

Nikolay F. Metlenkov

**TIME FOR EXPERIMENTS**

The Round Table materials published in this issue of the Journal are dedicated to the Contemporary Architecture and reveal mainly the specific of its quality as an object (what projects or fulfilled buildings and structures, landscape zones, urban areas are relevant) or reflect and deepen its theoretical modeling. However, the problems of the methodological tools, and, above all, the search for its grounds, useful for both the architectural practice and the sphere of architectural education, should also find their place within the studies of Contemporary Architecture. That's why the editorial pays special attention to these matters. Keywords: paradigm dynamics of architectural means, architectural picture of time, methodological framework, architectural education, creative mentality, normative activity, search activity, personification, experiment

Nina A. Konovalova

**NEWEST TRENDS IN ARCHITECTURE AND OUTLINE OF FUTURE ARCHITECTURE**

The virtual round table devoted to the innovative architecture summed up a certain, intermediate, result of scientific research on this topic. The articles of participants of the round table present a summary of those problematic aspects that are evaluated by scientists as the most relevant. Thus, much attention was paid to interdisciplinary approaches in architecture, global tendencies and the preservation of national and cultural self-identification in architecture, the impact of digital technologies on architecture and the analysis of approaches to organization of a modern residential environment.

Keywords: modern architecture, media architecture, architectural and artistic environment, urban landscape, shaping, national traditions.

Irina A. Dobritsina, Tatiana V. Kopteva

**NEUROSCIENCE AS A METHODOLOGICAL TRANSGRESSION INTO THE SPACE OF ARCHITECTURAL THINKING IN THE THIRD MILLENNIUM**

For centuries, architects have relied on intuition and historical experience to create a living environment. A new field of knowledge – neuroscience-is beginning to convey to the architect an understanding of how our brain controls our activities. The article discusses the conceptual approaches of theoretical architects to the promotion of neuroscience in the field of architecture. The influence of neuroscience directly on creativity is questioned. Neuroscience is of interest to the development of the architect's learning process. The conclusion is made about the need to develop this direction in Russia.

Keywords: architecture, neuroscience, Francis Mulgrave, Alberto Perez-Gomez, the sensory impact of architecture, the social impact of architecture.

Elena V. Barchugova, Nataliya A. Rochegova

**URBANIZED ENVIRONMENT OF THE INFORMATION SOCIETY**

The technological revolution has caused the virtualization of life. Many city functions are carried out simultaneously in two realities: current and virtual. The main places of urban life-housing, work and public spaces-are subject to functional and spatial transformations and tend to increase their multifunctionality, there are zones of their intersections. Analysis of the dynamics of urban life, its specifics, and consideration of the interests of different generations adjust the tasks of architecture of the near future.

Keywords: Virtualization of life, two layers of human-environment interactions, transformations of residential, working and public spaces of the city, the theory of generations, social activity of communities.

Mikhail V. Dutsev

#### ARCHITECTURAL AND ARTISTIC ENVIRONMENT: METAMORPHOSES OF TIME

Architecture lives in time and constantly «competes» with it! New tectonics and images of space are emerging. The profession is constantly building new connections with different fields of science, social spheres and management models. Architecture, which has stepped far beyond the limits of a single object, claims to cover the entire environment of human activity. Creative dialogue with representatives of other arts and with the user prepares the emergence of a common field «architecture-design-art» as a new environmental connection in the context of professional activity.

Keywords: time, architectural-art environment, architecture, design, art, social communication, art integration.

Nickolay V. Kasyanov

#### ON THE INTERRELATIONSHIP OF TECHNOLOGIES AND TRENDS IN SHAPING IN ARCHITECTURE AT THE BEGINNING OF THE 21ST CENTURY

Interdisciplinary scientific research of modern architecture makes it possible to observe and analyze architectural shaping in the context of the technological paradigm of the early 21st century. The developmental vectors of modern and future architecture are determined by globalization, a change in the technological mode with the accelerated development of information technologies, including the use of artificial intelligence. The article examines a number of modern world architectural buildings and projects in this context.

Keywords: Modern architecture, shaping, science and technology.

Nina A. Konovalova

#### THE MISSION OF CONTEMPORARY ARCHITECTURE OR RETURN TO THE ORIGINS. JAPANESE EXPERIENCE

In the article the attempt is made to examine the rebirth of the most valuable for national culture characteristic in contemporary Japanese architecture – sensual experience which lays in the fundamentals of cultural traditions and constructs the unmistakable spirit of each piece of art. Unobvious from the European perspective characteristic reveals the entity of Japanese culture. For the contemporary Japanese architects return of sensitive experience in architecture is an opportunity to preserve the connection with cultural traditions and counter global changes of contemporary cities with thoughtful and honest architecture

Keywords: contemporary Japanese architecture, sensitive experience, tea rooms, contemporary museums.

Irina V. Kukina

#### URBAN CONFLICTS: DEVIDED OR DOUBLE CITIES?

The history of urban design and planning is replete with examples of cultural symbiosis that led to the formation of «double» cities. As a rule, they were formed from the conditions of coexistence of ethnic, religious groups in one settlement, due to the articulation of different urban traditions, principles, architectural styles. In the XX century, a number of cities were formed, torn apart different countries, but continued to develop according to their unique, inexplicable patterns. These include the Polish-German Gorlitz-Zgorzlec, the Czech-German Cieszyn – Cesky-Tesin, the Greek-Turkish Nicosia, in the recent past West-East Berlin and other unique cities in the historical appearance and modern architecture of «reconciliation». The particular interest of the research lies not only in unique methods of urban planning, but in modern architecture as well. For the end of the XX century, a characteristic tendency of smoothing, «splicing of borders» by administrative? Political and architectural methods.

Keywords: Double cities, borders, architectural solutions.

Marianna E. Maevskaya

#### MEDIA FACADE AS A TOOL OF ARTISTIC REPRESENTATION OF THE «SMART CITY» CONCEPT IN A HIGH-ALTITUDE ARCHITECTURE

The article considers the existence of media facades technology as one of the key elements of reflecting the imagery of buildings in the space of a modern city. The idea of the media facade is understood as a visual reflection of the concept of the «smart city» of the latest digital era. Elements of media architecture are considered as a new way of forming the expressiveness of high-rise buildings, fixing urban planning dominants and forming the skyline of the city at night. Since the use of media facades is not only a technical innovation, but claims to be a significant factor in changing the perception of architecture images by modern people, the study of this process seems to the author of the article an important and relevant reason for scientific reflection in the study of the current processes of development of modern architecture.

Keywords: Media facade, media screen, smart technologies, high-rise buildings, visual image of a contemporary city.

Maurizio Meriggi

#### CLICHÉ, NONCOMPLIANCE AND PERSPECTIVES OF THE «NEW ARCHITECTURE»

What do we mean within the term “new architecture” and its philosophy? Which are the problems the “new architecture” is asked to give answers? The text proposes a philological reconstruction of the paths at the origin and development of the contemporary “new architecture” in the “avant-gardes” of second half of the XX c. There are illustrated its results in modelling the cores and infrastructural nodes of urban landscapes characterizing the global cities; these are produced by common clichés that make any city similar like the others. By considering the political and financial system that creates these “homologated” urban landscapes – that marginalize the role of local dimensions, both political and social – the weaknesses of “new architecture” can be understood. The “hope” for a renovation of a “new architecture” that will avoid the “homologation” of human settlement lays in the possibilities offered in the territories located at the periphery of global city economy: the “countryside of the world”. The question is: “Shall we search for a new form of “de-urbanism”?”

Keywords: New architecture, avant-garde, urban landscape cliché, de-urbanism.

