

HOUSEHOLDS, OWNERSHIP AND DIMENSIONS OF URBAN APARTMENTS IN RUSSIA

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Abstract

The article is devoted to identifying the socio-psychological reasons that formed in pre-revolutionary Russia, which in Soviet times became the basis for creating a huge city housing stock in the country, filling almost sixth of the planetary land with identical multi-storey sectional buildings, almost entirely consisting of small apartments in terms of area and number of rooms. It seemed that the technology of mass standard model design will provide a solution to this problem in the shortest possible time and will become the basis of the spatial image of housing in the future. Several decades of active construction of identical cheap residential buildings caused an avalanche-like increase in the number of “waiting lists” — households that ought to be relocated to new, more spacious apartments, in accordance with the hygiene standard established by the state. An analysis of the construction practice in Russia, based on the regulation the constraints of the geometric parameters of the apartments, indicates the cyclic nature of the state housing policy development, which largely depends on the dynamics of the ownership structure in the country. The established regularity excludes the possibility of improving the quality of city apartments by using the concept of full socialization or full privatization of all housing resources of the country. Studies of mass urban housing, conducted in the mid-80s, showed that the main reason for the need to change the geometric characteristics of a city apartment is a change in the lifestyle of households.

Keywords: households, urban apartment, housing premises, privatization, ownership, design methodology.

Introduction

In the modern world, there are a sufficient number of buildings that have changed their original purpose. In many cities of Western Europe, the premises of churches, mosques and synagogues are used as warehouses, gyms, bookstores or dwellings. At the same time, the political transformations in Eastern Europe began to use city apartments for offices or shops. Active adaptation of premises to different functions is a consequence of rapid social transformations caused by an unprecedented increase in population, changes in the nature of their activities and the levels of economic well-being.

Today, on one part of the Earth’s surface, you can find apartments with an artificial climate, equipped by swimming pools and greenhouses, located on the upper floors of skyscrapers, and on the other, the dugouts excavated by national troops, which became a basic place of residence of the population in wartime.

Representations of what to build and how to build are problematic for many politicians and architects.

Understanding the causes of changes in the geometry of state buildings is one of the important issues of modern architectural science. The study of this phenomenon is complicated by a rather long period (about 20–40 years) while society becomes aware of the consequences of the adopted policy, the physical transformations, and the negative psychological or social changes that manifested in the multifaceted results of life activity in the country.

It is supposed that one of the reasons that led to social transformations in Russia at the end of the XX century was the Soviet construction policy of total state property and the normative distribution of real estate that contributed to the limited geometric characteristics of residential premises. During the last 30 years of privatization significant changes have been observed in the dimensions and shape of Russian urban apartments and also apparent is the slowly increasing desire to transform housing policy and find a new basis for further development of the quality of urban housing. The desire for a scientific understanding and informed decision concerning the “housing issue” is also manifested in the states formed after the collapse of the USSR, which faced the problem of restoring the housing stock and the uncontrolled reconstruction of the living environment after the beginning of privatization (Photo 1).

The purpose of the article is to describe the dynamics of changes in the geometric parameters of city apartments affected by socio-cultural transformations of

Photo 1

**A Typical Amateur Reconstruction of the Mass Standard Dwelling Built at the End of the 70s
by Contemporary Households (Ukraine, 2019)**



Russian society that periodically demanded a change in the direction of construction policy in the country when faced with the same problems and social consequences.

The Spatial Image of Urban Housing in Europe before the First World War

The rudiments of standard construction of housing can be found in the history of primitive communities that managed to work out fairly stable ideas about the kind of living premises that should be built, relying on joint efforts and the material resources of the habitat. The instability of the climate, and the specifics of social relations with the authorities and neighbours have always forced people to move in search of better living conditions or to find new ways to protect themselves from unwanted influences from the environment. The ability to transform an existing natural environment according to the needs of a small community appeared during the Neolithic revolution long before the creation of the state social structures and cities. The dense arrangement of residential premises inside city walls lasted for more than eleven millennia. During this period, the appearance of residential buildings and their internal organization changed. Even though historical urban buildings are characterized by wide stylistic diversity, one can always observe in them common identifying attributes from a local cultural community.

Some millennia ago on the territory of ancient Russia a unique type of dwelling developed with a single small room located in a semi-underground log house with a stove serving both as a heat source and a cooking place. During the formation of Kievan Rus', almost with the same shape and dimensions, residential buildings became more diverse thanks to the use of Byzantine stone construction technology. Even so before the formation of the Moscow kingdom, most of the wooden Russian dwellings have identical shapes and dimensions. Presumably, the housing premises were represented by one room in a detached construction and were in the possession of a large multi-generation household.

The rapid territorial expansion and arrangement of the Russian kingdom (1547–1721), which stretched from the borders of the Polish-Lithuanian Commonwealth to the Qing Empire with active trade with the states of Central and Northern Europe, enriched Moscow and other Russian cities, with new types of residential buildings with diverse organizations of premises and rich interior decoration. Peter's desire to transform the social structure of Russia into an absolute monarchy led to the formation of the Russian Empire and the creation of a new housing construction policy (1721–1917).

The transformation of the feudal status of the boyars into nobles provided for a change in the source of their welfare. The new generation nobles began to exist not only thanks to the activities of its own estates but also due to remuneration from the state treasury, which also meant the adoption of the geometric shapes of the dwelling that were considered by the supreme authority to be appropriate.

The boyar as the owner of his subjects and their homes transformed into being a tenant of the sovereign. The spatial image of the urban-dwelling proposed for construction in St. Petersburg, the new capital of the empire, was formed on the

appearance of the residential buildings of the courtiers of the French aristocracy. Peter's attempts to improve the quality of dwellings by building typical houses for the "nobility" and "the commoners" in the country turned out to be unsuitable for the harsh climate of Russia, and were subsequently eliminated by Russian professional architects who were educated at the Imperial Academy of Arts that existed before the October Revolution.

