality of public spaces varies widely.

Although Petržalka looks like a single unit composed of endless blocks of uniform flats, it can be separated into several districts. These districts are formally named without any link to previous topography, and they are never really used by locals, who perceive Petržalka according to its landmarks (Technopol, lake Draždiak, etc.). These original districts represent varying composition principles:

- Lúky district is formed by large inner blocks with varying height, surrounding kindergartens and elementary schools;
- districts Dvory IV-V are formed by perpendicular inner blocks; and
- districts Dvory I-III and Ovsište are made up of envelope houses with terraces.

Some previous elements (roads, “Chorvátske rameno” channel) are almost completely preserved, or the current roads copy the originals, partially preserving the identity of Petržalka.



Figure 4. Schwarzplan of Petržalka showing the different urban structures of the mass housing (Source: Authors, 2023)

From the urban semiotics point of view, new landmarks, built from 2000s onwards, are semiotically expropriating the original names or meaning while being accelerated by commercial developments. For instance, Aupark shopping mall comes from the name for the natural protected area Donauauen (positioned in the Austria-Slovakia cross border space), and the development New Lido refers to the former swimming and recreation zone Lido from the late 1920s. Previous or old landmarks, such as Incheba, Technopol and SNP Bridge, have a stable perception and are firmly tied to their old modernist semiotics, for both older and younger generations. The above-mentioned names for Petržalka's districts remain blurry and unprofiled and are hardly recognised by the majority of locals; these are simply not on their mental maps of Petržalka.

The semiotic essence of the name *Petržalka* has been through many shifts and changes: from being the symbol of a rural-gardening suburb, through being a depressive concrete dormitory, and then a multidimensional presence (housing, business, recreation). Even particular places in Petržalka have gone through this type of development: while some official names (Lúky (Meadows), Háje (Forests), Dvory (Courtyards)) did not really appeal the general public, some others (lake Draždiak, Aupark, Leberfinger) have completely overwritten the mental maps of Bratislava's residents.

INCHEBA AND SNP BRIDGE – SEMIOTIC ANALYSIS OF PETRŽALKA'S SUPER SIGNS

A super sign is defined as a higher-level sign, integrating different levels of meaning. Petržalka, with its rather monotonous urban fabric offers few iconic landmarks. Two of them, Incheba Tower and SNP Bridge are fully analysed here.

Incheba Tower has become more than a natural landmark of the Danube embankment, it signifies the modernist attempt to highlight and underline the duality of both banks of the Danube in Bratislava and their different future perspectives from when the tower was constructed. Now, Incheba Tower has evolved its meaning and connotations – being currently perceived as a large exhibition complex, it communicates the spatial and functional versatility of the former urban fabric, and the morphology of Petržalka, rather than any ideological content. Unlike other socialist remnants in the urban fabric of Bratislava, it quickly got rid of its former ideological ambitions and now it does not polarize public opinion much.

Today Incheba Expo Arena is the largest exhibition complex in Slovakia, conveniently placed in the northern part of Petržalka, on the south bank of the river Danube, opposite Bratislava's Old Town. As one of the highest and, regarding the built area, also the largest building in Petržalka, the exhibition centre is still one of the few landmarks of this vast area of modernist housing projects. The landmark character of the building is not accidental, but was designed to become a point of first contact for many visitors from the former "Western bloc", as well as to be a state-of-the-art exhibition centre for the former Czechoslovakia.

The Incheba exhibition centre was designed by famous Slovak architect Vladimír Dedeček and the construction started

in 1977. Even though the design is nowadays perceived by many members of the broad public as "communist" or reminiscent of the former "Eastern bloc" Soviet architecture, the building itself was designed in a spirit of international high modernism, with many details and forms present also in Western Europe, and worldwide. In this regard, Vladimír Dedeček is sometimes compared to (or accused of copying) other modernists like Oscar Niemeyer, since his approach to architecture was more sculptural, with the use of basic volumes, orthogonal grids, and a strong sense of abstraction and composition. Regardless of the architect's inspirations, the Incheba exhibition centre's architectural quality was in strong contrast to the rest of Petržalka's original built structures that could be described as dull and monotonous outcomes of typification and mass production.

