

# PAST FORWARD

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*"The struggle of man against power is the  
struggle of memory against forgetting."*

*(Milan Kundera, "The Book of Laughter and Forgetting")*

*"Without the past we have nothing to stand  
on, no context from which to organize the  
energies of moral vision."*

*(Terrence DesPres, "The Survivor ")*

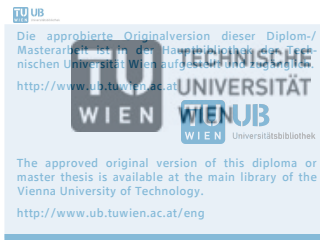
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DIPLOMARBEIT

**PAST FORWARD**

**Chances for Soviet mass housing in modern context**

ausgeführt zum Zwecke der Erlangung des akademischen Grades  
einer Diplom-Ingenieurin  
unter der Leitung

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Residential districts from the Soviet period tell a story of a disappeared world. They are the witness and the evidence of an important period of Russian history. Here immaterial effects of the cultural policy of socialistic regime meet the built, material political outcomes. A fascinating story of architecture-theoretical and sociological ideas is hiding behind the modest architecture of microrayons.

What once inspired painters and poets, what brought joy to the residents is now a burden. Soviet residential districts are now planned for a "renovation" - meaning demolition and new development. The justification for this approach is the "temporality" of Khrushchevkas - they were planned for a short use period. But one forgets the reason for their temporality was a strategic plan to possibly replace them in 25 years with new buildings. From their technical characteristics these buildings can remain in use for good 100 years. Their cultural meaning and historical value are not discussed in the political debate.

Soviet residential buildings are urban relicts of the twentieth century. Their invisible cultural heritage should be equated to the built, material heritage and taken into account in city development. A position towards handling the existing Soviet mass housing in the context of a modern, constantly changing city needs to be formulated.

Sowjetische Wohnbezirke Gebiete erzählen über eine Welt, die es nicht mehr gibt. Sie sind gleichzeitig Zeuge und Beweis einer wichtigen Epoche in der Russischen Geschichte. In Mikrorayons treffen sich immaterielle Effekte der Kulturpolitik des sozialistischen Regimes mit den gebauten, materiellen, Ergebnissen der Politik. Hier versteckt sich hinter der bescheidenen Architektur eine spannende Geschichte der architekturtheoretischen Ideen und gesellschaftlichen Veränderungen.

Was einst Künstler und Schriftsteller inspiriert hat, was große Freude für die Bewohner bereitet hat, ist jetzt zu einer Belastung geworden. Man will die alten sowjetischen Wohngegenden "renovieren" - also abreißen und neu bauen. Dieser Ansatz wird durch die "Temporarität" der Massewohnungsbauten begründet - die "Khrushchewkas" waren ja nur für eine kurze Zeit geplant. Man vergisst dabei gerne, dass dies eine strategische Entscheidung war, diese Bauten in 25 Jahren vielleicht mit neuen zu ersetzen. Bautechnisch gesehen, können sie unter regelmäßigen und zeitgemäßen Sanierungsmaßnahmen gute 100 Jahre in Verwendung bleiben. Die Frage der kulturellen Wertigkeit und historischen Bedeutung dieser Bestände wird in den politischen Kreisen nicht diskutiert.

Die sowjetischen Wohnbezirke sind städtebauliche Relikte des 20. Jahrhunderts. Das unsichtbare kulturelle Erbe dieser Räume soll dem gebauten, materiellen Erbe gleichgesetzt werden und in der Stadtentwicklung berücksichtigt werden. Es braucht eine Position zum Umgang mit den sowjetischen Massenwohnbauten im Kontext einer modernen, sich ständig weiterentwickelnden Stadt.





I would like to take this opportunity to thank all those who have contributed to the success of this work through their personal and professional support.

Special thanks go to my supervisor Prof. Rudolf Scheuven for the courage and direction he gave me along the way. I would also like to thank Daniela Allmeier for constructive dialogues and valuable tips.

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# INTRODUCTION

## PROBLEM OUTLINE

The 20<sup>th</sup> century was a turbulent period in Russian history - the revolution series of 1917, the Civil War, First and Second World Wars and the Cold War mark this century. The radical ideological change in 1917 caused a shift in the economic strategy and in the direction of the national development. One of the biggest challenges of the 20<sup>th</sup> century in the USSR was the constant housing crisis in urban areas, that was caused by rapid urbanization enforced by the new geopolitical course and already poor living conditions of city residents.

Planning was considered a state duty. Intellectual resources were mobilized on the national level to develop cost-effective design solutions for the housing crisis and provide city residents with appropriate living space. The ideology needed to be taken into consideration - new designs were to meet the ideals of the "new socialistic state." Various housing models were put to the test on the creative path - from commune houses to villages with single-family houses to large complexes and "machines for living." The residential architectural heritage of the 20<sup>th</sup> century not only forms up to 70% of current housing resources of Russian capital, but also tells the story of Moscow and Muscovites.

A city is a spatial and socio-cultural overlay of different historical layers. The presence or absence of these layers is determined by the finiteness of human creations and by political decisions. While human creations are unquestionably finite, it is the political decisions that influence the historical layers the most. These judgements are based on the evaluation of the existing context according to the ideological system of the decision-makers.

While some artefacts show their architecture-historical value even to an unexperienced eye, others need a closer look to be appreciated. Post-war residential buildings are especially rarely put into the architectural preservation context. These buildings, that embody a result of long work by research and design institutions and were once a source of great joy for their residents, are now burdened with numerous social and technical problems. These concerns often draw the attention from the actual value of these buildings.

Housing, regardless of its shape and form, has a great potential to influence the society. A radical change in housing typologies is very likely to lead to a social shift. If we take a closer look at the mass housing projects of 1950s - 1960s we will see, that



these buildings and this particular typology helped to significantly improve the living conditions in urban areas and enabled a quiet social revolution. While the typology and the technologies used can be criticized, the impact of industrial housing has to be acknowledged.

Kuba Snopek brings out another point of view - the intangible value of the Soviet microrayons.<sup>1</sup> A well-known Russian poet and artist Dmitry Prigov dedicated numerous works to his actual living area - Belyayevo. He speaks of the vast free spaces of his district and glorifies it. Prigov was not a representative of the "ideologically correct" style of socialist realism and was therefore unbiased in his attitude. Juriy Pimenov - one of the most important painters of the Soviet Union - dedicated his last years of work to depicting the growing city, new Moscow districts and - of course - the Muscovites.

When speaking of residential architectural heritage of the 20<sup>th</sup> century all kinds of values should be taken into consideration. One should not only judge the aesthetics or the practicality of an architectural relict, but also think of the architecture-theoretical and socio-cultural contents of it.

Soviet residential heritage should not disappear as if it never existed. The state has its history and it should be valued even if it is uncomfortable. Russia is a country that has already experienced manipulations of its history and this should not happen again.

Currently Moscow city administration seems to have a different view on this topic. It has issued the so-called Renovation Program for some areas constructed in the Soviet period. This program suggests a total demolition of the buildings and construction of new housing on these areas. The new development have no relation to the original urban structures in their form, density or height.

This thesis is written with the purpose to explore the values of Soviet residential architecture, to draw attention to the topic of its preservation and develop a strategic position towards the future perspectives for Soviet mass housing in modern Moscow.

1. Snopek, "Belyayevo Forever: A Soviet Microrayon on Its Way to the UNESCO List"; Snopek, "The intangible heritage."

## RESEARCH QUESTIONS

*What are the reasons for the preservation of the past? How and why do monuments emerge?*

*Where do the values of architectural monuments lie?*

*Who determines the destiny of monuments?*

*How did Soviet residential construction tradition develop throughout the 20<sup>th</sup> century? What ideas and visions influenced it?*

*How did the Soviet building tradition have on the architectural theory, culture and society?*

*Do Soviet mass housing relicts possess architectural and historical values? Are they preservation-worthy?*

*What are the current political and professional positions towards Soviet residential heritage in Moscow?*

*By what political programs was the destiny of Soviet residential heritage determined in the past? What programs determine it now? Are they optimal?*

*What is the international experience in dealing with mass housing relicts? Is it applicable to Moscow?*

*What are the prospects of the Soviet residential building heritage in a modern city? Is it still defensible in today's debate?*

*What strategy towards the future of Soviet residential heritage can be defined?*

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## METHODOLOGY AND THESIS STRUCTURE

This thesis undertakes the study of built cultural heritage in modern context, focussing on post-war industrial residential architecture in Moscow. The main hypothesis is that Soviet housing districts possess a cultural value that makes them preservation-worthy. The concept of architecture as a bearer of intangible cultural values builds the theoretical base underpinning this work.

The thesis is structured in six chapters. The first chapter of this thesis is focused on the theoretical background of the questions of heritage preservation and working with existing context. It highlights the meaning of memory and its importance for us as human beings.

The second chapter is dedicated to the research of historical background of Soviet mass housing, explores its architecture-theoretical background.

The third chapter touches on the topic of the influence of this type of housing for the development of architectural tradition, society and culture in the 20th century. It highlights some examples of the presence of Soviet industrial housing in literature, art and movies of the 20th century, including the post-Soviet period.

The fourth chapter is devoted to the research of the approach towards Soviet mass housing in modern Moscow. It tells about past strategies of dealing with the existing housing stock and explains the current Renovation Program more detailed. Constructive critics from social, economic and architectural perspective follow.

The fifth chapter turns to the international experience of dealing with mass housing in modern cities on three planning levels - the higher level of state and communal programs, the level of a living quarter and the level of actual architectural solutions.

The final chapter explores the chances and challenges of Soviet housing relicts and formulates strategic recommendations for dealing with this heritage in modern context and its integration in further city development. It gives an outlook on the further steps and provoked questions.



I.  
ARCHITECTURE AS  
A MEMORY BEARER

## ARCHITECTURE AND COLLECTIVE MEMORY

A city is an overlay of multiple historical layers, that can take spatial as well as socio-cultural forms. The spatial layers are visible - this are the buildings in all their functions, streets, urban landscapes and various ensembles formed by these visible elements. The socio-cultural layers are invisible but stand in a strong connection to the spatial ones. People as urban users and active changers of space interact with the built environment, that works as static bearer and transmitter of collective memory.

Spatial layers of the city are formed, altered and even destroyed by its users. The presence or absence of some layers is in some cases determined by the finiteness of human creations, but more so is it determined by political decisions. Evaluation and level of appreciation of the existing built context goes hand in hand with current political ideals and objectives. This chapter focuses on the meaning of collective memory and its value for us as human beings. It discusses the role of architecture as a memory storage medium and its importance for the community and individuals.

While in English there is one word for memory, the German language actually has two, that show the dual meaning of this subject: "Gedächtnis" - the actual information storage and "Erinnerung" - the access into this storage, the remanufacturing of events, pictures and objects.<sup>2</sup>

*"People are always shouting they want to create a better future. It's not true. The future is an apathetic void of no interest to anyone. The past is full of life, eager to irritate us, provoke and insult us, tempt us to destroy or repaint it. The only reason people want to be masters of the future is to change the past."*

*(Milan Kundera, "The Book of Laughter and Forgetting")*

Sir Frederik Bartlett wrote: "Remembering is not the re-excitation of innumerable fixed, lifeless and fragmentary traces. It is an imaginative reconstruction, or construction, built out of the relation of our attitude towards a whole active mass of organized past reactions or experience, and to a little outstanding detail which commonly appears in image or in language form."<sup>3</sup> The resulting attitude is an outcome of the capability to be related to oneself. This means our Being and our whole ideational realization. Remembering brings attitude, and this attitude is a result of our whole life. Our

2.  
Hoffmann,  
"Authentische Erinnerungsorte oder: Von der Sehnsucht nach Echtheit und Erlebnis" [Authentic places of remembrance or: About the yearning for authenticity and experience] 37.

3.  
Bartlett, "Remembering: A Study in Experimental and Social Psychology", 213.

personal understanding of things, our own imaginary of them is the lens, through which we perceive the world and build our personal identity.

Memory is not solely an individual experience, but also a part of the collective domain. Therefore, the topic of cultural memory has arisen in historiography and cultural studies. Two schools have emerged from these two fields of study - the first emphasizes the cultural memory's process, the second focuses on its implications and objects. The historiographic school articulates that the present shapes our understanding of the past whereas the cultural studies school assumes that the past has an influence on our present behaviour.<sup>4</sup>

It is crucial to distinct memory from history. Memory is the capability to encode, store and retrieve information about facts and events. The term "history" can be understood in at least two senses:<sup>5</sup>

- » the totality of facts and events that had occurred in the past (the objective dimension of the past existence)
- » the discourse about the past, embodied in various narrative accounts, reconstructing segments of the past (the discursive meaning of the notion of history).

Collective memory is a combination of one's own lived experience and the collective commemoration of events that were not personally experienced, but were historically inherited and shared by the group of people forming a social community.<sup>6</sup> This "second hand" memory consists of<sup>7</sup>

- » the memories within a community, derived from the personal experience of the members of this community, and transmitted through everyday communication (communicative memory), and
- » the representations of the past, transported through cultural support, that facilitates an inter-generation social memory transmission (cultural memory).

Collective memory and history are two different ways of accessing the past, that use each other and add to each other. Collective memory relies on history and uses it to legitimize itself. History, in turn, is conditioned by collective memory and can in extreme cases even dictate the conclusions, that must be reached by a historical research.<sup>8</sup> The way history influences the collective memory also depends on the political circumstances. In a totalitarian regime, where a person bases the idea of his Being on domination over the others and experiences a conflict with the self-understanding of the others, he has to manipulate, to change the past to justify himself. This is when history turns into a weapon in the hands of power - it can be falsified in order to falsify the collective memory and to influence individual memories. In this

4. Schwartz, "Social change and collective memory: The democratization of George Washington"; Schwartz, "Culture and collective memory: Two comparative perspectives."

5. Rusu, "History and collective memory: The succeeding incarnations of an evolving relationship."

6. Ibid.

7. Ibid.

8. Ibid.

case collective memory gets substituted with an ideology and that makes it impossible for a human to experience himself as an individual. If our identity is based on ideologies and power of others, one can only identify himself with the aggressor and wants therefore to change the past, because its truth is unbearable.<sup>9</sup> This type of manipulation has numerous examples in the world history and USSR sadly hosted one of them.

As it was noted before, cultural memory - a part of collective memory - is transmitted through cultural support and can be externalized in material objects - books, artefacts, memorials etc. Architecture is a part of this as a cultural bearer and cultural transmitter. Dether Hoffmann in his article "Authentische Erinnerungsorte oder: Von der Sehnsucht nach Echtheit und Erlebnis" calls to this concept. He differentiates between the "storage" memory and the "remanufacture" memory and states that not only humans and animals can have the "storage memory", but also spaces, buildings and places can save information about the past.<sup>10</sup> The way information is encoded in this case cannot always be read by an inexperienced observer and needs an involvement of qualified specialists to detect and decode this information.

Throughout the human history, some buildings and places were picked out of the common stock and preserved in order to support the local cultural memory and enable memory transmission between generations. The selection of the preserved objects is not defined through logic, but through emotional perception, which is, in turn, based on the personal experience and perception of individuals or in the self-identification with the leader.<sup>11</sup>

Marion Wohlleben states, that heritage preservation is an on-going struggle to keep our world spiritually upright. The past - she writes - should not be suppressed or mystified. But this can only happen if the subject developed her/his own identity and is therefore resistible to the imposed ideologies and power. Such person has "true" memories and perception of past.<sup>12</sup>

9.  
Meier and Wohlleben, "Bauten und Orte als Träger von Erinnerung" [Buildings and places as carriers of memory], 29.

10.  
Hoffmann, 37-39.

11.  
Meier and Wohlleben, 28.

12.  
Ibid, 29.



## MEANING AND VALUE OF THE BUILT CONTEXT

There have been numerous attempts to develop a system for the evaluation of cultural heritage. One of the most acknowledged theories comes from Alois Riegl. This is, as he states, not a checklist, but rather a thinking model, that includes all historical and epistemological dimensions of the question, whilst allowing a projection on the practice, on the discussion of practical possibilities and borders of heritage preservation.<sup>13</sup>

He sees heritage preservation and the very concept of memory and monument creation as a dynamic system that responds to the actual reality and adapts to all realities that yet to come. Defining the term "historical" as "all the things that once were and are no longer,"<sup>14</sup> and going on with the conception that "everything that once was can never be again, and everything that once was, forms an irreplaceable and inextricable link in chain of development"<sup>15</sup> Alois Riegl states that basically "all human activity and all human fate of which we have evidence of knowledge may claim historical value."<sup>16</sup> As it is not possible to take every event in human history into consideration, the attention has to be limited to such events that represent "striking stages in the development of a particular branch of human activity."<sup>17</sup> Such preserved evidences then appear to us as an "indispensable link in the developmental chain of history."<sup>18</sup>

But the historical value is not the only reason for appreciation the monuments get. If it were so, states Riegl, we would appreciate monuments from different epochs at least at the same level or we could notice a relative increase in the value of a monument with the increase of its age. In reality, younger pieces of art can get a higher appreciation than older ones.

As opposed to the historical value, Riegl points out the newness value.<sup>19</sup> As historical monuments are per se not new, this value can be achieved only through the restoration of their appearance. The newness value stands in constant tension with the age value - the appreciation of the used appearance of a historical monument, of the past for its own sake.

The transition to present-day values is formed by the commemorative value. Its purpose is to keep the moment from the developmental history alive and present in consciousness of future generations.<sup>20</sup>

Apart from these values, the purely artistic value should not be forgotten. This value is independent of the work's historical value and of its position within the

13. Riegl, "The modern cult of monuments: Its essence and its development."

14. Ibid, 70.

15. Ibid.

16. Ibid.

17. Ibid.

18. Ibid.

19. Riegl; Mörsch, Meier, and Scheurmann, "DENKmal-WERTE", 27-39.

20. Riegl, 77.

developmental history. This value can be found in specifically artistic properties of the given work - for example in its concept or form.

Most historical relicts have the potential to satisfy one's sensory and intellectual desires on the same level as modern creations can. This potential builds the basis for its present-day value. According to Riegl, apart from the already mentioned newness value also exists the use value. This value is expressed in the capability of a relict to be used in modern life - for example to be home for people. The use value is indifferent to the kind of treatment monuments needs for its active functioning as long as the monument's existence is not threatened.<sup>21</sup>

Gabi Dollf-Bonekämper adds one more category to the original Riegl's list - the conflict value.<sup>22</sup> This type of value reflects interest conflicts in a heterogenic society. She points out, that the actor constellation is so complex, that the decision, whether the object in question is to be declared to a monument or not, cannot be made through pure power implementation or majority decision, but should be negotiated. This negotiation about the values of an object and their interpretation takes place in modern tense political, cultural and economic context and involves diversity and inequality of participants, concerning their knowledge, will and capital.<sup>23</sup> In this discussion not only consent, but also a dissent can be positive forces. The very fact that a monument can provoke a discussion is valuable.

Dollf-Bonekämper deepens the Riegl's division of monuments into desired and undesired. While Riegl speaks of desired monuments as those that were constructed with the intention of producing a monument and undesired as those that turned into monuments with time, but were nor constructed with this ambition. Dollf-Bonekämper objects, that being desired or being happened cannot be characteristics of monuments. These characteristics, she says, are more a description of the time- and situation-dependent circumstances of their perception and valorisation.<sup>24</sup> As one cannot preclude that a "desired" monument could possibly be not desired by some persons or groups, the description "desired" has to have an antonym. This would be an undesired monument. An antonym for the happened monument would then be an unhappened. The question is, what is an unhappened monument? Would it be no monument at all? Or would it be a "candidate" that did not get a monument status? Both explanations, writes Dollf-Bonekämper, are not satisfying. But it becomes clear, that being a monument is not a neutral process, that happens with time. It is a controversial negotiation process, pervaded with antagonisms and different interests, that happens in the moment and could itself be the object of analysis.<sup>25</sup>

21. Riegl, "The modern cult of monuments: Its essence and its development," 79.

22. Dollf-Bonekämper, "Gegenwartswerte. Für eine Erneuerung von Alois Riegls Denkmalwerttheorie" [Present values. For a renewal of Alois Riegl's monument theory].

23. Ibid.

24. Ibid, 35.

25. Ibid, 37.

## HISTORICAL DEVELOPMENT OF PRESERVATION PRACTICE IN EUROPE AND RUSSIA

We are used to the fact that some historical substance is constantly present in our environment and this substance is being preserved and taken care of due to its declared high cultural value. But actually, this has not always been the state of the art. Ideas of cultural preservation and the understanding of what cultural monuments are have evolved throughout the human history as did the cultures.

Classic Antiquity, Imperial Period and Late Antiquity, though differing in the individual aspects of preservation understanding, do have a common feature - some monuments that were not originally constructed to produce remembrances at some point became crucial for the self-perception of society, as they represented events, personalities or symbols, deeply anchored in the collective cultural memory. Attendance of such monuments and care for them strengthened the sense of community, of common origin and history as well as reinforced religious feelings.<sup>26</sup> Collective connection to cultural symbols held the community together.

In the Middle Ages, the attitude towards historical cultural relicts and the overall approach to them changed. As different assets, such as for example landscape monuments, antique buildings, tombs and tomb monuments, remains and findings from old graves possessed different types of practical or sentimental value, they were handled differently. While the Roman ruins were either preserved as Christian memorial sites, reused or rebuilt in favour of private interests, their furnishing, decoration and the remains were transferred to their new destinations or collections. Old tombs were often reused because of manorial or territorial claims, while archaeological findings with their sentimental value turned into a valuable good for the people of the Middle Ages, who strongly believed in magic. Generally, the only sustained memorials were churches of late Antiquity and early Middle Ages because of their high social significance as places of worship.<sup>27</sup>

In the time of the Renaissance, the growing interest to collective history and genealogy lead to a gradual shift in evaluation of the traces of past. Historians, poets and antique dealers were involved into this process. Some landscape sites, ruins and tombs were put together in a common memorial landscape.<sup>28</sup> The tendency to trade historical relicts, to destroy or repurpose tombs was growing and the situation demanded legal action. One of the first attempts to regulate heritage preservation legislatively was made in Rome in the 15<sup>th</sup> century. But they reached their full expression only by the middle

26. Pollak, "Vom Erinnerungsort zur Denkmalpflege" [From the memorial to the preservation of monuments], 10-30.

27. Ibid, 31-47.

28. Ibid, 47-64.



Figure 1. Festive illumination on Kalinin Prospekt (now called Novyi Arbat) 1971. The so-called "Book-Houses" were constructed in 1963-1969 according to the project by Mikhail Posokhin.



of the 18<sup>th</sup> century. Western Europe and Scandinavia also started to gradually discuss their cultural heritage and cultural assets and develop their first legislative measures.

The 18<sup>th</sup> century can be seen as the early period of cultural preservation in Russia as well. At that time, the state played the main role in identification, cataloguing and care of antique rarities. Peter I stimulated the process through his legislative measures, that through expanding the collections of historical relicts, impacted the development of historical science and museums. But it was not until the 19<sup>th</sup> century that care and preservation of architectural monuments in the modern understanding emerged.<sup>29</sup>

As cultural assets became a symbol of the national historical "weight" and therefore increased in value, the idea of their systematic preservation and care appeared.<sup>30</sup> Purposeful preservation activity in Russia was initiated by the state and the national scientific community. The interest to the past, to the production of its material witnesses was an important part of the national self-identification process. The beginning of the 19<sup>th</sup> century was marked with the emergence of a deep interest in national relicts. In 1826 Nikolai I issued a provision, that forbade destruction of antique buildings and secured a report about such. This put a start to the state program of identifying and cataloguing constructions of Russian Antique. In a short period of time the first list of Russian Antique monuments was put together, describing more than 4.000 objects. The legislative regulation also stopped uncontrolled archaeological excavations and put an end to the destruction of unique archaeological sites and to the illegal export of relicts. In 1834, a further provision restricted excavation on private and public lands, starting the transition to a full state control of archaeological activities.<sup>31</sup> In the beginning of the 20<sup>th</sup> century, the term of an object of architectural heritage was defined and an approach for evaluation of such objects was developed. This term was quite broad and included objects of private and public architecture, fortifications and later also messuages.<sup>32</sup>

The experience gained in the 19<sup>th</sup> and in the early 20<sup>th</sup> century formed the fundament for the heritage preservation concepts of the USSR. This ambiguous historical period put heritage preservation into rigid ideological frames, that demanded an evaluation according to the level of "ideological correctness." Objects of cultural heritage were nationalized according to the provision of 1918,<sup>33</sup> catalogued and put under state control - this set the base for a state system of heritage preservation and protection.

This was, on one hand, the time of a "museum boom" in the USSR - valuable objects found in messuages were put into museums. These museums were organized mostly in repurposed villas, monasteries and palaces. On the other hand, a very pragmatic utilitarian attitude to cultural heritage has evolved at this time. It could be sold, rebuilt,

29.

Federal Service for State Registration, Cadastre and Cartography, "Охрана объектов культурного наследия в России" [Protection of cultural heritage objects in Russia].

30.

Pollak, 70-93.

31.

Federal Service for State Registration, Cadastre and Cartography.

32.

Ibid.

33.

Ibid.

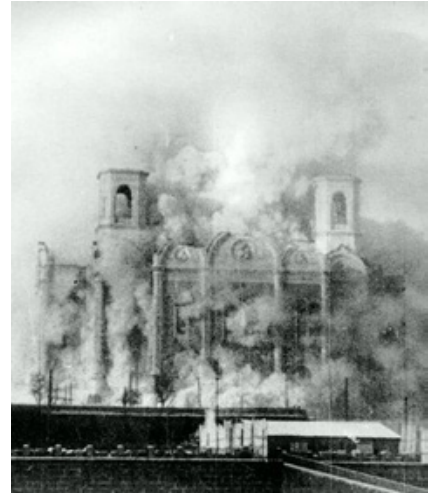
repurposed for low-key household needs. This put, first of all, cult architecture in a critical position, as religious cult was not accepted by the state. In the time of NEP, due to the financial shortage, a lot of monuments have faced a state of decay.

The state started the process of re-registration of objects of cultural heritage and applied a ranking system to them. The introduction of this ranking system was predominantly politically motivated - the national history was being slowly substituted with the history of the revolutionary movement and only curated, "ideologically correct" monuments were preserved to support the consistency of this picture. This approach led to a massive reduction of the number of architectural monuments in the register. Unique architectural and historical relicts - even those that were renovated shortly after the revolution of the 1917 - were rebuilt, repurposed or simply demolished.

During the war in 1941-1945, a large number of cultural monuments was destroyed. To reduce the financial load on the state budget, private responsibility for the relicts was increased with a provision from 1948, introducing the aspect of private responsibility into the game.<sup>34</sup>

The Khrushchev period has brought further destruction of monuments and distortion of historical city ensembles. This mostly was because of the incompetence of the planning apparatus. Urban planning was destructive in concern of historical city structures - the Kalinin Prospect imposed onto the historical city structure is one of the examples.

In the mid-1960s the consciousness towards architectural heritage grew again and an organization to protect historical and cultural monuments - VOOPiK - was founded. In 1978, the importance of cultural heritage protection and preservation was underlined again in the provision "about the protection of cultural and historical monuments", which among all defined heritage preservation as one of the most important state duties. Unfortunately, this law never seemed to work well due to organizational and finance complications.<sup>35</sup>



**Figure 2.** The demolition of the Christ the Saviour Cathedral in Moscow in 1931. The site was planned for the construction of the Palace of Soviets, but was actually used to accommodate a public open-air swimming pool. The Cathedral was rebuilt in its original form on the original position in 1993.



**Figure 3.** The Palace of Soviets draft by Boris Iofan. The palace was planned to house sessions of the Supreme Soviet of the USSR and mass demonstrations. According to the architect's design the height of the Palace together with the one hundred-meter statue of Vladimir Lenin was 415 meters. This was to become the center of the new Soviet Moscow and the tallest building in the world, symbolizing the victory of socialism. The project remained on paper.

34.  
Ibid.

35.  
Ibid.



Figure 4. Ruins of the Christ the Saviour Cathedral.



Figure 5. Demonstration in support of the demolition of the Christ the Saviour Cathedral and following construction of the Palace of Soviets. The writing on the fence says: "A palace instead of the heart of datura."



Figure 6. The rebuilt Christ the Saviour Cathedral nowadays.

With the major political changes of 1990s the ideological pressure was taken off the cultural aspects of life - including heritage preservation. Though legislative activity was very high at the time, a law to regulate the care and preservation of cultural heritage in the "new reality", where private and state property coexisted, was missing. In the history of Moscow, this period is characterized with major destruction of architectural monuments - mostly of historical residential and administrative buildings - in favour of private and public real estate developers neglecting all regulative laws. Russian problem with corruption could be blamed here. Loss of national identity also could have led to the neglect of cultural values. A nation, whose history was once taken away and substituted with a curated artificial one, designed to support socialistic ideology, could perhaps not have developed the sensibility to the values of architectural heritage as of that moment. When it comes to the current situation in Russian heritage preservation, it looks quite solid at the first glance on its legislative fundament with numerous laws, regulating various aspects of heritage preservation, but the execution of these laws has space for improvement.

As we see through its history, the approach to cultural heritage preservation constantly reinvents itself in accordance to the current socio-political trends. Various groups of architectural heritage show different - if any- importance throughout the history. For example, religious architectural heritage was of high importance for the society before the ideological change of the USSR and grew in its importance again after the break-up of the USSR. Once robbed and repurposed buildings are nowadays getting a lot of attention and resources. Similar destiny was prepared for the residential architecture - preserved and restored residential buildings in the city center along with mansions and palaces have had their highs and lows throughout the past two centuries. Historical multi-apartment housing in the city center was partially destroyed with the purpose of getting access to valuable development areas in the inner city.





Figure 7. The public open-air swimming pool constructed on the site of Christ the Saviour Cathedral in Moscow.

*"Everyone is obliged to take care of preserving the historical and cultural heritage, to preserve monuments of history and culture."  
(Constitution of the Russian Federation, Article 44.3)*

Partial destruction of historical layers is a normal process in the man-made environment, it gives space to the new layers documenting new experiences. But complete disappearance of a given historical layer interrupts the historical continuum of the area and hinders the self-identification of its residents.

## MODERN UNDERSTANDING OF HERITAGE PRESERVATION AND WORKING WITH THE EXISTING CONTEXT

Historical built context can sometimes be displeasing, complicated and even irritating, but this does not diminish its value for society, culture and science. Not only heritage preservation practice but also urban development in general should accept this and not only concentrate on preserving aesthetically and emotionally pleasant relicts.

Currently, there a shift is happening in the European community concerning the social acceptance of "uncomfortable" built context and artefacts. Relicts of the 20<sup>th</sup> century tend to be ambivalent. They remind of the tragic events that cannot be forgotten and wiped clean out of history. Norbert Huse dedicated a lot of his research to the question of "uncomfortable heritage"<sup>36</sup> and awareness to this topic in the professional community. Whilst his works mainly concentrate on the "uncomfortable" heritage, derived from national-socialists in Germany and socialistic heritage in eastern Europe, this question is as relevant in Russian context.

The "uncomfortableness" of Russian heritage, as in any other country, is a result of social and political transformation processes in the state. Being a direct successor of the Soviet Union, Russian Federation inherited the relicts of the former regime and needs to develop a strong and clear position towards the Soviet architectural heritage.

Heritage is rarely planned to be so, it mostly becomes so in the course of natural political, social and historical transformations. The decision to declare a relict an object of cultural heritage and to preserve it is always a manifestation of a certain political position. Not any less of a political statement is the non-acknowledgement of a relict as preservation-worthy or not making any decision at all.

Huse emphasizes in his works, that the "uncomfortableness" of heritage is a relative term. It is the reflection of a certain perception of given heritage objects by the society. Constructions are as real as the observing people and the historical situation, in which they find themselves. This makes not only the built objects themselves a part of history, but also their protection and preservation.<sup>37</sup>

Kuba Snopek points out the interplay of various values that cultural and architectural relicts possess. Differentiating between the tangible and intangible values, Kuba Snopek acknowledges the existence of more than the material shell of architectural relicts. These intangible values are difficult to identify, they are presented, according to his theory, through big concentration of cultural activities.<sup>38</sup>

He points out that methods that were used to identify objects for preservation

36.

Huse, "Unbequeme Baudenkmale" [Uncomfortable monuments].

37.

Huse and Kölling, "Unbequeme Baudenkmale des Sozialismus" [Uncomfortable monuments of socialism], 35.

38.

Snopek, "The intangible heritage"; Snopek, "Belyayevo Forever."

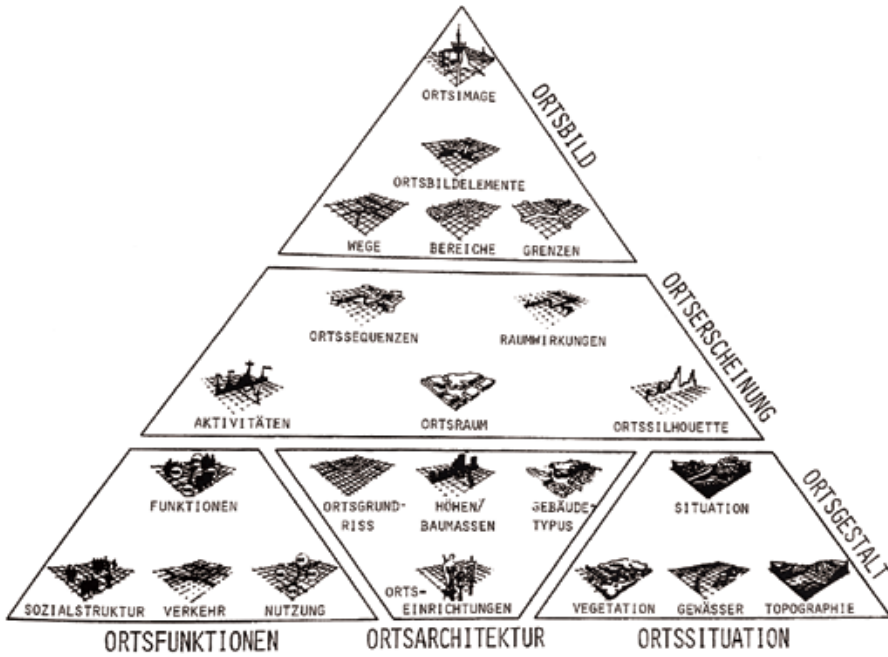


Figure 8. Everything is interconnected. A Combination of multiple elements creates the unique local appearance.

from previous epochs appear not be applicable for late-modernism.<sup>39</sup> Late-modernist architecture suffers from its bad reputation and has little to no defenders in the post-Soviet space. Therefore, architectural heritage of the Soviet Union is endangered and might soon disappear in the course of numerous state renovation programs, that mostly imply complete destruction of the existing structure and its substitution with a new one, that shows no link to the old structure whatsoever. With the demolition of the built substance the cultural filling of the space is also being destroyed.

Philipp Meuser works with a similar idea - in his book "Die Ästhetik der Platte"<sup>40</sup> he puts Soviet mass housing in the cultural context, touching on the topic of how the industrialization of housing production has influenced fine arts and industrial design. Destruction of the source of that influence will break the logical cultural links.

The value of ideas that manifested themselves in architecture should also be considered. The 20<sup>th</sup> century confronted USSR and European countries with similar challenges, such as rapid industrialization, urbanization, numerous wars and as a result - housing shortage. In the Soviet Union, the 20<sup>th</sup> century was the time of constant search for new solutions for housing provision. Housing crisis was a problem of national scale and solutions were developed in state design and planning institutes, populated with outstanding professionals. Although the ideology of the time is unacceptable from the modern point of view, the high value of scientific research and the creative energy put

39. Snopek, "The intangible heritage."

40. Meuser, "Die Ästhetik der Platte" [The aesthetics of the panel houses].

into the solution of housing question should not be neglected. Achievements of Soviet architecture and building industry have been inherited by many Western countries and then adapted to meet their unique local requirements. Ideas and inventions themselves are tools and they, as any other tools, can be used for good and for bad purposes.

One of the most forward-thinking countries when it comes to the state position towards the tasks of preservation practice and working with built context is Switzerland. In 2007, the Swiss Federal Commission for Monument Preservation issued the new Guidelines for the Preservation of Built Heritage. This document speaks of preservation practice not only in the traditional understanding of architectural heritage preservation but is meant to be equally applicable to all generations of built relicts.<sup>41</sup> Swiss experts base the definition of heritage and the position on its significance on the idea that man has a basic need for remembrance which is essentially based on places and objects, that calls back to the theoretical works of Riegl and Bartlett. So, one needs memory, as an individual and in his communities, as a basis to shape the future. To do so, one has to have access to the collective memory of humanity which is constituted of movable and immovable objects as well as intangible evidence such as language, music and traditions.

The material reminders - built context - act as a witness. They play a special role in constitution for the collective memory due to their physical presence and intense publicity in human daily life. They keep memories permanently awake. They cannot be ignored, but they can fall victim to indifference. Man has a claim to these material reminders and to their preservation by the community. Heritage value of an object is connected to its built substance, meaning that when an object loses its original built form it will not possess its original value even if rebuilt. Only if the object is not impaired in its historically significant materiality can it be interpreted as the expression of specific historical circumstances and only then can this interpretation be verified. The testimonial value provided by the object cannot be recreated, even by a replacement of high creative quality.<sup>42</sup>

Next important feature of the guidelines is the clear statement that not only "positively charged" relicts deserve attention and preservation - reminders of injustices and suffering as well as objects whose significance is not unanimously agreed upon are also to be preserved. Relicts can give evidence of "manifold human activity historic events and evolutions, artistic creations, social institutions and technical achievements."<sup>43</sup> Just like in Alois Riegl's framework of heritage values, the document points out that the "value" of a relict is a multidimensional aspect. It is not solely defined by the age of the aesthetical quality of the built substance but is "assessed

41. Eidgenössische Kommission für Denkmalpflege, "Leitsätze zur Denkmalpflege in der Schweiz" [Guidelines for the preservation of built heritage in Switzerland], 85.

42. Ibid, 87.

43. Ibid, 86.

through several dimensions: this can include its cultural significance, historical use, its links to individuals and the community, its constructive or aesthetic quality, its status within a settlement or in the landscape."<sup>44</sup> Therefore, objects from recent past can be as significant as ones from earlier times. The value of a relict also exist independently of its recognition as part of historical heritage and its listing in inventories and mentions in scientific texts and poor state of repair does not affect the object's heritage value.

Not only individual buildings can be objects of preservation, sometimes the big picture is the object of preservation. German practice of urban heritage preservation is a great example.<sup>45</sup> The legislative base for urban heritage preservation appeared in 1970s with the adoption of Städtebauförderungsgesetz in 1971 and introduction of a few new preservation laws between 1972 and 1980 as a part of general concept of heritage preservation. This was not a completely new topic, as the ideas of urban heritage preservation date back to the early times of heritage preservation.<sup>46</sup>

It stands in a strong connection with other professional areas such as the upkeep of townscape, nature conservation and city planning as well as city remediation planning. In Germany, the responsibility for urban heritage preservation lays mostly on the communes, as they are responsible for communal planning. At the beginning of 1970s the professional opinion was that a list of singular preservation-worthy buildings was enough to represent the complex history of a city. Nowadays urban heritage preservation has a comprehensive differentiated catalogue of tested instruments. Still, it has its flaws - the practice is criticized for the enormous amount of considered objects and for the detachment from the legislative fundament through broadening of terms.<sup>47</sup>

The fundamental approach of urban heritage preservation recalls to the classical ensemble theory, where the city is observed as a big picture. Parts of the big picture, that grow out of the borders of singular buildings are what is put into consideration here. First, the urban layout itself. It consists of the private and the public, the built and the unbuilt. Its manifestation is an important explanatory phenomenon and often the determining aspect for urban development. Two-dimensional spatial structures possess a great inertia, survive and outlive the factors and processes, that lead to their formation. This way urban layout becomes the source and the witness of urban history. It should, of course, be treated with healthy criticism, but at the same time it possesses a high independence as a document and is therefore an object of cultural heritage.<sup>48</sup>

The location of area in question is another testimony of historical transmission. Evaluation of possible locations for development areas has changed throughout the history, but its general ideas are still valid nowadays. Urban layout can be broken down into smaller structures. The relation between the built and the unbuilt, green areas,

44. Ibid, 87.

45. German: Städtebauliche Denkmalpflege

46. Eidloth, "Geschichte der städtebaulichen Denkmalpflege" [History of urban heritage preservation], 23.

47. Gunzelmann, "Flächenhafte geschichtliche Überlieferung als Gegenstand städtebaulicher Denkmalpflege" [Extensive historical tradition as object of urban monument preservation], 55.

48. Ibid.

public spaces and transport infrastructure are of high importance for the understanding of urban heritage.<sup>49</sup>

A list of individual objects is insufficient for comprehensive urban heritage preservation. It should relate to all historical buildings that define the historical townscape or the urban structure. A historical city can be understood as a continuum of historical built structures possessing a certain cultural and artistic importance, that document the socio-political imprints of the past. This continuum can be broken down into building typologies, that can be further differentiated according to their building or urban historical epochs, regional or periodical building materials or their functions.<sup>50</sup>

The matter of urban heritage preservation is not the harmonic, aesthetically pleasing townscape, but the preservation of intended or coincident historical images or impressions. The understanding of an object of urban heritage as a system of connected buildings and spatial elements is crucial for its constitution. These connections can be functional or material as well as visual. Passable three-dimensional city images are interesting not only because of their aesthetical qualities, but also as an expression of historical structures and processes. Gunzelmann points out that intended or coincident visual connections, perspectives in the street space, the model effect of certain buildings, solitary buildings as an expression of politically or religiously motivated actions build altogether these images.<sup>51</sup> Urban space as an object of heritage preservation is a multidimensional complex system of material and immaterial historical deliverances, that manifests itself in the form and structure of the city.

49.

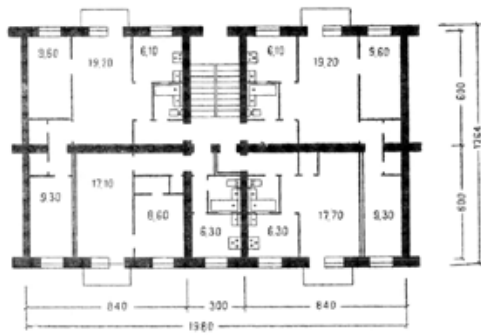
Gunzelmann, 58.

50.

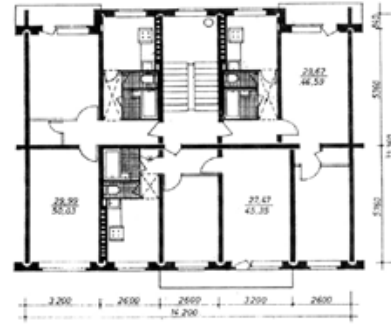
Ibid.

51.

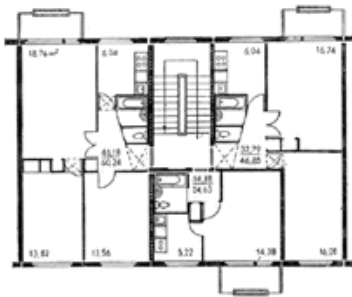
Ibid, 58-59.



Sektion 1-2-3-3 (Serie 308-A, Kasachische SSR, 1957)



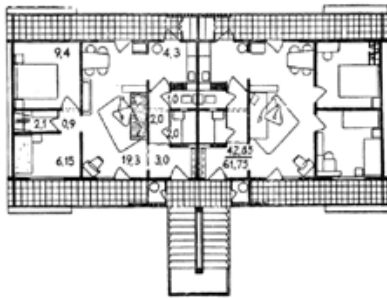
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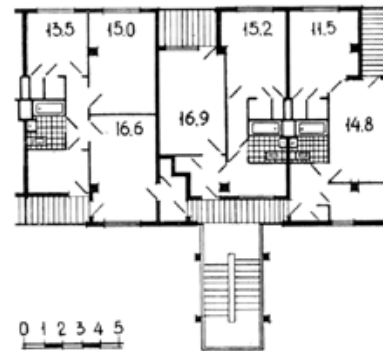
Sektion 1-2-3 (Serie unbekannt, o.O., o.J.)



Sektion 2-2-2 (Serie unbekannt, o.O., o.J.)



Sektion 3-3 (Georgische SSR, o.J.)



Sektion 2-2-3 (Armenische SSR, o.J.)

Figure 9. Plans of various building sections

## INTERIM CONCLUSION

We need the possibility to access memories in order to be able to relate to ourselves. This means our Being and our whole ideational realization. Individual as well as collective memories are parts of this process. Architecture has the capability to act as storage for a part of collective memory - the cultural memory. In some cases, it takes specialists to read the messages the built environment encapsulates, but it does not make these artefacts less valuable than the others.

Preservation or demolition of certain buildings picked out of the common stock is always a political statement. As architecture as a part of our cultural domain has a great power in transmitting the cultural memory, there have always been individuals, who wanted to profit from this influence by destroying some relicts and/or preserving the others. The dangerous examples refer to the cases when the collective memory is substituted with an ideology, making it impossible for a human to experience himself as an individual. One of such examples was the history manipulation in the USSR.

Due to the specifics of the 20<sup>th</sup> century the artefacts it left behind tend to be uncomfortable and sometimes even disturbing. Nevertheless, it is important not to neglect their values just because they can be emotionally or aesthetically unpleasing.

Relicts of the 20<sup>th</sup> demand a new approach to their preservation, that would take into consideration the values of built artefacts, their possible great amount and overall condition.

Built environment plays an important role in transmitting the cultural memory and supporting the self-identification of human beings. To get a better understanding of the subject of this thesis - approach to the Soviet residential building stock in Moscow - one needs to get to know its background. Historical and conceptual background of the development of mass housing, the motives and socio-political circumstances behind it form the focus of the next chapter.

Interestingly enough, the Soviet period of Russian history is often seen as a gap in the historical development of the country. Fedor Novikov<sup>52</sup> states that the "natural" development of Russian urbanism was interrupted in 1931, with the dissolution of the specialization of city engineers by Josef Stalin. From that point on, he states, urban development strategies of USSR were copied from the Western world. According to his position, there has been a 77-yearlong historical void in the development of urban planning in USSR and the urban development tradition was revived only in the early

<sup>52</sup> Fedor Novikov is the former director of Mosgorpark - a state institution coordinating the activities of Moscow cultural and recreational parks.





