PANELKA BEYOND IDEOLOGY

In between a remnant of Soviet reality
and a catalyst for individuality

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After the fall of the Berlin Wall, numerous monumental statues of the totalitarian Soviet regime were publicly torn down by citizens. The architectural landmarks were perceived as direct representatives of the political power. Erasing them from the cityscape marked the end of the past regime. Thereafter, these same citizens returned to their families in the Soviet residential buildings. Over 30 years later, the residents still live in the same highrise structures, remnants of urban Soviet utopia.

Panelka in Bulgaria, Plattenbau in Germany, Panelak in the Czech Republic, Wielka Płyta in Poland, Panelhaz in Hungary - all terms which refer to prefabricated panel apartment buildings of the former Eastern Bloc. This architectural type, often described as monotonous and characterised by visual inexpressiveness, was the solution to the housing crisis of expanding city populations in the 20th century across the Soviet Union. The buildings were presented as a spatial manifestation of the ideological pursuit of collective identity and the vision for an egalitarian society (Kährik & Tammaru, 2010). The presence of the prefab typology lives on after the collapse of the Soviet Union, as it continues to determine the cityscape of Eastern Europe and Asia long after its politics have entered the history books. This study will hone in on the developments of Panelka in Plovdiv, Bulgaria. The apartment buildings in Bulgaria were the first to be privatised in Eastern Europe, and therefore have had the longest time to develop their own identity.

fig. 1   fig. 2
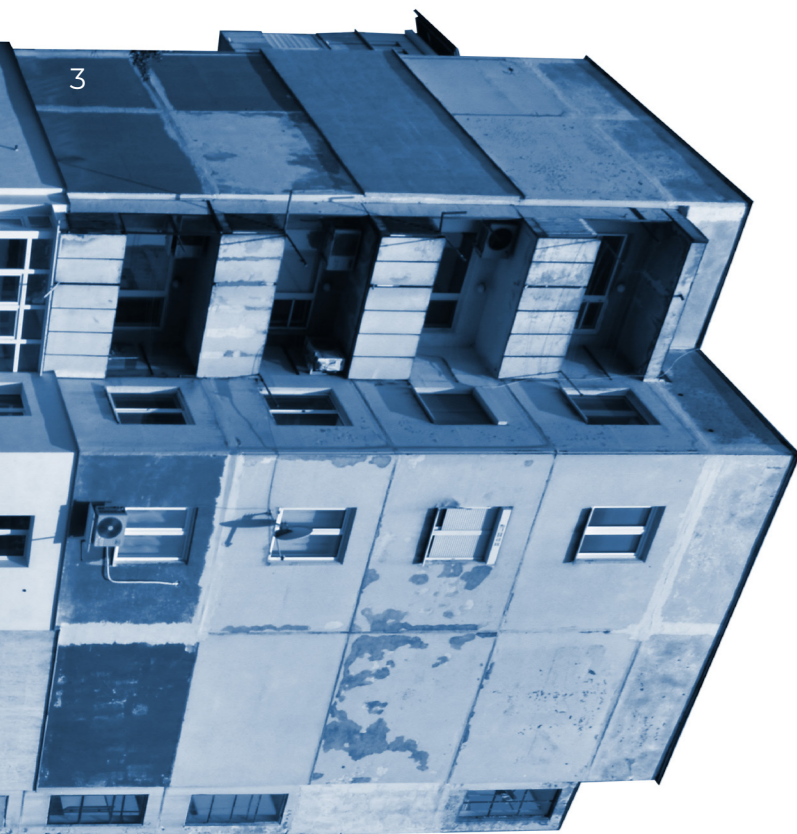
PANELKA AND INDIVIDUALITY:

"Though it (the building) may appear to be rooted in pragmatism, it is a powerful and extraordinarily revealing expression of human psychology." (Sudjic, 2005, p.324)

At the time of its creation, Panelka was an expression of the nomenklatura[1] and the corresponding understanding of how the working class should structure their living habitat. As the housing typology started to spread across the USSR in the 60s, many professionals involved in the design process expressed their concern about the monotonous character of the building typology, which might impact how the city is perceived (Malaia, 2020). Residents of the buildings were discouraged to make visual changes to either their apartments, buildings, and neighbourhoods. Thus, both on the city scale and the building scale, the Soviet nomenklatura left little room for an expression of individuality.

The former state-owned property was transferred to a private owner in Bulgaria in the mid-70s, whereas other former Soviet countries started in the 90s (Nikolov, 2020). This privatisation accelerated individualization on the building scale as inhabitants started transforming their living space to fit their needs. On the city scale, more freedom for expression arose after the fall of the USSR. Namely, the residents were able to personalise the outside and surrounding of their buildings more than before. At present, the building's monolithic nature remains, although due to the fragmented ownership the environment has been personalised through the means of "remont"[2].

The current Panelka aesthetic is perceived either as a triumph of individuality after years of "prescribed" self-expression, or as a schizophrenic overall impression as incoherent changes of the residents dominate the urban fabric. This study investigates the role of individuality for the development of Panelka during the Soviet regime and the Transition period[3].

PANELKA AND IDEOLOGY:

"Buildings last a long time, but their political role may only be relevant at the moment of their initial creation. It is a moment of relevance that may come again in quite a different context." (Sudjic, 2005, p.324)

Although they still carry the notion of the Communist ideology in their overall appearance, the prefabricated apartment blocks have transitioned into democracy. Not only are they present in the current cityscape, but Panelki have become essential to the fragmented architectural reality of Bulgaria as 97% of the Panelka apartments are owner occupied (Georgiev, 2014). Even though the buildings have outlived their planned life span of 20 years[4], they thrive due to the established social structures. Even after numerous adaptations of the current private owners, the apartment buildings waft a sense of past times - not necessarily a connection to the ideology behind the "prescribed" lifestyle but rather (a bitter or nostalgic) memory of the recent past.

Although the privatisation process happened early on, a majority of the public in Bulgaria still considers the expression of this architecture ''Soviet". Acting as a constant reminder of Soviet times, the Panelka falls victim to neglect. The study explores Panelka's current day "Soviet'' perception and challenges this concept by exploring its local characteristics.

THE CONUNDRUM OF PANELKA:

It appears that the Panelka neighbourhoods are grounded in contrast:

Firstly, although the Panelka was a short-term solution to an overarching problem of the housing crisis, it continues developing today on the foundations of its temporal materiality. This process is traced by Toleva (2016), who in her work maps out the development of the prefabricated district of Trakiya and more specifically how current residents engage with their surroundings.

Secondly, initially embedded in ideology, the prefabricated typology was designed to correspond with the needs of Soviet society according to the USSR statecraft. Nowadays, as host of a democratic society, Panelka neighbourhoods empower the current residents to freely tailor the space according to their individual needs. The initial concept of uniformity achieved through the typification of the prefabricated Soviet housing (Panteleyeva, 2016) is seen by Nikolov (2020) as the catalyst for individuality. Thus, the formerly strictly regulated architecture has become an outlet for the development of scattered self-expression.

Finally, although different parts of the Panelka are in constant re-creation and development by the residents, they are perceived by many as outdated. As Toleva (2020) puts an emphasis on how "alive" the Panelka neighbourhood is, her position contrasts with the negative connotation of the Panelka as a reminder of the past Soviet times. In summary, the existence of Panelka is surrounded by complex dynamics and historical baggage. There appears to be a lack of understanding of the social and urban position of these neighbourhoods, resulting in neglect by governmental institutions. This paper studies the Panelka with the aim to shed light on its position in today's society. Therefore the primary goal of this study is to investigate the transformation of the Panelka after the Soviet regime and its connection to the needs of the current residents. This study shows that while the Panelka is a product of the Soviet architectural movement, it has evolved according to the socio-cultural context of Bulgaria.

[1] Nomenklatura refers tthe system whereby influential posts in government and industry were filled by Party appointees.
[2] "Remont" translates as "repair" and refers to the expressive private initiatives for renovating the interior and exterior of the apartments . According to Nikolov this act of repairing translates into the understanding that the contemporary world of post-socialist countries is seen as a constant work-in-progress.
[3] The Transition period refers to the timeframe of dynamic political changes from the Soviet regime to democracy.
[4] Dimitrova, L. (2017) How long is the lifespan of the panel blocks and do they hide any risks?!

As the Soviet Union's territories spanned across 30 countries, the prefabricated neighbourhoods have tattooed numerous cities across Europe and Asia (Zarecor, 2014). The former Soviet states share not only a common past but also the legacy of the failed utopian urban experiment. While current politics look towards ensuring a brighter future, this particular architectural heritage stays in the shadows. Reasons for the neglect are multifaceted and therefore uneasy to deal with. On one hand, the ideological "leftovers" of the typology still act as a reminder of the past political period. On the other hand, the fragmented ownership and questionable material status of the buildings create difficulties for big-scale interventions. While the presence of the Panelka neighbourhoods in urban planning seems to be often away from the spotlight, millions of people in Eurasia continue to live in the prefabricated buildings. In Bulgaria alone 2 million people call Panelka their home, which is 1/3 of the total population of the country (Nikolov, 2020). However, the prefabricated apartment buildings were constructed with a predetermined lifespan. Additionally, there is a failure of adaptation to the new standards, and difficulty to overcome the inherited ideological traces. These three factors increase Panelka's chance of possible demolition in the near future.

Panelka is an example of the discourse about how one deals with ideologically charged architecture after the historical timeframe of the practised ideology. As countries experience different political regimes, those leave a mark on the living environment - not only on the social structures and perception, but as well as the built environment. With buildings planned to last, their outdated political traces need to be tackled. While numerous buildings connected to the Soviet rule were demolished after the collapse of the USSR, the Soviet prefabricated homes remained immune to that process on account of their social fabric. The prefabricated blocks stay largely unrecognised as cultural and historical heritage, although they played a vital role in the development of Soviet, as well as post-Soviet society.

The exploration of the conditions under which the prefabricated residential typology evolved incorporated various methods. The methods clarified below provided a deeper understanding of Panelka's current relationship with society, politics and the built environment:

Academic literature resources
Primary sources of literature were used to gain knowledge about the position of Panelka during the Soviet regime, the Transition period, and the current day political situation. The literature research provides the base for a holistic understanding of the Panelka due to its roots in sociology, architecture, and political theory. The sources give insight into the design and construction process, social and political influence, the position of the typology in the different political climates, and the connection between architecture and ideology. Additionally, the behavioural theories of Lefevbre, Deleuze and Guattari, as well as Sennett, provide an in-depth understanding of the relation "user-space" in the societal, as well as the urban context.

Architektura USSR
Next to the academic literature, the Soviet publication "Архитектура СССР" (transl. Architecture USSR) provides a historical source for understanding the discussions connected to the panel districts during the Soviet times. The publications in the timeframe of 1970 - 1980 offer an insight into the conceptual approach and goals for the Panelka, as well as the challenges the professionals were facing. The study of the "Архитектура СССР" issues was vital to understanding the insights of the initial architectural and urban discussions during the Soviet regime, as those determined the role of Panelka in the architectural and social context.

Case study
Through the analysis of the Trakiya district in Plovdiv, an understanding of the different elements in the Panelka assemblage is provided. Through the case study an investigation on how the Soviet theories were implemented in practice was possible. Additionally, the case study focuses on current developments of Panelka and the reason for their emergence, as well as their impact on the inhabitants' everyday

life. By comparing the initial design concept and the current state of the case study, a base of the reflection on the evolution of the Panelka is created.

Residency
As a former resident of the Trakiya neighbourhood, I resided in Block 219 for a month in December 2021. The stay was valuable as it allowed a personal experience of living in Panelka while conducting the research. During the stay the academic knowledge was complemented with the up close observation of the neighbourhood's and Panelka's social dynamics.

Archive research
The municipal archive of Trakiya provided access to the blueprints of multiple Panelka types, which were erected in the neighbourhood. The documents acted as the foundation for a typological analysis. As the residents continuously alter their living environment, the drawings provided an insight into the original apartment layouts. By studying the blueprints, it was possible to investigate and compare the transformations in the private spaces of different residents.

Interviews
A deeper understanding of the social structures, as well as user experiences was provided through first-hand conversations with current Panelka residents. The interviews were conducted in the private apartments of the residents and gave an insight into their personal thoughts of life in Panelka.

Photography
While visiting Trakiya in multiple periods through 2021/22, photography was used to document the character of the neighbourhood. Through this means various resident's interventions were documented, as well as the overall atmosphere of the Panelka. On one hand, the photographs acted as a visual cue for the analysis of the urban fabric. On the other hand, the media was collected in the visual essay to portray the character of Trakiya.

Mapping
The visual documentation captures the essence of Trakiya through mapping. This enabled a deeper understanding of the spatial evolution of the urban, as well as the building scale. This method allowed a visual translation of the continuity in the changing Panelka environment.

In this section the emergence and transformation of Panelka will be investigated through Lefevbre's theories about the production of space. In his work "The Production of Space" the Marxist thinker Lefevbre argues that space is a constructed social product (Lefevbre, 1991). The French philosopher theorises space as a production of the trialectic "perceived - conceived - lived space", which in its entirety defines the perception, everyday practices, and representation of the space one inhabits. By addressing the trialectic in relation to the Panelka, a deeper understanding for its position in the Bulgarian context is achieved. Additionally, the study incorporates Deleuze and Guattari's critical theory of de- and reterritorialization to address the changing power-relations fostered by the Panelka. As per Deleuze and Guattari the process of deterritorialization occurs when the order of an established social relation, defined as a territory, is altered. This decontextualization is followed by the process of reterritorialization, where the relations of the territory are coded in accordance with the new order.

