

Brief Analysis of Chinese Traditional Quadrangle's Architectural Feature and Cultural Connotation

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ABSTRACT

Quadrangle, with a long-lasting development course in China, contains abundant cultural connotations. As indicated by China's existing data, early in two thousand years ago, China's Quadrangle emerged and was used as the residence of the wealthy and the imperial aristocracy. Its interior decorations and structures are very graceful. As the economic society advances, many folks have gradually been living in Quadrangles, which became a significant residential place. Exorbitant though the price of the Quadrangle is and only some rich people can afford it, its cultural value and artistic characteristics substantially advance the development of Chinese cultural architecture. Further investigating the Quadrangle can positively support the inheritance and innovation of Chinese architectural art and culture. This paper falls into three parts, namely, the architectural features of Quadrangle, the cultural presentation of Beijing Quadrangle, and the development direction of China's traditional Quadrangle. These three parts fully display the features and value of the Quadrangle itself, allowing people to know about the Quadrangle's profound connotation, so that it can promote people to advance the development and inheritance of Chinese architectural art and culture.

Keywords: *Quadrangle; Architectural feature; Cultural connotation*

1. INTRODUCTION

Literally, the so-called Quadrangle refers to a building complex formed by individual or interconnected buildings evenly arranged in four directions. Quadrangle, as a typical courtyard-style family building in the China's development history, occupies a dominant position in both historical and cultural research and architectural culture research. Quadrangle enjoys a long history of development with profound cultural connotations. Early in more than three thousand years ago, the architecture of Quadrangle has been established in Western Zhou Dynasty. This is closely associated with both the architectural culture of the ancients' family-style hierarchy, and the traditional ideological concept of advocating the Tyuan Unity. As for the architectural relics of two courtyards discovered at the Zhouyuan Site in Fengchu Village, Qishan, Shaanxi Province, they are the earliest and neatest Quadrangle building complex known in China.

2. ARCHITECTURAL FEATURE OF QUADRANGLE

2.1. Unique door

The door is a significant structure highlighting the territorial characteristics of the building. In other words, the door is the transition structure between the private space environment and the external public space. In the *Three Rites Map*, it elaborated the system of the door and hall, indicating that the system of the door and hall originated from the etiquette system. China has always been known as "A State of Ceremonies," and the system of door and hall highlights the deep integration of etiquette system and architectural culture. In Chinese traditional architecture, what distinguishes the system of door and hall lies with the division of door and hall. The system of the door and hall, as a significant paradigm of traditional Chinese architecture, which features reflecting the hall through the door form. The door system is the central part of the layout and combination of the entire building complex. That's to say, the door location defines the overall architectural layout. Meanwhile, the door

location plays a pivotal role in the form of activities in and out of buildings^[1].

As noted above, it proves that the door can both isolate and connect the internal and external space environment in the building structure system. In China's traditional architecture, doors represent levels and sections of the flat organizational form. Considering the external structural form, one can see the unique door structure on the external wall, realizing the transition between the internal and external spaces. So it's essential to construct a regular external shape, distinctive structural features, suitable dimensions and a conspicuous spatial position for the door. The spatial scale of the door and its contrast with the subject background are also vital. Moreover, the implied meaning of historic culture and artistic associations can also make the signs obvious as key elements, such as the tablets and couplets on the gates^[2].

In a residential house, the gate, as a significant entrance and exit, is also an important symbol of the inhabitant's right to dominate and use the interior space. In *Yangzhai Zhengzong*, the author noted that "the door is the dominator that defines the layout of a house." Pursuant to the traditional Chinese customs, auspicious slogans such as "safe trip" and "smooth journey" are often pasted on the door, praying for the family to travel smoothly, return safely and enjoy peace. Moreover, in accordance with the theory of five elements and eight trigrams advocated by the Chinese, the spatial orientation of the door also represents geomancy and good or ill luck. In a word, the door is a key link in the architectural design^[3].

2.2. Anacreontic courtyard

Beijing Quadrangle is a typical courtyard-style dwelling in northern China, which is unique in its design. The house building is situated in four frontal orientations, and the rear gable wall encloses the entire interior space region. The disconnected parts of the building gable wall are connected by short walls. This makes the building complex facades scattered in height, highlights the comprehensive aesthetic, and saves the base and materials. Mutually independent as the houses are in different orientations, they are connected to each other by verandas. Sparse but not loose, regular and full of rhythmical image. In the whole courtyard, it displays a wide view, lush trees and refreshing flowers, which both ensures the privacy of the occupants, and meets their basic needs of leisure and enjoyment^[4].

