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Research on the Application of Chinese Mural in Contemporary Environmental Design

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***Abstract**: China has a long history and civilization, and Chinese murals also have a long history of development. As an art form, mural has an inseparable relationship with the environment or space. Like other paintings, the display of murals requires a carrier. In the design of environmental space, murals can beautify the environment and change the nature of the space. From the perspective of spiritual civilization, murals can play a role in cultural propaganda, science popularization, and promotion of public aesthetics. This shows that the application of murals in contemporary Chinese environmental design is extensive, developing, and worthy of research.*

***Keywords**: Chinese murals; Environmental design; Applied research*

Introduction

The place where we work, study and live is the "environment". The environment is not static. It will change with the development of society and conform to the trend of the times. In recent years, both China and other countries have gradually focused their attention on environmental issues. This is mainly because the environment in which we live is suffering from unprecedented destruction, quality degradation, cultural loss, conflicts of interest and many other issues all the time. In order to make the environment more suitable for human survival and improve people's quality of life, the environmental design industry must contribute its own strength. Environmental design is a major with arts as the main and engineering as a supplement. It includes many disciplines: urban planning, interior design, architectural design, landscape design, urban public space design, etc. At the same time, it will intersect with traditional arts and crafts disciplines, involving some knowledge of sculpture, murals and pottery. Among the art forms of environmental design, mural paintings are relatively research-oriented and have a relatively long history. They have dual values of environmental treatment and historical and cultural values. Therefore, they should play an important role in the environmental design process. This article uses mural painting as a combination of its application in environmental design.

Mural painting is a form of painting that formed earlier in the development of human history. Its application range and value are different in different countries and periods. In the Paleolithic Age, the application of murals in human living environment was greatly restricted, and it was only reflected in daily life and people's primary aesthetic pursuit of totems. For example, the cave paintings of Altamira in Spain depict the hunting life of ancestors. Later, as China entered slavery and feudal society, the application scope and value of murals

continued to expand with the progress of social civilization. During this period, murals were mainly Buddhist and Taoist figures, gods and ghosts, and were used by the ruling class to achieve the purpose of protecting the country, stabilizing people, propagating thoughts, and enlightening the public. For example, the "Deer King" (also known as "Nine Colored Deer") in Cave 257 in Dunhuang, Gansu Province during the Northern Wei Dynasty conveyed that the feudal class used Buddhist subjects to promote the idea of governing the country, maintain ruling ideas, and educate the people. In modern society, with the development of science, technology, culture and society, human beings have increasingly demanded the environment. The ancient traditional painting art of murals has undergone tremendous changes in form and subject matter.

The History of Chinese Murals Used in Environmental Design

Murals in different dynasties in China have their respective uses and characteristics, as shown in the following table 1.

Table 1. Uses and contents of murals in different periods of China

Times	Purposes	Characteristics
Primitive Society	Rock paintings, temples	Geometry
Slave Society	Palaces, ancestral temples	Portrait painting and strong story plot
Qin and Han Dynasties	Palaces, ancestral temples, burial chambers	Portrait stone, portrait brick
Wei, Jin, and South and North Dynasties	Palaces, Taoist temples, grottos, burial chambers	Buddhist stories, ethnic style
Sui and Tang Dynasties	Grottos, burial chambers	Buddhist themes, mountains, rivers, flowers, trees, characters
Five Dynasties, Northern Song, Southern Song, Liao and Jin Dynasties	Grottos, burial chambers	Local customs
Yuan Dynasties	Grottos, Taoist temples	Daily life
Ming and Qing Dynasties	Taoist temples, ancestral halls, assembly halls, theatre pavilions	New Year Pictures
1970s	Interior of public buildings (capital Airports, hotels)	Myths and legends, historical stories, technological civilization, national customs, magnificent mountains and rivers
After the 1990s	Inside and outside of public buildings, city squares, streets	Popular life, western culture, decorative

In the application of murals in ancient times, people paid more attention to content, whose main functions were prayer, description, enlightenment, and rule. For example, the temple murals are related to religious stories. The location of the murals will be on the wall of the main hall located on the central axis, and the remaining walls will also be drawn. The purpose of this is to make visitors feel the solemnity of the temple

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from a distance. Entering the interior of the building, the sight of visitors will follow the building around the central axis. Due to the closed nature of the temple building, this will make visitors feel a sense of fear, thereby enhancing the temple's function of preaching. The grotto murals also use similar techniques to strengthen the spiritual infection of Buddhism to the people and achieve the effect of control. The role of the murals in the palace building is mainly to connect and coordinate the atmosphere among the many buildings.

