Архитектурные архетипы: от гармонии числа к деконструкции

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Аннотация

Статья посвящена выявлению социально-философских оснований историко-мировоззренческих архетипов в строительном дизайне и направлена на концептуальное обобщение различных архитектурных стилей. В работе показано развитие архитектуры в соответствии с исторически возникающим индивидуальным общественным мировоззрением, духом времени, а также определяющее влияние философских взглядов разных эпох на теоретическое и эстетическое содержание искусства и архитектуры. Утверждается, что разнообразие архитектурных форм разных эпох может вписаться в три основных концептуальных стиля, которые могут быть описаны как: 1) архитектура числовой гармонии, 2) бионическая архитектура, 3) архитектура деконструкционизма. Приводятся аргументы в пользу того, что все остальные стили можно рассматривать как разные мировоззренческие (парадигматические) варианты этих трех определяющих стилей.

Architectural Archetypes: From the Harmony of Number to Deconstruction

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Abstract

The article touches upon the identification of socio-philosophical foundations of historic and paradigmatic archetypes in the design of buildings and is aimed at the conceptual generalization of various architectural styles. The work shows the development of architecture in accordance with the historically emerging individual and social worldviews, spirit of the times. It also shows the critical influence of philosophical views of different eras on theoretical and aesthetic content of art and architecture. It is stated that the diversity of architectural forms of different eras can fit into three main conceptual styles, which can be described as: (1) architecture of numerical harmony; (2) bionic architecture; and (3) architecture of deconstructionism. It is argued that all other styles can be considered as different conceptual (paradigmatic) variants of these three defining styles.

Key words: golden ratio, bionic architecture, deconstructivism, architectural styles, philosophy of architecture.

Introduction. The architecture has always been the "face" of *a particular country*, just as the Egyptian pyramids symbolize Egypt, the Taj Mahal symbolizes India, the Eiffel Tower symbolizes France etc. These and other works of art have always reflected the worldview of the epoch, carried the values and ideals of the people, embodied the ideals of beauty and the technological achievements of the peoples who created them. *Each epoch* also has its own architectural style and "tokens", which represent that era. At the same time, we can see that the architectural styles or concepts underlying them can be often repeated. An evident example is a repetition of the ancient style of art and architecture in the works of Renaissance and Enlightenment's architects [1]. The task of the study is to identify in various architectural forms, represented by different eras, repetitive building "archetypes", both visual and conceptual (ideological). In our opinion, in a variety of architectural concepts and styles, three main paradigms can be identified, which we named as (1) the architecture of numerical harmony, (2) the bionic architecture, and (3) the architecture of deconstructivism. Let us consider each of these styles and their underlying worldview in more details.

The architecture of numerical harmony. Architectural styles that are based on the idea of beauty as proportion and symmetry and which affirm the need to embody this harmony in buildings, can be designated as the architecture of numerical harmony. In this style, beauty is primarily an objective beauty that does not depend on our consciousness; therefore, the architects of antiquity tried to reflect in architecture not their own idea of beauty but divine or cosmic harmony, they were passionate to show the heavenly order in earthly creations. Pythagoreans were one of the first who started to speak about the meaning of numbers in the universe, although it is known that they learned some knowledge in architecture, mathematics and astronomy from the ancient Egyptians, whose architects' works were closely intertwined with knowledge in astronomy [2, 3].

According to Pythagoras and Plato, beauty is objective and exists independently of our consciousness and since it is objective, it must necessarily become the object of mathematical research. The followers of the Pythagorean school believed that the properties and relationships inherent in harmony are expressible in numbers and the elements of numbers are the elements of everything that exists and that the whole sky is harmony and number [4, p. 1159]. All this led to the idea of a "golden section", as the proportions of beauty, although it was described in detail much later, only in 300 BC in the Elements written by Euclid [5, p. 78].

The principle of the golden section itself has a well-defined mathematical character: a smaller segment refers to a larger one, like a larger segment to everything else. This proportional dependence began to be reproduced again and again literally in every creature, whether it be paintings or the majestic temples of antiquity. In architecture, buildings with a symmetrical arrangement of columns, pilasters and other architectural elements come to the fore. The plans of buildings and their facades have become more proportional and harmonious. According to the nineteenth-century French architect Viollet-le-Duc, a form that cannot be explained will never be beautiful.