2.3 Habitable house

Relatively low as the net heights of the four frontal orientations are in Beijing Quadrangle, the heat retention property is outstanding. In addition, the courtyard enjoys

good lighting effect, which can satisfy the occupant's requirements for the heat retention and lighting. Due to the long duration of chilling weather in winter in northern regions, it has certain requirements for the duration and intensity of illumination. Due to the small angle of sunlight in the northern region, only by ensuring that there is enough space between the buildings, the lighting time can be extended to enhance the overall lighting effect. The Beijing Quadrangle is a building complex structure with good lighting effect. This is also the preferred building structure in the northern region.

2.4 Broken brick laying

The Quadrangle where civilians live are generally built with whole bricks and broken bricks. The size of the whole brick is 30 cm in length, 15 cm in width and 4 cm in thickness. In the middle of the front of the brick, it will set a deep groove running through the entire length of the brickwork. The Quadrangle's color of the bricks is dark gray, which seems larger and wider than the bricks used in the walls of modern buildings, but the overall thickness is very thin, which cannot be compared to the modern walls. In the process of wall masonry, some non-critical parts will be filled with broken bricks or half bricks. Since the selected materials have different shapes and sizes, the final effect will also be quite different. Meanwhile, the broken bricks under the processing of the design and constructor displays the different artistic effect can bring people a different visual experience^[5].

When building a Quadrangle wall, the four-corner structure is first built with bricks, and the middle part is filled with broken bricks mixed with mud. After completing the masonry, a layer of white ash is painted on the outer layer to highlight its beauty and practicality. Notably, the broken brick wall plays the role of separation and insulation, which does not have any load-bearing effect.

2.5 Refreshing color

In the color selection of the northern Quadrangle, it mainly chooses the two decorative colors of red and green, which will not be outdated and meet the development needs of the times, as well as echo the weather changes in the north and create a different visual sensory experience. The temperature difference in the north is relatively large, and the duration of winter is cold and long. There is a lack of effective flowers and plants for decoration, which makes the scenery in the Quadrangle seem too monotonous. Green and red are coordinated to embellish such a depressing environment. Furthermore, some people will implement wall painting in their own homes to increase the flexibility and vitality of the interior^[6].

3. THE CULTURAL PRESENTATION OF BEIJING QUADRANGLE

3.1. Confucianism culture

The Confucianism has a huge influence in the feudal society, which is also reflected in the Quadrangle construction. For instance, in the division of Quadrangle's living positions, the principal room falls into people with more prominent positions in the inner house, such as the old generation of milords and madams. The central room is a significant place for guests and ancestor worship. There will be bedrooms on either side, and the residents living in the east and west of the bedroom also have certain connotations. For instance, the east side represents the legal wife, and the west side is generally the residence of the concubine, which aim at highlighting the status of superiors and inferiors to clear their positions. There will be bright and dark contrasts in the setting of the wing rooms on either side, with the living room in the middle and the bedrooms on both sides. The rear room is a living place for the female relatives who have been the spinsters^[7].

3.2 Environmental theory

The Quadrangle design and construction have high requirements for geomancy, highlighting the ancient theory of architectural environment and providing support and basis for modern development. In the Quadrangle's site selection, positioning and size planning from the initial stage, they were all analyzed and explored as per the relevant contents of geomancy. In the whole Quadrangle structure, there should be an independent living room with a relatively spacious courtyard structure, and the well-established plant landscaping shall set off the internal staff and improve the quality of living.

3.3. Folk customs

In the design of the Quadrangle, it incorporates more ethnic folk customs and traditional cultural content. In one thing, it is to enhance the overall sensory effect of the Quadrangle, and in another thing, it also has a beautiful meaning, hoping to have a happy, beautiful and affluent living environment. In the Quadrangle design, some pattern elements with obvious meanings will be selected to plan the Quadrangle's interior scene and structure, such as the use of bats and the Chinese character for longevity, which means both happiness and longevity; The use of *Rosa chinensis* implies being well throughout the year. There are also some graceful people who will use works of poetry, calligraphy and painting for decoration, so as to highlight the cultural atmosphere, display their own connotation, and demonstrate the overall style and atmosphere of the Quadrangle.