THE PERCEIVED SPACE OF PANELKA

This first part of Lefevbre's trialectic, the perceived space, refers to the physical space as neutral, constructed by a selection of actors. In the context of the Soviet prefabricated neighbourhoods, the perceived space is often constructed on a plain canvas at the city's outskirts or even as a new city itself. The spatial positioning allowed for a project to be started from scratch with the opportunity to take little to no notice of the surrounding context. The Soviet ideology, upon which the Soviet mass housing was conceptualized, strives for the creation of an egalitarian society. The particular choice of location proved fruitful as it gave the opportunity to create a living environment from scratch in accordance with Soviet ideology, with no restriction when it comes to urban and social structures. In addition, the centralised approach of the Soviet residential architecture allowed for its replication in multiple cities with few adaptations as there were little to no constrictions, posed by the environment.

scenes from "Irony of Fate" (1976)
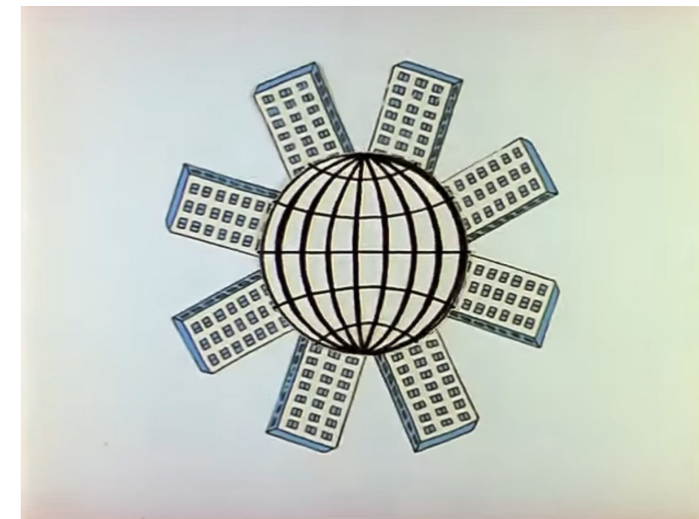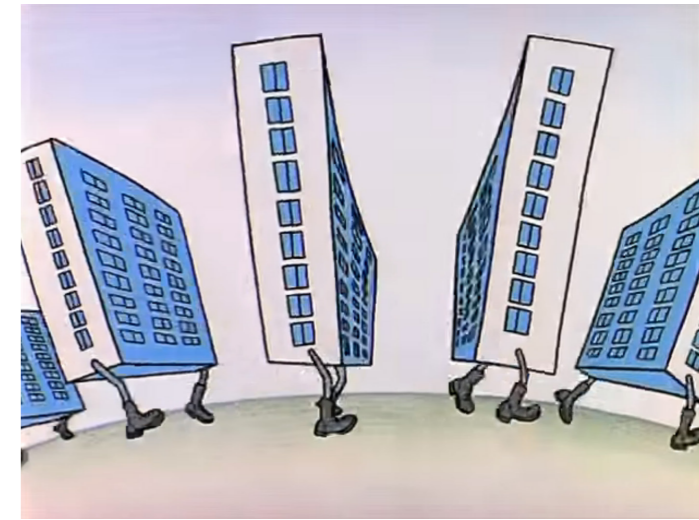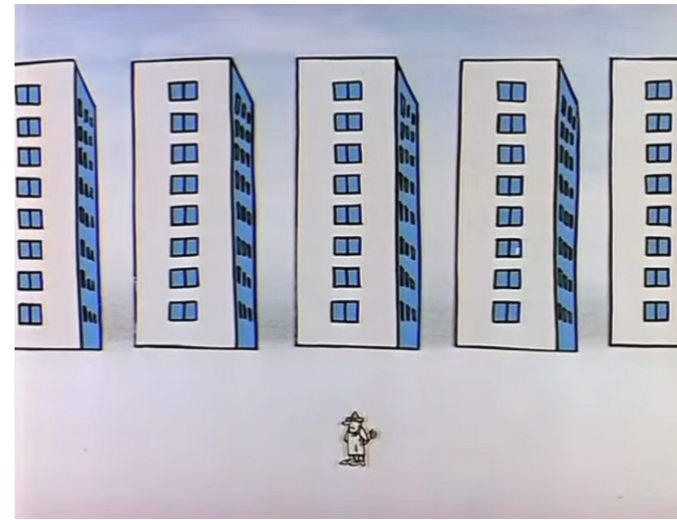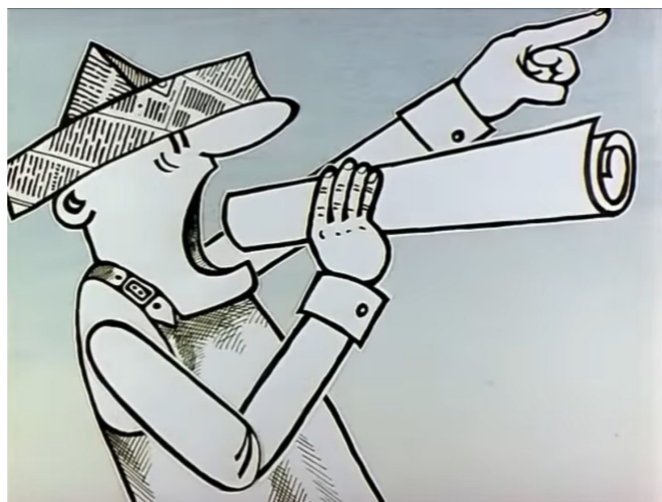
THE CONCEIVED SPACE OF PANELKA

The conceived space in Lefevbre's theory refers to the cognitive properties of space. 'The Conceived' embodies the discourse concerning social space. One does experience the physical properties of space but that is never isolated from the perception of it. Therefore, the conceived space according to Lefebvre is formed by the practises of social and political power, which have a manipulating impact on those existing within that space. (Lefebvre, 1991) The conceived space of the prefabricated neighbourhood was carefully crafted as part of the process in "building communism" (Panteleyeva, 2016) The Soviet state saw the prefabricated technology not only as a mean to solving the pending housing crisis, but as well as an opportunity to craft the citizens in a new living environment, created without any historical burden (Zlatkova, 2012). Soviet ideology dictated how space is produced. The concept of the living environment was focused on the creation of the "Soviet citizen". Zlatkova (2012) explains that the main principle of at the time dominating ideology is to diminish the differences between the ways of living in the city and in the village, resulting in a homogenised society. Through the conceived space the perceived space becomes a teaching ground on how to be an exemplary soviet citizen. The role of the conceived space is fundamental as via the mental impact, the conceived space mediates the experience in the lived space.

Alexander Deika, "Building peace" (1960)

30 year DGR anneversary poster "..and tomorrow I will buid" (1979)

Dabnika neighbourhood, Vratza, 1980s

THE LIVED SPACE OF PANELKA

The third element of the social space is the lived space, which embodies the experience of people interacting with their environment. This phenomenological component of the social space is structured upon the conceived and perceived and refers to how the user interacts and modifies the surroundings according to their perception. In the Soviet context the conceived space guided the lived space, as it not only influenced how the built environment was produced, but it also had a fundamental impact on the social rules. The public realm was a social space, territorialized by the state according to Deluze and Guatarri's terms, where the state rules would apply and one was controlled to act upon them. Behind closed doors, in the private realm, the space was prone to the act of reterritorialization still in the Soviet context but powered by personal needs.

THE TRIALECTIC IN MOTION

In his theory about social space Lefebvre conceptualises the three essential components: the physical (perceived space), the representational (conceived space) and the social (lived space). Lefebre describes space as a production of the triad, where every element has an influence on its balance. Zlatkova (2012) shares this view of space being produced and not just emerging. On the one hand, the author reflects on how the city is created by the buildings, which are a "product" of the citizens. On the other hand, these citizens are socialised through the buildings and the physical environment. This leads to the idea that the city is at the same time a "produced", as well as "producing" sociality (Zlatkova, 2012).

With the Fall of the USSR the discussion of space was redefined by the new political climate. During the Transition period this led to the redefinition of the conceived space on a national level. This modification in the representations of space empowered the re-production of space, which created a change in the lived space. Due to the privatisation of Panelka in the mid-70s, the process of appropriation was already happening in the private realm. However, the change in the conceived space led to swiftly unleashing self-expression from the private into the public realm. Although physical space stayed the same, the perception of it changed - from a unifying living environment, the Bulgarian microregion became a platform for self-expression (Nikolov, 2020). The alteration of the conceived space triggered a change in the social climate, which later had a direct impact on the physical space of the Panelka. Although once conceptualised under the Soviet ideology, now the Soviet panel neighbourhood was retrofitted to match the current social climate. Nikolov (2020) addresses the transformation of the Panelka in the Bulgarian context from *"one of the most powerful social condensers of the Soviet-style totalitarianism, which thrived to create ideal socialist citizens, to a palimpsest of diverse individual narratives embodied within the panelka home." (Nikolov, 2020, p.2)*

Prostest, 1989
"With the old governance, there is no change"
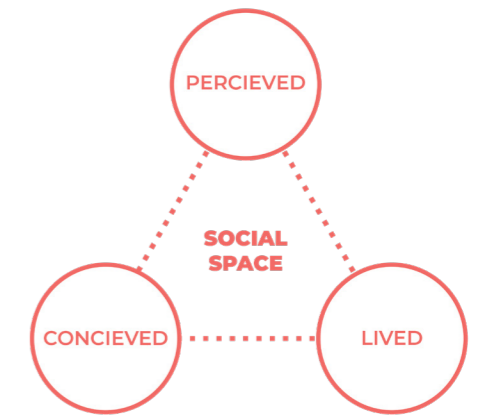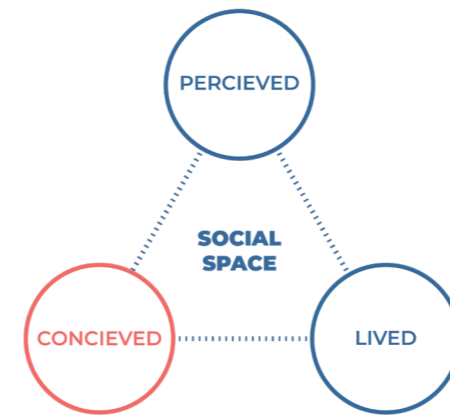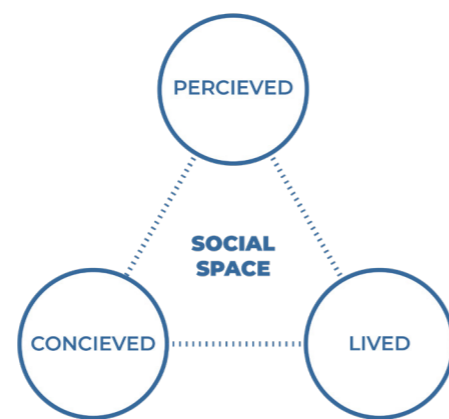
FROM WESTERN TO SOVIET

Although the Panelka typology has been implemented on a large scale by the Soviet statecraft, Panteleyeva (2019) argues that the methods of its initial creation were largely an import from the West. In the 20th Century, the Soviet Union's technological development was falling behind that of Western Europe, while the USSR was facing a housing shortage due to the rapid urbanisation. In the late 50s this led to the importation of the French methods of prefabrication, originally developed in 1948 by the French engineer Raymond Camus. Although the methods were a product of the West, they were adopted by the USSR system. The relationship between architectural institutions, the rapidly advancing assembly and construction industries, and the Soviet economy was instrumental in moulding Camus' methods to the socialist context (Malaia, 2020). As a result, the prefabricated construction technology marked a new stage in the architectural development of the USSR.

Camus presents his prefabrication methods in Vienna

Camus' prefabricated building under construction , 1951

Panelka under construction

PANELKA AS MATERIAL EXPERIMENT

In spite of the fact that the new building technology of that time was promulgated as based on groundbreaking scientific research, the main focus of the newly established ACIA[1] in Moscow wasn't trial experimentation. Due to the urgent need for housing, the Soviet state's pressure on the construction industry led to executing the projects without solving the majority of the fundamental research and experimental questions. This pressure from the government side occasioned the fusion of the experimental field and the construction site:

"The entire architectural and construction processes were strongly affected by limiting factors such as efficiency, speed of construction and quantity, which were stated by the (Soviet) government's directives. As a result, the implementation of a scientific approach and the necessary experimental studies often took place during, and sometimes after construction had already began." (Panteleyeva, 2016, p. 446)

Although the research process was overlooked, professionals often reflected on the negative outcomes of the construction methods with the hope that their findings will benefit future projects (Antonov et al., 1979). Alongside the discussion about the positive accomplishments, the architects emphasised that the lack of prototype testing, poor quality materials and construction execution had an overall negative effect on the quality of the construction. Nowadays this, together with the lack of coordinated maintenance due to the fragmented ownership, results in the poor material status and large-scale deterioration of the buildings.

[1] Academy of Construction and Architecture of the USSR

PANELKA AS SOCIAL EXPERIMENT

As the panel construction method spread to the USSR territories, it was not merely a reaction to filling in the gaps caused by the housing shortage, but it embodied the government's goal of "building communism" (Panteleyeva, 2016). As the embodiment of the Soviet ideology, the Panelka buildings were promoted as the living environment of the ideal socialist citizen. This made the newly built apartments the urban dream citizens would strive for. With the social factor in mind, the experiment was not only restricted to the built properties of the architecture. Zlatkova (2012) describes the construction of Panelka in the Bulgarian context as a peculiar social experiment, reflecting the socialist vision for a city and society, in which different people, unknown to each other, are settled in a pre-built space - multi-story apartment blocks - with very few common places for communication. This uprooting of the individual, diminishing the traditional cultural sociality, in combination with the placement in a new "soviet" space were the base of an identity crisis on a national level (Nikolov, 2014). This act of reestablishing the social structures can be seen in accordance with Deleuze and Guattari as the deterritorialization of the existing identity. The obliteration of the local identity is conditioned by the imposed Soviet perception of the mass prefabricated housing as a symbol of social acceptance.

