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REVIEW ARTICLE

LIVING ENVIRONMENTS: FROM XXTH CENTURY THEORY TO XXIST CENTURY PRACTICE

T. Y. Karatseyeva[1,*], S.V. Ilvitskaya[2], A. T. Akhmedova[1]

[1]International Educational Corporation, 050043, Almaty, Kazakhstan
[2] State University of Land Use Planning, 103064, Moscow, Russia

Abstract. *Identifying the main environmental problems and the need to adapt housing to the conditions of the urban lifestyle, is an urgent task for the theorists, architects and urbanists. The desire to combine comfortable spaces for life and the advantages of a large city was reflected in the attempts of researchers of the city dwelling of the twentieth century to «look into the future» and present the world with the most optimal habitat for the life of an urban person. The main aim of this review is to analyse theoretical studies of urban housing and the residential environment of the twentieth century, to identify perspective areas that now, in the 21st century, have become relevant trends in design and have found a practical objectification in the organization of spaces of modern multifunctional residential complexes. Based on the analysis of the study of theoretical works and Internet resources in the form of conference materials, interviews with architects and urbanists on the research topic, problems of the residential environment of cities of the XX-XXI centuries were identified. Special attention was paid to the generalization and synthesis of sources, which is reflected in the identification of the characteristics of the residential architecture of cities in particular, the citizens' needs, and also in determining modern trends in the organization of a residential environment focused on improving the comfort of living.*

Keywords: *comfortable living environment; cities of the future; modern trends; multifunctional residential complex.*

***Corresponding author**
Tatsiana Karatseyeva, e-mail: ta29ko@mail.ru

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ТҰРҒЫН ОРТА: XX ҒАСЫРДЫҢ ТЕОРИЯСЫНАН XXI ҒАСЫРДЫҢ ПРАКТИКАСЫНА

Т. Ю. Коротеева[1,*], С.В. Ильвицкая[2], А.Т. Ахмедова[1]

[1] Халықаралық білім беру корпорациясы, Алматы, 050043, Қазақстан
[2] Мемлекеттік жерге орналастыру университеті, Мәскеу, 103064, Ресей

Аңдатпа. *Экологиялық мәселелерді анықтау және тұрғын үйді қалалық өмір сүру жағдайларына бейімдеу қажеттілігі теорияшылар, архитекторлар және урбанистер үшін өзекті міндет болып табылады. Тұрғындарға қолайлы өмір сүру кеңістіктерін және үлкен қаланың артықшылықтарын біріктіруге ұмтылыс XX ғасырдағы қалалық тұрғын үй зерттеушілерінің «болашаққа көз жүгірту» әрекеттерінде көрініс тапты, олар қала адамының өмір сүруі үшін ең оңтайлы орта ұсынуға тырысты. Бұл шолудың негізгі мақсаты XX ғасырдағы қалалық тұрғын үй мен тұрғын ортаға қатысты теориялық зерттеулерді талдау, XXI ғасырда өзекті трендтерге айналған перспективалық бағыттарды анықтау, сондай-ақ қазіргі заманғы көпфункционалды тұрғын кешендердің кеңістіктерін ұйымдастырудағы практикалық жүзеге асуын зерттеу болып табылады. Теориялық жұмыстар мен интернет-ресурстарды, конференция материалдарын, архитекторлар мен урбанистермен жүргізілген сұхбаттарды талдау негізінде XX-XXI ғасырлардағы қалалардың тұрғын ортасына қатысты мәселелер анықталды. Тұрғын архитектурасының ерекшеліктерін, қала тұрғындарының қажеттіліктерін және тұрғын ортаны ұйымдастырудағы қазіргі заманғы трендтерді анықтауға ерекше назар аударылды, бұл тұрғындардың өмір сүру комфортын арттыруға бағытталған.*

Түйін сөздер: *қолайлы тұрғын орта, болашақ қалалары, қазіргі заманғы трендтер, көпфункционалды тұрғын кешен.*

***Автор-корреспондент**
Татьяна Коротеева, e-mail: ta29ko@mail.ru

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ОБЗОРНАЯ СТАТЬЯ

ЖИЛАЯ СРЕДА: ОТ ТЕОРИИ XX ВЕКА К ПРАКТИКЕ XXI ВЕКА

Т. Ю. Коротеева[1,*], С.В. Ильвицкая[2], А.Т. Ахмедова[1]

[1] Международная образовательная корпорация, Алматы, 050043, Казахстан
[2] Государственный университет по землеустройству, Москва, 103064, Россия

