

## TRENDS IN THE DEVELOPMENT OF MODERN WORLD ARCHITECTURE

<sup>1</sup>N.R. Kubrysh,

kubrish72@gmail.com, ORCID: 0000-0002-9441-214X

<sup>1</sup>L.I. Oleshko,

l.oleshko.i@gmail.com, ORCID: 0000-0002-2988-5346

<sup>1</sup>O.M. Samoylova,

amsam288@gmail.com, ORCID: 0000-0002-0748-519X

<sup>1</sup>Odessa State Academy of Civil Engineering and Architecture, Ukraine

**Abstract.** The article demonstrates that new requirements and challenges open new perspectives in forming the habitat and architectural creativity due to technical and technological capabilities. The architects' role and place in the integration processes of a technocratic society are analyzed. The main reasons for the loss of leading positions in the construction industry by modern architects are determined. The unique role of the "syntheticity" of contemporary architecture is singled out. It is shown that modern architecture is turning from a monocultural phenomenon into a symbiosis of creative, cultural, scientific, and technical potentials. The example of the buildings "Vertical Forest" (Bosco Verticale) in Milan or the "Tower of Cedars" (La tour des Cedres) in Lausanne, the complex of the concert hall "Maraya" in the Al-Ula desert of Saudi Arabia, the convention center in Changzhou Park in China, the active participation of design engineers in the creative process of design and construction, the introduction of "green" technologies and materials, the implementation of the principles of the following "sustainable" construction is shown. The study emphasizes that the design of complex engineering systems and mechanisms significantly complicates the process of architectural and building design. It requires the architect to go beyond the scope of the profession fundamentally. It is pointed out that the alienation of a person from architecture has become an obvious deep problem of architectural activity at the level of the author-architect, the consumer-addressee, and at the level of development, transformation, and implementation of the project. Several reasons have been identified that do not allow most architects to become the head of a complex mechanism for implementing their creative intent. It is proved that the full development of the architect in the working process is possible only in large architectural firms. The importance of a dynamic process of improving modern management technologies in large architectural firms, and more active public involvement at all stages of construction and investment activities, is emphasized. It is argued that small architectural bureaus cannot guarantee their employees the development of quality of their professional horizons. One of the ways to solve these problems is proposed. It is argued that the capabilities of modern digital technologies, scientific and technical discoveries, and the inconsistency of the integration process, bring many new and specific trends to architectural activity. The tendency of gradual improvement of constructive-plastic, functional-technical, and artistic-aesthetic qualities in mass construction is revealed.

**Keywords:** trends in modern architecture, "green" technology, scientific and technological progress, sustainable construction

**Introduction and statement of the problem.** The short-term existence of real estate, which quickly becomes obsolete morally and physically, dictates an approach to the design of modern buildings with fundamentally new characteristics. Society's demands for the "sustainable" nature of the development of modern construction, which guarantees the prospects for the formation of a harmonious living environment for future generations, are increasing. In the practice of determining the quality of buildings, a rating approach is increasingly introduced

by international systems LEED, DGNB, and BREEAM, taking into account the fundamentally new approach to design and construction, taking into account the use of progressive “green” technologies.

The rapid growth of techno and infospheres, resistant trends in the further acceleration of scientific and technological progress, determine the vector of the development of human civilization for the foreseeable future, as technocratic. Pinching deeper into the basics of micro and macro worlds, humanity seeks to immediately use the fundamental knowledge gained in all areas of life, thus hanging out the already dizzying pace of technological progress. Canons and concepts collapse under the pressure of discoveries and unprecedented possibilities, becoming a new foundation in this rapid process of cognition of the surrounding world and our place in it. Under the rapid pressure of reality, architecture undergoes significant changes, as one of the most conservative forms of human life. Instability mobilizes the hidden energies of architecture and actualizes its ability to specific compounds with the cultural context (art, philosophy, science, religion, technology and technology, social processes, politics)– solely for the break to the new principles of form formation [1, c. 3]. New requirements and tasks, in conjunction with ever-increasing technical and technological capabilities, reveal new horizons in the formation of the environment and architectural creativity as a whole.