The complex was finished in 1995, six years after the fall of communist party rule in the former Czechoslovakia, so the building did not have a chance to become the embodiment of socialist progress, or to display the newest technological and scientific discoveries – the purpose the building was originally designed for. This "higher purpose" can be seen from different angles. Firstly, the building is located on the south bank of the Danube near the highway that nowadays connects Bratislava and Vienna, a location convenient to access by the international public coming from the Austrian side. The location is also in direct opposition to Bratislava's old town and castle, which can be interpreted as a symbolic triumph over the old, bourgeois part of town. This contrast, or direct confrontation with the Old Town, with its churches and towers, can be seen in the height of the Incheba Office Tower, which rises to 71 metres and 20 storeys. Together with the SNP bridge (iconic modernist/brutalist landmark of its own) that is in direct spatial connection to Incheba, the motive of the communist party to build new, better, landmarks of the future, is evident.



Figure 5. Incheba viewed from the Old Town – facade covered in large scale advertisements

(Source: Slovenský a nemecký veslársky klub (in Slovakian), Wizzard, CreativeCommons, 2016)

As the complex was finished in turbulent post-socialist times, it underwent many crises and functional changes, as it was forced to adapt to the new capitalist open market. For many years the building hosted the largest exhibitions in Slovakia, but there have been many changes in the usage of the administrative tower, which nowadays is partly vacant and partly serves as a student dormitory – a rather

interesting twist of occupiers for such a form and former purpose. Another highly debatable and criticised part of the building is the facade of the administrative tower, with its undisputed architectural qualities, which became a large format advertisement billboard that can be seen from far away – a phenomenon not only dishonouring the building itself, but also degrading the surrounding park and views from the Old Town, as well as contributing to the visual smog the city fights to get rid of.

There is no doubt there are strong financial pressures for the current owners of the exhibition complex that can be seen in a desperate effort to maximise the returns in any possible way. This has also resulted in the largest plan so far for the possible future redevelopment of the site, including an additional new exhibition hall that, based on the renderings, does not take into consideration the existing building and its qualities, but rather parasitizes (metaphorically and also literally) on the Incheba complex, with the aim of gaining state investments. This newest architectural study just underlines the fact that the Incheba exhibition complex, despite its initial grand visio, has never truly become the city landmark it promised to be, and its future remains unclear.

Another significant super sign related to Petržalka is the Bridge of the Slovak National Uprising (SNP Bridge). During its construction it was the world's longest suspension bridge, anchored on one side of the river, later becoming the new dominant feature of the Bratislava skyline. The bridge totally changed the scale and visual appearance of the Bratislava riverside. The construction of the bridge was conditional on the development of Petržalka. Its highly modernist tectonics signalling the huge aspirations of futuristic "cosmic age" were designed in the late 1960s, during the period of reformist liberalisation later crushed by Soviet military intervention.

The bridge itself managed to get rid of any direct connotations of the ruling communist regime. It is composed of two 85m-high pylons to which the bridge deck is anchored by a system of support steel ropes, with a UFO shaped restaurant at the top of the pylons that provides views of both the Old Town and Petržalka. This architectural competition assignment even demanded the design not to disrupt the skyline of Bratislava, as defined by Bratislava Castle and St Martin's Cathedral, which resulted in the construction leaning to the opposite side of the river to preserve the views



Figure 6. SNP bridge with restaurant at the top
(Source: Authors, 2020)

typical for the city (Paulík, 2012). The original proposal aimed to create a new dominant structure for the city, not only in terms of its height but also its function, as the bridge was designed as a glass windowed promenade full of shops and amenities for the citizens of Bratislava (see Jaššo *et al.*, 2022a).