**Figure 10.** Plan welder at work in Schwerin's inner-city new construction and reconstruction area "Großer Moor." Pre-heated concrete elements and steel wires for welding, made it possible to rapidly assemble at temperatures below minus 15 degrees. Sand, water and cement were also kept above freezing in special containers.

2000s.<sup>53</sup> This, of course, cannot be possible - any city or country is actively involved into urban planning. Taking into consideration the specifics of centralized planning in the USSR, spatial development objectives of the time and the building boom of the second half of the 20<sup>th</sup> century, we should acknowledge that we are speaking of an extremely high level of state engagement into urban development. Urban development practice, or *urbanistka*, as it is called in Russia nowadays, existed under a different name and duties of spatial planning were dispensed across various institutions, sometimes being only a part of their activity spectrum.

Novikov's wish to ignore this period of urban planning history seems to be emotionally and politically driven. Many professionals, involved into planning, also gravitate to this position towards the Soviet urban planning tradition and the post-war Soviet architecture. Nevertheless, personal aesthetic and ideological preferences are not a valid reason to ignore relicts from a given period of time. Urban planning existed uninterrupted throughout the 20<sup>th</sup> century in Russia and left respect- and attention-worthy relicts. Moreover, Soviet urban development tradition has had a great influence on the urban development tradition of Russian Federation and its culture.

53. Novikov, "Урбанистика - ругательное слово?" [Urbanism - an expletive word?]; Volkova, "Генеалогия российской урбанистики" [The genealogy of Russian urbanism]"



II.  
THE HISTORICAL BACKGROUND OF  
SOVIET RESIDENTIAL ARCHITECTURE

## FIRST IDEAS AND EXPERIMENTS

The idea of residential architecture based on prefabricated elements appeared in the 20<sup>th</sup> century in Europe as a logical outcome of the industrialization in the late 19<sup>th</sup> century. As the development of industrial sector caused a shift in economics, engineers, designers and architects started to explore how this shift and industrialization would influence architecture and everyday life.

The constantly growing urban population demanded affordable and sustainable housing solutions. This objective put extra pressure on the planning institutions. In 1920s Bauhaus was already trying to develop architectural designs, that took advantage of prefabricated elements and promoted new aesthetics. Bauhaus members worked on cost-effective mass housing solutions, that could be replicated on various sites and become the new state-of-the art for residential architecture.

1920s in the USSR started with a series of urban policy reforms. With a provision from February 1918 private ownership of land was abolished and in August of the same year private ownership of real estate in the cities was eliminated as well. Local Soviets got the most valuable housing facilities in their hands.<sup>54</sup> In the years of Civil War, politicians and economists were highly concerned with "planning" and established a system of "War Communism", making centralization and nationalization key elements of Soviet economic policy. Centralized planning promoted a utopian image of a society and economics with a purposeful direction, it was seen as an antidote to the chaos of capitalistic market, although it generated black markets, redundancy and waste. The control of urban planning and construction was held by the new state and municipal institutions, that became incubators of architectural ideas.<sup>55</sup>

Among the most noticeable urban reforms of Bolsheviks was the policy of "housing repartition", established in 1917. This policy was a pragmatic measure as it gave a temporary solution to the severe housing crisis of the time. Under this policy people, who were considered to be "bourgeois elements" were either forced to share their living space with working-class families or evicted. The mass resettlement of the working class started. In the period between 1918 and 1924 almost 500.000 people were "reallocated" into their new apartments. This resettlement resulted in a mass emergence of so-called dom-kommuna, or communal houses, that became typical for the first years of the Soviet regime.<sup>56</sup> Former commercial apartment houses were seen as workers' housing of a new type. This living form was considered to have a great ideological and

54.

Khan-Magomedov, "Архитектура СССР. 1917—1932. Архитектура жилых зданий", [Architecture of the USSR. 1917-1932. Residential architecture]

55.

Anderson, "Russia," 78.

56.

Russian: дом-коммуна

57.

Prior to the introduction of NEP, housing was provided for free.

58.

Khan-Magomedov.

59.

Ibid.

60.

Anderson, 80.

61.

Khan-Magomedov.

social potential as it was considered to foster the development of collective principles.

Workers got the right to use the housing for free.<sup>57</sup> They formed local governance systems of the houses that took care not only of the building operation, but also organized social services such as communal kitchens, canteens, kindergartens, "red corners", libraries, laundries etc.<sup>58</sup> By the end of 1921 there were already 865 communal houses.<sup>59</sup> This ideal of collective living and the abolition of private ownership of land provided great conditions for social and spatial experiments.<sup>60</sup>

Although communal houses were the dominant living form, communal principles of this lifestyle were not developing as quickly as anticipated. The structure of old housing was blamed for that, so new residential architecture forms, coherent with the ideas of the "new lifestyle," needed to be developed. Professional opinions on the best suitable typology varied. While some suggested developing a communal village with private cottages and shared infrastructural facilities, others spoke out for new multi-apartment residential complexes with integrated infrastructure. The third position suggested a transitional form of housing in order to first introduce and establish basic elements of the new lifestyle. A row of experimental and competition projects for communal houses was created. Some of them stayed on paper while some got constructed. The problem was that due to severe housing crisis residential buildings were populated not according to the plan. This led to overpopulation, overload of infrastructure and great discomfort of the inhabitants.<sup>61</sup>

By 1921, after the Civil War the country economy was almost ruined. The Bolshevik government realized that the economic strategy of "War Communism" was not sustainable anymore and introduced the "New Economic Policy" - the NEP. It was proposed by Lenin and described as a progression towards state capitalism within the workers' state of USSR.<sup>62</sup> According to Lenin this economic system would include a free market and capitalism, both subject to state control while



Figure 11. (top) Photo of the living cooperative "Dukstro" in Moscow, arch. A. Fufaev, 1927-1928

Figure 12. (bottom) House floor plan in the living cooperative "Dukstro", arch. A. Fufaev, 1927-1928



Figure 13. "Housewarming" by Kuzma Petrov-Vodkin, 1937



Figure 14. "The nightmares of a modern big city. London": An illustration to the chapter "Urbanization or desurbanization" in the book on urban planning by Nikolay Milyutin, 1917

62.

Lenin, "Left-Wing' Childishness."



**Figure 15.** (top) Photo of a single-family house in Sokol cooperative

**Figure 16.** (bottom) Floor plan of a single-family house in Sokol cooperative

socialized state enterprises were to operate on a profit basis.<sup>63</sup> So while War Communism meant a complete nationalization of industry, NEP introduced a mixed economy, which allowed private individuals to run small enterprises, while the state kept control of banks, foreign trade and large industries.

The transition to NEP and to the economic self-sufficiency of urban housing through the introduction of rental payments for the residents lead to a shift in the economics of housing. The communal house - a cost-free self-sufficient housing facility - gave place to a new form of a life collective - a living cooperative based on co-financing of construction and operation of the house. These houses often had facilities for communal use next to the residential blocks, but the lifestyle in them was less the type of a communal house, rather that of a regular residential facility with service elements.

The adoption of NEP enabled housing cooperatives to establish small suburban settlements. These groups leased the land collectively and constructed housing on it, using provided model plans for dwellings, public buildings and a variety of other services.

Aside from a number of rural cooperatives, the Sokol Housing Cooperative was established in 1921 within Moscow borders. It was planned in consultation with Aleksey Schusev and built with houses designed by Nikolai Markovnikov. The cooperative was populated with a number of small-scale houses with one to three flats, that could stand free or be blocked. These two-story cottages featured strong pitched roofs, prominent gables and generous gardens. These houses reflected the importance of single-family housing to civil servants in the era of NEP.<sup>64</sup> This typology was characteristic for the early 1920s - residential complexes populated with small-scale houses were dominating in the development of that time - workers' settlements AMO (Zholtoivskiy), "Krasniy Bogatyr", "Duks" (Benderov), the Rasins' Settlement on Apsheron.

63. Lenin, "The Role and Functions of the Trade Unions under the New Economic Policy."

64. Anderson, 88.

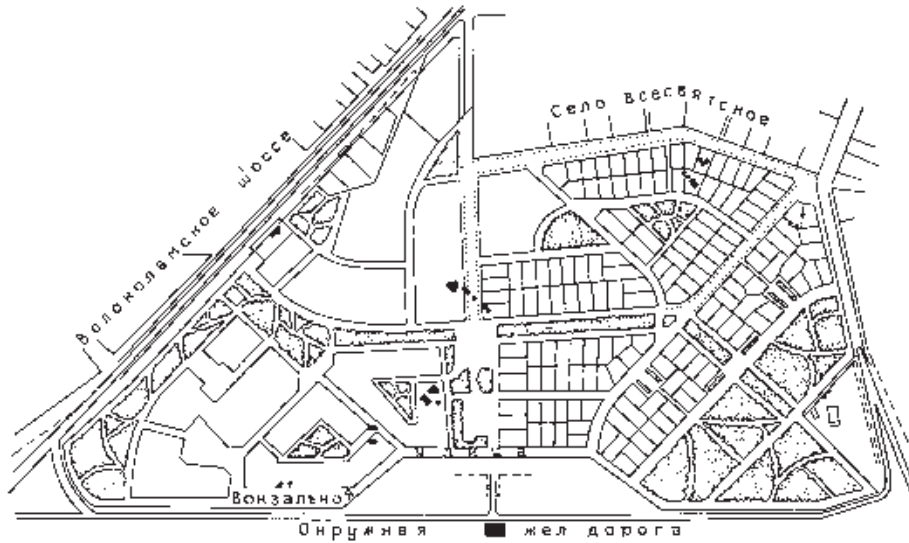


Figure 17. General plan for the living cooperative "Sokol" in Moscow, arch. N. Markovnikov, 1923

By the middle of 1920s communal houses and low-rise housing typologies proved to be insufficient for the solution of the housing crisis, and the planning started the shift towards project typization. Designing standardized projects for housing has become a duty of planning institutes for many years from now on.

This transition to section-based residential typology demanded new section designs, that would allow to create quarters of high density but also with a variable spatial composition and a lot of green space. First standardized sections appeared already in the mid-1920s, but their designs have been modified a lot in the following years. This of course has influenced the way new residential facilities were populated. For example, a section in the 1925-1926 featured four double-room apartments around the staircase core, and a section in 1927-1928 featured only two apartments but with a three-room apartment as the main unit. Apartments became more comfortable, but the overall domination of multi-room apartments combined with quite low development volumes of that time resulted in the practice of "room wise" apartment population.<sup>65</sup>

Meanwhile, in 1924 as NEP showed its first signs of success, Lenin died. Although Lenin in his final testament suggested that someone with "greater courtesy" than Stalin should be named the general secretary of the Party, Stalin still found his way to leadership. He played his role of the state leader till his death in 1953.<sup>66</sup>

In 1928, a group of Architects led by Moisey Ginsburg including Michael Barsh, Vladimir Vladimirov, Aleksandr Pasternak, G. Sum-Shik starts the work on rationalization of housing and development of a transition housing design in the

65. Khan-Magomedov

66. Anderson, 108.

"Typization Section." The goal was to develop a design that would make it possible to provide each family with an apartment basing on actual possibilities of the time. This was practically the first time when scientific approach to household organization was handled on state level. The outcome of the work of the "Typization Section" in 1928-1929 was a series of unification and rationalization projects as well as a few experimental communal houses in Moscow, Sverdlovsk and Saratov. These experimental houses were built to test different versions of spatial modules, approaches to connecting private and communal functions, new engineering solutions and material as well as building process organization.<sup>67</sup>

This was the time of attempts to rethink the household, the importance of a family, the relationship between children and parents, forms of social contacts in a household etc.<sup>68</sup> Some experimental projects even put the role of a family as prior social element under question. There were designs of communal houses, where the residents were divided into age groups and the organization of life was strictly regulated.

Soviet architectural imagination was captured by the idea of collectivity. Municipal bathhouses, bread factories and cafeterias - factory kitchens - served the growing urban population. Housing was constantly aggregated into larger and larger units. The ideas of garden city and single-family cottages gave way to the model of a residential complex - an integrated group of apartment buildings that often also featured integrated shared services like, for example, laundries. Everyday life was the intersection point of Bolsheviks' cultural aspirations and spatial programs.<sup>69</sup> The idea of "novyi byt" - "the new household" was introduced. Socialization of cooking, childcare and cleaning was meant to free women from the "domestic slavery" and let them become equal members of the working class.

Such social projects required new types of spatial organization and architecture, and architects were there to provide solutions for that. Designs featuring single-family housing like Sokol cooperative were not "ideologically wrong." But as such solutions demanded some forms of self-organization and therefore partial loss of control over the development was to be given up, they did not get the green light. The concept of a family as the basic demographic element was also tested out for its robustness. But the attempts of its rejection failed, as the family has proved to be a primary social element. The idea of a household commune proved itself utopic, as it did not take the real economical relationships between people into consideration. As this form of social organization failed, the plan to get rid of "service" elements in apartments - such being areas as baths and kitchens - did not work out as well.

<sup>67.</sup>  
Khan-Magomedov,

<sup>68.</sup>  
Ibid

<sup>69.</sup>  
Anderson, 108.



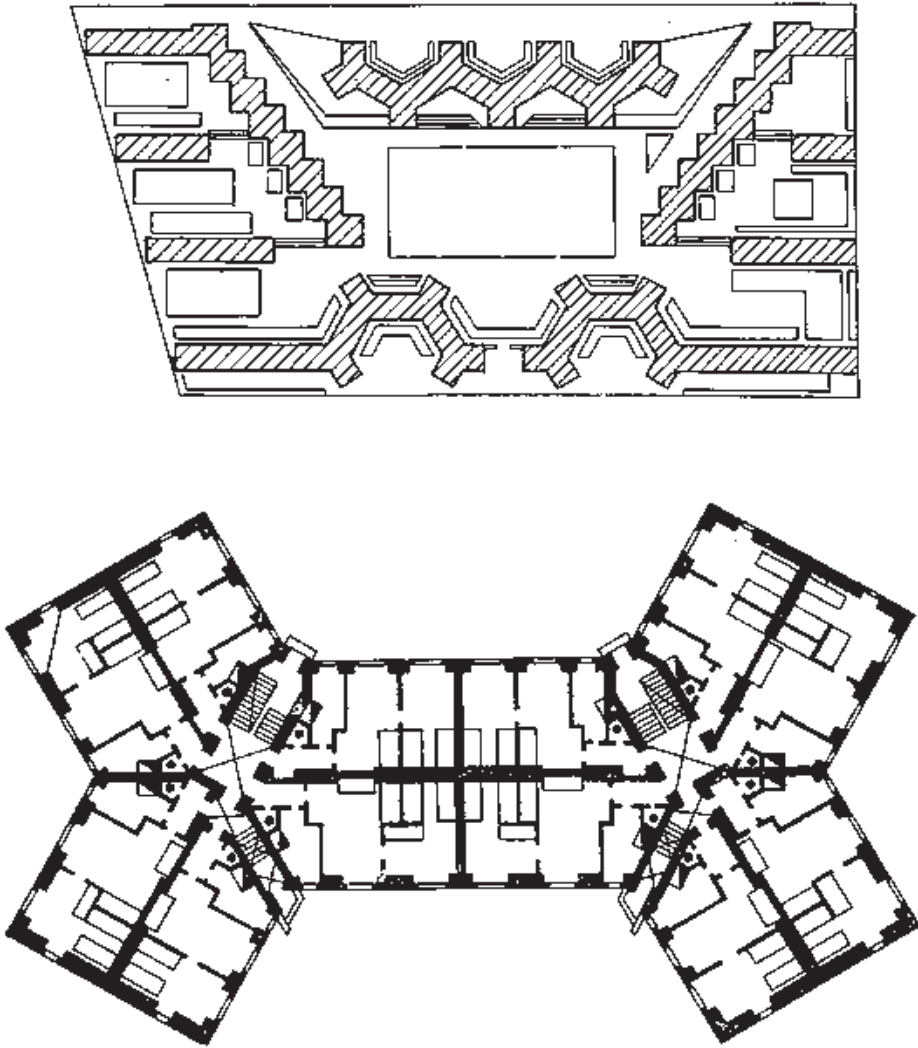


Figure 18. Three-beam residential section - options of spatial organization, arch N. Ladovsky, 1924.

The understanding of the new social conditions, that determined possible solutions for the housing question created perfect conditions for developing the typology or a rationalized cost-effective single-family apartment blocks.<sup>70</sup>

## MOSCOW URBAN DEVELOPMENT IN THE FIRST HALF OF THE 20<sup>TH</sup> CENTURY

The 20<sup>th</sup> century was marked with a high interest in urban development. Discussions about the future of Moscow started straight after it gained back its capital status in 1918. In 1919, the first Moscow Redevelopment Scheme was designed by Ivan Zholtovskiy. The main idea was to preserve and emphasize the existing radial system. He suggested to reshape the existing railway ring - to give it a more even rounded shape - and build a second railway ring at around 15 km distance from the first one. The space between the two railway rings was to be populated with garden-like villages, connected to rivers, radial railroads and highways, linking Moscow to its closest satellites.<sup>71</sup>

Zholtovskiy's plan gave a base for an actual legitimate redevelopment plan. A group of architects under the lead of Alexey Schusev started working on the "New Moscow" plan. This plan was designed within the existing city territory and can be described as a combination of the existing radial ring layout with the principles of polycentrism and the "garden city." Schusev's primary objective was to preserve valuable architectural heritage and to clear the city of aesthetically unpleasing buildings from the second half of the 19<sup>th</sup> and early 20<sup>th</sup> century. He proposed concentrating new development areas in the "Red City": a broad ring, encircling the Kamer-Kollezhsky Val and ending near the railway ring. The residential areas were designed in form of garden villages, populated with cottages for one to two families. These villages were located at the outer ring opening to a forest belt, separating Moscow from the Moscow region.<sup>72</sup>

At the time, Sergey Shestakov was working on the agglomeration plan, connecting settlements within the "Greater Moscow." As the "New Moscow" plan was published already in 1923 and the "Greater Moscow" was in work until 1926, the latter considered the established consolidation of the political and business center of Moscow with its historical center. Shestakov imagined Moscow as a mono-centric city supplemented by additional localities. His plan considered the rapid increase in urban population of the time and suggested a population density of not more than 60-70 people per hectare, while the existing density of the time was around 190 people per hectare.<sup>73</sup> The need in open green spaces and industrial areas was as well taken into consideration. While the existing Moscow area was to become the Central planning district, housing the administrative and commercial functions, the outer ring was meant to be a park and industrial zone, the south-eastern and north-western sectors were to become forest parks. Sadovaya Street was to facilitate new garden-city residential areas around this

71. Bronovitskaya, "City of ideas: A history of planning," 277.

72. Ibid.

73. Ibid.

Park and the Industrial Zone.

Shestakov considered it necessary to clearly separate the city from its surrounding area in order to prevent further expansion of city boundaries.<sup>74</sup> Shestakov's plan, developed on the demands of the Moscow Department of Municipal Services, was implemented gradually from 1926. However, in 1929 it was rejected and Shestakov was repressed.<sup>75</sup>

Not all professionals considered the ring system to be the optimal solution. In 1930, Nikolay Ladovsky published an article "Moscow: Historical and Socialist." He criticized all existing Moscow development projects, based on the ring system, as they prevented the city from its normal growth. The solution suggested was to break up the rings and stretch the center along the Tverskaya-Leningradskaya Highway axis and to concentrate the development in the expanding sector between the two new poles of attraction in the areas of Khodynka and Ostankino. This sector was chosen based on its availability and proximity to the old center. Ladovsky presumed that this way of development would help to preserve the historical city the best.<sup>76</sup> Official complaints on this plan asserted that the capital, as such, disappeared, and its brain was destroyed with the remains of the large industrial center.<sup>77</sup>

In June 1930, Moscow Municipal Services Journal published a survey in order to determine "the social order" and draft the agenda for planners. This survey was directed to Muscovites and to the professional public. It contained questions on:

- » the future of Moscow as the political, economic, cultural and academic center of the country;
- » the importance of Moscow as an industrial center;
- » growth and accommodation of the population;
- » the principles of housing organization;
- » the future of historical Moscow;
- » principles of territorial organization in the city.<sup>78</sup>

The results of the survey were used by the authorities to develop the "Moscow General Reconstruction Plan" adopted

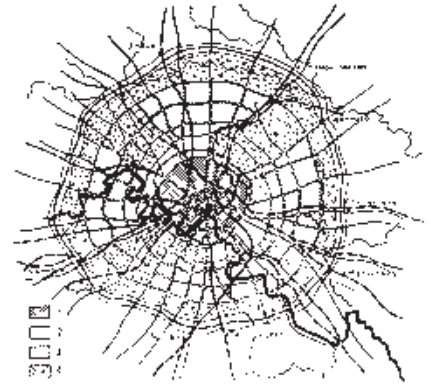


Figure 19. The Plan of "Great Moscow", Shestakov, 1929

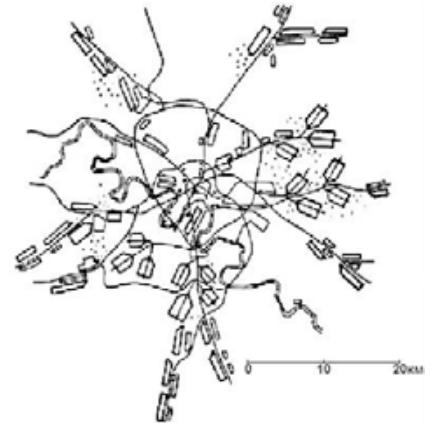


Figure 20. Development Plan for Moscow by Ernst Mai

74.  
Ibid, 278.

75.  
Ibid.

76.  
Ibid.

77.  
Ibid.

78.  
Ibid.



Figure 21. Le Corbusier's proposal for Moscow development

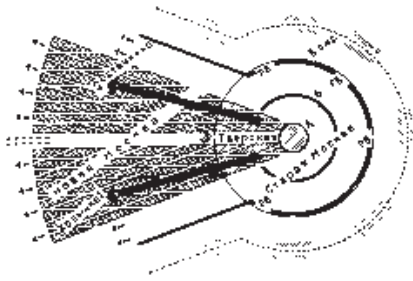


Figure 22. Ladovsky's proposal for Moscow development, 1930

in 1935. One of the most outstanding responses to the survey was the one by Le Corbusier. He submitted his own project of the "New Moscow", where he imposed the principles of his "Plan Voisin" from 1923 on Moscow topography. The plan featured clear functional zoning and development in form of identical towers surrounded by a park. Symmetrical clear-shaped districts - administrative, industrial and residential - took only one particular structure in consideration - the Kremlin. The small area of the historical center fell into the gap between the vast areas of new development, that were to completely replace the existing city. This proposal was later used to discredit modern architecture. The future author of Stalin's general Plan responded to Le Corbusier's proposal concisely: "Don't call the hangman when you need a surgeon."<sup>79</sup>

For the development of a concept for the new plan a foreign expert, Kurt Mayer, former Chief architect of Cologne, was commissioned. Mayer and his team proposed a polycentric system - radially arranged neighbourhoods each with its own administrative and cultural center. Elongated rectangles of new neighbourhoods were divided with green wedges pointing the center. Radial highways branched out when getting closer to the outskirts. Additional tangential highways connected the areas with each other. As the suburbs were considered to be independent agricultural and industrial localities, the question of their connection was not considered. This plan was favoured because the formation of areas based on industrial principles "contributed to proletarianization of the population."<sup>80</sup>

In 1935 the General Plan, most likely adapted under the "personal guidance from Comrade Stalin",<sup>81</sup> was approved. Reconstruction of Moscow was directly supervised by L. Kaganovich. He introduced the idea of expanding the city to south-east, reshaping Moscow towards a more regular circle. The role of the rivers was increased - Yauza and Moskva river were to turn into active communication ways. To minimize transit traffic in the city, the Moscow ring road was designed. The plan was calculated for very optimistic 10 years. Even

79. Bronovitskaya, 278-79.

80. Ibid, 279.

81. Ibid, 279-80.



Figure 23. The "Stalin General Plan" for Moscow, 1935

without the intervention of the war, the completion of the task during the given period was doubtful. As a result, the General Plan of 1935 continued to operate with some adjustments up to the second half of 1950s.

## KOMMUNALKA - FROM AN EXCEPTIONAL MEASURE TO NORMALITY

In order to understand the meaning of the shift to mass housing with single-family apartments, it is important to know the story of living forms in USSR. The most common living form of the Soviet period was a shared residence - a kommunalka. Despite the transition to industrial housing in 1960s they existed till the end of the Soviet Union and even outlived it.

In the late 1950s around 25.000.000 Soviet families lived in kommunalkas, barracks or dorms. This was the main urban living form up until 1958. In 1960, 60% of Moscow population was living in kommunalkas or in similar housing conditions. Even after the massive housing program of Khrushchev, 40% of the Soviet urban population still lived in shared residencies.<sup>82</sup>

This living form did not emerge overnight. Some might imagine it being similar to the idea of a phalanstery<sup>83</sup> as developed by Charles Fourier in the late 19<sup>th</sup> century - a utopian community ideally consisting of 500 to 2.000 people working together for the mutual benefit, a space aside of heteronomy through the family, church or state, a space of self-rule of Man and Woman. The Russian kommunalka was in reality far from this utopian idea. This living form emerged aside from the architectural-theoretical practice of the early 20<sup>th</sup> century out of simple need of the growing urban population in housing.

Before the revolution, urban population has been already suffering from poor housing conditions. People lived in slums, earthen huts, sometimes workers' settlements. In the beginning of 1890s Moscow had a population 1.400.000 people,. Around 500.000 of them lived in tiny rooms, cellars, mansards and 150.000 of them had to rent a plank bed in a night shelter. The First World War has also influenced the housing situation with its streams of refugees, evacuations and deportations. Even before the Revolution, the nation was familiar to an unstable housing situation.<sup>84</sup>

The revolutionaries promised an immediate solution and had to try to live up to their claims. One of the first measures of the new government was housing nationalization and re-allocation of housing resources. In 1918, in Petrograd, 65.000 families were assigned from the industrial outskirts of the city to the "aristocratic" city center. This solution was criticized by the settlers - the huge rooms were hard to heat through, the whole social context was lost and the way to work got only longer. But this measure was not only targeting the housing crisis, it also had the effect

82.

Volchok and Astafyeva-Dlugach, "Москва строится" [Moscow is being built], 106-24.

83.

The name phalanstère or phalanstery comes from the combination of words "phalange" - the basic military unit in ancient Greece and "monastery."

84.

Schlögel, "Das sowjetische Jahrhundert" [The Soviet century], 335-45.



Figure 24. Kitchen in a kommunalka - each family has its own kitchen block

*Our room and a half was part of a huge enfilade, one-third of a block in length, on the northern side of a six-story building that faced three streets and a square at the same time. The building was one of those tremendous cakes in so-called Moorish style that in Northern Europe marked the turn of the century. Erected in 1903, the year of my father's birth, it was the architectural sensation of the St. Petersburg of that period, and Akhmatova once told me that her parents took her in a carriage to see this wonder.*

..

*After the revolution, in accordance with the policy of "densening up" the bourgeoisie, the enfilade was cut up into pieces, with one family per room. Walls were erected between the rooms - at first of plywood. Subsequently, over the years, boards, brick, and stucco would promote these partitions to the status of architectural norm. If there is an infinite aspect to space, it is not its expansion but its reduction. If only because the reduction of space, oddly enough, is always more coherent. It's better structured and has more names: a cell, a closet, a grave. Expanses have only a broad gesture.*

...

*Of course, we all shared one toilet, one bathroom, and one kitchen. But the kitchen was fairly spacious, the toilet very decent and cosy. As for the bathroom, Russian hygienic habits are such that eleven people would seldom overlap when either taking a bath or doing their basic laundry. The latter hung in the two corridors that connected the rooms to the kitchen, and one knew the underwear of one's neighbours by heart.*



...

*For all the despicable aspects of this mode of existence, a communal apartment has perhaps its redeeming side as well. It bares life to its basics: it strips off any illusions about human nature. By the volume of the fart, you can tell who occupies the toilet, you know what he/she had for supper as well as for breakfast. You know the sounds they make in bed and when the women have their periods. It's often you in whom your neighbour confides his or her grief, and it is he or she who calls for an ambulance should you have an angina attack or something worse. It is he or she who one day may find you dead in a chair, if you live alone, or vice versa.*

*What barbs or medical and culinary advice, what tips about goods suddenly available in this or that store are traded in the communal kitchen in the evening when the wives cook their meals! This is where one learns life's essentials: by the rim of one's ear, with the corner of one's eye. What silent dramas unfurl there when somebody is all of a sudden not on speaking terms with someone else! What a school of mimics it is! What depths of emotion can be conveyed by a stiff, resentful vertebra or by a frozen profile! What smells, aromas, and odours float in the air around a hundred-watt yellow tear hanging on a plaitlike tangled electric cord. There is something tribal about this dimly lit cave, something primordial—evolutionary, if you will; and the pots and pans hang over the gas stoves like would-be tom-toms.*

(J.Brodsky, "In a room and a half")

of demoralization of the former upper class.<sup>85</sup> The stream towards the cities never stopped. Housing expropriation turned into a permanent measure. With the decree of the August 20, 1918 the ownership of private property was abolished. The whole housing stock went to the public hands to be then re-allocated through the municipal - communal - management. This is where the name communal apartment - or in common parlance *kommunalka* - comes from.

With the decline of the bourgeois groups came the "proletarianization" of the city centres. The former owners of the apartments had to move into one of the rooms while the domestics workers, servants, nannies and drivers now together with their families shared their apartments. The milieus that have never met before, now lived together. The former middle class was outclassed, they were expelled from the political life by the Constitution and discriminated in everyday life. They became the smallest area in the *kommunalka*, while the "humiliated and offended" populated once privileged rooms. This was a clash of cultures in a small space. Karl Schlögel compares the community of a *kommunalka* with the random mix of people in a train compartment, but on long terms.<sup>86</sup> People had nothing in common, aside from the fact that they had nothing in common and were assigned to share the same living space.

The new economic policy - NEP - has re-sorted the residents and therefore eased the tension. But the industrialization drew millions of peasant migrants into the already overpopulated cities. While the last free square meters were given to the migrants, social groups deprived of their civil rights - such as bourgeois, intellectuals, homeless, religious, sex workers and tramps - were forced out of the city in concentrated actions in 1929 and 1935.<sup>87</sup> These actions made up free space in the overpopulated *kommunalkas* for the new city residents.

In the time of Stalin purges in 1837-38, a successful tactic to access living space was denunciation of neighbours. Suspected spies and anti-revolutionaries were caught and deployed making space in *kommunalkas*. While shared residencies became the space of high risk in the time of total suspense, they also became the safe place to hide from repressions due to their chaotic living demographics.

The Second World War brought destruction and migratory movements that exacerbated the housing crisis. Combined with Stalin's death in 1953, this led to a radical turn of housing politics in USSR. Representative public buildings and palace-like housing for the political elite gave place to simple and functional building techniques, that became possible with the technological progress.

<sup>85.</sup>  
Schlögel, 335-45.

<sup>86.</sup>  
Ibid.

<sup>87.</sup>  
Ibid.

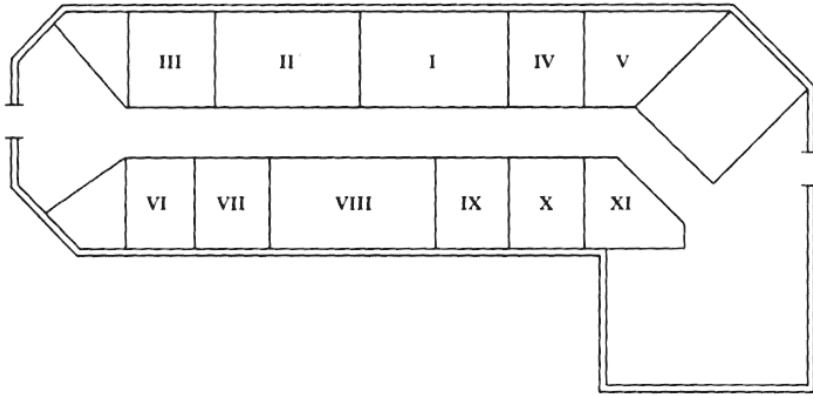


Figure 25. Layout of a bourgeois apartment in a rental house before the Revolution of 1917

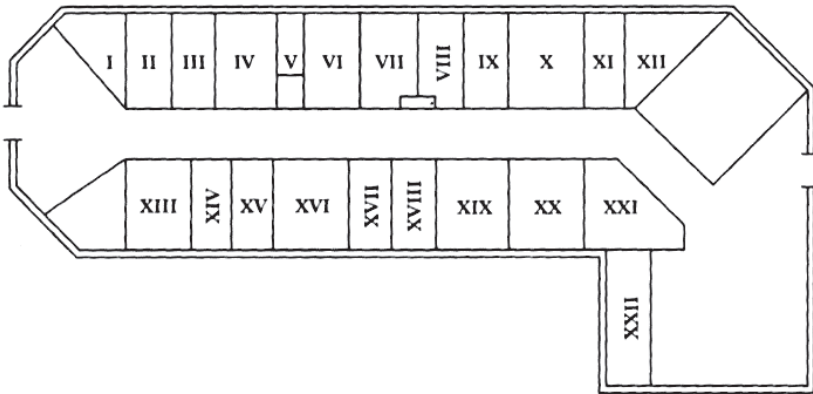


Figure 26. A former bourgeois apartment transformed into a kommunalka.

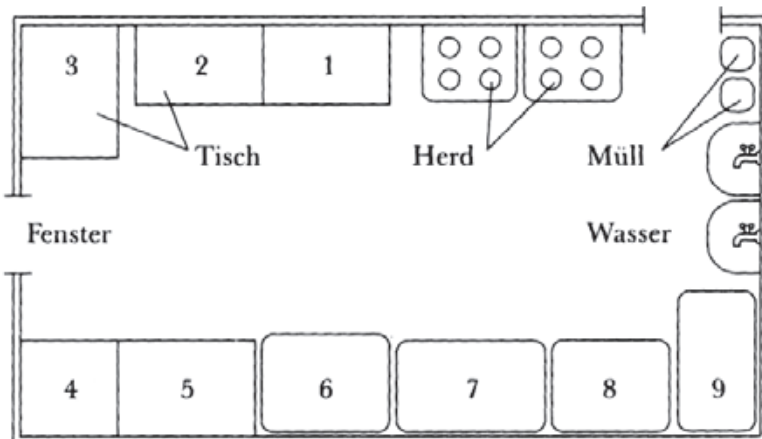
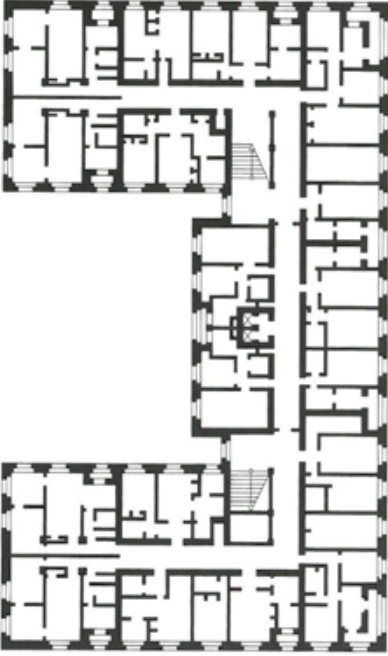


Figure 27. Kitchen in a kommunalka

## ARCHITECTURE FOR THE ELITE



After the end of the Second World War, both Europe and USSR faced an acute housing crisis, but their approaches towards its solution differed. While European countries began to develop new industrial housing designs and started implementing them already in the 1940s, USSR took a different path.

Soviet building sector could not keep up with the demand already in 1930s and now that almost one third of residential buildings got destroyed in the war, the situation got critical. Still, the main architectural style of the late 1940s and early 1950s was the so-called Stalin Baroque. The designs of the time were clearly inspired by Russian and Western-European architecture of the late 19th century and featured excessive decorations. The urban composition of this period is also clearly inspired by rather imperial traditions - clear lines, symmetry, vast straight spatial axes are some features of it.

Luxurious residential buildings of the Stalin Epoch were meant to accommodate mainly the political elite and were at no case a solution for the housing crisis. This led to that by year 1950 more than the half of Moscow population was living in shared apartments - *kommunalkas* - or simple barracks.

But although the development of new industrial mass housing solutions was decommissioned, some experiments still took place. One of such experiments is the Openwork House - although its façade is highly decorated, the construction used prefabricated elements that could have potentially become mass solutions.

The Openwork House is one of the first examples of large-block construction. It was built in 1940 on the Leningradskiy Prospect in Moscow under the lead of the architects Andrei Burov and Boris Blokhin. The six-story high building features a hotel-like plan layout with spacious halls, connected with





**Figure 28.** (left page top) Floor layout of the Openwork house, arch. Andrei Burov and Boris Blokhin.

**Figure 29.** (left page bottom) View of the Openwork house

**Figure 30.** (this page) The entrance of the Openwork house

long corridors. Each floor starting from the second floor houses 18 apartments.<sup>88</sup> The ground floor was designed to house public facilities such as a produce store, a café and a child day care. Additionally, a service office was designed in the ground floor, that was to provide payed service in areas like produce delivery, cooking, cleaning etc. The war did not let those plans happen. It was also the reason why this building type did not enter the serial production.<sup>89</sup>

The building got the nickname "Openwork House" because of the ornate grids that served as decoration for loggias, at the same time hiding what was stored there from the observers' eyes. This was the suggested architectural solution for the problem of cluttered balconies, that could distort the picture of a neat district.

Although the house design was meant for regular Soviet people, it was first populated with the military elite and a number of cultural figures. Nevertheless, the apartment layouts with combined bathrooms and tiny kitchens underlined the non-elite status of the building.<sup>90</sup>

88. The second floor in Russian floor numeration system equals to the first floor in German system.

89. Сафонова, "Я живу в Ажурном доме" [I live in the Openwork House].

90. Сафонова.



Figure 31. (this page) Construction of the Ministry of Foreign Affairs in Moscow  
Figure 32. (page right) Contrasts of 1950s: A courtyard near the Kiev Train Station



## ARCHITECTURE WITHOUT EXCESS

With Stalin's death in 1953 and Khrushchev taking over the leading position, the objectives have changed. In 1954, Khrushchev demanded to force the solution of housing crisis using architectural designs that implemented prefabricated elements. Prefabricated housing has boomed. By this time, experimental designs were tested and evaluated, the technological base was already formed. The normative base followed in the next few years. The decree from 1955 about the elimination of excessiveness in planning and construction demanded a sparing approach to architecture, stripping it to the bare minimum.

On July 31<sup>st</sup> 1957, the Central Party Committee issued another provision that demanded cost-effective comfortable single-family apartments. The state of the art at the moment was room-wise population of apartments with several families sharing one flat. So, on one hand, the party decided to give families a private sphere. On the other hand, they demanded this type of housing to be cheap and fast to construct. The informal formula was that the costs for 1 m<sup>2</sup> in this new system of flat-wise population should not be more expensive than 1 m<sup>2</sup> in the old - room-wise - population system. This demand put architects under enormous financial pressure - they had to save on literally everything. By some elements, cost reduction was not more than some percent, but when the multiplication effect of the overall building volume was taken into consideration, it resulted in major savings. The new demands to architectonic solutions were fixed in the new edition of SNiP<sup>91</sup> II-B.10-58. Residential buildings constructed in accordance to this set of rules later got the nickname "Khrushchevka."

Housing crisis was seen less as a creative problem but rather as a lack of goods. The attitude to housing was not much different from that to daily products. As a result of this attitude, the solutions to the crisis focused on producing as much housing as possible in the least time and with the least resources possible.

This new housing typology was meant to welcome new urban population - people from the suburbs - and it was to combine the best of two worlds - the greenery of a village and the infrastructure and comfort of urban living. As the only resource that was practically limitless was land the new districts were of low-density and disperse with vast green areas between 5-story buildings.

These new buildings were grouped together and, combined with infrastructure such as child day-care facilities, schools, local healthcare and basic shopping points,

91.  
SNiP- [СНиП] -  
Building Norms  
and Rules





Figure 33. Moscow development plan that was the base for the plans of 1950s-1960s

formed the new urban unit - the microrayon. The size of microrayons was defined by the infrastructural reachability.

The first, flagship, project of Khrushchev's program was the 9<sup>th</sup> experimental quarter of Novye Cheryomushki. A group of young architects lead by Nathan Osterman tried to implement the foreign know-how for social housing. The microrayon was populated with 4-story residential buildings with spacious green calm courtyards. It also featured social infrastructure like a school, day-care facilities, shops and even a cinema.

The project was a big success at foreign exhibitions and had a great propagandistic effect. And yet, it was not taken as the base for further construction, as it was considered too expensive. Mass construction was held out using a simplified design - series K-7 by Vitaliy Lagutenko.<sup>92</sup>

92. Volotov, "Хрущевки — это кошмар и ужас. Их нужно сносить. Или нет?" [Khrushchevkas are a nightmare and horror. They need to be demolished. Or not?]

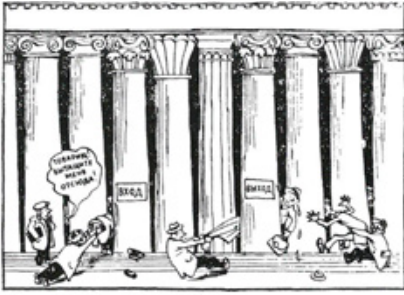


Figure 34. "There is a column everywhere you don't need it." Comic in the "Stroitel'naya Gazeta" (Building Newspaper) 1954.



Figure 35. "20 Million Rubles were spent for the construction of this building." Comic in the "Stroitel'naya Gazeta" (Building Newspaper) 1955.

Made with the cost reduction in mind, this design had neither balconies nor cellars, one story more, no elevators and room height of 2.50 m instead of the original 2.70 m. Extreme simplicity of this construction allowed to reduce the montage time to 15 days and leave just one month for the interior works.

Apartment layout was also dictated by economy. The standard of the living area per person was 8 m<sup>2</sup>. Rooms were to be used multi-functionally and change their purpose throughout the day, depending on the residents' in-the-moment needs. So, the same room could be a living room, a dining room, a cabinet and a bedroom. This multi-functionality of living spaces put new demands on industrial design and encouraged innovations - solutions for compact, transformative furniture were found.

Although these buildings had their disadvantages, they allowed a peaceful social revolution. They gave former suburban population something completely new - a sense of private sphere. After life in a barrack, a *kommunalka* or a village dwelling these small clumsy apartments gave them the possibility to live their life the way they wanted, to invite friends and not to be constantly observed or overheard by others.

People were now working not out of fear of repressions, but because they strived to a better life, an own apartment and private space. People could form their own private sphere, which was not anymore open for the constant ideological control.

The Khrushchevkas managed to tackle the housing crisis - at least quantitatively. By the end of Khrushchev period, these buildings gave home to around 54 million people in the Soviet Union. Five years later the number grew up to 127 million. By 1961, USSR has undergone a massive urbanization and had more urban population than suburban.<sup>93</sup>

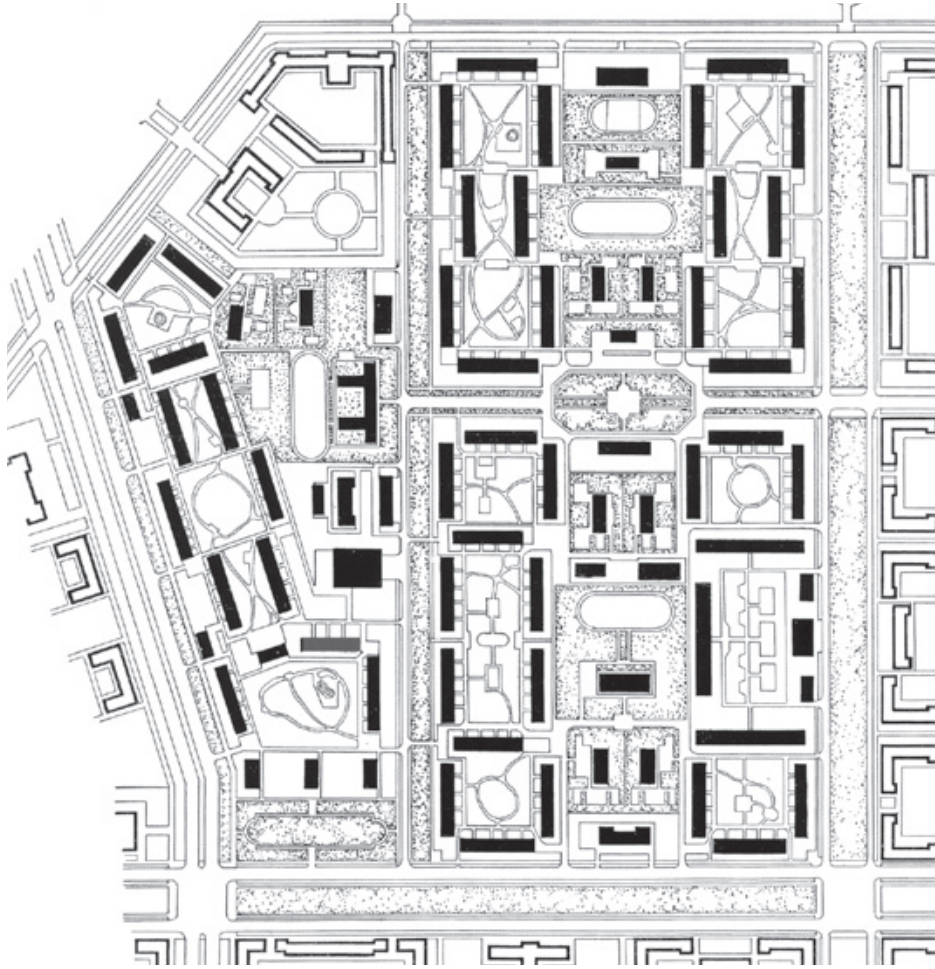


Figure 36. Masterplan of Novye Cheryomushki

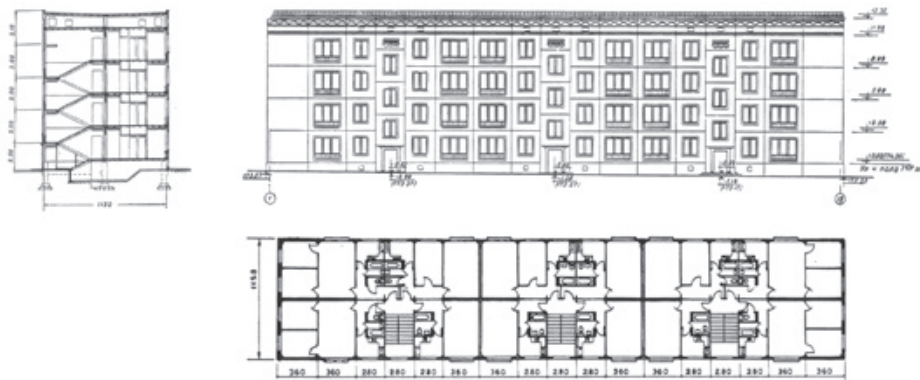


Figure 37. Design of the house on the Grimau Street 14 in the 9<sup>th</sup> quarter of Novye Tschetryomushki



**Figure 38.** (top) First experimental housing block in Novye Cheryomushki was meant to combine the best of urban and rural lifestyles - vast green areas with bathing fountains surrounded multiapartment houses with modern technical facilities, 1964

**Figure 39.** (bottom) Residential building in the 9<sup>th</sup> quarter of Novye Cheryomushki district, 1964



Figure 40. (top) The fountains are still working in the 9<sup>th</sup> quarter of Novye Cheryomushki, 2018

Figure 41. (bottom) Residential building in the 9<sup>th</sup> quarter of Novye Cheryomushki, 2018



Figure 42. Noye Cheryomushki nowadays. The parked car is marked with a slogan "The aesthetics of rotting."