**Analysis of recent research.** I. Ioffe was among the first who had studied the synthesis of art in the 30th years of the last century. His approach was the certain absolutization of the phenomenon and was generated under influence of the rapid development of cinema. In this type of art exactly, the scientist saw the maximum display of synthetic art. During the same period, these themes for the first time were discussed concerning spatial arts, in particular, at the First creative meeting of architects, sculptors, and painters. At that time, the main provisions of the theory of synthesis were already determined, based on the allocation of formal and organic synthesis and the presence in it of an initiative principle, a dominant art. The implementation of new methods of organizing space, together with the spread of constructive structures, contributed to the emergence of new directions in architecture - the avant-garde, which claimed universality, relying on an unconditional belief in progress and the self-worth of novelty [1, p. 15]. The works of A. G. Rappaport, I. A. Dobritsyna L. P. Kholodova, M.V. Dutsev, V. L. Khayt, V. L. Glazychev, V. A. Pak, V. Pavlova, are devoted to the problems of modern architecture, G. V. Esaulov, I. E. Motorina, Kenneth Frampton, and others. In scientific research by V.P. Tolstoy, A. V. Ikonnikov, A. B. Efimov, N. V. Voronov, E. B. Murina, K. M. Mitrofanov, G.P. Stepanov, the issues of the synthesis of art and architecture, and the problems of the interaction of art and architecture are considered.

**The purpose of the article.** To identify the general, interconnected tendencies of the progress of modern architecture, which have arisen under influence of advanced achievements of scientific and technical progress and processes of world globalization. The purpose of the research defines the following tasks: to analyze the role of the architect in the integration processes of a technocratic society; determine the role of the "syntheticity" of modern architecture as the fundamental reason for its self-improvement; show the main processes of contemporary architecture as a symbiosis of creative, cultural, scientific and technical potentials; identify several reasons that do not allow architects to realize their creative potential.

**Main material and results.** Aspiration to the synthetic character is one of the obviously expressed tendencies in the progress of modern architecture. The unambiguity of the materialistic version of rationalism had come to the end. Its classic formula “form is determined by function” was already perceived as a paradox belonging to history [6, p. 646]. Since modern ideas about the world are increasingly becoming more complicated, naturally increased attention to integration processes and to a specific form of reflection of reality, which is the new art of synthesis of the XXI century. Artistic synthesis cannot exist without the latest technologies. This synthesis changes our ideas about the world, and, perhaps, will change the person himself, turning him

from an observer into a creator [10, p. 147]. Scientific and technological progress, with unexpected speed, laid the end of the industrial civilization, opening the path of the era of informatization, changing the technical means of construction, laying the foundation for changes in the spiritual sphere of society, forcing to see the world in a new way and look for new ways of its understanding. From the monocultural phenomenon in most of its examples, architecture is currently turning more and more obvious in the symbiosis of creative, cultural and scientific, and technical potentials, and thus embodying the desire of technogenic society to gain unhindered access to all the benefits of scientific and technological progress

The syncretism of the arts, which originated in ancient times, sought to combine various forms of fine art, music, choreography, theater, and literature into a single whole, in the context of modern sociocultural space, are actively supplemented by new technical and technological capabilities [13]. It should be noted that the specifics and features of the synthetic nature of modern architectural creativity are closely interconnected with the culture of the artistic avant-garde of the early 20th century. The creative activity of the masters of avant-garde art radically updated the principles and traditions of architectural and artistic synthesis by means and techniques of new types and directions of arts (cinema, photography, avant-garde poetry, theater, and scenography). New trends and formative principles of architectural and artistic synthesis developed in the activities of creative unions, groups, and architectural and artistic educational institutions, such as "Association of New Architects (ASNOVA)" and "All-Union Association of Proletarian Architects (VOPRA)", "Zhivskulptarch (Commission for Painting, Sculptural and Architectural Synthesis)", Bauhaus, "De Stijl". It is crucial that the masters of the new art sought to harmoniously combine the three fundamental principles of "usefulness - strength - beauty".