Аннотация. *Выявление основных экологических проблем и необходимость адаптации жилья к условиям городского образа жизни является актуальной задачей для теоретиков, архитекторов и урбанистов. Стремление совместить комфортные для жизни пространства и преимущества большого города нашло отражение в попытках исследователей городского жилища XX века «заглянуть в будущее» и представить миру наиболее оптимальную среду обитания для жизни городского человека. Основной целью данного обзора является анализ теоретических исследований городского жилья и жилой среды XX века, выявление перспективных направлений, которые сейчас, в XXI веке, стали актуальными тенденциями в дизайне и нашли практическое воплощение в организации пространств современных многофункциональных жилых комплексов. На основе анализа изучения теоретических работ и интернет-ресурсов в виде материалов конференций, интервью с архитекторами и урбанистами по теме исследования были выявлены проблемы жилой среды городов XX-XXI веков. Особое внимание было уделено обобщению и синтезированию источников, что нашло отражение в выявлении особенностей жилой архитектуры городов в частности, потребностей горожан, а также в определении современных тенденций в организации жилой среды, ориентированной на повышение комфорта проживания.*

Ключевые слова: *комфортная жилая среда; города будущего; современные тенденции; многофункциональный жилой комплекс.*

***Автор-корреспондент**
Татьяна Коротеева, e-mail: ta29ko@mail.ru

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The authors state that there is no conflict of interest.

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МҮДДЕЛЕР ҚАҚТЫҒЫСЫ

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БЛАГОДАРНОСТИ / ИСТОЧНИК ФИНАНСИРОВАНИЯ

Исследование проводилось с использованием частных источников финансирования.

КОНФЛИКТ ИНТЕРЕСОВ

Авторы заявляют, что конфликта интересов нет.

1 INTRODUCTION

The prediction of the living environment for the future is the «answer» to those prerequisites and problems that were characteristic of a particular urban environment at a certain historical stage. Perhaps the most complete human requirements and preferences can be traced to the transformation of the living environment, according to the results and ways of decisions, including the example of futurological predictions of architects and urbanists of the world.

The analysis of the urban environment is distinguished by multifaceted research: an apartment, a building, a group of buildings and the external and internal spaces that unite them. The living environment is directly related to the person, their lifestyle and behavior, including the social aspect and its subjective perception. The interaction between the architectural and spatial components of the living environment and the subjective sensations of a person is conditional. Along with this, each element of the habitat acquires a specific emotional significance for an individual person, and can «be somehow lived in by someone» **(Kaganov, 1984)**. Therefore, the whole spectrum of environmental properties is important to consider, and is most fully reflected in the multilateral study and prognostic studies of the living environment of the future in the theoretical works of the twentieth century.

In this review, a residential complex was chosen as the architectural object, as the most perspective form of organizing the residential space of a modern city dweller. The emergence of a residential complex at the beginning of the twentieth century aimed to provide residents with the necessary services and spaces for more comfortable living. The modern multifunctional residential complex is a complex urban planning facility, which includes various groups of premises with different but complimentary purposes and functions: residential, public and administrative institutions, garages and parking lots, united by a single composition and planning scheme. The role of a multifunctional residential complex in the rational organization of spaces is to improve the life of a modern person and the most complete realization of the necessary needs for housing, work, relaxation, communication.

The purpose of the study: A review of theoretical studies regarding the organization of the residential environment of the cities of the future and an analysis of modern trends in the organization of multifunctional residential complexes, as a reflection in the modern practices of prediction of the twentieth century.

2 LITERATURE REVIEW

The appearance in scientific areas in the late 1960s of the concept of the «living environment», «space» and «image of the city», determined the main elements of the medium approach, arose in attempts to solve the problems of our cities in the process of rapid technical development and social transformations of the twentieth century.

The main trends in the organization of the urban living environment from the 1960s to the 2000s are presented in **Table 1**.

Table 1
Main tendencies of XX century in residential environment design (author's material).

Complex	Building	Yard and territory	Appartment
Homogenity of the external image	Limit of included public spaces (shop, lounge, post office, library on the first floors of residential buildings)	Transit yard and availability of "common" spaces Presence of house territory	The impossibility of transformation in time and space

The tendencies in the organization of the residential environment (especially in the Soviet Union: homogeneity of the external image, limit of included public spaces, transit yard and availability of «common» spaces, the impossibility of transformation in time and space) were not

diverse. In the design process, there was a restriction on sanitary standards, the need to create standard solutions taking into account the method of standardization and industrialization, and a «state» order when the design was completely regulated by the authorities. Over time, the trends began to be perceived as tasks, demanding to solve the issues which were becoming increasingly reflected in urban theoretical studies and futurological predictions.