Unfortunately, the roads connected to the bridge from the Old Town required the destruction of a large part of the Old Town, just to save construction time and to meet the traffic criteria for moving tanks and army vehicles from one side of the city to the other. This penetration of the Old Town by a highway also became a tool for the communist regime to suppress the historical influence of the Old Town, as well as religion, as the highway construction demanded the demolition of a Jewish synagogue and missed St Martin's Cathedral by only a few metres, which resulted in a busy road right in front of the main entrance to the cathedral.

However, the communist propaganda never conquered the semantic essence of the bridge. Its design was more a tribute to the futuristic dreams of the 1960s, merging the strange feeling of "otherworldness" hanging in the air with the sculptural reflection of a distant memory of the architect's father who was driving a cart. The elegant silhouette of the bridge resembles not only a modernist streamline form, but also a driver leaning backwards as he pulls the horses' reins when he takes them to the river to drink water. The same principle is applied to the leaning pylons of the bridges and the steel ropes holding the bridge structurally. After 1989, the bridge was accepted by the public for its obvious sculptural and utilitarian qualities. This fact resulted in the "Construction of the century" award in 2001 (Paulík, 2012), which definitely confirmed the bridge's place in the mental maps of Bratislava's citizens as an integral part of today's city (elaborated in Jaššo *et al.*, 2022a).

DISCUSSION - PETRŽALKA'S AFTERMATH

Petržalka, much different from the group of numerous smaller scale mass housing neighbourhoods due to its undisputed peculiarities (its position on the former East-West iron curtain, it is the largest mass housing neighbourhood in Central Europe, its specific riverside terrain, and geomorphological situation), has stood the test of almost four decades of time, with mixed results.

On the positive side, it has not gained the appearance of a classic hopeless ghetto, the reasons for which are its versatile social mix and relatively open boundaries to the other parts of the city. Despite its large-scale, restricted architectural typology and initial lack of many substantial functions, the sense of place attachment and community building have slowly crystallised, and elements of being a good neighbourhood have in most cases prevailed. Most of the contemporary residents have lived in Petržalka for more than two decades, making the place a unique sample of stories, human encounters and everyday practices. Experiences related to Petržalka show that social order and social control are more profiled in the locations where people have been living together for more than 40 years and have gone through all the phases related to the life cycle of the housing estate. In these communities, there are some

common experiences of dealing with many long-term issues such as refurbishment of the facades, gardening in the inner courtyards, renovations of the playgrounds or public spaces or enlarging the green areas. These communities are present predominantly in smaller buildings with fewer flats, surprisingly localised away from the places with good traffic connections or nodal placements. Many once forgotten corners of Petržalka have become pleasant places for everyday life.

The public image of Petržalka has somehow converged with the images of other similar Bratislava neighbourhoods – with all the ensuing positive and negative consequences. Petržalka is no longer “the other” in the metaphorical mental map of Bratislava but is, rather, a structurally and mentally integrated part of the city. The rising spatial pressure in recent years has highlighted some of Petržalka’s advantages – the socialist mammoth project was never completely finished, thus there is a good portion of flexibility related to new developmental plans, and the clash between the “old and new” is never as sharp as in some other parts of Bratislava (e.g., Ružinov, Karlova Ves).

Petržalka is the biggest Slovak mass housing district, and the biggest modernist housing project in Central Europe. An ambitious attempt to create the modernist “alter ego” of Bratislava as a city on both Danubian banks, with wide streets, vibrant city life and high-quality urbanity, has basically failed, but Petržalka has shown surprisingly high adaptability since 2000. The humanization initiatives of the 1980s and 1990s did not deliver the desired outcome, but interventions since 2000 have been more sustainable. The area of Petržalka is large and the orientation, mental maps and structural forms overlap the common imagination of a typical Slovak mass housing district. The quality of the urban environment varies widely – there are pleasant places with gentle touches with nature and good connectivity, as well as locations “lost” in the ocean of concrete. Safety in the area has also been significantly improved, and violent criminality is rare, nowadays not generally exceeding the rates in other parts of the city.