At present, it isn't easy to imagine the formation of a full-fledged living environment using only architectural and artistic techniques, without the widespread use of technical means that make it possible to fully reflect the architects' attitude to the world around them. We agree with the idea of E. B. Murina that "the boundaries of synthesis, following the general trend in the development of the scientific and technological revolution, have moved from the level of artistic and value manifestations to the level of what is called visual culture, which includes mass media - advertising, posters, light signs, etc. similar phenomena of technical aesthetics, which, while not being arts from a traditional point of view, must nevertheless be comprehended as art" [11, p. 179]. Thought out from an aesthetic point of view, artificial lighting of settlements, including virtuoso lighting of streets and pedestrian esplanades, individual buildings, and structures; the transformation of facades into a light installation show is one of the many examples of new colors in the palette of a modern architect.

An architectural work achieves its most extraordinary integrity when it becomes a synthesis of the author's concept; social inquiries; aesthetic preferences of society; urban planning, volume-spatial, functional, constructive patterns; artistic messages; the spirit of the place, and the sense of time [2, p. 3]. The rapid development of building technologies and their material base, which bring construction to a qualitatively new level, makes it possible to combine previously incompatible components into one inseparably connected whole combining scientific and technological progress and art into a single human living space. The ongoing expansion of the boundaries of self-expression with the use of specific techniques that are not typical for a particular field of arts, respectively, implies the recognition of the creative contribution of other professionals who were not previously included in the cohort of creative professions. "Modern architectural concepts are built on the fundamental principle of synthesis, which naturally develops based on the idea of art synthesis: functional synthesis, constructive-technological synthesis, symbolic synthesis, conceptual synthesis, environmental synthesis" [3, p. 5].

As a result of the resulting synthesis, the syncretism of the ideas underlying architectural designs often makes it possible to obtain unique, highly artistic works. As a result of the creative symbiosis of specialists from different, seemingly disparate professions, the "green" buildings

"Vertical Forest" (Bosco Verticale) in Milan or the "Tower of Cedars" (La tour des Cedres) in Lausanne are born; the mirror complex of the Maraya Concert Hall, visually refracting and dissolving in the fantastic landscapes of the Al-Ula desert of Saudi Arabia; conference center in Changzhou Park (China), an energy-efficient innovative "lotus" standing on more than 2,500 geothermal piles in the middle of an artificial reservoir. The principles of "green building" are based on such technologies as modern thermal insulation, the use of heat energy recuperators, window sealing, the installation of blinds that automatically change their angle for optimal sun protection, the use of environmental energy, the availability of computer building management systems, the use of environmentally friendly materials, minimizing water consumption and recycling of water, reduction of waste and other environmental impacts [14, p. 347]. Without the active participation of design engineers involved in the creative process of design and construction, it is impossible to imagine the construction of ultra-modern skyscrapers, other architecturally unique buildings, and structures that require the creation of individual methods for calculating the stability of load-bearing structures and non-trivial approaches to their design. The same fully applies to design engineers of other specialties who take a creative part even at the stage of determining the basic concept of the future structure. An exemplary example of such cooperation is the 53-story Commerzbank Tower (architect Norman Foster) in the center of Frankfurt am Main, the world's first green office and one of the tallest buildings in Europe. The basis of the concept of this building is the trust in natural lighting and ventilation systems, which dictated the need to unite the central atrium, nine four-level winter gardens grouped around it with working premises opening into one organic whole. This allows the employees of the companies located here to manage the environment themselves and thus save up to 50% of the energy consumption required to provide such a building. Among the implemented projects of the so-called "sustainable architecture" is the David G. Lawrence Congress Center, architect Rafael Vignoli (Pittsburgh, USA, 2003). In this project, modern technologies determine the aesthetics of the building. To create natural air circulation, the roof of the building is raised on steel cables. From the Allegheny River, cool air flows into the building with a "chimney effect". In this way, it is possible to minimize the use of forced ventilation, achieving a large effect of energy saving and water saving. This project harmoniously and successfully combines the principles of functionality, sustainability and aesthetics.