Conditionally all representations can be divided according to the following criteria:

- Synthesis of housing and public spaces and premises. Researchers saw this kind of combination of functions in a residential building by the wide introduction of public spaces: a) for more active communication: for example, architectural theorist Ikonnikov notes that the unification of people into collectives, who are not related, to working in a residential environment will be reflected in the development of multifunctional public spaces that will ensure the possibility of communication between people **(Ikonnikov, 1983)**; 2) Glazychev determines the importance of collective service spaces for saving the territory of the city: «The most promising search direction - is the formation of «residential structures» of variable storeys, which easily allow you to integrate those public premises which today» eat «huge areas in the centre of the micro district» **(Glazychev, 1987)**.

- Synthesis of architecture and design. The authors of the mid-XX century emphasized the unity of architecture and design in future project work. By the techniques and means of design as the creativity of the future, the use of new technologies, and the introduction of scientific developments, the creative capabilities of designers will expand **(Khan-Magomedov, 1985)**. According to Ryabushin – «all structural and functionally significant elements of the dwelling will merge into a holistic object-spatial unity» **(Ryabushin, 1973)**.

- «Green» architecture. The call of the «Green Guru»: American architect B. Fuller stressed to architects and colleagues at the 1961 World Congress of Architects the need to take into account the natural component in the design; he was supported by the architectural community **(Konferentsiya DLD, 2007)**. The newly designed living environment became a response to the environmental problems of cities. Among Soviet architects, Ikonnikov, Gutnov, Glazychev and others paid attention to the ecopolis as a city of the future through the pages of their works. They represented the ecopolis as a holistic city, with a densely developed space, all underground, intended for engineering systems, transport, communications, and terrestrial, given entirely not only for the life of people, but also for plants and animals too **(Ikonnikov, 1983)**. At the same time, «a subtle transition from the cultured nature in the interior to the naturalness of the external environment will be created in the dwelling» **(Perspektivy, 1975)**. A change in the attitude towards nature in the future should entail «its inclusion in the dwelling, its reflection in architecture and display in art» **(Perspektivy, 1975)**, which will help the emergence of as yet unknown architectural images and forms

The team of authors the monographs «Perspectives for the development of house,» written about the research of the Central Research Institute of Housing (1975 and 1981) focusing on the following *aesthetic aspects of the residential environment*:

- creation of ensemble development: «The principle of the ensemble will be the guiding aesthetic feature» **(Perspektivy, 1981)**, in which the residential building will be designed, not as an isolated object, but as an artistic element of a group complex development;

a) variety of architectural images: the limitation of the standard solution of facades will disappear, in which «the plane and the right angle will no longer be the only elements of architectural formation» **(Perspektivy, 1975)**. The spatial solution of residential complexes will also be enriched, causing «complex structures with developed plastic volumes to be used more widely» **(Perspektivy, 1975)**; b) individuality of the house: «The dwelling will regain the previously lost art of aesthetic expression», but already at a new level «as the art of self-expression of a single social collective» **(Perspektivy, 1975)**, by establishing a connection between the artistic decision of the house as a social order of society and the individual features that residents will bring to its image.

Taking into account the aesthetic characteristics as listed above will strengthen the social significance of the house so its sphere will cover not only purely utilitarian needs, due to a harmonious combination of internal and external spaces of the living environment.

- *To human scale*. Ikonnikov, determines that a person's environment should be large-scale to them: «A person in the future should remain a «measure of all things» «that he creates as a shell for his life» **(Ikonnikov, 1983)**. Such a principle will require more technical equipment, but it should become a promising focus in the design of a residential environment. «Giant multi-storey buildings» **(Gutnov & Glazychev, 1990)** cannot in the future be a promising direction in the construction of residential buildings, which was associated mainly with the psychological problems of the city dweller, such as the «separation» of a person from the natural environment, «skyscraper disease», difficulty in orientation in space, and the implementation of territory control.

- *The ability of the living environment to be transformed according to human needs*. The living environment of cities of the future in the representations of architects of the West (Candilis, Friedman) define a common feature expressed in the concept of «functional» mobility **(Yargina, 1968)**. This concept means the need to search for answers by means of architecture to changes that are characteristic of a person, family and society in the process of life, communication or from the side of psychology. The search is reflected in the concepts in the creation of a flexible «mobile solution of any room and structure related to the stay of a person «that fully meets their rapidly changing needs and tastes **(Yargina, 1968)**. According to Candilis: «There will be a day when there will be no more traditional apartments. They will be replaced by life-supporting spaces in which residents themselves will be given the opportunity to equip them to their liking, taking into account their personal preferences» **(Kandilis, 1979)**.