Meden Rudnik, Bulgaria, 1982
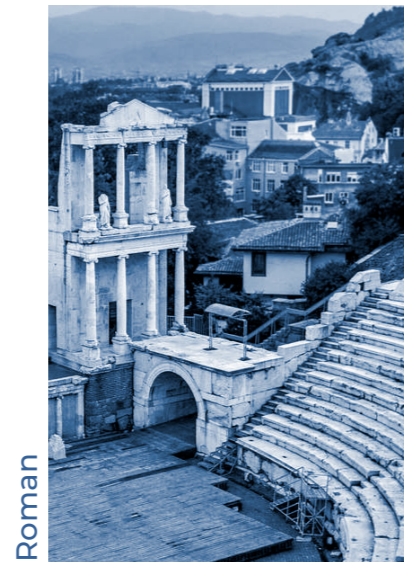
Roman

Bulgarian Revival
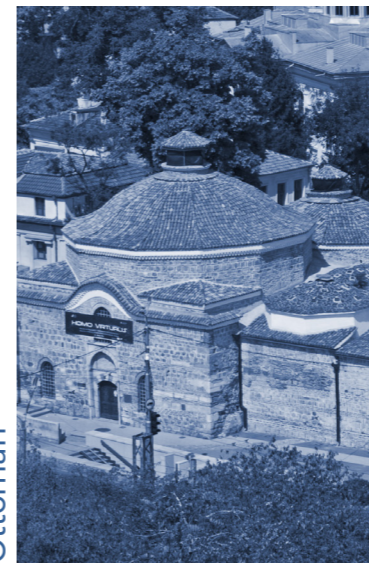
Ottoman

Art Deco

Soviet

As Plovdiv's history dates back to 6000 BC, the city is the oldest still inhabited settlement in Europe. The numerous historical periods have left a lasting mark on its urban fabric. As the various architectural elements intertwine, the current image and identity of the city is shaped. Plovdiv is the product of the layering and the interweaving of its architectural expression and the social dynamics. According to Sennett (2020) this dialogue between the past and the present enables "growth" in the urban environment, which is characterised by evolution rather than erasure. Plovdiv's growth throughout the centuries has created a dynamic, where the architectural and social elements have an active role in the redefining of Plovdiv's nature. The district of Trakiya is the third biggest Panelka neighbourhood in Bulgaria and it is part of Plovdiv's architectural ensemble. Although Trakiya was thoroughly planned by the Soviet state, Plovdiv's characteristic layering and fragmentation can be found within Trakiya's territories. Once envisioned under Soviet ideology as an urban utopia, Trakiya now embodies the social changes of the Post-Soviet world. Even though the neighbourhood contributes to the architectural variety of Plovdiv, Trakiya is alienated from Plovdiv's interlaced perception due to the strong influence of its ideological history.

PLOVDIV

TRAKIYA

THE PROMISE

In 1965 Plovdiv became the second city in Bulgaria next to Sofia which had an official urban master plan created during the Soviet regime (Mateev, 1976). The proposed urban structure envisioned a development of the urban fabric, which would enable living conditions for 450.000 citizens. (Antonov et al., 1979) The main addition to the urban structure of the city was the residential neighbourhood of Trakiya and its objective to provide accommodation for 70.000 people (Lueneburg, 2016). While Trakiya was a means to solve a pending housing crisis, it was also an opportunity to create a living environment from the ground up, where the Soviet principles would be fully defining the space. The initial concept of Trakiya emphasised the balance between the spheres of living environment, work and leisure (Donchev, 1974). Dictated by the conceptual planning of the Soviet microregion, the district was to be designed as a system of systems, where the resident's environment provides all different layers for a fulfilled socialist life. The quality of self-sufficiency in Trakiya was to be achieved through the Modernist approach of segregating the different spheres of urban life within the neighbourhoods' borders. Every of the 13 microregions of Trakiya would consist of Panelki, arranged in concentric structure with an education facility as the core. Additionally, the urban concept emphasised the public sphere through establishing small-scale public functions within the one-sided pedestrian zone of the main traffic artery. This linear centre would act as the public backbone of Trakiya. Its concept drew inspiration and strived for the spatial qualities of vitality, liveliness and public life in the Old-town streets in Plovdiv (Vasileva, 1974). In near proximity to the linear centre a complex architectural structure would be located, which would incorporate multiple cultural and administrative facilities. Its influence is vital for the connectivity of the neighbourhood, as it also acts as a magnet with an above-regional importance.

conceptual plan of the Trakiya project, 1979

urban void, Trakiya, 2021

UNFINISHED BUSINESS

Although the conceptual focus on an urban level were the public facilities, due to the urgent need of housing, the execution of the project began with the residential microregions (Pandzharova et al., 1974). The collapse of the USSR in 1989 had an impact on the development, as the construction was a large-scale project funded by the Soviet government. While a large amount of the Panelki were completed, the cultural and administrative facilities stayed paper-architecture. Due to the lacking big-scale cultural programme, the initial concept of the district to act as a cultural magnet never became a reality. On the spot where the cultural complex was planned, now a grass desert acts as a border between microregions in the North. Where once educational facilities were planned as vibrant centres, urban voids now inhabit the cores of half of the microregions. Once imagined as lively public cores, now the urban voids have led to a disruption of Trakiya's urban dynamics.

EVOLVED SPACE

The lack of public activity in the linear centre, in addition to its role as the main arterial road, made the space hostile for the conceptualised atmosphere, relating to the Old Town of Plovdiv. The arterial road's social function was naturally adopted by the smaller road in the South. Through a bottom-up initiative the ground level residential spaces were transformed into various small businesses, creating the public network of Trakiya. Zlatkova (2012) emphasises that this peculiar social experiment of Trakiya not only does not transform into a "ghetto", as happens with some similar complexes in Bulgaria after the fall of the Soviet regime, but develops very successfully. It has turned from a homogeneous space - "neighbourhood-bedroom" - into a real inhabitable heterogeneous urban space with opportunities for the realisation of various social activities. The way that Trakiya has developed is inline with what Sennett refers to as reassembling of space:

"the capacity of the urban designer to identify the still-latent emergent processes in the public realm and to produce new and innovative ways of rearranging things so that these processes can be strengthened and new associations and possibilities take place." (Sennett, 2020, p.60)

While Sennett describes this process as initiated by a professional, Trakiya's development was powered by the user. Due to the intermediate stop of construction, the incompleteness in the urban fabric created a latent potential for further development. This latent character was recognized and unravelled by the users due to the urgent societal need of a public life. By establishing these new pockets of public activity in the already existing urban fabric, the inhabitants territorialized the public realm. This manifestation of needs through the redefinition of space, altered the initial dynamic of the neighbourhood. The lived space of Trakiya today is produced by the altering of the perceived space, which was enabled by the change of the conceived one. The lack of big public facilities, urged the users to take responsibility and power public activity through smaller scale interventions.

concentration of public activity: concept

concentration of public activity: reality

← "backbone"

park

public activity

public facilities
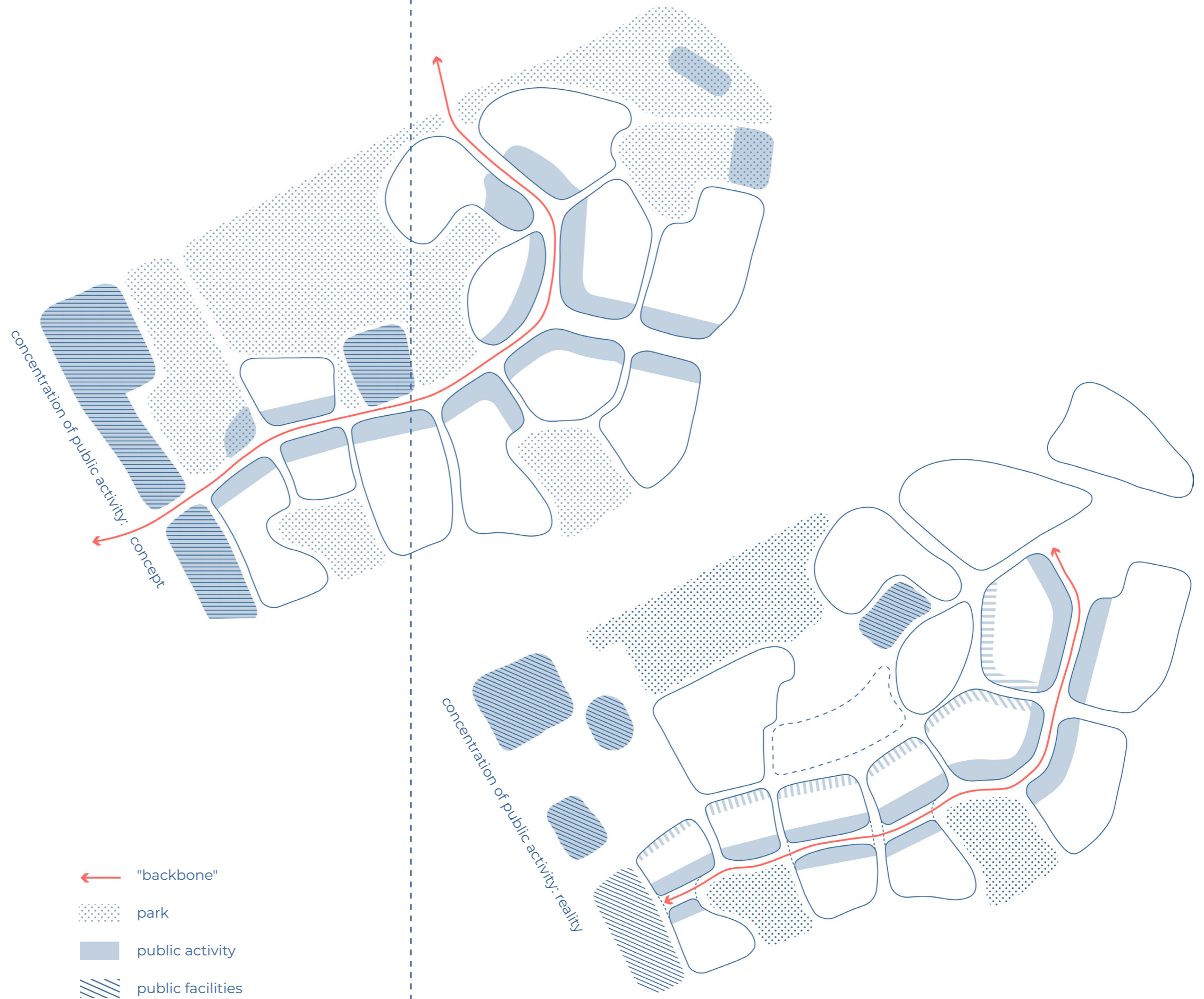
БС-IV-VX-75-ПД:

At the dawn of the panel-based construction method, Soviet architects already expressed their concern about the influence of repetitive aesthetics on the urban environment (Malaia, 2020). During the Soviet regime with the evolution of the technology numerous nomenclature types were being defined, where the emphasis was put not only on technical development, but as well on the development of the layout in the living unit. Although the main nomenclatures were defined in the Moscow state, the People's Republic of Bulgaria had its own nomenclature system. For the project of the Trakiya district the design team in collaboration with the production facilities developed a new building type, which enabled the dynamic spatial urban concept for the neighbourhood. The new Panelka type БС-IV-VX-75-Пд (BC-IV-VX-75-Pd) consisted of 2 main building groups and focused on carrying through different-sized apartments, corresponding to the users' needs.

■ Group A - Frameless Panel Construction

■ Group B - Formwork Construction

distribution of the 2 building groups

GROUP A:
FRAMELESS PANEL CONSTRUCTION

The first group of the Plovdiv nomenclature is based on the frameless panel construction method and composes the majority of the Panelki in Trakiya. Lueneburg (2016) categorises this Panelka group in 2x single-axial and 2x double-axial building blocks. The different orientation of the modules enables flexibility on the urban scale, which is essential for the circular urban arrangement. Although the nomenclature officially incorporates 4 Panelka modules, numerous variations contribute to the multiplicity and plasticity of the living spaces, as well as the urban structure. Based on the spatial analysis, it appears that the configurations of the Panelka modules are systematic and follow strict predefined assemblage between types of fractals.

block 220

block 221

block 224
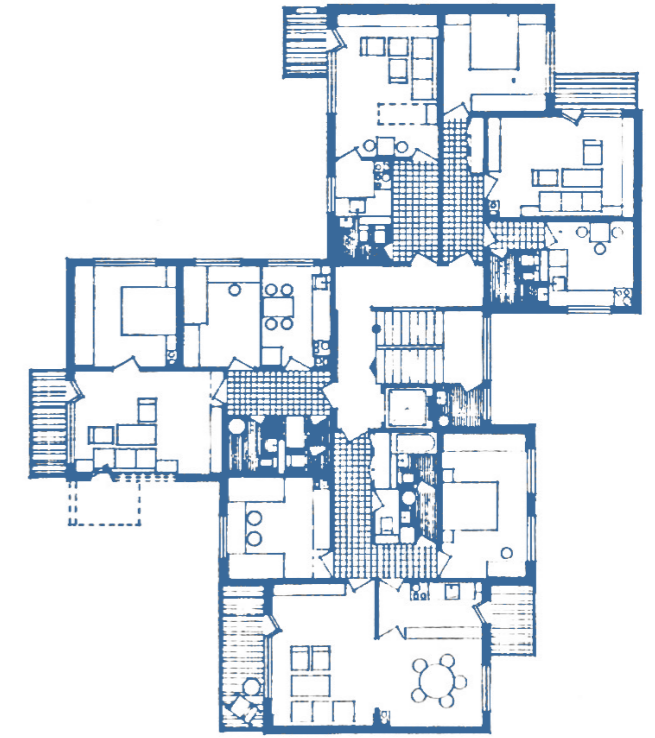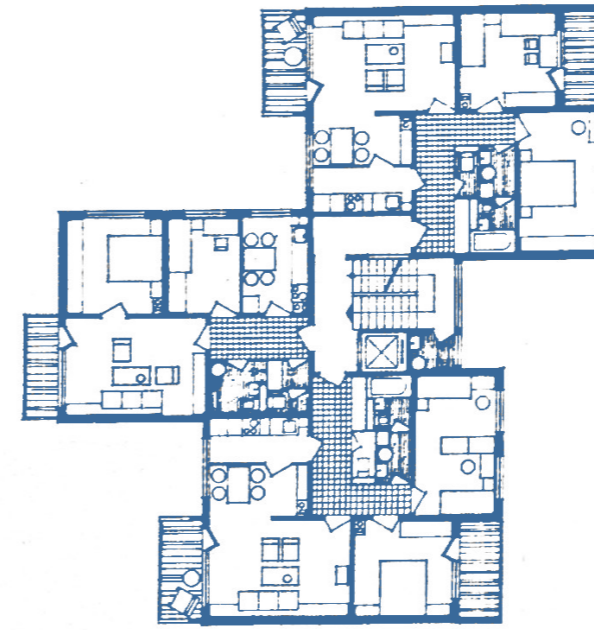
double - axial block