Galina A. Ptichnikova

#### ARCHITECTURE AND DIGITAL MEDIA: VECTORS OF DEVELOPMENT IN THE XXI CENTURY

The article analyzes the features of the formation of a new type of architecture that is actively developing in the XXI century - Media Architecture. The work is based on the results of research carried out at the Scientific Research Institute of Theory and History of Architecture and Urban Planning over the past years. Analysis of more than fifty media architecture objects of different form and content in the United States of America, the European Union countries, Asian countries, as well as the Russian Federation and the CIS countries, identified promising trends in the development of Media Architecture. There is technological development, including developments in the field of organic light-emitting diodes, quantum dots, transparent displays, HDR technologies; kinetic development combining digital architecture and kinetics; development of three-dimensional (3-D) displays and their introduction into the urban environment.

Keywords: Media architecture, media facade, digital media, communications, urban space.

Irina G. Fedchenko

## ON THE ROLE OF ARCHITECTURAL AND PLANNING IMPLEMENTATION OF INTEGRATED DEVELOPMENT OF TERRITORIES

The article analyzes the influence of the adopted Federal Law No. 494-FZ on the integrated development of territories on the formation of the architectural and planning appearance of modern Russian cities. The author emphasizes the importance of defining strategic guidelines for the development of a post-industrial city, defining the role of elements of the planning structure.

Keywords: Integrated development of the territory, architecture of the residential environment, residential planning units, urban planning.

Jin Zhang, Quan'an Chen

## TRADITIONAL CORE AND MODERN DIVERSITY — OVERVIEW OF THE FOURTH AND FIFTH GENERATIONS OF CHINESE ARCHITECTS CREATIVITY

After China officially joined the World Trade Organization (WTO), the architectural design industry has been fully integrated with international standards, and the architectural works of world-renowned architects and design teams have been completed in China one after another. In the fierce collision of Chinese and Western architectural cultures, the fourth and fifth generations of architects have become the main force on the stage of Chinese architectural design.

The article mainly adopts the method of literature research, and summarizes the different group characteristics of the fourth generation of architects and the fifth generation of architects. After the restoration of higher education in architecture in China in 1977, the fourth generation of architects received a systematic and complete undergraduate education in architecture. Their college era was an era of great changes in Chinese society just after reform and opening up. With the influx of modern Western concepts and thoughts, the fourth generation of architects experienced a fierce collision between Westernization and tradition. In the gradual exploration, the fourth generation of architects finally formed a more mature attitude towards tradition, that is, modern architecture inherits tradition by merging the spiritual core of traditional culture.

The exploration of experimental architecture by the fourth generation of Chinese architects began in the 1990s. These buildings have distinct avant-garde characteristics: challenge, confrontation, periphery, and innovation. Zhang Yonghe's experimental architectural practice respectively focused on the narrative of architecture and the traditional Chinese space in the early stage, and the study of «construction» in later; Wang Shu's «Amateur Architecture» paid more attention to the old concepts and techniques and the innovate designs.

A significant group characteristic of the fifth generation of Chinese architects is diversification — the five generations of architects who grew up in a multicultural environment present a more significant diversity as a whole. There are considerable differences and even conflicts between their architectural creations in terms of values and architectural forms. The age advantage of the fifth generation of architects makes them pay special attention to digital architecture under the development of computer technology. The fifth generation of architects such as Yuan Feng and Wang Zhenfei have incorporated effective exploration of digital technology into their personal construction practices.

At the end, the article made a brief introduction on the fourth generation of architects Wang Shu's Xiangshan Campus of the China Academy of Art, Zhang Lei's «Slit House» and the N4A Memorial, the fifth-generation architect Ma Yansong's «Absolute Towers» and the Lucas Museum of Narrative Art, and Xu Tiantian's architectural works such as Ordos Art Museum and Songzhuang Art Commune.

Keywords: Chinese architecture, change of generations, Chinese architects, tradition, innovation, group characteristics, Shu Wang, Lei Zhang, Yansong Ma, Tiantian Xu

Yuliya V. Yurovskaya, Oleg I. Adamov

#### REVEALING THE PLASTIC IMAGES IN THE ARCHITECTURE OF ZAHA HADID WHILE INDIVIDUAL BECOMING OF AN ARCHITECT

Z. Hadid includes in her architecture the various plastic motives that reflect a number of plastic transformations continuously going on in her design process, during which an architect takes on various roles, experiences many states of mind referring to external images and contexts where they are originated and developed. The study divides a becoming of the architect himself, connected to his imagination, empathy in the created form and its animation, as well as a becoming of the architectural form itself implying a number of its mutations and transformations. There are distinguished the various types of becoming: becoming an observer of cosmogenesis; becoming a genesis; becoming a film director or cameraman; becoming a landscape; becoming an animal or plant; becoming an «infection»; becoming a bird in flight; becoming a time machine; becoming a hieroglyph and an oriental carpet; becoming a child; becoming a computer script; becoming a labyrinth. While a design the various combinations of the types of becoming can arise. Among the plastic motives, there are both those can determine the general image of an architectural object (district, block, complex, interior), and complement or resolve the local problems of a form creation. Keywords: Z. Hadid, architectural expression, plastic form creation, transformations, images, author's subjectivity, becoming, roles.

Oleg I. Yawein, Yuliya S. Yankovskaya

#### CROSS-DISCIPLINARY CONCEPTS AS TOOLS ARCHITECTURAL DESIGN

The article was prepared by the authors within the framework of the stated topic of the round table «Modern Architecture», organized by the journal «Architecture and Construction of Russia». This year opens the third decade of the XXI century. The last decades have passed under the sign of interdisciplinarity as the basis of a new modern level of conceptual thought. What is the role of interdisciplinarity in changing the tools of the architect of the XXI century? How new and original are the concepts of modern architects? Obviously, it is impossible to give a complete answer to all these questions in a single journal article, but the authors set themselves the task of providing a cross-section, a generalized theoretical picture of the ongoing conceptual changes and their possible origins in the cultural paradigm and the history of science.

Keywords: Recontemporary architecture, architectural concepts, design tools, structure, cross-disciplinarily.

Valentin N. Tkachev, Debrak Fetkh zehor Nariman

#### TYOLOGY OF PATIO-HOUSE IN ALGERIA

The evolution of the urban environment as a form of social community has given rise to a whole scale of techniques for mastering the limited space between socialization and privatization, between public and personal ownership of a part of the city's territory.

This scale was gradually replenished: forms of urban squares (temple and market), alienated areas of inner-city monasteries and elite estates (later secularized), types of urban houses with a courtyard (patio), urban apartments with a possible imitation of a common family space in the form of a living room and, finally, separate rooms connected by common communications without recreational nodes.

The article deals with the typical type of patio house in Algeria, which has common origins of morphogenesis and significant features in spatial solutions, structures, and design for the entire Mediterranean region.

Keywords: Traditional and colonial architecture, patio house; west eddar, skifa, dokkana, El matbak, bit, s'hin, k'bou, mashrabiya, almalgaf - as spatial elements of the house.

Svetlana V. Ilvitskaya, Petar Zica

#### MISSION SOCIAL OF MONASTERY SVIATO-ALEXIEVSKII

Resume: The article examines the issue of expanding the spiritual, educational, educational and socio-cultural role of monasteries, using the example of the Holy Aleksievskaya Hermitage - a unique spiritual, educational and scientific center, which carries out a lot of work on the upbringing and education of young people. Attracting a large number of pilgrims and tourists to the monastery contributes to an increase in the level of spirituality and morality of people.

Keywords: social mission, modern monastery, the Holy Aleksievskaya hermitage, spiritual and educational center, ecovillage.

Konstantin V. Kiyanenکو

#### «ENVIRONMENTIZATION» OF ARCHITECTURE: ORIGINS IN PSYCHOLOGY AND SOCIOLOGY

The second of a series of papers examines the origins of the modern environmental paradigm of architectural knowledge in environmental psychology and sociology. The research rests upon a comparative cross-cultural analysis of English-language and Russian-language literature describing the emergence of environmentally oriented architectural theory and practice in the critical era of the 1960s-1970s. The authors, texts, and events associated with the two academic spheres are shown to have had a significant impact on the development of the environmental paradigm in architecture.