Soviet architects also paid attention to issues of dynamic space. For example, Ryabushin, Bogdanov and Paperny based analysis of the existing model of the apartment environment and determined its failure in designing in the future. The authors saw an important feature of the housing model of the future in the possibility of reusing space. For this, the dwelling in the future will have to be dynamic and adaptable to transformations, where functional zones will be characterized by alternation and deployment «in time», due to «the technization of the house and the development of built-in and transformable equipment» **(Ryabushin et all, 1972)**.

- *The importance of the dialogue between the architect and the inhabitants*. Summing up the «final line» under the comparative analysis of the cities of the future in the concepts of architects and urbanists, the authors Gutnov and Glazychev focus on their differences in spatial, planning solutions and ideas about a high-quality residential environment. A common feature of these theories is the absence of the right of the citizens themselves in the decision to organize their future place of residence: «the idea of dialogue with the citizens did not even occur to those who overcame the stereotypes of the past and found a bright image of the future» **(Gutnov & Glazychev, 1990)**.

The change in the situation can be traced back to 1960-70. Perhaps the most significant and well-known work is the book by American J. Jacobs «The Death and Life of Great American Cities» **(Dzhekobs, 2011)**. The author of the publication, from the position of an ordinary citizen, revealed to the world the problems that are characteristic of the urban residential environment are evident in her hometown. Her work raised the questions of huge empty and unsafe spaces between residential buildings, in which «own» and «not own» territory cannot be distinguished. There are also issues of loss of communication between neighbours as a characteristic of old city streets. «Boredom and stagnation» in the organization of residential territory are the precursors of slums. J. Jacobs tried to pay attention to simple and familiar things and circumstances that play a significant role in the formation of the residential environment.

It can be noted that architects and urbanists of the XX century were concerned not only with the organization of the space of the living environment **(Ryabushin, 1986)**, but also with environmental, visual and aesthetic aspects: the influence of the living environment on a person, the perception of comfort conditions, its psychological and emotional impression. Designers increasingly have chosen an approach, where the implemented project most fully corresponds to the needs of the urban community.

3 MATERIALS AND METHODS

By determining that the «environment is richer than architecture», Kiyanenko notes that the environment has the ability ~~is~~ to accumulate socially significant meanings, preserve them in time and broadcast them through «special qualities of architecture as the most stable durable element» **(Kiyanenko, 2015)**. The prediction of the living environment for the future is the «answer» to those prerequisites and problems that were characteristic of a particular urban environment at a certain historical stage. For example, the living environment of the «Radiant City», Le Corbusier provided each citizen with an equal amount of light, air and greenery in the vertical «garden city» and had to take into account the role of road transport. The approach and introduction of the service sector into urban housing was defended by Soviet constructivists, which was a reflection of ideological prerequisites in the form of generalization of life and the introduction of collective use spaces into the housing structure; the ideas of P. and A. Smithsons were aimed, in addition to creating comfortable conditions for housing elements, at communication expressed in the projects of residential complexes with «streets in the sky». Many of the ideas remained as utopian ideals. Perhaps the most complete human requirements and preferences can be traced to the transformation of the living environment, according to the results and ways of decisions, including the example of futurological predictions of architects and urbanists of the world, where «the environment closest to the ideal is real experience gained at different times» **(Glazychev, 2011)**.

The article can be divided into two main but interrelated parts. The first part examined mainly the literary works of Soviet and foreign authors - researchers of the urban living environment and architects - of the past, XX century, from the perspective of futuristic forecasts concerning the architecture of housing, its spatial planning solutions, and technical content. The methods of analysis, synthesis and generalization of the considered works made it possible to identify a number of criteria in the organization of the residential environment of the future, which became the main directions of the second part of the article.

In the second part of the article, based on the analysis of the study of theoretical works and Internet resources in the form of conference materials, interviews with architects and urbanists on the research topic, trends of the residential environment of cities of the XXI century were identified. Special attention was paid to the generalization and synthesis of the considered sources, which is reflected in the identification of the characteristics of the residential architecture of cities in particular, the citizens' needs, and also in determining modern trends in the organization of a residential environment focused on improving the comfort of living.

