

Creation and Fusion

Analysis of the Cultural Semantics of the Application of Ceramic Murals in Modern Architecture

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Abstract—The design of modern architecture tends to show the diversity of culture, making it an artificial landscape suitable for the development of humanistic culture. As modern architecture has found its way in continuous development and innovation, ceramic materials are also widely used to transform traditional ceramic materials into language symbols of modern architectural culture, which fully develops the role of ceramic materials as a new medium. The combination of ceramic murals and modern architecture not only enriches the cultural semantics of modern architecture, but also develops the role of ceramic murals in beautifying the environment and enriching architectural themes in modern architecture.

Keywords: *ceramic murals, modern architecture, cultural semantics*

I. INTRODUCTION

Ceramic plays an important role in human history. It participates in human cultural activities in specific material form and has rich cultural significance. Ceramics and architecture, as human creations, play an irreplaceable role in human activities. As an important part of the artificial environment, architecture can not only facilitate real life, but also have political, aesthetic and other cultural significance. Similarly, the participation of ceramics in human cultural life has a long history, and it has the dual identity of pragmatism and aesthetic culture. Ceramic murals are attached to a certain environment and act as an important part of the building in that environment. The relationship between ceramic murals and architecture is one of the expressive forms with rich cultural semantics that have been inherited from historical culture. Because of this, it is urgent and important to study the cultural semantic relationship between the two.

II. THE BIRTH AND DEVELOPMENT OF MODERN ARCHITECTURE

The modern Chinese interpretation of architecture is as follows: "the construction and laying of buildings, bridges and other projects. It is the general name of buildings (houses, factories, warehouses, etc.) and structures (towers, bridges, chimneys, tunnels, wells, dams, etc.)" With the expansion of cultural content, the forms of modern architecture become more and more colorful. At the same

time, the scope of its cultural semantic application is broader, and its connotation is richer. In the general cultural sense, modern architecture is a modern human creation form with rich cultural semantics and practical value with the framework structure as the core, and a man-made landscape with aesthetic cultural semantics as the core to adapt to modern living and multi-cultural needs.

In 1851, the United Kingdom hosted the world's industrial exposition. The main building was a large, suspended structure made almost entirely of steel and glass. Its name was "Crystal Palace" (See "Fig. 1"), which mainly took prefabricated parts as architectural elements and opened a new milestone in the development of world architecture in the form of frame structure. Since then, modern architecture has gradually developed and matured. As the industrial revolution continued to develop at a broader level, the urban population soared. In order to quickly solve the housing problem of the urban population, high-rise buildings constructed in the form of frame structures were sprung up in modern cities. As a result, modern architecture, marked by the development and improvement of the living environment, has gradually developed into multiple fields such as office buildings, exhibition halls, museums, and trade centers. In this way, buildings built to meet the needs of urban living, production, trade and transportation facilities gradually form modern characteristics and styles. (See "Fig. 2")



Fig. 1. Crystal Palace, the main building of the world's industrial exposition in the United Kingdom.



Fig. 2. The Bauhaus schoolhouse in Dessau, Germany, in the 1930s — Classic design of early modern architecture.

In a word, modern architecture is the product of modern pluralistic culture. To adapt to the development of humanism as the mainstream, it not only has the traditional architectural concept, but also rich in the spirit of modern environment. In order to meet the needs of modern production, management, trade, transportation and other multi-cultural needs, it gradually developed and became the main form of modern human living and activity space.

III. THE APPLICATION OF CERAMIC MATERIALS IN MODERN ARCHITECTURE

The application of ceramic as a building material in architecture makes it the language symbol of architectural culture and the medium of cultural communication. Language symbol is a kind of material form with certain cultural meaning, which plays a role in communication and expression. Modern architecture is mainly based on steel and concrete frame structure. It combines a variety of materials suitable for architecture, such as traditional stone, brick and tile, as well as a large number of glass and architectural ceramic materials, to form the personalized appearance of modern architecture. As a modern building material, tile has taken a back seat, and some ceramic tile materials have become the main building decoration materials, the latter is widely used in modern buildings, such as wall tiles, floor tiles. (See "Fig. 3") Among them, ceramic material is not only used as the cultural semantic expression of building materials, but more importantly, it is used as the material medium with the dual functions of decorative architecture and cultural communication. Therefore, on the basis of traditional culture, ceramic materials have developed a new field to participate in cultural expression and become the material carrier for people to carry out cultural interaction.

