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ANALYSIS OF ARCHITECTURAL ELEMENTS AND THEIR FUNCTIONAL AND COMPOSITIONAL SIGNIFICANCE BASED ON DESIGN PRINCIPLES.

TerSU Department of "Fine Arts"

senior lecturer, acting associate professor

Muminov Bakhtiyor Karamatovich

Annotation: This article analyzes the functional and compositional significance of architectural elements and the basic principles used in their design. The role of such basic elements as the facade, column, window, entrance in the structure of the building and their aesthetic and practical functions are highlighted. Also, methods of applying such principles as the harmony of architectural elements in modern and historical buildings, ergonomics, an ecological approach, and contextual compatibility in their design were studied. The article will serve as a useful theoretical and practical resource for students and designers in the field of architecture and design.

Keywords: architectural elements, functional significance, compositional harmony, design principles, facade, column, ergonomics, environmental design, architectural analysis.

Introduction: Architecture is not just the construction of buildings and structures, but the art of creating space that corresponds to human needs, aesthetic taste, and functionality. Each architectural structure consists of several main elements: facade, entrance, column, window, balcony, staircase, roof structure, etc. These elements not only define the appearance of the building, but also perform a certain function. Each of them is an integral part of the overall composition.

Theoretical foundations: aarchitectural elements are the main parts that make up the external and internal structure of buildings, performing aesthetic, functional, and constructive functions. The architectural form is formed through the structure, mutual arrangement of elements, and compositional solutions. Each architectural element has its own specific function, which is divided into 3 groups:

1- Functional elements;

These are the elements that ensure the functioning of the building:

- Windows - for natural lighting and ventilation.
- Stairs - roads connecting traffic levels.
- Entrance Portal - the main entrance corridor to the building, which also performs an image function.

2- Constructive elements;

Parts that ensure the static stability of the building:

- Columns, beams, brick walls, foundations - perform a load-bearing function.
- In their design, the laws of mechanics, the distribution of loads, and the properties of the material are taken into account.

3- *Compositional elements;*

Elements that make up the overall appearance of the building's architecture:

- Face, carnices, balconies, arches, decorative elements
- These elements are formed on the basis of such artistic principles as aesthetic balance, symmetry, rhythm, proportion.

The theory of compositional principles is the main theoretical rule applied for the aesthetic and functional harmonization of architectural elements. These principles regulate the external and

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internal appearance of the building, create visual balance, and positively influence human perception. The correct placement of such elements as shape, size, relativity, repetition, and contrast in the architectural design contributes to the successful outcome of the overall composition. Thanks to compositional approaches, buildings are not only beautiful, but also easy to read, understandable, and functionally convenient. These principles are one of the important factors determining the taste of the architect and the quality of the project.

In architectural design, there are several basic compositional patterns :

- Symmetry and balance - ensures the stability and aesthetic harmony of the building's form.
- Rhythm and repetition - create dynamism through the sequential arrangement of elements.
- Contrast - the center of attention is created by contrasting different shapes, colors, or textures.
- Proportion - the harmony of proportions between parts.

These principles are important not only for aesthetic purposes, but for human psychology and user convenience .

Approaches in Design Theory:

Functionalism - each element must be able to perform its function precisely.

Ergonomic approach - creating a user-friendly, safe, and understandable environment.

Contextualism - the building must be in harmony with its location (climate, culture, environment).

Sustainable design (sustainable architecture) - environmentally friendly, energy-efficient designs suitable for long-term use.

Design principles:

When designing architectural elements, the following principles are taken into account:

- Aesthetic and functional balance - a combination of beauty and comfort.
- The contextual approach is the harmony of the location with the climate, culture, nature, and surrounding architecture.
- Ergonomics - ensuring human comfort and freedom of movement.
- Ecological and energy efficiency - taking into account the possibilities of saving sunlight, wind direction, and heat.

Practical examples: these elements are also reflected in local architectural examples. For example:

In the Registan complex, monumental portals and decorative columns provide the official appearance of the building.

Figure 1. The Registan complex - through monumental portals and decorative columns - provides an official and decorative appearance of the building. These architectural elements are vivid examples of historical architecture.

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Figure 1. Registan Complex

And in modern buildings in Tashkent City, large windows, balconies, and open spaces create functional and psychological comfort. The elements of modern architecture used in these buildings not only inspire a person, but also form aesthetic pleasure and admiration, a person's interest in a deep understanding of the world. This is the result of the rational reforms being carried out in our country. Figure 2

Figure 2. A comfortable and functional environment has been created for citizens through the territory of the modern residential complex - open and green areas, sports and playgrounds, as well as recreational areas. These architectural elements serve to improve the life of society.

Methodology: uIn this article, several methods were used to design architectural elements and analyze their functional and compositional significance.

Firstly, using the theoretical-analytical method , existing scientific literature, standards, and regulatory documents on architectural elements and compositional principles were studied. With the help of this method, the theoretical foundations of the topic and project principles were determined.

Secondly, the method of comparative analysis was applied, comparing the functional and aesthetic role of elements in historical and modern architectural examples. For example, the differences and common features of elements such as facades, columns, and windows in ancient and modern buildings were analyzed.

Also, based on the analysis of practical examples and visual materials a deeper understanding of the principles applied in design was achieved. Through these methodological approaches, the functional and compositional significance of architectural elements was more clearly and systematically demonstrated, and important aspects of the design process were highlighted.

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In conclusion, atheoretical knowledge plays a key role in the effective design of architectural elements. By combining composition, functional analysis, constructive approaches, and environmental principles, not only beautiful, but also useful, sustainable, and modern architectural solutions are created. Conclusion Architectural elements are an integral part of the building's structure, each of which performs a specific function and serves the overall aesthetic appearance. When preparing the project, it is important to carefully analyze the functional and compositional aspects of these elements, ensure user convenience, and meet modern requirements. Thus, every structure will become not only sturdy and comfortable, but also modern and beautiful.

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