single - axial block

block 201

floorplan - formwork building - Trakiya

block 141
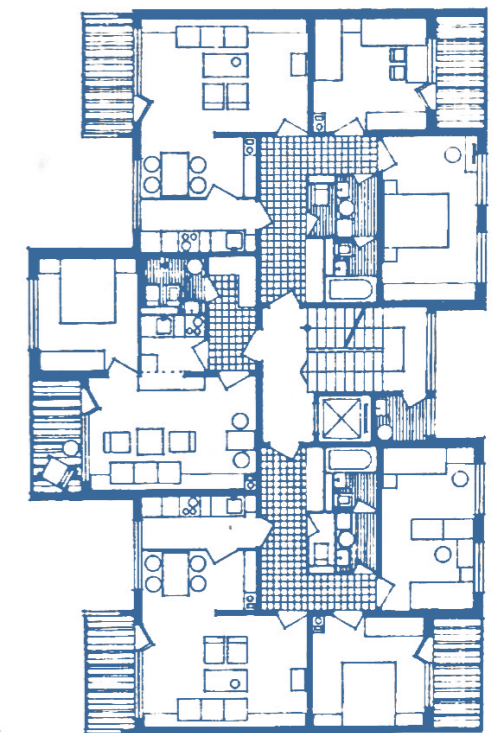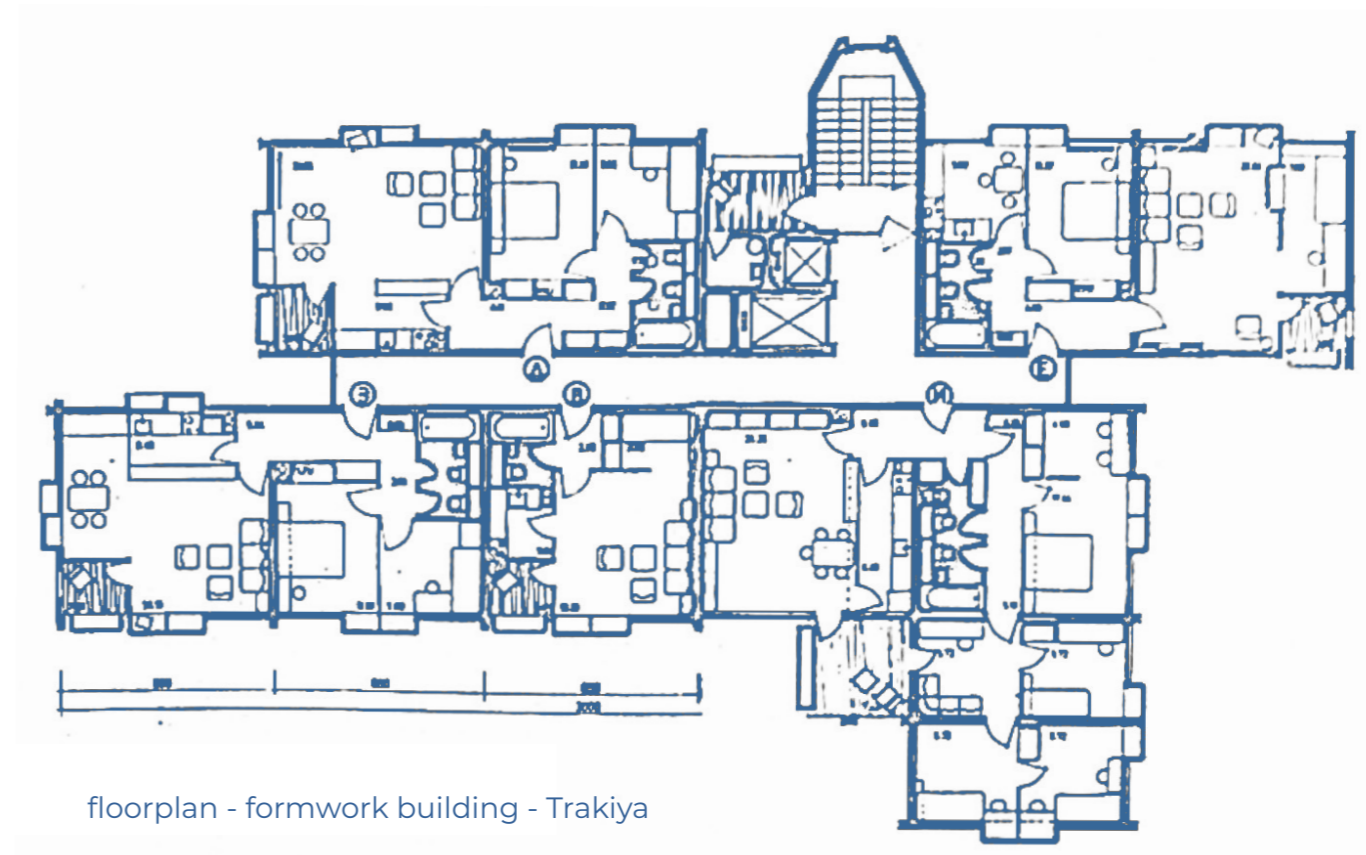
GROUP B:
FORMWORK CONSTRUCTION

The second type group plays an essential role for the spatial definition of the linear centre. While Group A (5-8 floors) is largely planned as the building block of the microregion, Group B (10-15 floors) is used as a tool to vertically frame the main arterial road. With the relocation of the public backbone, the Group B Panelki now creates a barrier between the main traffic axis and the residential microregions in the South. An additional character, which has naturally evolved among the Trakiya's residents, is the buildings' purpose as landmark orientation.

DIVERSITY WITHIN THE SOVIET FRAME:

Architects in the USSR were restricted by the prefabricated housing framework prescribed by the state. Despite this, they aimed at creating some level of diversity:

"The authors of the Plovdiv nomenclature (...) set themselves the task of breaking the boredom and greyness of large-panel residential construction, inevitable for any initial stage, and to refute the widespread erroneous opinion that the frameless panel system does not offer opportunities for diverse architectural and urban solutions." (Sapundzhieva, 1979, p.17-18)

The discourse in the Soviet architectural field didn't deny the monotonous characteristics of the prescribed aesthetic. While professionals were instructed to follow the predefined methods, they pushed their creativity towards developing different types within that framework. Due to the close relation between the building module and the urban design, the new Panelka types in Trakiya allowed a getaway from the very strict arrangement of the traditional Soviet microregion. The striving for the expression of individuality was a positive novelty for prefab construction during that period (Lueneburg, 2016). While the residential construction was constricted by the ideological framework, the focus to challenge the "type" was growing:

"Residential construction, being the most massive, must be distinguished by the unity of the utilitarian and the aesthetic, of functionality and beauty. The typical and static image can hardly evoke a rush of emotions. On the contrary: the image becomes, the more expressive, the more unexpected, the fresher it is, i.e. the further it has gone from the basic "type"." (Peneva, 1979, p.31)

The strive for diversity in the urban dynamics appears to be the main goal. Bringing in expressiveness in the otherwise structured urban environment was seen as a requirement for an enliven space.

types of panelka building blocks
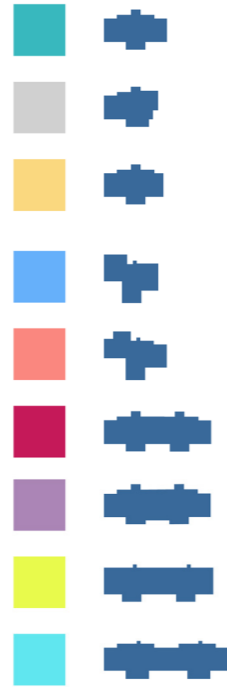
private entrance of a first floor apartment

CREATED SPACE

While the large scale cultural facilities were one of the main points in the initial concept, the everyday places for encounters on a microregion scale were not considered. As the Fall of the Soviet regime caused construction to stop, the recreational facilities of Trakiya remained undeveloped. Due to the lack of public buildings, the Panelka dominate Trakiya. As a result community interventions started appearing in its close proximity. The location of those bottom-up interventions in the urban system is not random, as they populate the border of the private sphere. Sennett (2020) describes the border between two spaces as liminal, charged with activity. With a strongly established private sphere and a lacking public one, Trakiya's transition space was dictated by the private realm. Even though the border of Panelka is populated by public functions, they have an everyday character. But what those spaces did was to create porosity in the rigid system. This porosity laid foundations for the establishment of the public sphere. By territorializing the border of Panelka, the residents initiated the public realm. This reterritorialization can be seen in the initiated interventions by the community.

43

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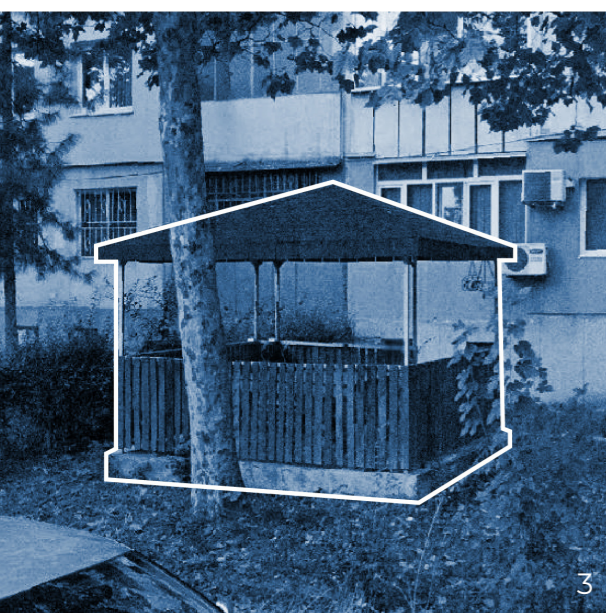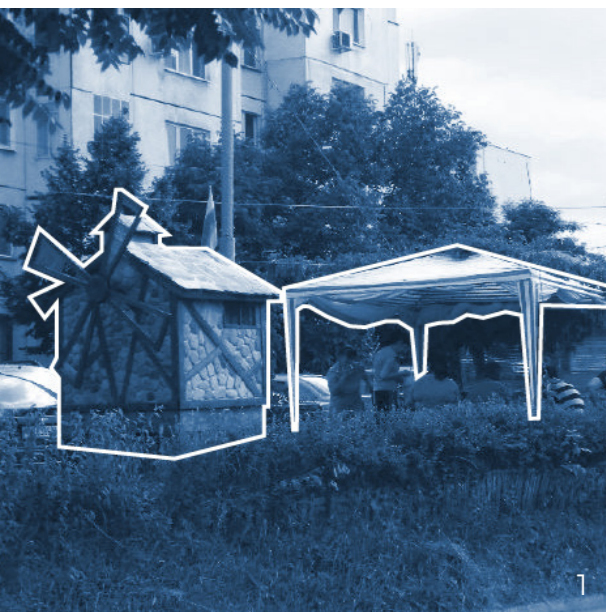
THE GAZEBO

Gazebos in front of the Panelka entrances are a common sight. They are the result of the inhabitants' need for interaction space outside of the private realm. Although the gazebo is located on public ground, it is a product of common territorialization by the residents of the Panelka. Although it is a publicly accessible structure, not all inhabitants of the district feel welcome. As the gazebos are found in front of almost every Panelka entrance, there is an implicit communal ownership by the inhabitants of that designated entrance. When talking about the gazebos, the residents clearly distinguish between "ours, belonging to our entrance" and "theirs, belonging to the neighbouring entrance". Those structures, established through a bottom-up approach, are a spatial indicator of the resident's need for a place for encounters outside of the private realm.

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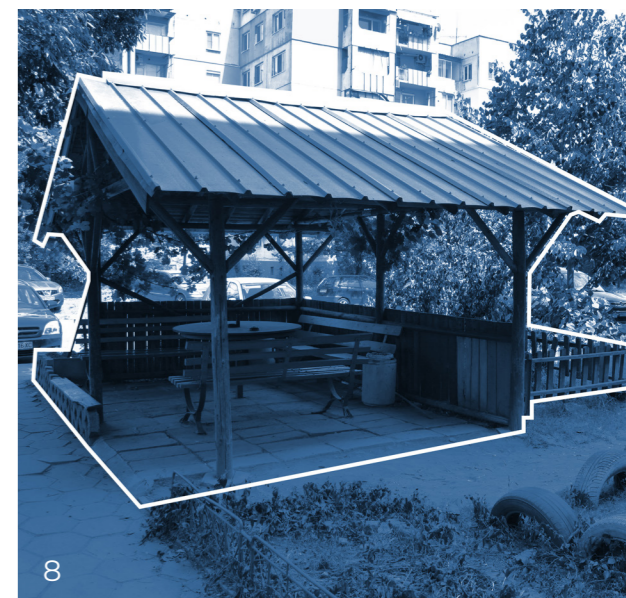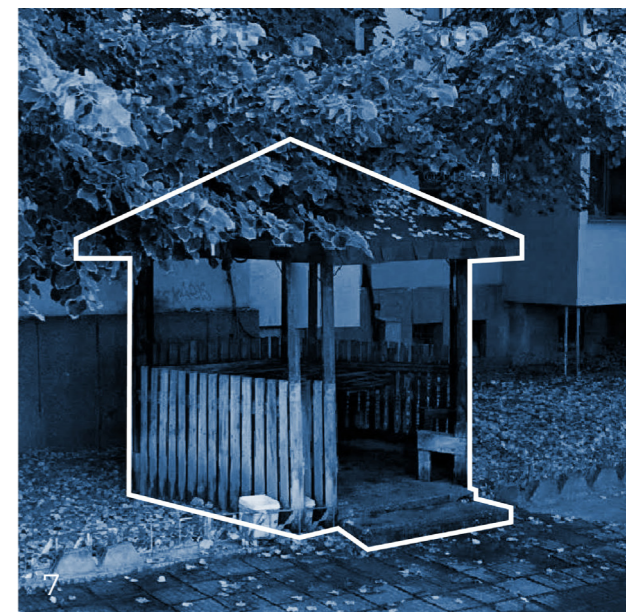
THE GARDENS

A further shared space among the Panelka's inhabitants are the gardens, which are in direct proximity to the first floor apartments. While this space was initially planned as a buffer zone between private and public, it now hosts gardens in front of the Panelka entrances. The little gardens were created either by the initiative of the first floor residents, who have direct connection to the buffer zone, or are a product of the communal effort of all the residents from a certain entrance. Either, the gardens are an expression of the need for a landscaped urban environment in the public sphere.