As a result, the assumption was confirmed that a comfortable living environment as seen in the representations of the past is a reflection in modern trends of the design of a multifunctional residential complex, which today is a kind of standard of quality of life for the urban population, where «Although fantasy, a dream is a special form of awareness of an overdue or brewing need, and sooner or later, in one form or another, it will become a reality» **(Perspektivy, 1975)**. Confirmation of this thesis can be traced to the example of the process of introducing functional spaces and zones for communication, service institutions and the need to create dynamic spaces that can change over time in accordance with the needs and interests of society **(Akhmedova, 2016)**.

4 RESULTS AND DISCUSSION

In the modern world, the attitude towards the quality of the living environment is changing. Decent infrastructure and improvement of the residential complex are also profitable and demanded by residents. Architect Poroshkin believes: «People evaluate many considerations while buying the house: parking facilities, local educational and preschool institutions, a yard with or without cars, parking typology, infrastructure, recreational areas, distance from harmful industries» **(archi.ru, 2019)**. It is worth noting that new trends are not limited only to just one segment of a house, according to architect D. Baker, who specializes in the construction of residential buildings by social order: «Today, market housing has become competitive, since developers of elite housing have realized that

people want to live in beautiful buildings with a full range of services» (Mikhaylova, 2016). So, the theoretical forecasts of the last century are gradually being implemented and, as they adapt to the modern conditions of urban life and the real needs of society, they become relevant directions in design.

An integrated approach. It is worth mentioning the trend of an integrated approach in the design and organization of the space of a residential complex, in which design becomes one of the main conditions for project activity. «An integrated approach is a design that begins with the design of a «door » in the courtyard», from private spaces to public spaces, where «the environment is the fabric that connects everything into a single residential complex» (Furman, 2021). It becomes more difficult to determine «where the architecture ends and the design begins that creates the aura of the inhabited space» (Aronov, 2009). Dense, but at the same time large-scale residential development allows for the optimal use of the space of the site, freeing up the maximum amount of the land for recreation and leisure. The condition for an integrated approach is the «ensemble» of development and the uniqueness of the appearance of residential buildings, where each house has «its own face, its own image».

The integrated approach takes into account the combination of integrating the requirements of functional, urban planning, and stylistic parameters, requirements for the comfort of the living environment and the improvement of the territory of the residential complex, which is shown in Figure 1.