Mathematical accuracy was present in urban planning. The construction of the theory of the city was described in the treatise *Ten Books on Architecture* by Mark Vitruvius, a famous engineer and architect [6]. In the work dedicated to the emperor Augustus, Vitruvius combined the experience of architecture and urban planning of Greece and Rome. He considered the choice of a favourable area for the founding of the city, the location of the main city squares and streets, the typology of buildings. From an aesthetic point of view, Vitruvius noted the importance of adhering to architectural orders, reasonable planning, adherence to the uniformity of rhythm and structure, symmetry and proportionality, compliance of form with the purpose and distribution of available resources [7].

Despite the fact that Vitruvius himself did not leave the graphic image of the ideal city, many Renaissance architects created the schemes of cities,

where ideas from the treatise were reflected. Renaissance masters embodied the same ideas that already sounded in ancient culture and philosophy: the ideas of humanism, the harmony of nature and man. People again turned to the teachings of Plato and the Neo-Platonists about the ideal state, the ideal city, and the ideal beauty. In Rome, we can find the proportions corresponding to the golden section in San Pietro in Montorio, the Arch of Septimius Severus and the Cathedral of St. Peter.

The ideas of the Italian Renaissance spread across other European countries. The culture of the French Renaissance developed during the completion of the unification of the kingdom. Gradually, Paris turned into a political and cultural centre, it became a model for the most remote towns. From the end of the 15th century, famous Italian masters began to arrive in France and that deeply affected the architectural appearance of the country. Later, the ideas of Italian and French craftsmen influenced the architectural decoration of Russian cities, especially St. Petersburg.

Other styles (e. g. constructivism and modernism) can also be attributed to the architecture of numerical harmony because they are based on the ideals of symmetry, proportion and harmony. This stylistic archetype can be considered as the most popular in the history of European architecture. This style became so widespread not only for its beauty but also for its convenience. In the design and production of buildings, straight and symmetric elements are easier to assemble. From the practical reasons, it is also easier to choose or make furniture for a rectangular room and more convenient to search for a room in a house (or a building in a city) with the rectangular layout of the space. This style, in general, represents a rationalistic philosophy that is based on formal reasoning, a metaphysical and numerical understanding of the nature of beauty and universe. In opposition to the architecture of numerical harmony, intended to overcome nature in favour of culture and civilization created by human hands, the next style and its underlying worldview suggests returning back to nature, naturalness and organicity.

Bionic architecture. Bionic architecture is based on a worldview that asserts the unity of man, nature, and technology. It reflects the philosophy of organic architecture that, in its modern version, is formulated by L. Sullivan and his follower F. L. Wright. This modern paradigm echoes the ideas of Feng Shui, the philosophy of Taoism, Zen Buddhism, J.-J. Rousseau and other thinkers [8 — 10].

This architectural style proposes to abandon strict geometric forms/lines and to form the maximum similarity of building structures (both the main design and structure of elements) with nature. Bionic architecture tends to be located inside the landscape, paying great attention to its surrounding nature so that plants, trees, or, perhaps, a waterfall not only aesthetically fit into the concept of the building, but also form part of the structures. Rudolf Steiner argued that ". . . The spiritual aspect of creating bionic forms is connected with an attempt to realize the destiny of man. In accordance with this, the architecture is interpreted as a 'place' where the meaning of human existence is revealed . . ." [11, p. 5]

Technocratic attitude towards nature and the tasteless ecology of the visual environment became the subject of intense discussion in the early 1960s. In parallel with the idea of a new science –ecology, was born and a whole range of areas of environmental design based on ecological worldview. An example of this is the futuristic design of the English group *Archigram*, works by Japanese metabolists, ekistics of C. Doxiadis (Greece), arcology of P. Soleri (USA), and several others [12].