ГНИЕНИЯ

## MEGAPROJECTS OF DEVELOPED SOCIALISM

The period between oppression of the Prague Spring in 1968 and Brezhnev's death in 1982 was marked with a widespread stabilization of Soviet politics, society and culture. Ambitious reforms of Khrushchev, initiated under the banner of destalinization, gave way to incremental adjustments to the system of "developed socialism." Brezhnev was the one to introduce this term in 1971 in his speech to the 24<sup>th</sup> congress of communist party. The period of developed socialism was also marked by social and cultural alienation, provoked by the stabilization of the 1970s. Because of that, this period is retrospectively referred to as the one of "stagnation."<sup>94</sup>

This was also the time of megaprojects inside the city as well as outside. The public hand was investing into development of natural resources, so cities were built on tabula rasa to serve as "bases." In both capital and provincial cities big ensembles - districts for tens of thousands of inhabitants were constructed. At the same time a new generation of prefabricated elements was introduced. This made it possible to construct higher buildings and allowed more spatial variations, compared to the ones of Khrushchev period.<sup>95</sup> Many observers noted a lack of character in the newly built districts. They provided a material basis for everyday life, but did not offer formal and spatial qualities, that had compensated the simplicity of the earlier architectural solutions.<sup>96</sup>

Soviet architects provided for both material and representative needs of developed socialism. The design and constructing complex was expanding rapidly. Design institutes, founded in the Khrushchev period, were now expanding their staff to design a broad spectrum of building types - from residential to cultural and administrative buildings.

At the same time, professional circles split into two categories - those who worked primarily for serial construction and those who worked on unique projects. The majority was represented by the first group, while the latter formed the elite of architectural profession.<sup>97</sup>

The concerns of Soviet architects resonated with global architectural practice, despite the uniqueness of Soviet methods of architectural production. Projects of western architects were observed with great interest by Soviet colleagues. The main Soviet architectural magazine - "Arhitektura SSSR" - published a lot of articles discussing works of major European and American architects in the 1970s. The Central Scientific Research Institute of Theory and History of Architecture<sup>98</sup> published a series

94. Anderson, "Russia", 247.

95. Ibid, 249.

96. Ibid.

97. Ibid.

98. Russian: ЦНИИ Теории и Истории Архитектуры



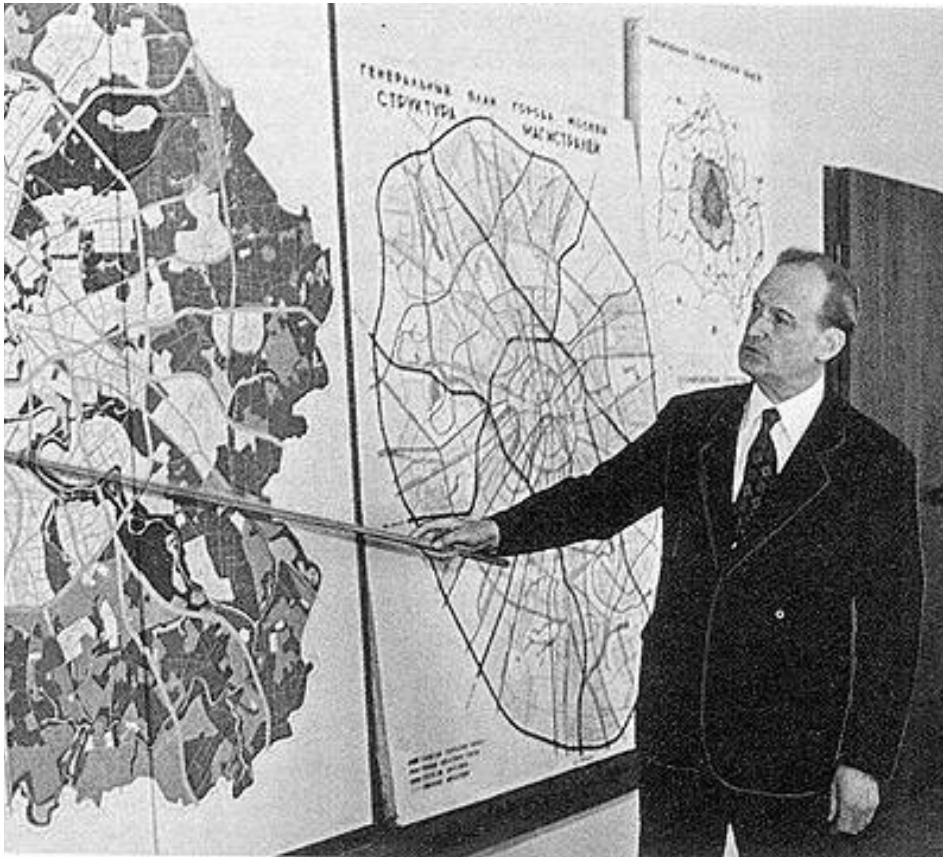


Figure 43. Mihail Posokhin, Chief Architect of Moscow presenting the Moscow General Plan, 1980s

"Architecture of the West"<sup>99</sup> starting in 1972. These books collected essays and critical articles by Soviet professionals on the key architects and architectural discourses of the West. The critical engagement with Western architecture - mostly that of the USA - was sustained through study tours of professionals in building industry.<sup>100</sup> Soviet architectural community was well-informed and ready to critically respond to the key topics of Western architectural theory of the time, such as contextualism, postmodernism and urban conservation. USSR's presence abroad was supported with industrial and representative architecture ranging from hydroelectric dams to memorial complexes to embassies, some of them being gifts from the Soviet Union to the country.

In 1971, the new General Plan for Moscow was ratified. This plan by Mikhail Posokhin is in a way comparable to the Mayer plan dating back to 1932 - it as well intended to make Moscow a model socialist city. The target population was set to 8 Million by 1990, around two million more than in the 1961 Plan.<sup>101</sup> It manifested the importance of large-scale architectural and urban thinking of the time. Within the matrix of this plan some of the largest projects of 1970s-1980s were conceived.

99.  
Russian:  
Архитектура Запада

100.  
Anderson, "Russia",  
250.

101.  
Ibid, 251.



Figure 44. Size comparison - Belyayevo and Moscow historical center (inside the Garden ring) size comparison (as by Snopek)

Moscow was divided into 8 planning zones - one central and seven peripheral. This plan approached the issue of building in existing environment more than any of the earlier ones. The Central Planning Zone - the historical center within the Garden Ring - was the heart of the General City Centre. The General City Centre was a structure designed to link the historical city center with the peripheral planning zones through the controlled development of the social centres along the radial axes. The new buildings within the Historical Centre were now to adapt to the historical structure.<sup>102</sup> According to Posokhin, the main aim of the Plan was to create an ensemble, "an architectural unity in the construction of districts, streets and squares according to a single urban concept."<sup>103</sup>

After the approval of the Plan, green light was given to starting detailed designs of the peripheral districts. As the new Plan proposed a polycentric system, the question of how new centres of these peripheral planning districts should look like, emerged. It was only acknowledged, that each center was to characterize the respective district in some way. So, in 1972 the Moscow design institutes held out a competition to explore how the new districts could be organized. As the plan foresaw 40-60 story buildings in the zonal centres, most of the teams proposed multifunctional high-rises, that could incorporate administrative and scientific spaces, cultural facilities as theatres, concert halls and museums, gastronomy and transport infrastructure. These buildings were intended to facilitate "a high density of information exchange and a multiplicity of social contacts."<sup>104</sup> The competition displayed a belated engagement with the concept of megastructures that had developed in advanced capitalist countries.<sup>105</sup> But the fundamental units of the new plan were residential districts. The eight planning zones had a population between 600.000 and 1.000.000 each. They were subdivided into three to four planning districts of 250.000-400.000 residents, that were in turn subdivided into smaller residential units.<sup>106</sup>

102.  
Anderson, 251.

103.  
Ibid, 251-52.

104.  
Ibid, 252-53.

105.  
Ibid, 253.

106.  
Ibid.

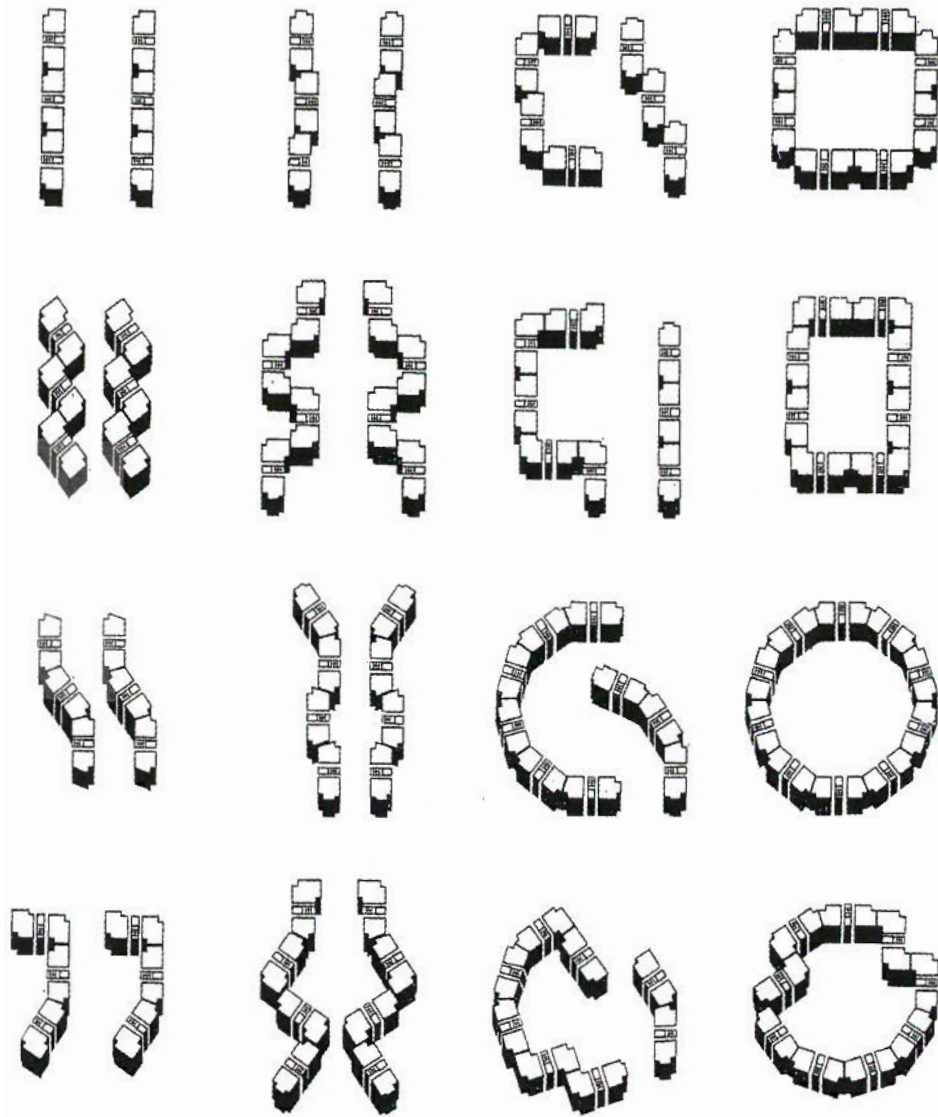


Figure 45. Suggested options for the urban arrangement of residential blocks and sections, 1987



Figure 46. City meets village. Troparevo residential district, around 1978

Although during the period between 1961 and 1970 about 36.000.000 m<sup>2</sup> of living space were constructed,<sup>107</sup> the problem of housing shortage was still not solved. The masterplan prescribed an increase of existing housing stock by 150%. New standards for apartments were established. Now not only every family had to have their apartment, but every adult was to have his or her own room. The target norm of living space was set to 13,5 m<sup>2</sup> per person.<sup>108</sup>

In 1969, the communist party issued a decree "on the means of improving the quality of residential civil construction." This decree can be understood as Brezhnev's attempt to differentiate his program from that of Khrushchev, though not deviating from the established program of industrial construction.<sup>109</sup> The decree projected a shift in residential construction to a "flexible technology of machine production of elements of apartment buildings."<sup>110</sup> The document also noted that typified projects, that were at use in that moment, did not meet the living standards of their residents. Moreover, the decree stated, that typified projects were not suitable for extreme climatic zones represented on the USSR territory, so new type-projects for residential buildings were to be designed. Architects and engineers responded with a fundamental reconceptualization of industrial construction. Earlier, each type-project had its own elements, that were unique for each series and therefore were to be produced separately. The new approach suggested a unification of building elements such as wall units, floor panels etc. In 1972 Moscow Scientific Research Institute of Experimental

107.  
Anderson, 253.

108.  
Ibid.

109.  
Ibid, 254.

110.  
Ibid.

111.  
Ibid.

Design under the lead of Lev Diubek developed an "open typification" system. It suggested that building elements, not entire buildings, would be produced as an interchangeable set of components.<sup>111</sup> This system was encoded into the "unified catalogue of standardized prefabricated building elements" and was introduced to the building industry. The new set of components enabled construction of building between 9 and 25 stories.

Implementation of this system led to a shift of focus away from the 5-story blocks towards a more flexible set of types that enabled more variability and speeded up construction. This new approach to construction was implemented in the new residential districts, defined with the 1971 Plan of Moscow. Residential construction reached the scale and speed never known before.

One of the first districts to be constructed with implementation of this system was Troparevo. It can be considered to be an experimental test site for new buildings models of 1970s. Placed on a picturesque landscape between the Leninskiy and Vernadskiy Prospects, it is represented by a series of sixteen-story apartment buildings constructed to the designs of a group of architects and engineers under the lead of architect Samsonov. The urban layout of the district is not defined by a superimposed composition method. The landscape on the site is so versatile, it gave a test field not only to new building models, but also to the ways of their spatial organization.

Two strong dominants on the northern and southern borders bind the complex together. One of them being a group of 22-storey high towers with a cross-like plan. With their energetic façade rhythm, they serve as a dominant not only for the Troparevo district, but to a large part of the Prospect Vernadskogo. The second dominant is the 22-storey high hotel "Salute", placed on to the highest point of the district, where the two prospects meet, forming a triangle on the city entrance.



Figure 47. (top) Sketch of the "Lebed" residential complex  
 Figure 48. (middle) Towers of the "Lebed" residential complex in 2014

Figure 49. (bottom) "Lebed" residential complex in 2014



Figure 50. Aerial view of the experimental residential complex "Lebed" on the Leningrad Highway in Moscow



A group of sixteen-story high long buildings facing the Prospect Vernadskogo feature alternating groups of balconies and loggias, that give more variety to the broad façades. Due to the efficient apartment layout planning, this project became a prototype for many other buildings in Moscow in the second half of 1970s.

Troparevo is curious as a sort of an exhibition of housing prototypes of the 1970s. But its architectural variety is not characteristic for the residential districts of the period. Architects were in search of spatial composition methods that would combine variety and oneness.

The largest residential district of 1970s was Orekhovo-Borisovo. The construction started 1971 and was completed within three years under the lead of the architects Kaverin and Zinovyev. The district with all its green and production zones spreads itself over the territory of more than 3.500 hectares, housing over 300.000 people. It is situated on a plateau, that lays around 40-50 meters above the average level of its surroundings. Residential complexes are situated in the middle of the plateau and are represented by mostly twelve to sixteen-story buildings. The urban layout reacts on the surroundings, taking a step away from the Borisov ponds and from the historical ensembles of Tsaritsino. Green boulevards connect the centres of separate microrayons. Unfortunately, the spatial composition was way better perceptible on a model, rather than in real life. Large-scale urban composition rhythms are only partially perceived by the inhabitants, therefore making orientation in the district difficult.<sup>112</sup>

The Ivanovskoe district planned by the architect Lebedev and his studio occupied 117 hectares and housed a population of 60.000 people. Extremely long nine-story apartment buildings curving to enclose the interior courts form the spatial framework of Ivanovskoe. These courts form separate microrayons, housing social infrastructure.

Parallel with the development of huge residential districts, another trend appeared - a multifunctional residential complex. An interesting example of transformation of a group of residential buildings into a multifunctional complex is the microrayon "Lebed' (Swan) on the Leningrad Highway, built in 1972-1974. Its composition was defined by the complex position of the site with a highway on one side and a park on the other. The spatial composition was to be planned in a way, that would allow to feel the vastness of the park from the highway. At the same time, the complex was to become a landmark for the area. The architects designed a microrayon as a group of sixteen-story high towers, placed on a platform housing various services. Towers seem to be floating above the platform, as their ground floor is a glass block, housing spaces of public needs. This complex was an experiment, where new construction types and architectural forms were tested out.

112.  
Иконников,  
Архитектура  
Москвы. XX век  
[Architecture  
of Moscow. XX  
century].





Figure 51. Muscovites swimming in the pond on the South-West of the city near the Udaltsova Street in 1972.

This method of a multifunctional complex, where high-rise buildings are attached to stretched out low-rise areas for public services was also used in the design of Severnoe Chertanovo by Posokhin and Diubek in the late 1970s. This was the biggest experimental construction of the decade. It was as much an engineering experiment as it was a social one - here new forms of fulfilling social demands were tested out. One of the most interesting features of the design was the use of underground space. The complex communication system between the garages and service facilities made it possible to separate motorized vehicles from pedestrians. Underground space was also used for engineering systems, such as a centralized vacuum waste disposal system, freeing public spaces from waste containers.<sup>113</sup>



Figure 52. (top) Man cross-country skiing in Troparevo in Moscow around 1972

Figure 53. (bottom) Construction on the Udaltsova street in Moscow, 1970s



Figure 54. (top) Leninskiy Prospekt in Moscow, 1976

Figure 55. (bottom) South-West of Moscow in 1979



III.  
SOVIET INDUSTRIAL HOUSING  
IN ARCHITECTURAL-THEORETICAL  
AND SOCIO-CULTURAL CONTEXT

## INFLUENCE OF INDUSTRIAL HOUSING ON URBAN DEVELOPMENT AND ARCHITECTURAL TRADITION

The early periods of Soviet architectural activity did not manifest extravagantly in the urban layout. The built relicts are mostly represented by individual buildings and small residential complexes like the ensemble on Shabolovka. Nevertheless, the importance of this period should not be underestimated. The outcomes of the theoretical research and testing out new typologies as well as the works of the Optimization Section prepared the fundament for the further housing generations. During the Stalin period a break was taken from housing optimization. Nevertheless it was the time when Moscow visual axis were formed and a number of urban dominants was constructed. Though no objective of social housing provision was set, some experiments like the Openwork House did take place. But it was in the Khrushchev period that the picture of Soviet cities and Moscow in particular changed drastically.

What happened after the Khrushchev reform in 1953 would not have been possible without the work of the previous generations. If not for them, there would have been no building infrastructure base, no prepared optimized solutions and building techniques. With the presentation of Novye Cheryomushki to its first residents one can speak of the start of social housing program in the USSR. Khrushchev's mass housing program helped to quantatively solve the acute housing crisis. This is a project, that helped to eliminate daily problems of millions of families in an extremely short period of time. This program introduced new everyday life to people.

Soviet mass housing has changed the face not only of Russian cities, but of the whole Soviet Union and the eastern parts of Europe that were controlled by the USSR.<sup>114</sup> These mass housing settlements - microrayons - are not just a pure architectural peculiarity. They are a materialization of a specific living form, in which many generation grew up. These settlements represent not only the move towards respectful living conditions in the second half of the 20<sup>th</sup> century but also the birth of urbanity in a country, that was predominantly agricultural till 20<sup>th</sup> century.<sup>115</sup> This process of urbanization can hardly be understood by a European mind, where the idea of a city existed from the early ages. The very idea of a settlement built on tabula rasa with industrial elements contradicts the European understanding of urbanity, which was formed throughout the history with the concepts of agora, polis, market square and civil town.<sup>116</sup>

Mass housing took its roots in the industrialization and urbanization of the Western world, but it became formative for the Soviet world.<sup>117</sup> This building approach

114. Schlögel, "Archäologie des Kommunismus oder Russland im 20. Jahrhundert" [Archeology of communism or Russia in the 20<sup>th</sup> century], 443; Gorsuch and Koenker, "Modernity unbound. The new Soviet City of the Sixties."

115. Schlögel, "Archäologie des Kommunismus" [Archeology of communism], 442-59.

116. Schlögel, "Das sowjetische Jahrhundert" [The Soviet century], 443.

117. Hatherley, "Landscapes of Communism."

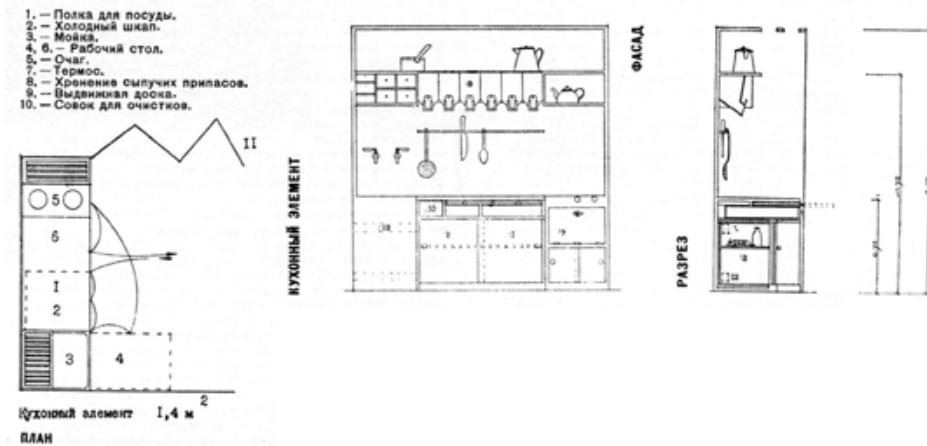


Figure 56. (this page, top) Sketch of a living room with a kitchen element, 1929

Figure 57. (this page, bottom) Design of a kitchen element, 1929

has changed the appearance of Soviet cities. Some areas of the country became urban only due to the technology of industrial housing. By 1991, panel housing made up 75% of the overall housing stock in the Soviet union, coming up to 90% in some cities. 170.000.000 Soviet people lived in industrial housing.<sup>118</sup> Panel housing is the expression of the Soviet form of urbanization. In terms of architectural-historical significance it is of no less importance than other historical layers of the city.

Modern Russia inherited the methods of neighbourhood spatial organization and still implements it in urban planning practice. First Khrushchevkas were arranged in rows. The gaps between the buildings were determined by the need to put rails for a

118. Schlögel, "Archäologie des Kommunismus" [Archeology of communism], 444.

construction crane. Though the need in green and public spaces was not the major concern at the dawn of panel mass housing tradition, the resulting districts ended up being comfortable for the residents. This happened because the basic residents' needs could be satisfied within walking distance as the social infrastructure and daily services were planned with the housing. Schools and sports grounds were always placed in the inner part of microrayons protected from wind and separated from major traffic where it would be safe for the kids to play. These principles of spatial arrangement still form the base of most modern residential developments.<sup>119</sup>

Another important feature of Soviet architectural heritage was typization. Individual projects are much more expensive than serial. Nowadays not only old Soviet serial projects are still being constructed in an adapted form,<sup>120</sup> but also new series are being developed, whereas the very idea of serial projects traces back to modest Khrushchevkas.

The apartment typologies in Khrushchevkas were dominated by one and two room flats, with rare three and four room apartments. Currently many people live in apartments which living area per person is comparable to the 9,5 m<sup>2</sup> standard of the Khrushchev period. But not only the secondary estate market is full with compact apartments. It is also easy to find studio apartments of 20-25 m<sup>2</sup> on the primary market.<sup>121</sup>

Soviet mass housing tradition had a great influence on modern construction methods. First of all, the use of panels for housing construction is still relevant. Of course, Soviet mass housing is represented not only by panel buildings, there are enough examples of brick and block buildings as well. Nevertheless, the use of panels for construction was highly broadened. The key idea of this method is that big building elements were produced on factories located everywhere around the country. This allowed to immensely decrease the construction period. Nowadays, the proportion between panel and solid building is around 50/50.<sup>122</sup> The way modern panel buildings are constructed does not differ much from the Soviet methods. A single-story sized panel still gives the base for construction, only the dimensions and façade materials changed. The panels were welded together on the site, reducing or even eliminating the use of cement on the construction site. Therefore such construction method was called dry. This method of panel montage is still in use in Russia. The advantage of this method is that the buildings does not need a "drying" period after construction and can practically be populated straight after montage.<sup>123</sup>

119. Pogorelskiy and Vladimirova, "Наследие хрущевки: как массовое строительство в СССР опередило свое время" [The legacy of Khrushchevkas: how mass construction in the USSR was ahead of its time]

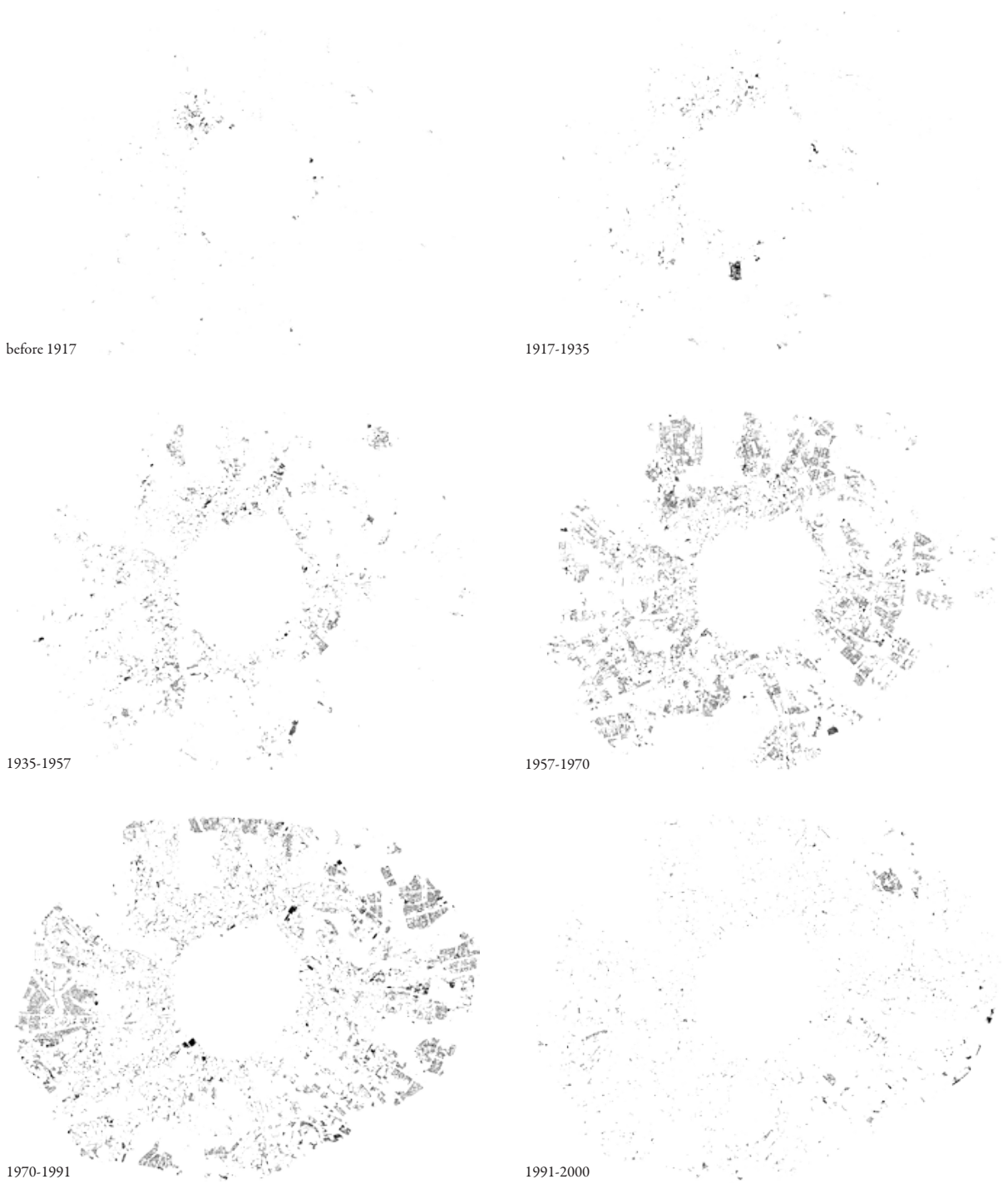
120. Pogorelskiy and Vladimirova.

121. Ibid.

122. Ibid.

123. Ibid.





**Figure 58.** Buildings from various construction waves present in Moscow on the territory between the Garden Ring and the Third Ring nowadays



Figure 59. "Krasikova Street" by Erik Bulatov, 1977



## REFLECTION ON PANEL HOUSING IN 20TH CENTURY ART AND CULTURE

Industrial housing has been the environment and inspiration for numerous works of art of the 20<sup>th</sup> century. The world of industrial housing became the commonplace of the perception and ironical self-perception of the Soviet citizens.

Dmitri Shostakovich's operetta "Moscow, Cheryomushki" tells about the struggles of moving into a new apartment. This story of four couples' humorous tribulations while they try to get an apartment in the newly built Cheryomushki involves intrigues, corruption and love.

Another important cinematographic example is "The Irony of Fate, or Enjoy your Bath" directed by Eldar Ryazanov. It makes the repetition and sameness of Soviet urban space and households to its plot. The main character - Zhenya goes every New Year's Eve to banya with his friends. After having a bit too much alcohol, he gets on a plane by mistake and goes to Sankt Petersburg, where a taxi brings him to the street with the same name as his street in Moscow. There he finds the same house as his with the same apartment as his, the key fits and he happily falls asleep thinking he is at home. The owner of the apartment - Galya - comes home to find Zhenya sleeping on her couch and the comedy of mistakes begins. This movie could only become such a cult one in a country where everyone is familiar with the commonplace of the standardized apartments. One could indeed confuse his house - or even district - with the other one.

The movie is in a certain way a parody on the housing policy of Brezhnev. Its introduction is a caricature cartoon, which shows an architect whose design is being simplified as he makes his way through various building authorities. The original highly decorated design loses its elements with each approval stamp and in the end the architect is left with a design resembling a box with holes - windows. The built house then grows legs and together with fellow buildings starts its way through various climatic zones of USSR - from the southern beaches to the ski resorts in the North. The introduction cartoon ends with a picture of panel houses covering the whole planet.

It was not only cinematography that reflected on the urban space created by new districts. Juriy Pimenov - one of the most important painters of the Soviet Union - dedicated his last years of work predominantly to depicting the new urbanity and its people.<sup>124</sup> His neo-impressionist paintings show construction sites, the unfinished state of the new city, the change, a wedding in the new districts, the move of a young couple from a kommunalka to a new apartment obtaining privacy.

126.

Спорек, "Польский архитектор: Сносить 8 тысяч домов - это абсурд" [Polish architect: demolishing 8 thousand houses is absurd]

127.

Ibid.

128.

Ibid.

124.

Schlögel, "Archäologie des Kommunismus" [Archeology of communism], 444.

125.

Belyayev is not the official name of the district. Here and further under the name Belyayev is meant the ensemble designed by the architect Yakov Belopolskiy and his atelier. The quarter lies between the Volgina, Butlerova, Ostrovityanova streets and the Sevastopolskiy prospect.

But of course, the greatest example of spatial influence of mass housing architecture on fine arts is to be found in Belyayevo<sup>125</sup> - an exceptional Moscow district from the Brezhnev period. The following chapter focuses on its importance for the Moscow Conceptualists.

Belyayevo is a paradox - the district features an extremely high cultural value and total absence of architectural uniqueness at the same time. The cultural value of Belyayevo is out of question, as the district hosted the representatives of the conceptualist art movement. The architectural value of Belyayevo is as well present, but it lays not as much in the single buildings, but rather in the characteristics of the urban space, as often pointed out by Kuba Snopek.<sup>126</sup>

Buildings of Belyayevo do not possess architectural uniqueness or high aesthetic qualities as they are ordinary representatives of mass housing of the time. It is the urban space value that is the main object of the debate, as it is bound to its cultural values. The qualities of urban space in Belyayevo were of high importance for the Moscow conceptualism- an important movement in Russian Art of the 20<sup>th</sup> century.<sup>127</sup> Moscow conceptualism as an artistic movement formed itself outside of the "official" art of the USSR in the beginning of the 1970s. Most well-known representatives of the conceptualist movement are connected to Belyayevo - Dmitry Prigov, Ilya Kabakov, Vladimir Sorokin, Timur Kibirov, Igor Schelkovskiy and many more.<sup>128</sup>

It is the art of Dmitry Prigov that shows the most obvious connection of Moscow conceptualists to the district of Belyayevo. The area is often mentioned in his poetry. In the 1980s, the poet glued letters addressed to the Belyayevo inhabitants on the houses and bus stops. Prigov mythologized the connection between the artist and his environment, calling himself "the duke of Belyayevo."

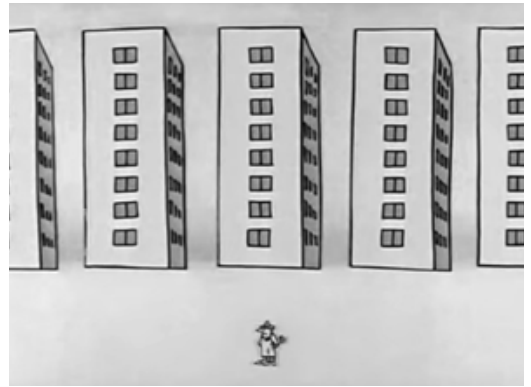
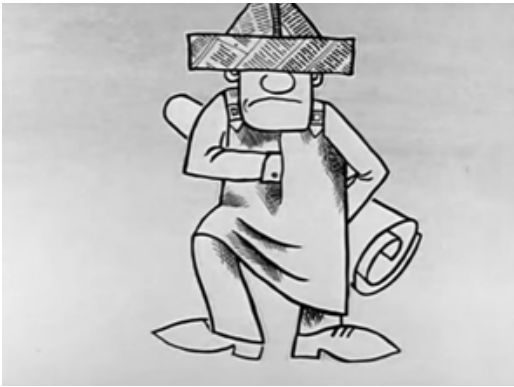
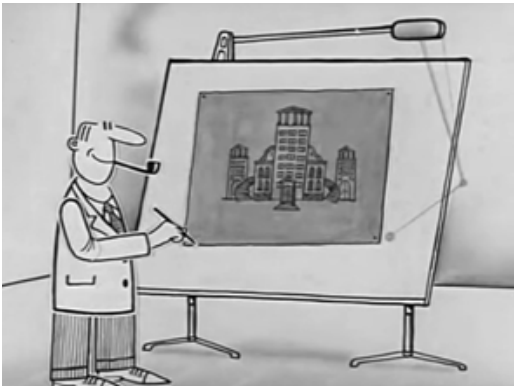
The architectural space of Belyayevo was inspiration and matter of Prigov's works. Kuba Snopek compares Prigov's relation to Belyayevo with that of Claude Monet and the

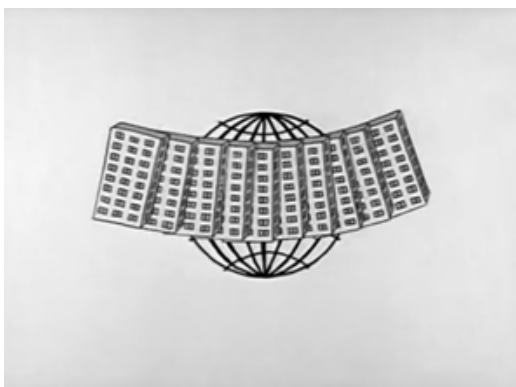


Figure 60. (top) Poster to the Movie "Irony of Fate"

Figure 61. (bottom) Poster to the Movie "Moscow Cheryomushki"

Figure 62. (next page) Excerpt from the introduction to the Movie "Irony of Fate"





Giverny<sup>129</sup> garden - the urban space of Belyayevo and its architecture is immortalized in the works of conceptualists the way the Giverny garden is in the works of the impressionists.<sup>130</sup>

The district was not only a source of inspiration for the representatives of Moscow conceptualism, but also an important platform for them. Belyayevo housed one of the most famous unofficial public artistic actions of the USSR - the "bulldozer exhibition." It took place on the 15<sup>th</sup> of September of 1974 on a brownfield in Belyayevo. About twenty artists, who for some reasons could not exhibit their works in the state galleries decided to organize a vernissage on the Moscow outskirts. The visitors were mostly represented by friends and families of the exhibitors, but a small group of international journalist was present as well. The artists were beaten up and dispersed with the explanation, that the exhibition hindered a Subbotnik.<sup>131</sup> The dispersion was held out by the police, communal services and a group of people in everyday clothes with the use of dump trucks, sprinkler vehicles and three bulldozers, hence the name "bulldozer exhibition." Such an action was made possible by the building politic started by Khrushchev and later followed by Brezhnev, as it led to a certain "overproduction" of open urban space - parks, lawns and brownfields. These areas were not controlled by the police and were close to residential areas providing potential visitors. This spatial typology is perfect for housing an illegal exhibition.<sup>132</sup>

The connections between the space and the art can be found on various levels. The bulldozer exhibition is an example of a direct obvious connection. The others are no as obvious, like the artistic production logic. Prigov's "stihogramms" and the architectural spaces of Yakov Belopolskiy share the same aesthetics and geometry. The conceptualists used the architectural components - the physical as well as the abstract - as the matter of their work. Due to the production logic, the modernist architecture features the monotonous repetition of elements - of windows, sections, houses, façades. They are all not unique. The art of the conceptualists uses the repetition of elements as one of its main methods.<sup>133</sup>

129.

The Giverny Garden - the Garden, planted by Claude Monet in the commune of Giverny in France. The images of this garden can be found in many of his paintings as well as in the works of other impressionists. The garden still hosts the annual pastel graphics exhibition "Art du Pastel en France."

130.

Sporek, "Польский архитектор: Сносить 8 тысяч домов - это абсурд" [Polish architect: demolishing 8 thousand houses is absurd]

131.

Subbotnik - days of unpaid volunteer works in the USSR. Initially volunteer, they soon turned de facto obligatory. The works consisted of services such as cleaning the streets from garbage, collecting recyclable material and fixing public amenities.

132.

Sporek.

133.

Ibid.






**Figure 63.** (this page, top) Artists at the Bulldozer Exhibition, 1974

**Figure 64.** (this page, bottom) Street cleaning vehicles at the Bulldozer Exhibition in 1974

**Figure 65.** (next page) Prigov's Stihogramm executed by a graffiti group ZukClub on a building in Belyayevo



*[...]Захожу в бар  
Беру большую кружку пива  
Долго и упрямо  
Почти яростно гляжу на неё  
И ухожу не тронув  
Думаю, в Беляево меня не осудили бы за это  
На его раскинутом пространстве  
Полно места  
Для любого проявления  
Неоднозначной человеческой природы [...]*

*...] I come into a bar  
I take a big mug of beer  
Long and persistently  
Almost furiously, I am staring at it  
And I leave without having touched it  
I think, in Belyayevo I would not be condemned  
for that  
In its outstretched space  
There is a lot of room  
For any manifestation  
Of ambiguous human nature [...]*

*(D.A.Prigov, "Sobranie Stikhov", 1976,  
translation by Gerald. G. Smith)*



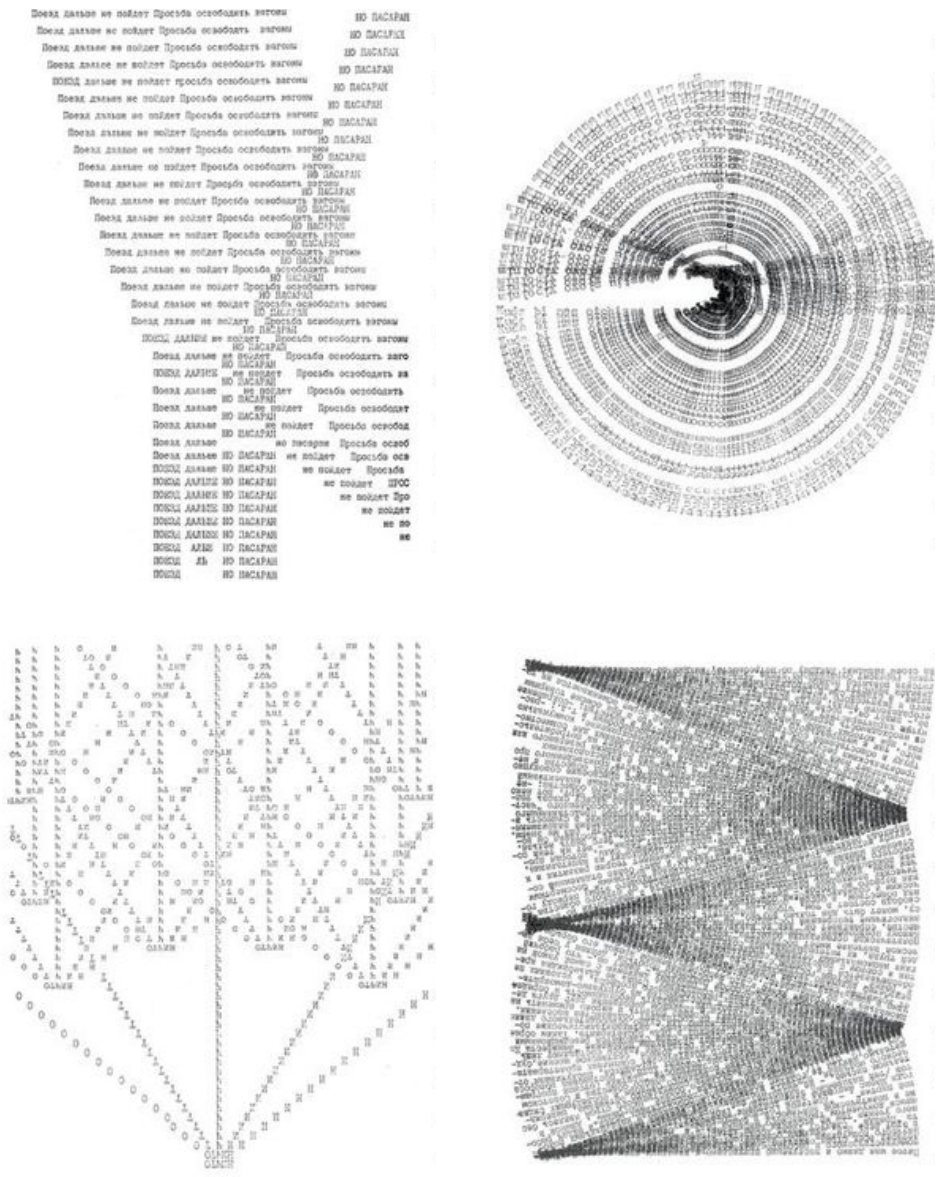


Figure 66. Comparison between Prigov's graphics and masterplans of various Moscow microrayons by Kuba Sнопек. They follow the similar logic of creating a composition out of ready-made objects - buildings or letters and lines

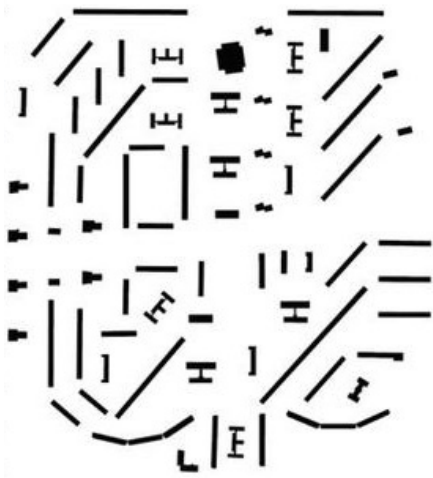
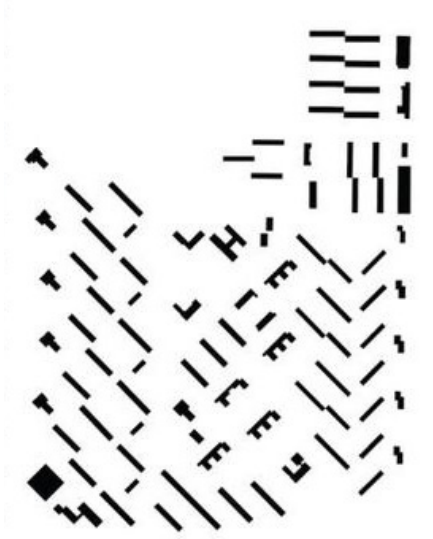




Figure 67. (this page) "Lyrical housewarming" by Yuriy Pimenov, 1965

Figure 68. (right page top) "Moving boundaries of the city", by Yuriy Pimenov, 1963-1964

Figure 69. (right page bottom) "The first fashionistas of the new quarter", by Yuriy Pimenov



## REFLECTION ON PANEL HOUSING IN MODERN ART

Even after the break-up of the Soviet Union, its architecture still interests and inspires architects and artists. While the creative minds of the 20<sup>th</sup> century mostly reflected on the urban change and the new type of urban environment created by the combinatory and composition of new districts, the modern artists mostly focus on the degradation and demolition of this social utopia. As Philipp Meuser points out, some artists of post-Soviet period to produce almost scientific research works, that examine and analyse the built substance even more precisely than it was evaluated after construction.<sup>134</sup>

One of such works is the quartet-game "Plattenbauten. Berliner Betonzeugnisse" developed in 2001 by the German architect Cornelius Mangold.<sup>135</sup> Based on a gameplay of a classical quartet card game, it derives the values and characteristics from construction data of concrete panel production facilities. Four categories correspond to the basic elements of a panel house: external wall panel, gable element, connective element and moulded block. Each card features a meticulous description of the building - number of storeys, construction year, width and height of the element and the number of apartments in the building. If the name of the architect or the artist is known, the card features it as well. In a playful way Cornelius Mangold aestheticizes serial housing and acknowledges its broad variant spectrum.