The development vector of "sustainable" architecture forms its main principles: ecological balance between natural and artificial components; the adequacy of constructive and volume-spatial architectural objects with geomorphology, the introduction of energy-efficient and energy-saving technologies; improvement of microclimatic and aesthetic parameters of the environment; the introduction of a natural component into the structure of the building; integrity and complex connection of all components [14, p. 347-348]. Esaulov G. V. identifies several more important principles for the formation of sustainable architecture: harmonization of social, economic, environmental, territorial and spatial factors in the development of settlements; identification of the optimal combination of "stable" and "changeable" in the object design program; natural conformity and biomimetics; adaptability to challenges and risks of natural-climatic and technogenic character; modeling the spatial and mathematical form of the building depending on the factors that determine the life cycle [4]. The application of these principles in modern projects "will make it possible to realize the aspirations of architects to create an environment that meets environmental standards, is close to the natural environment morphologically, functioning according to natural laws, in fact, is nature – or "nature-equivalent" [14, p. 353]. The openness of leading modern architects to the integration influences that permeate various areas of existence, as a result, leads to the birth of works of art that organically reflect their time as the highest goal, to which architecture has always aspired in its best manifestations.

At the same time, the multi-vector synthetic approach to their creation significantly complicates the process of architectural and construction design, which more and more resembles

the process of designing complex engineering systems and mechanisms. Under these conditions, the leading role of the architect is increasingly being supplemented, or even replaced by other specialists in the field of engineering in the construction business, which requires the architect to fundamentally go beyond the profession. The inclusion of digital technologies in design and construction has an impact not only on architecture but also on the very system of organizing the living environment [5, p. 26]. The alienation of man from architecture has become an obvious deep-seated problem of architectural activity at the level of the author-architect, the consumer-addressee, and at the level of the work, which sometimes feels “dead”, disconnected from the system of natural humanistic needs and conditions. This is facilitated by the development of computer technologies, which already now minimize the distance between conception and implementation, which implies (a more fragmented role of the architect [2, p. 4]. Total computerization, technicalism, typology, and automation of production, and design are becoming a real threat to the development and implementation of artistic and creative aspects of the personality of an architect. As a rule, the leveling of the creative sources negatively affects the final result, reducing it primarily to solving pragmatic financial problems set by investors before the management structure that oversees the design and construction of a particular object. It should be remembered that the profession of an architect is creative and cannot fully exist and develop outside the framework of artistic creativity, culture and art. First of all, in the professional activity of an architect, an important aspect is the ability to create a new architectural image that would meet high artistic and aesthetic requirements, the principles of modern art and would be of cultural and historical value in the future. Very often, the space of the city, which has already formed its unique architectural-stylistic and artistic-aesthetic image in the historical canvas, is mercilessly destroyed and distorted by the appearance of modern buildings [7, p. 143].

The main problem of modern architectural design is mainly the lack of creative methods when solving important engineering-technical, constructive-plastic tasks and artistic-aesthetic tasks. Yu. Karmazin emphasizes that computer technology uncontrollably began to change the design methodology and the very method of architectural creativity. The scientist believes that a computer cannot think artistically and creatively like a person [8, p.136]. An architect should be able not only to solve many complex organizational-functional, constructive-technical, engineering-technological, natural-ecological, and socioeconomic issues and problems, to fulfill the strict requirements of the customer but also to understand and scientifically substantiate structural, volumetric-plastic, and compositional interrelationships of architectural forms and the environment according to their artistic-aesthetic and psychological perception by a person. Therefore, an important aspect of the process of development of architectural activity in Ukraine is solving the issue of improving not only the artistic and aesthetic culture of specialists but also the realization of their creative potential. Actualization of creativity in architectural activity is an attitude towards understanding the value of form and content, in which social, cultural, artistic-aesthetic, and spiritual values are reproduced, because with the help of the architect's artistic and creative thinking, the interaction of visual and verbal forms of the idea of the architectural object being designed is carried out.