Keywords: Environmental paradigm, architectural theory, environmental psychology, environmental sociology, cross-cultural analysis.

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Nikolay F. Metlenkov, Ekaterina V. Koneva

#### ENVIRONMENT OF SELF-DEVELOPMENT

The «system approach», as one of the main methodological means, today is gradually completing its triumphal path in architectural science due to its low efficiency in the modern socio-cultural context, since it focuses mainly on the completeness of taking into account various factors, and thus on the statics of the analyzed or constructed object content, and not on its dynamics.

At the forefront among the basic nodes of the methodological framework is now beginning to come out already well-established in the science of «SYSTEM DYNAMICS». As a result, in research, in project practice and in education, the view of architecture as a «development environment» or «environment of self-development» of a person, society is becoming relevant today.

Keywords: paradigmatic dynamics, Methodological framework, Innovative mentality.

Konstantin V. Kiyanenکو

#### «ENVIRONMENT AND ARCHITECTURE» AS AN ONGOING DISCOURSE

The introductory paper of the guest editor for the issue of the journal sets out the general thematic framework for discussing the environment and architecture in the form in which it was presented to potential authors. The features of this collection of publications are indicated in comparison with the one that was released by ACR earlier, about three years ago, and also devoted to the 'environment'. Brief previews of ten articles covering a variety of areas of environmental vision in architecture, urban planning and environmental psychology are made.

Keywords: environment, architecture, thematic issue, announcements

Ludmila V. Anisimova, Elena A. Musiachina

#### THE PROBLEM OF THE ATTENDANCE OF URBAN SQUARES

This article discusses the problem of modern urban areas - low level of attendance. The study exposed such characteristics of the environment as recognition, attendance and authenticity. Authoritative sources on this topic have been analyzed. To study the problem, a sociological survey was conducted among citizens of different ages, which consisted of 15 questions covering all aspects of the problem under consideration. The survey revealed that people are attracted by the crowds, the holiday, the active saturation of the territory by various processes.

Keywords: functional content, attendance, «genius loci» of the city square, sustainable development.

Peter V. Kapustin

#### ENVIRONMENT VERSUS ARCHITECTURE: COLLISION OF PROFESSIONAL CONSCIOUSNESS

The history of the idea of the urban environment today is par excellence the history of the decline of conceptual claims, the reduction of meanings and the emasculation of content. The theoretical horizons of the concept are becoming more and more unattainable, and its «practical implementation», which has been understood as primitivizing and imitation, are becoming easier and more technologically advanced. It is all the more interesting today to restore the original theses, to reconstruct the concept of the Environment. Such an attempt is made in the article.

Keywords: architecture, architectural designing, urban environment, environment concept, concept reduction.

Konstantin V. Kiyanenko

#### 'ENVIRONMENTIZATION' OF ARCHITECTURE: ORIGINS IN SOCIAL DESIGN AND DESIGN ACTIVISM

The third article of the author, devoted to the origins of the environmental phenomenon in architecture, examines the field of architectural knowledge and experience, which was brought to life not by theoretical reasons, but rather by the consequences of the parting of the profession with some ideological and political attitudes of modernism. - In particular, with paternalism, with a willingness to dictate the spatial organization of life on behalf of the power and the profession to society and the individual resident. - With the transition to participatory design strategies, moving the client into the core of urban planning processes. - With the adoption by the profession of an attitude to advocate the interests of society and local communities in the face of the authorities and loyal colleagues. The study compared how changes in the political orientations of architecture contributed to its «environmentization» in the English-speaking and Russian-speaking architectural cultures.

Keywords: environmental paradigm, architectural theory, social design, design activism, cross-cultural analysis.

Alexey V. Krasheninnikov, ZUKHRA R. USMANOVA

#### TYPICAL AND UNIQUE IN LADOVSKY STUDENTS' AND FOLLOWERS' BUILDINGS

The article provides a critical analysis and interpretation of Cr. Alexander's book «The Nature of Order», comparing the concept of «organic» space with the design models of environmental complexes.

Keywords: cognitive features of environmental perception, hierarchy of scales, integrity, viability, adaptive architecture.

Luca Lanini

## TOWARDS A NEW HOUSE

The recent crisis have clearly showed how the houses we live in doesn't fit our contemporary way of living in terms of construction conceptions, lay-outs, dimensions, urban spaces they concur to define. The following article tries to identify the main issues of the contemporary house and some topics that should help to clarify the conception of the New House: from the upgrading/retrofitting of the public housing heritage to a new conception of living shaped by the prolonged lockdowns many nations suffered in the wake of the current pandemic as well as the many challenges modern living has to cope with after the dramatical changes society faced in the last thirty years in terms of demographics, gender equality, energy consumption, ecological awareness, work modes and relationships. But as urban history clearly shows, a shift in the paradigm of the architecture of the house always means a radical departure in terms of urban principles and it leads to a different idea of city. From all the considerations above it emerges the profile of a new kind of housing complex as a multitasking urban artifact, attaining a critical mass in terms of physical and functional dimensions to collect different typologies of housing and metropolitan facilities and conceived to serve as well as energy hub for the whole neighborhood.

Keywords: Social housing, crisis, heritage, new architecture, Smart city, ecology.

Mikhail I. Lyubin

## THE PARTICIPATORY HOUSING IN VIENNA

The article deals with participatory housing in the Austrian capital, provides a brief history of its origin and development, and identifies the reasons for the increase in the number of participation groups in housing in recent years. The author analyzes the expansion of the socio-demographic composition of initiating communities, their requirements for modern housing, and the advantages of cohabitation for various types of families in a close neighborhood of like-minded people. The organization of participation groups at the stages of design, construction and operation of such housing with the active participation of future residents, the forms of rent and ownership used, and subsidy options are traced. The most successful examples of initiative communities, the types of residential buildings, apartments, communication zones and common areas are given. The importance of assistance to self-organizing groups of residents from the city authorities of Vienna and the successful implementation of the experience of such groups in both existing housing stock and new buildings is noted. The advantages of participation groups in housing for residents and the city as a whole as one of the forms of housing of the future are indicated.

Keywords: participation groups in housing, types of participatory housing, active neighborhoods

Sanjoy Mazumdar

## WHAT DOES CULTURE HAVE TO DO WITH ENVIRONMENT AND ARCHITECTURE?

The awakening of interest in the environmental crisis, referred to by scientists as «climate change» and other names, has led to fairly narrow view and aim to restrict global warming to 1.5°C. How design professions conceptualize and treat a building project's proximate environment has become important as buildings are expected to reduce carbon footprint and be climate adaptive. These mechanisms are not amenable to convenient measurement of achievement toward the goal (1.5°C), and importantly miss much as these do not focus on nature, plants, and animals – species that do not have a voice but are harmed. Culture provides philosophical bases, ethics of respect and caring, can require an audit akin to Environmental Impact Report, plans for short and long term actions, all made more accessible through meaningful actions, activities, and rituals. An example of an ancient ritual, Bhoomi Pooja, along with its lessons, is presented.



Keywords: environment, architecture, climate change, cultural approaches, cultural and indigenous wisdom, cultural techniques, non-egotist approach, respect, caring.

Maaris Raudsepp

#### AGENCY AND THE SUPPORTIVE ENVIRONMENT

Subjectness (agency), which is characterized by specific features of self-consciousness, motivation and relationships with the environment, is a demanded and highly valued quality. Environment acts as an obstacle or support for the formation, preservation and development of subjectness. Two complementary ways of description are presented - subject as a component of an environmental system and subject as an active creator and user of environmental resources.

Some general parameters of a supportive environment are outlined, and a typology of theoretical models concerning the mechanisms of the supportive effect of the environment is presented. Three types of models are distinguished, according to the aspect of being a subject the environmental support is directed: models of congruence (support is aimed at the promotion of a subject's control over the environment), models of protective environment (support is aimed at the optimization of subject's differentiation from the environment), and models of attachment (support is aimed at backing up self-identification).