A similar approach can be noticed in the work by Annett Zinsmeister "Memodul." This game belongs to the art collection of the Karl Ernst Osthaus Museum in Hagen, Germany. It was produced for the international exhibition "Museotopia - steps to other worlds" in 2002. This is a digital memory game, that focuses on the panel architecture as a modular utopia of DDR architecture. The game plays with the appearance and disappearance of architectural utopic ideas and promises. It contains two sets of images - those of panel buildings and those of utopian urban models from the past five hundred years.

Both these sets show how subjective and short-lasting the utopian promises are and how utopian visions, that once were the image of a better world, turn into the nightmares of the next generations. The image set of panel buildings contains photo documentation of three original types of panel houses, that disappear behind new façades because of destruction.

Zaspa is a panel housing settlement with 30.000 residents in the city of Gdansk,

<sup>134.</sup> Meuser, "Die Ästhetik der Platte" [The aesthetics of the panel houses], 44.

<sup>135.</sup> Lucks and Mangold, "Plattenbauten Berliner Betonzeugnisse" [Prefabricated buildings concrete products in Berlin].



Poland, and the only world gallery of murals created in the walls of tower blocks. The settlement was turned into an open air art gallery in the framework of the "Monumental Art Festival" in 2009. 45 large-scale murals were created by various artists on the walls of panel houses. Since then, every year artists were invited to contribute to the gallery.

The themes of the paintings are bound with significant anniversaries such as the 70<sup>th</sup> anniversary of the World War II, 20 years round Table Agreement which marks the fall of totalitarian system in Europe or even 50 years of the first rock'n'roll concert on Poland, which took place in Gdansk.

The contributor artists were not only concerned with their artistic creation but also with the residents of the area, who would have to live their daily life in the environment created by their works. The images were to correspond with the context of the place, simultaneously combining various conventions of mural and graffiti. Local residents were also invited to get involved into the creating of the artworks. The creators of the painting celebrating the 70<sup>th</sup> anniversary of Witkacy's death asked everyone to send their favourite quotations of the artists, which then became a part of the artwork.

These murals have since then become the landmark of Zaspá. Large-scale artworks look especially strong in the contrast to the vast open areas typical for panel housing settlements. They help the residents with the orientation in the settlement and give the serial buildings identity. Here the works of internationally famous artists stand next to the works of the students from the Gdansk School of Murals - GSM. This program curated by Rafał Roskowiński und Jacek Zdybel teaches the art of murals. It invites young graduates of the Art Academy as well as street artists without academic background.

This project being new local and social impulses in the area. Art becomes and everyday element, brings liveliness into the public space and involves the residents into the cultural life of their neighbourhood. One example of such involvement is the



Figure 70. Quartet Game "Plattenbauten. Berliner Betonzeugnisse" by Cornelius Mangold, 2001



Figure 71. Computer game "Memodul" by Annett Zinsmeister, 2002



Figure 72. Elena Kholkina holding one of the bedsheets printed with residents' statements, "Bedsheet" 2015



Figure 73. "You should ask people who live on the first four floors - this is of course a stone bag. I live higher, it is beautiful. And so calm." "Bedsheet" 2015



Figure 74. Murals of the Zaspá Open-Air-Gallery remind of mosaics commonly decorating the sides of panel housing



project "Local Guides", where volunteers are trained to guide visitors through the open-air-gallery. There are a few cultural events that take place around the collection, such as "Chopin in Tower Block" - an open-air Chopin concert or "The Night of Murals" - a tour of the collections at night led by residents.

The last edition of the Monumental Art Festival took place in 2016, however the organizers do not exclude that even beyond that murals would be created by the Gdansk School of Murals.

The "Bedsheet" project by Elena Kholkina is a series of actions in the so-called "Bagel" house in Moscow - a ring-formed apartment building constructed in the 1970s. As typical for big housing facilities of the time the house was designed like a small town in the city - it included all necessary daily infrastructure from shops and laundry service to post office and sewing services. Even the courtyard of the house was big enough to fit a football stadium just in case.

The project reflects on the change of communication manners in the 20<sup>th</sup> century, the understanding of neighbourhood relations and the disappearance of local community. While in the Soviet times residents of one housing facility often had strong social connections which added to the overall quality of life, nowadays even chatting with the neighbours became a rare thing. The emergence of new communication standards - virtual communication through email and social networks - added to this. The author believes that this significantly changes the psychological atmosphere in the community.

The "Bedsheet" became a platform to experiment with overcoming the dominant online communication. The artist without previous notice hung out bedsheets in the yard "to dry." The bedsheets were printed with personal stories of the tenants, that were collected in advance in talks with the residents. These bedsheets served as a substitute to an online posting and were to serve as a pretext for live communication between the viewers, creating a kind of a social network online.<sup>136</sup>

In Russian highly centralized culture principles of urban planning and architectural styles often changed overnight as the behest of the current political leader. Ideas and concepts were borrowed from other countries to then get adapted to the local conditions or even be simply imposed on the given terrain. Authorities can impose their ideas on the masses not taking into consideration the lifestyles and aspirations of the society. This has been a common practice in the tsar times, in the Soviet period and still is now. Khrushchevkas were based on the project of the French company Camus and with some adaptations were implemented throughout the country importing inadvertently also the mass individualism into the communist world. Maxim Cher in his photo series "245 Khrushchevkas" reflects on this phenomenon.

<sup>136.</sup>  
Kholkina,  
"Bedsheet."

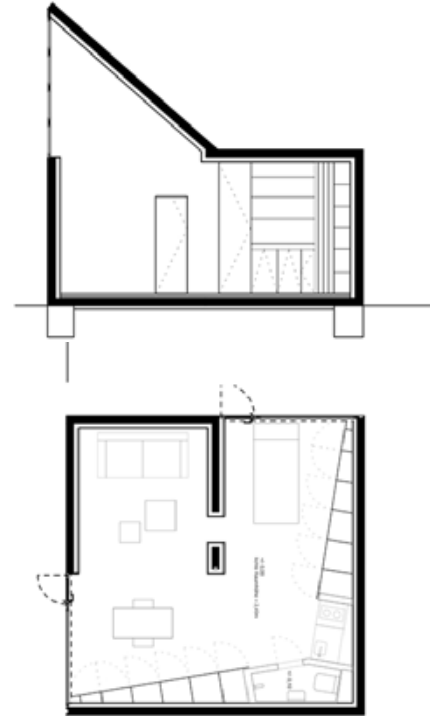
<sup>137.</sup>  
Sher, "245 Khrush-  
chev building  
entrances."

He photographed house entrances as the most symbolically charged elements of the building in his opinion. Each photograph is captioned with the postal address of the building linked to the Google Maps. These pictures provided the viewer with the result of the "adaptations" in its "utmost beauty and detail." Juxtaposing images of multiple of seemingly identical structures reveals their individualities, similarly to the way the mass Soviet individualist came out of the standardized entrances.<sup>137</sup>

The number of photographs is both haphazard and not. The artist originally wanted to photograph the entrance of every Khrushchevka remaining in Moscow. When he started the project, the city officials stated that there were only 245 of them remaining in the city. Maxim Sher began photographing and found 245 buildings already in the first three of Moscow's 125 districts.

Architects Carsten Wiewiorra and Anna Hopp are the authors of the Plattenpalast in Berlin - a tiny fully recycled building in Berlin. Constructed of 13 repurposed concrete slabs from a demolished WBS 70-series building in Marzahn. Its famous golden windows are also repurposed - they come from the Palast der Republik. The building was first opened to the public in 2009 as an art gallery. Six years later, in 2015 it was converted to a modern micro living project with 30 m<sup>2</sup>.

Plattenpalast reacts on the wasteful trends of city development in the time of demolition. The project sets the goal of a recyclable environmentally friendly and sustainable architecture.



**Figure 75.** Cross section and Floor plan of the Plattenpalast in Berlin

**Figure 76.** Photo of the Plattenpalast in Berlin



Figure 77. Photos from the project "245 Khrushchevkas" by Maxim Sher



*"Replacement of outdated Khrushchev-era buildings is a political issue in Moscow but in the absence of public politics officials can easily manipulate figures knowing that no one would ever count how many truly remain. Which means that in our sterilized political environment even such a locally-focused project becomes a sort of a political performance: the artist counts how many khrushchevkas remain and inadvertently reveals a reality that exposes an official manipulation."*

*Maxim Sher*

## INTERIM CONCLUSION

Soviet mass housing architecture followed the objective of providing the population with single-family apartments. This social housing was provided by the state at public costs. Though rarely mentioned as that, Khrushchev housing was the first experiment of social housing in the USSR. Due to the clear objective of providing as much housing as fast as possible, its architecture had to be very pragmatic, hence the optical and structural difference to architecture of the previous - Stalin - period. Architecture of the Stalin time did not follow the priorities of social housing provision, rather focusing on the development of housing for the political elite. State resources were mostly sent towards the industrial sector and its development.

Khrushchev's pragmatism coincidentally matched the progressive objectives of modernistic architects not only on the USSR territory, but all over the world.<sup>138</sup> The building program of the late 50s-60s was a single-time campaign of enormous scale, but by modern days these buildings have turned into the city organics. While these districts have their qualities and charm, they also house formed communities. This social filling should be taken into consideration in further development s.<sup>139</sup> As mentioned in the previous chapter, Khrushchevka stimulated a peaceful social revolution. They quantitatively solved the housing crisis, giving the new urban population a private sphere and improving their living conditions.

After Khrushchev's reform in 1954 the scale of architectural projects grew. Investments became comprehensive, design studios grew in staff, architects' responsibilities grew as well. An architect was now responsible not for one building, but for a whole complex - a microrayon, that consisted of residential buildings, social infrastructure as schools and day-care, engineering infrastructure, greenery and public spaces and so on. Architects' creative energy streamed now not into a single building design, but in spatial arrangement of built elements, making urban space to the main design assignment.<sup>140</sup> This makes space the important matter of discussion. Buildings themselves are rather comfortable and cheap, but the urban space, where low-rise buildings are combined with small courtyards is way more welcoming than one produced with high-rise buildings with monotonous façades arranged around a huge courtyard.

Motives and ideas of modernistic architecture are often misinterpreted nowadays. Architects of the 1950s-1960s were idealists. They genuinely followed the idea to

138.

As this match was just a coincidence, a similar match did not happen in art, as Khrushchev was no fan of abstract art.

139.

Ruzmanova, "Евгений Асс - о своей мастерской, реновации и ответственности" [Evgeny Asse - about his workshop, renovation and responsibility]

140.

RIA Novosti, "Московские власти готовы разработать закон о сносе 'пятиэтажек'" [Moscow authorities are ready to develop a law on demolition of 'five-story buildings']



give people a way better housing, than they knew before. Modernistic architecture was generous and comprehensive, it executed the state social policy.<sup>141</sup> This does not apply to the current state Renovation Program, where the residents will be evicted and given similar apartments in the same district, often seeing no radical improvement in their living conditions. Detailed information on the state programs concerning mass housing and the Renovation Program in particular follows in the next chapter.

Architecture of developed socialism is especially interesting for its scale. Districts like Belyayevo, Troparevo, Orehovo-Borisovo are unprecedented examples of built architectural experiments of such massive scale. The importance of Brezhnev architecture for the development of the creative scene should be taken into consideration as well. Characteristics of urban space with its repetitiveness and vast open spaces were inspiration and matter for the works of Moscow conceptualists.

Soviet residential architecture formed Moscow urban tissue as we know it now. Industrial production had an immense influence on urban planning in the late 30 years of USSR.<sup>142</sup> Focus on economy and production technologies was so high that at some point urban composition was dictated by the most efficient microrayon layout. The boom in development of new residential areas transformed the city. The shift from the neoclassical superblocks of Stalin period to the Khrushchev's and Brezhnev's microrayons is clear to the observer's eye on the city figure ground plan.

Nowadays Russian building industry still uses the old, Soviet, infrastructure for production of prefabricated elements. Industrial housing constructions and building techniques are still being taught at universities, as this way of construction is still in use. The idea of serial housing was taken over even after the break-up of USSR. New series are being designed, but the ground principles stay alike. Same happened to the normative base, that was inherited from USSR and after some adaptations, was put back into use.

Soviet mass housing tradition is an important part of architectural history of the 20<sup>th</sup> century. It is the main forming element of the city tissue and should be treated with full respect. Though old-fashioned and often in need of repair it should be integrated in the future of the city. Current position towards the value of Soviet mass housing in urban context is formed by the political will and does not regard the opinion experts in historiography, architecture and urban planning. The current plan of annihilating the whole historical layer is unacceptable from the architecture-historical point of view. A vision for the future of Soviet housing heritage and a strategy to achieving this vision, that would take into consideration the quantitative and qualitative particularities of this heritage, are necessary.

141.  
Sporek, "Польский архитектор: Сносить 8 тысяч домов - это абсурд" [Polish architect: demolishing 8 thousand houses is absurd]

142.  
Meuser, "Die Ästhetik der Platte" [The aesthetics of the panel houses], 387.



IV.  
CURRENT POLITICAL AND PLANNING  
APPROACH TO THE DEVELOPMENT OF  
SOVIET RESIDENTIAL DISTRICTS IN  
MOSCOW



Figure 78. Moscow territorial growth in the 20<sup>th</sup> century

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## **POLITICAL POSITIONS AND GUIDING LINES TOWARDS SOVIET RESIDENTIAL ARCHITECTURE**

Soviet residential architecture is diverse. It ranges from constructivist buildings to individual projects of commune houses to Stalin's pompous palaces to modest Khrushchevkas and megaprojects of the Brezhnev period. The level of appreciation of Soviet architecture and attitude to it is as diverse as its physical manifestations. The remaining constructivists' buildings from 1920s and 1930s get a lot of appreciation and are mostly put under protection. Buildings of the Stalin period are an important player on the upper-level housing market due to their high technical qualities, aesthetically pleasing appearance and mostly central location in the city.

When it comes to mass housing, it does not get high appreciation. Firstly, it lacks uniqueness for the regular observer, hence the "mass" in its name. Secondly, the modest mass housing architecture is simply not as universally appealing as, for example, the opulent Stalin buildings or individual projects like Severnoe Chertanovo or Lebed. Thirdly, its technical characteristics and apartment layouts are quite modest and minimalistic. City authorities do not show high appreciation of mass housing from the Khrushchev and Brezhnev time. While the buildings of the Brezhnev period do not yet give reasons for major concerns, as they are relatively new and do not experience big technical problems, many Khrushchevkas are in need of repair or even reconstruction.

### **THE CAPITAL REPAIR PROGRAM AND FIRST RESETTLEMENT PROGRAMS**

At the end of the twentieth century Moscow faced the consequences of its rapid growth in the period from late 1950s to 1980s. Big volumes of fast and cheap, but unsustainable residential buildings all cried for repair at the same time. While the budget for such repair projects was planned in the USSR, this was not the case anymore after its break up in 1991. The buildings keep going out of shape, so the city started a Capital Repair program, originally planned to run till 2045. According to this program, estate owners are obliged to make contributions to a common fund, which would later be used to pay for the repair. The Capital Repair Program has its flaws, it is not transparent and not all deposits get invested as promised, but it was not completely unsuccessful.

Renovation of unsustainable housing is pricey and not always possible. At the same time, as the city expands and develops, the land keep gaining in price. Volumes of buildings in need of rehabilitation is overwhelming. So, the main strategy of dealing with this issue was and still is simple demolition with following new construction of higher volumes of estate in order to cover the costs and generate profit for the city and the developers.

The question of resettlement of dilapidated serial housing, constructed in the late 50s - early 60s emerged already in the late 1980s, but had a pinpoint character - a few houses were disassembled in Novye Cheryomushki. The first mass resettlement took place in 1993. Residents of khrushchevkas in Fili-Davidkovo were complaining about the unbearable and dangerous living conditions. As the investments in the renovation was not planned in the city budget, Moscow city administration involved a private investor<sup>143</sup> in the project. The evaluation showed that a renovation would not be expedient, so the strategy was to resettle the residents and develop new housing on the plots of the old buildings.

The investor constructed a 17-story high house, which provided apartments for all the registered residents of the khrushchevkas in question. The project gave ground for real estate scam -residents registered numerous relatives in their old apartments thus drastically increasing the population on paper. As a result, the building planned for the residents was not sufficient. After this case city administration prohibited registration of new residents in the buildings planned for demolition.<sup>144</sup>

The first centralized integrated program of mass housing reconstruction in Moscow was initiated in 1994-95. This program had a time horizon of the year 2000. The first two years were spent defining the strategic approach. The housing renewal now involved construction of so-called "starter houses", that were to accommodate the residents so that their old houses could be demolished and the land would be accessible for new construction - basically it was the same strategy as in Fili-Davidkovo. Because of the 1998 crisis, this program was not implemented on big scale. There was also a parallel program, that involved not only demolition but also modernization of panel housing. This program was as well put on ice after a few experiments.

143.  
The company called  
"Kont"

144.  
Демин, "Столичные  
Хрущевки:  
Испытание на  
прочность" [Capital  
Khrushchevkas:  
Durability test];  
Moscow Complex  
of Urban Policy  
and Construction,  
"Снос пятиэтажек  
первого периода  
индустриального  
домостроения"  
[Demolition of the  
five-story building  
of the first period of  
industrial housing].



Figure 79. The experimental block in Novye Cheryomushki nowadays. The old buildings almost disappear in the luscious green. In the background stands a much higher and denser development from the Luzhkov Program. Moscow, July 2018



Figure 80. Demolition of the last Khrushchevka in the Northern District of Moscow. On the left one can see the contrast to the new development, that most likely stands on the former Khrushchevka microrayon.





## LUZHKOV'S RECONSTRUCTION PROGRAM

After the failure of the first program, Moscow mayor Yuriy Luzhkov signed a provision about the objectives for an integrated reconstruction of the districts with five-story buildings from the first industrial housing construction period till 2010. This provision stated, that 1772 five-story panel residential buildings constructed in the period between 1952 and 1962 were to be resettled and demolished.<sup>145</sup>

The choice of houses to be demolished was based on their series. Buildings of the same series were evaluated as a single building and were not differentiated according to their actual state. The program divided the housing series into "demolishable" and "non-demolishable." The "demolishable"<sup>146</sup> series made up almost one third of all the panel housing in Moscow, meaning altogether around 6 Million m<sup>2</sup> of residential area. These series had thin outer walls of ribbed expanded clay concrete and therefore low thermal properties. Their evaluation proved their repair impossible and not economically purposeful. The "non-demolishable"<sup>147</sup> series were brick Khrushchevkas and Brezhnevkas.<sup>148</sup>

This program corresponded with the Moscow General Plan 2020, that restrained the territorial growth of the city, while focusing on the structural reorganization of the existing residential areas, including the integrated reconstruction of first the five-story high buildings, then moving to the nine- and twelve-story high buildings.<sup>149</sup>

The program was implemented by private developers who signed an investment contract with the city. The city administration provided these developers with areas of mass housing to be demolished and plots for the construction of starter houses. The starter house was populated with the residents of the first demolished buildings. The developer took care of the construction and the moving costs, that could have been compensated through selling the excessive area of the starter house. After the demolition of the first panel houses, the developer had a plot for another resettlement house, later gaining the land for his own project. This method is called "wave-construction" or "wave-resettlement." If the city had no plot for a starter house near the area of reconstruction, it had to suggest the residents to move into a different, often less prestigious, area. This resulted in numerous lawsuits against the city. So, in 2004, the city Parliament accepted some amendments to the law regulating the rights of resettled Muscovites. The resettlement geography was limited, residents gained a right to choose their house and to pay for a bigger apartment as well as to get the money equivalent of their property.<sup>150</sup>

145.

New Square,  
"Основные этапы  
развития рынка  
недвижимости  
Москвы и  
Московской  
Области" [The main  
development stages  
of the real estate  
market in Moscow  
and the Moscow  
Region],

146.

The "demolishable"  
series were  
К-7, П-32, П-35,  
ИМГ-300, 1605-АМ  
and their modifications

147.

Series I-520, I-511  
and I-515

148.

Baevskiy, "Новый  
генеральный  
план Москвы:  
особенности  
состава,  
содержания и путей  
реализации" [The  
new general plan of  
Moscow: features  
of the composition,  
content and ways of  
implementation]

149.

Baevskiy.

150.

Demin, "Столичные  
Хрущевки:  
Испытание на  
прочность" [Capital  
Khrushchevkas:  
Durability test];  
Moscow Complex  
of Urban Policy  
and Construction,  
"Снос пятиэтажек  
первого периода  
индустриального  
домостроения"  
[Demolition of the  
five-story building  
of the first period of  
industrial housing];  
Baevskiy



Figure 81. Khrushchevkas nowadays - surrounded with younger generations of panel housing.

At first, resettlement conditions were bound to the number of rooms in the old apartment - the new apartment was to have the same number of rooms. This led to discontent of the residents, sometimes in sabotage of the resettlement, that set the projects a few months back. Later, the conditions were bound to a social norm of 18 m<sup>2</sup> of living area per person in household. So, whether the old apartment met the social norm or not, the new one was to fulfil it.

The program reached its quantitative objectives by mid-2000s and its peak by 2006-2007. 680 buildings were resettled and demolished in this period. The Capital Repair Program was put on ice and the buildings of "demolishable" series kept crumbling while waiting for the demolition. At the same time, the city experienced a lack of land for new construction. By 2009 the Luzhkov's reconstruction program was complete by 70%, but the financial crisis of 2008-2010 slowed it down. State investments into housing construction were reduced by about 15% and new amendments to the Land Codex forced investors to purchase plots for starter houses on auctions, therefore forcing many companies to quit the Reconstruction Program.<sup>151</sup>

151.  
Туаэлов,  
"Хрущевкам  
продлили срок"  
[Khrushchevkas got  
an extended term].

After Luzhkov had to leave the mayor position in 2010, Sergey Sobyenin was elected to this position. He decided to rethink the program. Old investment contracts were frozen and broken, putting the whole program load on city resources. This resulted in reduced volumes of resettled and demolished buildings and in extending the program till 2016. The end of the program is now planned for 2018 with 36 buildings left by the end of 2017.<sup>152</sup>

## THE RENOVATION PROGRAM

In February 2017, with the Reconstruction program almost finished, the city administration made the decision to start the next one. According to the media sources, President Vladimir Putin set the Moscow Mayor Sergey Sobyenin the objective to continue the resettlement of panel houses. The preparations for the new Renovation Program started immediately.<sup>153</sup> To ensure the program will not meet same complications as the previous one and to simplify the resettlement process for the state, Sobyenin asked the President for help in adapting the legislative base on the federal level. Some sources say, that this rapid start of the program is connected to Moscow's over-profit and is meant to avoid the re-allocation of resources in favour of the regions in debt. It also is meant to stimulate private investments into the building sector.<sup>154</sup>

The law supporting the Renovation Program was drafted rapidly, which might explain the high level of critics the first draft met from lawyers and regular Muscovites. After a review and major adaptations, the law was accepted in the Parliament mid-June 2017 and signed by the President on the 1<sup>st</sup> of July. Among all, this law enabled the re-allocation of the money the residents payed for the Capital Renovation Program of their house directly into the new program. Their contribution is estimated to be close to 6 Billiards roubles.<sup>155</sup>

Originally, Moscow administration planned to include almost 8.000 residential buildings in the Renovation Program. That would have meant a resettlement of around 1,6 million people. After facing a protest from residents of some areas and consulting the social movement Arhнадзор, this number was reduced. The buildings in old Moscow districts as well as workers' settlements of 1920-1930s were excluded from the Program, leaving it with a preliminary list of 4.566 buildings.

The formal criteria of the buildings planned for demolition were:

- » Construction time between 1957 and 1968
- » Construction using serial wall and slab elements
- » Height up to five stories

152. Moscow Complex of Urban Policy and Construction, "Снос пятиэтажек первого периода индустриального домостроения" [Demolition of the five-story building of the first period of industrial housing].

154. Егемченко, "Закон о сносе пятиэтажек: Собянин спасает бюджет и надеется на инвесторов" [The law on demolition of five-story buildings: Sobyenin saves the budget and hopes for investors].

155. Bekbulatova, Voronov, and Ivanov, "Реновация на марше" [Renovation on March]

153. Moscow Complex of Urban Policy and Construction, "Программа реновации жилья" [Housing renovation program].

» Overall condition of the building.

Alongside with the buildings of the industrial period this list included around a hundred buildings from different periods, some pre-revolution buildings, buildings of architectural avant-garde, late Stalin buildings and individual project houses.<sup>156</sup> This fact caused immediate reactions in the community, ranging from bewilderment to outrage. The preliminary lists did not include nine-story buildings, but later around a hundred of such were put on the list with the explanation, that they were part of the urban quarter and that their overall state was bad.

Apparently, in order to reach acceptance and avoid protests, city administration carried out a voting campaign. This voting lasted from the 15 of May till the 15 of June 2017. Residents of the listed houses listed had a month to vote on the inclusion of their house into the Renovation Program. To include the house into the program, it needed two thirds of votes to be positive. If the house collected one third plus one vote against the inclusion, the house was out of the program. Votes of those, who did not participate, were proportionally divided between the "pro" and "against" sides. The voting participation reached about 70%. 452 buildings were excluded from the Renovation Program after the voting campaign. In two districts, more than half of preliminary listed buildings were excluded - in Zamoskvorechye and Izmaylovo. 377 of excluded buildings were actually constructed in brick.<sup>157</sup>

Having learned from Luzhkov's program, Moscow administration defined what kind of estate will be provided to the resettled residents. According to the provision, supporting the program, estate owners will get a "tantamount" apartment, being defined as an apartment with a bigger overall area, equal or bigger living area and same number of rooms. It should also come with all basic interior works done. The apartment is to be in the district of the old one, except for three administrative circuits - Zelenograd and two of New Moscow, where the resettlement can take place within the administrative circuit. The owner has as well the possibility to choose money compensation for his apartment or to pay extra for a bigger apartment, also by using various subsidies to pay the difference.<sup>158</sup> Owners of commercial areas in the buildings will be provided with the choice of money compensation or a tantamount commercial area. The program will influence an estimated amount of 2.500 commercial objects.<sup>159</sup>

The type of buildings that will be constructed in the former Khrushchevka areas is not quite clear. In April 2017, Chief Architect of Moscow Sergey Kuznetsov started a competition for the design of new Moscow districts, that were to be implied in five test areas. According to the mayor, the height of the new development will be determined individually and will vary between 6 and 14 stories. Statements of other authorities do

156. Suchkov, "Реновация курьявщика" [Smoker's renovation]

157. Sardjveladze et al., "Жители 452 домов Москвы проголосовали против сноса по Программе Реновации" [Residents of 452 Moscow houses voted against demolition according to the Renovation Program].

158. Under the condition, that no underage or invalid residents live in the apartment.

159. Sukhov.



СЕЙМ МЕГАПОЛИ

СОВРЕМЕННЫЙ МЕГАПОЛИС

ПОЛИ

MOSCOW  
URBAN  
FORUM  
2018

MOSCOW  
URBAN  
FORUM

ALEXEY  
KUDRIN

SERGEY  
SOBYENIN

REM  
KOOLHAAS

Figure 82. Moscow Mayor Sergey Sobyenin, Alexey Kudrin, Rem Koolhaas, Elizabeth Diller and Kirill Androsov at the panel discussion at Moscow Urban Forum in July 2018

СИ

СТВО ДЛЯ ЖИЗНИ НОВОЕ ПРОС

СО ВРЕ

AS

ELIZABETH  
DILLER

KIRILL  
ANDROSOV



not exclude development of up to 20 stories.<sup>160</sup>

The information booklet, published by the Department of Construction and Town Planning of Moscow, gives no information about the spatial qualities of new estate, focusing mainly on the finishing of interiors and models of sanitary appliances. No definitive statements about the actual apartment layout or at least room height were made. Interestingly enough, the booklet shows pictures of rather expensive residential complexes, that are not representative for social housing. In Autumn 2017, a show room with possible new apartment solutions and their layouts was opened for the visitors, although no firm statements were made again.

While some politicians and even church leaders speak out in favour of the Renovation Program, stating that the city offers good conditions for the resettled residents, the others consider the program to be a PR campaign of Sobyenin or even that the public hand does not have the resources to fulfil the plan.<sup>161</sup>

The social respond to the Renovation Program was quite loud and varied from people demanding to include their houses into the program to going on the streets against it. In general, many residents say, they do not feel safe in their rights, that they suspect the city authorities of real estate manipulations and do not believe in the social commitment of the politicians.<sup>162</sup> People do not want to break their social connections or sometimes simply do not want to move out of their apartments. Some have just recently invested in the renovation of their residents, as the house was included into the Capital Repair Program and they assumed, it will not be demolished any time soon. People do not trust the city authorities and their promises. Citizens are not sure where exactly they will be resettled. Many of them fear the move to high-rises in the "New Moscow" on the city periphery, many of which are half-empty and remain unsold.<sup>163</sup>

160.

Legua,

"Реновационный опыт" [Renovation experience]

161.

Echo of Moscow, "В РПЦ выступили в поддержку столичной программы реновации жилья" [The Russian Orthodox Church spoke out in support of the capital program of housing renovation]; Yankauskas, "Как избавиться от пятиэтажек без ущерба для москвичей" [How to get rid of the five-story buildings without the damage for Muscovites]

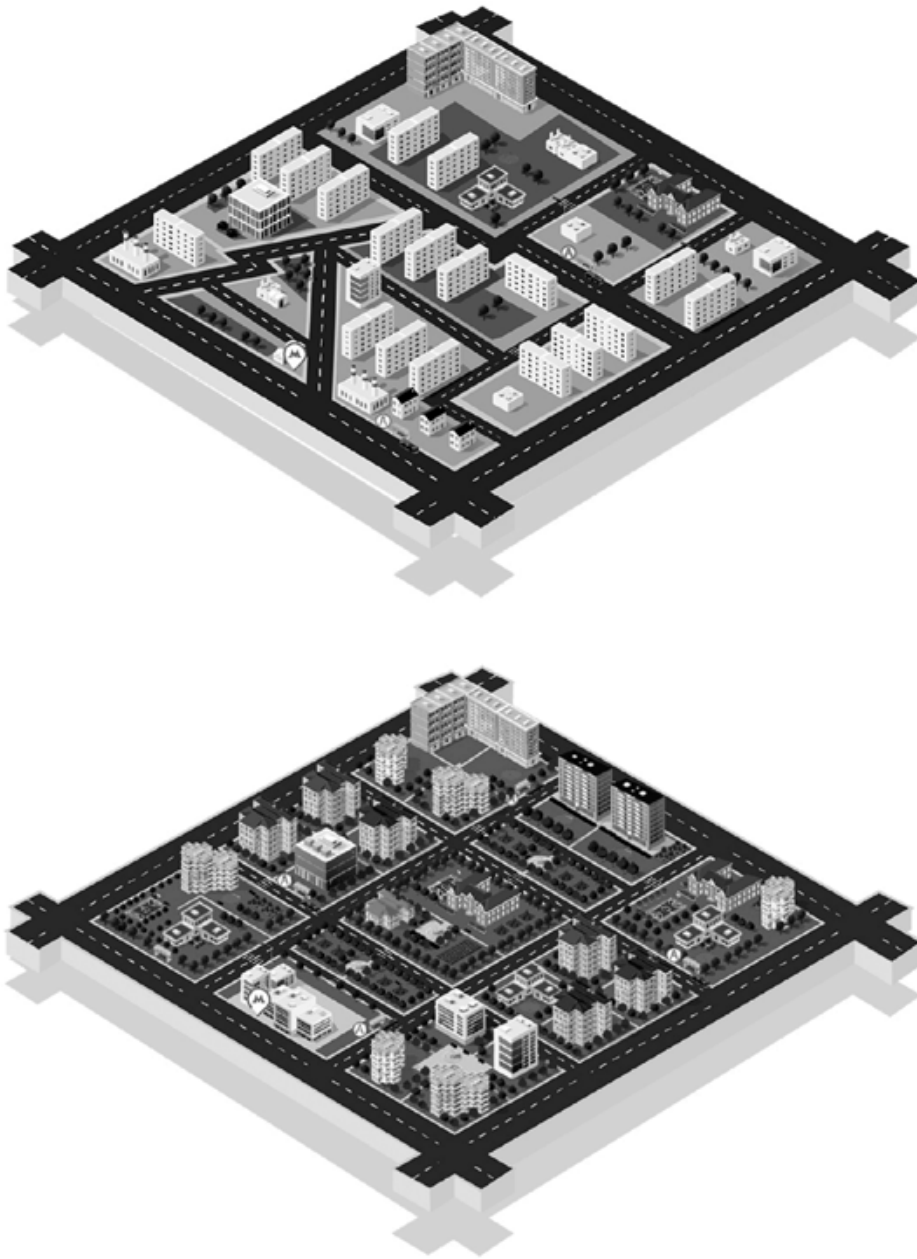
162.

Leslie and Charley, "The wrecking ball swings at Moscow - a photo essay."

163.

Leslie and Charley.





**Figure 83.** The "old" (top) and "new" (bottom) microrayon structure according to the Moscow Administration. While the "old" structure is considered to suffer from numerous problems such as unused green areas, impenetrability of built-up areas, chaotic parking in the yards, transit through the yards and generally unsafe environment, the "new" microrayons will provide for an effective use of land resources, increase in the permeability of territories due to the formation of a system of public spaces, formation of microclimate and landing of large trees, underground parking and a courtyard without cars, absence of transit traffic in yards, priority removal of communal and domestic equipment from the yard. Most of these changes could be achieved without completely altering the existing layout and without demolition of the existing housing.

ЕФОРТОВО  
ПРОТИВ  
РЕНОВАЦИИ

ПРОТИВ  
НОСА

НАМ  
СНОСА  
НЕТ!

ПРОТИВ  
РЕНОВАЦИИ

ПРОТИВ  
РЕНОВАЦИИ

НЕ НАЗОВУТ  
КАК ЛУЗЬ  
ОСТАВАТЬ ВСЕ  
КАК ХОРОШО

ОТЗОВАТЬСЯ  
ЗАКОНПРОЕКТ  
О РЕНОВАЦИИ

МЫ СОБСТВЕННИКИ  
НАМ  
РЕШАТЬ, ГДЕ ЖИТЬ!

З. КОНА Д  
В. КОНА Д

МОЙ ДОМ,  
МОЙ ДВОР,  
МОЙ РАЙОН,  
ЗАЩИТИТЕ!

ДОБРО ПОЖЕЛАНИЕ  
ПРОТИВ  
РЕНОВАЦИИ

МЫ  
ПРОТИВ  
СНОСА  
КОНСТИ  
ТУЦИИ!

НАС ЛИШАЮТ  
СОБСТВЕННОСТИ  
ГОЛОСОВАНИЕ  
ДРУГИХ ЛЮ

ПРОТИВ  
СНОСА

АКАДЕМ  
ПРОТ  
ДЕПОР

ЗАКОН  
РЕНОВАЦИИ"  
ШАЕТ  
ИТУЦИЮ!

ПРОТИВ  
РЕНОВАЦИИ

Мы против  
законопроекта  
о реновации

НЕ ДАДИМ  
РАЗ  
МОС

ХОРОШЕЕ ДЕЛО  
ХРЕНОВАЦИЕЙ!  
НЕ НАЗОВУТ!

ЖИЛОЙ КОМПЛЕКС  
ЦАРИЦЫНО

МОСКВА СН  
И НЕ ПОСТРО  
ЛИШЬ ДЕНЬГИ Н  
ОТМОЕТ!  
ЖИЛОЙ КОМПЛЕ  
ЦАРИЦЫНО

УЧАСТНИК  
СЕРГЕЙ СЕМЕНОВИЧ!  
ПРОСИМ ДОСТОЙНОЕ  
ЖИЛЬЕ В РАМКАХ  
ОБЪЕКТА РЕНОВАЦИИ 5-го  
РАЙОНА АЖЕК ГОРОДА МОСКВЫ



Figure 84. The protest against the demolition of five-story buildings took place on Sakharov Avenue in Moscow on May 14, 2018. It involved from 8 thousand (data of the GU MVD in Moscow) to 20 thousand (data of the public organization "White Counter") person. They demanded to cancel the Renovation Program.



**Figure 85.** (top) Voting on the inclusion in the Renovation Program

**Figure 86.** (bottom) Activists were collecting signatures for the repeal of the law on renovation in the protesting crowd. They were planning to hand the signature lists over to the Moscow prosecutor's office. This man is holding a poster with a photo of Moscow mayor Sergey Sobyenin. The slogans say "No to the Renovation" and "We are tired of you."



Figure 87. (top) Protesting crowd

Figure 88. (bottom) People with posters saying "Repair instead of demolition" and "You can not force people to be happy."

## FIRST STEPS TOWARDS THE IMPLEMENTATION OF THE RENOVATION PROGRAM

### THE COMPETITION FOR FIVE EXPERIMENTAL SITES

In April 2017, in order to find the best solutions for five pilot areas in different city circuits the Committee on Architecture and Urban Planning of Moscow on the demand of the mayor Sergey Sobyenin started the "Architectural and Urban Planning Competition for Experimental Sites for the Renovation of Housing in Moscow." Its participants were provided with a detailed brief that included general spatial principles for the areas of renovation. As an example for high-quality spatial organization a typical quarter on the Frunzenskaya Embankment - a typical development of the Stalin period - was chosen. It features ten-story residential buildings with commercial areas on the high ground floor and spacious green courtyards. The development density here lies by 20.000 m<sup>2</sup>/ha.

The main expectation is a shift from microrayon to a block. The competition brief suggests development of differentiated urban spaces with various building height and organization of house entrances from both sides of the building on the ground level. Parking facilities for the residents are to be organized predominantly under the ground leaving only small, 'visitors' parking areas on the ground. A lot of attention is given to the quality of urban space. Six types of public space organization are defined in the brief: a courtyard, a public promenade, a city street, a city street with public transport, a sports area and a public greenery.

The competition was launched in April 2018 and in its first stage collected 120 applications from Russia and other countries. Mixed consortiums were represented as well as individual applications. The list of international offices participating was impressive - applications came from Germany, Netherlands, Great Britain, Spain, Malaysia, Italy, Hungary, Serbia, France, USA, Japan, Georgia, Turkey, India, Cyprus, Finland, Ukraine, China and Switzerland.<sup>166</sup> After the first stage where the applicants were to submit a portfolio and a voluntary creative assignment, 20 participants were selected - four teams for each of five test sites in the Kuzminki, Golovinsky, Tsaritsyno, Vernadsky Prospect and Horoshevo-Mnevniki districts. They got the detailed brief for the preparation of project proposals for the second stage. The final development concept for each pilot site is planned to be based on the competition results and the authors are promised to be involved in further development as curators.<sup>164</sup>

<sup>164.</sup>  
Архсовет Москвы,  
"Условия Конкурса"  
[Conditions of the  
competition].

The competition allowed the participants to suggest changes to existing building regulations. As mentioned by planning teams in the discussion of the work progress at the Zodchestvo festival, they tried to develop concepts without major deviations from the existing Building Regulations (SNIIP) and State Standards (GOST). Main problems, they said, concern parking spaces, insolation of the façades of surrounding houses, the wave resettlement, size of social institutions and their location. The requirement to provide a large number of free parking spots can lead to a decline in the quality of urban environment and a rise in property prices. The wave resettlement approach causes an unavoidable violation of insolation norms. This means then when a new house is built, tenants of the surrounding khrushchevskas will receive less light. Alternative solutions would mean that people will have to move to other areas of the city, which contradicts the principles of Moscow Renovation. Old requirements of minimal distance from social institutions to the other buildings impend the effective use of land and free public transit through the area. Teams made a suggestion to allow common use of school space and infrastructure for local residents. This would allow to design more compact school solutions and provide an uninterrupted use of its facilities.

In the original competition timeline the announcement of results was set to November 10<sup>th</sup> 2017, but the announcement and the planned exhibition were postponed.<sup>165</sup> As stated by Sergey Kuznetsov, the extra time was needed for public presentations in the planning districts. The results were announced almost a year later, in the end of September 2018. The finalists of the competition are planned to be involved in the further planning of these areas. Further competitions for renovation areas are considered time-consuming and therefore not purposeful for further developments.<sup>166</sup>

Parallel to the professional competition, students from Moscow State Building University were working on the same brief. Their projects for the Golovinsky and Cheryomushki districts were presented at the Arch Moscow exhibition in May 2018 next to the 20 finalists' projects. The competition curators, Moscow Chief Architect Sergey Kuznetsov among them, were curious how students would cope with the same tasks as experienced planning offices.<sup>167</sup>

The project for Golovinsky district is a final thesis project called "Atypical Typical." Students worked in detail, taking into account the features of existing buildings, green spaces and walking areas, as well as needs and wishes of local residents themselves.

165. Квашников, "В Москве открылась выставка архитектурных проектов для кварталов Реновации" [The exhibition of architectural projects for Renovation quarters has opened in Moscow.]; RIA Real Estate, "Итоги конкурса концепций реновации подведут в Москве не раньше сентября" [The results of the contest of renovation concepts will be announced in Moscow not earlier than September.]

166. Arhsovet Moskvу, "Конкурс площадок Реноваций - это поиск компромисса" [Renovation site competition - this is a search of compromise]

167. Arhsovet Moskvу, "Реновация жилых кварталов Москвы" [Renovation of Moscow residential quarters], "Студенты представили своё видение Реновации," [Students presented their vision for the renovations], "Условия Конкурса" [Conditions of the competition.].

*Jury of the architectural and urban planning competition for experimental sites for renovation of housing stock in Moscow.*

*Representatives of authorities:*

**1. Marat Khusnullin**

*Deputy Mayor of Moscow in the Government of Moscow for Urban Development and Construction*

**2. Sergey Kuznetsov**

*Chief Architect of Moscow, First Deputy Chairman of the Committee for Architecture and Urban Planning of Moscow*

**3. Sergey Lyovkin**

*Head of the Moscow Urban Planning Policy Department*

**4. Damir Gazizov**

*General Director of the state enterprise 'Civil Construction Management' (KP UGS)*

**5. Gennadiy Belyayev**

*Head of the State Budgetary Institution of Moscow 'Main Architectural and Planning Department of Moskomarhitektura' (GBU GlavAPU)*

**6. Vladimir Denisov**

*Head of the State Autonomous Organization of Moscow 'Moscow State Expertise'*

*Representatives of professional communities:*

**7. Nikolay Shumakov**

*President of the Union of Architects of Russia and the Union of Moscow Architects, Chief Architect of Metrogiprotrans*

**8. Pyotr Kudriavtsev**

*Urbanist, Sociologist, Partner of Citymakers*

**9. Hans Stimmann**

*Architect, Architectural Criticist, Urbanist. Former Chief Architect of Berlin.*

**10. Philip Meuser**

*Architect, Publisher, Founder of DOM Publishers*

**11. Alexander Kuzmin**

*President of the Russian Academy of Architecture and Construction Sciences*

**12. Dmitri Narinskiy**

*Head of Laboratory: Laboratory for Experimental Urban Design (Higher School of Economics)*

**13. Sergey Zuyev**

*President of the Moscow School of Social and Economic Sciences (MSSES), Dean of the Institute of State Policy and Applied Liberal Arts Research of the Russian Academy of National Economy and Public Administration*



*"Together with Moskomarhitektura, we created a student architectural studio, that was engaged in the development of a renovation project for the Golovinsky district for six months."*

*Kirill Tesler, project manager, associate professor at the Moscow State University of Information Technologies<sup>168</sup>*

During this time, on the example of a single district and with all its features into account, students created a general algorithm, a "toolbox" for architects. These 'tools' are meant to be applicable in further projects for other city areas. As said by Kirill Tesler, it is impossible to fulfil the objectives of Renovation on such a large scale with custom projects. The toolbox is based on the parametric design approach, that helps to quickly evaluate the economic effect and obtain options for the development of a given district.<sup>172</sup> In particular, young architects determined in their project the most comfortable short routes for residents through the district and found out the most convenient location for children's sports-grounds. Parking is offered along the perimeter of the blocks under the buildings in order to preserve the existing greenery and enable tree growth on open spaces. Another suggested solution for parking areas is to place them under existing school stadiums, but in this case their reconstruction would be a requirement. The project takes into account various age groups and family entities. The suggested development is both high-rise and low-rise and includes not only private-owned apartments but also rental housing and urban housing with gardens. A modular platform is suggested for the formation of the buildings - a reinforced concrete skeleton, that allows to create various apartment layout pattern within a given volume. As a result, an almost infinite number of planning types is obtained. The student project was highly appreciated by professionals. Authors of the outstanding works are promised to be involved in work on the design of urban areas, as stated within the framework of the Arch Moscow exhibition.<sup>170</sup>

Competitions are an excellent tool for urban development and raise of solution quality. The outcome of a competition is often dependent on the competence of the jury, which in this particular case consists of experienced qualified specialist in the field of architecture history, urban planning and city administration. But the outcome is also dependent on whether the city administration or the developer commits to the implementation of the proposal as close to the chosen concept as possible or will demand alterations until the original qualities are lost. This is sadly known to be a common practice in Moscow and will hopefully not be the case in this competition.