In modern society, the function of mural paintings is no longer based on enlightenment and description as in the past, but gradually transformed into decoration and beautification of the environment and conveying cultural information as the main purpose. This is because nowadays multimedia and new media platforms have appeared in large numbers. Mural design is one of the important techniques and parts of environmental design. Its purpose is to create the environment or atmosphere we need together with other methods, so as to give people visual satisfaction, arouse cultural resonance and emotional communication. To sum up, the functions of murals are gradually separated from people's admiration for religious gods, and the environmental requirements are gradually being the mainstay in environmental design. As Mr. Lu Xun once said: "Mural paintings can best serve the social responsibility, because it is different from the paintings of treasures in noble residence. It is on the walls of the building and belongs to the public."

Main Types of Murals in Contemporary China

Painting Mural

Painting Mural refers to murals drawn directly with painting tools, mainly including dry murals, wet murals and murals drawn on different materials.

(1) Dry Murals

Dry murals refer to murals drawn on dry substrates with water-soluble or oil-soluble pigments. The base has rough and fine ground, walls made of plaster or cement and sand, and some are painted on linen cloth, metal plates, and wooden boards. The main advantages of dry murals are simple production and low cost, but they cannot be applied to many materials. At present, China mainly uses this painting method to draw indoor murals. According to the use of pigments, dry murals can be divided into ink murals, oil painting murals, and acrylic murals. At present, propylene murals are used in a large amount, because propylene is a synthetic material, the cost is relatively low, and it will form a strong and flexible film after drying. It has good color effects, can be thick or thin, has strong solubility, and dries quickly. The mural at Beijing Capital Airport in China in 1979 was mainly painted with acrylic.

(2) Wet Murals

Wet murals mainly refer to the murals painted on the lime walls that are wet. It is more difficult than the dry murals and is mostly used outdoors. The mural itself means "fresh", and the durability after forming is greater than that of the dry mural. Due to the limitation of humidity, this limits the drawing time—a lot of work needs to be completed in a short time at one time, and it is difficult to cover again. In addition, since the pigment

will turn gray when it dries, it must be fully considered when choosing a color.

Carved Mural

Carved murals refer to murals made by carving techniques. There are four main carving methods: hollow, Inlay, bas-relief and high-relief. The materials used for carving mainly include wood, brick, stone and metal.

(1) Relief Mural

Relief mural is a kind of mural technique between painting and sculpture, which is mainly represented by "concave" and "convex". After spreading on a flat surface, it is colored by light and carved on stone or other materials with a knife as a pen.

(2) Hollow Mural

Hollow murals are also a kind of flat display murals. Different from the relief murals, it also needs to consider the base other than the murals. It is necessary to combine the two to create, and at the same time, pay attention to the unity of the overall environment of the building. In addition, the choice of materials should be based on materials that are more flexible and easy to shape, and the color is generally a single color.

Other Craft-type Murals

Craft-type murals are murals completed with craftsmanship based on the designed sketches. Craft-type murals are the product of the times and can reflect the craftsmanship characteristics of an era. Because of the continuous emergence of new materials, the development direction of craft murals is very rich. In view of its wide variety, this article only introduces murals created by inlay and lacquer techniques.

(1) Inlaid Mural

The original source of inspiration for inlaid murals came from the carpets used in people's daily life. Because of the durability of the carpets, inlaid murals were produced. It is mainly based on plane inlay, that is, the inlay material is made in a seamless and non-overlapping form.

(2) Lacquer Murals

Lacquer art refers to artistic creation with lacquer material. Lacquer murals have many advantages, such as high temperature resistance (sunlight), corrosion resistance (corrosion of acid rain and acidic substances in the air), rust prevention, insulation, etc. Compared with dry murals, lacquer murals have a longer service life. This is because the luster of the material itself has the same effect as ceramics, mosaics and other craft murals, and it can coexist with architecture for a long time.