The leveling of the role of the architect led to the emerging rupture of the fundamental connection: theory – practice – education. In determining the main priorities and national strategies in higher education, continuous monitoring of the existing labor market and analysis of its trends should be carried out to make appropriate adjustments taking into account the effective impact on the professional choices of young people. As a result, without a close and productive relationship with the practical sphere of society, it is not possible to achieve the formation of harmoniously developed, maximally prepared for professional practice specialists. The socio-economic potential of any country depends on the quality of the signals sent by social production and the correct perception of them by young people and educational systems. Feedback between them is especially important in the context of the globalization of the world economy and the

degree of readiness of individual states to participate in common innovative projects, including offering the services of their highly qualified professionals. A prerequisite for such cooperation is the knowledge of English (at least technical), as a universal language of communication in common practice, and sufficient skills in the field of using international standardization. Higher educational institutions are obliged, at least in an optional form, to provide access to the necessary amount of knowledge, which opens up the possibility of participation of future specialists in such cooperation. In general, the higher education system should be reoriented to the specific staffing needs of the economy and the ever-increasing social demands of society in the context of rapid scientific and technological progress. The model universities – enterprises – the state can also be used to implement the principles of sustainable development in the formation and reconstruction of the living environment [4, p. 22].

Therefore, an important vector of the modernization of the higher architectural school is the training of not only highly qualified and competitive specialists on the global labor market, but also the formation of a high level of artistic and aesthetic culture of a creative personality. Features of the personality of the architect – the manifestation of his creative individuality has an important impact on the creation of the initial ideological basis of the future object. The crisis of extreme individualization provoked problems of lack of a single style and a generally accepted professional language, common standards and approaches in the field of education; difficulties in typological classification of objects of the latest architecture. Cardinal changes in architectural consciousness led to the transformation of the scientific and cultural paradigm in the development of the principles of multipolarity, instability and indeterminacy of systems and nonlinear logic of structural constructions [3, pp.1-2].

On the other hand, the low level of cultural, general technical training of architects, ignorance of the basics in the field of financial management, and lack of proper organizational skills do not allow most of them to become the head of a complex mechanism for the implementation of their creative plan. The emerging market of architectural and construction activities with the increasing participation of foreign firms, investors, and architects, the introduction of new construction and design technologies and equipment, and new building and finishing materials require a constant expansion of the scope and knowledge of the modern architect [5, p. 21]. And the problem is not so much in the quality of university education but in the lack of professional continuity that guarantees the progressive development and improvement of a creative person based on proven ways to achieve ultimate goals in a world of rapidly changing demands and requirements.

Actively practiced now but limited to a short period of time, the internship of students in design organizations does not allow them to reveal their potential and, at best, comes down to choosing to remain in the profession after graduation. Nowadays, actively practiced but limited to a short period, students' internships in project organizations do not allow them to reveal their potential, and in the best case, it comes only to the choice of remaining in the profession after graduating from the university. Today, the full-fledged development of an architect throughout his career is possible only in large architectural firms working on socially significant projects under the leadership of talented individuals who possess the necessary knowledge and qualities. The imperfection of modern technologies of project management and implementation in terms of control and more active involvement of the public at all stages of construction and investment activity. Only a small number of talented young people manage to get into such an organization, especially immediately after graduating from university.

Many graduates begin their careers in small architectural bureaus that cannot guarantee their employees the qualitative development of professional horizons because they are deprived of leading opportunities, participating in relatively large-scale projects in the role of ordinary, not making fundamental decisions subcontractors. Work on relatively small objects, as a rule, in its mental essence does not imply the setting of super tasks, and only individual architects are able to

interest the customer in a non-trivial solution and, with his assistance, expand the circle of specialists, organizations participating in the creative process at a higher level. In this state of affairs, it is difficult to count on the preservation of the leading role of the architect-architect, traditionally responsible for the results of construction as a whole. One of the ways out of the existing vicious practice is the rapid development of consulting services, which provides the necessary range of advisory services for small architectural firms on the necessary range of issues in the financial, commercial, legal, technological, and technical activities. Such an approach to the organization of the design and construction process would significantly increase the competitiveness of young architects. And that may involve many more talented architects to solve complex, multi-level problems of the construction industry at a qualitatively different level. For this, it is necessary to introduce the practice of attracting highly qualified consulting companies at the mental and legislative levels as a mandatory component of any investment project in the construction industry. Moreover, in the era of digital technologies and the Internet, the choice of appropriate logistics and consulting services is not limited by language and state barriers and access to any information systematized for practical application.