168.  
Evening Moscow,  
"Студенты-  
архитекторы  
представили  
экспериментальный  
проект по  
реновации жилых  
кварталов" [Students  
architects presented  
an experimental  
project for the reno-  
vation of residential  
neighborhoods].

169.  
Evening Moscow.

170.  
Ibid.



Figure 89. Five competition sites in the city context 1. Quarters 13, 14, 20, 123, 123a of Golovinskiy District; 2. Quarters 74, 77, 80, 81 of Horoshevo-Mnevniki District; 3. Quarters 32-33, 34-35 of Prospekt Vernadskogo District; 4. Quarters 115, 116, 121 of Kuzminki District; 5. Quarters 2a and 2b of Tsaritsino District

An aerial, high-angle photograph of a city's urban grid, showing a dense pattern of streets and buildings. Two white callout boxes are overlaid on the image: one labeled '4' in the center and one labeled '5' in the lower-left quadrant. The text is positioned on the right side of the image.

*"The competition will allow to attract the best Russian and foreign architects to the Renovation Program. We also plan to attract a wide pool of experts to this topic, hold public discussions with urbanists, sociologists, economists, and get the highest possible expert assessment at the stage of drafting the technical assignment."*  
(Chief Architect of Moscow Sergey Kuznetsov)

*Конкурс позволит привлечь к программе реновации лучших российских и зарубежных архитекторов. Мы также планируем привлечь к этой теме широкий пул экспертов, провести публичные обсуждения с урбанистами, социологами, экономистами, заручившись уже на этапе подготовки технического задания максимально возможной экспертной оценкой!*  
(главный архитектор г. Москвы Сергей Кузнецов)

Коммерческие и общественные помещения на 1-2 этажах

Городская сеть велодорожек

Фасады из долговечных материалов

Разновысотная застройка

Парковка для жителей под двором

Детские сады на 1 этаже

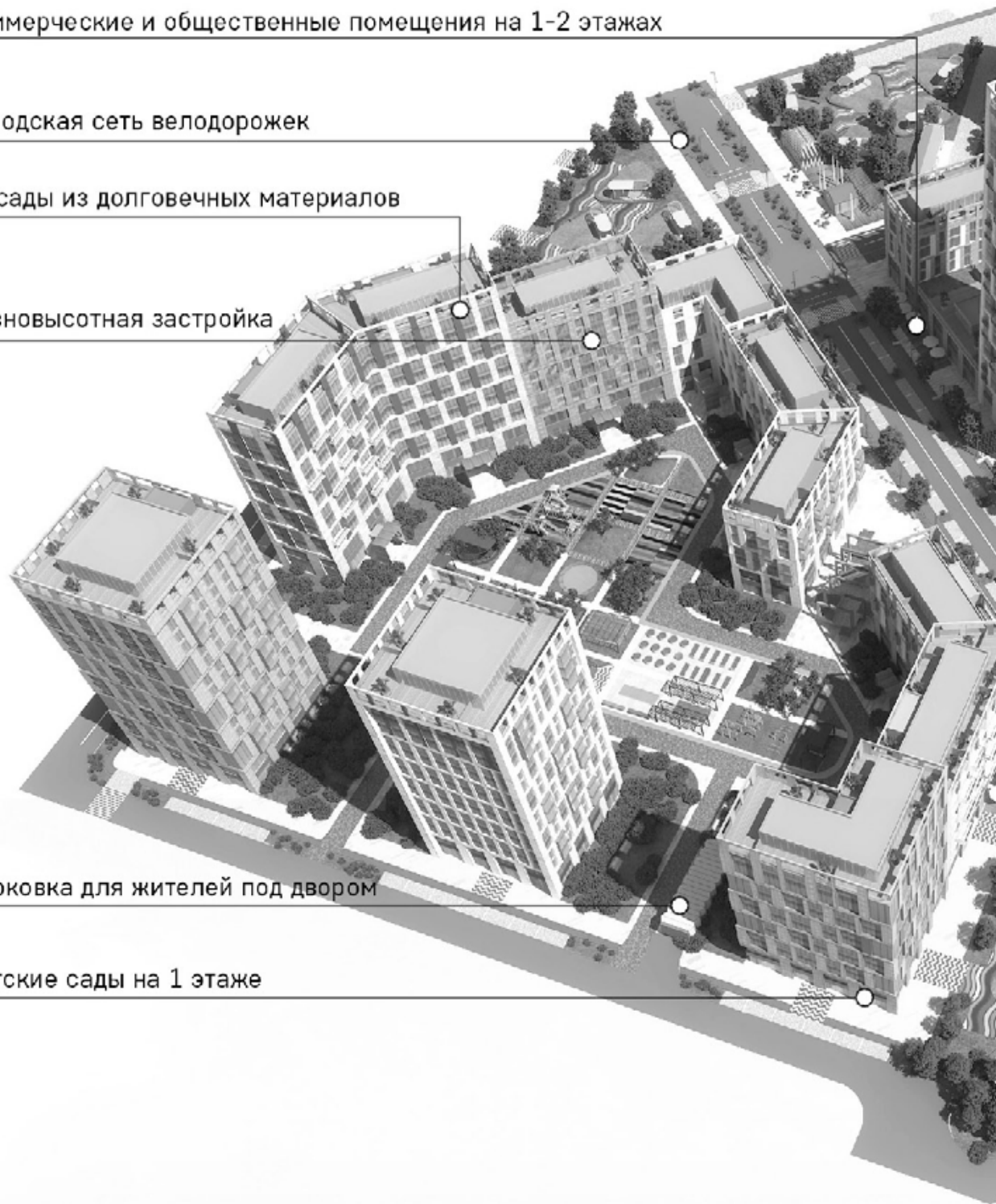
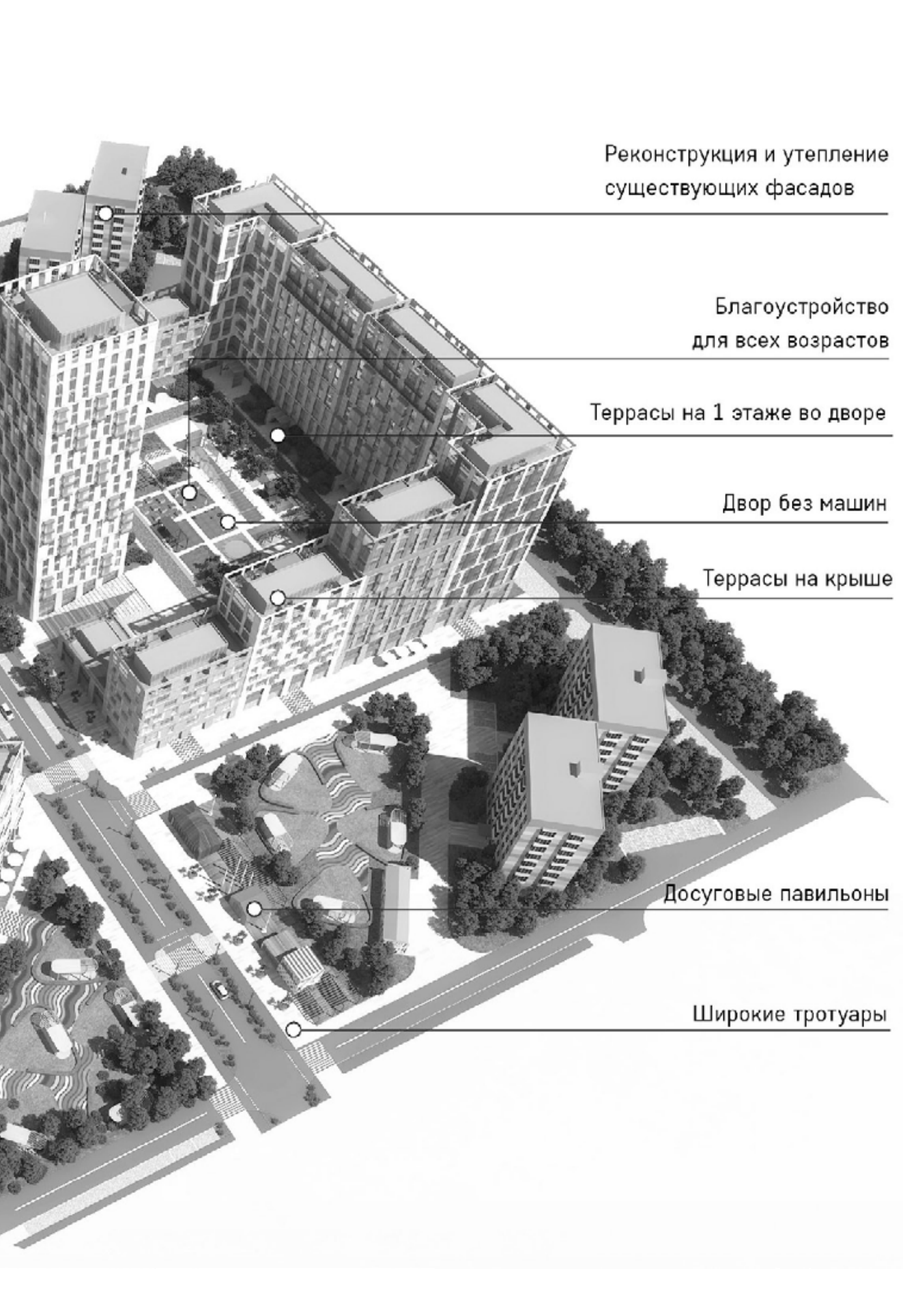


Figure 90. Winning project for Golovinskiy District by Asadov's Architectural Office



Реконструкция и утепление  
существующих фасадов

Благоустройство  
для всех возрастов

Террасы на 1 этаже во дворе

Двор без машин

Террасы на крыше

Досуговые павильоны

Широкие тротуары



Figure 91. Winning project for Horoshevo-Mnevnik by Nikken Sekkei and UNK Project





Figure 92. Winning project for Prospekt Vernadskogo by Bofill Arquitectura and S. L., Master's Plan







Figure 93. Winning project for Kuzminki by SPEECH





Figure 94. Winning project for Tsaritsyno District by "AB Sergey Skuratov"



## CITY PROCUREMENTS

At the end of December 2017, Moscow Renovation Foundation held a tender for the design of 20 residential buildings. On Wednesday, February 14 of 2018, the fund leader Anatoly Konstantinov at a round table in the Moscow City Duma informed, that the winners of the bidding were determined. According to the information on the website of state procurements, most of the objects were handed over to the developers Moskapstroy and PIK.<sup>171</sup>

As follows from the documents on the state procurement website,<sup>175</sup> ten houses went to the Moskapstroy. The company won nine tenders, on the last object Moskapstroy was the only admitted participant. According to the terms of reference, Moskapstroy will design houses with a height of 25 to 75 meters. In the summer of 2017, Moscow City Hall announced<sup>172</sup> that Moskapstroy would be the technical customer of the Renovation Program, so the city intends to buy the company. In January 2018, it was reported that AFK Sistema who was one of the biggest Moskapstroy stake owners sold its stake - 30% of the overall shares - to the city.<sup>173</sup> under the former mayor Yuri Luzhkov, Moskapstroy acted as the customer of works worth 150 billion roubles, which amounted to 60% of all construction work in Moscow, wrote Vedomosti.<sup>174</sup>

The contractor for the design of another nine houses should be the company MFS-PIK. MFS-PIK was once directly owned by the PIK group of companies, now - Esaion Capital Ltd., registered in Cyprus. The press service of GC "PIK" confirmed to RBC<sup>175</sup> that MFS-PIK is their structure, but refused to comment on their participation in the design of houses. In March 2017, RBC reported,<sup>180</sup> that the PIK Group could become the main developer under the Renovation Program. MFS-PIK won the contests for the design of three houses on Zeleniy Prospekt, Avangardnaya and Smolnaya streets. In tenders for other six sites, MFS-PIK was the only admitted participant. The tenders are currently declared invalid, but the customer can draw an agreement with the MFS-PIK. The height of the buildings that the contractor is supposed to design will range from 30 to 75 m. For example, at Demyan Bedny Street it is planned to build a 17-storey house.

According to the materials on the site of state purchases, the total amount of contracts for contests, the winner or the only admitted participant in which was MFS-PIK exceeded 490 million roubles, Moskapstroy - 450 million roubles.

The twentieth, the last and the largest lot, is the design of a residential building up to 100 m high on Konstantin Fedin Street in the North Izmaylovo area. The total above-ground area of the building, according to the technical and economic parameters of the facility, will be 102.4 thousand square meters, the area of apartments - 61.4

171.

Sardjveladze and Pastushin, "Реновация дошла до конкурса" [Renovation reached the competition].

172.

Moscow Complex of Urban Policy and Construction, "Техзаказчиком программы реновации станет Москапстрой" [The technical customer of the renovation program will be "Moskapstroy"].

173.

Interfax, "АФК 'Система' продала Москве долю в 'Москапстрое'" [AFK 'Sistema' has sold Moscow a share in 'Moskapstroy']

174.

Луав, "АФК 'Система' покупает 'Москапстрой'" ["AFK 'Sistema' buys 'Moskapstroy'"]

175.

Pastushin, "ПИК Начала Отказываться От Новых Проектов Ради Программы Сноса Пятиэтажек" [PIC started to reject new projects for the demolition program of the five-story buildings]

176.

Pastushin.

	Company name	Introduced housing (m2)	Part in total introduced housing (%)	Housing in construction in March 2018 (m2)	Part in total housing construction in March 2018 (%)
1	GK "PIK"	670000	19,6	1860300	14,6
2	GK "Absolut"	248400	7,3	107200	0,8
3	MR Group	157600	4,6	579700	4,5
4	Midland Developemnt	155700	4,6	(no data)	(no data)
5	Gruppa LSR	141800	4,1	684800	5,4
6	GK "Etalon"	119400	3,5	427000	3,3
7	"Samolet-Development"	109700	3,2	(no data)	(no data)
8	"Avesta-Stroy"	98400	2,9	184400	1,4
9	Insigma	89600	2,6	35000	0,3
10	GK #2Pioner"	65800	1,9	143300	1,2

**Figure 95.** Ten biggest housing developers in Moscow based on housing construction in 2017. Together they developed 54,3% of new housing in 2017. By March 2018, their part on the market was at 31%.

thousand m<sup>2</sup>, the capacity of underground parking - 543 parking spaces. The initial purchase price was 325.6 million roubles, the total value of the contract - 322.1 million roubles. The applications were submitted by LLC "Regionzhilstroy" and LLC "Project company" Trio. " The only admitted participant was "Regionzhilstroy", the company that that built the pilot starter house on the 5<sup>th</sup> Park Street. It is led by Oleg Kosovan the former Head of the construction department of the Ministry of Defence.

Two to six applications were submitted for each tender for the design of houses. More than 20 companies participated in tenders, many of them known for being in a close connection to the city authorities and therefore very present on the development market.<sup>181</sup>

At the end of January 2018, Moscow Housing Renovation Foundation announced contests for the design of 24 more houses. Many of them are planned to be built with the excess of the promised density standards. Earlier, Marat Khusnullin - the Head of the Capital Construction Complex -repeatedly stated that the maximum density for new development in the renovation areas would not exceed 25.000 m<sup>2</sup>/ha. In 13 out of 24 cases customers have exceeded the density standards. In six cases, the density is set exactly to 25.000 m<sup>2</sup>/ha and only five are be slightly less dense.<sup>182</sup> The highest density will be on the site in Shchukino district in the north-west of the capital (Novoshchukinskaya street, 8, building 1) 42.500 m<sup>2</sup>/ha.

177. Sardjveladze and Pastushin, "Реновация дошла до конкурса" [Renovation reached the competition].

178. Sardjveladze and Pastushin, "Жителей Хрущевки в рамках Реновации переселят в 100-метровые многоэтажки" [Residents of Khrushchevka will be relocated into 100-meter high-rise buildings within the framework of Renovation].

## FIRST RESETTLEMENTS

In February 2018, almost exactly a year after the announcement of the Renovation Program, first resettlements took place. The pilot house on the 5<sup>th</sup> Park Street in the Eastern Circuit of Moscow welcomed its new residents from the nearby houses on the Konstantin Fedin Street 3 and 4.

This pilot house was originally designated for the residents of emergency houses located nearby and for people waiting for social housing in the program "Zhilishe"- "Dwelling."<sup>179</sup> Repurposing of the building caused a discontent from the people who have been waiting for an apartment in this building. The question of social housing provision is very sensible in Moscow and people often have to be on the waiting list for decades. The chairman of the movement "Ocheredniki Moskvi"<sup>180</sup> Luisa Martianova is concerned with the fact that only 25% of people in need of social housing were included into the Renovation Program, which leaves the rest 75% on the waiting list. Their waiting time will be even longer as the housing that was meant for their cases was now handed to the Renovation Foundation to resettle people from houses in non-emergency state.<sup>181</sup> As mentioned by Luisa Martianova approximately 72.000 people are on the waiting list in the "Zhilishe" program, but yearly only 3.000 people get social housing. The waiting list is moving slowly and mostly through the provision of subventions.<sup>182</sup>

Formally, city authorities did not break the law. Norms introduced by the city administration can be changed multiple times and - as the practice shows - also ex post facto. Though not a crime, such actions deceive people who have been higher on the waiting list and have been counting on this housing. Some people consider turning to the European Court of Human Rights on this case. In 2007, the ECHR has already considered a similar complaint called "Liu and Liu against Russia." ECHR developed a very important precedent in its practice based on the §56 and later repeatedly referred to it: A law should be formulated in a way that enables citizens to foresee the consequences of their actions, their behaviour and so on.<sup>183</sup> Applied to the current situation, it means that some people who expected to move from emergency housing relied on the "Zhilishe" program and may not have taken actions they would have taken if they knew how this case will turn out in the future. Game rules were changed, city authorities gave a retroactive effect to the old program. It turned out that this house was built for entirely different purposes than first said to the citizens.

This will not remain an exclusion. The Renovation Foundation transitioned starter houses and land plots from another unfinished housing program meant for people in

179.

Антонова, "Жители  
'Измайловских  
Барак' атаковали  
первый дом  
Программы  
Реновации" [Resi-  
dents of 'Izmailovo  
Barracks' attacked  
the first house of  
the Renovation  
Program];  
Business FM,  
"Жилье для  
очередников нео-  
жиданно передали  
переселенцам по  
Программе Рено-  
вации" [Housing for  
people on the waiting  
list unexpectedly  
transferred to resettle-  
rs in the Renova-  
tion Program].

180.

Ocheredniki - people  
on the waiting list for  
social housing

181.

Antonova.

182.

Ibid.

183.

Business FM,



poor living conditions. Not all of them were included into the Renovation Program and the execution of the older program will inevitably get postponed, leaving the residents to live in dilapidated housing while resettling people out of robust, non-emergency housing. One more profitable program is pushed over the older one with no attention to the citizens, making it difficult to sustain trust into the motives of the city administration.

Apart from these issues, the opinions of the new residents on the housing were generally positive. They enjoyed the fact of the provision of inner works and mostly got apartments of a larger area than they had before.

Soon after the move started, the mayor's office put 80 out of overall 340 apartments in the first starter house for sale to the residents who wanted to purchase extra living area. These were single and three-room apartments ranging from 38,5 to 78,5 m<sup>2</sup>. Two-room apartments were not available for sale. The price of the cheapest single-room apartment of 38,7 m<sup>2</sup> was 6,3 million roubles. The most expensive was a 78 m<sup>2</sup> three-room apartment - its price was around 13 million roubles.<sup>184</sup> While the price per square meter in this building was on the normal level for the district in the so-called "comfort-class" housing, the quality of this state-provided housing is inferior to the quality of complex developments with individual architecture, own social facilities and landscaping as well as higher quality of inner works.

It is planned to inhabit around 30 new starter houses till the end of 2018. There are still no projects constructed fully for the Renovation Program and therefore no statements can be made on the actual implementation of urban principles defined by city authorities.

184.  
Solovichenko,  
"Названа стоимость  
первых квартир  
для покупки по  
Реновации" [The  
price of first apart-  
ments for purchase in  
Renovation Program  
was announced].



**Figure 96.** (top) House transferred to the Renovation Program on the 5<sup>th</sup> Park Street. First starter house to welcome new residents.  
**Figure 97.** (bottom) Courtyard of the starter house on the 5<sup>th</sup> Park Street



Figure 98. (top) House transferred to the Renovation Program on the Gzhatskaya Street

Figure 99. (bottom) House transferred to the Renovation Program on Prospekt Vernadskogo



Figure 100. House transferred to the Renovation Program on the Street of Red Dawn





Figure 101. Prospekt Vernadskogo is a very green district nowadays

## CRITIQUE ON THE CURRENT APPROACH TO DEALING WITH SOVIET HOUSING IN MOSCOW

The number of residential buildings in need of repair in Moscow is big and will grow every year. There is a strong need of an integrated program that would define the strategy to tackle this challenge. The current Renovation Program, as described in the previous chapter, seems rushed and raw. Many important issues are still unclear. City authorities seem to pay attention to certain questions - such as public participation and rights of commercial area owners - only after they have been confronted with harsh critic and public protests. The inclusion criteria for the buildings are questionable. Many of the buildings included into the preliminary list were constructed in brick in late 1950s and are even considered to provide a higher comfort level than panel houses of 1960s. Many of the latter are in a bad condition, but their demolition is planned for a later phase. Some buildings of the early Brezhnev period are also in a bad condition, but those did not even come in question.<sup>185</sup>

Because of the "blanket" character of the program, mistakes were made and, unless the society stood up, buildings of the pre-revolutionary period and many from the Stalin period, could have seen the wrecking ball, even though some of them were freshly renovated. The only common aspect of the areas of demolition is their low density in favourable city areas, which yet again puts the motives in question. Is it really a program for renewal of outdated housing and improving living conditions? Or is it rather a densification program meant to push the estate market, generate profits and support the buildings industry, that happens to be in close, sometimes personal connection to the current city administration authorities?

### LEGAL POINT OF VIEW

The Renovation Program is supported legally on the national level - to make the program possible amendments were made to the federal law "About the Status of the Capital of Russian Federation." These amendments touch on the question of private property and interfere the rights of estate owners.

The first draft of the law project, which was accepted in the first reading, opened the doors wide open to its misuse. It did not give definition to the renovation itself. There were no parameters of houses, that would be included into the program, no description of the voting procedure, no mention of people who have a running mortgage etc.

185. RAPSИ, "Снос Хрущевок в Москве: альтернативные сценарии" [Demolition of Khrushchevkas in Moscow: Alternative scenarios]; Nelyubin, "Снос хрущевок как 'типичная многохолодовочка'" [Demolition of Khrushchev as 'typical moreover'].

That draft also left the possibility for unfair property compensations with estate in the neighbouring district, that in Moscow estate market realities could lead to 30-45% monetary value drop. This first draft offered the owners of non-residential areas in the "demolishable" houses a same number of square meters in just any district of Moscow, ignoring the businesses in their rights and interests to stay in their district. Taking into consideration the expansion of Moscow territory, businesses could easily land in the New Moscow on the border to Kaluzhskaya Oblast. The final edition does cover these subjects, but the fact that the first edition of a law of this importance was even brought out to discussion and got approval, makes it difficult to believe in the competence of Moscow legislative organs and in their noble intentions. Another interesting aspect concerns districts, that lie on both sides of the Moscow Ring Road such as Vykhino-Zhulebino, Mozhaysky, Kosino-Ukhtomsky etc. The side of the Ring Road can have a great influence on the market price of the land plot and on the real estate as well.

As mentioned above, the Moscow Renovation Program bases on the amendments to the law "about the Status of the Capital of Russian Federation", but the problem of decrepit housing does not exist only in the capital. Other cities, big or small, experience same and sometimes even worse problems with the housing stock and also need to have access to the solutions for this problem.

Not to mention that pushing a law in a rush contradicts the fair idea of a law. A law is an act of supreme legal force that is here to regulate the most important public relationships and to express the will of the nation. It should be a well-thought act that works in the interests of the general welfare. It cannot be ad hoc and have no connection to the interests of local communities. An urban program of any scale has to play within the frames of common rules.

The "Renovation Law" text does not use the word "expropriation", but that is basically what it is. The state expropriates private property of individuals in the interest of a large-scale program and provides them with another property, that is considered to be tantamount. Expropriation of private property for municipal or state needs can indeed be a necessary and only effective measure in some cases. The procedure for property expropriation is regulated in the Paragraph 32 of Housing Code of Russian Federation. The same paragraph regulates the compensation for the expropriated property. This paragraph states that in case of housing expropriation (full or partial), it can only take place with the approval of the legal owner. If the owner is generally against the expropriation it can still take place in a forced manner - of course only under the provision of a fair compensation. As the current law does not use the word expropriation and regulates the procedure and the compensation itself, it is not clear to



which extend the rights of property owners will be considered. In the first, Luzhkov's, Program the approach to the apartment owners was much more personalized. They had up to three apartments to choose from before they signed the papers giving up their old estate. They also could try to move to another district if there were options available. The current program does not mention any choice of apartment and obliges the owners to first give up their apartment and only then see what they get as compensation.

It is important to note, that not 100% of apartment owners voted for the inclusion of their buildings into the Renovation Program, making it up to 1/3 of inhabitants being forced out of their housing. In case the owner does not want to move into the suggested apartment, he still can be evicted as soon as the new flat has been provided.

While the Luzhkov's Program was imperfect, the resettlement always meant a qualitative improvement of housing as the new estate was a priori more expensive and of higher structural quality than the "demolishable" series of Khrushchevskas. Taking into consideration the structural qualities of some buildings included into the current Renovation Program - like brick houses from Stalin Period - and the current building culture in Moscow, the exchange will not necessarily be in the interests of the residents. Also, while the Luzhkov's Program secured the social norm of living area in the new apartment at 18m<sup>2</sup> per person, the Renovation Program provides equal or greater area and same number of rooms, not fixing any minimal area per person.

Funds, collected from housing owners for the Capital Repair program will be reallocated into the Renovation Program. The problem with that is again disrespect to the residents. Practically, they have been obliged to pay for the repair that was once estimated possible. Therefore they planned to stay in their apartments for some decades more and maybe even invested in them. And now, the money they paid is being pulled out of the Repair Foundation to be invested into the Renovation without any discussion. So, they not only fund the Program, which is already planned to generate massive profits, with their regular taxes, but also with their now repurposed Capital Repair contributions.

The Renovation Foundation gets land plots for free, the approval chain is simplified, the city claims to have the money for the program implementation and extra means come from the Repair Foundation. This could suggest that the overall price of the estate would drop as well. But the new estate price is estimated with around 90 thousand roubles per square meter according to the chief of Moscow Urban Development Policy Departments Sergey Levkin.<sup>186</sup> The reason for such a high price for what practically is meant to be social housing remains unexplained and untraceable. As it is unclear where the profits generated by the Program would go.

186.  
Vinogradov,  
"Авантюра  
мирового масштаба"  
[A global gamble]

What if a residential building voted against the Renovation Program, but needs repair or even is in critical condition or reaches it in a short period of time? There is no mention of buildings in critical condition in the Renovation Program, as dealing with such cases is not on its list of objectives. Such cases will be kept in the current Capital Repair Program. The Housing Code of Russian Federation says that the state is obliged to provide house repair at the cost of house owners. But would this really happen if city authorities already had plans for this plot? Or would these buildings be kept in the back of the repair waiting list until they reach critical condition and have to be demolished?

Another important aspect is the general attitude to private property and rights connected to it. Currently, apartment owners are also partial owners of the land plot that the house stands on. This means they can potentially determine the use of the plot and design it on personal demands, whether they feel a need of a playground, a parking zone or simply a green lawn. They also have the right to form a building group or a cooperative and rebuild or reconstruct their house on their plot. Renovation Program stipulates that the ground itself remains in the ownership of the Renovation Foundation, leaving estate owners with the mere right to use the apartments. This reduces the rights and possibilities of estate owners drastically, while making them dependent of the land owner - Renovation Foundation. It remains unclear who in this case owns the building itself.

### **ECONOMICAL POINT OF VIEW**

When the Renovation Program was first announced, it caused a lot of concerns about its influence on the estate market in Moscow and city economics in general. Currently, the state of construction sector leaves a lot to be desired. High prices combined with poor quality and often unreliable developers have led to a mistrust to the industry in general. The image problem is complimented with systemic corruption in the construction sector and politics.

There have been numerous independent investigations that put the motives of the Mayor Sergey Sobyenin and his representative Marat Khusnullin in doubt. Juriy Ekhin, architect and expert in housing policies, has been very vocal with his critics on the Renovation Program. He is of the opinion that the Mayor and his representative have intentionally provided the State Government with misleading information to implement a program that was of high personal interest for them.<sup>187</sup> Independent media investigations have shown a close connection between the vice-mayor and a number of businessmen in the building sector. The results of public Procurements show that a

<sup>187</sup>.  
Vinogradov.



Figure 102. Prospekt Vernadskogo district. Old house planned for demolition in the Renovation Program and newer residential development.

certain group of companies in the building industry seem to be systemically favoured over the others. In many cases a private connection between the vice-mayor and the top management of these companies has been found.<sup>188</sup> While this is not officially proven as to the lack of official investigations or comments from the politics, it is a common knowledge that the political system has corruption problems on many levels.

The lack of fair competition and favouritism in procurements leaves little place for smaller developers and contractors on the estate market. This among all has a negative impact on the quality of the services. Dealing with systemic corruption is a challenging and complex task, but it is crucial not only for leaving up to the name of a democratic state, but also to secure high-quality urban development and architectural culture.

Currently, there is a definitive problem with actual sales of residential estate. According to various sources, 20% to 40% of newly built estate remain unsold and become illiquid. This could be connected to the discrepancy between the average income and housing prices as well as to the low "value for the investment" on the market. According to the data of Federal State Statistic Service the average net monthly income in Moscow lays by 60 thousand roubles or 1,1 thousand euros. Apartment prices differ a lot throughout the city. The average lowest price per square meter is to be found outside the Moscow Automobile Ring Road and lies by 1.760 euros. An average apartment inside the Ring Road lies by the average of 1.875 euros per square meter. The central circuit is the most expensive with the average 4.187 euros per square meter. The estate "middle market" pricing lies by 2.300 euros per square meter. With the average mortgage interest starting with 11% to 15% per anno<sup>189</sup> and the need of a starting investment housing purchase puts an average family under a great economic stress. At the same time the quality of apartments on the primary market and most on the secondary market is predominantly poor. Low building quality, unfavourable mortgage conditions and modest average purchasing power describe the state of Moscow estate market. At the same time, the supply overrides the demand for many years now. The construction sector continues to develop enormous amounts of low-quality residential estate on tabula rasa. All this with the use of outdated technology and architectural solutions. There is a strong need of change on the estate market and in the construction sector in general.

188.

Sergeev and Dobrolyubov, "Стройотряд Хуснуллини." [Khusnullin's 'Construction brigade']; Nelyubin.

189.

It is planned to reduce the mortgage interest to 8% per anno through state subventions starting in 2018. However, these measures will be implemented in a very limited number of state owned bank, such interest rate would be still unreachible for the average family.

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## SPATIAL AND ARCHITECTURAL POINT OF VIEW

Every Soviet mass housing program thrived to give people something that they did not have before. First - qualities of urban living, separate rooms, basic hygienic infrastructure. Then - a separate apartment, privacy, ownership. Later - better apartments, more space, faster housing provision. Luzhkov's Program with all its flaws provided people with housing of higher value and secured the social norm of at least 18 m<sup>2</sup> per person. The question arises: What does the Renovation Program actually have to offer to the community and the city? Does it deliver ground-breaking solutions for the housing question? Or is it taking the shortcut of substituting the current housing stock with fresh buildings of mediocre architectural qualities? The claims of providing the citizens with high-quality housing, new urban atmosphere and implementing smart city solutions have not been fulfilled so far. Here it is only fair to mention that at the moment no actual project has been fully designed and complete in the framework of the Renovation Program. Housing being provided for the first moves was intended for other projects and had to be adapted for the demands of the Renovation Program. This still does not justify poor construction quality and implementation of low-quality materials in the interiors.

The importance of providing people living in dilapidated buildings with proper housing is unquestionable. But this is in fact not mentioned as an objective of the Renovation Program. The new edition of the law "About the Status of the Capital of Russian Federation" defines the Renovation Program as one for "the renovation of the housing stock in Moscow", which is in turn "a set of measures carried out in accordance with the Program of Renovation of housing in the city of Moscow, aimed at improvement of life conditions and creation of favourable living conditions for citizens and creation of public space in order to prevent the growth of an emergency housing stock in the city of Moscow, to ensure the development of residential areas and their improvement."

The current program shows quite a misinterpretation of the term "renovation." To renovate means to restore to an earlier condition by repairing or remodelling, to impart new vigour to and to improve something without disturbing of the overall structure. As one can judge by the current statements from the mayor's office, the only strategy of Moscow Renovation Program is demolition with following construction of new estate with spatial characteristics completely different from those of the original buildings, which is a narrow understanding of urban renovation.

Another existing major misunderstanding is that khrushchevkas have a pre-determined exploitation time. Politicians - Sergey Sobyenin and other representatives of Moscow Administration, actively support this misconception. They repeatedly refer to the fact, that five story buildings were not constructed to be there forever, but for only to serve for fifty years. Still, there is no comprehensive document determining the exploitation period of the whole Khrushchevka as a construction. There are though exploitation periods determined for separate components of the building.<sup>190</sup> This makes much more sense as some materials degrade faster than the others. With good maintenance Khrushchevkas can still stand strong in a hundred years.<sup>191</sup>

Around 400 five-story buildings meant for demolition in this program could be successfully reconstructed.<sup>192</sup> Moscow laws do allow the residents to reconstruct some residential buildings under five stories through self-organization. The decree supporting this right was issued at the end of 2014. At that moment, Moscow authorities estimated the potential for such renovation with around 1 Million square meters of living area. There are a few examples of successful private renovation in Moscow. Such projects are financed by the apartment owners themselves or with help of private investors. While this renovation method does not need any resources from the city, it also does not bring it any profit. This might be the reason why the project was forgotten.<sup>193</sup> City authorities neglect this possibility of renewing the building stock and push the demolition method forward. Taking into consideration the experience of such state projects where the density increases around 330%, one could suggest that the main reason for the strategic choice is monetary profit from selling the surplus apartments on the free market.<sup>194</sup>

Moscow, as any city, has a developmental plan- the General Plan. It also has a set of Land Tenure and Building Rules - Pravila Zemlepolzovaniya i Zastroiki shortly called PZZ. These documents set the direction of city development and regulate the function as well as various spatial characteristics of buildings to ensure an overall cohesive and harmonic city development. The new law amendment, however, allows the developer - in case of "restrictive city development conditions" to not take these planning documents into consideration and to adapt sanitary norms. As there is no legal definition of what "restrictive city development conditions" are, basically anything that is not a big brownfield could fall into this category. The developer can change the current Land Tenure and Building Rules for his territory in case his project does not meet the current ones. The legal change procedure in this case is held out in a simplified way, that for example does not involve public hearings. Changes to the Land Tenure and Building Rules are accepted simultaneously with the approval of the actual architectural project. In this case, the procedure gets way faster and the community

190.  
Pogorelskiy and  
Vladimirova,  
"Наследие  
хрущевок:  
как массовое  
строительство в  
СССР опередило  
свое время" [The  
legacy of khrush-  
chevkas: how mass  
construction in the  
USSR was ahead of  
its time].

191.  
Pogorelskiy and  
Vladimirova.

192.  
RAPSI, "Снос  
Хрущевок  
в Москве:  
альтернативные  
сценарии" [Demo-  
lition of Khrush-  
chevkas In Moscow:  
Alternative Scena-  
rios].

193.  
RAPSI.

194.  
Ibid.

loses the word in it. Taking into consideration the fact that the developer and the last instance are basically the same organization any changes in favour of the developer are possible this way.

It is not clear, what will happen to the buildings, whose tenants voted against inclusion in the Renovation Program. No statements are made on their future repair or improvements. There will be no further inclusions in the Renovation Program according to the current statements of the mayor's office.<sup>195</sup> As all the attention and planning resources are currently drawn to the Renovation Program, one can assume, that the Repair Program will get even less attention as it does now. The technical infrastructure does wear out with time, and if it does not get proper repair, the building loses its value and its tenants who can afford better living and move out. This could, in turn, lead to formation of ghettos and reproduce the Pruitt-Igoe scenario.

Another risk was marked out by Greenpeace: The renovated districts will lose up to 25% of their greenery, including ecologically effective zones.<sup>196</sup> That will not only have a negative effect on the air quality, but also impact the urban microclimate. Apart from that, demolition of such a great number of panel buildings would result in total in almost 53 million tons of construction garbage.<sup>197</sup> There are some statements from Anton Kulbachevsky, Head of the Department of Nature Management and Environmental Protection of Moscow, that produced construction garbage will be reprocessed on site and potentially reused or recycled. He also said in his interview to *Komsomolskaya Pravda*, that the new development will not have a negative impact on the quantity of trees and green areas.<sup>198</sup> Reuse and recycle of construction garbage after the demolition are of course a good initiative, but one has to always take into consideration, that the demolition itself also needs resources as do processing and recycling of garbage. Another important aspect is that currently this technique of "smart" demolition is not always applied, very often giving way to the old methods, that do not allow reuse or recycle of materials. If demolition is unavoidable, application of "smart" demolition techniques should be obligatory and demolitions should be monitored.

There is also a concern that the high costs of the Renovation Program could lead to freezing of other city development programs and the development of social and traffic infrastructure for estimated five to ten years.<sup>199</sup> The anticipated high increase in cheap residential estate near the Metro stations could lead to price damping and diminish the interest in secondary estate market. A 50% decrease in demand on secondary estate has been noticed by a row of realtors soon after the announcement of the Renovation Program.<sup>200</sup>

195. Moscow Government, "Гарантии Программы" [Program Guarantees].

196. Bobylev, "Гринпис" Предупредил о вырубке четверти зеленых насаждений в 13 районах столицы из-за реновации" [Greenpeace warned about cutting a quarter of green plantings in 13 districts of the capital due to the renovation].

197. RIA Novosti, "После сноса пятиэтажек в Москве образуется почти 53 миллиона тонн мусора" [After the demolition of five-storey buildings in Moscow almost 53 Million tons of garbage will be formed].

198. Afonina and Volkova, "Хрущевки снесут по-умному, без шума и пыли" [Khrushchevskas will be demolished smartly, without noise and dust]. *Комсомольская Правда* [Komsomolskaya Pravda].

199. RAPSИ.

200. Ibid.

The Renovation Program does have some advantages, of course. Firstly, it is the provision of owners of estate in dilapidated buildings with new housing. Some buildings included into the program are actually not repairable, or at least not in an economically viable way. Secondly, according to the Chief Executive of the department of Town Planning Policy of Moscow, Sergey Levkin, the new residential areas would feature 4 times the amount of commercial areas.<sup>201</sup> While currently only about one in ten buildings in the Renovation Program has commercial areas, new buildings are stated to all have the ground floor free from apartments. This would give space to small businesses, potentially improve the social infrastructure, have a minor positive effect on traffic. The new areas could potentially compensate the commercial areas demolished in the last Sobyenin program, though the city administration does not make any statements connecting these aspects

### SOCIOPOLITICAL POINT OF VIEW

The current Renovation Program ignores sentimental values. Living environment cannot be measured in square meters, it takes emotional investment to make a place your home. Getting to know the area, finding a connection to the infrastructure such as schools and day-care, building social connections and establishing yourself in the local community all take time and energy. People, who get resettled, lose all that and are forced to start this investment over without any compensation or sheer respect from the government. Here it is important not to forget that the estate being "renovated" is in private ownership and only few families live in rented apartments. It seems like the major problem of current planning authorities is that they care little about people, catering mostly to the business players. While the interests of all sides should be taken into consideration and development should be economically viable, interests of the community should be respected and treated with no less attention.

Housing is a very sensible topic. When most of people have their apartments in private ownership, it gets even more sensible. As this program has a lot to do with the ideas of private property and owners' rights, the community has to be involved. The way citizen participation was held out in this particular program leaves to wish best. The planning process lacks transparency, people are confronted with already fixed decisions concerning their private property. Although, politicians now speculate that participation in the Renovation Program is voluntary, is it not quite so. People are confronted with too many questions that they cannot answer. What are my rights? What happens if we say no? Will we ever get repair? Will my apartment lose its value?

201.

Interfax Real Estate,  
"Объем нежилых  
помещений  
в кварталах  
Реновации вырастет  
в четыре раза"  
[The volume of  
non-residential  
premises in the quar-  
ters of renovation  
will grow four times].



*"The value is represented by the tracing of streets, the combination of buildings, parks, landscaping, infrastructure. Not only the entire architectural and town-planning elite of the time, but also mathematicians, statisticians, sociologists, psychologists and environmentalists worked on the harmonious and rational use of space and the development of a single settlement theory for the whole country."*

*Olga Slinko, Partner of NLTR Practice, Expert of the Moscow Center for Applied Urban Studies*

*"Ценность представляет трассировка улиц, комбинация зданий, парков, благоустройства, инфраструктуры. Над гармоничным и рациональным использованием пространства и выработкой единой на всю страну теории расселения трудилась не только вся архитектурно-градостроительная элита того времени, но и математики, специалисты по статистике, социологи, психологи и экологи."*

*Ольга Слинко, партнер "НЛТР Практика", эксперт Московского центра прикладной урбанистики*

Is my house really in emergency condition? Combined with populist, black-and-white visions from the city politics, these questions mostly lead people to signing up for the program. As they do not know what happens if they don't.

It takes education about owners' rights and buildings laws as well as personal financial stability to be able to make a well-thought decision. Not everybody has such knowledge or access to it. The institution of private property was eliminated in the USSR and it was not until Perestroika that housing could be in full private property. By 1990 only 0,09% of housing areas were in private property in USSR.<sup>202</sup> Most of the property was either in public or in "personal" property, that did not allow any transactions with the property, e.g. selling or exchanging it. By 2017 already almost 80% of overall housing was in private property. But one should not forget, that we are dealing with many generations, that grew up not knowing their rights as property owners and, more important than that, not necessarily felt empowered to claim any.

In a project of this scale, participation processes play an important role. It is necessary to understand that such processes are diverse and should come on time and

202.  
TASS,  
"Приватизация  
жилья в России.  
Досье" [Housing  
privatization in  
Russia. A Dossier].



Figure 103. An artist Vivian Del Rio on the balcony of her new apartment block, which was built on the site of her old neighbourhood



with purpose. While the interest to the project and potential involvement increase with the development of the project, there is also less scope left with time. It is important to involve representatives of various interest groups into the project early enough. This can bring valuable information on the early stages of project development and define interests of the groups involved, which in turn helps to reduce the probability of mistakes and find interest balance. When the decisions are made top-down, they can lack insights from those who are confronted with the problem in everyday life and have to actually live with the outcome of the project - the citizens. When one is confronted with a fixed decision, he or she is most likely to reject it. But playing with open cards, giving information about the project and involving various groups on early stages help to increase the general acceptance of the project. However, often some actors, most likely the public, are involved after all the decisions have been made, which makes little sense and contributes little to the planning process.

The current Renovation Program as a planning process lacks transparency, the participation starts after all the decisions have practically been made. Not only does it lead to very rough solutions to the problem, but also evokes frustration in public. There have been numerous protests against the Renovation Program in Moscow. The protest against the Renovation Program on Sakharov Prospect on the 14<sup>th</sup> of May 2017 gathered around 15 to 20 thousand people.<sup>203</sup> At the same time, numerous small actions took place in various districts of the city, where people demanded to include their houses into the Program. On the 6<sup>th</sup> of June, on the day of open readings of the law project in the Parliament, a group of 300 opponents of the Program was not let to it and started a spontaneous walk from the Parliament to the Building of the President's Administration, where they handed in a letter to the administration asking "to listen to them." Every further Project reading in the Parliament as well gathered a protest. Online communities have formed as well. The Facebook group "Muscovites against demolition (against renovation law)"<sup>204</sup> has already over 26 thousand members.<sup>205</sup> The group "Muscovites' protection headquarters"<sup>206</sup> also speaks out against the Renovation Program.

The good thing about the public frustration is that people started getting educated about their rights as estate owners and taxpayers. For a long time, decisions have been made only top-down for people and they got apathetic. Now they started claiming their right to the city and this is a very important social process for Russia. Here one should not forget, that with rights come responsibilities - citizens should also be ready to carry responsibility for their estate.

Another interesting aspect is the negative trend in housing social mobility in

203.  
8.000 participants according to the official sources and 20.000 participants according to independent media

204.  
Russian: "Москвичи против сноса (против закона о реновации)"

205.  
as by 8.2.2018

206.  
Russian: "Штаб защиты москвичей"

Moscow. It was quite high and ascending quantitatively and geographically in the beginning on the 20<sup>th</sup> century as people were moving from the suburbs to the city and changed barracks to modern buildings. The next generation, in the late 1950s, was also showing ascending trends moving from shared apartments - *kommunalkas* to private, single-household flats. Multiple ways of obtaining private housing supported the variability of housing mobility at the time. Further generations - born in the late 1980s and later - show lower housing mobility, which is in many cases descending. Those who cannot afford private apartments either stay with their parents, move out to lower quality housing further from the urban centres or share apartments thus basically going back to *kommunalkas*. As a result, people with lower income get spatially separated from those of higher economical possibilities. This can potentially sharpen social segregation and impend further social mobility. Moscow needs affordable housing and that of various models ranging from private ownership to rent to share. This would enable housing mobility and as a result potentially increase social mobility, that would in turn sustain the estate market. This housing should be evenly dispersed around the city to prevent spatial segregation of groups with different economical situations and prevent formation of ghettos.