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The Application of Murals in Contemporary Chinese Environmental Design

Application in Interior Design

In recent years, Chinese interior design has developed rapidly. People's demand for interior decoration is no longer limited to the use of functions, but also extends to the transmission effect of aesthetics and cultural atmosphere, especially in some thematic space environments, such as tea room, theme hotel, children's activity space, etc. The decorative effect of the murals must match the environmental theme, so that they can jointly create the atmosphere they want to express, so that people can get spiritual comfort while using it.

In the process of modern interior design, murals use "wall painting art" as a decorative means to create atmosphere. "Wall painting art" is to enhance the design beauty of the space through visual feelings (such as lines, colors, patterns), and get rid of the monotony of the original wall or top surface. This art form can not only beautify the space, but also achieve the effect of conveying the atmosphere by creating themes. With the development of technology, more materials besides traditional pigments are gradually being used in the "wall painting art" of interior design.

In addition, modern living spaces pay more and more attention to the dual needs of environment and psychology. Many styles have appeared during the decoration process, such as European, Chinese, American, Mediterranean, and Pastoral Styles, with different color combinations and styles. If you use a large area of "wall painting art", it can adjust the atmosphere of the space, and the use of a small area is also the finishing touch. Due to cultural traditions, three-dimensional decoration is rarely used in Chinese indoor spaces, but mostly in flat form, which determines that "wall painting art" has a good development prospect in the process of Chinese indoor decoration.

Application in Landscape Design

For landscape architects, spatial composition is one of the main criteria for judging whether the design is excellent. There are many factors that affect landscape design. In order to achieve the desired effect, it requires the participation of artistic creation. Mural is a commonly used artistic treatment technique in landscape design. Because of the wide range of themes, colors and materials for murals, many designers will use murals as a foil for sculptures when designing park squares to jointly create themed squares.

Designers often use a segmented approach to complete a predetermined "story" with multiple murals, and the murals can also guide the sight of visitors. In addition to using traditional murals, some designers also combine plants with murals. For example, a large area of plants can form the base of the mural, and some botanical gardens create plants into murals. However, in the actual design process, the designer must take into account the characteristics and colors of the plants themselves, try to avoid destroying the form of the plants, and must not destroy the ecology because of the effect.

The application of murals in landscape design is not limited to decoration, but more to create "soul". At

present, we often see murals used in economics and management design, because murals have a simple cultural atmosphere and are quite inclusive.

Application in Architectural Design

Architecture is a necessary place for human beings to survive. Since primitive society, patterns have often appeared around caves. Although they are relatively abstract, the application of murals in architectural design has gradually entered people's field of vision due to people's own aesthetic needs. The diversity of murals makes them an important artistic treatment method in architectural design. Modern architecture is very different from the past, but the murals will also change according to the changes in the architectural form. In architectural design, modern murals must not only inherit the excellent traditional culture and folk customs, but also use the characteristics of modern architecture to develop their own artistic level.

From the literal meaning, the wall of the building is the carrier of the mural. If the building is regarded as a "box", the six sides of the box can be used to create murals. Whether it is the interior or exterior of the space, the designer should consider the extension surface or connecting surface of the attached interface when designing the mural. If only one or two surfaces are considered, it will be easy to conflict with other interfaces, and finally form a nondescript effect. In the interior of the building, the top surface and ground are also the key points to be considered. Because the top surface and ground have a strong visual impact, it is easy to attract people's attention, so designers must make good use of this feature.

Murals can also play a role in repair or renovation in architectural design. If the surface of the building is damaged, the mural can be used for repair. If the use function of the building itself changes, the visual effect can be renovated through the mural.

Conclusion

The reason why murals can be widely used in environmental design must have their unique value, namely, artistic aesthetic value, visual perception value and cultural value. The use of murals in environmental design has risen to the height of educating the public, enhancing the people's aesthetics, and transmitting excellent culture. Although there are still many difficulties to face in the future development process, the mural creators must be good at breaking the shackles of traditional ideas and techniques, dare to think creatively, and create excellent murals that reflect Chinese society, Chinese culture, and Chinese civilization on the basis of combining Chinese traditional art, and apply them in the environment closely related to us. Therefore, in the process of environmental design, it is necessary to fully integrate the environment itself to determine the mural materials, content, and colors, and give full play to the charm and value of murals in environmental design, and ultimately make murals, an excellent traditional art form, keep pace with the times and continue development of.

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