12

THE RANCHO

As the gardens serve more of an aesthetic purpose, another type of land appropriation was part of Trakiya's urban fabric. For almost 30 years, a form of urban farming has flourished that has no parallel in the world in its name - rancho (Picard, 2016). The small plots of land which function as vegetable and fruit gardens were located on vacant municipal land mostly between the A10, A11 and A12. This urban agricultural method is most popular among elderly people and young pensioners. The municipal authorities tolerated their activity until 2015, when they started to destroy the gardens during the expansion of the park Lauta (Picard, 2016). This form of land appropriation roots in the relation to nature in the Bulgarian village. The emergence of the rancho in Trakiya is a product of the local culture, expressed within the Soviet concept of a neighbourhood. The rancho indicates the residents' need for a space, appropriated by the characteristics of the cultural locality.

13

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THE SHOPS

Multiple first floor apartments were repurposed as shops, offering a great variety in public services. By introducing an entrance point through individual staircases, the spaces open up to the public. Although this intervention is found throughout the whole district, its concentration in the "Saedinenie" street triggered a new urban dynamic - the street, which is connecting 9 out of the 13 microregions, became the new backbone of Trakiya. A further development, which contributes to the re-discovering of the linear centre, is the appropriation of the garbage rooms. Located on the ground level and unused due to their inappropriate small size, their latency is unravelled by the residents. These interventions were initiated due to the need for commercial spaces, which were missing due to lacking public functions. Although the conceptualised public buildings, such as the opera and the cultural centre, were not executed, the residents took the initiative of creating manageable small scale public interventions.

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M² PER INHABITANT

The panel building technology not only had a direct impact on the urban setting, but also on the living unit. While the goal was to create an egalitarian society, the spaces of inhabitation were designed in accordance with Soviet ideology. The layout of Panelka apartments was dictated by the size of the construction panels. The implementation of the ideology and the specific building methods resulted in the division of the physical space by social activities. This box-in-box concept dictated not only the physical arrangement, but also the behaviour of the inhabitant in the private realm. The very functional layout is oriented towards achieving optimal space arrangements. Although the state set regulations concerning a "recommended" ratio m2 per inhabitant, through the creation of the Plovdiv Panelka type a variety in the apartment layouts was achieved (Antonov et al. 1979). Different family sizes were at the base of the design for the Panelka living units. Even though the Soviet citizen was an inseparable part of the homogeneous social structure, a diversity of living spaces was a key element in the design of the Panelka apartments.

Although there was a degree of diversity achieved, the process behind it still was dictated by the regime. Zlatkova (2012) argues that the future owners and occupants didn't not know their homes, just as the creators didn't know the people for whom they are building the homes. Therefore the variety of Panelka apartments was executed within the Soviet ideological framework as "housing-uniforms". Although there is diversity in the functional layouts, this is not targeted towards the specific user, but rather designed with the general Soviet citizen in mind. The Panelka apartments were more than means to sooth the housing shortage. In addition, they are planned as a method to influence the behaviour of the inhabitant towards the particulier socialist life, where structure is applied not only on societal but on individual level. In Lefevbre's terms, the predefined perceived space of the Panelka was designed to determine how one should territorialize in the private realm.
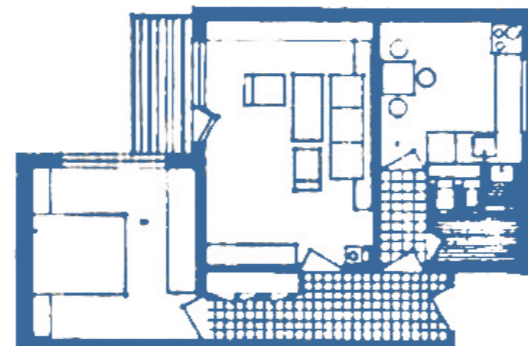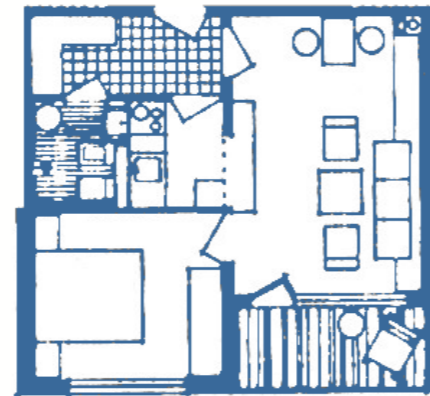
1-bedroom apartments



2-bedroom apartments
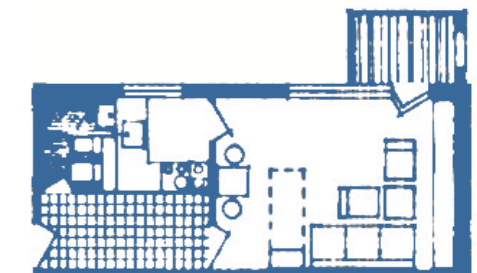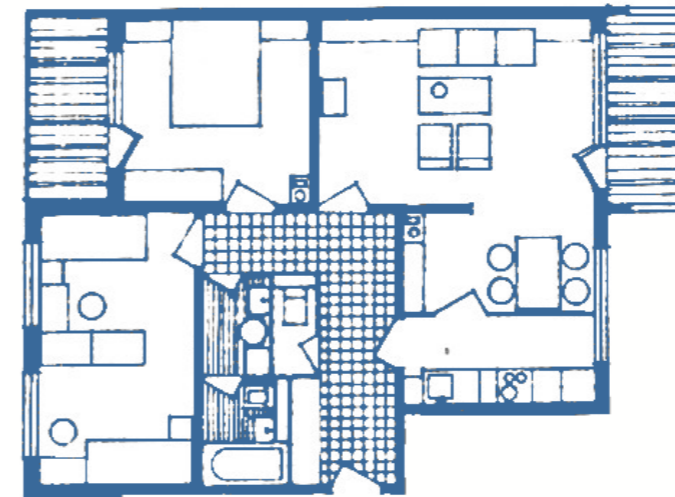
studio

ADAPTED SPACE

Although there was a set structure through the established perceived space, the inhabitants carried their own habits, which would determine the lived space. Even though the typology of the Panelka apartment had multiple variations, the specialisation of the living unit and the functionalization of the home did not imply generational continuity (Zlatkova, 2012). The apartment's structure embodied the idea of the nuclear family, without the accumulation of generations in the same living space. This principle was contrasting the cultural background of the newcomers, as most of the inhabitants were previously connected to the traditional multigenerational Bulgarian housing forms. The cultural background, as well as the gained ownership of the Panelka apartments led to multiple personal rearrangements of the layouts within the framework of the Soviet home. Although the base of the apartments was designed with various family structures in mind, the changing dynamics of the family within its lifespan were not taken into account. As the residents were provided the same initial living space, the individual changes from apartment to apartment nowadays go beyond the refurbishment and reach a programmatic level. Nikolov (2014) discusses the differences between the embedded cultural behaviour and the Soviet housing solution:

"The imposition of a 'foreign' reconstitution of the housing arrangement in the panel block represented a clear disruption of the Bulgarian housing tradition. For example, in the interior design of the traditional Bulgarian house, several spaces are of central importance to the psychological constitution of a 'home'. Perhaps one of the most important of these spaces is called kushta, which represents the architectural representation of a kitchen area, living area, and 'guest house'" (Nikolov, 2002, p. 144)

This disruption in the living condition can be recognized in the way the owners bring the functionalist home closer to the traditional model. The division of the kitchen as an autonomous block is one of the main

characteristics in the Panelka planning. Exactly this feature of the apartment is undergoing remodelling changes, where either the connection of "kitchen-living room" or "kitchen-outdoor space" is a commonly made change. This overall appropriation of space is carried out through the means of handcraft. On one hand, shortage on the Soviet market pushed the inhabitants to look for "outside-of-the-box" solutions. On the other hand, the DIY mindset of the remont is behaviorally conditioned in the Bulgarian culture. The personal adaptation of the apartments relate to the desires of the residents to freely transform their living space according to the cultural background, as well as the changing family structures.
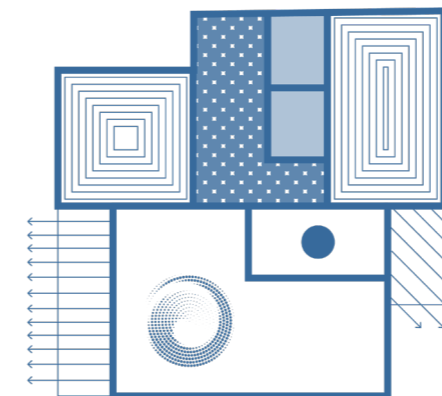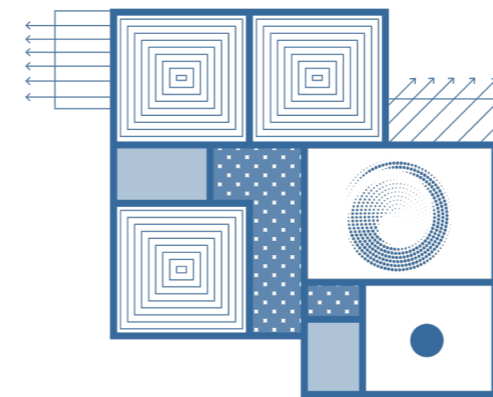