Further clarification of the psychological mechanisms of the functioning of a supportive environment will enable the specialists to make sound recommendations for environmental interventions on social or physical levels, so that not only augmentation of environmental comfort (by means of moderating stressors or strengthening supportive systems) but also the enhancement of subjectness is guaranteed.

Keywords: subjectness, agency, sociophysical environment, environmental support.

Nadezda V. Snigireva, Dmitry E. Smirnov

#### 'WHITE FLOWERS': SOCIO-ENVIRONMENTAL DESIGN AS AN INSTRUMENT OF TERRITORIAL DEVELOPMENT

The article is based on the results of the research, which was conducted by the authors (together with the «Project Group 8») for three years at different stages of formation of public space - the boulevard «White Flowers» in Kazan. The project included preliminary research of the territory, development and implementation of the project with the citizens for two years, and post-occupancy evaluation of new public space, built on observations and interviews with different social and age groups. Based on the results of the post-occupancy evaluation, the general principles of working with public spaces in the existing development were formed, and the effects of the social-oriented approach were analyzed.

Keywords: participatory design; citizen participation; environmental design; public space; right to the city; post-occupancy evaluation; beautification.

Mati Heidmets

#### HAPPY ENVIRONMENT - WHAT IS IT? THE PSYCHOLOGIST'S PERSPECTIVE

Article is departing from the place attachment theory and seeking answers to the two questions. First – why some places are characterized by deep emotional bonding from the side of inhabitants, but others are neglected or alienated. Second – how, in a context of the multiple place attachment, the emotional attachment to the local places is related to the attachment to the global-scale places. The mechanisms of emerging place attachment are described as well as results of empirical studies concerning multiple place attachment in Australia and Estonia.

Keywords: place attachment, co-design, multiple attachment, emotional bonds.

Olga V. Volichenko, Rutsamzhon S. Akbaraliev, Jyldyz k. Suiunaly  
DESIGN PRINCIPLES OF ECO-ARCHITECTURE (ANALYSIS OF THE EXPERIENCE OF  
LUIS DE GARRIDO)

The article is devoted to the issues of the impact of architecture on the environment and the reasons for the emergence of eco-architecture, striving to minimize the harmful effects. The definition of eco-architecture is formulated. The need to understand the sustainable paradigm and preservation of ecosystems, as well as the inevitability of the development and spread of eco-architecture, is established in order to develop a highly comfortable and safe architectural environment. For this purpose, the work of the famous Spanish architect Luis De Garrido, who has been dealing with the problem of designing eco-architecture for more than 20 years, is analyzed. He has developed and proposes to use green indicators, with the help of which a set of guidelines and concrete actions for shaping an eco-architecture is established. The conceptual methods of architectural design are considered, which ensure the implementation of highly environmentally friendly projects of architectural objects.

Keywords: eco-architecture, indicators, methodology, design, ecology, environment, principles, concept.

Alexander N. Gushchin, Marina N. Divakova  
DIALECTICS OF DESIGN AND SCIENTIFIC ACTIVITIES IN THE MAGISTRACY ON THE  
EXAMPLE OF THE EDUCATIONAL PROCESS OF ARCHITECTS

The article deals with the problem of the relationship between design and scientific activities. The problem arises in the context of the educational process of students of architectural specialties for whom the project (architectural design) is the traditional form of presenting the results. On the other hand, the requirements of the Federal educational standards imply scientific training and scientific activities.

The article demonstrate that design and scientific activity can be considered within the dialectical contradiction «unique» - «general», where the project acts as a unique, and scientific theory acts as a general one. Project activity is always aimed at the individual and specific and scientific activity requires generalizations of the available empirical material. The dialectical contradiction «unique» - «general» requires the category of «particular» for its resolution.

The article concludes that the so-called conceptual project can act as a category of particular - this is how the search architectural project is usually called. In order for the conceptual project to act as a category of the particular, it is necessary to fit this scheme into the educational process. For this, the authors propose the following scheme: pre-project research, identifying a problem, formulating a hypothesis as a way to solve a problem, developing a project as a way to prove a hypothesis. The article presents evidence of the efficiency of the proposed scheme.

Keywords: training, education, pedagogy, master's degree, project, science.

Vladimir E. Eremeev  
FUNCTIONAL STRUCTURE OF THE COMPLEX OF BUILDINGS OF THE «CHEKIST  
TOWN» IN YEKATERINBURG

The article presents the results of a full-scale survey - the initial stage of rehabilitation of the architectural monument of the complex of buildings of the «Chekist Town». The complex of buildings is a striking example of regional architecture of constructivism. The article describes the participation of the composition of the complex in the organization of the adjacent development; the functional structure of the complex; the space-planning features of residential buildings and the elements of the daily life of the complex.

Keywords: chekist town, constructivism, residential development, rehabilitation, object of cultural heritage.

Daria M. Kharitonova, Vasiliy O. Ryzhikov

#### COLIVING: SOCIAL THEORIES OF THE PAST IN THE HOUSING OF THE FUTURE

The article examines the evolution of social theories associated with the ideas of collective living and the expression of these theories in the form of architectural concepts of recent times. The most relevant features and trends in the development of coliving are considered, a comparative analysis of samples of European and Russian housing associated with the ideas of collectivization is proposed.

Keywords: coliving, communal houses, social housing.

Natalya O. Shashkova

#### THE PROJECT OF THE VILLAGE-GARDEN FOR WORKERS AND EMPLOYEES OF THE CENTRAL WORKSHOPS AT THE RAILWAY STATION LYUBLINO (1916-1919): NEW RESEARCH MATERIALS

Based on previously unpublished archival materials, the paper examines the history of design in accordance with the principles of the garden-city of the village for workers and employees at the Lyublino station of the Moscow-Kursk railway (1916-1919). This project is a vivid example of adapting the concept of a garden-city to economic and everyday realities, in the context of a changing social system. Of particular interest is the fact that V.A. Glazyrina is one of the most consistent among Russian specialists in favor of the construction of garden settlements at railway and industrial facilities.

Keywords: garden-city, railway architecture, V.A. Glazyrin, Moscow-Kursk railway, Lyublino.

Maria V. Lazareva

#### COMMUNITY CENTERS - A MEETING PLACE FOR LOCAL COMMUNITIES

This article provides examples of four community centers of different sizes located in different parts of the world, the main task of which is to create a new one, to restore a lost one or to unite an already established community.

Keywords: landscape, architecture, community centers, local community.

Ksenia A. Golubkina

#### COLIVING IS A NEW FORMAT OF HOUSING.

Prospects for the development of coliving in Russia. The article examines a new type of socially-oriented housing model - coliving and the impact of social and economic factors on its development. Examples of foreign experience in designing coliving spaces are given. The urgency of the development of such a format of residence in Russia is revealed.

Keywords: coliving, rental housing, cohabitation format, social housing.

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Nikolay F. Metlenkov

#### URBAN CULTURE

The architectural content today is actively transformed in its information and creative core. The urban culture with its own problems and arsenal of means for «environmental development» is coming to the forefront instead of traditional «functional and compositional» culture relevant for organization of the forms and spatial structures of «buildings» and «complexes».

Keywords: urban culture, urban mentality, urban development, urban planning education.

Alexey V. Krasheninnikov  
URBAN PLANNING POLICY

The modern urban planning policy is based on the legislation on urban planning activities. The town planning code lists the basic principles governing such important relations as: territorial planning, town planning design, architectural solutions and the construction and reconstruction of residential and public buildings, industrial facilities and infrastructure development.

Keywords: urban planning policy, urbanism, urban planning management, city.