Ceramic material has cultural connotation, and its application in space architecture of modern architectural mainly includes the following two forms: first, it is directly used as building materials and plays a decorative role in buildings. Second, it can be applied to architectural space after corresponding treatment in combination with the built

environment. For example, it transforms into an independent visual aesthetic medium by means of specific sculpture, engraving and painting, and appears in the modern architectural environment in the form of a ceramic sculpture or mural. Of course, the role of ceramic murals in architecture is not single. It is either an important part of the whole building, or a specific decoration to beautify the building, or as a relatively independent cultural unit of the whole built environment to express a specific cultural semantics and so on. However, the combination of modern ceramic murals and modern architecture has become an important cultural content of modern architecture.



Fig. 3. A modern building clad in ceramic tiles.

IV. THE APPLICATION OF CERAMIC MURALS IN MODERN ARCHITECTURE

Ceramic, as a building material, is a carrier of tangible and intangible culture with a long history. Its rich and colorful cultural semantic connotation is enough to enrich the cultural space of modern architecture. As an independent art form with unique aesthetic character, ceramic mural has a new cultural connotation. Ceramic mural, as the name implies, is a kind of cultural carrier with visual aesthetics generated by the combination of necessary technology and art, such as inscribing, molding, carving, drawing, and painting, with ceramic as material. As a cultural carrier, ceramic mural has two cultural semantics. The first is the cultural semantics of ceramics in terms of materiality and the second is the cultural semantics of ceramics in terms of spirituality.

1) *The communication cultural semantics of ceramic murals in modern architecture:* First of all, from the perspective of art, ceramic murals, like any other works of art, must exist in a specific environment and act as a material medium for cultural communication, that is, a cultural semantic material carrier with a relationship between creation and aesthetics.

When public works of art are placed into the space of architectural environment, they are associated with people who exist as subjects of appreciation in addition to the space itself. When the viewer has a relationship with it, what he feels is not only the beauty of its external form, but also its

connotation. The linear and geometric elements in modern architecture show a sense of indifference and distance. The application of various forms of ceramic murals as public works of art enriches architecture, and makes modern people more close to nature and feel the warmth between people and mud, mud and fire. The application of ceramic murals in public space is the dialogue between art and people, and the emotional care of art for people. For example, Song of the Forest (See "Fig. 4"),¹ a large-scale ceramic mural created by a group with Zhu Danian and Shi Yuren as leading figures for Beijing-capital International Airport, is one of the ceramic mural with such cultural meanings. The ceramic mural, with its colorful pastel decorations, represents the rich and happy homeland of the Chinese nation, venerates the lush virgin forests of Xishuangbanna, and pays tribute to life, freedom and happiness. In addition, the ceramic mural "Ten Thousand Horses Galloping with Full Vitality" created by Zhu Legeng in recent years is located at Haitun Station of Line 8 of the Beijing Metro. The representation of auspicious clouds and horses in the mural reflects the artist's deep understanding of traditional culture: ten thousand horses pentium in the wild, shuttling between the auspicious clouds. At this time, what the viewer feels is not only the formal beauty of the gallop of ten thousand horses under the red and green color, but also the connotation and meaning of the confidence of its national culture. In this way, the communication and aesthetic cultural semantics of ceramic murals are obvious.



Fig. 4. Ceramic murals at Beijing-capital International Airport created by Zhu Danian, et al.

B. The decorative semantics of ceramic murals in modern architecture

Ceramic murals are used in the main body of the building and become an important part of the building. It can not only protect the wall, but also play a decorative role in architecture. Sometimes, ceramic murals can also play a role in enriching architectural space. In other words, ceramic mural has the cultural semantics of beautifying the main body of architecture, which gives the space of modern architecture a new meaning, which may go beyond the architecture itself.

The earliest ceramic mural in the world appeared in the ancient kingdom of Egypt around 3000 BC, when the glazed

¹ Chinese Lexicography Research Center of the Commercial Press. Xinhua Dictionary. Beijing: The Commercial Press. 2001 Revised Edition. (in Chinese)

tiles of such ceramic murals served as enclosures for the facades of the clay buildings to which they were attached. With the development of time, the ceramic mural is loved by more and more people all over the world because of its rich decorative effect. Therefore, artists, architects, ceramists and painters began to endow it a variety of new forms, so that it was away from the role of protecting the wall, and then derived into a part of the architectural environment, playing the role of beautifying the building and space, thus pushing the development of ceramic murals to a new height. A mural made by a Japanese ceramist Yusuke Aida has such aesthetic properties. (See "Fig. 5") The author skillfully made use of the square doorways at the bottom of the mural and the triangular space left between the staircase on the left and the ceiling, and designed the main body of the mural into an abstract pattern composed of various forms such as triangles, diamonds and rectangles, so that the wall turning lines, doorways, staircases and load-bearing columns in the middle of the picture, which would have damaged the integrity of the mural, almost became part of the picture. It can be seen that intelligent and reasonable use of architectural structure for the design of ceramic mural is very important.

