Nauka Science

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The study of the eclectic method of form making in the era of the Italian Renaissance as the basis for the restoration of objects

Analiza eklektycznych metod kształtowania elementów architektonicznych w okresie włoskiego renesansu jako podstawa rewaloryzacji zabytków

Key words: Italian Renaissance, mental eclecticism, tricks of architectural form mixing, development of architectural-compositional techniques

Słowa kluczowe: włoski renesans, eklektyczna mentalność, łączenie form architektonicznych, rozwój technik architektonicznych i kompozycyjnych

INTRODUCTION

The Renaissance heritage is an integral part of the world culture. In addition, the Italian school of restoration at all times was considered as one of the most powerful, numerous Italian methods of restoration were subsequently applied with success in the restoration of monuments in other countries of the world. The Italian experience of strengthening the authentic footings and foundations of buildings with Fondedile root piles was discussed in detail in a number of monographs and the thesis for the Doctoral degree of Architecture of M.I. Orlenko [1]. The use of the Italian method of reinforcement of footings and foundations, first proposed by Fernando Lizzy in 1952, gave a number of advantages, and nowadays more than 5,000 architectural monuments in the world have been strengthened by this method.

This Italian method has been widely used in the Ukrainian objects, restored by experts of the "Ukrrestavratsiia" Corporation. M.I. Orlenko mentions the buildings of the Nichola Pritiska Church in Kyiv, the Assumption Cathedral in Kaniv, the Cathedral of the Holy Transfiguration of Our Lord Jesus Christ and the

abbot's chambers in the city of Novgorod-Siverskyi, the Host Resurrection Church and building of the National Philharmonic of Ukraine in Kyiv.

The fact that the Italian school of restoration has become the basic reference standard for restoration schools in the world is quite understandable, given the extensive heritage of different eras that has been preserved in Italy, and one of the main places in this heritage is reserved for monuments of the Italian Renaissance. To understand the distinctive features of Italian architecture from different periods of the Renaissance, it is necessary to consider it in its development.

MAIN PART

1. The sources of the Renaissance in the Italian architecture

The Renaissance architecture was formed not only as an artistic phenomenon, but also (and first of all) as a cultural one.

The changes that took place not only in Italy, but also in other European countries with which it had large-scale connections, served for the development

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of the phenomenon of the culture of the Italian Renaissance.

These changes were caused by the socio-economic and cultural prerequisites; the most basic ones are listed below.

- **1. Development of the economy and trade.** Economic flourishing of the cities has led to the growth of the urban population and its material well-being.
- 2. The beginning of changes in social life. Active development of urban culture contributed to social changes, the growth of the influence of the newly formed estates: craft artisans, merchants, bankers. In the second half of the 15th and in the 16th century, the merchants and bankers began to invest more intensively in the construction of the palazzo and churches in the city-states of Italy.
- **3. Politics**. Development of capitalist relations in Italy, the Netherlands, and South Germany made impact to the rapid growth of politically independent communal cities, in which there was an active struggle for power between the most influential families, constant trade competition, and military rivalry. In the 1420s 1430s in Florence, the time of active construction began. The secular buildings public buildings, palaces and city houses began to dominate in the architecture.
- **4. The beginning of the struggle of religious** and scientific worldviews. Due to the influence of ancient and progressive Muslim literature since the end of 11th the beginning of 12th centuries there was a gradual transition from religious ideals to universal ones, which meant not only a discussion about the relationship between faith and mind, but also new foundations of knowledge associated with observation and experience. The new worldview found support in architecture, in the study of ancient heritage, which became a source of means for the formation of a new architectural language. The conscious choice of these means was in its essence an eelectic method. Thanks to humanists, the notion of a "historical monument" appeared.

The changes in art were also influenced by international connections. Since old days, the manner "to scoop from everywhere" established in Italy, which Cicero spoke of, led to mental eclecticism, which made possible the combination of opposite things in a holistic view of the era of the Italian Renaissance. Byzantine-Greek painters were often invited to decorate churches under construction in Florence. From the middle of the 13th century, the French Flamboyant ("Flaming Gothic") school came into fashion. The changes that took place in life and thinking in the 14th–15th centuries changed the nature of creative activity - it acquired an ever more individual, non-canonical character. Forms of the past began to be used in architecture not mechanically, but with the goal of adapting them to actual social tasks. The centres of cities and buildings of medieval stylistics were reconstructed taking into account new (humanistic) ideas that were sufficiently

distanced from the tasks of architecture of the Roman Empire, therefore creative processing of borrowed forms and creation of the new techniques of form making was required.