panelka apartments
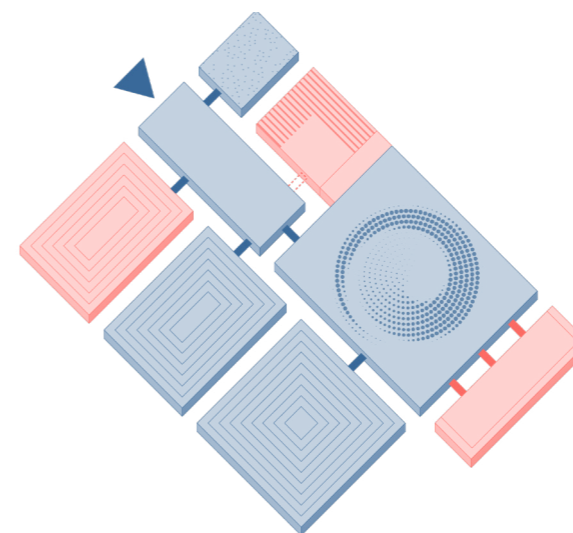

traditional bulgarian house
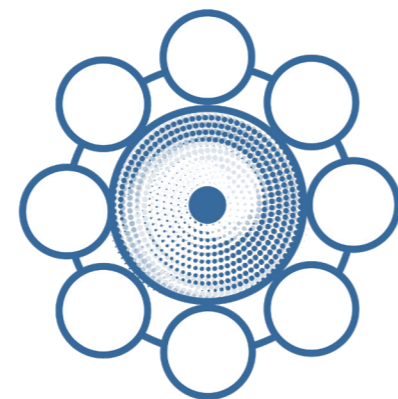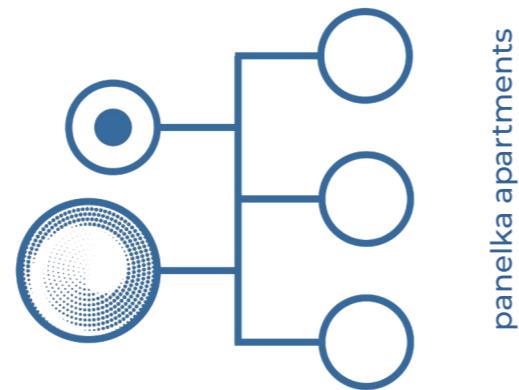
floorplan - traditional bulgarian house
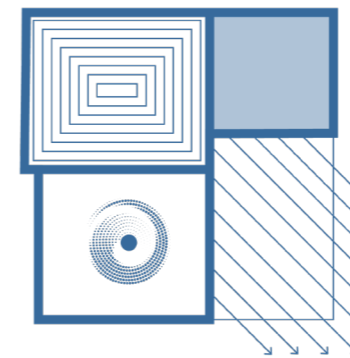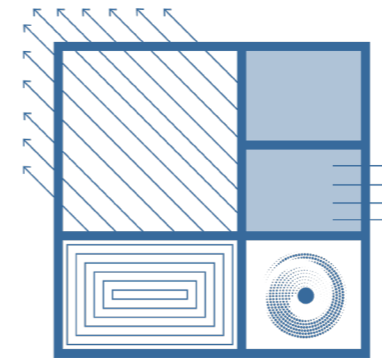
ground floor
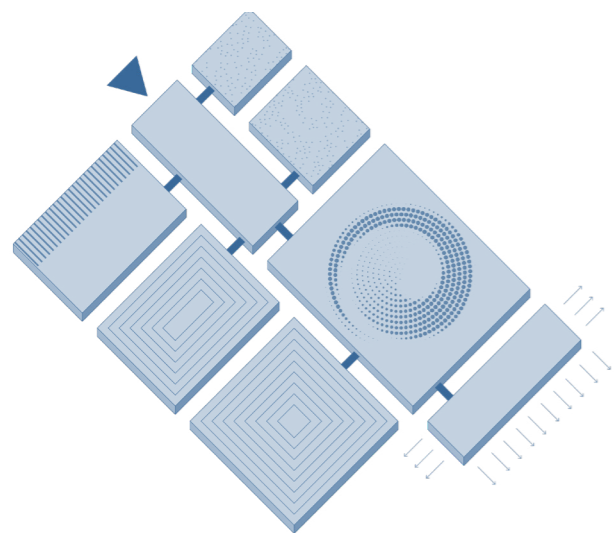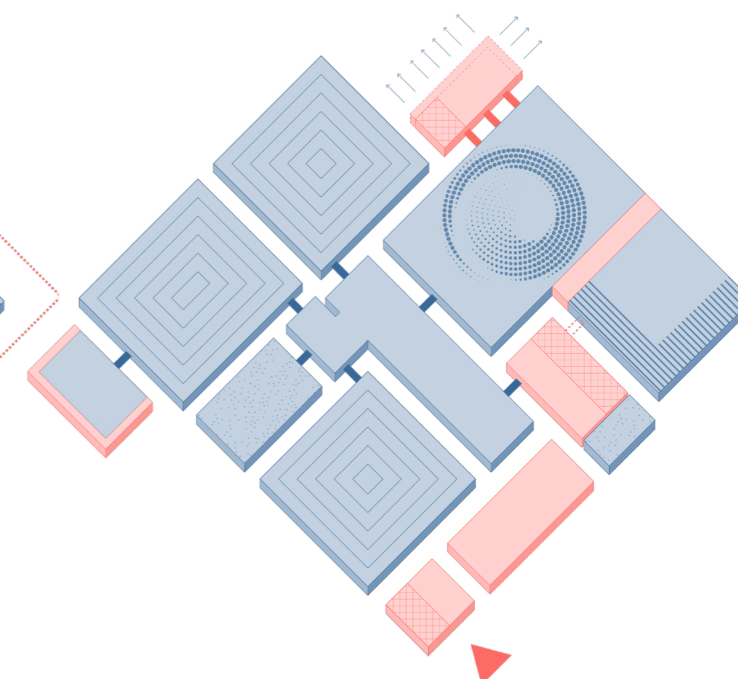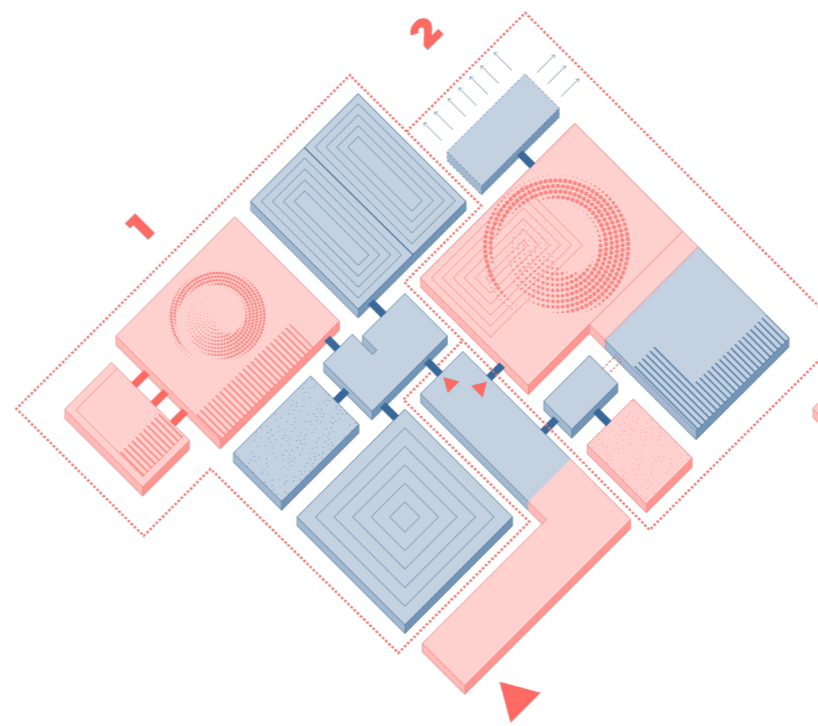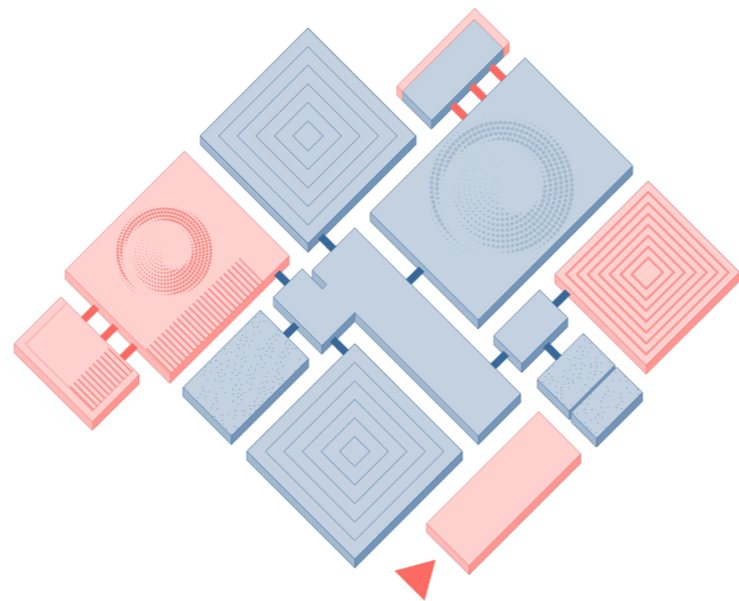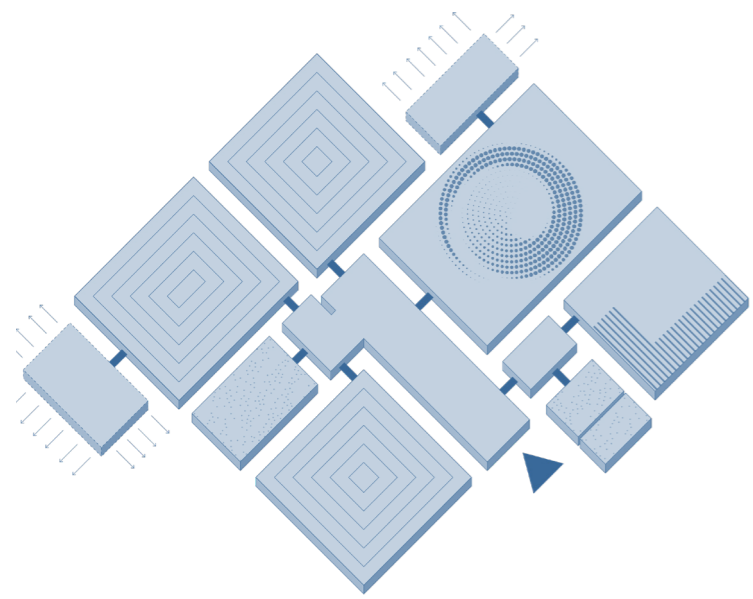
upper floor

floorplan - panelka apartments
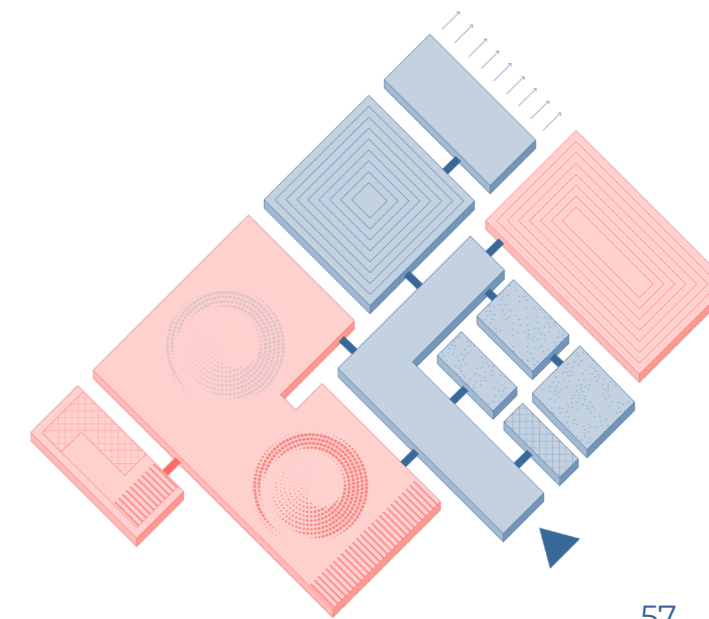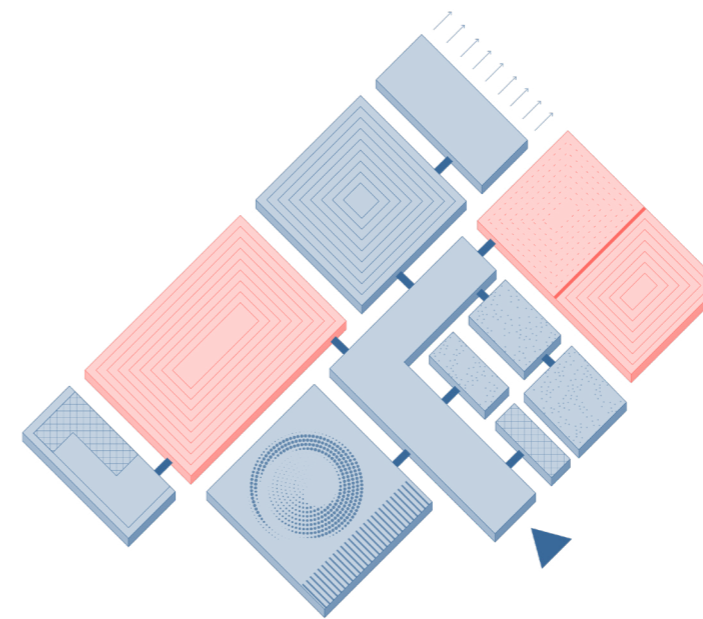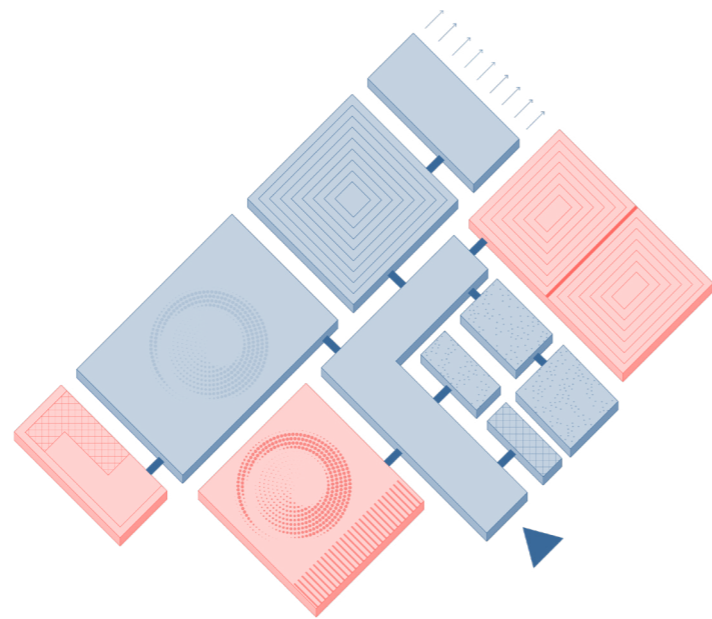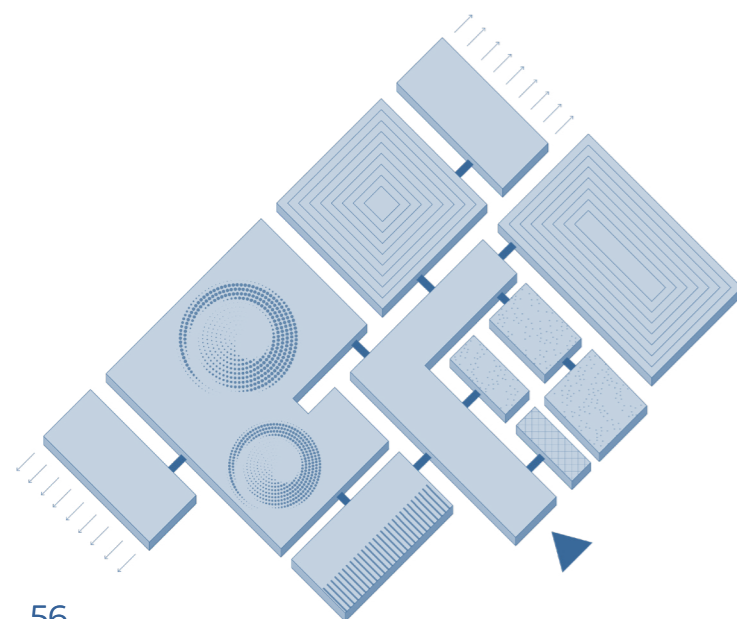
functional room

circulation

private room

cooking

→ inside-outside relation

gathering
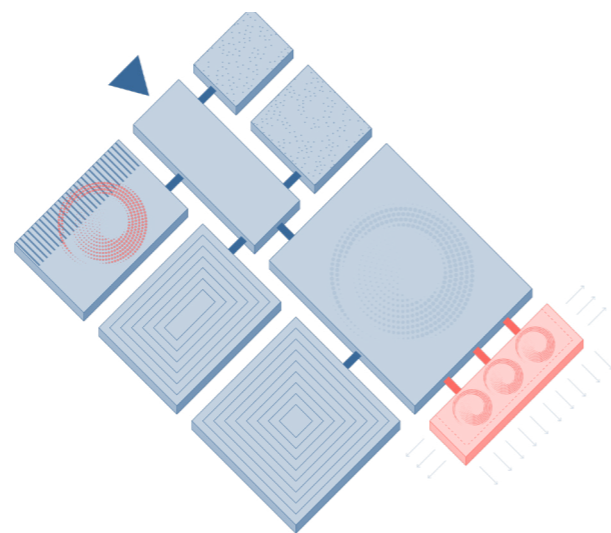
APARTMENT TRANSFORMATIONS

The illustrations are based on interviews with residents of block 149 and block 219.

