METHODS OF INTEGRATION OF MODERN ARCHITECTURE INTO THE LANDSCAPE ENVIRONMENT

Kelmatov Akobir Ilhom ugli
Student at the university of information technologies and Management
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Abstract. The article deals with the concept of placement of buildings and structures that are integrated into the natural environment and are a continuation of the landscape. On the example of world experience, the factors influencing the formation of such buildings and the prospects for further construction are also considered.

Keywords: architecture; design; modern housing; energy efficiency; landscape; nature; comfort

Introduction. The practical application of methods and techniques for integrating architecture into the landscape environment is an important factor in maintaining and improving the environment, human health, and the aesthetic function of buildings and structures.

The relevance of this topic is primarily related to environmental issues and the lack of green space. As populations grow, cities become increasingly built-up, roads become more congested, and open space becomes increasingly scarce. One solution to this problem is to integrate buildings and structures into the surrounding environment. These principles include, first and foremost, green roofs, vertical gardening, the use of eco-friendly materials, and so on. The introduction of these methods into the surrounding environment contributes to the improvement and revitalization of the current state of the environment and can also add a special charm to the city.

The purpose of this article is to examine the global experience of buildings and structures integrated into the environment, the advantages of their construction, as well as the prospects for the construction of such buildings.

Scientific novelty: in connection with the constantly changing environmental situation, the issue of construction and integration of buildings into the environment is a relevant and most responsive indicator to these changes.

Main part. Two methods of interaction between architecture and landscape are distinguished: "integration" and "polarization." "With 'polarization,' the building's volume is lifted from the ground. The spaces are raised above the natural landscape by columns and supports. The ground surface remains untouched in its original natural state" [3]. In this case, the structure serves as a means of expression. Such structures are often erected in areas with steep terrain: over streams, cliffs, in the mountains, etc. This is done to maximize the use and enhance the qualities of the supporting structures.

Integrated architecture is defined as architecture that is one with the landscape, topography, and local environment. The building's form is typically subordinated to the topography. Terraces and additional landscaping serve to enhance the building's connection with the local landscape. Such buildings typically use natural materials, and their forms are often stepped and dynamic.

"The hilly terrain in which the Carmen residential building is located is surrounded by forest on all sides. The use of wood, adobe clay brick , and concrete in the construction helped achieve complete harmony. Furthermore, they are designed to withstand the test of time,

allowing the house to naturally adapt to the landscape over generations" [4]. According to the architects, the roof was designed to serve not only an ecological function but also a camouflage function, making the building unnoticeable from the outside. A blooming garden is planned inside the house. The house has a floor area of 650 m2 and is divided into three Z-shaped sections, protecting the gardens and terraces from the strong winds typical of the area.

«No Sunrise No Sunset is a mesmerizing pavilion installation designed by Thai artist Kamin Lertchaiprasert, whose works are included, for example, in the Guggenheim Museum collection. This project represents a specific parallel between the world of absolute truth and the world of illusions" [4]. The 50-square-meter structure is located on the shore of the Andaman Sea. The pavilion's facades are mirrored, which, according to the architects, creates a connection between the real and illusory worlds.

A project for an underground chapel dedicated to the Holy Cross has been proposed for the Greek island of Serifos. The chapel's single façade, shaped like a cross, faces the Aegean Sea and serves as a spiritual beacon for pilgrims. The cruciform shape continues into the building, traditionally dividing the space into three parts, not horizontally, but vertically [4]. Natural materials were used in the construction, which best harmonize with the local landscape. The chapel's walls are made of white stone and concrete, while the interior features wood and glass. The primary goal of the structure was the integration of faith and modern architecture, tradition and innovation.

In 2019, a 5,300-square-meter private residence with a curved shape and a completely green lawn roof was built in the Moscow region. A park is located nearby. The house has no straight lines, but is entirely undulating, with curved panoramic windows. It features numerous terraces, and the site is planned for flowerbeds, gardens, a stadium, playgrounds, and more.

"The Krallerhof is an elegant 5-star superior hotel located on a sunny plateau above Leogang. It offers a large spa area, an indoor pool, and a seasonal heated outdoor pool. Guests have access to the 2,500 m^2 Refugium spa and fitness area. It includes various saunas, a family sauna, a hot tub, a private spa, relaxation areas, and an outdoor pool. [3] Natural materials were used in the construction (concrete as a supporting structure, wood in the interior and finishing.

-based design studio i/ thee and Los Angeles-based firm Roundhouse created Aggregate "Habitat – an experimental papier-mâché eco-house" [3]. The project is the world's largest self-supporting papier-mâché structure. It functions as a prototype for a semi-underground home located in the Clarendon Desert. The eco-house is made of 200 liters of glue and 122 kg of paper, measuring over 6 meters long and 2.5 meters wide.

Architect Przemek Olchik from Mobius Architekci designed the Green family home Line. The structure blends almost completely into the landscape, and the roof is covered with a thick layer of greenery. Only the pitched roof protrudes above ground level. Local traditions were taken into account during the house's construction: the wooden slats are shaped like a gable, and the unique L-shaped layout is identical to local farmhouses.

Conclusion. Analyzing global experience, we found that constructing buildings and structures integrated into the local landscape is becoming increasingly popular as a solution to global environmental problems. Designing on terrain is innovative, and the planning structure of structures on terrain is flexible. The implementation of modern environmental conservation methods will not only improve the environmental situation but also create a connection between people and nature.

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