Elena A. AKHMEDOVA, Tatiana V. Vavilonskaya  
INTEGRATED DEVELOPMENT OF TERRITORIES OF REGIONAL CENTERS: THE PECULIAR FEATURES OF URBAN REGULATION

The message contains the documents, content and instruments of urban planning policy that is developing in regional cities (on the example of Samara) in order to ensure the integrated development of territories built up in various historical periods of urban planning. The main normative legal acts, modern requirements for the architectural and urban planning organization, the procedure for allocating the boundaries of territorial areas for planning, the requirements of urban planning regulation are given. Specific 5 sites for the integrated development of territories in Samara are considered. The proposed mechanism for the implementation of urban planning policy at the level of decisions of administration (the Town Planning Council under the Governor of the Samara Region, the Commission for land-use development and planning of the City Duma of Samara, etc.), as well as at the level of civil society in Samara is revealed. Materials are provided to clarify goals, objectives, policies and programs, the expected results of adjusting a number of urban planning directions of the Strategy for the Integrated Development of Samara until 2025, adopted in 2013. Currently, the professional and university communities are conducting research work to actualize& update it to new demands.

The results of a public discussion on two alternative territory planning projects of the 1st stage of development as part of the integrated development of the territory of the former Maslennikov plant in Samara results are presented. Proposals from the citizens are given, including the opinion and right of residents of adjacent built-up areas to the provision of social, transport and engineering infrastructure facilities, the availability of infrastructure facilities, and general limiting parameters of development.

Keywords: regional centers, Samara, urban planning policy, integrated development of territories, status of a historical settlement, quality of life, expert committees, social activity of citizens, discussions in public space.

Natalia N. Zheblienok  
WE WRITE ONE, THREE IN THE MIND: PROBLEMS OF DEFINING «URBAN PLANNING THINKING»

«Urban planning thinking» is a concept that is everywhere implied and widely applied, being in fact not defined in any way. In the twentieth century, the science of urban planning addressed the concept of thinking in the context of the development of specific professional skills; at the turn

of XX-XXI centuries. urban planning thinking has become a pragmatic tool that unites the efforts of stakeholders in solving urban planning problems. The evolutionary development

of the concept of «urban planning thinking» has led to a splitting into several separate areas (it is difficult for them

to give independent names because there are no corresponding terms in Russian: «urban design thinking» of professionals; «social practice of urban planning», which form the basis

of cultural attitudes of modern citizens; «expert urban planning thinking», which regulates associations experts in solving urban planning problems, etc.). The definition of each of these forms of thinking is impossible due to the significant lag that takes place in the domestic scientific practice of comprehending this kind of phenomena. The presented review of social trends is intended to promote the activation and actualization of professional discourse in this direction.

Keywords: professional urban planning thinking, urban planning education, urban planning thinking.

Alexey V. Kresheninnikov

#### LOCAL PERSPECTIVES OF URBAN POLICY

The article discusses the methodology and techniques of urban planning with the example of the national urban planning policy of New Zealand. The methodology for building the program can become an example of a local urban planning policy of small settlements or city districts in our country. Urban planning policy is a system of provisions and target indicators, the everyday needs of residents and the conceptual models of the optimal organization for settlements proposed by the theory of urban planning. The Urban Development Policy of the federal, regional and local levels is designed to find the right compromise between these realities.

Keywords: urban planning, urban studies, urban development, local urban policy, professional retraining, cognitive urbanism.

Irina V. Kukina

#### URBAN MORPHOLOGY STUDIES AND REGULATION OF THE CITY DEVELOPMENT

The policy of managing the reconstruction of cities presupposes knowledge of the trends in the development of the structure of the city, its volumetric-spatial state. Urban morphology studies using open database analysis tools make it possible to correlate changes in volume-density characteristics with changes in land tenure and land use, forms of development. The research results can be used as an information system for designers, citizens, and administration.

Keywords: morphology studies, database, policy of city development.

Marina Matashova

#### SUSTAINABLE COMMUNITY MASTERPLAN: INTEGRATIVE DESIGN PROCESS

Sustainable Community Masterplan methodology represented in the article with a cross discourse, illustrated by examples from the author's international practical experience, reveals how the socio-ecological approach and regenerative thinking challenge the urban planning definition and the designer's role, expanding the list of competencies and design challenges by eliminating rigid divisions between disciplines.

Keywords: masterplan, community, sustainable development, integrative design process, socio-ecological urbanism.

Yulia S. Yankovskaya, Alexey V. Merenkov

#### ARCHITECTURAL CONCEPTS OF URBAN planning POLICY

The article was prepared within the framework of the declared topic of the round table «Urban planning policy». This term is actively used by both all-Russian and regional and city management structures, but often we see this as a substitution of concepts and a formal change of signage. In this article, the authors set the task of conceptual and theoretical understanding of the concept of «urban planning policy», identifying its potential advantages and revealing a fan of new opportunities for solving fundamental architectural and urban planning issues. Another important aspect is the role and place of the architect in the formation of a creative value-transformative concept of urban planning policy. The article

attempts to propose a productive and socially-oriented concept that could form the basis of a projective approach to the development and implementation of a comprehensive urban planning policy of the Ural region as a whole

Keywords: architectural concepts, creative and social orientation, urban planning policy, theoretical understanding.

Iouri M. Moisseev

#### TERRITORIAL METAMORPHOSIS WITHIN THE FORMATS OF URBAN DEVELOPMENT POLICY

A lot has been said about urban planning policy, and this article, without any claims to particular originality, calls for considering several interrelated topics of urban planning policy that affect the structuring of the process of producing spaces. It is often said that urban policy is defined as a coordinated set of policy decisions to plan, finance, develop, manage and maintain the well-being of cities by building relationships between stakeholders, all participants in the urban development process, including civil society, the private sector, the academic community and the authorities.

Keywords: urban planning analysis, planning theory, urban planning policy, development management, coordination of urban development.

Margarita V. Perkova, Oleg V. Bik, Aleksandra Yu. Perkova

#### INFLUENCE OF URBAN POLICY ON THE DEVELOPMENT OF TRANSPORT INFRASTRUCTURE OF BELGOROD SUBURBIA

Regional urban planning policy in the Belgorod region is aimed at the formation of districts with individual residential development in the suburban area. The rapid development of agglomeration processes in the suburbs entails the introduction of new approaches to the organization of transport infrastructure. Suburban routes existing today are not fully effective, and their number is insufficient. In this regard, there is a need to improve the transport infrastructure of the city of Belgorod and the Belgorod agglomeration to increase its efficiency in general, as well as to improve the work of urban public transport. It is proposed to organize transport hubs as elements of transport infrastructure for unloading roads, reducing automobile commuting and providing the possibility of a comfortable transfer from one mode of transport to another.

Keywords: suburb, agglomeration, urban planning policy, transport infrastructure, public transport.

Mikhail V. Shubenkov

#### THE OXYMORON OF THE NATIONAL URBAN PLANNING POLICY

The state urban planning policy is adopted at the state level in the form of a system of documents defining the goals, objectives and priorities of the territorial development of the country. Since the provisions of the urban planning policy are based on the laws and principles of the Constitution and the Urban Planning Code, many problems of implementing urban planning policy are associated with their shortcomings. The observed peculiar urban planning oxymoron of the discrepancy between political statements and programs with real urban planning practice is a direct consequence of this. The article presents proposals for amending the Constitution and developing a new Urban Planning Code based on a new strategic goal – the quality of the living environment for the population

Keywords: urban planning policy, threats and challenges, strategic urban planning priorities, urban development, urbanized territories, natural environment.

Svetlana V. Ilvitskaya, Ryma Ashur, Tatiana V. Lobkova  
BIOCLIMATIC ARCHITECTURE OF ALGERIA AND ECOLOGICAL SUSTAINABILITY OF CULTURAL HERITAGE

Eco-building or ecological habitat with «bioclimatic» houses is becoming an urgent problem for modern architects and builders. However, the history of the traditional folk dwelling of Algeria shows examples and proves that eco-construction existed before, and the solution to pressing problems was found in the cultural heritage of the country.