THE VISUAL LANGUAGE OF PANELKA

While on an urban scale Panelki create dynamic compositions through the concentric configurations, the repeatedness of the buildings from a human scale blends their identities together. In the neighbourhood the importance of the balcony in the Panelka exceeds its function as the transition space between outdoor and indoor space. This particular architectural element holds importance for the aesthetic perception of the panel buildings. The variety in the facade solutions, which were created by the Soviet architects for the Panelka type, were seen as a method for tackling the monotonous perception (Peneva, 1979). Alongside the different geometric solutions of the panels, the balconies were seen by the architects as an element which holds great potential for achieving identity on a building scale. In the Trakiya district this characteristic has been taken into account as various balcony elements have been designed in correspondence with the visual language of the Panelka. While the balcony's geometric solutions follow the functionalist logic of the buildings, they create individuality in the repetitive structure.

assemblage of Trakiya's balconies

B1

B5

B9

B13

B2

B6

B10

B14

B3

B7

B11

B15

B4

B8

B12

B16
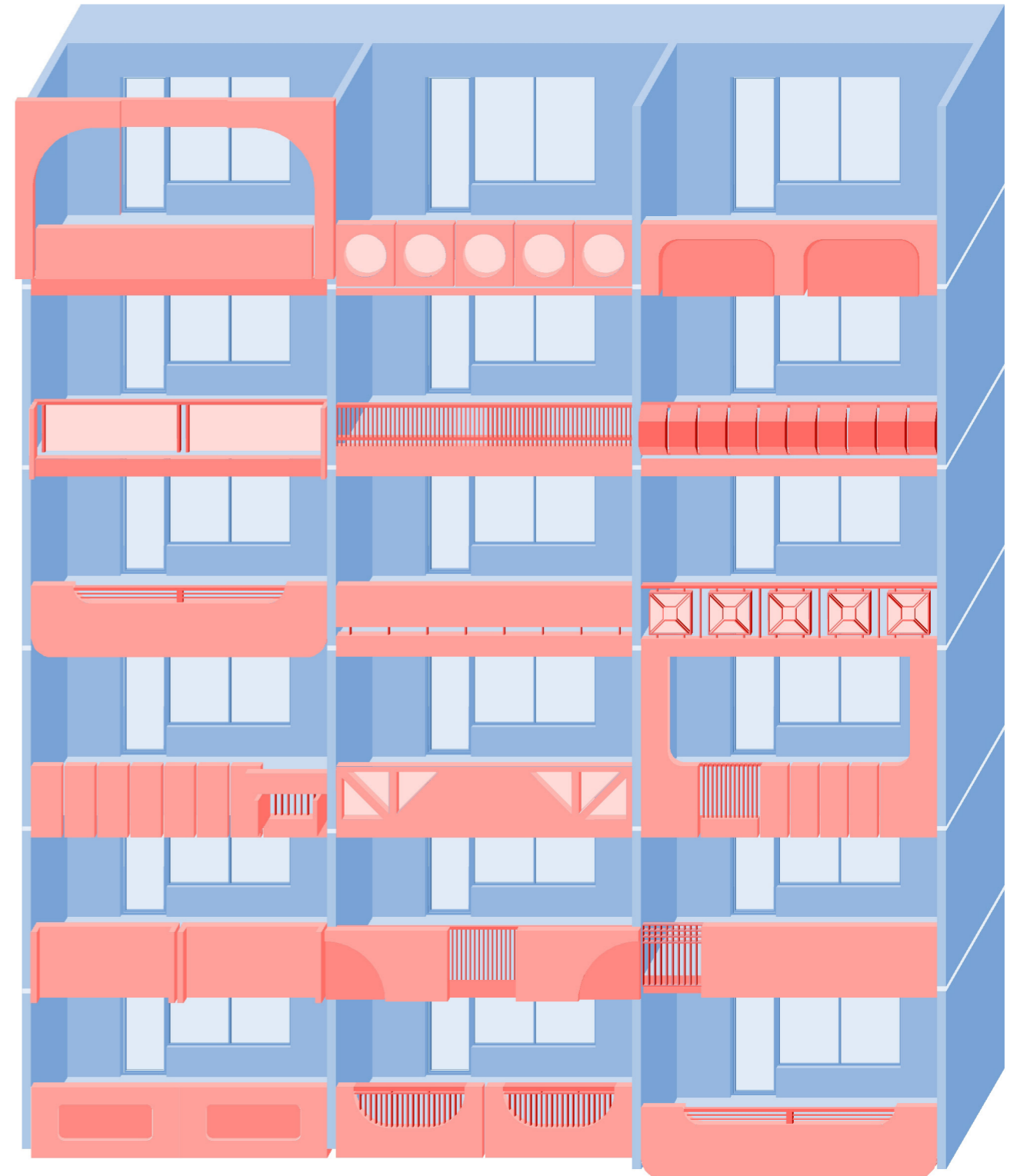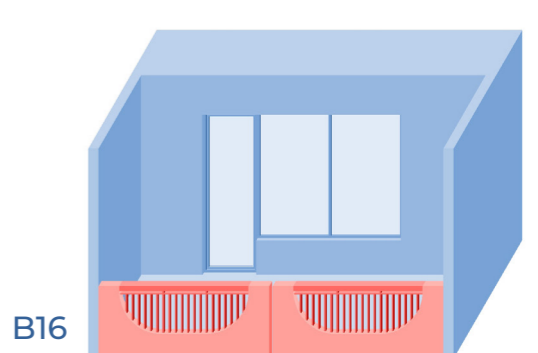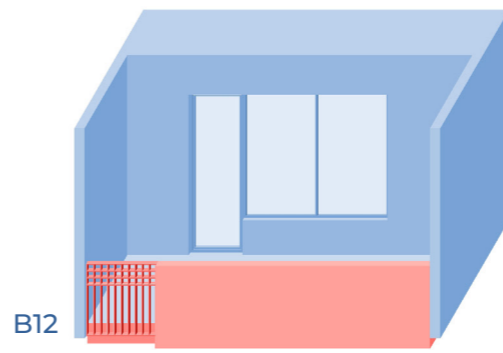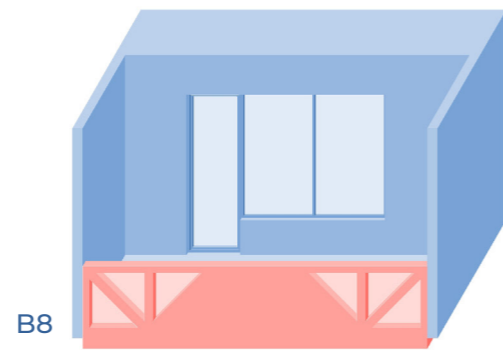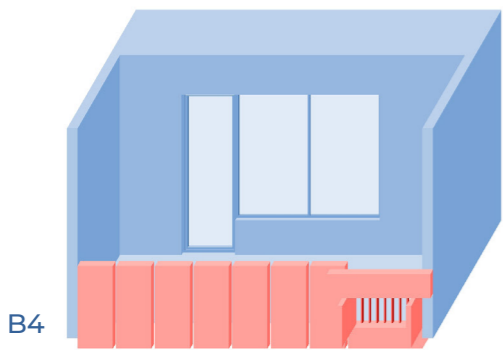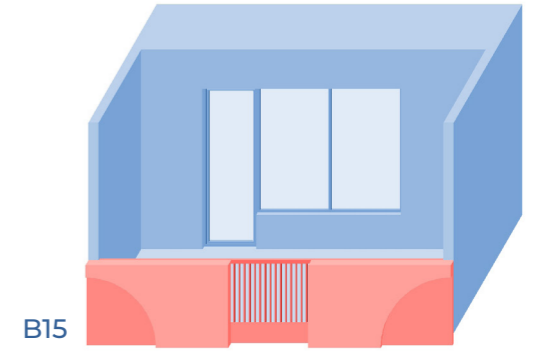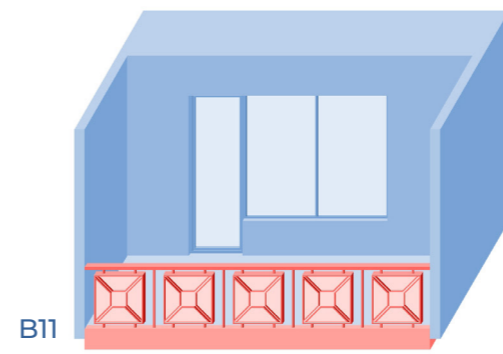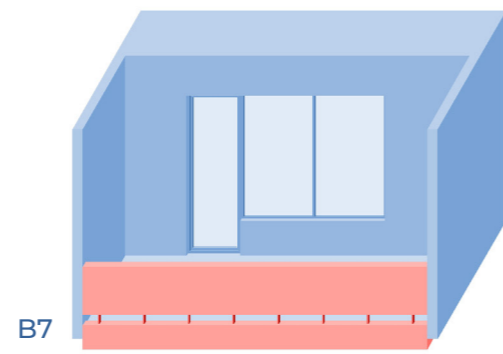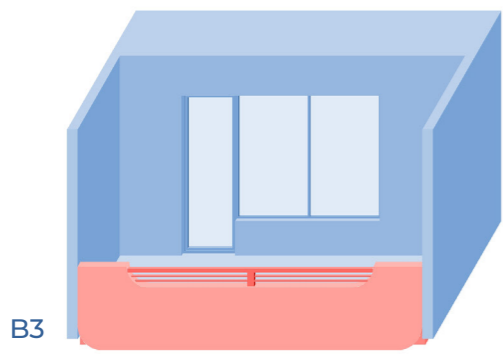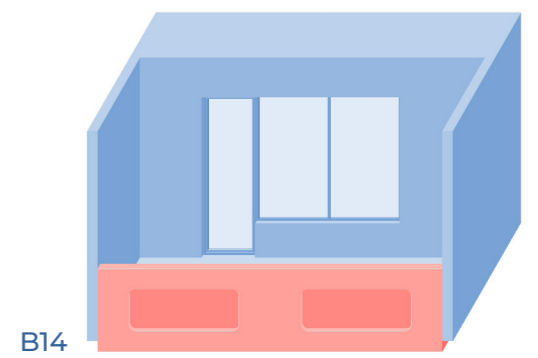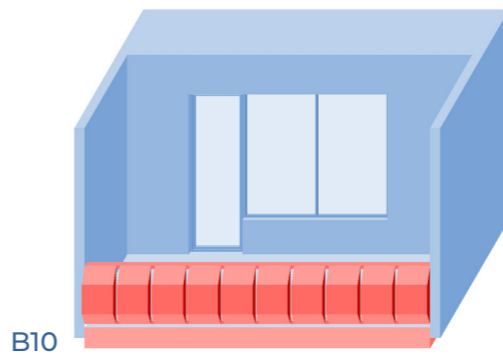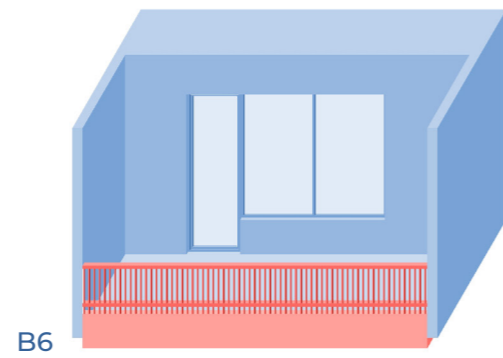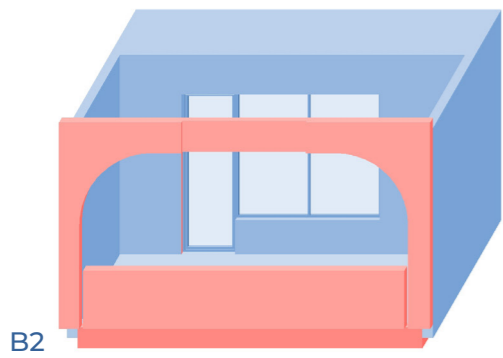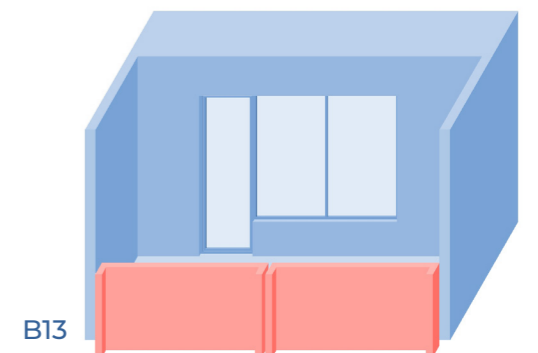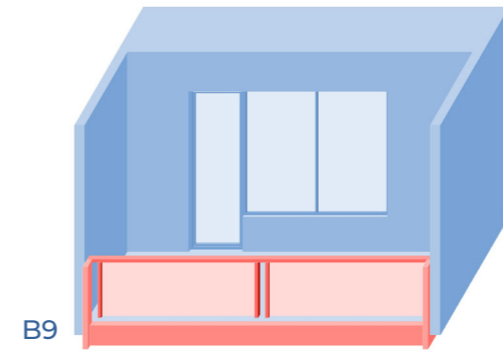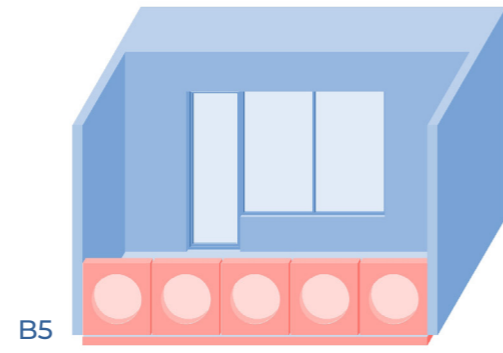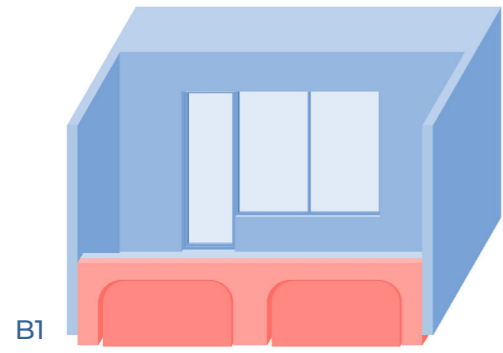
APPROPRIATED SPACE

The Bulgarian housing tradition functioned not only as a reference for the liveliness of the public realm, but it also inspired the original function of the balcony in the Trakiya project. Seen as an essential element of the home, the balcony takes over the functions of the "yard" of the traditional Bulgarian houses. The balcony is described as convenient for children to play, eat and rest outdoors (Sapundzhieva, 1979). Although the initial concept envisions the balcony as a condenser for outdoor activities within the private sphere of the home, the inhabitants have appropriated the space as an extension of the indoor life. During the socialist period the balconies proved to be superfluous (Nikolov, 2003), as the panel dweller saw an opportunity to gain space in very creative ways. Through partially or fully enclosing the balcony, its appropriation resulted in satisfying an individual need for space. Either an extension of the kitchen, an improvised storage or an semi-indoor-laundry drying room - it is an expression of the inhabitants individuality through the act of reterritorialization.