Antonio Gaudí was the most famous architect who introduced the forms of nature to the design of buildings and most clearly in the architectural structures; he created "nature frozen in stone". At the same time, nature had become not only the main source of inspiration for its architectural, artistic and design fantasies, but also a practical task of their technical construction. For example, Casa Mila—a residential building and architectural monument created by A. Gaudí—embodies such concept. The facade of the building resembles rocks, washed by sea waves. Forged elements of balconies look like seaweed. Wavy lines, passing one into another, and the play of light

and shade create the illusion of constant movement. Because Gaudí was a deeply religious man, all his works contain a certain religious symbolism. For instance, in the upper eaves of the building there are carved rosebuds with inscriptions from the prayer Ave Maria in Latin. After construction of this building, the native citizens of Barcelona thought that the facade of the building seemed too heavy, "bigger than life". For that reason, they nicknamed it Pedrera, which means "quarry". However, today, all the guests of the city are eager to see this unique work of the bionic architect [13, 14].

Due to the technological complexity of construction and originality of this style, the bionic archetype of architecture is less popular than the previous one. Nevertheless, the history and development of architecture show that this style and worldview periodically reappear. For example, in such countries as Japan and China, we can see the architecture of different ages based on this philosophy and aesthetic tradition.

The architecture of deconstructivism. Deconstructivism can be considered both as a particular architectural style and as a general worldview. Deconstructivism as a particular branch in modern architecture is based on the general theory of "deconstruction" of the French philosopher Jacques Derrida [15, p. 190–191]. According to his definition, deconstructivism is not a style, but a method, a special approach of architects to the fundamentals in the understanding of architecture as an art form. This is not the literal destruction of constructed buildings but the conscious creation of a conflict between the usual and unusual understanding of the language, the meaning and the visible forms. There are few distinctive features that characterize deconstructivism as a special architectural style and aesthetics: (1) asymmetric forms of the object; (2) lack of proportionality; (3) combination of seemingly incompatible materials; (4) the absence of a fixed coordinate system in the design; (5) non-standard transfer of the semantic component of the object. Individually, all these features may look absurd, but in the composition of the building, they create a quaint harmony, aggressiveness, and defiance. The mixture of architectural styles and views, deconstruction of symmetry and natural harmony is one of the main features

that set deconstructivism apart from the previous styles of architecture. In popularizing deconstruction, its founders had a difficult task: to introduce a new style of architecture that would destroy the usual, centuries-old foundations of architecture, but at the same time create something new that can replace outdated principles by proposing a new way of thinking and organizing living space. That is why the architecture of deconstruction was positioned itself as a "challenge" to the outside world. In this regard, "aggression" in its solutions is a way to defy the centuries-old foundations of architecture and provided the society with a new reality, new worldview [16, 17].

Origin of this style can be explained by the social need of people of those times for changes, therefore the expressive transition from canonized constructivism to uncontrollable chaos of deconstruction made it possible to destroy usual understanding of space and time, giving people freedom of creativity. Psychoanalyst Sigmund Freud stressed that the irrationalism of architectural forms of deconstructivists manifests human need to express chaotic intentions oppressed by formalized, orderly life, but people cannot afford fully express their strong emotions, therefore deconstructive aesthetics of decay and distortion serves as a certain compensation for suppression created by civilization for our instincts [16].

Despite its bold decisions in the design, deconstructivism had succeeded. It allowed the architecture to get rid of canons and clichés and helped in interpreting and expressing the needs of society, symbolizing the significance and need for the implementation of human thoughts and emotions in architecture. It is important to emphasise that the deconstructivism of the 20th and 21st centuries can be considered as an integral stage in the world history of architecture, which formed its own style that is completely different from the traditional architecture and previous archetypes.

Conclusion. The time and progress of society do not stand still, people change, beau ideals are interpreted and reinterpreted, values acquire new meanings. Architecture always expresses in its creations a certain worldview

of an epoch, society, or person. Hence, architects of different times and nations do not just create material objects for a utilitarian purpose. In their works, they convey their concept of beauty, offer a new way of life, try to show in the mundane things the divine manifestations or bring people closer to nature and naturalness. Therefore, significant works of architecture always show us the "interior" and achievements of their time. Despite the diversity of epochs and architectural styles that represent them, man remains man. In this regard, we think that by studying history and philosophy of architecture some typical or repetitive paradigms, needs, ideals, and "emotions" can be identified. In our opinion, the proposed classification of architectural styles based on three archetypes (architecture of numerical harmony, bionic architecture, and architecture of deconstructionism) presents the main and repeated motives in the history of the architecture and in the development of society.

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