The article presents a number of examples of bioclimatic architecture of residential buildings erected in accordance with the environment of Algeria, an analysis of the traditional habitat in the arid regions of the country is given, where local residents have learned to build in a desert climate. The article considers the following questions: how the desert traditional architecture in Algeria meets the conditions of sustainable development; what are the features and ecological methods of eco-construction of traditional architecture in the desert; what lessons can be learned from traditional building skills and how we can integrate them into today's modern bioclimatic architecture.

Keywords: sustainable development, bioclimatic architecture, desert traditional architecture, cultural heritage, energy efficiency, arid climate.

Erkan Kambek, Elena V. Zabelina  
PROJECT MANAGEMENT IN CONSERVATION: THEODOSIUS CISTERN CASE

The article is devoted to the study of the processes associated with the restoration of the monumental cultural heritage located in the Eastern Roman Empire. When restoring monuments, the role of the chief restoration architect is very important as a person who coordinates and controls entire stages of work. Effective management in the restoration determines the time and quality of the work carried out, and ultimately the budget. The author of the article, Erkan Kambek, supervised the process of study, documentation, conservation and restoration of the Theodosius Cistern in Istanbul in the 2014–2017es. The article not only describes all the stages of the monument restoration process, but also describes the interaction with managing and controlling organizations. This experience can make some contribution to the scientific understanding and improvement of the restoration procedures themselves and their quality by establishing some special control and ongoing monitoring at different stages of the process.

Keywords: management in conservation, underground reservoir, Theodosius Cistern, restoration, architectural environment, Eastern Roman Empire, continuity.

Galina L. Ledeneva, Daria L. Popova  
HOUSE OF K. MELNIKOV. TO THE HISTORY OF THE ORIGIN OF THE INNOVATIVE IDEA

The article presents the hypothesis of the origin of the window shape of K. Melnikov's house, taking into account the environmental context. Parallels are outlined in the formulation of problems and methods of their solution in the creation of a nonlinear, translucent structure when compared with the architectural monument - the house of the manufacturer

M.V. Asseev in Tambov (1906, architect L. N. Kekushev). The data that are the basis for such a comparison are given.

Keywords: K. Melnikov's house, the origin of the idea, the shape of the window, the surfaces of the circular outline, glass blocks «Falconier», the mansion of M.V. Aseev in Tambov.

Alexander A. Pleshivtsev  
TECHNOTOPIA IN ARCHITECTURE

The main feature of the direction technological utopia («technological utopia») or technotopia («technotopia») is the implementation of innovative (primarily technical or technological) priorities (including those that are currently unavailable) in order to achieve

utopia in the broadest sense or in a separate field of activity. Technotopia is an expression of a perfectly organized, maximally saturated with technology space, from which only unacceptable inconveniences and shortcomings of technology are removed, assuming the absolute triumph of technical rationalism under the guise of an ideal and a dream.

Introduction: Approaches to assessing the functional nature of technology and utopian concepts of interpretation of technical capabilities (technologies) indicate the versatility of this phenomenon. The current state of technotopia is predetermined by the civilizational model of global development, which includes specific features, attributes and signs of the previous civilizational models and claims a certain perspective of historical development.

Materials and methods: system analysis designed for the specifics of the application of unconventional and innovative design techniques in order to ensure the functional quality of the architectural image. Theoretical analysis of the impact of manufacturability and organization of accounting on the quality and integral properties of an architectural object, generalization of research results, formulation of conclusions.

Results: a system analysis was carried out and the structure of external and internal (in relation to an architectural object) factors of influence determining the possibility and expediency of using innovative design techniques to form an architectural image was developed. The influence factors mean aspects of the production device, as well as elements of the artificial and natural environment with which the architectural space (in the format of an architectural image of a certain functional purpose) is in continuous contact.

Conclusions: in the conducted research it is noted that the solution of problems related to the development of technological techniques and processes is accompanied by the development of general theoretical knowledge of architectural science and construction production. This circumstance applies to a greater extent: to the activities for the formation of new architectural objects.

Keywords: technotopia, technologization, functional and technological adaptation, paradigm.

Valentin N. Tkachev

## ARCHITECTURE OF MILITARY MEMORIALS

Like any other architectural object, the typology of which is formed historically in the measure of the development of society, military memorials have an even more expressive history both in terms of strengthening their significance in the life of societies, and in terms of a detailed typological picture of objects. Humanity measures the time of its existence mainly by periods of wars, this is the incentive of its life and the program laid down for the death of the race. Victories and defeats are celebrated almost with equal pathos in the monuments to the battles and heroism of the soldiers. Often these monuments marked the beginning of a new era in the life of a particular people. That is why they have such a wide range of dedications (dedications) to persons and events associated with military symbols. This article is devoted to their architectural genetics. The historical aspect has always been fruitful in detailing the life stages of the objects under consideration. In this case, the chronological perspective of the preparation of the classification of military memorials provides the necessary sequence for the formation of their typological series from personal to event monuments with plots from triumph to tragedy. The objects of this kind can also include civil architecture, indirectly associated with military subjects. Architect D.E. Romanashenko took part in the preparation of the illustrative material of the article.

Keywords: war memorials, burials, memorial complexes, equestrian sculpture, triumphal arches, temples, museums, military exposition.



Natalia V. Iudina

#### VALORISATION AS AN APPROACH FOR GENERATION OF URBAN PLANNING SYSTEMS ON THE BASIS OF CULTURAL LANDSCAPES' CAPACITY

The article considers the method of valorization as functional enrichment of cultural objects and environment founded on historical potentials. Projects of urban scale are especially distinguished, in which valorization plays a role of complex approach and efficient, consistent development. Cultural landscapes of Russian small towns are chosen as an object of research. They concentrate the patterns of timber architecture unique for the worldwide experience. The author points out the issues of timber objects adaptation for contemporary use. The solution lies in the implementation of a network of values and allocation of workload between the elements of spatial complex. The principles of valorization for historical areas with the presence of timber heritage are elaborated. In the end, there is given an example of valorization on the basis of cluster spatial systems in the Sestroretsk-town.

Keywords: valorization, functional enrichment, programme of development, cultural landscape, timber architecture, heritage objects adaptation.

Georgiy N. Cherkasov

#### THERE WAS NO SELF-DEVELOPMENT, A REPLICA IN RELATION TO THE WORK OF A.P. KUDRYAVTSEV «SAD JUBILEE» REGARDING THE RESOLUTION OF THE CENTRAL COMMITTEE OF THE CPSU OF THE USSR COUNCIL OF MINISTERS OF 1955 «ON THE ELIMINATION OF EXCESSES IN DESIGN AND CONSTRUCTION»

The paper attempts to answer the statement of A.P. Kudryavtsev that Stalinist architecture, neoclassical architecture arose naturally as a result of the self-development of architecture. This work examines the process of the emergence of constructivism, the architectural avant-garde in the USSR in the period 1923-1932, the process of its deliberate liquidation and the mechanism of the formation of Stalinist architecture, approximately 1930-1954, as a tool for the formation of the personality cult of I. Stalin, which in general led to negative consequences for the development of architecture and construction.

Keywords: art nouveau, factory architecture, neoclassical, architectural avant-garde, constructivism, the Palace of Soviets.

Alexsandra P. Zaytseva, Svetlana V. Ilvitskaya

#### COWORKING SPACES IN THE STRUCTURE OF THE CITY'S LIVING ENVIRONMENT

The article discusses the main trends in the formation of coworking spaces. A critical analysis of foreign design experience in the context of rethinking the structure of the residential environment is given. The main patterns and promising directions for the transformation and modification of the urban environment, including taking into account the socio-cultural project component, were identified.

Keywords: coworking, transforming the living environment, sociocultural design.

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Nikolay F. Metlenkov, Ekaterina V. Koneva

#### POST-NON-CLASSICAL SCIENCE IN ARCHITECTURE

In architecture, as in any science, paradigmatic, single-order theoretical and methodological means are implemented; the analysis of whose activities allows us to identify trends in its development. Today, a certain stagnation of architectural practice could be mentioned – a “development crisis” following three main vectors: “design”, “education” and “research”. The «experiment» is considered in the essay as the main tool for identifying ways to overcome

the crisis, where the means of contemporary «post-non-classical» science, including synergetic, play a major role.