The balcony is vertically detached from the ground, even the ground floor apartments are elevated from the ground level. As the traditional space of the "yard" has a strong spatial connection to its intermediate surroundings, the disconnection of the balcony from the public environment alienates it from the traditional concept. As a result, the balcony gains the function of an observation platform, rather than a participatory space. This feature in combination with the inhabitants' urge to enclose space, imitates the "chardak" - an alternative element of the Bulgarian traditional house. Nikolov (2003) clarifies that the recurring examples in enclosing the open space can be traced back to the components in the Bulgarian housing tradition.
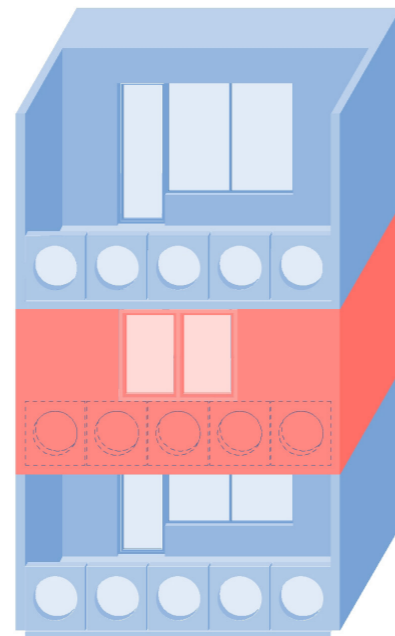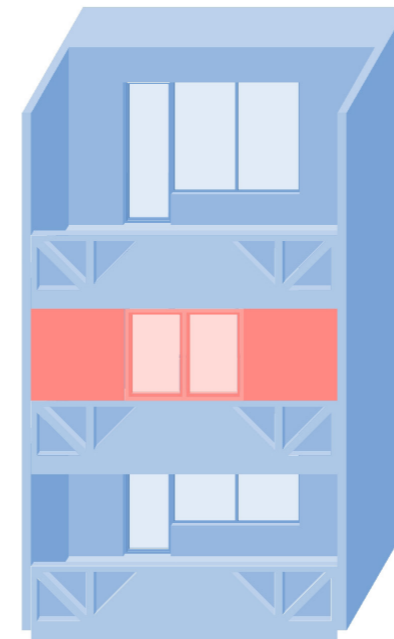
the "camouflage" one
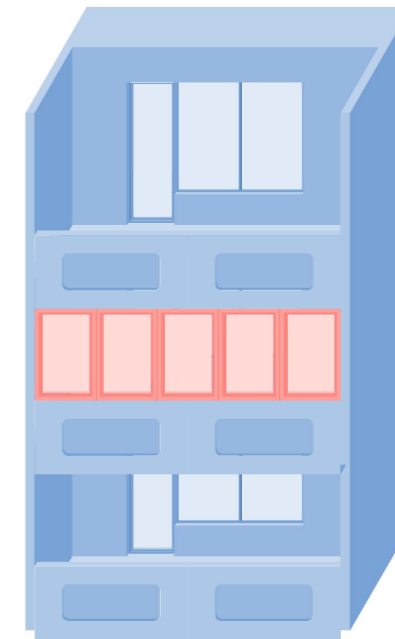
the "panorama" one
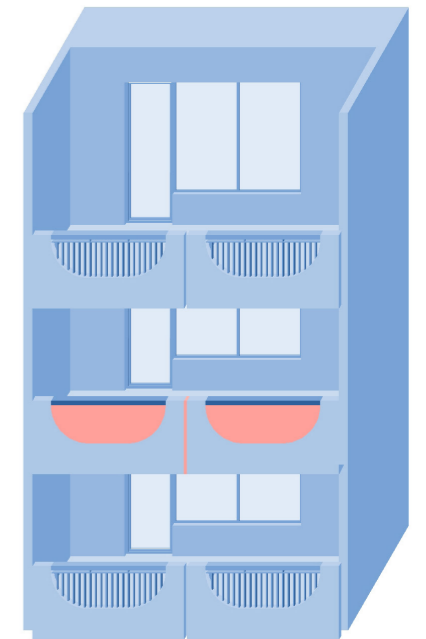
"color inside the lines" one

the "lost" one
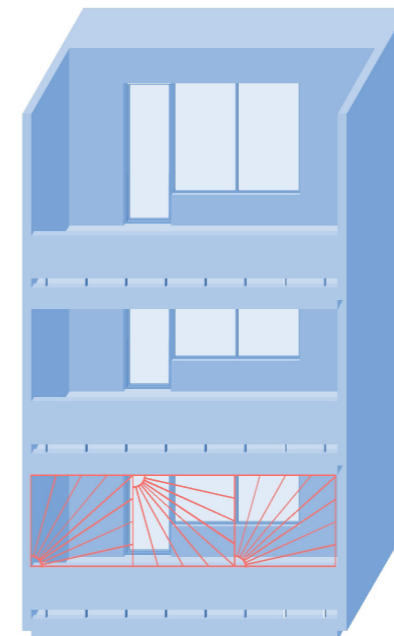
the "secure" one
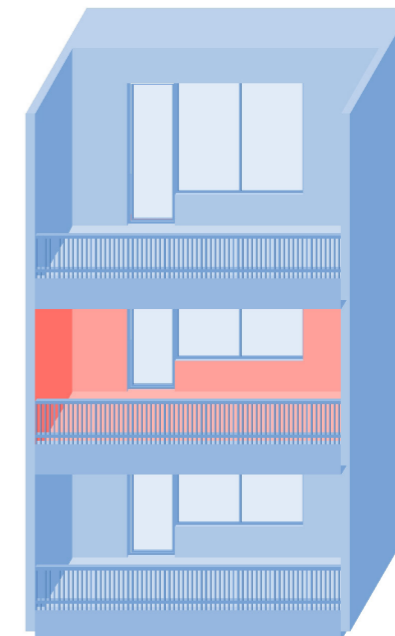
the "vibrant" one
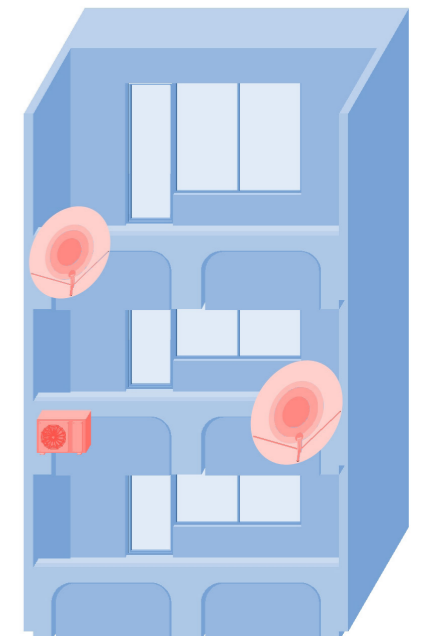
the "functional" one

"AM I BEING WATCHED?"

Although every apartment in the Trakiya's Panelka has at least 1 balcony, they offer different qualities in the living space due to the orientation. The positioning of the outdoor element is influenced by the configuration of the Panelka modules. A side effect of these dynamic compositions are the "negative" spaces between the blocks. Due to their arrangement, the balconies of dwellings that look out onto each other. This feature of the buildings has been interpreted by the then newcomers as pressure from the regime to keep an eye on the neighbours (Lueneburg, 2016). The notion of self-control in Soviet architecture was first seen in the typology of the Kommunalka, where multiple families would live in a communal lifestyle, sharing the living facilities. This enabled the state to exercise political control outside of the public realm. As the totalitarian regime had little direct control over the private sphere, the living structure of the Kommunalka empowers Soviet citizens to regulate each other from within the private realm (Gerasimova, 2002). With promise for better living conditions, the Panelka typology held onto the visual self-control through the orientation of the balconies. The balconies are a product of the Soviet territorialization in the private realm, as they facilitate the feeling of being controlled. The feeling of being observed is present even in situations where no neighbours are present. The private ownership of the apartments has empowered multiple residents to act upon this perception by enclosing their balconies. As a result of these adaptations, the inhabitants have not only extended their living space, but have acted upon their need for privacy.

During the Soviet regime the strive for diversity was initiated by professionals, later this was done by the residents. Due to a lack of public functions and spaces for encounters, the need to convey individuality rose to the level of longing for community. During the Soviet regime the individual expression was already present behind closed doors of the private realm - the inhabitants, as owners, were free to adapt their living space. Later during the Transition period, reduced restrictions and privatisation of the apartments enabled self-expression beyond the private realm. The interventions of the facades and the shared spaces are a direct spatial translation of that process. The once structured and uniform urban setting, has been slowly conquered by the individual and their perception of beauty. The personal understanding of order territorialized the public realm and with that the perception of the common was changed. This process of appropriating through establishing "order" for oneself, results in creating a multiplicity of order in the public realm. This heterogeneity in flux connects to Sennett's (2020) understanding about the importance of designing disorder in urban environments. Designing disorder encourages the emergence of the informal, spontaneous and unplanned uses of the public (Sennett, 2020). Due to the vertical character of Panelka, the display of the private order through the appropriation of the apartment's balconies and facades has more of an atmospheric impact on the public realm. Nevertheless, the fragmented character of the urban setting has created a space of tolerance towards "the different" and "the other". While in the vertical plane the residents approach their needs individualistically, the horizontal plane is conquered by interventions, powered by the need for belonging to a common space.

Additionally, the methods through which space is appropriated create a specific identity. Panelka has evolved to architecture with vernacular character although it was conceptualised in a setting which denies the local and individual. The functional structure, once defining and restricting, unleashed the creativity of the dwellers to create identity and satisfy their needs within and around the system. While the self-expression during the Soviet state was confined to the private realm, the lack of restrictions in the Transition period allowed it to conquer the public space.

The aim of research was to investigate the relation between the transformations in the Panelka after the collapse of the USSR and the needs of the residents. Trakiya did not fulfil all needs of its residents from its conception: the neighbourhood was never finished. The lack of public functions led to a practical need, the lack of spaces for encounters resulted in a need for belonging. Over time, additional needs emerged, such as the desire to express individuality, a connection to nature, and an urge to distance oneself from the Soviet. The transformations through which Trakiya went were initiated and implemented by its inhabitants. The lack of public functions were addressed by ground floor shops, the lack of spaces for social encounters were resolved by gazebos, the desire to express individuality manifested in the modifications of apartments and balconies, the connection to nature was sated by self-made ranchos and gardens. Finally, the desire to distance oneself from the Soviet resulted in unconstrained self-expression where it was not allowed before. Although Panelka was a mass-produced product of the Soviet architectural movement, Panelka became a mirror of the needs of its residents. As new needs emerge, residents will adapt Panelka again. The historical, socio-cultural, as well spatial aspects of this process have shaped the Panelka into the embodiment of the Bulgarian society in flux. However, without timely intervention by professionals, the decaying material state of the buildings might result in loss of housing as well as loss of the positives of the co-creation process to date. With appropriate action however, the participative neighbourhood development might be enhanced.

The scope of this paper is broad, as it comprises several perspectives analysed by multiple methods. The historical, cultural, spatial perspectives are investigated via interviews, a case study, literature and archive research, and spatial analysis. Under resource constraints, there is a trade-off between a broader scope and in depth application of the methods. The paper gives a high-level overview, but is limited in sample size and limited to a specific context. Future research

could increase the sample size for each of the methods, as well as conduct similar research in other Panelka neighbourhoods.

This study contributes to academic discourse in two ways. First, It impacts the literature of Soviet architecture. Whereas research up until now mainly focuses on the emergence and importance of the Panelka typology during the Soviet period, this research shifts the focus to after the Fall of Communism. Specifically, by taking a historic and cultural lens current Panelka neighbourhoods can be understood and, as highlighted in this research, require urgent attention. In addition, a deepdive in the historic documents available in municipal archives challenges an assumption stated by literature about Soviet architecture. That Soviet architects aim for uniformity in the housing sector, does not hold in this case study. In Trakiya, the architects took the framework provided by the state and stretched it to its limits to create some form of diversity. Second, this research shows that the theory of production of space by Lefevbre can provide valuable insights when looking into architecture created under a strong ideological influence. By analysing the social processes through Lefevbre's theory, one considers the perceived, conceived and lived space of the context and how these are altered with time. This leads to an in-depth understanding of ideologically charged architecture. By unravelling the processes concerning its current position, an action towards its integration can take place.

Due to the decaying material status, the prefabricated apartment buildings are in an urgent need of revitalization. This research shows how architects could approach this in a sensitive way. Recognizing the latent opportunities, tied to the cultural locality, is needed as the prefabricated apartment blocks have evolved to be a local phenomenon. Specifically, this research highlights two aspects. First, the spatial analysis of the apartments shows that spaces are altered frequently when the family structure changes. This is remarkable, as the current layout of Panelki does not allow for easy changes to the living space. Therefore,

this signals a strong need of the residents for a more adaptable layout of their apartments. Second, the comparison between the initial plans for Trakiya and what was actually built, showed significant discrepancies. Namely, the designed public functions were never built. The need for public functions caused residents in the neighbourhood to take it upon themselves to create a DIY version. The case study revealed that in Trakiya this led to unique cultural expressions, manifested in the gazebos, ranchos, ground floor shops, and bufferzone gardens. The author of this paper recommends to consider the wealth created by the local culture when revitalising Panelka neighbourhoods.

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