New ideas about the need for revolutionary transformations of spatial organization of European cities and housing appeared during the era of the formation of capitalism, when the romantic moods of the nascent industrial and financial households, concentrating their enterprises in areas rich in natural resources, sought to isolate themselves from the Renaissance palazzos and villas that had been fully consistent with the ideas on the conditions under which the feudal aristocracy should have a successful and healthy living. Most social ideas were based on the universal principles of private property and freedom of exchange of goods and knowledge (J. Fichte, 1762–1814, J. Mill, 1773–1836, P. Proudhon, 1809–1865). In Russia, an approach that did not take into account the cultural or territorial characteristics of the development of society was taken with caution (A. Khomyakov, 1804–1860). Until the middle of the nineteenth century, the Russian urban housing was dominated by classical ideas about the external appearance of buildings formed in the Petrine era.

Changes in the appearance of urban bourgeois (middle-class) buildings took place after the outrage of the citizens that swept through Europe in 1848–1849. The "Spring of Peoples," expressed in large-scale revolts and the spread the nationalist and internationalist sentiments, based on the growing number of industrial workers, gave rise to the movements which found opposite goal-oriented views expressed in the desire to create a society based on the total elimination of, or the establishing of private ownership, in which real estate was considered an important part (Marks & Engels, 1848). Supporters of universal privatization won the political battle and they managed to maintain their position until the outbreak of World War I.

The demand for the search for new aesthetic ideals resonated with architects who directed their efforts to use new materials and technologies in demonstrating the possibilities of national culture. Soon every European city had living premises with different properties and geometric parameters corresponding to a wide variety of financial possibilities and lifestyles of urban households. The private housing buildings were represented by detached country villas, small-town cottages, low-rise blocked houses or high apartments and established a new standard image of modern housing.

In the middle of 19th century the freedom of opinion and the accumulated material of scientific research contributed other theories explaining how to transform social reality to achieve a new level of well-being: positivism (A. Comte); evolutionism (H. Spenser); functionalism (E. Mayo); structuralism (E. Titchener); psychologism (G. Tarde); instinctivity (W. McDougall); historicism (H. Rickert); formalism (M. Weber); impressionism (G. Simmel); and phenomenology (E. Husserl). The lack of reliable statistics on the living conditions of population in

several European countries shifted the centre of research to the cognitive and behavioural aspects of human life in society (W. Wundt, 1832–1920).

In Russia, with a rather high proportion of rural population, more attention was paid to the development of the integrity of society manifested in the Narodnik movement (P. Lavrov, 1823–1900). Despite the fact that many representatives of this direction gave the intelligentsia a leading role (N. Michajlovski, 1842–1904), social ideas were abstract philosophical. Later theorists (L. Lopatin, 1855–1920), who advocated the idea of the universality of the “World Spirit,” paid little attention to social features in Russia. Several of Russian scientists relying on experimental studies demonstrated the dependence of the formation of spatial ideas on physical conditions (N. Grot, S. Trubetskoy). They argued that the ideas of transforming the environment couldn’t be universal. Nevertheless, the idea of a typical solution to problems prevailed to take into account universal continuity in solving social problems (G. Tschelpanov, 1862–1936).

Despite the planning of cities and the active creative construction of residential buildings, there was not enough complete statistical information about the social processes taking place behind beautiful eclectic facades. Regular surveys and censuses of the population were only just beginning in most European countries. However, everyone noticed how quickly cities filled with labour migrants. The population of the small English city of Birmingham from 1801 to 1901 grew from 71 to 760 thousand (Burke, 1971). The avalanche-like influx of peasants into European cities caused an initially terrifying overpopulation. In dwellings consisting of two rooms and a basement, up to 20 people could live, with 120 people using one latrine (Kozerenko, 1928). Then a wave of infectious diseases hit the cities, primarily reflecting in the increase in child mortality. Governments attempted to take measures to improve the lives of workers by trying to build special buildings with the financial support of insurance companies and the support of a cooperative movement focused on creating residential buildings for the poor. It allowed a slight improvement of the housing stock and made it possible to raise the quality standard of living stock for workers by equipping their apartments with sewers and water supply. Reforms had a significant impact on the development of the real estate market, which changed the attitude of workers towards their own housing.

In Russia, until the 18th century boyars, merchants, and state peasants were permitted the right to own private property and land. The purchase and sale of real estate to other social groups was simplified after the peasant reform of 1861, which became the economic starter of the territorial development of cities. The need to transform cities into industrial and financial centres of the country caused an unprecedented increase in the urban population explosion. According to the date of the urban survey 1835, three million people lived in Russian cities (Kozerenko, 1928), and there were 30.6 million citizens in 1914 (Federal’naya Sluzhba Gosudarstvennoi Statistiki, 2006, pp. 39–40, 79). According to estimates, the urban population of Russia before the First World War was about 14%.

In St. Petersburg, the appearance of the city began to change very quickly at the end of the 19th century. Wooden houses with large gardens and kitchen gardens, located behind the main administrative and government brick buildings of the capital

constructed before the turn of the century, were replaced by “apartment buildings” with numerous rooms and modern sanitary equipment intended for middle-class rental. Shops occupied the first floors of new houses with windows lit by electric lamps facing the main streets. Dense neighbourhoods of the city were pierced by small wells, courtyards, which ensured the penetration of sunlight into the premises of apartments. The Russian capital before World War I had a total of 2 million inhabitants. There were trams and buses routes. A telephone, a telegraph, large banks, stations, passages and city parks were laid (Isachenko, 1998).

In Moscow, the construction did not lag behind the capital. During the period from 1859 to 1917, the urban population increased almost 5 fold, reaching a population of 1.9 million people. Nearby to two-story merchant mansions, usually consisting of six to ten rooms and a garden plot on the main old streets of Moscow, 7–8-storey residential buildings with elevators were raised. The Central Universal Store with a modern vaulted ceiling made of metal and glass truss-supported metal framework appeared beside Red Square (Nashchokina, 2005).

Soon, urbanization spread throughout Russia giving scientists the task of engineering the construction of large structures in the tundra and permafrost (Zhuravsky, 1856). At the Exhibition in Nizhny Novgorod (1896), the unique metal hyperplod mesh shells and hanging ceilings created by Russian scientists were demonstrated for big urban construction which might adapt better to the cold and snowy climate (Kovelman, 1961). Of course, during this period, most of the architectural details and spatial ideas were borrowed from the Vienna avant-garde, French secession, and English urbanism (Kratovo settlement). However, in the early twentieth-century a Russian modernist style gained popularity in new elite communities (Lisovsky, 2009).