Keywords: practice of architectural design, practice of architectural education, practice of architectural research, development crisis, experiment, post-non-classical scientific world picture, synergetic.

Valeriy V. Aurov

#### ARCHITECTURE AS A SCIENCE

Science is the art of asking questions. The round table «Architecture as a Science» aimed to reveal the views of well-known specialists, mainly leading teachers of architecture universities, on the modern understanding of this topic discussed today.

Keywords: architectural science, architectural education, scientific and creative research, scientific personnel.

Galina N. Aydarova-Volkova

#### MODEL-CONCEPT OF THE REGIONAL ARCHITECTURAL CULTURE: MATRIX OF THE ARCHITECTURAL AND URBAN PLANNING TYPES, TRADITIONS, INFLUENCE (WITH AN EXAMPLE OF REPUBLIC OF TATARSTAN)

The article details a model of Tatarstan architectural culture which includes periodization, architectural types of structure, traditions and influences. Age of some architectural monuments such as artifacts, fragments or excavated remains of middle-aged Kazan Khanate (XV-middle XVI centuries) must be specified to be included into the matrix of Tatarstan architectural and urban planning types in order to define typological features of the buildings lost as a result of historical evolution which could facilitate Tatarstan national traditions conservation and development.

Keywords: theory and history of the architecture, model – concept of the Regional Architectural Culture, interaction of traditions, structure and matrix of architectural and urban planning types.

Aytan T. Salimova, Ilqar O. O. Aliyev

#### DEVELOPMENT OF URBAN PLANNING SCIENCE IN AZERBAIJAN DURING THE SOVIET PERIOD

Urban development in Azerbaijan has gone through a long and difficult path. Since ancient times, Azerbaijan has been the heartland of the Caucasian mega-region, located at the intersection of trade routes, historically, was called upon to play the role of a political, trade and economic center.

The earliest stage of urbanization in Azerbaijan dates back to the 2nd millennium BC. The burst of the urbanization process in Azerbaijan in the 19th century is associated with the «oil boom». The rapid growth of industrial production influenced the growth of cities and urban population. By the time of the «oil boom», Azerbaijan had its own school of engineers and architects.

Since the 1920s in Azerbaijan, the foundation of territorial planning and regional planning is set up. The formation

of the theory and practice of socialist settlement has begun. Academician A. Shchusev, prof. L. Ilyin and A. Ivanitsky, L. Rudnev, the Vesnin brothers were seconded to Azerbaijan. During this period of time the work began on the planning and improvement of workers' settlements, which became one of the first experiments of regional planning in the USSR. In the 1920s, the idea of creating garden cities found its real embodiment here in Azerbaijan.

The urban planning school was formed in the 30–40s.

For the further development of the national economy, it became necessary to create new industrial centers. In the late 1930s, they began the development of master plans for

Yevlakh, Shusha, Khankendi and Sheki cities. In the mid-40s, new cities — Sumgait, Dashkesan and Mingachevir — have begun to be laid.

1940–1950s are characterized by the formation of an integrated approach in the settlement theory and practice. In the 60s, a new stage in the development of urban planning and architecture began. During the 1970s-1990, the increased scale of mass housing construction required the development of scientific schemes for the placement and concentration of housing construction, for the placement in large areas. In the 1970s-80s, the issues of urban development began to be addressed within the framework of the formation features of production and settlement systems development, but it has shown the lack of significant underestimation of its global laws and social cultural foundations. The modern period is characterized by the emergence of the late 20th and early 21st centuries settlement sustainable development theory and practice. Today, having emerged victorious in a bloody war, having returned their legal territories, all of Azerbaijan, city planners and architects are faced with the task of restoring the affected territories. On the agenda there are new approaches to the use of territories, new requirements for the architecture of residential buildings and complexes. The intensive growth of the population of Azerbaijan brings to the fore the task of regulating the developing social economic problems and requires the development of scientifically based recommendations for more effective management of the urban environment.

Keywords: urban planning in Azerbaijan, urban planning school, historical stages in the development of urban planning in Azerbaijan.

Valeriy V. Aurov

#### ABOUT THE DIALOGUE «ARCHITECTURE - SCIENCE»

Historical understanding of the architecture of the «second nature» importance is multifaceted and sufficiently studied. But it isn't perceived definitely by the society in the information field of contemporary technological progress and postindustrial culture. Architecture as art uses in its development scientific achievements of many other specialties and integrates the variety of its innovations, but the main point for architecture remains cogitative experiment which consists in interaction of rational and creative origin.

Keywords: image, information field, dialog of the lines, metaphor, analogy, architectural volume, composition, space, styles.

Tatiana V. Vavilonskaya

#### INNOVATIVE TECHNOLOGIES IN POPULARIZATION OF THE ARCHITECTURAL HERITAGE (SAMARA EXPERIENCE)

The article analyzes the established practices of popularizing the architectural heritage and revealing the content of Samara experimental project for the introduction of innovative technologies in the popularization of the architectural heritage of the Samara region. A method of conducting work on the preparation of popularization publications is proposed, designed to attract a wide range of not just readers, but users, in particular, from among young people. The result of the work was the creation of an interconnected information and media system, when information about objects of architectural heritage is presented not only within the framework of classical publications, but also in an interactive form that can be used using QR codes and special applications easily installed on any gadgets. An innovation in the developed information and media system is the widespread use of GIS systems for correlating the reflected information about objects with maps of different levels and scales. The information and media system allows you to see objects of architectural heritage before and after restoration, compare their images in archival photographs and at the moment, watch a video clip about the object from a bird's eye view, or see and examine a third-party model of the building from all sides. Specially created content can be constantly updated with new information about architectural monuments.

Keywords: popularization, architectural heritage, information and media system, innovative technologies.

Anna L. Gelfond

#### ARCHITECTURAL APPROACH TO THE STUDY OF THE INFORMATION SPACE

The article suggests an architectural approach to the study of the information space, which, in the opinion of the author of the article, is quite legitimate along with the accepted technical and humanitarian approaches. The information space is considered as a public space. In this regard, we analyze the architectural typology of multimedia parks «Russia-my History» as museum buildings, where information is a material monument that is displayed. The information spatial framework of the city is considered. In the aspect of the subject of the study, special attention is paid to the special conditions of the pandemic period.

Keywords: information space, public space, multimedia park, architectural typology, information framework.

Galina F. GORSHKOVA

#### ARCHITECTURE AS A HIERARCHICAL SYSTEM OF MEN'S SPACIAL CONSCIOUSNESS

Human beings live and act in a spatial environment. In certain stages of the architectural evolution, men's ways of viewing the world and themselves have changed, and, as a consequence, their architectural skills developed correspondingly. Thanks to the geometrical model of the projective space, we shall show the phenomenon of spatial awareness as a function of the projection of the light of the celestial sphere onto the level of terrestrial surface, bringing to mankind a divine harmony in the likeness of God.

Keywords: Architecture, humans and Earth; system of spatial awareness.

Vladimir E. Bayer, Petr M. Zhuk, Natalia S. Kaver, Tatiana V. Koroleva, Valentina P. Kniazeva

#### MATERIALS SCIENCE IN THE EVOLUTION OF ARCHITECTURE

The material palette of the architect has always played an important role in the creation of unique objects, set the trends in the development of architecture, and also saturated the scientific component of design solutions. The key directions in this were and remain the formative capabilities of construction materials, the issues of preserving buildings, structures and individual structures from atmospheric influences, as well as the principles of developing new materials that should be introduced into industrial production after testing. This article systematizes some examples and trends that reveal the role of materials science as one of the scientific vectors in the evolution of architecture.

Keywords: architectural materials science, building materials, efficiency criteria, formative capabilities of construction materials, preservation of objects of architectural heritage.