**Figure 104.** (top) "Vera Voronina, boasts a brand new bathroom, kitchen and living room in her apartment. Over a six-year period, she and her husband saved everything they could and renovated the flat themselves. Though it is nearly complete, the majority of residents in her block voted for demolition, so they will be thrown out." (The Guardian)

**Figure 105.** (bottom) Yulia Fedosova and her son, Maxim, live in a typical five-storey concrete-panel apartment block. <..> Both Fedosova and her father grew up there; several generations of her family live in nearby flats. Under the June law, if two-thirds of residents in a block vote yes to the so-called "renovation programme", the block will be demolished. Fedosova voted no: for her, the demolitions won't just destroy buildings, but also a sense of history, home and belonging." (The Guardian)



**Figure 106.** (top) Olga and Vassily Leskova met at school. They have lived in their beautifully appointed apartment for 50 years, and seen their children and grandchildren grow up here. They are distraught at the news of their eviction. Vassily sums it up in one phrase: "Pure deception." (The Guardian)

**Figure 107.** (bottom) "Vladimir Komarov, a retired government worker, lives in a veritable theatre set of Russian history. His flat is lined with antique green wallpaper, the floors are original hardwood, and he is surrounded by family portraits and clocks made by his horologist grandfather. Three generations have lived here; his grandmother is buried in the cemetery next door. When he received his eviction notice, Komarov had a stroke that put him in hospital for two months. He says he has been loyal to the state all his life, and feels betrayed." (The Guardian)



Figure 108. "I feel deceived. Two years ago, politicians obliged me to pay into a capital repair fund for the overhaul of our housing that was scheduled to be completed by 2030. They told us that the houses are strong. And then this year the same politicians tell us that our homes are in an emergency condition and need to be demolished?" (The Guardian)





## ALTERNATIVE POSITIONS ON DEALING WITH SOVIET HOUSING

### RENOVATION WITHOUT DEMOLITION IN SAINT PETERSBURG

By the beginning of the XXI century, there was about a hundred housing blocks of the first mass series in Saint Petersburg. Conceived as sleeping areas for the workers of the at the time active enterprises, they are arranged in a semicircle outside the historical center and the subsequent "grey" industrial belt.

Saint Petersburg government introduced a similar to the Luzhkov's demolition program. But the Saint Petersburg program was not very successful and did not reach high tempo. Houses in this program were to be resettled and demolished around a decade ago, but they are still inhabited now. Architects in Saint Petersburg came up with ideas different from the current Moscow approach. Lectors and Students of the St. Petersburg State University of Architecture and Construction offer to develop the city's "panel belt." Their proposal is based on the idea of using what is already available - valuable land plots, good location, the reliability of the buildings. The project will be presented in St. Petersburg to the responsible commission in the upcoming future.

The example design for fourteen concrete block houses was developed out for a neighbourhood near the metro station Leninskiy Prospekt. The safety margin of the building allows to two additional floors. Architects also suggest to install elevators, add loggias and make use out of the basement organizing there areas of communal use such as bike rooms. This design was inspired by housing renovation in Germany and by the reconstructed building on the Torzkovskaya street in Saint Petersburg. But that house is a single case, whereas what is needed is a comprehensive program, that also includes landscaping, public space organization and parking concept.

When we have a new large-scale residential development, many people, weight the pros and con and buy apartments in the secondary market in Khrushchevkas." Dmitri Ivanov, lecturer of the Department of Architectural and Building Structures SPbGASU<sup>207</sup>

Architects are aware, that this approach will cause a certain discomfort to the residents. In their opinion temporarily living in a building under reconstruction is worth not having to move out. This project also implies changes in construction norms - currently it is prohibited to reconstruct a house when the residents still live in it.

207.  
Торсрб TV,  
"Реновация  
по-петербургски:  
в городе на Неве  
придумали, как  
сделать хрущевки  
комфортными"  
[Renovation in  
Petersburg: in the  
city on the Neva  
came up with how  
to make the Khrush-  
chevkas comfortable]



Figure 109. Location of the FPMS (the first mass series) in St. Petersburg (marked in dark grey)

*"For people, on the one hand, it is not very comfortable to live on a building site, but on the other hand, plus - there is no need to move anywhere. We know the folk proverb - two moves are equal to one fire."*

*Vladimir Linov, Honoured Architect of Russia, Associate Professor of SPbGASU<sup>208</sup>*

The further challenge is the need of a thorough inspection of each building before the reconstruction. Some of these buildings were constructed poorly and would not be capable of holding a superimposed structure. These expenses are still considered to not exceed the costs of the Moscow approach.<sup>209</sup>

The renovation of the pilot house on Torzkovskaya Street was financed by the Danish Foundation for Attic Housing in Russia and supported by private businesses - window company Velux and a manufacturer of mineral wool products Rockwool. The architectural project was prepared by local architects. Residents did not have to move out. Reconstruction works included: thermal insulation of the outer shell, repair of windows and doors, partial replacement of internal plumbing, implementation of a regulatory system for the engineering systems and repair of the buildings system. Repair costs were to be covered with the profit from selling nine new apartments in the new attic.

After the reconstruction the house got a fresh look and feel, its energy consumption was reduced by 30-40%. It was planned to launch a city renovation program based on this pilot project. The experiment was considered a success, but the city program was put on ice. The more common approach is so-called "mild" renovation implemented in the past two decades on a large number of houses from 1960s. Soft renovation project provides a partial replacement of engineering networks, repair of front doors, roofing, and also façade - panels are covered with a layer of plaster. On the estate market apartments in renovated khrushchevkas are around 15% more expensive than equal apartments in the non-renovated buildings.<sup>210</sup> What did not change was the image of the building and the attitude of people to it.

Experts' opinions on which scenario is more beneficial for the apartment owners differ. This "mild" renovation brings tangible financial benefits for the residents with minimal inconvenience. More interventional renovation tactic brings other tangible advantages - elevators, use of modern building technologies, adapted apartment layouts and modern engineering systems, but also major inconveniences for the citizens.

209.  
Topspb TV.

210.  
Restate Ru.  
"Несносная  
реновация" [The  
non-demolishable  
renovation]



**Figure 110.** (top) The district chosen for the project by St. Petersburg State University of Architecture and Construction  
**Figure 111.** The proposal by St. Petersburg State University of Architecture and Construction

## MOSCOW EXPERIMENTS

There are few projects in Moscow that experiment with adaptation of serial housing to modern demands. The house on the Mishina Street and the reconstruction on the Khimkinskiy Boulevard are probably the most well-known.

The reconstruction on Khimkinskiy Boulevard was designed by the Architectural Bureau of Alexey Krotov. The office has executed numerous designs for reconstruction and modernization of Soviet housing stock. The building works demanded a temporary move of the residents. Additional floors were superimposed on the existing structure with the use of a separate foundation. The total area of apartments in the house has doubled, the layout in the old part of the building was altered. Old apartments were restructured to fit modern requirements. On the last two floors two-level apartments were designed.

In the house on Mishina Street the residents initiated the renovation themselves. The serial four-story brick house in the north of Moscow was built in the late 1950s. It took eight years of research and preparations to add five storeys to the existing ones. Apartments on the ground floors have grown on average by 18 square meters, the total area of the house has tripled. The intervention was carried out by the Housing Owner Association and did not need any monetary support from the public hand. City authorities supported the residents on their way and helped to understand the design and necessary approval procedures. The expenses were covered by the sale the new apartments.<sup>211</sup>

This house was "a pilot project for the reconstruction of a residential building with an extension and expansion" as once stated on the official homepage of the Moscow Mayor.<sup>212</sup> In the new large-scale renovation program announced by Sergei Sobyenin, the possibility of superstructure and expansion are not taken into account

211.  
Feldman,  
"Как живут в  
реновированной  
московской  
хрущевке" [How  
people live in a  
renovated Moscow  
Khrushchevka]

212.  
This information was  
deleted



Figure 112. (top left) House on the Khimkinskiy Boulevard before reconstruction

Figure 113. (top right) Reconstruction and expanding works

Figure 114. (down left) Reconstruction and expanding works

Figure 115. (down right) House on the Khimkinskiy Boulevard after reconstruction and expanding



Figure 116. Aerial view of the reconstructed house on the Khimkinskiy Boulevard





V.

INTERNATIONAL EXPERIENCE OF PANEL  
HOUSING RENOVATION

Russian urban development tradition was influenced by a unique admixture of social and political-historical events. This, combined with local culture and architectural traditions makes it impossible to find definite "best practice" cases and to implement their approaches directly. Nevertheless, international experience of dealing with large-scale urban challenges, particularly experience in city rebuilding and learnings from this experience are not to be neglected. As should not be neglected the experience of organizing public spaces in mass housing areas and architectural solution of adapting outdated housing to the demands of modern days.

## FEDERAL AND COMMUNAL PROGRAMS OF URBAN RENEWAL IN LARGE HOUSING SETTLEMENTS

When it comes to plans and programs on higher - communal and national - levels, the focus mainly lays on giving strategic directions to address broad problems. Such being, for example, social inequality and connected to it negative developments in urban areas, that are a consequence of the economic and social structural change.

One of the examples of such federal programs that have had an impact on the development of large housing districts is the German Federal State program "Districts with Special Development Needs - the Social City." As its report states<sup>213</sup> states, the experience showed that traditional Urban Development Promotion<sup>214</sup> does not suffice to solve problems in problem areas. Although social-state principles were taken into account, in the end projects and measures based on building activities dominated.

The pioneers in Germany to test and implement integratively oriented district development concepts as part of urban renewal were the federal states of North Rhine-Westphalia (with the program "Neighborhoods with special needs for renewal" in 1993) and Hamburg (with the Pilot Program for Poverty Reduction in 1994).<sup>215</sup> In 1996 the members of the ministerial conference of ARGEBAU founded the joint initiative "Social City" as an "action program", providing significant impetus for the further development and broadening of the new policy approach against the escalating socio-spatial polarization. The Federal-State-Program "Districts with Special Development Needs - the Social City" - or short "Social City" - came in September 1999 as an addition to the traditional Urban Development Promotion.

The "Social City" with its main objective to stop and turn back the "downward spiral" did not focus explicitly on the redevelopment of panel housing, but many areas of its implementation were large housing complexes in precast construction method. The development of on of such areas - Clarenberg in Dortmund - is described later in the chapter.

213.  
German: Bund-Länder-Programm "Stadtteile mit besonderem Entwicklungsbedarf - die soziale Stadt"

214.  
German:  
Städtebauförderung

215.  
Bundesamt für Bauwesen und Raumordnung.  
"Bewertung des Bund-Länder-Programms 'Stadtteile mit besonderem Entwicklungsbedarf - Die Soziale Stadt' nach vier Jahren Programmlaufzeit" [Evaluation of the Bund-Länder-Program 'Districts with special development needs - The Social City' after four years of program]

## RESEARCH PROGRAMS AND PILOT PROJECTS.

### URBAN RENEWAL OF LARGE HOUSING COMPLEXES IN GERMANY

Panel housing estate areas were designed as self-contained units. Their ecosystem with its defined spatial composition, calculated infrastructure did not imply conceptual openness for future transformations. Since their emergence the approach to urban development has changed. It now sees change as a natural part of city biography and the designs are much more open to transformation and adaptation. As problems emerge in mass housing areas, a need of adaptation on architectural as well as social and economical levels becomes obvious. At the same time, every intervention in the ecosystem of a large housing facility would contradict the original concept of it. So, the solutions need to find a balance between interventions and sustaining the authenticity of these residential areas.

There is no unified path for urban transformation of mass housing areas, but there are numerous examples of transformation strategies developed based on the individual needs of particular areas.

From 1983 to 1994, the German Federal Ministry of Planning, Building and Urbanism<sup>216</sup> led a model project on "Urban Planning Solutions for the Repair of Large Housing Estates of the 50s to 70s."<sup>217</sup> At the beginning, the program of experimental housing and urban development was primarily geared towards promoting investments. Accordingly, no accompanying research has taken place as the implementation of measures was in the foreground.<sup>218</sup>

The main topics were urban planning and construction problems and measures; housing and social problems and measures; linking structural and social measures and introduction of mixed use.<sup>219</sup>

The overall spectrum of renewal measures was quite broad - it ranged from object-related repair and modernization, to improvements of living environment, to additions to supply and infrastructure facilities. At times, housing and social measures such as rent reduction or resident housing management have been added. In some major cities such as Hamburg and Bremen, the occupancy rates for publicly subsidized apartments were relaxed or even temporarily suspended in some areas. Furthermore, the participation and self-help of the residents were accelerated and supported by approaches of community work.<sup>220</sup>

216.

German: Das deutsche Bundesministerium für Raumordnung, Bauwesen und Städtebau

217.

German: "Städtebauliche Lösungen für die Nachbesserung von Großsiedlungen der 50er bis 70er Jahre"

218.

Bundesinstitut für Bau-, Stadt- und Raumforschung. "Nachbesserung von Großsiedlungen" [Repair of large housing estates]."

219.

Bundesinstitut für Bau-, Stadt- und Raumforschung.

220.

Ibid.

The large housing complexes included in the program were: Bergkamen - City; Märkisches Viertel in Berlin; Grohner Dühne, Hahnenkamp and Obervieland in Bremen; Grünhöfe and Leherheide-West in Bremerhaven; Clarenberg in Dortmund; Dannerallee and Kirchdorf-Süd in Hamburg; Mühlburger Feld in Karlsruhe; Brückenhof and Möncheberg in Kassel; Mettenhof in Kiel; Neuendorf in Koblenz; Hirschbergsiedlung in Ludwigsburg; Schaumbergring in Neunkirchen; Schönau-Nord in Mannheim and Südlich der Stadtmitte in Waldkraiburg.

The evaluation of improvements in large housing estates delivered ambiguous results. On one hand, the updated evaluation of experiences in the pilot projects from 1993 came mostly to positive results for older settlements. The apartments and buildings have reached an acceptable structural condition and aimed equipment standards. Due to extensive measures in residential environment and partly also traffic calming measures, the areas concerned have become more attractive in their appearance and some can now compete with similar housing stocks that do not have the image of large housing complex. On the other hand, the evaluation of younger settlements with complex problems states that often important areas were not tackled. The social structure was usually regarded as problematic. A compatible cohabitation could only be achieved through intensive community work and resident participation.<sup>221</sup>

In contrast to the broad overall range of measures, only selective measures have been carried out in individual housing complexes focussing on spatially or sectorally particularly problematic areas. In some cases, the term "rework" was a program for the projects: it was a matter of remedying defects and compensating for deficits that had already been created in the design of these areas, or which remained open as a result of implementation deficits.<sup>222</sup>

As stated by the German Federal Ministry of Planning, Building and Urbanism in its report, it was therefore all the more important that the urban renewal of large housing complexes became part of urban development subsidies within the scope of the federal state programs. In some cases, large housing estates, such as for example Kirchdorf-Süd in Hamburg, or sub-areas have been formally established as redevelopment areas. These model projects have given an impetus to the fact that the understanding "classical" urban renewal of old town and village quarters has been expanded to include a new task area for the relatively young large housing estates.<sup>223</sup>

Holistic approaches to urban development, building, social and housing industry development were considered to be necessary and were designed in some cases. However, they did not get implemented completely for various reasons. Nevertheless, holistic approach to urban renewal and renewal of panel housing areas is considered

221.  
Ibid.

222.  
Ibid.

223.  
Ibid.

to be of high importance for a successful and sustainable development.<sup>224</sup> They have been taken up later, also in the context of programs for neighborhoods with special development needs. The funding areas of this program include, in particular, large housing estates.

## REHABILITATION OF THE PREFABRICATED HOUSING ESTATES IN VIENNA AND BRATISLAVA

The INTERREG project "Rehabilitation of the Prefabricated Housing Estates in Vienna and Bratislava" was held out from August 2003 to November 2006. It acknowledges prefabricated housing as an important part of European cultural, social and economic history and sees a great urban, architectural, social and economic development potential in it. Deficiencies are found above all in the area of infrastructural equipment, in the design of open spaces and partly in the field of construction technology.<sup>225</sup>

The aim of the project was to investigate the phenomenon of prefabricated housing complexes comprehensively and in consideration of structural, urban, architectural, design, social and environmental aspects. The different societal, residential, economic and demographic framework conditions as well as funding models in Vienna and Bratislava were discussed as well. Apart from extensive analysis, the project gave an outlook of future prospects for prefabricated housing in the two cities and presented concrete strategies and solutions.

The central questions of the research project were:

- » To what extent can the prefabricated housing estates from the 1960s to the 1980s still meet the requirements of contemporary living today?
- » Which position does this housing estate have in today's and future urban planning context?
- » What corrections are possible and under which socio-political conditions do they make sense?

As part of the project a student competition focussed on finding innovative solutions for the Revitalization of panel housing was held out. This competition was supported by the Technical Universities of Vienna and Bratislava. Suggested solutions ranged from art projects to transformation of whole superblocks to new areas for working and living to complete demolition of panel buildings. They often contradicted each other, but an important objective of the project was achieved - the topic of revitalization of panel buildings gained the attention of professional community in

224.  
Bundesinstitut für  
Bau-, Stadt- und  
Raumforschung.

225.  
Austrian Academy  
of Sciences, "Plat-  
tenbausanierung in  
Wien Und Bratis-  
lava" [Panel Renova-  
tion in Vienna and  
Bratislava]

both cities and rose awareness of this problem.

The pilot project was hperformed in one of panel housing blocks in Petržalka - a part of Bratislava on the southern bank of Donau. This district was built after an international urban development competition held out in 1967. The district for more than 120.000 people was constructed using precast concrete system within seven years - between 1973 and 1980.<sup>226</sup> The winning design came from Jozef Chovanec and Stanislav Talaš. Their concept was based on the understanding of urbanity at the time - there should be no monofunctional housing development, but rather an ecosystem, a district with all city functions and differentiated urban structures. Variously shaped residential buildings with an average heiht of 12 floors house social facilities aside from apartments.

The results of the pilot project showed that the flexibility of the prefabricated construction and the compact structure allow efficient and meaningful refurbishment - both architectural and structural. The refurbishment of prefabricated buildings to at least low energy standard is easy to perform from the structural and building physics point of view. The experience of this project also showed that financing concepts adapted to the specific situation are essential for the restructuring projects. Last but not least, environmental, economic and sociopolitical arguments speak in favor of a restructuring initiatives. Future demographic and socio-economic developments should be taken into consideration when planning a comprehensive renovation of panel housing. Public spaces are seen as the most problematic areas in panel housing areas. Their use program and design are important factors for the coexistence of various resident groups.<sup>227</sup>

The project "Rehabilitation of the Prefabricated Housing Estates in Vienna and Bratislava" was followed up by the project "Past and Future of Prefabricated Housing Estates", that ran from October 2007 till October 2010.<sup>228</sup> It pursued the goal of contributing to the renewal of prefabricated housing focussing on the ecological and social sustainability of development solutions.

226.  
The total population of Bratislava by 1970 was 291.100 people. In 2015 it was around 420.000 people.

227.  
Austrian Academy of Sciences.

228.  
German: "Vergangenheit und Zukunft der Plattenbausiedlungen"

## ACTING ON THE LEVEL OF A LIVING QUARTER

The problems and needs of settlements of the second half of the 20th century often do not concern only the state of the actual buildings. Questions exist as well on the socio-economical and urban developmental levels and can concern issues of social inclusion, quality of residents' life, affordability of housing, arrangement of public spaces, multifunctionality and many more. The combination of these questions would be unique for every individual settlement, as would be the list of potentials, "talents" of the area. This is why the action level of a residential quarter is of main importance for the revitalization and further development of this part of architectural and cultural heritage.

The focus of development of residential areas can be described as a use cycle - a sequence of different phases. Residential quarters are complex systems that change over time. Their development can be described as a cyclical process, leading from development through use to reuse, recycling or even demolition of the quarter.<sup>229</sup>

The examples below show transformation strategies of some residential quarters in European cities. The specifics of housing market in Europe - the high amount of state-owned social housing and the high proportion of rental housing in the overall housing pool - is one of the main differences to the Moscow situation. The simple owner structures provide for the funding and easier access to the real estate itself.

### CLARENBERG IN DORTMUND

The large housing complex Clarenberg was constructed between 1969 and 1973 on the site of a demolished workers' settlement. A total of 25 four- to seventeen-storey buildings were built on an area of approximately 8 ha. About 3.177 people live here close to the center of Hörde district. The city center of Dortmund is about 5 km away and can be reached by subway within 15 minutes. The housing stocks of the complex Clarenberg are predominantly owned by Ruhr-Lippe Wohnungsgesellschaft mbH (RLW), that bought the facility in 1992 with the intention to modernize it. At the time Clarenberg was suffering from a row of problems typical for large housing estate, such as missing usable public spaces, confusing routes and passages through the area, hard orientation in the settlement, inadequate thermal insulation of houses, social problems, deficits in social system etc. At the same time, it had high potential through its good

229.  
Baus, "Zukunft der  
Vergangenheit"  
[Future of the past],  
165.





Figure 117. Aerial view of Clarenberg settlement in Dortmund

location in relation to the infrastructure and recreation areas.<sup>230</sup>

In 1996 and 1997, Clarenberg was included in the state program "Social City NRW." In 1998, the work began. The buildings were provided with thermal insulation and a new color scheme. But the first improvement measures for the settlement have already been outlined in 1995 in the "NOA Concept" (New Eco-Social Ambience). The "Integrated Action Concept for the Further Development of the Large Housing Estate Clarenberg" derived from this mainly includes building-related and urban planning measures which were to be linked with employment-effective projects. The main goals are the improvement of living and living conditions as well as the integration of the settlement in the district of Hörde. The entire renewal process was accompanied by extensive resident participation and housing management.<sup>231</sup>

The project involved many actors on all levels. Central committees were not only the project management in the Dortmund city planning office but also the a district committee with politics, actors and administration - Project Conference Clarenberg, the Working Group Clarenberg and an association of about 40 Clarenberg active institutions, clubs and residents. Other important actors were organizations such as AWO, Diakonia Dortmund, the owner Community, GWS-Wohnen Dortmund Süd a.G., youth job help organization "Come on", Ruhr-Lippe Wohnungsgesellschaft mbH and its project manager Landesentwicklungsgesellschaft NRW, social service Frauen

230.  
Stadt Dortmund.  
"Dortmund  
Hörde-Claren-  
berg" [Dortmund  
Hörde-Clarenberg]

231.  
Stadt Dortmund;  
Bundesamt für  
Bauwesen und  
Raumordnung.  
"Bewertung des  
Bund-Länder-Pro-  
gramms 'Stadtteile  
mit besonderem  
Entwicklungsbedarf  
- Die Soziale Stadt'  
nach vier Jahren  
Programmlaufzeit"  
[Evaluation of the  
Bund-Länder-Pro-  
gramm 'Districts with  
special development  
needs - The Social  
City' after four years  
of program].



**Figure 118.** (top) Design elements in the public spaces in Clarenberg, Dortmund

**Figure 119.** (bottom) View of the renovated buildings in Clarenberg, Dortmund

Hörde and Work and Meeting Center.<sup>232</sup>

The process of holistic urban revaluation of Clarenberg officially started in 1995 with the New Social Ambient Concept and was considered complete in 2009. In 1995 the working group Clarenberg was founded. Since that year it, among all, organizes the Clarenberg festivals. In 1996-1997 the project was included in the federal program with the council decision and in 1998 the building transformations have started. The structural redesign was carried out in four stages with intensive involvement of local communities. The realization was supported by the youth employment service 'Come on' in the context of employment and qualification.

The measures included:

- » Renewal, insulation and color concept for all building façades;
- » Redesign of all house entrances;
- » Introduction of daily concierge service;
- » Introduction of house video surveillance systems;
- » construction of an underground car parking;
- » Renewal of paths and lighting on the areas of Ruhr-Lippe Wohnungsgesellschaft mbH;
- » Redesign of the private open spaces of Ruhr-Lippe Wohnungsgesellschaft mbH;
- » Redesign of play areas and closure of passage seals.

In the same year, the neighborhood management got administrative control of three local meeting points and started introducing various neighborhood activities in them. Parallell to that, various participatory projects, neighborhood activation measures, actions to promote children and young people as well as to support social integration took place. Various training and professional integration projects were held out, such as the one for qualification in gardening and landscaping by GrünBau in 1998, the 'StartClar' in 1999 or 'Living together in Clarenberg' in 2001-2005.

In 2000 the Work- and Meeting Center of Hörde got a new ventilation system and a new roof in order to secure its long-

232.  
Stadt Dortmund;  
Bundesamt für  
Bauwesen und  
Raumordnung.

term future. That year also started projects like a local second-hand store or planting actions by the residents.

Further buildings measures included the schoolyard redesign of the diocese primary school in 2002, punctual transformations in the Clarenberg street in 2007, conversion and extension of the youth recreation center Hörde also in 2007, redesign of the playground 'Goystraße' in 2008 and artistic façade solution for the Work- and Meeting Center in 2009.

These are just some of the projects that altogether transformed Clarenberg settlement from a problem area to an example project. The transformation approach was based not on denying the idea of large settlements, but on appreciating the idea of them as children of their time and making the necessary supplements and changes for a contemporary and permanently accepted architectural language.<sup>233</sup> The holistic approach of addressing the problems in different areas altogether and involving the local community proved to be effective.

## THE SETTLEMENT MÜMMELMANNSBERG IN HAMBURG

This large settlement with altogether 7.300 apartments was constructed in the east of Hamburg between 1970 and 1983 on tabula rasa. By 2012, the population of Mümmelmansberg was 18.600 people. Since 1991, it has been listed as a renovation area of Hamburg.<sup>234</sup> Big changes have happened since then. Together with the local communities, owners and social institutions over 50 projects of various scale were implemented. Problems and challenges are regularly discussed with the residents. The goals are summarized in the renewal concept for the district, which is continuously reviewed and further developed with all parties involved. Important networks include the renovation advisory board, the district conference, "Aktiv Wohnen", the art and culture center Mümmelmansberg, many local facilities as well as district marketing ProQuartier and the housing industry.

Since 1997, there has been the district marketing for Mümmemansberg, to which eleven housing companies and cooperatives have committed. The focus of the district marketing lays on the "art in the district." It promotes art groups as well as cultural and social activities of local initiatives. The main aim is to support diversity and liveliness in the settlement and to make art in the district visible to the public.

The development and revitalization of Mümmelmansberg is based on the holistic strategy "Mümmelmansberg 2020" by the SAGA GWG Group. The concept implies,

233.  
Ruhr-Lippe  
Wohnungs-  
gesellschaft  
mbH. Clarenberg  
Abschlussdokumen-  
tation [Clarenberg  
Final Documenta-  
tion]

234.  
Stadt Hamburg.  
"Sanierungsgebiet  
Mümmelmansberg"  
[Redevelopment  
area Mümmelmans-  
berg].



**Figure 120.** (top) Renovated and modernized residential complex in Clarenberg

**Figure 121.** (bottom) Public spaces in Clarenberg



Figure 122. (top) Public spaces in Clarenberg

Figure 123. (bottom) Large house numbers are one of the key design elements in the architectural concept, they are meant to make the orientation in the area easier and to bring playful elements in the public areas

that due to the size of apartments, Mümmelmannsberg will remain a settlement for families with low and middle income.

The development plan for Mümmelmannsberg focusses on the topics of social balance and ecology. It is based on 8 modules.<sup>235</sup> First of them is a modernization strategy. The building energetic modernization measures include façade insulation, new windows, the revision of entrance areas and stairwells, modern kitchens and bathrooms as well as the renovation of piping systems. These technical measures are complimented with a color concept of building façades to make each quarter easily recognizable.

The second module is an energy concept for the settlement. Mümmelmannsberg has an existing local heating network. A pilot project is planned, in which solar-generated heat will be streamed into the existing supply network. The project is meant to decrease the environmental impact of the settlement and to support stable operating costs for the tenants.<sup>236</sup>

Development of the public spaces is the third module. The use of inner courtyards as places for rest and communication in the private living area builds the core idea of the concept. The design of the outdoor areas takes into consideration the time of origin of the settlement and the contemporary requirements of the residents. These measures include, among other things, a new lighting concept as well as the renewal and redesign of the main pedestrian paths. The public space concept is developed in a way to correlate with the general public space concept for the whole district.<sup>237</sup>

Module 4 is the development of the local shopping center, that is located in the center of the settlement and is therefore of high importance for the overall development. Constructed in 1973-1978, it consists of three high-rise buildings, 3- and 4-story row development and separate commercial units. Currently it houses apartments, residences for disabled people, commerce, a nursing home, a senior meeting point and a medical center. Because of its unattractive design and difficult accessibility it has been unsuccessful ever since its construction. The new usage concept suggests the preservation of the residential buildings and relocation of the service and health functions. The interior and exterior are planned to be modernized and the residential use is to be partially reoriented to suite seniors' living needs. In addition, a further revaluation of the shopping center through attractive commerce and gastronomy is planned.

Module 5 is care and support concepts for the senior residents. Older people today want to experience the needed support and care as long as possible in their own environment. The owner and developer SAGA GWG together with the local paritarian welfare association are planning to expand the offer for the elderly residents

<sup>235.</sup> Bielka et al., *Heimat Grosssiedlung: 50 Jahre Gropiusstadt [Homeland Large settlement: 50 years Gropiusstadt.]*, 34-39; SAGA GWG, "Mümmelmannsberg 2020."

<sup>236.</sup> Ibid.

<sup>237.</sup> SAGA GWG.



Figure 124. Residents in front of the houses Max-Pechstein Street 20-24 in Mümmelmannsberg settlement in Hamburg, 1970s



**Figure 125.** Architectural modernization concept is a part of the holistic concept for the renovation of Mümmelmannsberg



in Mümmelmannsberg. The projects range from organization of a lunch table for the seniors, to assisted living and planned outpatient care facilities to home services and modernization of the local senior citizen facility.

Module 6 focusses on the local schools. The number of children in school age is above average in Mümmelmannsberg. A good school education is fundamental for equal opportunities and social integration of these children and adolescents and gives safe space for their community togetherness. The declared aim of the developers is to involve the schools in Mümmelmannsberg in the interests of sustainable neighborhood development and to support them in their work.<sup>238</sup>

The next, 7<sup>th</sup> module is the medial supply of the settlement. Mümmelmannsberg was the first large housing estate in Hamburg to be completely equipped with fiber optic cable networks. The internet speeds here are very high compared to usual internet speeds in the area. The plan is to expand the media offer in the settlement and to test the potential of fiber-optic network in future to improve existing care and support services.

And last but not the least, the 8<sup>th</sup> module is devoted to active district work. Involvement of local communities is the prerequisite for the success of the whole concept. Participation of the residents, landlords in the district, local schools, the advisory board and the regional committee, the Department of Urban Development and Environment (BSU), the district office Hamburg-Mitte, in particular the Office of Urban and Landscape Planning, and the Fractions of the district assembly Hamburg center and also the Hamburg citizenship is therefore essential.<sup>239</sup> The district marketing Mümmelmannsberg is responsible for the active district work.

## ALTENHAGENER WEG IN HAMBURG

The residential complex on the Altenhagener Weg in Hamburg was constructed mainly in the 1950s-1960s. The original architectural design was of no particular significance, but it was well thought out in respect of the apartment insulation. Despite the renting difficulties the settlement has faced, it was making a pleasant and neat impression even before the renovation works. To thank for that is mainly the existing community - some of the residents have been living here since the very beginning. The developer Helvetia wanted to keep as many residents in the settlement as possible.

The redevelopment concept aside from energy renovation included urban densification measures in order to expand the apartment offer with larger units. The new design completes and rounds up the settlement on one hand and connects it to

238.  
SAGA GWG,

239.  
Ibid.



**Figure 126.** (top) historical photo of the settlement on Althagener Weg

**Figure 127.** (middle) The settlement after the redevelopment according to the project by Springer Architekten

**Figure 128.** (bottom) New development complementing the existing and renovated buildings of the settlement on Althagener Weg

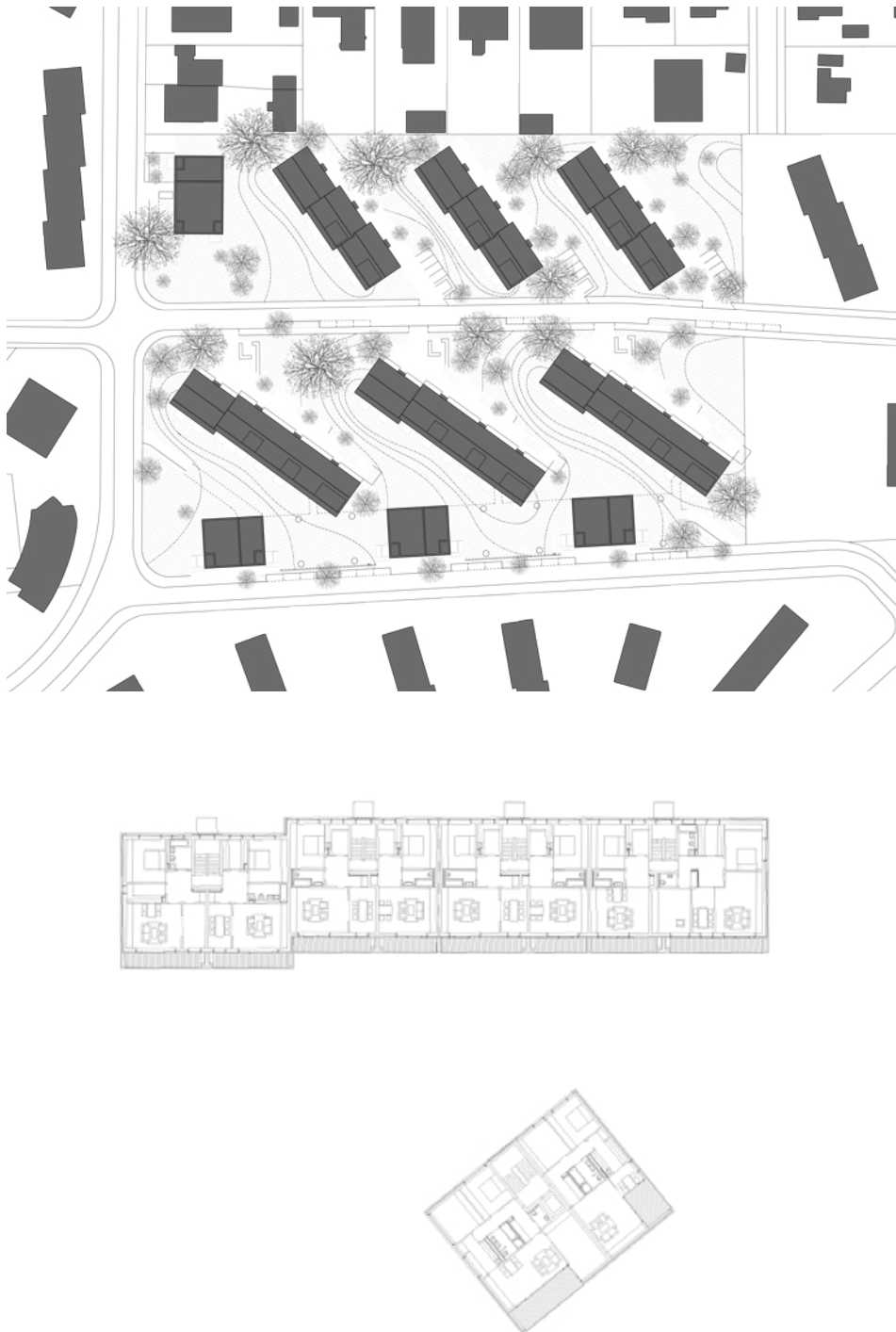
its context on the other hand. The new buildings have certain similarities to the existing ones. However, they differ in their placement - while the old buildings are arranged diagonally to the street for the insolation reasons, the new development stand orthogonally on the triangular "rest plots" with their entrances facing the public street. Original 108 apartments were supplemented with 48 new located in the new buildings and in the roof expansions of the southern buildings.<sup>240</sup> While the redesign has changed the look of the settlement, the character of early 1960s is still traceable in its appearance.

The common external thermal insulation system has given place to a brick façade on the outside. Thermal renovation of the buildings has decreased the original energy consumption by 70%, therefore decreasing not only the CO<sub>2</sub>- emissions but also the heating costs.

In order to provide high quality open spaces for the residents, car parking places were all transferred to the two underground garages under the new buildings.

Currently almost 70% of the original residents stayed in the settlement. Some moved back into their old apartments while some took the offer of bigger new apartments.

240.  
Baus, "Zukunft der  
Vergangenheit",  
198-205.



**Figure 129.** (top) Masterplan of the settlement on Althagener Weg after the renovation  
**Figure 130.** (bottom) Floor layout of the old and new development



Figure 131. View of Petržalka



## ATTEMPTS OF URBAN RENEWAL OF PETRŽALKA IN BRATISLAVA

Urban renewal of panel housing settlements would influence the life of the majority of the population of Bratislava, as more than 70% of them live in large panel housing settlements. Therefore, this has been an important work topic of Slovak planners already since 1990s.

Most attention in the context of revitalization of panel housing settlements in Bratislava focusses on Petržalka. In 1991, a competition for the reorganization and renewal of this area was announced. A comparative study of developed concepts revealed the following points as basic principles for the reshaping of the living environment in Petržalka:

- » Petržalka was to be connected to the Old Town and the city center was to spread to the right bank of the Danube;
- » The rapid-transit railway line should be developed;
- » New buildings should be limited to six storeys;
- » Green and recreational areas should be designed and the raised floors of the terrace houses should be used for public functions.

The competition concepts remained on paper, similar to almost all other improvement initiatives for the district.

Small shops in the ground floors in Petržalka are almost all closed nowadays, as they cannot withstand the competition with big supermarket chains, that constructed their shops between the residential buildings. Ownership structures are a big obstacle for a much needed housing redevelopment. After 1990s most of the apartments were sold to the residents at low price. However, the residents often do not have the resources to pay for the renovation of their houses. Demolition is completely out of the question, as Bratislava already suffers under a great lack of housing.<sup>241</sup>

Since 2000 a refurbishment of buildings has been carried out in Petržalka. The interventions mainly involved thermal renovation measures such as window replacement, thermal insulation and roof waterproofing.

An important for the settlement project "Petržalske Korzo" was developed by the architect Lubomír Bohác. In 2001 an axis connecting the Petržalka railway station to the Messezentrum Incheba was developed as a pedestrian and cycling way with cultural, social and recreational zones created alongside. It starts at the Petržalka railway station, along the Nadwazd on the Rusovska Cesta, along Lenardova Street, across the Nobel Square, and continues on the other side of the motorway connecting the Port-Bridge with the border crossing to Austria, next to the Incheba Exhibition Center, and

241. Fleischmann, "Die Schlafstadt aufwachen" [Wake up the sleeping city].



Figure 132. (top) Most of the shops in ground floors of Petržalka are closed nowadays

Figure 133. (bottom) Houses in Petržalka have been partially renovated to fit modern energetic standards

ends at the New Bridge under the UFO Restaurant. This axis was meant to become a catalyst for the revitalization of the surrounding residential buildings. Small-scale multifunctional buildings along this path include shops, services and parking garages. The new development is expected to give impulses for the revitalization of the existing ground floor zones as well as for the construction of new loft-like flats. The proceeds from the new buildings or the lease of the land can be used for the restoration of the old buildings regardless of the financial situation of the owners. This impetus has also impacted public spaces further away from the pedestrian axis where residents formed initiatives for revitalization together with the local government.<sup>242</sup>

The development strategy of this project is seen as a model that can be applied again in the future. Bohác describes the developed method in six points:

- » Analysis of the area, search for focal points that can be connected with linear axes and serve as starting points for the revitalization process;
- » Cooperation with local self-government in the construction of public facilities and transport routes. Search for funds from the European Union;
- » Guidelines for private investors wishing to operate in the sector;
- » Guidelines for owners of existing homes to improve living standards through renovation and revitalization;
- » Building social pressure by the inhabitants and self-government on the owners and administrators of buildings, so that they maintain the buildings and their outdoor facilities in good condition;
- » Activation of residents' initiatives to improve public spaces in cooperation with local self-government.

In 2013, the city of Bratislava started an urban design competition for the solution of the central urban axis. The winning concept by Bohumil Kováč and Ladislav Benček envisages an arrangement of public and semi-public areas as well as green spaces in the area of the planned urban axis. Several multipurpose objects are planned along the new tram line, running from the city center across the Danube and through the whole Petržalka to its southernmost part. The design also got some critique. For example, for the unnecessary integration of car traffic into the existing green recreational areas along the old branch of the Danube Chorvátske rameno or the plans to spread the old-arm bed to the detriment of some sports areas in the Petržalka. The aforementioned design of the axis of Petržalka would bring several functions in the settlement. However, these would be located in a separate zone, apart from the residential buildings. The concept does not suggest a functional mixture in the city district.<sup>243</sup>

242.  
Bohác, "Panel housing estates, public walk of Petržalka"; Fleischmann.

243.  
Bolibruchova, "Urbane Erneuerung der Plattenbausiedlung Petržalka in Bratislava" [Urban renewal of the prefabricated housing estate Petržalka in Bratislava].



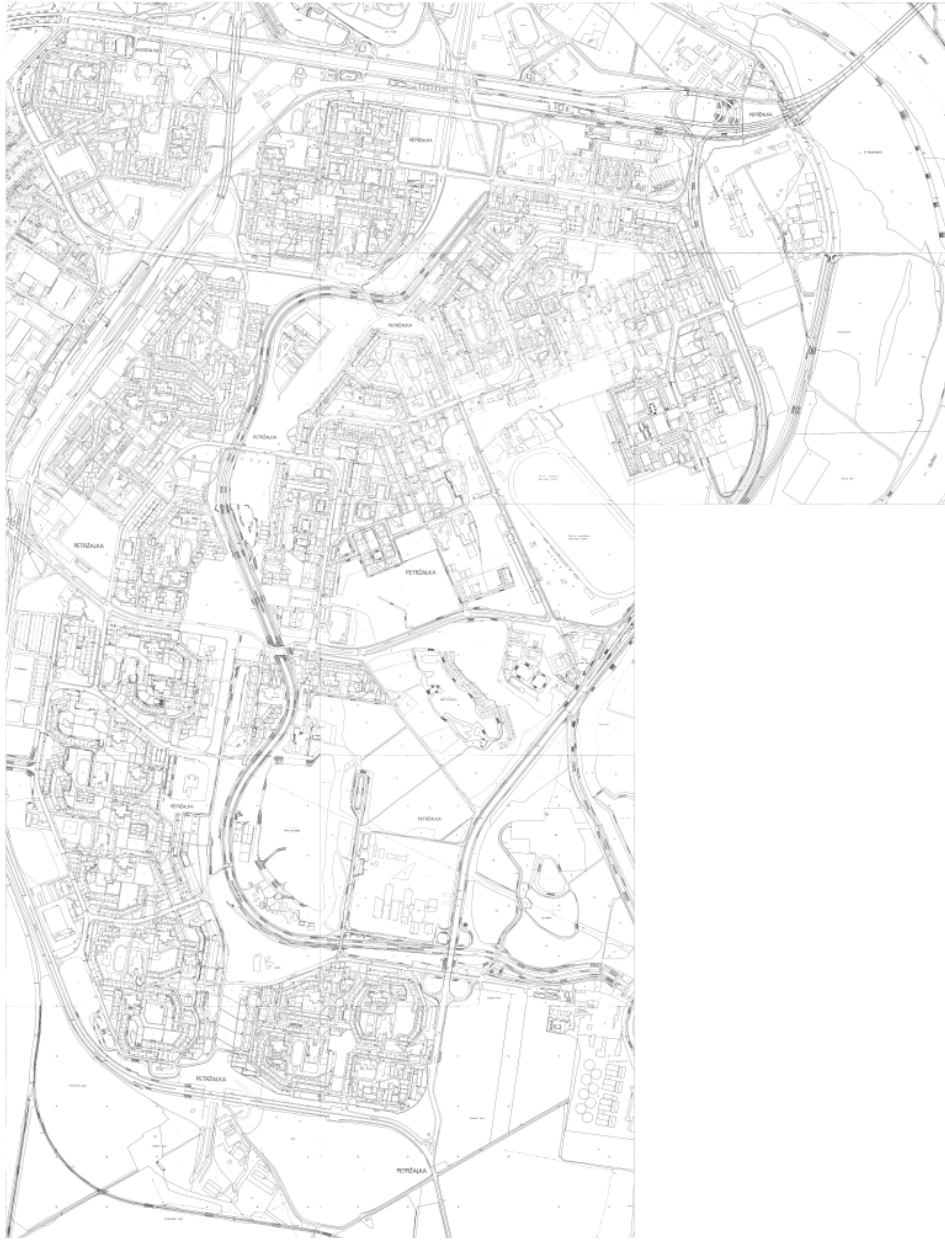


Figure 134. Master plan of Petržalka

## THE POSSIBILITIES OF ARCHITECTURAL SOLUTIONS

### REFURBISHMENTS IN LEINEFELDE



Figure 135. The Haus 1 before and after the renovation



Figure 136. Leinefelde Haus 1 (1999): This reconstruction put a start to the transformation process in the commune Leinefelde in Germany. The brick wall running along two adjacent buildings forming an "L" serves a few purposes: it forms a base of the building and separates the private areas from the street.

In Eastern Germany prefabricated housing estates have been targeted by federal-state urban development programs since 1990s. At the time Eastern Germany experienced a substantial demographic fluctuation, when a big part of the population moved to the re-opened western Germany in search of jobs. This change has left many cities facing structural vacancies in residential areas. A report from the year 2000 mentions around 1 Million vacant apartments in Eastern Germany, which sums up to 13% from the overall housing stock. Most of the vacancies were to be found in industrial mass housing. The Commission "Wohnungswirtschaftlicher Strukturwandel in den neuen Bundesländern" that was formed to advice to this issue suggested to withdraw 300.000-400.000 apartments from the estate market. The main objective was to support an organized development in the shrinking areas. Demolition and rebuilding interventions were supported with state grants.

While the background of Stadtumbau Ost differs from what Moscow is experiencing now, the architectural solutions developed by architects are a great example of how industrial housing can be adapted to modern demands on comfort and aesthetic.

Projects by Stefan Foster Architects in the commune Leinefelde are probably the most well-known example of rebuilding interventions. Rebuilt between 1999 and 2010, these eight buildings all feature different architectural solutions inside as well as outside to create modern, appealing housing out of old substance.