Overall, the aesthetic search of Russian architects and the construction achievements of scientists was no consolation for the vast mass of the hungry population scattered throughout the wide territory of the country, which was left without the material patronage of the landowners and hoped to get the financial resources from work found in the cities. The old undeveloped dilapidated outskirts of cities were quickly overflowed with migrants to form districts with poverty and unsanitary consolation. Only in 1906, the Russian government approved the initiative to create a project to improve the living conditions of workers through the construction of cheap dwellings, but the project was not implemented due to delays associated with land allocation and the lack of interest among most industrialists to invest in the expensive construction of special dwellings for workers.

Despite all efforts the average housing supply of the urban population of Russia before the First World War was significantly worse than in other countries. About 60% of Saint Petersburg population lived in highly compacted housing premises (more than 2 people in one room), while in London this part of the population in that time was no more than 10%. According to unverified data, in Moscow before the First World War, there were around 13 thousand one-room apartments where from 4 to 10 people lived, while on average there were about 2 people per room (Kozerenko, 1928). Therefore the Bolsheviks believed that the elimination of private ownership of land and real estate were the main means in eliminating inequalities in the living conditions of the country’s population.

Spatial Ideology on the Improvement of Urban European Apartments in the Post-War Years (1918–1924)

Improving the housing situation in Europe was stopped by the war. Demographic losses amounted to about 9.4 million people killed, and 18 million people disabled (Urlanis, 1960). The sharp decline in the birth rate and the increase in mortality among the civilian population did not significantly affect the influx of labour migration into the cities. Typically, during a war, industry needs more workers. The influx into the cities intensified. The population of many cities in Europe began to approach one million. Destruction of residential buildings caused by hostilities led to a greater density of residence in city apartments (Photo 2).

In England, the Liberal government in debates during the years 1917–1919 attempted to concretize the concept of “good housing”. Urban requirements were legislatively established for residential construction (building density, roads, green spaces). Attention was also paid to the constructive and hygienic qualities of residential premises that prevented the appearance of dampness, fungus and mould, as well as the number of living rooms (at least 3) supplied with kitchens and bathrooms equipped with the necessary facilities.

As the first step in improving the quality of housing, the authorities sought to determine the number of families in dire need of a separate room. Many countries adopted regulations claiming the inadmissibility of having more than two tenants in the same room. Then with the help of municipalities, construction companies and private builders, using government subsidies, started constructing special rented housing for the workers (Housing, Town Planning, &c. Act, 1919). The state intended to start a fund for the financial resources for this purpose by the sale of

Photo 2

A Typical Placing of Most of the Population in Rooms after World War I in Central Europe
(Exhibition “Foto. Buch. Kunst”. 28.6.2019–22.9.2019, Albertina, Vienna)



land at set prices. Instalment payments were provided for up to 80 years. Initially, the plan had drawbacks related with accessibility to new territories for construction, which caused an increase in prices for the construction and rental of apartments. The new program in 1924 to eliminate the shortcomings of the first, was able to more efficiently use territorial and financial resources and in a short time enabled the construction of 136,889 houses including 59,591 apartments located in cottages with front gardens (Walters, 1976). In the face of growth in the post war economy, active rental of the developers' apartments quickly gave way to their purchase. A significant part of the population of England was able to move from slums to apartments with electric lighting and bathrooms. In the United Kingdom between 1921 and 1935, with a population of around 42–47 million people, about 2 million new apartments were built and sold (Bunin, 1979).

In Germany, created in 1919, the Weimar Republic Government, building on the foundations of parliamentary democracy and federalism, prepared a political program to promise "every German a healthy home." Several regulations defining the parameters of quality housing were prepared in the first years after World War I. However, the unpreparedness of the program and the vagueness of the wording forced the territorial communities, together with the local administration, to assume control over the city housing stock. The number of vacant premises in Germany in the mid-20s was about 3% (Kozerenko, 1928). Through the use of vacant premises and by reconstructing non-residential premises into residential, the density of the population in the occupied dwellings in Germany temporarily ceased to grow.

The short experience of providing apartments free of charge to the German population increased the average provision rate of living area for the population. But that in turn led to an increase in the number of families proving their right to receive an apartment for free. With the help of legislative acts, the government tried to satisfy the growing need for living space through the construction of cheap low-rise apartments and the reconstruction of existing houses, providing the integration of small adjacent apartments into larger ones. Such policies were met with the resistance from local communities requiring the introduction of more small-sized apartments. The increase in the administrative pressure on construction led to an increase in the rental prices for apartments, corruption and bribery. The time for waiting in line for a more spacious apartment increased. In 1924, trying to restrain popular unrest, the authorities cancelled the requisition of premises and allowed owners to decide rental prices for apartments. The housing policy of the Weimar Republic showed in practice the difficulties of state control over the construction and distribution of the housing stock.

Nevertheless, political efforts aimed at finding cheap and compact living premises for the urban population led architects to find an economical geometric shape of dwelling that was expressed in the choice for new constructions of a low-rise building (3–4 floors). Entrances to small two-bedroom apartments, which were placed on each floor, were organized from one common staircase. That spatial image of housing became one of the bases for constructing a standard typical dwelling in subsequent years in Germany and later in Russia (Schmitt, 1966; Pai, 2002).

In Russia, the abolition of private property implied a ban “forever” on any form of alienation of land (purchase, sale, rental, and collateral) (Vserossiiskii Tsentral’nyi Iсполnitel’nyi Komitet, 1918). It also allowed for the legally forced resettlement of the population on premises in the total country. Such a radical political decision caused a social shock that instantly stopped the economic activity of the whole country. It is possible to imagine a psychological blow caused by the compaction of a dwelling in which each upper or middle class household had to stay with their belongings in one of the rooms, providing furniture and equipment for kitchens and sanitary facilities for the collective use by other households. The government established forced labour camps and used violent means to suppress any dissatisfaction of some part of the urban population with the new laws related to relocation from slums to high-quality housing (Vserossiiskii Tsentral’nyi Iсполnitel’nyi Komitet, 1919). For example, the theft or damage to municipal property (public housing and real estate) carried the provision of punishment of up to 6 months imprisonment.