Sergey V. Klimenko

#### ON THE HISTORY OF AWARDING ACADEMIC DEGREES IN THE FIELD OF ARCHITECTURE: INSTITUTE OF POSTGRADUATE STUDIES OF THE ACADEMY OF ARCHITECTURE AS AN EXPERIMENT. 1934-1946

The article discusses the practice of awarding academic degrees in the field of architecture. This practice is considered in the context of the formation of a system of scientific certification in Russia during the XX century. The problems of subordination of architecture and the construction industry within the framework of state regulation of scientific activity are characterized. The article presents the experience of the Institute of Postgraduate Studies of the Academy of Architecture of the USSR (1934-1946) as an experiment in the training

of scientific personnel with the methodology of dissertations developed here. The appeal to this experience may have significance for architectural science at the present time.

Keywords: institute of Postgraduate Studies, Academy of Architecture of the USSR, dissertation, nomenclature of scientific specialties.

Olga V. Volichenko, Ravil M. Muksinov, Duyshen Jolchuev

#### THE GREAT SILK ROAD AS AN INTEGRATOR OF THE FORMATION OF SCIENTIFIC CENTERS OF THE EAST COUNTRIES

During the heyday of the Muslim Renaissance, scientists, artists and poets enjoyed the unlimited support of the rulers, making a significant contribution to the economy and culture, contributing to the prosperity and development of the country. The common language of communication made knowledge available, and trade caravan routes facilitated the dissemination and exchange of information between settlements, being, at the same time, a fairly safe way of travel. The article examines the influence of the Great Silk Road on the formation of scientific and cultural centers of the Middle Ages. The article reveals the features of the architectural and planning organization of cities that gave the world the greatest scientists who had a huge impact on the development of world civilization. A retrospective picture of the functioning of urban centers in different periods of the rise and development of scientific and cultural potential in the Arab Caliphate, Khorezm, the state of the Karakhanids is given.

Keywords: Great Silk Road, scientific centers of the East, layout of medieval cities, Muslim Renaissance.

Sergey B. Pomorov

#### ARCHITECTURAL SCIENCE: DIRECTIONS, MODELS, LOCATION

Scientific and educational activities in the field of architecture are considered. The status of the «science of the architect» is discussed, its specificity, the nature of relations with related sciences are revealed. Based on a review of candidate and doctoral dissertations defended in recent decades, the main directions of modern architectural scientific research are established, and the dependence of the development of these directions on the general movement of science is indicated. Models of interpretation of the status of architectural science are built.

Keywords: architectural science, concepts, methodology, development trends, location.

Ludmila P. Kholodova

#### ABOUT THE BASIC PRINCIPLES IN THE THEORY OF ARCHITECTURE

This study is devoted to identifying changes in the artistic basis in the theory of architecture. The order, style basis was replaced by abstract art, and then functionalism. Currently, the phenomenological basis of the theory of architecture is being formed.

Keywords: style architecture, abstract art, phenomenology, augmented reality.

Nikolay I. Shchepetkov

#### ARCHITECTURAL SCIENCE IN MARHI ABOUT

The article considers modern problems and features of the organization NIR in the architecture based on the experience of MARHI. There are noted negative phenomena in many parameters, due not to internal institute, but to external conditions and circumstances imposed on us, which is impossible to evade. The result is a fall in the public prestige of the previously respected profession and the science serving it.

Attention is drawn to the shortcomings of professional science, its history, theory and practice, as well as education, in the field of the global and fundamental problem of «Light in Architecture», which nowadays looks archaic.

Keywords: architectural science, research work (R&D), history and theory of architecture, scientific school.

Konstantin V. Kiyanenko

#### 'ENVIRONMENTIZATION' OF ARCHITECTURE: ORIGINS IN PHENOMENOLOGICAL VISION

The fourth of a series of papers on the origin of the environmental trend in architecture is devoted to its roots in phenomenology. Like the previous three, this publication is a comparative work with English-language and Russian-language literary sources, with bibliographic lists, with citations. First, the author suggests to distinguish between the phenomenology of architecture and architectural phenomenology. Then, the question of the complex nature of the connections between the phenomenological and the environmental is raised. Finally, the paper examines the chronology of the main phenomenologically oriented publications and events in the English-language and Russian theory of architecture. It is shown that the phenomenological humanizes the environmental, which is initially subject to a positivist interpretation of the observed behavior, shifting the emphasis to the analysis of the consciousness of the inhabitant and its connections with the environment. The role of the topic of psychology of perception as a channel for transmitting phenomenological impulses to the theory of architecture is emphasized.

Keywords: environmental movement, architectural phenomenology, environmental phenomenology, historical analysis, cross-cultural comparison.

Oleg I. Adamov

#### RUSSIAN AVANT-GARDE AND CONTEMPORARY WESTERN ARCHITECTURE: TRANS-TEMPORAL IDEAS AND POINTS OF JUXTAPOSITION

Leading contemporary architects have repeatedly declared their adherence to the ideas of the Russian Avant-garde that could be «injected» into the Western cultural background and thereby regenerate or revitalize it. Their approach could be characterized as «superficial sliding», but also reveals a rather deep penetration into the ideas and images of the Avant-garde. Hence the question of how does inheritance occurs and trans-temporal interaction works in project culture? The purpose of this paper is to clarify a nature of the multiple links between the working concepts of the masters of Russian Avant-garde and contemporary Western architects emerging while their creative activity in relation to spatial formations and affecting the meanings of architectural forms and images. The research attempts to apply the process approach to study the architectural phenomena, treated as a development and at the same time deviation from structuralism and post-structuralism methods, involving a construction of both synchronic and diachronic models. Comparative analysis of individual ways of designing and creating forms specific to the architects is also used: “picture” imitation and transfiguration; fragmentation; reticulated constructions; cosmos generating; spatial primary units; animated stain; bionic movement; autopoiesis. Tracing the links and transferring the ideas is possible at the meta-level by comparison the whole semantic structures specific for the different times architects, identified by means of reconstruction of their individual creative processes and representation of the broad figurative-semantic fields referring to the various cultural contexts.

Keywords: Russian Avant-garde, contemporary architects, creative process, spatial formations, images, semantics structures, figurative and semantic fields, trans-temporal links.

Elmira Z. Turgumbekova

## PROBLEMS AND PROSPECTS FOR THE DESIGN OF PRESCHOOL, SCHOOL AND VOCATIONAL BUILDINGS IN THE KYRGYZ REPUBLIC

The article deals with the typological issues of educational buildings (preschool, school and secondary vocational schools) in Kyrgyzstan, the current state, problems and prospects of their development. The problems existing in kindergartens, schools and secondary vocational educational institutions, factors and conditions affecting the formation of educational buildings and ways to solve the design and construction are identified. Recommendations for creating new types and spatial material environment of preschool, school and secondary vocational educational institutions are proposed.

Keywords: Kyrgyz Republic, educational buildings, networks and types, preschool and General education institutions, secondary vocational educational institutions, spatial material environment, design and construction, integration.

Ilya O. Churkin, Nikolay F. Metlenkov, Ekaterina V. Koneva

## MODULARITY

An overview of the manifestations of modularity in the surrounding world is given in nature, science, art, architecture. There is a conclusion about the generality of modularity - Universum.

Keywords: modular architecture, module, modularity, modulation.

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## BIOCLIMATIC ARCHITECTURE OF ALGERIA

In recent decades, the modern model of Algerian architecture does not actually reflect its cultural identity. However, new materials and modern technologies used in the construction industry do not always provide sufficient thermal comfort. To address these problems, mainly caused by the building materials currently in use, architectural practice is returning to «earth architecture» as one of the most original resources in the history of architecture. The use of soil as a building material allows you to achieve optimal comfort in the room, as well as increase the level of environmental sustainability of the environment.

Keywords: Sustainable development, bioclimatic architecture, desert traditional architecture, environmentally friendly material, soil panels, thermal comfort.