During recent years, Petržalka has shown a surprisingly high proportion of urban resilience. Resilience is dependent on the inner cohesion, an ability of the system to “stick together” or “withstand the external pressures”. The peripheral location of Petržalka (in a geographical as well as a mental sense – at least in the beginning Petržalka was placed “outside” of the city in the mental maps of Bratislava’s citizens) was always considered a risk factor. The unique and delicate combination of interactions between various subsystems (economic, social, cultural) within the territory of Petržalka makes its resilience quite a challenging task. Resilience through increased functional variability is the key. Early attempts to form common values and civic culture (public initiatives against problematic developers, safeguarding the green areas on the Danube embankment, cycling routes) have appeared since 2000, and the humanization of public spaces and the refurbishment of old, prefabricated panel blocks indicate the common consensus and motivation of residents to stay in the territory, backed up by the wide heterogeneity of the social milieu. This generates both positive (social mix, different classes) as well as negative (different competing identities) consequences.

Petržalka does not have the appearance of a classic hopeless ghetto, due to the manifold social mix and relatively open and vibrant connections to other parts of the city. All in all, although Petržalka has never fulfilled the modernists dreams, it has never become a completely excluded place, cut off from the city organism (for more see Jaško *et al.*, 2022b).

CONCLUSIONS

Most Slovak mass housing neighbourhoods have overcome decades of often arduous and complicated ways in their architectural, urban and societal development. Once the most prominent examples of the proclaimed communist dream of an egalitarian society, today they are trying to meet numerous challenges of a highly volatile world with a plethora of ambiguity, uncertainty and transitory elements. Their resilience, adaptability and ability to transform is being greatly challenged.

Mass housing estates are the product of a certain historical development and the social order that gave birth to them. As an investor, the state could not guarantee the high-quality implementation of details, and it did not take into account the specifics of the location, the prevailing melody of the country or the stories associated with the given territory. Almost all mass housing estates are a story of discontinuity – although it must be admitted that sometimes new development also meant a farewell to a bad or dysfunctional past. In the early years of mass housing (1970s-1980s), many estates (Petržalka included) underwent the process of spatial de-semantization. Unique semantic content related to a specific territory and kept in the mental maps of residents and inhabitants was lost. Massive, uniform and bold structures mechanically repeated ad nauseam carried the meaning only as a whole, thus neglecting the semiotics of micro spaces, the memory of the space and past social practices externalised there. Lack of an orientation system, monotonous and empty spatial syntax, and the lack of meaning were once imprinted into the newly-built urban fabric. However, the era of transformation turned this situation into the process of (sometimes unplanned and fuzzy) re-semantization. The fluid 1990s, rich with new colours, stories and the first re-building initiatives massively challenged the modernist blueprint, including in the semantic dimension. What was once progressive became obsolete, and what was once strictly regulated and planned became exposed to unpredictable and unrestrained shifts of social context. Ambiguity, uncertainty and fuzziness became the norm.

Many problems related to the construction of residential complexes have not been solved even today, although the main investor in most cases is private capital. There is still a lack of organic connection with the Petržalka area as a whole, as well as other residential structures, correspondence with the location, etc. Competing functions sometimes impose further havoc in highly challenged spots. However, the housing estate as a form of housing has survived all the changes in society so far, and it can be said that despite all these problems it has proven itself in its own way – almost half of the population of Slovakia lives in prefabricated panel houses, and Slovak (or Central European) housing estates have never become excluded ghettos, as has happened some

other cities worldwide. The social mix of inhabitants has also remained quite favourable – all age groups and social groups are represented. Place attachment based on everyday social practices rather than on extraordinary identity also plays an important role.

Contemporary mass housing neighbourhoods in Slovakia, and in Central Europe in general (Petržalka being one of the most prominent examples), are specific “metatexts”, a screen with dominant ideological messages from the past (socialism) as well as contemporary ones (neoliberalism). This “metatext” contains many syntax and grammar errors and is therefore not completely finished. Nevertheless, maybe this is its main advantage – there are a lot of opportunities to improve the whole neighbourhood and adapt it to current challenges and conditions. Its meaning is never finished – it is mediated and re-negotiated every day.

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