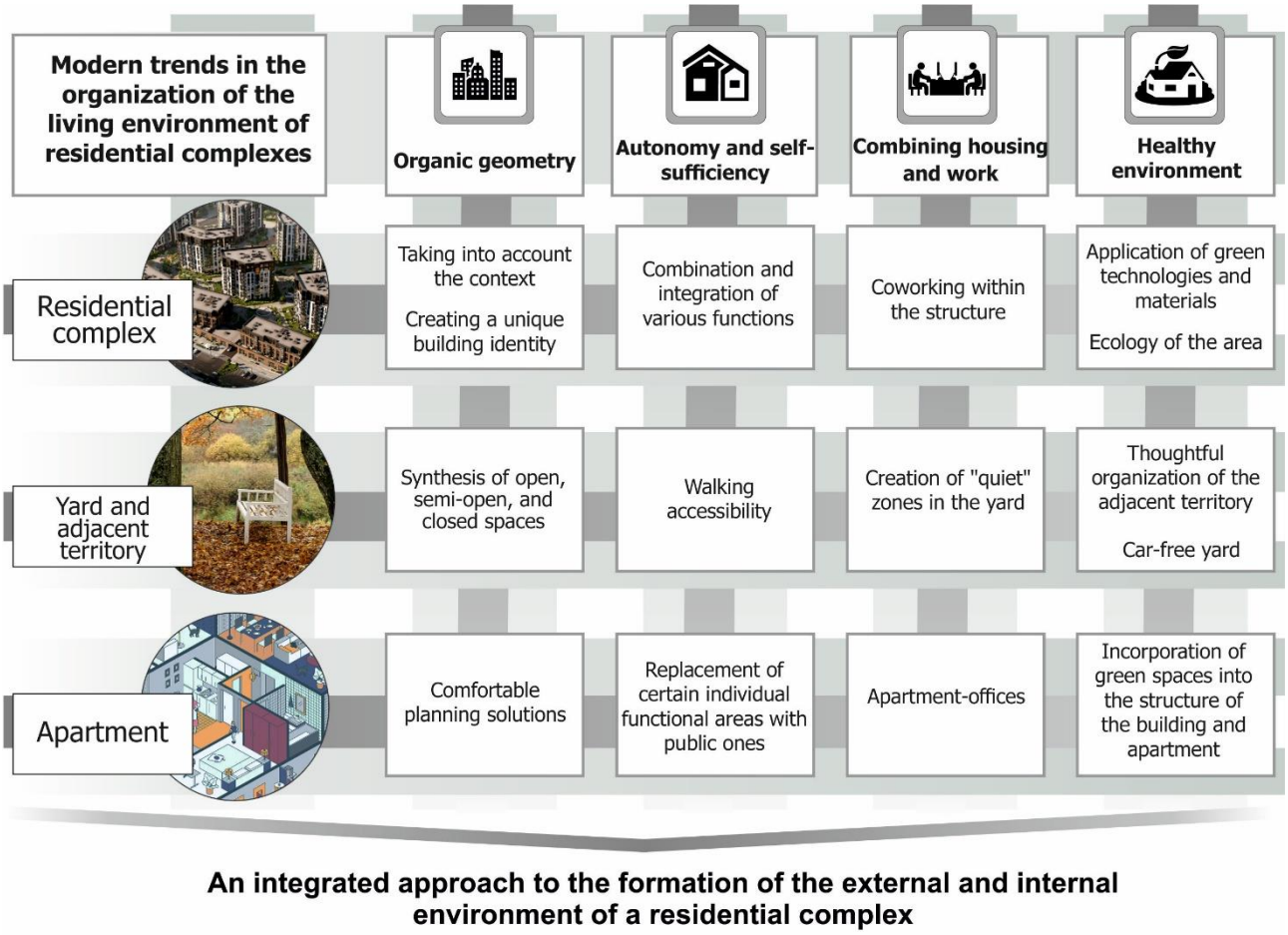

Figure 1 – Modern trends in the organization of the living environment in residential complexes [author's material].

Inclusion of third places and services. Walking accessibility, maximum proximity of workplaces, areas for training, recreation and green spaces are a priority in modern planning. Changing the labour processes and lifestyle of modern citizens entails the need to design and include in the residential environment the so-called «third places» (Ol'denburg, 2014), that is, such public

places that contribute to the unification, communication and creative interaction of people. The diversity of public spaces affects the «multifunctionality» of the complex and is undoubtedly associated with the ideas and ideals of modern society. Considering the public spaces of the city and dwellings, Gale **(Geyl, 2012)** determines that the most comfortable public space is a space with integrable functions, corresponding to the lifestyle of various categories of people, accommodated functional zones characteristic of a particular «house» (communication and hobbies) and large-scale for a person.

An important point in the research is the need to adapt housing to the pandemic and its consequences, which requires some adjustments to the relevance and demand for residential spaces: «the issue of urbanization of large areas and overpopulation, public transport, cramped apartments, remote work, equipment of working areas in a house… It is likely that there will be a need to live in a community, in a commune, because together it is easier to cope with such crises» **(Eymar, 2020)**.

Combining housing and work. Social and labour relations in a modern large city are becoming more flexible. This is due to the development of the Internet and increased mobility of the population, which allows people to become less attached to a certain place of residence, find like-minded people faster, communicate and work without paying attention to territorial borders **(Karatseyeva & Akhmedova, 2022)**. This space rightfully encourages coworking. Despite the fact that home and work are not included in the concept of the «third place», coworking is a modern trend, increasingly included by architects in residential complexes: places where you can negotiate and discuss things, essentially remaining a «step away from home».

The following example is related not so much to a public place as to the combination of housing and work, directly in a residential cell. «The emergence of office apartments is a reflection of the tendencies of the modern economy: the state relies on small and medium-sized businesses, more freelancers are appearing, and now, during the pandemic period, even those who are usually tied to the office are working at home» **(Sinarevskaya, 2020)**. A feature of apartment-offices is the division of internal space into residential and working areas, accommodation on the first floor of a residential building, a separate entrance from the street.

Places for sports. The introduction within the structure of the residential complex of sports premises and spaces, is more associated with the «cult of a healthy lifestyle». Such spaces include sports and fitness halls, open areas with simulators and cycle ways.

Inclusion of parking spaces. The increase in the number of cars and the need for parking spaces affects the creation of a cosy courtyard of a residential complex **(Haikal et all, 2024)**. According to the accepted standards, the design of parking lots in the structure of the residential complex today is a prerequisite.

