

Analysis on the Application of Regional Culture in Architectural Design

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Abstract—At present, China's architectural design industry is in a rapid development stage. Urbanized buildings constantly learn from western design styles in the design process, which leads to the homogenization, single form and poor innovation of architectural design. For this reason, architects change their way of thinking in the process of modern architectural design, with respect for local cultural forms and people's living habits as the main idea, and gradually change from the design based on western functionalism to the design based on the protection of national culture and regional characteristics, so as to reflect the local characteristics and cultural connotation. This paper mainly studies the expression and application of regional culture in architectural design, analyzes their relationship, combines regional culture with modern architectural life mode and aesthetic concept, and analyzes and discusses the expression and application of regional culture in architectural design.

Keywords—regional culture; architectural design; expression; application

I. INTRODUCTION

China has a long history and culture, and the concept of regional culture has long been formed. There is a sentence in *Records of the Historian* written by Sima Qian: Bai Li Bu Tong Feng, Qian Li Bu Tong Su, that is to say, the regional culture covers a wide range, and the unique regional culture of different places integrates with the environment within a certain regional scope to show the regional cultural characteristics of different regions. Architecture occupies a large proportion in the human cultural system. The development of urban architecture reflects the rise and fall of human history, culture and economy. Different buildings and architectural systems formed under different cultural backgrounds reflect regional cultural differences. Along with the development of economy and science and technology and the commercialization of modern architecture, regional culture is ignored. The problem of consistent architectural design style in the region is increasingly serious, and the combination of eastern and western elements emerges in an endless stream, completely ignoring the characteristics of the region and culture, which leads to the monotonous architectural pattern, so the cultural development has become an inevitable trend. Regional culture has a great influence on architectural design. To reflect regional culture in architectural design, people should make use of regional

cultural resources, inherit and promote the essence of regional culture, effectively integrate regional culture and architectural design, make the architecture show national, regional and contemporary nature, and give people a sense of identity and belonging.

II. REGIONAL CULTURE AND ARCHITECTURAL DESIGN

China is a multi-ethnic country with different regional cultures. The architectural designs extended from regional cultures through long-term development are also diverse. The idea that modern architecture embodies regional culture is not only the innovation of architectural design but also the inheritance and development of regional culture. Regional culture is the product of local culture which develops and innovates constantly, and it represents the unique cultural characteristics of an era. Architectural design is the reflection of the times and has its unique character and personality. Integrating regional culture into architectural design is an embodiment of regional cultural characteristics, and also embodies the cultural connotation and taste of modern architecture. The architectural styles of different regions are different due to the factors of natural environment, human culture and architectural technology. The architectural style is influenced by the natural environment, such as yurts in Inner Mongolia, bamboo tower in Yunnan and cave dwelling in Shaanxi. Human factors are composed of social factors and cultural factors, which affect the cultural integration and architectural characteristics of architecture. For example, the Mosque architecture for Hui people who believe in Islam, Tibetan Buddhist monasteries for Tibetan who believe in Tibetan Buddhism, and cave dwelling in Loess Plateau. Architectural modeling and construction are influenced by architectural technology, such as the pyramids in ancient Egypt, the Imperial Palace in Beijing, and the National Grand Theater of China, etc.

III. THE EXPRESSION OF REGIONAL CULTURE IN ARCHITECTURAL DESIGN

A. The Expression of Regional Culture in Architectural Space

Through organization, construction, enclosure and other ways, architecture combines into the basic environment that human beings rely on to survive — architectural space,

which includes external space and internal space, and involves the form, layout and type of space. The most fundamental factors affecting architectural space are climate characteristics, geomorphic features and cultural characteristics, through which different architectural spaces can be formed. In the traditional architectural space design, due to the different climate, different regions should adopt different space organization and construction enclosure. In the north, outdoor courtyards are mostly used, while in the south, stilt building or semi-open architectural space is mostly used to adapt to the regional climate characteristics. Due to the different landforms, the design should conform to the regional landform characteristics. In the face of complex terrain, try to adapt to the terrain, integrate the architectural space into the regional environment, create different architectural modeling, and reflect the harmonious coexistence of architecture and regional environment. Due to different local cultures, architectural space contains different cultural deposits and cultural connotations. Restricted by traditional culture and religious concepts, a unique spatial layout has been formed, which has been reflected in modern architectural design.

B. The Expression of Regional Culture in Architectural Form

The form of the building depends on the interior and exterior of the building, and the two affect and restrict each other to form different architectural forms in different natural environments. Architectural form refers to architectural appearance and detailed structure. The color, texture, scale and proportion of a building will affect the appearance and detailed structure of a building. Architectural color plays a certain decorative role in urban architecture, which makes the building have a strong identification, and affects people's visual sense and psychological feelings. Architectural texture can be divided into two types in architectural design, one is visual texture and the other is tactile texture, which can enhance the image and appeal of the building. The scale and proportion of architecture play an important role in the form of architecture, controlling the appearance and details of architecture. Therefore, designers need to adapt to local conditions in creating architectural forms. For example, in the architectural design of the northern region, due to the cold climate, designers are often good at using warm colors, and building materials are more likely to use soil, wood, brick and stone materials, which make the architecture solemn and dense. Due to the hot climate in southern region, and designers often use light colors, coating, wood, wood-imitation materials or steel structure and other raw materials, so that the building appears light and transparent.