The new authorities erroneously assumed that in the cities of Russia there were enough domestic premises so that the entire urban population of the country could become working people with the same living conditions. Considering that the annual statistical reports describing the parameters of the urban housing stock during the revolution and the civil war were not complete, the decision on state ownership of real estate had an ideological justification. A reason for total real estate municipalisation was the belief in the political doctrine presented by Friedrich Engels in articles published almost 30 years before the revolutionary events in Russia. The Communists leaders believed “housing needs ... can be eliminated when the entire social system that is generated would be basically transformed” (Marks & Engels, 1970). It was perceived by the new revolutionary government as a goal and a guidance for the transfer of all real estate to state, cooperatives or collective ownership. The next question was how to distribute the premises of all the state with infinite diversity of geometric and physical property, among workers, peasants and officials. It was necessary to scientifically prove that there was a minimum floor area in a room, sufficient for human biological existence.

For scientists, it was essential to find the minimal parameters of the area or volume of the premises necessary for the long stay of people since the advent of shipping and the construction of prisons. Studies on the high density residence living in dwellings at the end of the 19th century, conducted with the aim of eliminating foci of infectious diseases, as well as identifying the tuberculosis bacillus, made it possible to experimentally establish the minimum parameters of a room (Brock, 1999). It turned out that a room of 25 cubic meters with traditional building ventilation for the building could ensure a safe stay for two people (Leroux, 1963). On the floor area in such a room, with a ceiling height of 3 m, it was possible to place two beds, a small table with two chairs and a small cupboard. Therefore the initial standard of living space guaranteeing every Russian citizen the right to the long residency in a building was established as 16 square arshins (about 8 square meters), with a minimum height of 4.5 arshins (3.2 meters). Local councils were allowed to increase the area of residence for patients as well as doctors, professors,

teachers and engineers (Barsegyants, 1922). Considering that the new housing stock in Russia was represented mainly by large rooms, the distribution of living space among the urban population caused a form of “communalka” living (several households in the same living premises). The territory attached to the multi-storey buildings had also to be shared. In a row of cottage houses located within the city, the right to private use of the site (the size of which was determined by the local administration), was retained.

Cooperatives and local councils were permitted to construct new residential buildings, according to the general plans for the city development that should provide for the adopted norm for placing people indoors and plan for increasing the population by 1.5 times until 1950. A fee was supposed to be introduced for living in the apartment, depending on the area of the house in a city and the engineering equipment of the apartment. When living in basements, the appropriate fee was reduced by half. For living in a room with an area of more than 15 square meters, the fee charged was raised by twenty times (Vserossiiskii Tsentral'nyi Ispolnitel'nyi Komitet, 1926). Organization of planning and control over movement and ensuring universal employment of the population required not only an increase in the number of employees in the local administration but also the allocation of jobs. About a quarter of the nationalized housing stock in cities began to be used for non-residential needs. The largest reduction in the area of residential premises was observed in small settlements, which, after the territorial reform, acquired the status of urban-type settlements. Such new administrative centres were forced to occupy almost the entire multi-unit housing stock. To eliminate the extreme consequences caused by the redistribution of the state premises in 1922, shock commissions were created that sought to restrain the activity of local administrations on the misuse of residential premises (Kozerenko, 1928).

The socio-psychological reactions of the mass consciousness to the economic and social constraints caused by the war manifested in active dissemination of visionary dreams of the future. In the period of the catastrophic shortage of food and clothing in Europe, the new art schools “Bauhaus” and “Vkhutemas” were created in the German city of Weimar and in Moscow. The principal aim of those universities was to train specialists for the upcoming mass production of household items. In Italy, architects were trying to realize the ideas of the futurists. In Paris, Le Corbusier demonstrated the concept of a future city for 2 million inhabitants. In Moscow the City Council was also creating utopian plans for the reconstruction of Moscow (Smirnova, 1981). Despite the good intentions to live in a bright future, revolutionary transformations worsened the quality of life for the population and increased inequality in the use of residential premises. In 1923, the average housing supply in large cities was about 11 square meters per person, and in small cities such as Samara, Tula and Chelyabinsk, there was about 4 square meters per person (Kozerenko, 1928). The policy of hard war communism and the temporary introduction of the commodity market and private entrepreneurship during the NEP (1919–1929) did not improve the state of affairs in the construction industry, but caused radical changes in the lifestyle of citizens. The country experienced a sharp decline in the volume of housing construction. It is assumed that the provision of

living area for one resident of the country decreased one half to two times and might have consisted of 5–6 square meters in 1926 (Federal'naya Sluzhba Gosudarstvennoi Statistiki, 2006, pp. 81, 210, 480–481). Moreover, the introduction of the system of total state distribution of material resources, according to accepted standards, plunged the country into declines in production and product quality. Meanwhile, more than seven million low-rent homes with small bedrooms, a compact kitchen with running water and a private toilet in each dwelling were built in Europe during the period 1919–1939 (Reed & Ogg, 1940).

The concept of the dependence of the perception of environmental geometry on the surrounding reality was confirmed in the foreign school of gestalt psychology. In Russia, most of humanitarian scientists were focusing on the problem of eliminating total illiteracy of the population. The transition to the socialization of property and the need to develop a new ideology for socialist development contributed to an in-depth study of forms of communication and human activities in Russian scientific investigation (L. Vygotsky, A. Luria, L. Sakharov). Post-revolutionary freedom of creation and wide contacts with foreign architects stimulated various theoretical movements. Soon the new young Soviet spatial consciousness was divided into two ideological concepts. One was oriented to handicraft admirers from production (W. Morris, S. Milutin, S. Rodionov). A big group of Russian architects were also the adherents of mass industrial housing construction (A. Gan, E. Lisitsky, K. Klein).

The Stalinist Approach to the Spatial Image of a Soviet Dwelling (1924–1953)

The negative attitude to the subject environment of the “class enemy” was accompanied by the habit of living in wretched rooms without paying for them. In pre-revolutionary Russia, many employers, because of the desire to minimize wages (as the former landowners), tried to place their workers in their real estate. Most labour migrants agreed to live in any cramped conditions for free or for a small rent, but not to take care of finding, repairing or building their own homes. That is probably why, unlike England and Germany in the pre-war period, Russian workers rarely made demands during social protests to improved housing conditions. To stop acts of vandalism, growing conflicts of tenants and irresponsibility towards apartments, the government was forced to introduce market mechanisms in the production, distribution and consumption of urban apartments. Nationalization and municipalisation were replaced by de-municipalisation, and the right of frequent ownership of certain buildings was restored. A solution was proposed to the problem of repairing and construction of new residential buildings: to better the activity of housing cooperatives that could unite and direct residents' efforts to improve their living conditions (Tsentral'nyi Ispolnitel'nyi Komitet SSSR i Sovet Narodnykh Komissarov, 1924). The belief in that form of public construction was reinforced by the Marxist thesis that housing cooperation would exist also in communism when the need for the Soviet state disappeared (Larin, 1930).