In general, the loss of leading positions by architects in the construction business is a completely natural phenomenon, occurring against the background of tendencies permeating all spheres of human activity to unite various highly specialized communities into single, often temporary alliances to achieve common goals. The high effectiveness of such aggregated coalitions, devoid of a clearly expressed leader, multiplied by the capabilities of modern digital technologies, is stimulated by the processes of universal globalization, which brings many new trends and directions to architectural activity, often blurring the very concept of "architecture" as a historically established social phenomenon.

The architectural object of commercial architecture is far from the embodiment of the picture of the world and does not rise to the level of work, and unique iconic buildings gravitate more toward the field of marketing and social policy. Losing connection with the person, the environment, the handicraft, and the artistic method of creation at all levels, from a sketch to a structure, the art of architecture often begins to lose its artistic quality [3, p. 3]. Sometimes under the pressure of integration currents, modern architecture increasingly takes on images inspired by the world of object design, and forms of organic life turn into installations and even frank performances. Underlying such works of contemporary art is a distinct conceptualism characterized by the incorporation of ideas or concepts from outside the architecture. Undoubtedly, such an approach significantly enriches and expands its boundaries, allowing the creation of fundamentally different types of structures than those created by the widespread "architect as a master builder" model. The redistribution of investment flows in the globalized world stimulates the spread of such spectacular buildings throughout the planet, forming the ever-increasing "dependence" of modern society on catchy, provocative images. The rapid increase in the number of iconic buildings and complexes that often radically change the existing urban environment, as well as the social potential hidden in some of them, known as the "Bilbao effect", allows us to take a fresh look at the possibilities hidden in the field of architectural creativity. The stylistic searches of architects, taking place in line with globalization, pose the problem of cultural identity to designers all over the world [5, p.25].

Super-innovative, high-tech structures built according to the projects of world-famous architects become, in the apt expression of Kenneth Frampton, visual "icons" for the entire architectural community. "Thanks to informatization, today's architects have the opportunity to constantly align their work with the latest world achievements in the field of culture and technology. Regardless of the vagaries of architectural fashion, there is a continuous growth of design standards, which makes itself felt both in contextual works of small scale and in large projects of international importance" [9]. Improving the quality of architectural solutions is gradually penetrating the most extensive sector of the global construction industry – mass

construction. Currently, in addition to the construction of residential buildings in large volumes, it includes the creation of a full-fledged living environment with a developed diversified infrastructure. Having gone through many difficult stages, the architecture of a mass dwelling becomes noticeably more diverse, acquiring unique individual features at its best. The inevitable appeal to the three-dimensional and pictorial ideas of the world's leading architects, as well as the obsessive citation of the techniques of the historical architectural heritage, is gradually becoming a thing of the past. It is increasingly being replaced by a creative rethinking, devoid of pretentiousness, of the opening possibilities for the use of new technical and construction technologies and materials in the context of solving specific problems. At the same time, the architecture of mass construction is becoming noticeably more pragmatic and prudent under the influence of harsh financial and economic conditions, becoming more and more aware of the limited time frame of its own physical existence. This is especially noticeable in the appearance of modern shopping and entertainment centers, the asceticism of which directly indicates their initial fragility. Ignoring this factor eventually turns into huge socio-economic problems, as in the case of mass construction during the reign of Nikita Khrushchev in the USSR of five-story panel and brick houses (without a technical floor, an elevator and a garbage chute), and panel high-rise buildings that are living out their last days. Initially, the mass construction of five-story panel and brick houses was designed to operate for no more than 30 years, but then it was extended to 60-80 years. Undoubtedly, houses of this type successfully solved a very important task in the country - providing housing for workers. In 2006, the law of Ukraine "on the comprehensive reconstruction of quarters (micro districts) of obsolete housing resources" was adopted. But for fifteen years, the reconstruction of the old housing stock and micro-districts has not found a successful solution.