C. The Expression of Regional Culture in Architectural Technology

Architecture is the carrier of culture, and culture is the soul of architecture. To integrate regional culture into modern architectural design, people should not only highlight local culture, but also pay attention to the combination of culture and technology, and create a new culture while inheriting culture through technology. Architectural technology is divided into traditional

architectural technology and modern architectural technology, which also includes material, structure and construction. With the development of society, modern architectural technology has adapted to the times on the basis of traditional architectural technology, and created new architectural space and forms through the material, structure and construction of architecture. In modern architectural design, while applying modern architectural technology, people should use traditional architectural technology for reference to reflect regional culture, pay attention to the application of local building materials, traditional architectural structure and construction mode, and combine with local cultural characteristics to reflect the contemporary nature of architecture.

IV. THE APPLICATION OF REGIONAL CULTURE IN ARCHITECTURAL DESIGN

A. Environmental Factors Are Integrated into Architectural Design

Human beings have been constantly exploring and adapting to different natural and geographical environments in the construction activities. Therefore, the factor of natural environment is the primary consideration in the architectural design. In the architectural design, the building is integrated into the natural terrain and landform and integrated with the environment, which can make the building full of affinity. Social culture has a unique sociality in the region, which reflects the image of a country and a nation. Therefore, it's a must to absorb the essence from the traditional culture and adapt to the needs of the new era. Different from other arts, architectural art has a strong social attribute. Construction activities should have a development opportunity of their own, and use this opportunity to reflect the social attributes of architecture, show themselves, and reflect their own regional culture.

In architectural design, Oriental classicism takes the natural environment as the dominant position. For example, the classical Chinese garden, The Humble Administrator's Garden is in harmony with the natural landscape, with rivers and landforms as the main scenery and surrounding buildings as auxiliary objects. Western modern architecture is dominated by functional organic architecture. For example, the typical design of "Falling water" by Wright, the master of organic architecture, is that the base of the building is above the waterfall, and the protruding platform is perfectly integrated with the natural environment, while the building and the landform reflect each other against the background of water. Both of the above two cases are successful models in the treatment of topographical features. The surrounding environment is used in the architectural space to integrate the building with the natural topographical environment. Nowadays, the homogenization of architecture is becoming more and more serious. The reasonable use of topography and geomorphology in design and the emphasis on the relationship between architecture, ecology and topography play an important role in regional architectural design.

B. Application of Layout Form in Architectural Design

Architecture is a place to provide living habitat for human beings. Architectural design should not only design the architectural form, but also correspond to people's life pattern. The use of space layout and the reference of space organization form of traditional architecture can reflect the characteristics of regional architecture. Chinese traditional buildings mostly adopt the layout of transverse extension and axial symmetry. The arrangement of the spatial structure takes the courtyard as the center and builds houses around it. The main room faces south, giving people a sense of stability. Due to the cold climate in the northern region, the overall layout of the courtyard is unified, the architectural form and style is unified, the architectural orientation is consistent, and the distribution is even, and the houses are neat and uniform. The whole layout of the residential buildings in Wumeng, Inner Mongolia, can reflect the simple characteristics of northerners. The earth tower of the Hakka in Fujian Province in the south is designed with a round shape. The whole building is built with the earth as the wall, which is unique. The architectural form of the earth buildings can reflect the ethnic characteristics of the Hakka people.

The traditional spatial organization can reflect the characteristics of regional architecture and the internal spatial organization design can also reflect the characteristics of local architectural culture. There are three types of spatial organization: tandem, radial and cluster types. The most commonly used form of spatial organization in modern architectural design is radial layout. Under this form of layout, different regional cultural areas adopt different spatial organization methods. Drawing on the traditional form of spatial organization and applying it reasonably to the architectural space can present different regional architectural characteristics. For example, the Suzhou Museum designed by Leoh Ming Pei. The whole building faces south, and is symmetrical in the middle axis. The building is surrounded by a small courtyard and water, with each exhibition hall interspersed with the other, which makes the architectural space full of spirituality and vitality, giving people a unique regional emotional appeal.

C. The Combination of Regional Culture and Architectural Design

Architecture is an important carrier of regional culture, representing the culture and art of different periods. Through the integration of regional culture and architectural design, architectural design can be enriched with connotation and vitality. Contemporary people's aesthetic concept has been changing with the development of society. In the process of urban architecture development, to reflect regional culture, it is necessary to follow the trend of modern society, give new life to modern architectural forms, and carry out design in combination with regional culture. By re-absorbing the traditional culture, the designer can understand its real connotation, get design inspiration, and fully apply it to the design of buildings. Architectural design should respect the local culture and understand the local history, cultural customs and people's living habits, form one's own creation concept from the framework of regional culture, pay

attention to the integration of architectural details and culture, and deal with the architectural space appropriately, so that people and architecture can return to the local land and fully reflect the spirit of regional culture.

V. CONCLUSION

With the development of social economy and science and technology, people's living standard is getting better and better, and urban cultural buildings have also undergone new changes. The assimilation of architectural design makes regional culture gradually diluted. As the owner of a city, people should not accept and accommodate new things, but should protect national culture, inherit and carry forward local regional culture, integrate regional culture into architectural space, architectural form and architectural technology, and endow architecture with national, regional and contemporary nature.

The author studied the expression and application of regional culture in architectural design, interprets the embodiment of regional culture in architectural design, and combines the history, natural environment, climate conditions and humanistic thoughts of local regional culture to form the architectural characteristics of the region, and integrates regional culture into modern architectural design, so that it can develop into a unique architectural style. In today's new situation of architectural design, regional cultural architecture should keep its own characteristics, so that the concept of regional culture gradually becomes a distinctive creation concept and a new trend in China's architectural design industry, so as to enrich the architectural design style, enhance the soul and emotion of architecture, and meet the needs of people at a higher level.

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