Initially, the spatial image of a cooperative dwelling was based on small one-story constructions built on the outskirts of cities in the pre-revolutionary period. When the young generation of architects turned their backs on the old “bourgeois aesthetic ideas”, they tried to find a direction that would have universal abstract stylistic features reflecting the totality and economy of the new socialist dwelling. Like their German comrades from the Bauhaus, more Russian architects were sure that the building in the form of a geometric cube without decor with white walls (allowing for the connection of other sections) was the most economical and most representative form of housing for everyone. The sectional type of dwelling with an internal staircase was also popular as it resembled the traditional Russian log hut, where the central place was occupied by the vestibule-floodgate (“sieni” in Russian) that prevents cold air from penetrating the room when opening the door.

Despite the lack of engineering equipment and the difficulty in creating urban infrastructure, working settlements appeared in the cities. They usually consisted of several small apartments located on 3–4 floors that might be without sewage and water supply. Some local authorities tried to ban the use of brick and stone because of the complexity of delivery and the high cost of materials. However, the law prohibiting the eviction of members in a cooperative from the building they had built was the most important incentive for the development of cooperative construction.

Soon it became clear to the government that given the low productivity of building the cooperative movement was not able to increase the country's resources of space. In the ten years after the October Revolution in Russia, among which 1924–1928 were the most active in construction, the housing stock increased by 16.6 million m² of living area. Such a volume of living premises today is made in Russia in 3 years (Federal'naya Sluzhba Gosudarstvennoi Statistiki, 2006). A decisive turn in the change of attitude towards the living conditions of the population occurred after the government adopted a decision to recognize industrial enterprises and local councils as the main developers of working dwellings (Tsentral'nyi Iсполnitel'nyi Komitet SSSR i Sovet Narodnykh Komissarov, 1928, January 4). The construction of individual low-rise single-family houses in small towns, as well as cottages and vacant houses in resort areas, was considered appropriate. The population was allowed to exchange premises within the city and suburban areas. Municipal authorities received the right to attract large private capital to the construction of buildings, supported by special benefits based on special decrees. Thereby private and cooperative construction institutions building, in keeping with the state technical and sanitary standards established by the legislation of the Union of Republics, had to be carried out. The government also announced that in new construction the “living areas ... in homes are not subject to any restrictions. However, one person must receive the living area in these apartments for the sanitary norm established by local authorities”. Forced settlement of residential and non-residential premises was also prohibited by order of any administrative authorities. Almost simultaneously, a copyright decree was issued protecting the intellectual property of architects to guarantee rewards for the use of a spatial idea (Tsentral'nyi Iсполnitel'nyi Komitet SSSR i Sovet Narodnykh Komissarov, 1928, May 16).

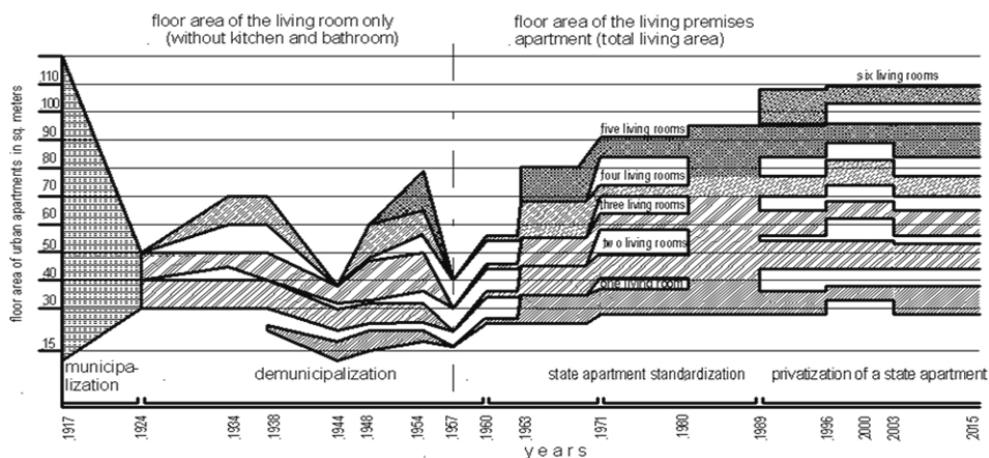
In that period of “small perestroika” there gradually formed a unified spatial image of the Soviet urban apartment which permitted construction of apartments with bigger areas allowing a minimum of furniture and equipment to be placed (Figure 1).

After the government’s directive on “... the restructuring of everyday life,” all population of the country saw a future communist house in which there would be no place for a household chore (Tsentral’nyi Komitet Vsesoyuznoi Kommunisticheskoi Partii (Bol’shevikov), 1930). Daily household processes, which traditionally took place in houses (cooking, eating, washing, and drying clothes) soon were supposed to be relocated into special buildings. It was also envisioned that the sick, schoolchildren, single and old people, should also have special all year round types of institutional dwellings built for them (hospitals, dormitories, boarding schools, communal houses) (Gradov, 1968). The desire to remove all home processes (except sleeping) from the apartment was dictated by economic considerations. After several years of living in such “communist houses”, most households moved to the old housing stock. Such type of building turned quickly into dormitories and offices. This was the first warning to the government officials that the spatial limitations in urban construction could not be an instrument for solving hygienic economic, aesthetic or ideological issues in the state housing policy.

