

# Analysis on Application of Traditional Architectural Elements in Modern Architectural Design

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**ABSTRACT** In modern architectural design, the scientific use and development of Chinese traditional architectural elements is an issue studied in-depth by every building designer. Exploration is made from the application of humanity concept in traditional Chinese architectural culture. The traditional architectural space design applications, the use of traditional architecture symbols, traditional architectural elements applications and other aspects, have important significance to implant traditional Chinese architectural elements into the development of modern architecture.

## KEYWORDS

Modern architecture  
Traditional elements  
Architectural design

## 1. Introduction

In the wave of globalization, economic, political and cultural conflict of the world is increasingly apparent. Especially for the traditional Chinese architectural culture, a variety of foreign architectural styles occupy the leading market, while China's traditional architecture is gradually diluted by market. In today's consumer market, European architecture has gradually become the main style. Since people like to chase the trend, there is a crisis for China's traditional architectural culture. However, in recent years, with the continual development and maturity of market, some consumers, investors and designers begin to realize these problems and gradually awaken. They also constantly begin to apply the five thousand years of Chinese history culture and the unique architectural style to the modern building. More and more architects learn to use traditional Chinese architectural elements in Chinese architecture designs. The facts have proven that traditional Chinese architectural elements is worthy of application and development and it has been recognized by the market. The transformation of Suzhou Tongfang Lane, Shenzhen Vanke V Park, etc., are all the perfect expression. It shows that the traditional Chinese architectural culture is the wealth of China

and the world. Through research, analysis and comparison of large number of instances, we obtained the preliminary theoretical conclusion that the use of traditional Chinese architectural elements in modern buildings mainly.

## 2. Application of humanities concept in traditional Chinese architectural culture

The nature view of "unity of man and nature" and "human beings and their circumstances become a whole world" is the core concept of Chinese traditional culture. There are a lot of culture heritage with Chinese characteristics in traditional Chinese architecture. At the same time, there are many buildings that are built based on the local natural environment and historical conditions, thus the development of Chinese architecture must adapt with the social environment and natural environment. It is important to implant the traditional Chinese architectural elements into the development of modern architecture. The implantation in here is to appropriately implant the beauty of connotation, grace and elegance of traditional Chinese features to modern architectural design. We can not only be limited to the traditional retro. In the actual design process, pay attention to the relationship between architecture and the environment and the application of modern technology to effectively combine the two aspects, so that the building can also reduce the local original environment destruction. Use modern technology to minimize pollution on the environment and society and better coordinate the development of society [1].

## 3. Chinese traditional architectural space design applications

The most traditional Chinese architectural style build-

Copyright © 2015 Lihong Tong and Xueliang Zhu  
doi: 10.18686/wcj.v4i3.7

Received: August 3, 2015; Accepted: September 5, 2015; Published online: September 20, 2015

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ing in today's society is Beijing's courtyard which is an enclosed courtyard space. Initially, the aim of this kind of design is to allow the building to have a separate space, which is able to provide some private space to their own, so that the interior space is somewhat isolated from the external environment. However, the developments of these traditional architecture is becoming the architectural style with Chinese characteristics and it has become a synonym for traditional Chinese architecture. According to today's social development status, an L-shaped house enclosed structure may be considered, so that the building reflects a certain spatial thinking. In addition, this building will also give a comfortable, atmospheric feel. We can also make a good combination of other cultural elements with traditional Chinese characteristics by applying wood carving, stone carving, painting, bamboo forest and others into the design of the courtyard, which also adds some Chinese art and cultural inheritance and development, so that the people have unlimited space for reverie.

#### **4. Application of traditional Chinese architecture symbols**

Architectural symbol is a carrier for inheriting Chinese traditional culture. The development of the building is also the development of culture, hence a building with no architectural symbol is a building without vitality. Since the architectural symbols coagulate a large number of cultural information, it can pass the traditional information and resonance to people. Different architectural symbols bring people different feelings. They can develop space with the help of people's thinking, thus making them recall Chinese traditional culture spontaneously. Directly refine the architectural element symbol, arrangement and sublimation are made for them, then apply to the modern architectural design. This is so that we can effectively inherit the traditional culture which includes a rich color. Let modern architecture better integrate into the development of society while not losing the traditional culture, so that the essence and core of the traditional architectural symbols get the best expression. This design will be realized in the future, such as the Anyang Yin Ruins Museum, which is adorned with some traditional Microhyla and seal ornament on the wall of the central courtyard. This simple embellishment will not damage the heavy environment, but can more directly and clearly reflect the theme and fully demonstrate the development of bronze, with a good atmosphere rendering effects [2].