**Conclusions and research prospects.** It is the relatively short duration of the existence of newly built real estate consciously or on an intuitive level that dictates an approach to the design of modern buildings as temporary, quickly becoming obsolete morally and physically, which, after the estimated service life, will inevitably be replaced by structures with fundamentally new characteristics. Challenges, which arise in this case, require balanced decisions of global order, devoid of momentum, new approaches, and requirements for the architecture of social orientation as a product of "mass" culture. Society's demands for the "sustainable" nature of the development of modern construction, which guarantee the prospects for the formation of a harmonious living environment for future generations, are sounding more and more insistently. The rating approach, according to the international systems LEED – The Leadership in Energy & Environmental Design (Guide to energy and environmental design"), DGNB – Deutsche Gesellschaft für Nachhaltiges Bauen (German Council for Sustainable Building), BREEAM – BRE Environmental Assessment Method (Method of assessing the environmental performance of buildings), is increasingly being introduced into the practice of determining the quality of buildings, taking into account a fundamentally new approach to design and construction, taking into account the use of progressive "green" technologies.

Understanding the essence of modern architecture as a multifaceted cultural, economic, and essential social phenomenon should form the basis for the professional training of future architects and become a crucial requirement for assessing the results of their practical activities. Modern architecture needs to learn to think about the consequences of its existence, to become more flexible and responsive in its relationship with nature and human individuality, and to convey the emotional essence and diversity of the surrounding world as accurately as possible. For this, it has all the historical prerequisites and centuries-old experience of coexistence and mutual enrichment with other areas of the life of the continuously improving human community.

Further research should take a closer look at the processes of "sustainable" development of modern construction, which guarantees the prospects for the formation of a harmonious living environment for future generations, as well as the introduction of rating approaches according to



the international systems LEED, DGNB, BREEAM, taking into account the use of progressive "green" technologies.

### References

- [1] Dobricyna, I.A. (2004). From postmodernism to non-linear architecture: architecture in the context of modern philosophy and science. Moscow: Progress-Tradiciya, 416 p.  
URL: <https://elima.ru/books/?id=2134>.
- [2] Ducev, M.V. (2005). The concept of the architecture of the modern Art Center. Extended abstract of candidate's thesis: 18.00.01. Nizhny Novgorod State University of Architecture and Civil Engineering. Nizhnij Novgorod, 200 p.
- [3] Dutsev, M.V. (2014). The concept of artistic integration in the latest architecture: author's abstract. dis. ... Doctor of Architecture: 05.23.20. Nizhny Novgorod State University of Architecture and Civil Engineering. Nizhny Novgorod, 55 p.
- [4] Esaulov, G.V. (2013). Modern problems and trends in architecture. *Scientific and technical and production journal "Housing construction"*, No. 11, P. 20-26. URL: <https://cyberleninka.ru/article/n/sovremennye-problemy-i-tendentsii-v-arhitekture/viewer>
- [5] Esaulov, G.V. (2014). Sustainable architecture – from principles to development strategies. *Bulletin of TGASU*. Tomsk: Publishing House of the Tomsk State University of Architecture and Civil Engineering, No. 6, P. 9-24.
- [6] Ikonnikov, A.V. (2001). Architecture of the XX century. Utopias and reality: in 2 volumes. Moscow: Progress-Tradition, T. 1, 656 p.
- [7] Karimov, A.M. (2017). The architecture of the city of Makhachkala in the aspect of the formation of structure, composition and image: creative successes and unfortunate blunders. *Modern problems of the history and theory of architecture: Sat. reports III scientific-practical. Conf. SPbGASU. St. Petersburg State University of Architecture and Civil Engineering*. Saint Petersburg, 214 p.
- [8] Karmazin, Yu.I. (2005). Creative method of an architect: an introduction to the theoretical and methodological foundations. Voronezh: VGASU, 496 p.
- [9] Kenneth, Frampton. (1990). Contemporary Architecture: A Critical Look at the History of Development. Moscow: Stroyizdat. URL: <http://clipsounion.com.ua/materials/dizajn-i-interer/proekt-international-18/arkhitektura-v-epokhu-globalizatsii.html>
- [10] Motorina, I.E. (2012). Synthesis of arts as a principle for the development of artistic culture. *Historical, philosophical, political and legal sciences, cultural studies and art history. Questions of theory and practice*. Moscow: Gramota Publishing House, No. 2-2, P. 144-150.
- [11] Murina, E.B. (1982). Problems of synthesis of spatial arts (Essays on theory). Moscow: Art, 192 p.
- [12] Naumova, V.I. (2010). Modern trends in architectural and artistic creativity and current vectors of architectural education: author. dis. Doctor of Arts: 17.00.04. Altai State University. Barnaul, 69 p.
- [13] Orlova, E.V. (2017). Socio-cultural space: to the definition of the concept. *Historical, philosophical, political and legal sciences, cultural studies and art history. Questions of theory and practice*. Tambov: Diploma, No. 7 (81), P. 149-152.
- [14] Pavlova, V.A. (2019). Goloshubin V.S. Nature-equivalent architecture in modern creative concepts. Environmental factors in architecture. *Journal "AMIT"*. Moscow: Moscow Institute of Architecture (State Academy), 1 (46), P. 340-355.