Strict rationing of the geometry of residential premises did not affect the artistic appearance of new buildings. At that time Russian architects realized contemporaneously aesthetic fashionable modernism concepts, and also the archaic forms of self-constructions were used. In Russian cities at that time multi-storied housing with avant-garde constructivist image could be found side by side with new wooden buildings resembling traditional huts. The Soviet government had dissatisfaction

Figure 1

Change in Regulatory Restrictions for the Area of Russian Apartments (according to State Building Law (Snip) and Taking into Account the Information from Ovsyannikov, 1982)



with the loss of control over the social and ideological qualities of the state housing and began to realize that creative freedom expressed by architects in the individual design would not create a positive image of communist management and would not provide an improvement in living conditions for the country's population.

Understanding the presence of infinite various spatial ideas about the future organization of a classless society, the government decided to restrict freedom in all types of intellectual creativity, warning about the dangers of using extreme and radical concepts in art (Politbyuro TsK VKP(b), 1932). Unions of writers, artists and architects were to become organizations and had to be controlled by the authorities to develop new creative concepts and consolidate efforts to improve the quality of things produced. Politicians urged architects to pay attention to the ideological content of creativity and the ability to distinguish between the negative effects of borrowing or creating spatial concepts of left or right orientation. The views of constructivists who were ready to "give up all the old culture for a little snuff of tobacco" were condemned as well as the searches for an expensive high-quality cottage home, which were presented as slavish "subservience to the humanists" (Maizel' & Slepnev, 1930, p. 82). Instead of multiple associations of engineers and designers, one organization was established in Moscow in 1934, the Union of Soviet Architects that took up the responsibility for covering the official orientation of the country's spatial development.

The first five-year plans that represented the restructuring of the country's economy and involved general collectivization and industrialization (1928–1937), took place in difficult conditions. The card system for food and most household items was preserved in the country. The discontent of the population provoked by a lack of housing was also growing. Allegations of sabotage intensified and eviction and repatriation of the population expanded. It is believed that 6 million people were subjected to repression between 1930 and 1960 (Zemskov, 2005).

The theoretical basis for the new spatial image of Soviet Russia was the integration of the prognostic and the historical concept of social development. Soon, a formal language of buildings was developed, based on the use of "progressive historical experience" with the inclusion of "regional features of the construction site." The exterior of most of the residential multi-story buildings of this period resembled an eclectic mix of geometric quotes from regional traditional architecture, Roman insulae, Renaissance palazzos and Art Deco fashion. However, hidden behind the richly decorated facades of housing buildings, the geometric parameters of rooms limited by the building laws of 1934–1948, had not changed substantially. The average living area of 7 sq. m in Russian cities in the middle of the XX century demonstrated that most townsmen in the country did not have an isolated bedroom.

Despite the historical difficulties of the pre-war and post-war period, Russian scientists were developing the theory of the installation (D. Uznadze), the theory of consciousness as a result of active social interaction (A. Leontyev) and the theory of attitude instruction (P. Galperin). There is a growing interest in foreign scientific research devoted to the programming calculation and the possibility of creating artificial intelligence (E. Thorndike, B. Skinner, J. Watson).

After the Second World War, the need to restore the destroyed housing stock caused an even greater influx of population into the cities. The solution to the housing problem was once again becoming relevant. At first, the cities were overgrown with frame and panel low-rise private houses with a typical apartment layout. A few years later, there was a need for mid-rise buildings. Given that the design was carried out mainly in the republican design bureaus and not all private developers had the necessary documentation, in 1949 the Central Institute for the Design of Standard Housing was established in order to provide the design documentation for housing construction in the entire country. The expansion of the typology of buildings made it possible to accelerate the pace of construction, but the post-war migration into the cities did not contribute to a decrease in the occupation density in premises. The lack of housing censuses at the time again did not allow for accurately determining the number of necessary dwellings.

Meanwhile, the country's leadership, aware of the American construction of skyscrapers, noted a number of socio-economic advantages that allowed the experimental construction of high-rise buildings in Moscow to begin (Sovet Ministrov SSSR, 1947). It was assumed that such apartments should have more spacious rooms with more modern technical equipment. At the end of the 50s criticism was published in the media concerning the artistic approach to the design of high-rise residential buildings that demonstrated that houses built according to the projects of the Academy of Architecture of the USSR had high operating costs caused by the production on unnecessary art decorations.

Dimensions of the Soviet Mass Urban Apartment of Developed Socialism (1953–1991)

Sharp changes and speculation in the real estate market forced the US government to protect lenders from economic losses. Legal acts on the development of mortgages and the secondary housing market adopted before World War II provided for the initial construction of economical buildings of medium or high floors (Chicago, 860–880 Lake Shore Drive Apartments, 1951). This model of an apartment building became popular throughout the world during the next two decades. However, the involvement of small and medium-sized enterprises in the construction industry changed the balance of ownership, and the share of own housing in the countries began to increase due to the active construction of low-rise buildings. In the United States, the share of private housing increased from 40%–44% (the 1940s) to 62%–65% (the 1960s). Japan had achieved such indicators in the 80s (Durmanov, 1992). Rental of small apartments created by state and municipal organizations began to decrease. Small and medium-sized enterprises entered the market, which made it possible to move from standardized to individualized production.

In Russia, the revived ideology of American modernism, based on the mass production of prefabricated products also penetrated the environment of a new generation of young architects. The Resolution of Government “On the development of the production of prefabricated reinforced concrete structures and parts for

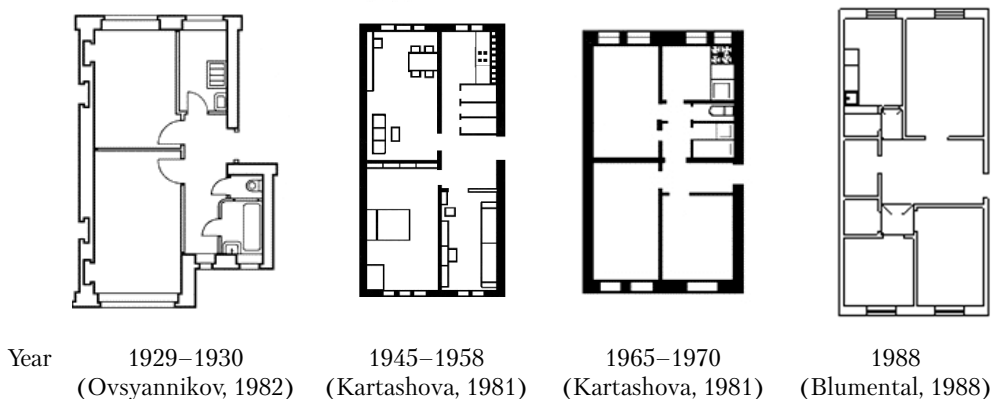
construction" envisaged the construction of hundreds of enterprises oriented to the production of prefabricated concrete products. Soon, the country's leadership announced a plan to end housing shortages in two decades and they prepared a planning document "On the Development of Housing in the USSR," which determined the fate of housing construction for the next three decades (Tsentrāl'nyi Komitet Kommunisticheskoi Partii i Sovet Ministrov SSSR, 1957). To eliminate possible criticism about the new myth of creating communist housing in the small area of living premises (around 30–50 sq. m) and with a small number of rooms (1–4) the Academy of Architecture of the USSR was closed.