2. Special aspects of changes in the techniques of the architectural form making in the era of the Italian Renaissance

Methods of mixing elements of different architectural styles existed in Italy in the Middle Ages. But this eclecticism was unconscious. Since the early 1430s architects had the idea of studying, systematizing and further applying of the elements of ancient Roman architecture. They began to conduct research and measurements of its remnants. Since the beginning of the 15th century the facades of the old basilicae were decorated with laid on ancient Roman arched-order compositions, which began to give the exterior of buildings a more secular character [2]. It is the fact, that during the construction of new buildings were divided the costs for the main volume, related to ensuring its strength, and the cost of its decoration, testifies to the usage of the "archaeological" approach to architecture in the 15th century. Prototypes of such "laid on" compositions can be found, for example, in Florence in local versions of medieval architecture, in which in the 12th-13th centuries not Roman, but Byzantine and Gothic forms were used (fig. 1).



Fig. 1. Arcades of Gothic lancet outline, superimposed on a blank wall. Florence, 12th century. Photo by the author

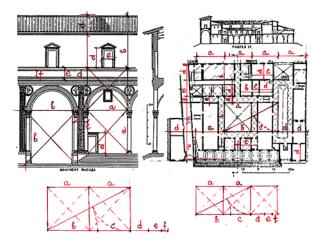


Fig. 2. The proportions of the "golden row" in the plan and on the façade of the Educational House in Florence. Architect Filipo Brunelleschi, 1419–1445 Analytical construction is done by the author of the article

This attests to the fact that the architecture of the early Florentine Renaissance, despite the fascination with antiquity, still continued to practice the local medieval tradition.

On the basis of an appeal to the Roman-ancient sources, a new literature, secular in nature, began to take shape, changes in the subject of sculpture appeared. After that, changes in architecture and painting became evident. The Ancient Roman order system, revived by the architects of the Renaissance, was improved and turned into a cultural sign from the 1420s. The medieval scholasticism saw mysticism in abstract geometry [3, 4] "the miracle of the golden ratio" and finding of the geometric mean as such. The Renessance used this method not in the scholastic pledge, but in real architectural practice (fig. 2).

The sources of the idea of using proportion in architecture were related to the mental analogy of art and nature, in the belief that everything in nature is subject to the laws of numbers. In the Renaissance, architecture compared to the ancient and medieval architecture, where the proportions were built directly on the construction site and were the means of organizing the work of the guild, they acquired a numerical form and began to serve as a means of ordering the form as a whole, especially after the design drawings occurred.

Architects of the Italian Renaissance constantly developed the new types of buildings: large temples, chapels, multi-storey city palaces (palazzo), country villas, town halls, guild houses, educational houses, libraries using new methods of form making based on the creative processing of the elements of the Ancient Roman architecture.

Order-arcade porticos, octahedral domes of lancet outlines, basilical layouts of temples were used in Italy as early as the 11th–12th centuries. The Brunelleschi's Arcade is the same local medieval arcade, but modified by inserting an additional element between the capital of the column and the arch shoe – a fragment of the Roman order entablement of the cubic form.





Fig. 3. Badia Fiesolana in the Italian-Romanesque style (11th century) with 15th century insert on the facade, built using the money of Cosimo Medici the Elder (https://ru.depositphotos.com/8513449/stock-photo-antique-front-door-to-the.html)

It visually raised the arch shoe and created an impost for its support. Such a technique was not found in the architecture of the ancient Rome, but appeared in the arcade of the laid-on facade of the 15th century in the Basilica of San Domenico in Badia Fiesolana – an old monastery of the 11th century, located in the city of Fiesole, northeast of Florence (fig. 3).

The prototypes of the architectural forms used by Brunelleschi are found in the architecture of the ancient Roman provinces, Byzantium, medieval Iran.

Leon Battista Alberti, for the first time, developed a system of orthogonal images, which enabled to represent in an abstract way the designed object, which brought the design process to a new level. He developed and reworked in his theoretical works the regulations of ancient theory in the spirit of Renaissance thinking. Obviously, on the basis of his new method of work, L.B. Alberti introduced the concept of "compositio" or compilation, and this was really

understood as compilation (combination) of an archaeologically mined set of elements of the ancient Roman architecture. The principle of eclecticism here is applied both in the choice of forms and in the choice of the proportional system. Obviously, the new method of form making was combined with the traditional way of finishing the "cosmatesco" façade and was deliberately demonstrated as a visible embodiment of the humanistic artistic ideal and the creative development of the old tradition.