Environmental direction of design. This trend can be traced to the inclusion in the residential complex, on the one hand, of the natural component. Green areas located in the structure of a modern multi-storey building can have different functions. They can be intended for the personal use of apartment owners, for example, as their own mini-garden on a balcony or terrace, or have a public purpose, in the form of places for meetings, communication, games and sports, or perhaps simply serve as places of passive recreation and the love of wildlife. The second aspect of environmental greening may be the conscious preference of modern citizens in choosing a house built using environmentally friendly materials or with the introduction of alternative energy sources.

The introduction of green zones in the structure of the dwelling allows you to visually «erase the border» between the first and last floors, in some cases between the city and the village, allowing a person to enjoy greenery, living high above the ground, in a cleaner air environment enriched with oxygen **(Karatseyeva & Akhmedov, 2021)**.

The inclusion of nature in the structure is a peculiarity of the modern residential environment as it is trendy to have access to such features. Thus, green areas can be private when placed on a personal balcony or terrace, semi-private or semi-public when intended for the use of residents of a section or complex (in the form of a winter garden or a playground), as well as public, for residents of the city.

In a multifunctional residential complex, according to Danilidi, all elements of the residential environment «work for each other»: housing, office spaces, kindergartens and schools, household infrastructure, sports facilities and recreation spaces, create different types of life activity **(MUF, 2019)**, where «multifunctionality helps people unite and turn houses from a «place to sleep «into a space for establishing relationships between neighbours» **(Bushukhin, 2018)**. The introduction of additional public spaces and functions in a residential building contributes to the development of social ties and the harmonious development of the territory.

Creating a residential environment taking into account the physical and psychological characteristics of a person (**Figure 2**):

Creation of universal **(Stepanov & Starikov, 2012)** and gender-sensitive **(Dolgaya, 2019)** environments, which implies a comfortable stay of citizens, needs to consider people's physical health and age. It is worth noting that the design of a universal environment is aimed mainly at taking into account ergonomic indicators, and gender-sensitive is more related to social aspects which includes safety (both physical and psychological). The design of such environments includes the consideration as consumers of all segments of the population, for example, a small population of elderly people who are difficult to move due to age or young parents with a wheelchair. The answer could be to create ramps and lifts with entrances to the building and directly to the apartment from the «zero floor mark», designing a safe «viewed space», creating places that can be called «theirs» by various categories of residents, regardless of age, aimed at a comfortable stay, safe movement and communication.

The maximum orientation of the living environment needs to align to the perception of the users, that is, the design of an environment where the quality characteristics of the area will be available, if not to everyone, then to the maximum number of residents of the complex. This takes into account not only the unique characteristics of the terrain, but also the «user's point of view» from the position of movement as they approach the building, etc. **(Furman, 2021)**;

The application of innovation and technology to housing. The ubiquitous penetration of modern technologies can no longer be avoided as they allow the user to be, constantly online, and to keep the dwelling under control at any time of the day and from a great distance. Today, «digitalization is an important aspect that connects layers of architecture. This is the idea of integrating time and the user of the modern world», said O. Hauser (BMW MINI LIVING) **(MUF2019 Mini, 2019)**;