The architectural achievements of the 20s became popular again. The political task oriented towards providing each family with a separate apartment again led to a reduction in the floor area and room height in apartments (SNiP II-B.10-58). Geometric requirements of living quarters returned to the economical spatial image of the apartment from the 20s that remained unchanged until the collapse of the USSR (Figure 2). All prefabricated enterprises of the country began production of several types of residential buildings, regardless of climate, social or territorial capabilities. The effectiveness of local authorities began to be evaluated not only by the living area of rooms but also by the number of apartments built and the area of living premises.

The political decision that the same apartments were to be constructed all over the country narrowed the activities of architects mainly to the "siting" or "landing" of a typical building in the area of the proposed construction. That led to a reduction in the training of architects. Research activities in the field of housing were focused on the creation of micro-districts on the outskirts of large cities. For that purpose all Soviet Republics established central and special regional project institutions. The geometric parameters of the apartment were so minimal that they did not allow the placement of new models of furniture and equipment and the government in 1963 forced a new standard to allow an increase in the range of the total

Figure 2

Shapes of a Soviet Standard Urban Apartment in Various Historical Periods



area in apartments with a certain number of living rooms (Khachatryants, 1968). The design of five-room apartments for large families was allowed at the request of regional institutes. Although the decentralization of design institutes made it possible to more accurately distribute the population in new housing, the government's desire to establish a uniform relation between several rooms and the number of households, forced a change in parameters of the standard of geometric apartments.

The second generation of mass housing construction was determined by the introduction of the new building law (SNiP, 1971). The number of types of apartments increased from 5 to 10. Also introducing a standard for large and small apartments made it possible to take into account the possibility of placing same-sex family members in one room. The families with different demographic types of households (incomplete, complex, nuclear) could be more conveniently placed in an apartment. Regional institutions had the task to find a special proportion for new housing construction between several rooms in the apartment and the structure of families on the regional housing waiting list. The need for architects revived the education of designers at universities.

The world growth of wealth in the early 70s also resulted in the expansion and differentiation of the private real estate market as small construction enterprises were growing. The positive attitude towards the dwelling located in an apartment building, gradually developed into a desire to have a separate house with a garage. A new type of production involved a variety of activities related to the process of global development. Interest in the problem of uniqueness contributed to the revival of traditional local values that formed theories of postmodern orientation (M. Foucault, J. Derrida, J. Baudrillard, Z. Bauman, Jencks and others).

At the end of the 70s, a similar tendency in the USSR manifested itself in the deepening of interdisciplinary territorial and historical studies (B. Velichkovsky, Z. Yargina, G. Platonov, I. Smolyar, A. Gutnov, O. Marder, I. Seredyuk, A. Rudnitsky). Scientific research in the field of urban housing was aimed at improving the wide geometric parameters of the new apartments, taking into account not only demographics but also value orientations in the lifestyle of households (Durmanov, 1978; Kiyanenko, 1983; Heidmets, 1984; Kartashova, 1985).

In the middle of the 80s the Institute of Housing (CNIIEP) prepared a new program for the development of the housing policy to the year 2000 that focused on the individualization of mass standard production of housing (Fedorov, 1988). The principal idea was provided for the transition from the construction of popular micro districts to the planning of housing at the level of agglomeration by introducing both high-rise and low-rise buildings, allowing increasing the density in urban centres and rural settlements. This program did not find support from the country's leadership and did not change the spatial image of the Soviet housing in the new edition of the construction law (SNiP, 1985). Before the collapse of the USSR, the average housing area per person had reached about 15.5 square meters (Federal'naya Sluzhba Gosudarstvennoi Statistiki, 2006).

The dissatisfaction of the population with housing was increasing. Waiting in the queue for more spacious housing took beyond the end of the decade for some households. Recently built in new micro districts, multi-story buildings began to

quickly lose their appearance, turning into slums. The USSR with enviable tenacity sought to socialize all of the country's real estate. In 1988, the share of own housing in the USSR was 21.6% and in Great Britain, 65%. Even the knowledge that the order of agricultural productivity of a private household living in a detached one-family housing with a land area of 600 sq. m. was higher than in the collective farms did not convince the authorities about a differentiated approach to housing and the containment of the process of socialization of real estate.

Conclusion

For more than twice in the last 100 years in Russia the housing stock of the country has changed ownership. The same changes were in the ideology of housing and urban design. In that period urban housing premises increased more than 20 times and amounted to (2,669 million sq. m. in 2016) and the population enlarged no more than 7 fold (108,7 million people in 2016). Apartments under construction in the country were also gradually becoming more spacious and of better quality, which led to the comparability of the initial geometric parameters of modern apartments with those built at the beginning of the last century.

The materials of scientific observations and studies of the evolution of Russian housing that were accumulating during this time allow some generalizations to be made, which can be represented by the following provisions:

- a process of transforming the urban country's premises by constructing new houses or reconstructing old buildings is characterized by periodic changes in the geometric characteristics of the housing stock (the area, the number of rooms, the composition and purpose of premises, etc.), which reflect changes in the global social development of ownership and are determined by unique local environment conditions;

- an attitude to the existing living premises also is dependent on the form of its tenure. In the unusually rapid changes in the spatial way of life of urban households, the presence of different ownership (from state to private) and ways to rent from them, permit the more effective use of private resources to building activity and also create prerequisites for a more helpful use of the existing buildings;

The search for the most effective, comfortable and economically justified geometric shape of living premises, to serve the needs and value orientations of households under the "mine-yours" or "ours-yours" paradigm, is unlikely to create a kind of "unique and universal image of housing for all people and all times". The small geometric parameters of highly equipped living premises in an orbital space station created by the state can be as socially significant as the creation of a large private estate, competing with high-rise buildings, in terms of the efficient use of territory, energy and natural resources.