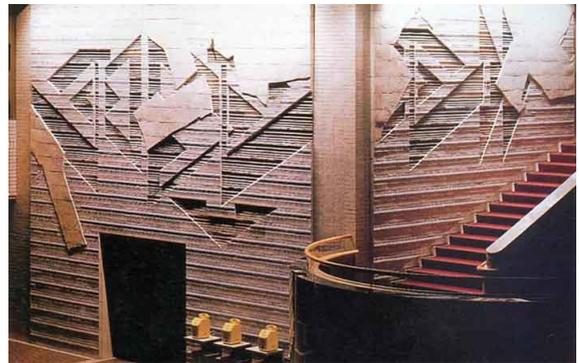


Fig. 5. The ceramic mural made by Yusuke Aida of Japan skillfully use and enrich the architectural space.

C. Functional semantics of ceramic murals in modern architecture

The ceramic mural in the specific artificial environment formed by the architecture must be combined with the architectural function to become an important content to reflect the architectural function or a cultural semantic theme to illustrate the architectural function.

Before designing ceramic murals, the creative subject should know the functional properties of the building, whether the murals are applied to public buildings, industrial buildings, civil buildings, or memorial buildings, etc. Different architectural environments should be decorated with different ceramic murals, and the function of the building also virtually limits the content and expression of the murals. If it is designed for the public entertainment, ceramic mural that is contemporary, avant-garde and with clay-performance emphasis should be employed to coordinate with the function of the entertainment place in the building; If for commercial environment, concise and colorful ceramic murals with strong visual impact should be

used to make it consistent with the function of stimulating shopping consumption. For example, the facade of children's shopping center (See "Fig. 6"). Such gorgeous, vivid color is the unique glaze of ceramic murals. More importantly, the environment created by such colors also highlights the functions of children's shopping centers. If for government agencies, ceramic murals reflecting a solemn and awe-inspiring atmosphere are required. The content of the mural should be aimed at conveying the traditional culture and national characteristics, so as to achieve a harmonious match with the gravely constructed building. As a part of the expression of architectural space environment, ceramic mural should follow its architectural functions and properties in the design process, and should echo with the theme at the beginning of the design to integrate with the architectural environment and atmosphere.



Fig. 6. Ceramic mural reflecting the building's functionality.

As a material carrier to express creative thinking and aesthetic taste, ceramic mural painting can reflect artistic attainments and cultural literacy of creators. The creation of ceramic murals, like other works of art created by the creators, is a mirror that comprehensively reflects the artistic accomplishment and cultural literacy of ceramic artists. They advocate the development of individual character and freedom of creation, and pursue the language form corresponding to their heart and emotion. Thus, a new form completely different from the traditional ceramic mural appears. It reflects not only the artistic level of ceramic artists, but also their personality and noble sentiment. (See "Fig. 7")



Fig. 7. Ceramic mural creation and design of Casa Vicens by Spanish architect Antoni Gaudí

As cultural development and the use of ceramic materials in depth and breadth picked up, the cultural meaning of ceramic mural will be richer. Ceramic mural with ceramic as material medium is not only the main part of modern architecture, but also an important part to adapt to the architectural environment. In a word, modern architecture is a cultural category with rich cultural contents and an artificial material and spiritual carrier to meet the needs of modern residence and varied cultures. The ceramic mural closely combined with modern architecture is not only an important part of modern architectural culture, but also its metaphor. It harmonizes with the built environment and plays a role in decorating and beautifying the modern built environment or illustrating or even extending the theme of built environment.

V. CONCLUSION

The modern built environment consists of modern environment and ceramic mural, among which the modern architecture has traditional cultural significance and its main function is to adapt to various practical needs of human beings. The cultural connotation of ceramic murals and the artificial environment of modern architecture form a new humanistic architectural design concept. Ceramic murals have dual cultural meanings in modern architecture, which, together with the cultural connotation of humanism constructed by modern architecture, endows modern architecture with new humanistic meanings.

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