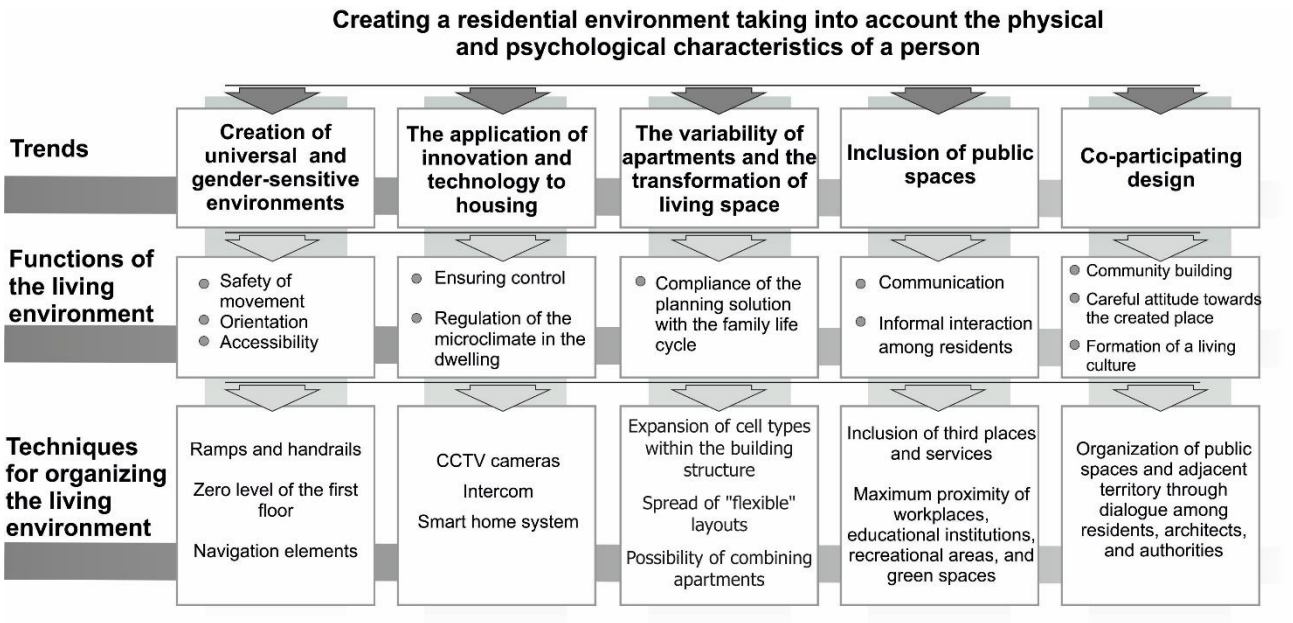

Figure 2 – Trends, functions, and techniquas of organizing the living environment, taking into account the physical and psychological characteristics of a person and computer technologies (author's material).

The variability of apartments and the transformation of living space. In order to adapt to the changing needs of residents, this trend can most clearly be traced to the distribution of «free-planning apartments» and the design of apartments in which the function of redevelopment of living space is originally laid down (through the separation of any part of the space **(Sylejmani, 2020; Kemper & Lohrberg, 2024)**. «Each apartment should meet the requirements of residents, create different layouts, lead to heterogeneity of buildings and neighbourhoods and contribute to the development of close relations between people and their own home» **(Bushukhin, 2018)**. So, a residential cell will be convenient for living only when it will be considered in conjunction with the organization of a housing estate and a favourable environment: public spaces, infrastructure and objects of a residential quarter as a whole **(MUF, 2012; Falagan, 2012**).

Ideas about a comfortable living environment are associated also with the provision of the opportunity to manage or make joint decisions with the civil community at the stage of the project and improvement of the territory, called «co-participating design». Sanoff sees the main advantage of *co-participating design* «in its potential to overcome the usual boundaries between different professions and cultures» **(Sanoff, 2015)**, and compares it with the «key» necessary to form communities aware of their rights and opportunities. He calls it democratic, since the approach takes into account the interests of all groups of citizens and urban institutions and defines the co-participating design as one of the main areas of social sustainability. The society of people gradually, in making decisions on the organization of the residential environment, becomes a community for which the created territory acquires some value. It is this territory that residents identify with themselves, with their lifestyle and can fully call «ours», or «theirs», as «the spirit of property affects morality» **(Sanoff, 2018)**.

The above trends reflect the ability of the living environment to evolve with residents by adapting to often changing living conditions, developing with a person, taking into account their lifestyle and responding to changes. Asadov singled out «seven basic principles of modern architecture: 1) maximum autonomy, 2) self-sufficiency; 3) organic geometry; 4) intermediate spaces; 5) figurative beginning; 6) flexibility and 7) transformation. This should result in a healthy environment and an integration with nature» **(Zmeul, 2020)**. Designed in accordance with these principles, the development enriches the environment and helps the development of a person's personality, and is therefore «living and developing» **(Zmeul, 2020)**.

5 CONCLUSIONS

Comparing the futurological predictions of architects and urbanists of the XX century with modern tendencies in the design of the living environment, it can be seen that most of the forecasts are reflected in the architectural and spatial mode of multifunctional residential complexes, which every year can be more and more called modern eco-policies, that is, places «where the spiritual potential of the human community can be revealed with the greatest completeness» **(Gutnov & Glazychev, 1990)**. Similar features include the relative autonomy of the complex from the city - a kind of city in the city; extensive use of underground space, while above-ground space is organically inscribed in the natural environment, on a scale and safe for humans; inclusion of a natural component intended for comfortable living not only for humans, but also for preservation of the natural environment and biodiversity. From year to year, the «modern standard of a house» **(MUF, 2012)**, coming «from the consumer», expressed in the convenient location of the residential building, in combination and integration of various public functions, as well as made in interesting architectural solutions with the inclusion of green and landscape components, is increasingly reflected in the design of modern urban housing on a global scale. We can only hope that modern trends will be developed in the future, despite all the urban problems, political and economic changes, and the standards of modern housing become accepted around the world.

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