Discussion about Housing Construction in the New Era

The active participation of the West European states in restoring housing destroyed in World War II helped to quickly restore the economic level of households.

Rental apartments at that time were built small and inexpensively (Schoenauer, 2000). When the well-being of part of the population increased, they began to invest in better homes. The variety of dwellings in the market increased (Turkington, van Kempen, & Wassenberg, 2004). During the symptoms of the recession, the share of rental housing was growing and the ranges of variety of new dwellings in buildings were narrowing. The process of cyclical dynamics of the structure of property was accompanied by a steady increase in the population in the Global City represented by a network of large centres of social services, where again striking differences in the living conditions of the population emerged. The situation again arose in such cities where the growth in apartment prices began to outstrip the growth in their consumer qualities, and the process of standardizing the dimensions of apartments was resumed.

Every day on our planet there appears about 30 thousand new residential premises with a total area of about 2 sq. km. The number of abandoned, unoccupied or vacant dwellings is growing in the World. In 2010 in the United States there were 18.7 million vacant housing units (U.S. Census Bureau, 2012); that was enough to accommodate all 13.5 million housing households living in Poland (Mały Rocznik statystyczny Polski, 2016) with Lithuania, Latvia and Estonia.

Given the huge demand for urban housing, new authorities in post-Soviet countries today (as in the USA, West Europe and Japan in the 70th) are quite satisfied with the results of the privatization of the housing stock and with the gradual departure from the methodology of standard building construction with a typed spatial cliché of the apartment. After the 30 years of general privatization, the introduction of mortgages, and the active relocation of the population from standard apartments, a significant part of the population remains dissatisfied with their housing.

The data from the 2002 and the 2010 Russian census noted that part households, living in over-packaged apartments, individual houses and communal apartments (in which the number of people in the household exceeded the number of rooms) changed from 34.5% to 43%. But the part of Russian urban private households that lived in comfortable conditions (the number of rooms was more than the number of people in the household) decreased (Federal'naya Sluzhba Gosudarstvennoi Statistiki, 2005, 2013). It could be assumed that in the urban population having the largest volumes of housing construction, the situation should have been better but the census of 2010 revealed that in Moscow, the number of families living in over-packaged apartments for the last 8 years increased from 1.6 million to 2.2 million, although the number of families living in more spacious apartments changed a little from 512 to 531 thousand (Federal'naya Sluzhba Gosudarstvennoi Statistiki, 2013, pp. 52–53, 106).

Now a new generation of Russian scientists are continuing investigations in the field of subject-object interaction in the physical environment and looking for a new methodology to improve the quality of state premises (A. Asmolov, V. Petrovsky, M. Falikman, V. Lefebre, S. Gabidulin, L. Smolova, S. K. Nartova-Bochaver, M. Shubenkov, E. Lapshina, G. Yoyleva, Yu. Pershin, M. Nazarova). More and more objective information appears that architectural creativity aimed at creating consumer

qualities of the physical environment is affected by multiple different dynamic factors, among which the observation of changes in the lifestyle of households and their attitude to the property has a fundamental significance. The experience of transforming the geometric parameters of residential premises in Russia was subjected to periods of active private adaptation and the powerful influence of state spatial consciousness. Obviously, solving the issue of urban housing quality for the whole population of the country with the help of social or financial coercion to make it reside in the same type of apartment is ineffective. However, this does not mean that the state should eliminate itself as an active participant in the real estate market. The state also cannot but be the main beneficiary conducting scientific research into the life of households and housing units as the main source of information for the development of the country's spatial development policy.

The geometric parameters and material properties of the state's living quarters initially served as a means of physical, biological, social and psychological safety of the population. This article was devoted to the recognition of the importance of studying the spatial culture of the society. "Only when we know how to live we are able to build" (Heidegger, 1952).

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Домохозяйства, владельцы и размеры городских квартир в России

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Резюме

Статья посвящена выявлению социально-психологических причин, сформировавшихся в дореволюционной России, которые в советское время стали основой для создания в стране огромного городского жилищного фонда, заполнившего почти шестую часть планетной суши одинаковыми многоэтажными секционными зданиями, практически полностью состоящими из небольших по площади и числу комнат квартир. Строительная политика бывшего СССР изначально была направлена на скорейшее обеспечение всех семей отдельными квартирами. Представлялось, что технология массового типового проектирования обеспечит решение этой задачи в минимальные сроки и станет основой пространственного образа жилья в будущем. Всеобщее стремление к быстрому увеличению совокупной численности и площади квартир оставило без внимания вопрос об их пространственной организации, призванной учитывать конкретные возможности и требования отдельных социально-демографических групп населения. Несколько десятилетий активного строительства стандартных жилых зданий вызвало лавинообразное увеличение численности «очередников» – домохозяйств, нуждающихся в приобретении новой квартиры, исходя из установленной государством гигиенической нормы проживания. Анализ строительной практики в России, основанный на регулировании ограничений геометрических параметров квартир, свидетельствует о циклическом характере развития государственной жилищной политики, которая во многом зависит от динамики структуры собственности в стране. Установленная закономерность исключает возможность улучшения качества городских квартир путем использования концепции полной социализации или полной приватизации всех жилищных ресурсов страны. Исследования массового городского жилища, проведенные в середине 1980-х гг., установили, что развитие геометрических характеристик жилого помещения определяется изменениями в образе жизни домохозяйств. Концепции проектирования жилищ, которые оказались экономически эффективными и социально успешными при решении проблемы жилищной обеспеченности в одних социально-территориальных условиях, могут стать препятствием в других. Создание в стране динамично развивающегося жилищного фонда, способного быстро и эффективно осуществлять трансформацию его параметров возможно только на основе углубленных междисциплинарных исследований домохозяйств страны. Это позволит более точно определять характер изменений их жизнедеятельности, чтобы своевременно находить соответствующие геометрические характеристики и потребительские качества жилища.

Ключевые слова: домохозяйства, городская квартира, жилые помещения, собственность, методология проектирования.

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