**Figure 137.** Leinefelde Haus 7 before and after the renovation: This could possibly be the most prominent and radical approach to the transformation of industrial mass housing. The original 180 m long apartment building lost one story and was then split into 8 detached "City Villas" connected by a shared ground floor

## KLUSHUIS KLEIBURG IN AMSTERDAM

Kleiburg, one of the biggest apartment buildings in the Netherlands, is located in Bijlmermeer. This area is a residential expansion area of Amsterdam designed in the 1960s by Siegfried Nassuth from the city planning department. This district was intended to be a green and spacious alternative for the - at the time - disintegrated inner city.<sup>244</sup> The design was based on the idea of a vertical garden city. Cars were put on elevated roads, pedestrians and bicycles - on the ground. The urban layout was based on a hexagonal grid with massive concrete slabs arranged on it.

The district had a very optimistic start, but soon the level enthusiasm went down. Fear of the unknown fed by heavily economized execution, bad publicity, lack of understanding, poor maintenance and the sudden emergence of a new residential dream type -the suburban home<sup>245</sup> has turned the interest away from this new settlement. The area started to disintegrate.

The first renewal actions started in 1990s. The honeycomb slabs were substituted with "normal" suburban development. However, a part of the original development was kept intact as a kind of an open-air museum. Kleiburg, a 400 meter long 11 stories high bend slab with 500 apartments, is the heart of this remaining ensemble. It is the last building in the area that was preserved in its original state. The architects, who worked on the renovation of the building, called it the "last man standing in the war on modernism."<sup>246</sup>

The housing corporation Rochdale has estimated the renovation costs with around 70 million Euro<sup>247</sup> and already had plans to demolish the building, when it met the resistance of a public initiative and the local government, who hoped to avert the demolition. So, Rochdale attempted to catalyze out-of-the-box, economically viable plans for the housing complex and offered the estate for one Euro to the winner. Out of over 50 submitted ideas four teams were selected for the next stage. Ultimately, Consortium De FLAT consisting of Kondor Wessels Vastgoed, Hendriks CPO, Vireo Vastgoed and Hollands Licht was chosen with their concept of turning Kleiburg into a "Klusflat" - a "DIY Flat."<sup>248</sup>

244.  
DeFlat, "Klushuis  
Amsterdam."

245.  
DeFlat.

246.  
Ibid.

247.  
Ibid.

248.  
Ibid.

The idea was to give people a very low-priced, completely unrenovated apartment shell, that they could then design according to their possibilities and taste. The main structure - elevators, galleries, and installations - was to be renovated according to the modern standards. This innovative approach minimized the initial investment and created a new business model for housing in the Netherlands.

While many refurbishment designs focus on bringing individuality in the structures,



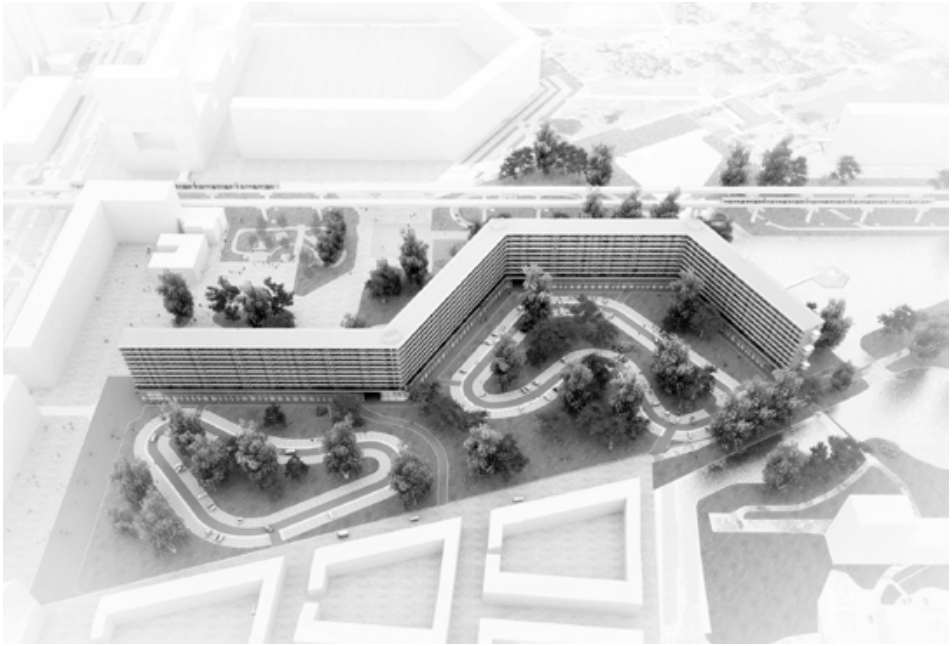
Figure 138. Bijlmermeer before the first renewal works started

in this case, the architects decided to embrace the initial structure and to show and emphasize its unusual beauty. They revealed the original material - precast concrete and dismantled three outer elevators shafts that were added on the 1980s - the extra elevators found place in the existing cores.

The ground floor, initially meant for storage rooms, was redesigned to accommodate more interactive functions, such as workspaces, daycare and apartments. The storage spaces were relocated on the upper levels. The original openings in the building were expanded to create a more welcoming atmosphere. The opaque parts of the façade were replaced with double glass in order to open it up.

The development concept has allowed the apartment prices start at as low as €66.000, offering monthly mortgage payments starting from €350 a month. Apartment units can be combined horizontally as well as vertically. By September 2018, the final development phase went for sale. The renovation of the house begins when 70% of the apartments are sold. By that time phases 1 and 2 have been renovated and handed over to the buyers, and the renovation of the 3rd phase has started.<sup>249</sup>

The project was got the 2017 Mies van der Rohe Award - the EU Prize for Contemporary Architecture.



**Figure 139.** Visualization of the reconstruction design of Kleiburg



**Figure 140.** (top left) View of the Klushuis Kleiburg

**Figure 141.** (top right) View of the Klushuis Kleiburg from the highline railroad, that remained from the original concept

**Figure 142.** (down left) Newly renovated public areas in the Klushuis Kleiburg

**Figure 143.** (down right) The ground floors have been restructured to make space for interactive functions

## PANEL HOUSING RENOVATION IN HELSINKI

Many panel houses were reconstructed in Helsinki. Building interventions have altered the look of the buildings a lot, but preserved the general urban qualities. Punctual densification also took place but - unlike in Moscow - in form of low-rise development of two to three stories.

The house on Alakiventie Street in Helsinki belongs to an owning company, that leases the land plot it stands on from the city. Therefore, the decision on the renovation was made with the participation of all stakeholders - the city, the owner company and the tenants. The original structure was built in 1965 - like many Soviet five-story buildings. The living area in the house was 7.261 m<sup>2</sup>, and it was intended to be increased by 25% (1822 m<sup>2</sup>), resulting in 34 new apartments with the average area of 53.5 m<sup>2</sup>.

At the project start, in 2009, the management company held several meetings with the residents. In these meetings questions about the approach to renovation, such as the necessity of building expansion in height and its extent, were discussed. As a result, it was decided to add two more floors due to the close proximity to the underground station and shopping center. Since the land on which the house stands is rented from the city of Helsinki, the owner had to pay compensation to the city for the construction of additional floors. Two years later, in August 2011, the project plan was approved by the Department of Urban Planning. It took another year for it to be approved by the City Council of Helsinki. Then the management company appointed a project coordinator who had to choose the developer and supervise the renovation till its completion. The building permit was issued in March 2013 and the construction started. Interventions included modernization of water supply, heating, wiring and ventilation, window replacement and façade update. In addition, the yard was improved. Construction of extra storeys was delayed and only completed in 2017.



Figure 144. (top) Renovated green areas in Helsinki  
Figure 145. (bottom) Restructured entrances of the houses in Helsinki also have a positive effect on the public space



Figure 146. Renovated and expanded house in Helsinki



Figure 147. Visualization of a the renovation concept for the house on the Alakiventie Street



Figure 148. Original master plan of the dormitory complex Wundstraße in Dresden



Figure 149. The student dormitories are surrounded with large green areas



Figure 150. Student dormitory complex on the Wundstraße after the reconstruction

## STUDENT DORMITORY COMPLEX IN DRESDEN

This student dormitory complex on the Wundstraße in Dresden got a complete makeover. This group of originally identical buildings was recently redesigned by various architectural studios. Each of the participating architects has implemented a different functional and design conception in renovation and remodelling of the buildings. The buildings were each given an individual design in order to eliminate the monotonous appearance of the residential complex.

Between 1969 and 1971, an ensemble of six closely placed skyscrapers, each 15 stories high, in an area with low density and a lot of greenery was constructed. Depending on the viewer's perspective, the 46 meter high student dormitories could be interpreted as a misplaced object or as an intended landmark in this urban setting. Façades were not individualized following the character of prefabricated building in their design. Only yellow-and-white ceramic elements combined the skyscrapers into a recognizable spatial group.<sup>250</sup>

The dormitory complex offers around 1.300 places and due to its close proximity to the University and to the inner city of Dresden is highly demanded. The current owner and builder Studentenwerk Dresden recognized the value of the complex and planned a comprehensive modernization of all buildings starting from 2000. Instead of commissioning one architectural office for the whole complex, each skyscraper was assigned to a different office, who redesigned the buildings in its own architectural language.

This breaks the original monotonous character of the prefabricated building complex. However, this also eliminated the recognizable superordinate spatial composition of the buildings. Instead of the somewhat strict order of a homogeneous group, the Studentenwerk wanted to create "a fresh, youthful urban ensemble with the character of a student settlement."<sup>251</sup>

250.  
Höft, "Modernisierung eines Studentenwohnheims in Dresden. Solitäre im Ensemble" [Modernization of a dormitory in Dresden. Solitaires in the ensemble].

251.  
Höft.



## EVERY SQUARE METER COUNTS IN BERLIN

Berlin online resource "Jeder QM zählt" - Every Square Meter Counts - is an online community, where residents of panel housing exchange their experience and ideas on many aspects of living in a prefabricated building. The website also features a list of tested rebuilding solutions for most common serial apartment layouts and numerous interviews with panel housing residents.

Most of them have consciously made the decision to move to this type of housing. The image of panel housing in Berlin is quite good nowadays, especially among the younger generation. They cherish the functionalistic architecture, good location, green surroundings or simply find it curious to live in a panel house.

Interviews with the residents also feature photos of their apartments, which show the spectrum of possibilities to individualize the living space. This shows that individual aesthetical demands can be fulfilled within this type of housing without even major building interventions.



**Figure 151.** Apartment of Professor Martin Danamos, an internationally recognized movement theorist and ballet master, who returned to Berlin after living in Moscow and Essen to devote himself to writing a book.



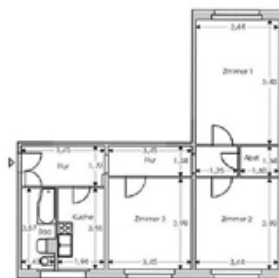
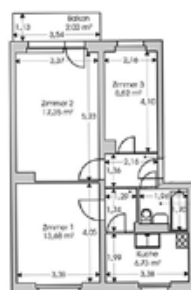
**Figure 152.** Apartment of Nadja Müller und Robert Anders in their shared apartment on the 11th floor at the Square of the United Nations, in the so-called Snake, by the former GDR star architects Hermann Henselmann and Wildfried Stallnech



**Figure 153.** Monika and Uwe Köhler have signed their lease for the apartment on Alexanderplatz already in 1971 and have lived there ever since.



**Figure 154.** The German online portal for industrial housing residents "Jeder qm zählt" provides rebuilding ideas for the most common series. Left to right top to bottom - WBS 70 - 3- and 4-room apartment, WBS 70 - 4-room apartment, QP 61- 2-room apartment, P2 - 4-room apartment, WBS 70 - 3-room apartment, P2 - 3-room apartment, QP 64 - 5 room apartment, Q3A - 3 room apartment, WBS 70 - 5-room apartment, P2 - single-room apartments, WBS 70 - 2-room apartment, 11: QP 64 - 3-room apartment



## INTERIM CONCLUSION

In general, all previous Russian state programs to dealing with Soviet housing stock have much in common, although always being presented like something innovative. It is a common thing that every other program learns from its predecessor and that historical urban planning tradition influence the current practice. But interestingly enough they all try to deliver a fully formulated solution to the whole large-scale challenge at once. Taking into consideration the overwhelming amount of existing Soviet housing stock and the broad variability of local spatial, technical, social and economic circumstances, this approach is not capable of delivering sustainable high-quality solutions.

The problem of dealing with Soviet housing exists and is present not only in Moscow. Many Russian cities - large and small - hare facing the same problem. Some cities, like for example Krasnoyarsk, Omsk or Perm feature even a higher percentage of Khrushchevkas in the overall housing stock. The current Renovation Program is applicable only to the Moscow reality and due to its legislative base and economic circumstances in Moscow is not accessible to other cities.

The current approach in Moscow seems to be an estate speculation of an enormous scale. While many Khrushchevkas can be reconstructed for the price of their demolition,<sup>252</sup> they are still included into the Renovation Program. This type of a "turn back rivers" approach is typical for Russia. But it is wasteful and unsustainable. The long experience of megaprojects show that quality control always suffers from this "blanket" approach. As said by Evgeniy Asse, the reconstruction should be done not with an axe, but "with a scalpel and precise surgical tools."<sup>253</sup>

The community is unsatisfied with the program and the approach of the government to the question of their private property. There should be a way to find a balance of interests and include the community into the process.

The estate market and Moscow construction sector are in need of change. Current strategy of overproduction of low-quality residential estate and selling it at high interest rates is not sustainable

International experience of dealing with the existing context shows that outdated housing can be repaired and modernized. While large-scale state programs define the strategic direction for the cities, the most important working level is the residential quarter. The holistic approach to the renovation of living districts has proved itself

252.  
Ruzmanova.

253.  
Ibid.

more effective, than individual interventions.

Renovation of a residential area is a long-term project, as one can see from the example of Clarenberg. This process needs public involvement, commitment of multiple parties and investments from the developers and the city. However, the projects can bring profit in the end, as one can see from the example of Klushuis in Amsterdam.

When it comes to architectural solutions, the extent of building interventions depends on the context, state of the building and intentions of the developer. It can differ from minimal repair and modernization of public areas as in Berlin and Finland to complete alterations as in Dresden.

The Berliners' change of perspective on panel housing shows that it is not necessarily housing itself but rather the attitude to it that differs. Apartment interiors show how broad possibilities for individualization are.



VI.  
A STRATEGY FOR THE DEVELOPMENT  
OF SOVIET RESIDENTIAL DISTRICTS  
IN MOSCOW

## DEFINING THE GENERAL DIRECTION

We need to be able to access memories in order to be able to relate to ourselves. Cultural memory plays an important role in this equation. Architecture works as a storage for cultural memory. Soviet architecture is as much of historical witness and cultural memory bearer as are finesse baroque buildings. Soviet mass housing formed the city in the 20<sup>th</sup> century and its spatial character is typical for Moscow and other Russian cities. They are a physical incarnation of socio-economical politics. This layer formed Moscow in the 20<sup>th</sup> century and had a great influence on the society, architecture, arts and design.

As preservation or demolition of certain buildings or whole historical layers is a strong political statement, this decision should be made responsibly. Preservation of Soviet relicts does not necessarily equal to agreement with Soviet ideology. Acceptance of national history, acknowledgement of its positive and negative sides and preservation of its relicts is a much nobler decision than rejection of history and destruction of its relicts. The current program suggests that a total historical layer should be wiped out. This means that a whole epoch will not be present in the city anymore. If this layer disappears, the historical continuum will be interrupted and historical layers will be inconsistent, making it impossible to access certain parts of cultural memory.

But panel buildings, especially those from the Khrushchev period are in need of intervention, because otherwise they will deteriorate and could eventually turn into ghettos. As they deteriorate they would lose their qualities as housing and market value, forcing economically strong residents out of them, and in turn gaining more underprivileged people in. That would worsen the social and economic segregation and lead to further deterioration of these buildings, as underprivileged residents would not have the resources to invest into repair. As housing is an important aspect of social mobility, already economically weakened groups could follow the negative social spiral. This could eventually lead to the formation of ghettos.

Moscow Government came up with some programs in the past and has recently introduced the Renovation Program. What was first presented as a city renewal program that works in the interest of Muscovites now looks like a business project that will benefit a small circle of stakeholders close to the city administration at the cost of civilians. Moscow Renovation Program not a valid solution to the growing problem of outdated housing.



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Moscow in the 20<sup>th</sup> century was formed with spatial programs of massive scale - revolutionary ideas of 1920-1930s, Stalin's city rebuilding and industrial megaprojects, Khrushchev's mass housing program, Brezhnev's residential developments of enormous scale. Each of these programs brought innovation in some sphere. The current Renovation Program does not bring any new know-how. It involves same actor constellations, uses same process designs and spatial models as in any other modern development project in Moscow. But being a program of this enormous scale, it is important that it uses the possibility to make a qualitative jump in city development.

As a city, Moscow is in the privileged position - it is the capital and the biggest economic hub in Russia. But with this privilege should also come responsibilities. The problem of dealing with old mass housing is not exclusive for Moscow, it is as well present in other Russian cities. In some cities, the quota of Soviet panel housing in the overall housing stock is even higher than in Moscow and their general state is often worse. Currently suggested Moscow solutions are not applicable to other cities. At the same time, Moscow, as a privileged city, can and should be an example for the other cities. It can act as a laboratory, where various solutions are tested out and different models are put to life.

The current Renovation Program focusses on the relicts from Khrushchev's period. Building volumes at the time were massive, but so were those in the Brezhnev period. One should not forget that there will also be further generations of panel housing in need of renovation. Moscow needs to define a strategic approach to Soviet housing starting with the buildings from the Khrushchev period, but keeping further generations in mind.

## SOCIAL ASPECTS OF HOUSING PRESERVATION

Twentieth century mass housing relicts demand a new approach to their preservation and development, that would take into consideration the values of built artefacts, their enormous amount and overall condition.

Mass housing in USSR was the answer to the housing crisis and rapid urbanization. This makes it strongly connected to a number of social issues as well as certain economical and property models. This type of housing was a manifestation of the new ideology, the new way of life and an attempt to bring ideas and utopias into the built reality. The importance of social aspects for preservation is here higher than it is by other, "conventional" objects of preservation like churches, palaces or administrative buildings. This is why the story of ideas as well as that of social and sociological approaches should be taken into consideration.<sup>254</sup>

It is not possible to develop a "one fits all" approach to mass housing as different residential districts as well as housing models from different periods have different idea backgrounds and can be in different technical state disregarding their age.

Knowledge of the social and conceptual background of housing complexes means that history of social ideas also becomes a matter of preservation.<sup>255</sup> In case of an existing housing stock we deal with the story of the generations that grew up here through the time. Its users according to their wishes and needs can unlike religious architecture for example - change residential architecture. Traces of those users and the intimacy of housing are as well part of the story. It is a complex matter for the preservation practice. What should be preserved? The building, its story and ideas behind it? Or should also the users and the changes they make become a part of the preserved story?<sup>256</sup> Can something so dynamic even be preserved in the conventional understanding of the term? And if it is preserved, can it still fulfil the needs of the dwellers?

Generally, the experience of city development shows that residential buildings from the 20<sup>th</sup> century are definitely still liveable, although not always directly in the form they may have been originally. The density might need to be decreased and some technical interventions may have to take place or the overall comfort level might not meet modern standards, but the buildings are definitely usable and have the potential to be integrated in the city housing stock. The technical state of the buildings has to be taken into consideration of course and interventions have to be made to adapt these buildings to modern standards. This brings out the next question - how far can

<sup>254.</sup> Buchwald, "Massenwohnungsbau und Denkmalpflege" [Mass Housing and historic preservation], 23

<sup>255.</sup> Buchwald, 24

<sup>256.</sup> Ibid.

interventions in the preserved buildings go? And how much of dwellers' comfort can be compromised for the sake preservation?

Another important aspect is that residents mostly do not acknowledge the cultural value of their house, as they are confronted with the inconveniences of the outdated built substance in their everyday life. Users are an inseparable part of the heritage in this case and this also brings a challenge for the preservation - how do we get the residents involved into the preservation? How much responsibility can they bear? How can the interests be balanced in this case?

If the housing facility is preserved in its function, the preservation strategy needs to be able to find a compromise between conservation and adaptation, or, in case of rebuilding measures, a compromise between direct citation and spatial interpretation of the heritage.

Due to the scale of the challenge, the importance of social aspect and the immense variability of possible combinations of potentials and risks for each quarter and even each building, there can be no "one fits all" solution. Therefore, renovation and redevelopment of Soviet mass housing cannot be seen as one project, it has to be many projects following same general principles and objectives. What is necessary is a program, that would give a strategic framework for multiple projects and at the same time be flexible enough to allow innovation and creativity. It should set objectives and define the field of action, catalyse creativity and at the same time be able to pick out the most appropriate solutions out of the scope of possibilities and let them be tested out on the actual field.

## CHALLENGES AND POTENTIALS OF SOVIET RESIDENTIAL DISTRICTS IN MODERN MOSCOW

### CHALLENGES

#### **The quantity**

One of the biggest challenges is the amount of Soviet residential buildings in Moscow. Alone Khrushchevkas form about one third of Moscow overall housing stock. The enormous number is directly connected to the mass character of Soviet housing development and its historical context.

#### **Lack of information**

Currently, there is no comprehensive plan with the information on the condition of individual houses in Moscow. There is also no official plan of building ages in the city. The existing map was made on private initiative by the office Mercator in 2013. It is incomplete and was not updated since its launch.

Great amount of Soviet buildings and lack of available information about them could be the reason why each repair or renovation strategy for Soviet housing stock tries to mirror the mass character of development in the suggested solutions, not differentiating between individual buildings but rather focusing on groups based on building series or building year.

#### **Poor thermal characteristics**

Most of Soviet panel houses are insufficiently insulated, as this housing type was planned at the time when energy was cheaper than efficient insulation. Nowadays tenants have to pay the high heating costs not to mention the negative ecological effects.

#### **Spatial characteristics**

Spatial characteristics of Soviet mass housing seem to be its major deficiency. Efficiently planned apartments are very compact and do not correspond to modern ideas of comfortable family living. Also, depending on the house series, room height can be very low and room sizes can be very restrictive.

Indoor common use areas such as main entrance area, stair landings are reduced to the minimum. There are no storage areas provided for things like strollers and bikes.

These buildings do not have elevators and ramps. They are not barrier-free and are difficult to adapt with private means for people with restricted mobility or with special needs.

### **Potentially complicated repair**

The general technical state of Soviet mass housing is a big concern. This is the officially presented reason for the Renovation Program. In some cases, reconstruction or repair would indeed be uneconomic. These buildings have no cellars and often feature engineering systems - the weak spot of these buildings - incorporated into the walls. These design features complicate reconstruction and even repair. Another aspect is that sometimes - although seldom - misuse of building materials took place and in some cases, unsafe building materials were put to use at the construction site.

### **Monofunctionality**

Designed to be housing for the workers of socialism, Soviet residential districts did incorporate only basic daily infrastructure. They have very little commercial areas, that are almost always composed in a separate building instead of being incorporated into the house. Therefore, the urban space, that these districts form is monofunctional and monotonous. They do not allow to accommodate many jobs. This means, that residential areas are rather empty in business hours and the public space is underused.

### **Negative image**

Taking all that into consideration, Khrushchevkas currently do not have a good image on the estate market. They are not the preferred housing option for potential buyers.

## **POTENTIALS**

### **Extensive greenery**

"Khrushchevka" districts are extensively green and feature a lot of big mature trees. The courtyard layout does not allow vehicle transit, which means that these areas are safe and quiet. The greenery gives shadow in the summer months and the sealed area is reduced to the minimum ensuring a comfortable microclimate.



Figure 155. Old development in Prospekt Vernadskogo district destined for demolition.



### **Existing infrastructure**

Local infrastructure - social institutions as well as daily services - was planned together with the district and took into consideration the needs emerging with the new population. Such planning in advance also meant that the facilities could be placed in the walking distance to ensure accessibility for the residents.

Khrushchevka districts are often located in areas not far from the city center. They normally have good connection to the transport infrastructure and a developed network of public transport. In most cases, a Metro station is to be found within walking distance.

### **Pleasant space characteristics**

The scale of five-story buildings is considered to be very comfortable for urban residents. The density of these districts is kept at the comfortable level being neither too low nor too high.

### **Inexpensiveness**

Apartments in Khrushchevkas are rather inexpensive, especially when compared to the offer on the primary market.<sup>257</sup> While the offer on the primary market is marginally better, its advantages mostly lie in the newness of buildings as the industry still uses basically same technology and comparable design solutions.

### **Possibility of repair and rebuilding**

As mentioned before, repairs are technically possible and in many cases economically viable. Rebuilding and expanding are possible in most cases. Apart from that, many Khrushchevkas are in a good technical state and do not demand major interventions. This makes their repair even less costly.

### **Presence of existing communities**

These old districts of low density are home to generations that grew up here in close connection. They have shaped local communities and strong social networks.

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Though some speculations do happen when a Khrushchevka is put on the demolition and resettlement list, as it ensures a larger apartment in a newer building.



## RECOMMENDATIONS

An urban development project can be successful and lead to high-quality results only under the prerequisite of **strong political commitment and consistent involvement of qualified experts from multiple disciplines** including not only planning branches, but also the city administration. Russia is known to have a problem of multilevel corruption and a solution for this is still to be found. Defining a successful anticorruption strategy and ways of qualification of administrative structures demands professional expertise in political studies and does not lie in the focus of this thesis.

In-depth knowledge of all necessary fields and experience can be accessed only when working in interdisciplinary networks. **Consistency is the key to successful implementation.** It is important that the main participants of planning processes (e.g. planners and representatives of the city administration) stay consistently involved up to putting the project into service.

Housing renovation is not about creating monetary profit. Public hand in urban development is not equal to private business. While private businesses act mostly in their interests, **it is the role of public authorities to act in the interests of common welfare** and to control - and if needed adjust - the development initiatives coming from the private businesses.

The Renovation Program is definitely going to generate high monetary profit, but it is not clear where the generated surplus will go. Some of the profits will definitely be invested back into the program for the construction of new houses and obligatory supporting infrastructure. But, taking into consideration the framework conditions of developments and type of housing that will be constructed, one can estimate that still there will be some generated surplus. There are no statements made about investing profits in favour of the community - for example into public spaces, social programs or subsidized housing. Knowing the corrupt context and the aspects of current planning and building tradition, it is most likely that the generated profit will not go for public needs. **Profits generated by the program should either go back into the program and when possible be invested directly at the place and time of their source, or be invested in favour of community and its interests.**

Benefits of public housing programs cannot be measured in monetary dimension only. Such programs are about the well-being of people, about their quality of life and also about reducing further economic, social and environmental costs. Public housing

programs do not necessarily have to generate direct profits as they are not the only income source for the city. Some public programs end up being economically unviable, while their non-monetary positive effects override their lack of profit on the long run. Urban development should not only respond to the in-the-moment needs of the community but also **create a comfortable environment for the generations to come.**

The past century in human history has been strongly influenced by industrialization in all spheres of life. Industrial housing solutions with all their negative sides were an effective tool for a fast and cost-effective provision of personal living space. With proper maintenance these buildings can last for a very long time. Main critique on the current approach to housing renovation in Moscow is that it suggests to replace the old generation of housing with no distinction in qualities of individual buildings and blocks. This is an unsustainable and wasteful approach. With this mind-set the housing provided now will most likely be replaced again in some decades, but with every generation of housing the scale of the program would only increase.

The solutions for Soviet mass housing renovation in Moscow should be **resilient and sustainable in social, economic and ecological understanding.** Long-term perspective is to be considered in planning and special attention should be paid to possible impacts on various levels. Urban development, economics, ecology, societal changes and even aspects like health of the community are all interconnected and change on one level catalyse changes - positive as well as negative - on all other levels.

**Renovation solutions should be possible to imply on further generations of housing.** While Khrushchevkas form a big part of Moscow's housing stock, the next generation of Soviet housing -one from Brezhnev period - is even bigger in scale and will eventually also need action.

Moscow is the capital city and a model for many other cities. It also has access to resources that are unavailable to other cities. The scale of Moscow Program allows to **test out multiple solutions that can be later used in other cities that face similar issues.**

Imposing large-scale programs cancelling one another is typical for such a highly centralized culture as Russian. Political and planning principles can often be changed overnight if they do not fit into the plans of the current political leader. This is not only a wasteful and unsustainable approach, but it also puts citizens under a great stress and causes a negative impact on the quality of life. **This loop of state programs cancelling one another should be broken. Paternalistic centralized planning approach is not suitable for housing renovation in Moscow.**

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Russia is currently dealing with echoes of the time, when the socialist ideology demanded large-scale fast and impressive solutions that would on one hand prove the power of the leaders and on the other hand rapidly turn a monarchy into a socialist country, speeding up the transition as much as possible. Soviet mass housing quarters are traces of forced urbanization and building boom of the second half of the 20<sup>th</sup> century. All programs targeting problems of mass housing try to reflect the mass character of this housing type and deliver a uniform solution based on some common characteristics of the building stock - e.g. its building year or building series. More "organic", slow-going strategies are currently alien to Russian planning culture.

Preference of such "blanket" approach has proven itself deficient in many terms. It often leads to overlooking problems, that do not fall into its spotlight and targeting buildings or quarters that do not suffer from the given problem. For example, current Renovation Program generalizes the building stock and focusses on buildings of up to five stories from a certain period, disregarding that many of these buildings are in good condition, some even being of great building quality or historical importance. At the same time a number of buildings not falling into the target category are in a miserable condition and in need of immediate interventions.

While it is still important to have a comprehensive large-scale plan, that would define the city development strategy, **detailed planning should be held out on a smaller scale e.g. on the quarter or microrayon level.** This will change the focus from mega-scale to a smaller, more comprehensible and more human scale. This would help reduce possible mistakes and allow more control on all project stages and its budget as well as make it possible to adjust or refine solutions throughout the project stages.

Renovation is a broad term, that includes a whole spectrum of possible architectural and organizational approaches. The current understanding of renovation in Moscow is very narrow - the only suggested approach is demolition followed up with new development completely unrelated to the previous structures in their architectural and spatial qualities. While in some cases this could be a legitimate approach, it is important to estimate the applicability of other possible renovation approaches.

**When working with existing context demolition should be the last option considered.** Repair and - if necessary - adaptations should be the first strategies to think of. International practice shows numerous examples of upgrading existing mass housing to the needs and aspirations of the modern world.

Clearly, it is neither possible nor reasonable to preserve all Soviet housing relicts in the city. Areas of renovation can **profit from the combination of old and new.** When repair and adaptations are not possible due to the technical state of the building or the

investment is not viable as it would have negative social, ecological and economical effects, demolition can come in question. In this case, new development should bring new qualities that would contribute to the quality of life in the existing quarter and diversify the space in architectural understanding giving the locals new points of reference in the quarter.

In the case of Khrushchevka districts, new development could contribute through integration of non-residential areas in the ground floor housing gastronomy, offices, shops and daily services. This would bring urban quality to the area without destruction of the existing context or disturbing of Moscow historical layers and with minimal discomfort for the residents throughout the implementation. At the same time, old structures would bring their formed community, that would also make use of the new facilities, stitching together old and new. In a perfect scenario people from demolished housing should only have to move within their block, keeping the community intact.

New development can be of the same height as the old houses or be higher and become spatial dominants. This new development can also generate resources for repair and construction measures on the older buildings or for the public space.

**Planning should be open and transparent. It should include participation of various stakeholders as well as citizens.** Participation of multiple stakeholders - e.g. developers, politics, users - already on the strategic level helps to achieve a common consent base for the future development.

Current state of the art in mass housing development is that there is no connection to the end user. This is a paradox, as there is barely anything more personal than housing. The importance of local communities for the development- whether it is a new development or renovation of an existing quarter - should be recognized. **Involvement of the local community** facilitates a connection to the end user helping to address acute points and find right solutions on one hand and to inform and educate citizens about the projects and their background on the other hand.

It is also important to **collect information on the buildings included into the program and make it accessible to planners and stakeholders.** Systems like Open GIS are present in Russian Federation, but the system is not user-friendly and the majority of information is non-accessible. Cooperation with private companies would be helpful while working on such informational interface. There are already engaged initiatives and thoughtful GIS-based projects like Yandex Maps or Mercator Moscow Age Map. Communities can also contribute to the information, similar as they already can through the service "Aktivniy Grazhdanin" - "Active Citizen." The challenge is mostly in creating a comprehensive plan of the housing stock with information about

each building that is interactive and regularly updated. This is resource-consuming but highly helpful not only for the case of housing renovation but for future city projects as well.

**Housing reconstruction is an opportunity to diversify the housing market.**

While the existing housing stock might not necessarily fulfil modern ideas of comfort of an average user, it can be adapted to the needs and ideas of other focus groups. There are groups that are definitely overseen by developers nowadays. Such being for example students, young adults, people with special needs and the elderly.

Student housing is currently mostly represented by dormitories, mostly of low quality. Students who would love to live in a shared apartment or in an apartment just for themselves land on the general estate market mostly oriented towards the needs of the "average" middle-class families. Students tend to mostly search for an inexpensive compact rental residence in a reasonable distance from the university or college with basic daily service in the neighbourhood. Soviet mass housing could tick off many boxes on this list. With a few technical interventions and basic repair Khrushchevkas could be transformed into student living on a studio or flat-share base.

There is as well a gap on the housing market for elderly people and for people with special needs. It is currently a common practice in Moscow that elderly people pawn their apartments to private service companies in order to get daily care. This often ends up by those companies talking advantage of the situation and through not giving proper care getting the apartment sooner than that could have been. The current state of care facilities for the elderly as well as for people with special needs is pitiful and in a need of change. Introducing new housing models such as serviced apartments would contribute to solving this problem. As quite a few series of Soviet mass housing allow adaptations to increase the building accessibility (e.g. adding an elevator and a ramp) they could also be transformed to serviced apartments.

**Housing does not end at the doorstep.** The subject of public space quality and the general understanding of a "street" as a place for people rather than for cars, has gained a lot of attention in the past years. City programs like "My Street", organization of pedestrian areas in the city center, introduction of bike lanes are great examples.

Due to the size of the city and the distances people cover daily, cars remain an important means of mobility for Muscovites. Current extensive development of public transportation is meant to decrease the traffic load on the roads, but in a megapolis of this size a major decrease in number of private cars it is unimaginable at the moment. Moscow remains a car-friendly city and the current state of the art in residential development supports it. The Renovation Program promises underground parking

and to take "cars out of the yard", but these words are not put on paper and current mass housing development practice very rarely offers car-free yards and underground parking for the residents.

Soviet residential districts were built for a society with a different modal split, they are pedestrian-oriented and leave only the minimal necessary area for the cars. While the quality of the public space in old Soviet districts is negotiable, they undoubtedly have a better microclimate and look more welcoming compared to the new districts.

**Housing development should provide high-quality public spaces and infrastructure.** Public spaces of high quality are not necessarily expensive, but they can make even very modest housing attractive for the residents and impact their quality of life.

This Renovation Program is a great opportunity to **research the possibilities of introducing unique architectural solutions on the market.** It is out of question that prefabricated solutions allow fast design and development. This, in turn, makes the fast provision of housing to the already big and still growing urban population possible.

The legacy of the Unification Section is still present in modern Russian planning tradition. Use of prefabricated solutions in modern Russian housing is extensive and includes not only the use of standardized structure elements, but also the use of predesigned floor layouts and urban composition. Unique solutions are seen only in highly-priced housing segment. This approach leads to the decline of urban space quality and monotonous character of residential areas. Prefabricated solutions bring great possibilities when understood broadly. Use of prefabricated elements does not exclude the possibility of unique architectural solutions.

## CONCLUSION AND OUTLOOK

This thesis covers the theoretical and strategic aspects of integration and adaptation of Soviet panel housing in modern Moscow. The purpose of this work was to check the hypothesis that Soviet housing districts are preservation-worthy and to deliver a theoretical base for further steps in the design of a sustainable renovation strategy for Moscow and potentially for other cities in Russia and post-Soviet areas. Main research questions were:

*Do Soviet housing districts possess cultural, architectural and historical value? Are they preservation-worthy?*

*What is the current position towards the Soviet residential heritage in Moscow?*

*What programs determine the destiny of these areas? Are they optimal?*

*What are the prospects of Soviet residential building stock as a part of a modern city? Is it still defensible in the today's debate?*

*What generalized approaches towards the future of the Soviet residential heritage can be defined?*

Soviet residential districts are a built manifestation of Soviet politics. They are a witness and a bearer of an important period in Russian history, an embodiment of architectural ideas and a documentation of a particular lifestyle. Soviet residential districts and the buildings they consist of possess a cultural, historical and architectural value. Their value lies not only in their built substance but also in the history of ideas they embody. Citizens should have access to the cultural memory encoded in this built context as they have access to the relict of any other historical period.

The current approach to housing renovation in Moscow does not acknowledge the values of Soviet mass housing. General principles of development suggested in the Renovation Program such as raise of public space quality and provision of comfortable housing are valid and relevant, but the implementation strategy is wasteful and unsustainable. Demolition of suggested volumes of existing context and substitution with new development, that does not take the historical structures into consideration

is unacceptable. Soviet mass housing districts should be handled with care and, when possible, preserved in their original function and close to their original appearance.

There is a number of problems that this type of housing experiences, the biggest of being the technical state of built substance. In many cases these buildings are in a poor technical condition as did not get timely maintenance and repair. In order for this housing to be able to offer a good quality of life and to fulfil modern demands of comfort they should be repaired and - if needed - adapted. These adaptations can range from minimal interventions such as cosmetic measures to major interventions like renewal of technical infrastructure or even rebuilding measures. The extend of intervention should be determined for each separate block and building.

When working with the existing context demolition should be the last option considered, but in some cases this will be the only possibility. Here the new development should comply with the modern aspirations and imaginaries of high quality urban space. This development should add to the quality of life in the area and compensate the disadvantages of Soviet residential districts.

Implementation of this approach inevitably brings a lot of new questions. The bold strategy of the current Renovation Program may seem efficient in a short-term perspective, but it is unsustainable on the long run. The approach suggested in this thesis is more delicate and personalized. It is much more time- and resource-consuming, but it will bring better results on the long run and secure sustainability in every respect. In order for this approach to work out strong political and professional commitment is needed.



In the next step the procedural side of the strategy should be worked out. Many questions are yet to be answered.

*How far can interventions in the architecture go? And how much can the residents' comfort be compromised during these interventions?*

*Will the residents be able to stay in their apartments? If they have to move - then where to? Is it a temporary move or a permanent? How can the local community be preserved in this case?*

*Who takes care of the redevelopment? Where does the funding come from?*

*The most reasonable and sustainable model would be a mixed pool of developers ranging from the public hand to big private developers to smaller professional developers and residents themselves. But at what ratio should they be present in the redevelopment process in order to sustain the pace of redevelopment and still keep the stakeholder pool diversified?*

*How should the renovation be organized, so that it is efficient and still treats estate owners in the most respectful way? How should communication with the owners be organized?*

*What legal instruments are applicable when working with multiple estate owners on the same plot? To what extent can private property rights be affected for the sake of common wealth?*



# APPENDIX

## BIBLIOGRAPHY

- Anderson**, Richard. "Russia: Modern Architectures in History. Modern Architectures in History. London: Reaktion Books", 2015. October 2, 2018. <http://archsovet.msk.ru/article/ot-pervogo-lica/renovation-kuznetsov-interview-interfaks>. Accessed October 2, 2018. [In Russian]
- Antonova**, Daria [Антонова, Дарья]. "Жители 'Измайловских Барачков' атаковали первый дом Программы Реновации" [Residents of 'Izmailovo Barracks' attacked the first house of the Renovation Program]. REGNUM, February 16, 2018. <https://regnum.ru/news/society/2381370.html>. Accessed July 27, 2018. [In Russian]
- ArchDaily**. "DeFlat / NL Architects + XVW Architectuur." ArchDaily, March 2, 2017. <http://www.archdaily.com/806243/deflat-nl-architects-plus-xvw-architectuur>. Accessed October 1, 2018.
- Archi Ru** [Архи Ру]. "Объявлены Победители Конкурса Пилотных Участков Реновации" [Winners of the Pilot Site Renovation Competition Announced], Архи Ру, September 26, 2018. <https://archi.ru/news/80896/obyavleny-pobediteli-konkur-sa-pilotnykh-uchastkov-renovacii>. Accessed October 2, 2018.
- Arhsovet Moskvyy** [Архсовет Москвы]. "Конкурс Площадок Реноваций - Это Поиск Компромисса" [Renovation Site Competition - This is a Compromise Search], October 2, 2018. <http://archsovet.msk.ru/image/uploader/file/us>
- Arhsovet Moskvyy** [Архсовет Москвы]. "Реновация Жилых Кварталов Москвы : Конкурсы" [Renovation of Moscow Residential Quarters: Contests]. <http://archsovet.msk.ru/competitions/renovaciya-zhilyh-kvartalov-pyatietazhek>. Accessed July 27, 2018. [In Russian]
- Arhsovet Moskvyy** [Архсовет Москвы]. "Студенты Представили Своё Видение Реновации," [Students Presented Their Vision Renovations], May 18, 2018. <http://archsovet.msk.ru/article/sobytiya/studenty-predstavili-svojo-videnie-renovacii>. Accessed July 27, 2018. [In Russian]
- Arhsovet Moskvyy** [Архсовет Москвы]. "Условия конкурса. Открытый национальный архитектурно - градостроительный конкурс с международным участием на разработку концепции реновации кварталов" [Conditions of the competition. Open national architectural and urban design competition with international participation for the development of the concept of renovation of quarters]. <http://archsovet.msk.ru/image/uploader/file/us>

- loviya-konkursa-11-07.pdf. Accessed July 27, 2018. [In Russian]
- Afonina**, Elena [Афонина, Елена] and Svetlana Volkova [Светлана Волкова]. "Хрущевки снесут по-умному, без шума и пыли" [Khrushchevkas will be demolished smartly, without noise and dust]. Комсомольская Правда [Komsomolskaya Pravda], June 23, 2017. <https://www.msk.kp.ru/daily/26695/3719602/>. Accessed May 20, 2018. [In Russian]
- ATRIUM project**. "Atrium catalogue." [http://atrium.ipet.gr/atrium\\_catalogue/components/com\\_atriumview/gallery/demo/index.php?testvar=45](http://atrium.ipet.gr/atrium_catalogue/components/com_atriumview/gallery/demo/index.php?testvar=45). Accessed October 2, 2018.
- Austrian Academy of Sciences** [Österreichische Akademie der Wissenschaften]. "Plattenbausanierung in Wien Und Bratislava" [Panel Renovation in Vienna and Bratislava]. <https://www.oeaw.ac.at/isr/forschung/assoziierte-projekte/plattenbausanierung-in-wien-und-bratislava-pwb/>. Accessed September 27, 2018.
- Baevskiy**, Oleg [Баевский, Олег]. "Новый генеральный план Москвы: особенности состава, содержания и путей реализации" [The new general plan of Moscow: features of the composition, content and ways of implementation]. Недвижимость и инвестиции. Правовое регулирование [Real estate and investments. Legal regulation], no. 2 June 2004. [http://dpr.ru/journal/journal\\_14\\_12.htm](http://dpr.ru/journal/journal_14_12.htm). Accessed May 20, 2018. [In Russian]
- Bartlett**, Frederic C., "Remembering: A Study in Experimental and Social Psychology", Cambridge; New York: Cambridge University Press, 1995.
- Baus**, Ursula, ed., "Zukunft Der Vergangenheit: Die Erneuerung von Gebäuden Der Baujahre 1945 Bis 1979" [Future of the past: The Renovation of Buildings The years of construction 1945 to 1979], Ludwigsburg: Stuttgart: Wüstenrot Stiftung; Kraemerverlag, 2014.
- BBA**. "Modernisierung eines Studentenwohnheims in Dresden. Solitäre im Ensemble" [Modernization of a dormitory in Dresden. Solitaires in the ensemble]. BBA, September 13, 2010. <https://www.bba-online.de/fachartikel/innenausbau/solitaere-im-ensemble/>. Accessed October 1, 2018. [In German]
- Bekbulatova**, Taisiya [Бекбулатова, Таисия], Aleksandr Voronov [Александр Воронов], and Maksim Ivanov [Максим Иванов]. "Реновация на марше" [Renovation on a March] Коммерсант.ru, March 10, 2017. <https://www.kommersant.ru/doc/3237430>. Accessed May 20, 2018. [In Russian]
- Bielka**, Frank, Christoph Beck, DeGeWo, and Forum Factory, eds. "Heimat Grosssiedlung: 50 Jahre Gropiusstadt" [Homeland Large settlement: 50 years Gropiusstadt.]. Berlin: Nicolai, 2012.
- Blobelt**, Jörg. "Grünplanung Für Die Studen-

- tenwohnheim" [Landscape Planning For The Dorm], January 15, 1973.
- Bobylev, Roman** [Бобылев, Роман]. "'Гринпис' Предупредил о вырубке четверти зеленых насаждений в 13 районах столицы из-за реновации" [Greenpeace warned about cutting a quarter of green plantings in 13 districts of the capital due to the renovation]. *AfishaDaily* [AfishaDaily], May 23, 2017. <https://daily.afisha.ru/news/8428-grinpis-predupredil-o-vyrubke-chetverti-zelenyh-nasazhdeniy-v-13-rayonah-stolicy-iz-za-renovacii/>. Accessed January 30, 2018. [In Russian]
- Bohác, Lubomir**. "Panel housing estates, public walk of Petržalka." n.d.
- Bolibruchova, Michala**. "Urbane Erneuerung der Plattenbausiedlung Petržalka in Bratislava" [Urban renewal of the prefabricated housing estate Petržalka in Bratislava]. Technische Universität Wien | Fakultät für Architektur und Raumplanung | Institut für Architektur und Entwerfen | E253, 2016.
- Bolotov, Yuri** [Болотов, Юрий]. "О микрорайоне, в котором жила советская элита" [About the neighborhood in which the Soviet elite lived], *The Village*, December 22, 2014. <https://www.the-village.ru/village/city/modern-architecture/172719-dom-lebed>. Accessed October 2, 2018
- Bolotov, Yuri** [Болотов, Юрий]. "Хрущевки — это кошмар и ужас. Их нужно сносить. Или нет?" [Khrushchevkas are a nightmare and horror. They need to be demolished. Or not?]. *Medusa*, February 23, 2017. <https://medusa.io/feature/2017/02/23/hrushevki-eto-koshmar-i-uzhas-ih-nuzhno-snosit-ili-net>. Accessed March 10, 2017. [In Russian]
- Bronovitskaya, Anna** [Броновицкая, Анна]. "City of ideas: A history of planning." In "Archaeology of the Periphery", edited by Yuri Grigoryan [Юрий Григорян], 276-289. Moscow Urban Forum, 2013.
- Buchwald, Sabine**, ed. "Massenwohnungsbau und Denkmalpflege. Arbeitsberichte des Landesamtes für Denkmalpflege Sachsen-Anhalt" [Mass Housing and Historic Preservation. Reports of the State Office for Conservation Saxony-Anhalt]. Berlin: Verlag für Bauwesen, 1997. [In German]
- Bulatov, Erik** [Булатов, Эрик]. "Улица Красикова" [Krasikova Street]. 1977. Oil on canvas, 150x200 cm. Jane Voorhees Zimmerli Art Museum. Rutgers University, New Jersey.
- Bundesamt für Bauwesen und Raumordnung**. "Bewertung des Bund-Länder-Programms 'Stadtteile mit besonderem Entwicklungsbedarf - Die Soziale Stadt' nach vier Jahren Programmlaufzeit" [Evaluation of the Bund-Länder-Program 'Districts with special development needs - The Social City' after four years of program]. Bundesamt für

Bauwesen und Raumordnung im Auftrag des Bundesministeriums für Verkehr, Bau- und Wohnungswesen [Federal Office for Building and Regional Planning on behalf of the Federal Ministry of Transport, Building and Housing], 2004.