#### **5. Discussion on application of traditional architectural elements**

In the early 20th century, the popular wave of international classicism and eclectic architecture greatly affected the development of traditional Chinese architectural culture, with the guide of the advanced thoughts of "Chinese culture as main body, Western culture as use". The first group

of Chinese architects who returned from the States tried to integrate the traditional architecture culture with the West advanced building technology and built a string of architectural works with both traditional ethnic characteristics and western architectural techniques.

Exploration and development of traditional Chinese architectural culture of Chinese architects were never interrupted with the progress of time. Since the 1920s, Western invaders forced open China entrance using gunboats. At the same time, it brought the impact of Western construction culture concept and advanced construction techniques. Chinese architects tried to explore the development of integration of traditional architectural culture and western construction technology, some of which fairly representative architectural design attempts are to integrate Western-style afforestation technology and Chinese traditional architectural style. Namely, the Chinese architectural style is used for external performance, while the Western-style is mainly used for reconstruction of interior design elements and application of afforestation technology. Such examples include, Henan University auditorium, campus buildings of Nanjing Jinling Women's liberal arts College, Zhongshan tomb and memorial Hall and other buildings.

Until the 1950s, the national style and socialist content of building imported by the Soviet Union pushed the traditional Chinese architectural heritage and continuity to a new upsurge once again. In the aspect of construction technology, our building introduced the West Roof truss and sloping and folding of roof, using reinforced concrete as columns and beams, brackets, etc. It is the new generation of architectural forms that constitutes experiments produced by passive adaptation. The "big roof" buildings born at the right moment, as typical traditional architectural elements, are adopted widely in the building around the country. "Big roof" building not only adopts new technology to imitate a traditional palace roof and facade, it uses brick and concrete structure inside the building. In the functional layout, it completely adopts the function-centered layout principles. The use of a large number of Chinese traditional patterns in the decorative details form a new building reconstruction of integration of East and West. Examples include Beijing West Railway Station, Beijing Library (National Library), Great Wall Sheraton Hotel and Beijing airport, etc.

With the development of society, after the founding of New China, the urgent needs of national economic construction results in the rapid growth of international modernist architectural style with strong function in China whereas the traditional architectural culture suffers an unprecedented impact. In recent years, internationally renowned architects have created many typical modernist architectural works in the country, such as the National Grand Theater designed by Paul Andreu, the new CCTV site designed by Koolhaas, Zaha Hadid's Guangzhou Opera House, Foster's T3 terminal and others. In the process of

continual growth and occupation of building design trend of Modernist building, the design attempts to explore the reconstruction way of traditional Chinese architectural culture has some innovative cases. Taking Ieoh Ming Pei's Suzhou Museum (New Museum) as example, he used the traditional architectural elements of Southern China, namely the architectural feature of white walls and black tile, as the museum's overall tone, integrate with the texture of the ancient city of Suzhou City. Replacing uniform gray small tiles crest and window frames everywhere with granite, not only reflects a more uniform color and texture, but also creates a deep flavor of traditional Suzhou courtyard-style building garden using modern building materials and construction skills. This is the innovative attempt to apply Chinese traditional architectural culture elements in contemporary architectural design, and the first exploratory step with a sense of the times of reconstruction of traditional architectural elements [3].

## 6. Conclusion

The pace of globalization development is becoming increasingly fast. Western-style building is becoming a popular trend and Chinese traditional architecture has gradually been forgotten, but from the development of history, the Chinese traditional architecture can also be well used for modern building designs. Proper integration and common development makes the Chinese traditional architectural

elements to be organically used in modern architecture design, so that the traditional simple craftsmanship and modern technology are combined and achieve an integration of architecture and environment. The saving abatement effect can also be reflected from the building, so that the architectural design becomes environmentally friendly. There are many valuable assets in the traditional Chinese cultural elements, The application of these traditional design elements in modern building after properly refining and simplifying will allow a qualitative leap of modern architectural design.

## Conflicts of interest

These authors have no conflicts of interest to declare.

## Authors' contributions

These authors contributed equally to this work.

## Reference

1. Su, Y. (2012). Application of Traditional Architectural Elements in Modern indoor design. *Journal of Chongqing College of Education*, 16(3), 39-42.
2. Wei, H., & Ren, Z. (2011). Application of Traditional Elements in Modern Architectural Decoration Design. *Henan Building Materials*, 10(5), 231-234.
3. Liang, P., Xu, Q., & Miao, L. (2011). Application of Chinese Traditional Architectural Linguistic Features in Modern Costume Design. *Contemporary Art*, 18(4), 52-55.