## ТЕНДЕНЦІЇ РОЗВИТКУ СУЧАСНОЇ СВІТОВОЇ АРХІТЕКТУРИ

<sup>1</sup>Н.Р. Кубриш,

kubrish72@gmail.com, ORCID: 0000-0002-9441-214X

<sup>1</sup>Л.І. Олешко,

l.oleshko.i@gmail.com, ORCID: 0000-0002-2988-5346

<sup>1</sup>О.М. Самойлова,

amsam288@gmail.com, ORCID: 0000-0002-0748-519X

<sup>1</sup>Одеська державна академія будівництва та архітектури

**Анотація.** Показано, що вимоги та завдання, зумовлені технічними та технологічними можливостями, розкривають нові перспективи у формуванні довкілля та архітектурної творчості. Проаналізовано роль архітектора та його місце в інтеграційних процесах технократичного суспільства. Визначено основні причини втрати сучасним архітектором провідних позицій у будівельній галузі. Виділено особливу роль «синтетичності» сучасної архітектури. Стверджується, що сучасна архітектура з монокультурного явища перетворюється на симбіоз творчих, культурологічних та науково-технічних потенціалів. На прикладі будівель «Вертикальний Ліс» (Bosco Verticale) у Мілані або «Вежа кедрів» (La tour des Cedres) у Лозані, комплексу концертного залу «Марайя» в пустелі Аль-Ула Саудівської Аравії, конференц-центру в парку Чанчжоу в Китаї, показано активну участь інженерів-конструкторів у творчому процесі проектування та будівництва, впровадження «зелених» технологій та матеріалів, втілення принципів «стійкого» будівництва. У дослідженні наголошується, що процес конструювання складних інженерних систем та механізмів значно ускладнює процес архітектурно-будівельного проектування та вимагає принципового виходу архітектора за рамки професії. Вказується, що відчуження людини від архітектури стало глибинною проблемою архітектурної діяльності на рівні автора-архітектора, споживача-адресата та на рівні розвитку, трансформації та реалізації проекту. Виявлено низку причин, що не дозволяє більшості з архітекторів стати на чолі складного механізму реалізації свого творчого задуму. Доведено, що повноцінний розвиток архітектора у процесі трудової діяльності можливий лише у великих архітектурних фірмах. Наголошується на важливості у великих архітектурних фірмах динамічного процесу удосконалення сучасних технологій управління, а також активнішого залучення громадськості на всіх етапах будівельно-інвестиційної діяльності. Стверджується, що невеликі архітектурні бюро не можуть гарантувати своїм співробітникам якісний розвиток професійного світогляду. Пропонується один із шляхів вирішення цих проблем. Стверджується, що можливості сучасних цифрових технологій, науково-технічні відкриття, а також суперечливість інтеграційних процесів привносять до архітектурної діяльності низку нових та специфічних віянь. Виявлено тенденцію поступового поліпшення конструктивно-пластичних, функціонально-технічних та художньо-естетичних якостей у масовому будівництві.

**Ключові слова:** тенденції сучасної архітектури, зелені технології, науково-технічний прогрес, стійке будівництво.