In 1452, Alberti's treatise "Ten books on architecture" was published, in which the system of Roman orders was presented and the architects were familiarized with its characteristics. A variety of techniques for working with ancient Roman order forms changed in the course of time, and with their help, the samples were created (from details to complete architectural compositions) that were recorded in theoretical treatises. Adopted "combinatorial" method enabled to "compose" the facades. Various authors began to use it in their own way.

In the works of Donato Bramante (1444–1514), by combining the illusory Roman arcades and order forms laid on the facade, the scale of buildings was consciously enlarged as compared to the old medieval buildings that had small divisions and small window openings (fig. 4).

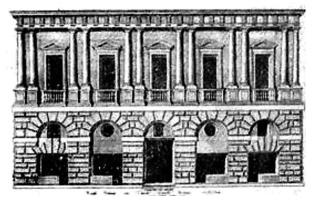


Fig. 4. Donato Bramante "Raphael's House" in Rome, 1509–1510 Etching by Antoine Lafrery, 1549 (http://famous.totalarch.com/donato_bramante)



Fig. 5. A. Palladio. Façade of the Basilica of St. Peter of Castello in Venice, 1558 (https://archi.ru/lib/e_publication.html?id=1850569847)

Next, a new type of facade solution was developed for the three-story Roman palazzo with the use of warrant cabinets for windows and large flooring cornices. In the epoch of the eclecticism of the 19th century, these decisions were quoted as typically "Renaissance" (for example, the Palazzo Farnese in Rome (Architects Giuliano da Sangallo, Michelangelo, Jacopo Barocchio da Vignola, 1534–1550). Andrea Palladio (1508–1580) created illusions of the deep space, imposing Roman ordinal compositions on the blank ends of the reconstructed Romanesque basilicae. The idealized forms of ancient architecture turned into Palladio in a kind of the "theatrical scenery" [5] (fig. 5).

The movement from the diverse individual manners of the early Renaissance to the creation of the principles of a single style was manifested precisely in Palladio's invented system of combining typical compositional schemes, easily mastered by architects that enabled to generate a variety of options using a single rational method that brings the projected object closer to a conceivable ideal that relied on the Plato's philosophy.

After the devastation of Rome by the troops of Charles V in 1527, the competition between the authors increased in their fight for rich customers. This led to the manifestation of Mannerism, within which the notion of a common ideal was again rejected in favour of creative experiments. The emotional "theatricalization" of decisions has become characteristic for Mannerism. It was expressed in the deliberate processing of elements that were not part of the working structure of the building, but were something like sham techniques of theatrical scenography. Two tendencies emerged in the architecture of Mannerism: "Parody Mannerism" (its representative is Giulio Romano) and "Pathetic Mannerism" (exalted, majestic), which was represented by Michelangelo Buonarroti, and his successor was Andrea Palladio [6].

CONCLUSIONS

The eclecticism in the era of the Italian Renaissance was manifested in the conscious method of choice of the architectural tools from the ancient past to solve contemporary problems of the time. Moreover, the forms were borrowed from the architecture of the Ancient Rome, and the proportional system - from the architecture of the Ancient Greece. Creative rethinking of the methods of working with the form ultimately led to the development of the new style, completely recognizable by its external characteristics. Conscious choice of architectural forms from the historical past to solve modern problems – this is eclecticism. In the field of art, the search began for ways to express social and cultural changes, the nature of which corresponded with the mental idealization of the Ancient Greek polis and the Roman Republic. This was facilitated by historicism, manifested in the consciousness of the humanists. The image of the "new man" was actualized in sculpture and painting, and then appeared the corresponding tools in architecture. At the same time, medieval art and architecture were mentally rejected, but some of their principles continued as an artistic tradition. The architectural style which had been formed by the end of the 15th century and which was

fixed in buildings on the territory of the main centres of Italy, was subsequently called the "Renaissance" and became an object of study of the architectural school in the 19th century already for borrowing and creative processing of its forms in the new historical conditions and for new objectives.

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Streszczenie

The article deals with the problems of restoration and preservation of historical architectural heritage. It concerns the development of an eclectic method of shaping the architecture in the era of the Italian Renaissance in its relations with the cultural sphere and the mentality of the era with examples from the works of the most famous masters. It also addresses the manifestations of the natural connections of the Italian Renaissance architecture with the medieval tradition.

Abstract

W artykule zaprezentowano problematykę rewaloryzacji i ochrony zabytków dziedzictwa architektury. Przedstawiono w nim rozwój eklektycznych metod kształtowania architektury w okresie renesansu i ich związki ze sferą kulturalną i metalnością tej epoki, na przykładach realizacji wybitnych twórców. Zwrócono także uwagę na naturalne związki architektury włoskiego renesansu z tradycją średniowieczną.