**Bundesarchiv.** "Bundesarchiv Internet - Photos." <http://www.bundesarchiv.de/EN/Navigation/Find/Photos/pictures.html>. Accessed October 2, 2018 [In German]

**Bundesinstitut für Bau-, Stadt- und Raumforschung.** "Nachbesserung von Großsiedlungen" [Repair of large housing estates]. Accessed September 27, 2018. <https://tinyurl.com/ybn9854v>. Accessed October 1, 2018. [In German]

**Business FM.** "Жилье для очередников неожиданно передали переселенцам по программе Реновации" [Housing for people on the waiting list was unexpectedly transferred to resettlers in the Renovation Program] BFM.ru, February 17, 2018. <https://www.bfm.ru/news/377791>: Accessed March 10, 2018. [In Russian]

**Chernyavskaya, Alesya** [Чернявская, Алеся]. "На северо-западе Москвы снесли последнюю пятиэтажку" [In the north-west of Moscow, the last five-story building was demolished.]. [https://stroi.mos.ru/photo\\_lines/na-sieviero-zapadie-moskvy-sniesli-posliedniuiu-piatietazhku](https://stroi.mos.ru/photo_lines/na-sieviero-zapadie-moskvy-sniesli-posliedniuiu-piatietazhku). Accessed October 2, 2018. [In Russian]

**DeFlat.** "Klushuis Amsterdam." <http://www.klushuisamsterdam.nl/klushuis/voordelen/>. Accessed October 1, 2018. [In Dutch]

**Demin, Lev** [Демин, Лев]. "Столичные Хрущевки: Испытание на прочность" [Capital Khrushchevkas: Durability test], Газета БН [Gazeta BN], October 4, 2007. <http://gazeta.bn.ru/articles/2007/10/04/19852.html>. Accessed January 30, 2018. [In Russian]

**Dolff-Bonenkämper, Gabi.** "Gegenwartswerte. Für eine Erneuerung von Alois Riegls Denkmalwerttheorie" [Present values. For a renewal of Alois Riegl's monument theory]. In DENKmalWERTE: Beiträge Zur Theorie Und Aktualität Der Denkmalpflege [DENKmalWERTE: Contributions to the theory and timeliness of monument preservation], edited by Hans Rudolf Meier, 2010. [In German]

**Echo of Moscow** [Эхо Москвы]. "В РПЦ выступили в поддержку столичной программы реновации жилья" [The Russian Orthodox Church spoke out in support of the capital program of housing renovation]. Echo of Moscow [Эхо Москвы], June 24, 2017. <https://echo.msk.ru/news/2006338-echo.html>. Accessed March 20, 2018. [In Russian]

**Eidgenössische Kommission für Denkmalpflege,** ed. "Leitsätze zur Denkmalpflege in der Schweiz" [Guidelines for the preservation of built heritage in Switzerland]. Zürich: vdf, Hochschulverlag an der ETH, 2007.

- Eidloth**, Volkmar. "Geschichte der städtebaulichen Denkmalpflege" [History of urban heritage preservation]. In *Handbuch städtebauliche Denkmalpflege. Berichte zu Forschung und Praxis der Denkmalpflege in Deutschland* [Handbook of urban heritage preservation. Reports on research and practice of historic preservation in Germany]. edited by Volkmar Eidloth, Gerhard Ongyerth, and Heinrich Walgern, 480. Petersberg: Michael Imhof Verlag, 2013. [In German]
- Eidloth**, Volkmar, Gerhard Ongyerth, and Heinrich Walgern, eds. *Handbuch städtebauliche Denkmalpflege. Berichte zu Forschung und Praxis der Denkmalpflege in Deutschland*. Petersberg: Imhof, 2013. [In German]
- Eremenko**, Ekaterina [Еременко, Екатерина]. "Закон о сносе пятиэтажек: Собянин спасает бюджет и надеется на инвесторов" [The law on demolition of five-storey buildings: Sobyenin saves the budget and hopes for investors], *Forbes Russia*, April 27, 2017. <http://www.forbes.ru/biznes/342925-zakon-o-snose-pyatietazhek-sobyenin-spasaet-byudzhet-i-nadeetsya-na-investorov>. Accessed January 30, 2018. [In Russian]
- Esakov**, Denis [Есаков, Денис] and Mihail Knyazev [Михаил Князев]. "Жилой комплекс 'Лебедь' на Ленинградском шоссе" [Residential complex "Swan" on the Leningrad highway], *Archi Ru*, January 28, 2016. <https://archi.ru/russia/67229/zhiloi-kompleks-lebed-na-leningradskom-shosse>. Accessed October 2, 2018.
- Evening Moscow** [Вечерняя Москва]. "Студенты-архитекторы представили экспериментальный проект по реновации жилых кварталов" [Students architects presented an experimental project for the renovation of residential neighborhoods.], *Вечерняя Москва* [Evening Moscow], May 18, 2018. // [vm.ru/news/493822.html](http://vm.ru/news/493822.html). Accessed July 10, 2018. [In Russian]
- Failed Architecture**. "Revisioning Amsterdam Bijlmermeer." *Failed Architecture* (blog). <https://failedarchitecture.com/the-story-behind-the-failure-revisioning-amsterdam-bijlmermeer/>. Accessed October 1, 2018.
- Fitrinete**, Fuzre. *Wundtstraße Dresden*, *Panoramio*, June 21, 2013. <https://www.panoramio.com/photo/92076237>. <https://commons.wikimedia.org/wiki/>. Accessed October 2, 2018.
- Federal Service for State Registration, Cadastre and Cartography** [Федеральная служба государственной регистрации, кадастра и картографии]. "Охрана объектов культурного наследия в России" [Protection of objects of cultural heritage in Russia]. *Национальный атлас России*. Accessed July 14, 2017. <http://xn--80aaaa1bhnlccci1cl-5c4ep.xn--p1ai/cd4/480-482/480-482.html>. Accessed March 5, 2018.



- Feldman**, Evgeniy [Фельдман, Евгений]. "Как живут в реновированной московской хрущевке" [How people live in the renovated Moscow Khrushchevka], Meduza, May 2, 2017. <https://meduza.io/feature/2017/05/02/kak-zhivut-v-renovirovan-noy-moskovskoy-hrushevke-fotoreportazh-evgeniya-feldmana>. Accessed August 1, 2018. [In Russian]
- Fleischmann**, Philipp. "Die Schlafstadt aufwecken: Konzepte zur Überwindung der Monofunktionalität in Großwohnsiedlungen der 60er und 70er Jahre anhand eines Entwurfs für ein Stadtteilzentrum in Wien - Atzgersdorf" [Awaken the sleeping city: Concepts for overcoming monofunctionality in large housing estates of the 60s and 70s based on a design for a district center in Vienna - Atzgersdorf]. Technische Universität Wien | Fakultät für Architektur und Raumplanung | Institut für Architektur und Entwerfen | E253, 2007. <http://katalog.ub.tuwien.ac.at/AC05918431>. [In German]
- Foto History**. "Москва. Контрасты 1950-х" [Moscow. Contrasts of the 1950s.], personal blog. <https://foto-history.livejournal.com/3213038.html>. Accessed October 2, 2018.
- Galkina**, Yulia [Галкина, Юлия]. "'Набито панельное брюхо': Как спасти хрущевки" ["Full panel belly": How to save Khrushchevkas], The Village, June 8, 2018. [re/314837-panelka](https://www.the-village.ru/village/city/architectu-re/314837-panelka). Accessed October 2, 2018. [In Russian]
- Gorsuch**, Anne E., and Diane P. Koenker, eds. "Modernity unbound. The new Soviet city of the Sixties." In *The Socialist Sixties. Crossing Borders in The Second World*, 66-83. Indianapolis: Bloomington, 2013.
- Gunzelmann**, Thomas. "Flächenhafte geschichtliche Überlieferung als Gegenstand städtebaulicher Denkmalpflege" [Extensive historical tradition as object of urban monument preservation]. In *Handbuch städtebauliche Denkmalpflege. Berichte zu Forschung und Praxis der Denkmalpflege in Deutschland* [Handbook Urban Heritage Preservation. Reports on research and practice of historic preservation in Germany], edited by Volkmar Eidloth, Gerhard Ongyerth, and Heinrich Walgern, 480. Petersberg: Michael Imhof Verlag, 2013. [In German]
- Hatherley**, Owen. "Landscapes of Communism: A History through Buildings", Penguin, 2016.
- Hoffmann**, Detlef. "Authentische Erinnerungsorte oder: Von der Sehnsucht nach Echtheit und Erlebnis" [Authentic places of remembrance or: About the yearning for authenticity and experience] In "Bauten und Orte als Träger von Erinnerung. Die Erinnerungsdebatte und die Denkmalpflege" [Buildings and places as carriers of memory. The commemoration debate and the preservation

of monuments], edited by Hans Rudolf Meier and Marion Wohlleben, 229. Zürich: Hochschulverlag AG, 2000.

**Höft**, Markus. "Modernisierung eines Studentenwohnheims in Dresden. Solitäre im Ensemble." *bba*, September 13, 2010. <https://www.bba-online.de/fachartikel/innenausbau/solitaere-im-ensemble/>. Accessed October 1, 2018. [In German]

**Huse**, Norbert. *Unbequeme Baudenkmale: Entsorgen? Schützen? Pflegen?* [Uncomfortable monuments: Dispose? Protect? Care for?] München: C.H. Beck, 1997.

**Huse**, Norbert, and Veronica Kölling, eds. *Unbequeme Baudenkmale des Sozialismus: der Wandel der gesellschaftlichen Akzeptanz im mittel- und osteuropäischen Vergleich* [Uncomfortable monuments of socialism: the change of social acceptance in the Central and Eastern European comparison]. Berlin: Metropol, 2013.

**Ikonnikov**, Andrey [Иконников, Андрей]. *Архитектура Москвы. XX век* [Architecture of Moscow. XX century]. Moscow: Московский рабочий [Moscow: Moscow worker], 1984. <http://tehne.com/library/ikonnikov-v-arhitektura-moskvy-xx-vek-m-1984>. Accessed July 27, 2018. [In Russian]

**Interfax** [Интерфакс] "АФК 'Система' продала Москве долю в 'Москапстрое"

[AFK 'Sistema' has sold a share in 'Moskapstroy to Moscow], *Interfax.ru*, January 11, 2018. <http://www.interfax.ru/business/594976>. Accessed July 27, 2018. [In Russian]

**Interfax Real Estate** [Интерфакс Недвижимость]. "Объем нежилых помещений в кварталах Реновации вырастет в четыре раза" [The volume of non-residential premises in the quarters of renovation will grow four times]. *Интерфакс Недвижимость* [Interfax Real Estate], December 25, 2017. <http://realty.interfax.ru/ru/news/articles/89340/>. Accessed March 15, 2018. [In Russian]

**Jeder Qm Zählt**. "40 Jahre, drei Generationen - eine Platte" [40 years, three generations - one panel house], *Jeder Qm Du*. <https://www.jeder-qm-du.de/zu-besuch-bei/detail/uwe-und-monika-koehler/>. Accessed October 2, 2018.

**Jeder Qm Zählt**. "Der Liebe und der schönen Aussicht wegen" [Because of love and beautiful view], *Jeder Qm Du*. <https://www.jeder-qm-du.de/zu-besuch-bei/detail/nadja-mueller-und-robert-anders/>. Accessed October 2, 2018.

**Jeder Qm Zählt**. "Grundriss-Beispiele verschiedener Plattenwohnung" [Floor plan examples of different apartment blocks], *Jeder Qm Du*. <https://www.jeder-qm-du.de/platte-kreativ/raumloesungen/grundrisse/>. Accessed August 2, 2018.

- Jeder Qm Zählt.** "Open-Air-Galerie in Danzig" [Open-Air Gallery in Danzig], Jeder Qm Zählt [Every Square Meter Counts], September 18, 2018. <https://www.jeder-qm-du.de/ueber-die-platte/detail/open-air-galerie-in-danzig/>. Accessed October 2, 2018. [In German]
- Jeder Qm Zählt.** "Plattenpalast" [Panel Palace], Jeder Qm Zählt [Every Square Meter Counts], September 18, 2018. <https://www.jeder-qm-du.de/ueber-die-platte/detail/plattenpalast/>. Accessed October 2, 2018. [In German]
- Jeder Qm Zählt.** "Zuhause in die Ferne blicken" [Looking into the distance from home], Jeder Qm Du. <https://www.jeder-qm-du.de/zu-besuch-bei/detail/martin-danamos/>. Accessed October 2, 2018.
- Khan-Magomedov, Selim** [Хан-Магомедов, Селим]. *Архитектура советского авангарда* [The architecture of the Soviet avant-garde]. Moscow: Стройиздат [Stroiizdat], 1996. [In Russian]
- Khan-Magomedov, Selim** [Хан-Магомедов, Селим]. "Архитектура СССР. 1917—1932. Архитектура жилых зданий", [Architecture of the USSR. 1917-1932. Residential architecture]. *Всеобщая История Архитектуры В 12 Томах* [Universal History of Architecture In 12 Volumes], Издательство литературы по строительству [Publisher of literature on construction], 1966—1977. 1966-1977.
- Kholkina, Elena.** *Bedsheet.* 2015. Installation. <http://www.offonroad.com/art/bedsheet/>. Accessed October 2, 2018.
- Kvasnikov, Vladimir** [Квасников, Владимир]. "В Москве открылась выставка архитектурных проектов для кварталов Реновации" [The exhibition of architectural projects for Renovation quarters has opened in Moscow.] *The Village*, November 23, 2017. <https://www.the-village.ru/village/city/news-city/292516-renovation>. Accessed March 20, 2018. [In Russian]
- Little Histories** [Маленькие истории]. "15 сентября 1974 года — в Москве прошла 'Бульдозерная выставка'" [September 15, 1974 - The Bulldozer Exhibition took place in Moscow], *Маленькие истории* [Little Histories], September 15, 2017. <https://tinyurl.com/y9snbcx8>. Accessed October 2, 2018. [In Russian]
- LEG Immobilien AG.** "Mietwohnungen in Dortmund-Clarenberg" [Rental apartments in Dorthmund-Clarenberg]. <https://www.leg-wohnen.de/mietwohnungen/dortmund/dortmund-clarenberg/>. Accessed September 12, 2018. [In German]
- Lehto Group.** Lehto Group. <https://lehto.fi/>. Accessed October 2, 2018.
- Lenin, Vladimir.** "The role and functions of the Trade Unions under the New Economic Policy," translated by David Skvirsky and

- George Hanna, Pravda, January 12, 1922. <https://www.marxists.org/archive/lenin/works/1921/dec/30.htm> Accessed March 20, 2018.
- Lenin**, Vladimir. "'Left-Wing' childishness," translated ab Clemens Dutt; edited by Robert Daglish. Pravda, May 9, 1918. <https://www.marxists.org/archive/lenin/works/1918/may/09.htm>. Accessed March 20, 2018.
- Lerua**, Moris [Леруа, Морис]. "Реновационный опыт" [Renovation experience]. Мослента [Moslenta], June 7, 2017. <https://moslenta.ru/govoryat/francuzskiiopyt.htm>. Accessed July 27, 2018. [In Russian]
- Leslie**, Chris, and Jonathan Charley. "The wrecking ball swings at Moscow - a photo essay." The Guardian, October 31, 2017. <https://tinyurl.com/ybee3bn3>. Accessed March 20, 2018.
- Lucks**, Stefan Wolf, and Cornelius Mangold. "Plattenbauten Berliner Betonerzeugnisse ; ein Quartett-Spiel" [Prefabricated buildings concrete products in Berlin; a quartet game]. Altenburg: Spielkartenfabrik, 2001.
- Lyauv**, Bela [Ляув, Бэла]. "АФК 'Система' покупает 'Москапстрой'" ["AFK 'Sistema' buys 'Moskapstroy'"], Vedomosti [Ведомости], March 11, 2013. [https://www.vedomosti.ru/realty/articles/2013/03/11/sistema\\_snova\\_stroit](https://www.vedomosti.ru/realty/articles/2013/03/11/sistema_snova_stroit). Accessed March 20, 2018. [In Russian]
- Mamaeva**, Olga [Мамаева, Ольга]. "Хрущевки достойны музея" [Khrushchevkas deserve a museum], The Art Newspaper Russia, N53, May 2017. <https://tinyurl.com/y7768gql>. Accessed August 3, 2018.
- Meier**, Hans Rudolf, and Marion Wohlleben, eds. "Bauten und Orte als Träger von Erinnerung: die Erinnerungsdebatte und die Denkmalpflege" [Buildings and places as carriers of memory: the commemoration debate and the preservation of monuments.]. ID 21. Zürich: vdf, Hochsch.-Verl. an der ETH, 2000.
- Meuser**, Philipp. Die Ästhetik der Platte: Wohnungsbau in der Sowjetunion zwischen Stalin und Glasnost [The aesthetics of the panel houses: Housing in the Soviet Union between Stalin and Glasnost]. Berlin: DOM Publishers, 2015.
- Mercator**. "Карта возрастов домов Москвы" [Moscow building age map] <http://msk.mercator.ru/>. Accessed October 2, 2018.
- Milyutin**, Nikolay [Милютин, Николай]. Соцгород. Проблема строительства социалистических городов [Social City. The problem of building socialist cities]. Москва. Ленинград: Государственное издательство [Moscow. Leningrad: State Publishing House], 1930. [In Russian]
- Moscow Government** [Правительство Москвы]. "Гарантии программы" [Program guarantees]. Официальный портал Мэра и

Правительства Москвы [The official portal of the Mayor and the Government of Moscow.]. <https://www.mos.ru/city/projects/renovation/garantii/>. Accessed January 30, 2018. [In Russian]

**Moscow Chronology.** "Московские коммуналки - от уплотнения к расселению." [Moscow Kommunalkas - from the densification to the resettlement]. <https://moscowchronology.ru/kommunalka.html>. Accessed August 2, 2018. [In Russian]

**Moscow Complex of Urban Policy and Construction** [Комплекс градостроительной политики и строительства города Москвы]. "200 домов могут построить по программе реновации до 2021 года" [200 houses can be built under the renovation program until 2021], April 11, 2018. <https://stroi.mos.ru/news/200-domov-moghut-postroit-po-programmie-rienovatsii-do-2021-ghoda>. Accessed June 20, 2018. [In Russian]

**Moscow Complex of Urban Policy and Construction** [Комплекс градостроительной политики и строительства города Москвы]. "Началось заселение стартового дома по Программе Реновации Жилья" [The Move into the Starting House According to the Housing Renovation Program has begun.]. [https://stroi.mos.ru/photo\\_lines/piervyi-poshiel-nachalos-zasielieniia-startovogho-doma-po-programmie-rienovatsii](https://stroi.mos.ru/photo_lines/piervyi-poshiel-nachalos-zasielieniia-startovogho-doma-po-programmie-rienovatsii). Accessed October 2, 2018. [In Russian]

**Moscow Complex of Urban Policy and Construction** [Комплекс градостроительной политики и строительства города Москвы]. "Новые кварталы" [New quarters]. <https://www.mos.ru/city/projects/renovation/novye-kvartaly/>. Accessed June 20, 2018. [In Russian]

**Moscow Complex of Urban Policy and Construction** [Комплекс градостроительной политики и строительства города Москвы]. "Программа реновации жилья" [Housing renovation program]. Комплекс градостроительной политики и строительства города Москвы [Moscow complex of urban policy and construction], <https://stroi.mos.ru/novaia-programma-rienovatsii-piatietazhiek>. Accessed March 20, 2018. [In Russian]

**Moscow Complex of Urban Policy and Construction** [Комплекс градостроительной политики и строительства города Москвы]. "Снос пятиэтажек первого периода индустриального домостроения" [Demolition of the five-story building of the first period of industrial housing]. Комплекс градостроительной политики и строительства города Москвы [Moscow complex of urban policy and construction], <https://stroi.mos.ru/snos-piatietazhiek>. Accessed March 20, 2018. [In Russian]

**Moscow Complex of Urban Policy and Construction** [Комплекс градостроительной политики и строительства города Москвы].

"Техзаказчиком программы реновации станет 'Москапстрой'" [The technical customer of the renovation program will be "Moskapstroy"]. July 31, 2017. <https://stroj.mos.ru/news/moskapstroj-vystupit-tiekhzakazchikom-proghrammy-rienovatsii-zhil-ia>. Accessed March 15, 2018.

### **Moscow Institute of the General Plan**

[Институт Генплана Москвы]. История Института [The history of the Institute]. <https://genplanmos.ru/institute/history/>. Accessed October 2, 2018

**Mosday**, "Москва | Фотографии" [Moscow | Photos] <https://tinyurl.com/y8ks56xo>. Accessed October 2, 2018. [In Russian]

**Mörsch**, Georg, Hans-Rudolf Meier, and Ingrid Scheurmann, eds. "DENKmalWERTE: Beiträge zur Theorie und Aktualität der Denkmalpflege" [DENKmalWERTE: Contributions to the theory and timeliness of historic preservation]. Berlin: Deutscher Kunstverlag, 2010.

**Msk-Guide**. "Храм Христа Спасителя - Фото" [Christ the Savior Cathedral - Photo]. [https://www.msk-guide.ru/page\\_9744.htm](https://www.msk-guide.ru/page_9744.htm). Accessed October 2, 2018. [In Russian]

**Nelyubin**, Nikolay [Нелюбин, Николай].

"Снос хрущевки как 'типичная многоходовочка'" [Demolition of Khrushchev as 'typical moremover']. Фонтанка [Fontanka], April 20, 2017. <http://www.fontanka.ru/2017/04/20/061/>. Accessed August 2, 2018. [In Russian]

ru/2017/04/20/061/. Accessed August 2, 2018. [In Russian]

**New Square** [Новая Площадь]. "Основные этапы развития рынка недвижимости Москвы и Московской Области" [The main development stages of the real estate market in Moscow and Moscow Region], February 7, 2006. <https://news.ners.ru/osnovnye-etapy-razvitiya-rynka-nedvizhimosti-moskvy-i-moskovskoy-oblasti.html>. Accessed July 27, 2018. [In Russian]

**Novikov**, Fedor [Новиков, Федор]. "Урбанистика—ругательное слово?" [Urbanism - an expletive word?] Medium. Fedor Novikov (blog), August 2, 2016. Accessed August 2, 2018. [In Russian]

**Novosibdom** [Новосибдом]. "Генеральный план реконструкции Москвы. 1931-1935 Гг." [General plan for the reconstruction of Moscow. 1931-1935]. <http://arx.novosibdom.ru/node/2441>. Accessed October 2, 2018. [In Russian]

**Novosibdom** [Новосибдом]. "Проект реконструкции Москвы. Ле Корбюзье. 1932 г." [Moscow reconstruction project. Le Corbusier. 1932]. <http://arx.novosibdom.ru/node/2386>. Accessed October 2, 2018. [In Russian]

**Novosibdom** [Новосибдом]. "Схема реконструкции Москвы. Н. Ладовский. 1932 г." [Moscow reconstruction scheme. N.

- Ladovsky. 1932]. <http://arx.novosibdom.ru/node/2388>. Accessed October 2, 2018. [In Russian]
- Pastushin**, Alexey [Пастушин, Алексей]. "ПИК начала отказываться от новых проектов ради программы сноса пятиэтажек" [PIC started to reject new projects for the demolition program of the five-story buildings]. RBC [РБК], March 27, 2017. <https://tinyurl.com/yavl7r8j> Accessed July 27, 2018. [In Russian]
- Paulae**. Studentenwohnheime Wundtstraße in Dresden vom Zelleschen Weg aus [Student residences Wundtstraße in Dresden view from Zelleschen Weg]. <https://tinyurl.com/y8omd48c>. Accessed October 2, 2018.
- Pimenov**, Yuri [Пименов, Юрий]. "Движущиеся границы города" [Moving city borders]. 1963-1964.
- Pimenov**, Yuri [Пименов, Юрий]. "Лирическое новоселье" [Lyrical housewarming]. 1965.
- Pimenov**, Yuri [Пименов, Юрий]. Первые "Модницы нового квартала" [The first fashionistas of the new quarter]. n.d.
- Petrov-Vodkin**, Кузьма [Петров-Водкин, Кузьма]. "Новоселье" (Рабочий Петроград) ["Housewarming" (Working Petrograd)]. 1937. Oil on canvas, 204x297 cm. Tretyakov Gallery.
- Pogorelskiy**, Anton [Погорельский, Антон], and Aleksandra Vladimirova [Александра Владимировна]. "Наследие хрущевков: как массовое строительство в СССР опередило свое время" [The legacy of Khrushchevka: how mass construction in the USSR was ahead of its time]. РБК Недвижимость [RBC Real Estate], March 24, 2017. <https://reality.rbc.ru/news/58d512f29a7947e284344448>. Accessed May 20, 2018. [In Russian]
- Pollak**, Marianne. Vom Erinnerungsort zur Denkmalpflege: Kulturgüter als Medien des kulturellen Gedächtnisses. Studien zu Denkmalschutz und Denkmalpflege [From the memorial to the preservation of monuments: cultural assets as media of cultural memory. Studies on the preservation and preservation of monuments], Bd. 21. Wien: Böhlau, 2010. [In German]
- Prigov**, Dmitriy. "Stihogramm". n.d. Graphic.
- Raenza** [Раёнза]. "Старые фото Ленинского Проспекта, ул. Удальцова, района Тропарёво-Никулино" [Old photos of Leninsky Prospect, Udaltsova street, District Troparyovo-Nikulino], Раёнза [Raenza] November 13, 2013. <https://raenza.ru/blogs/wizard/1418>. Accessed October 2, 2018.
- Rambler** [Рамблер]. "Студенты разработали набор типовых решений и инструментов для архитекторов по программе реновации жилищного фонда" [Students developed a set of standard solutions and tools for architects

in the housing renovation program]. Рамблер [Rambler], May 20, 2018. <https://tinyurl.com/y7l3mfxn>. Accessed July 27, 2018. [In Russian]

**РБК** [РБК]. "Как строились Сталинские высотки" [How Stalin high-rise buildings were built]. РБК. <http://www.rbc.ru/photo-report/07/09/2017/59b030489a79477b73cf51c9>. Accessed October 2, 2018

**RBC Real Estate** [РБК Недвижимость]. "Названы крупнейшие девелоперы Москвы по объемам ввода жилья" [The largest developers of Moscow according to the volume of housing input were announced], RBC Real Estate [РБК Недвижимость], March 23, 2018. <https://realty.rbc.ru/news/5ab4b87e9a7947d906c2e1f2>. Accessed October 2, 2018.

**RBC Real Estate** [РБК Недвижимость]. "Реновация дома на Химкинском Бульваре" [Renovation of the house on Khimki Boulevard]. РБК Недвижимость [RBC Real Estate], May 11, 2017. <https://realty.rbc.ru/news/591466e09a794702e766c20d>. Accessed October 2, 2018. [In Russian]

**Рапппорт**, Herbert [Рапппорт, Герберт]. "Черемушки" [Cheryomushki]. Ленфильм [Lenfilm], 1963.

**RAPSI** [РАПСИ]. "Снос Хрущевки в Москве: альтернативные сценарии" [Demolition of Khrushchevki in Moscow: Alternative scenarios].

РАПСИ [RAPSI], April 11, 2017. [http://www.rapsinews.ru/incident\\_publication/20170411/278158355.html](http://www.rapsinews.ru/incident_publication/20170411/278158355.html). Accessed July 27, 2018. [In Russian]

**Restate Ru**. "Несносная реновация: как в Петербурге капитально отремонтировали хрущевки, и сколько теперь стоят квартиры в таких домах" [Non-demolishable renovation: how khrushchevki were renovated in Petersburg and how many apartments are there now in these houses], June 23, 2017. <https://tinyurl.com/yb4bzply.html>. Accessed August 2, 2018. [In Russian]

**RIA Novosti** [РИА Новости]. "Московские власти готовы разработать закон о сносе 'пятиэтажек'" [Moscow authorities are ready to develop a law on demolition of 'five-story buildings'], February 21, 2017. <https://ria.ru/society/20170221/1488505862.html>. Accessed August 2, 2018. [In Russian]

**RIA Novosti** [РИА Новости]. "После сноса пятиэтажек в Москве образуется почти 53 миллиона тонн мусора" [After the demolition of five-storey buildings in Moscow almost 53 Million tons of garbage will be formed], RIA Novosti [РИА Новости] June 26, 2017. <https://ria.ru/society/20170626/1497289502.html>. Accessed August 2, 2018. [In Russian]

**RIA Real Estate** [РИА Недвижимость]. "Итоги конкурса концепций реновации подведут в Москве не раньше сентября" [The results of the contest of renovation con-



- cepts will be announced in Moscow not earlier than September], РИА Недвижимость [RIA Real Estate], May 5, 2018. [https://reality.ria.ru/news\\_house/20180516/1520711177.html](https://reality.ria.ru/news_house/20180516/1520711177.html). Accessed July 27, 2018. [In Russian]
- Riegl, Alois.** "Der moderne Denkmalkultus: sein Wesen und seine Entstehung" [The modern cult of monuments: Its essence and its development] (1903). Kessinger Pub C, 2010. [In German]
- Riegl, Alois.** "The modern cult of monuments: Its essence and its development." In "Historical and philosophical issues in the conservation of cultural heritage (Readings in conservation)", edited by Nicholas Price, Talley M. Kirby, and Alessandra Melucco, 480. Los Angeles: Getty Conservation Institute, 1996.
- Ruhr-Lippe Wohnungsgesellschaft mbH.** Clarenberg Abschlussdokumentation [Clarenberg final documentation]. Dortmund: Ruhr-Lippe Wohnungsgesellschaft mbH, 2008.
- Rusu, Mihai.** "History and collective memory: the succeeding incarnations of an evolving relationship." *Philobiblon*, no. 18 (2013): 260-82.
- Ruzmanova, Yulia** [Рузманова, Юлия]. "Евгений Асс - о своей мастерской, реновации и ответственности" [Evgeny Asse - about his workshop, renovation and responsibility]. *The Village*, June 26, 2017. <http://www.the-village.ru/village/city/fav-space/271722-ass>. Accessed March 2, 2018. [In Russian]
- Ryazanov, Eldar** [Рязанов, Эльдар]. "Ирония судьбы, или с лёгким паром!" [Irony of fate or enjoy your bath!]. Мосфильм [Mosfilm], 1975.
- SAGA GWG.** Mümmelmannsberg 2020. "Nachhaltige Entwicklung einer Großwohnsiedlung" [Nachhaltige Entwicklung einer Großwohnsiedlung]. Hamburg, 2011.
- Safonova, Kristina** [Сафонова, Кристина]. "Я живу в Ажурном доме" [I live in the Openwork House]. *The Village*, August 4, 2016. <http://www.the-village.ru/village/city/where/242251-azhurnyy-dom>. Accessed March 2, 2018. [In Russian]
- Sardjveladze, Sofiya** [Сарджвеладзе, София] and Alexey Pastushin [Алексей Пастушин]. "Жителей Хрущёвок в рамках Реновации переселят в 100-метровые многоэтажки" [Residents of Khrushchevkas will be relocated into 100-meter high-rise buildings within the framework of Renovation Program], *RBC [РБК]*, February 2, 2018. <https://tinyurl.com/y7bg8g6r>. Accessed July 27, 2018. [In Russian]
- Sardjveladze, Sofiya** [Сарджвеладзе, София] and Alexey Pastushin [Алексей Пастушин]. "Реновация дошла до конкурса" [Renovation reached the competition], *Газета РБК [RBC*

- Newspaper], February 18, 2018. <https://www.rbc.ru/newspaper/2018/02/19/5a86dec69a79477ebca95dae>. Accessed July 27, 2018. [In Russian]
- Sardjveladze, Sofiya** [Сарджвеладзе, София], Aliona Mahukova [Алена Махукова], Svetlana Annenskaya [Светлана Анненская] and Ivan Fedorov [Иван Федоров]. "Жители 452 домов Москвы проголосовали против сноса по Программе Реновации" [Residents of 452 Moscow houses voted against demolition according to the Renovation Program]. РБК [RBC], June 16, 2017. <https://www.rbc.ru/society/16/06/2017/594250d39a794721a2c315ea>. Accessed March 2, 2018. [In Russian]
- Sardjveladze, Sofiya** [Сарджвеладзе, София] and Dada Lindell [Дада Линделл]. "В Программу Реновации в Москве не вошли 18 проголосовавших за снос домов" [The Renovation Program in Moscow did not include the 18 voters who voted for the demolition of houses]. РБК [RBC], August 1, 2017. <http://www.rbc.ru/politics/01/08/2017/598088ae9a79473c340f9b8e>. Accessed March 2, 2018. [In Russian]
- Schlögel, Karl.** "Archäologie des Kommunismus oder Russland im 20. Jahrhundert: ein Bild neu zusammensetzen" [Archeology of communism or Russia in the 20th century: Reassembling a picture]. München: Carl Friedrich von Siemens Stiftung, 2014.
- Schlögel, Karl.** "Das sowjetische Jahrhundert: Archäologie einer untergegangenen Welt" 4., Durchgesehene Auflage. Edition der Carl Friedrich von Siemens Stiftung [The Soviet century: archeology of a lost world. 4th, revised edition. Edition of the Carl Friedrich von Siemens Foundation]. München: C.H. Beck, 2018.
- Sergeev, Alexey** [Сергеев, Алексей] and Nikolay Dobrolyubov [Николай Добролюбов]. "'Стройотряд' Хуснулина. Как менеджеры из Татарстана брали Москву" [Khusnullin's Construction brigade'. How Managers From Tatarstan Took over Moscow]. LIFE, March 23, 2018. <https://tinyurl.com/yac5y3ea>. Accessed April 4, 2018. [In Russian]
- Sergey Skuratov Architects.** "Концепция застройки экспериментальных площадок Реновации в Москве, Царицыно" [Concept of Development of Experimental Sites Renovations in Moscow, Tsaritsyno]. <http://www.skuratov-arch.ru/portfolio/moscow-renovation-2017/?lang=ru>. Accessed October 2, 2018.
- Sher, Maxim.** "245 Khrushchev Building Entrances". n.d. <http://maxsher.com/work/245-Khrushchev-Building-Entrances/>. Accessed July 27, 2018.
- SKB Kontur** [СКБ Контур]. "Контур. Закупки — поиск тендеров, аукционов, конкурсов" [Kontur. Purchases - search for tenders, auctions, contests]. <https://zakupki>.

kontur.ru/. Accessed July 27, 2018. [In Russian]

**Snopek**, Kuba [Снопек, Куба]. *Belyayevo Forever: A Soviet Microrayon on Its Way to the UNESCO List*. Edited by Institut Media, Architektury i Dizajna "Strelka." Translated by Anna Zaytseva. *Grundlagen*, Volume 39. Berlin: DOM publishers, 2015.

**Snopek**, Kuba [Снопек, Куба]. "The intangible heritage." *Project Baikal*, no. 28 (2011): 46-47.

**Snopek**, Kuba [Снопек, Куба]. Польский архитектор: Сносить 8 тысяч домов - это абсурд [Polish architect: demolishing 8 thousand houses is absurd]. Interview by Алексей Синяков for MIR24 [МИР24], April 8, 2017. <https://mir24.tv/news/16280999/rozhdestvenskii-opernyi-forum-otkryvaetsya-v-minske>. Accessed April 4, 2018. [In Russian]

**Solovichenko**, Mariya [Соловиченко, Мария]. "Названа стоимость первых квартир для покупки по Реновации" [The price of first apartments for purchase in Renovation Program was announced]. *Ведомости* [Vedomosti], February 20, 2018. <https://www.vedomosti.ru/realty/articles/2018/02/20/751539-stoimost-kvartir-pokupki-renovatsii>. Accessed March 4, 2018. [In Russian]

**SPEECH**, "'Городские Рощи' - Проект в

рамках национального архитектурно-градостроительного конкурса" ["Urban Groves" - a project within the framework of the national architectural and urban planning competition]. Архитектурное бюро SPEECH [Architecture Office SPEECH]. <http://www.speech.su/ru/projects/city-groves>. Accessed October 2, 2018.

**Springer Architekten**. "Wohnen mm Althagenener Weg" [Housing on Althagenener Weg]. [http://www.springerarchitekten.de/haw\\_hamburg](http://www.springerarchitekten.de/haw_hamburg). Accessed October 2, 2018. [In German]

**Stadt Dortmund**. "Soziale Stadt NRW: Stadtteile & Projekte: Stadtteilprofile: Dortmund Hörde-Clarenberg" [Social City NRW: Districts & projects: District profiles: Dortmund Hörde-Clarenberg]. [https://www.soziale-stadt.nrw.de/stadtteile\\_projekte/profil.php?st=dortmund-clarenberg#meilensteine](https://www.soziale-stadt.nrw.de/stadtteile_projekte/profil.php?st=dortmund-clarenberg#meilensteine). Accessed September 27, 2018. [In German]

**Stadt Hamburg**. "Sanierungsgebiet Mümmelmannsberg" [Redevelopment area Mümmelmannsberg]. <https://billstedt-horn.hamburg.de/sanierungsgebiet-muemmelmannsberg/>. Accessed October 1, 2018. [In German]

**Stefan Forster Architekten GmbH**. "Stefan Foster Architekten - Stadtumbau Ost". <https://www.sfa.de/stadtumbau-ost-projekte>. Accessed June 1, 2018. [In German]

**Strelka Magazine**. "Москва в генеральных

- планах: От болота у стен Кремля до Третьего транспортного кольца" [Moscow in master plans: From the swamps near the walls of the Kremlin to the Third Ring Road], Strelka Magazine. [http://strelka.com/ru/magazine/2015/01/20/genplan\\_history](http://strelka.com/ru/magazine/2015/01/20/genplan_history). Accessed October 2, 2018. [In Russian]
- Stroikom RSFSR** [СТРОЙКОМ РСФСР]. "Рационализация кухни" [Kitchen rationalization]. Современная Архитектура [Modern architecture], 1929.
- Suchkov, Nikita** [Сучков, Никита]. "Реновация курильщика. Что ценного снесут в Москве под видом хрущевок?" [Smoker's renovation. What valuable buildings will be demolished in Moscow under the guise of Khrushchevkas?]. Republic, May 8, 2017. <https://republic.ru/posts/82651>. Accessed June 10, 2018. [In Russian]
- Sukhov, Oleg** [Сухов, Олег]. "Реновация пятиэтажек: С какими испытаниями столкнется малый бизнес" [Renovation of the five-story buildings: What challenges will small businesses face]. Forbes Russia, June 5, 2017. <http://www.forbes.ru/biznes/345375-renovaciya-pyatietazhek-s-kakimi-ispytaniyami-stolknetsya-malyu-biznes>. Accessed July 10, 2018. [In Russian]
- TASS** [ТАСС]. "Приватизация жилья в России. Досье" [Hoising privatization in Russia. A Dossier]. ТАСС Информационное Агентство России [TASS Russian Information agency], February 8, 2017. <http://tass.ru/info/3426534>. Accessed March 5, 2018. [In Russian]
- Topspb TV**. "Реновация по-петербургски: в городе на Неве придумали, как сделать хрущевки комфортными" [Renovation in Petersburg: In the city on the Neva came up with the idea how to make the Khrushchevkas comfortable]. Topspb TV. <https://tinyurl.com/ybj8ke6d>. Accessed August 1, 2018. [In Russian]
- Tyazhlov, Ivan** [Тяжлов, Иван]. "Хрущевкам продлили срок" [Khrushchevkas got an extended term]. Коммерсант [Kommersant], April 10, 2009. <https://www.kommersant.ru/doc/1152923>. Accessed March 15, 2018.
- Varlamov, Илья** [Варламов, Илья]. "20 000 Москвичей Вышли Против Реновации" [20 000 Muscovites went out against Renovation], Varlamov Ru, May 14, 2017. <https://varlamov.ru/2372900.html>. Accessed May 2, 2018.
- Varlamov, Илья** [Варламов, Илья]. "Бассейн Москва" [Moscow swimming pool], Эхо Москвы [Echo of Moscow], September 4, 2012. [https://echo.msk.ru/blog/varlamov\\_i/926618-echo/](https://echo.msk.ru/blog/varlamov_i/926618-echo/). Accessed October 2, 2018. [In Russian]
- Varlamov, Илья** [Варламов, Илья]. "Панельные районы и реновация по-фински" [Panel districts and renovation in Finnish], Varlamov Ru, August 9, 2017. ht-

- [tps://varlamov.ru/2506415.html](https://varlamov.ru/2506415.html). Accessed May 10, 2018. [In Russian]
- Vinogradov, Dmitriy** [Виноградов, Дмитрий]. "Авантюра мирового масштаба" [Global gamble]. *Free Press* [Свободная Пресса], February 22, 2018. <http://svpressa.ru/society/article/193751/>. Accessed March 20, 2018. [In Russian]
- Volchok, Yuri** [Волчок, Юрий] and Margarita Astafyeva-Dlugach [Маргарита Астафьева-Длугач]. *Москва строится* [Moscow is being built]. Москва: Московский рабочий [Moscow: Moscow worker], 1983. [In Russian]
- Volkova, Natalya** [Волкова, Наталья]. "Генеалогия российской урбанистики" [The genealogy of Russian urbanism]. *Kommersant.ru*, December 28, 2016. <https://www.kommersant.ru/doc/3184725>. Accessed March 20, 2018. [In Russian]
- Volodin, P.** [Володин, Р.], Zhuravlev, A. [Журавлев, А.], Iofan, B. [Иофан, Б.], Kadina, I. [Кадина И.], Pekareva, N. [Пекарева, Н.], Strigalev, A. [Стригалева, А.]. "Новые районы Москвы" [New districts of Moscow]. Академия строительства и архитектуры СССР [Academy of Building and Architecture of the USSR], Москва, Государственное издательство литературы по строительству, архитектуре и строительным материалам [Moscow, State Publishing House of Literature on Construction, Architecture and Building Materials], 1960.
- Yankauskas, Konstantin** [Янкаускас, Константин]. "Как избавиться от пятиэтажек без ущерба для москвичей" [How to get rid of the five-story buildings without the damage for Muscovites]. РБК [RBC], March 3, 2017. <https://www.rbc.ru/newspaper/2017/03/06/58b95a049a79470696758347>. Accessed June 25, 2018.
- Zelikova, Elena** [Зеликова, Елена]. "Как нам обустроить хрущевки" [How do we arrange Khrushchevskas], *Fontanka*, October 11, 2017. <https://www.fontanka.ru/2017/10/10/111/>. Accessed October 2, 2018. [In Russian]
- Zernakov, Aleskey** [Зернаков, Алексей]. "Храм, который построил тон" [The temple that built the tone], *Вечерняя Москва*, June 3, 2015. <https://vm.ru/news/2015/06/03/hram-kotorij-postroil-ton-288253.html#>. Accessed October 2, 2018. [In Russian]
- Zinsmeister, Annett**. "MEMODUL Ein digitales Memory zum Plattenbau und anderen modularen Utopien" [MEMODUL A digital memory for panel buildings and other modular utopias]. VDG, 2002. [In German]
- Zotov, Aleksandr** [Зотов, Александр]. "Взорвали Храм Христа-Спасителя" [The Cathedral of Christ the Savior was blown up], personal blog, December 5, 2013. <https://o-alexandr75.livejournal.com/104984.html>. Accessed October 2, 2018. [In Russian]

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**Figure 152.** Apartment of Nadja Müller und Robert Anders in their shared apartment on the 11th floor at the Patz of the United Nations, in the so-called snake, by the former GDR star architects Hermann Henselmann and Wildfried Stallknech. Photo: Mirjam Wählen, Jeder Qm Zählt, "Der Liebe und der schönen Aussicht wegen." (215)

**Figure 153.** Monika and Uwe Köhler have signed their lease for the apartment on Alexanderplatz already in 1971 and have lived there ever since. Photo: Mirjam Wählen, Jeder Qm Zählt, "40 Jahre, drei Generationen - eine Platte." (215)

**Figure 154.** The German online portal for industrial housing residents "Jeder qm zählt" provides rebuilding ideas for the most common series. Graphic: Jeder Qm Zählt, Jeder Qm Zählt, "Grundriss-Beispiele verschiedener Plattenwohnunge." (216-217)

**Figure 155.** Old development in Prospekt Vernadskogo district destined for demolition. Photo: Ekaterina Winter. (228-229)