4. THE DEVELOPMENT DIRECTION OF TRADITIONAL QUADRANGLE

4.1. Living environment

Early in the 1960s and 1970s, Beijing's population has grown explosively. As the population continuously increases, it has brought a serious dilemma in Beijing's housing, and land resources have increasingly become the focus of social attention. Influenced by such a background, many people began to renovate the existing Quadrangle structure, for they want to increase the number of houses to meet the needs of more people, resulting in a significant change in the Quadrangle structure and layout, and the number of internal population was also increasing. Moreover, affected by the high rent, some people cannot afford the rent of small Quadrangles. So many people rent and share one Quadrangle, and the original Quadrangle is gradually changed into a large courtyard, which damaged the original structure and aesthetics of the Quadrangle. However, even this pattern cannot meet Beijing's demand for housing, and people's living quality has not been enhanced. As the land economics subsequently emerge, it allows the large-scale demolitions and renovations to sweep the old hutongs and large courtyards, replacing them with high-rise commercial residential buildings. The high-rise buildings cover a small area with a high floor area ratio, which alleviates the problem of existing housing and land shortages. The high-rise buildings can better meet the needs of people's lives than do the old-fashioned Quadrangles, which gradually replace the status of Quadrangles in people's minds and decrease the number of Quadrangles.

As social and cultural awareness increases, Beijing has introduced a legal decree, hoping that units or individuals can purchase Quadrangle to protect the buildings of the old street Quadrangle and reduce the rate of demolition or destruction. Although the older generation of people who lived in bungalows quite miss the harmonious neighborhood relationship, so the memories of the living environment represented by Quadrangle is gradually unfolded in people's mind. As the real estate industry expands and the housing and land appreciate, many factors make the Quadrangle price astounding to many ordinary people. Currently, the price of Beijing Quadrangle in better locations has reached about tens of millions. Combined with the considerable renovation and maintenance costs, the Quadrangles are gradually separated from the public life and tend to decline.

The Quadrangle planning and development has become the focus of attention in modern society. At this stage, as the urbanization construction process rapidly advances, and the rate of land price rise keeps increasing, Quadrangle has been separated from ordinary people's life and has become synonymous with luxury. Besides its

economic value, as the society develops, it has witnessed a great change in people's aesthetic vision. More and more people have glued their eyes to the western-style architectural style, and the residential form of villas is also more popular. The courtyard-style building has become the ideal way of living for the minority group^[8].

The author, based on individual experience and existing data analysis, concluded that courtyard-style buildings are more suitable for people's living needs today. In accordance with the survey of people in high-rise buildings, it shows that most people believe that the residential environment of high-rise buildings meets their current needs and can improve living quality and comfort. Nevertheless, high-rise buildings will also hinder people's interaction, and it is easier to establish the friendly relationship between neighbors than the Quadrangle. As the courtyard-style houses emerge, it effectively integrates the two functions, meets people's requirements for communication, occupies less resources, and meets the needs of people from different classes of life.

4.2. Development direction

Quadrangle is characterized by the virtual or realistic structure and livable living environment, which is the desired living place for common people. However, as modern society rapidly develops, in order to save resources, cities have gradually replaced traditional courtyard buildings with high-rise dense residential buildings, so as to meet the housing needs of the public. Undeniably, the Quadrangle is still the ideal living space for people and the preference of people's living environment. As people's living standards enhance, there are increasingly more courtyard-type resorts being established around the city. On weekends or in their spare time, people will also bring their families and rent small courtyards to spend leisure time together. The format and scale of Quadrangles are also different.

The author considers that as the Quadrangle pattern develops, its pattern and structure should not simply be restricted to the traditional Quadrangle form. The new pattern of Quadrangle, through improvement and innovation as per people's demands, is of great significance of existence, which represents the development of family architecture. Development and growth don't mean sticking to the convention, and bold innovation on the original basis is the most reasonable development mode. The number of traditional Quadrangles has been gradually reduced, and the distribution of traditional building complex has become increasingly rare. As the most representative building complex, it should be well protected and repaired, which requires government departments to attach importance to ancient buildings with Quadrangle as the main focus, thereby guaranteeing the quality of the existing

Quadrangle, and providing a medium for the inheritance of the city's own cultural value and connotation^[9].

Nowadays, the cost of the Quadrangle is relatively high, so many ordinary people can't afford the rent, which partly explains why the courtyard culture is gradually disappearing. In this context, many migrant workers imitated the Quadrangle in their hometown to construct and build a courtyard-style residential structure that meets their own needs. This has somewhat contributed to the development of the Quadrangle culture, and realized the cultural inheritance. The author also argues that this approach can advance the development of the city. It can construct the related types of buildings in the suburbs to meet people's work and living needs, alleviate the adverse effects of excessive housing pressure, and promote the stable development of the city. Nevertheless, the formal design of the Quadrangle needs to be adjusted appropriately. The traditional Quadrangle design is a semi-open residence, which is convenient for neighbors to walk around, while the modern Quadrangle should lay emphasis on its closedness, so that the safety of oneself and family members can be ensured and the life quality can be enhanced without affecting communication.

5. CONCLUSION

In conclusion, as the most representative building, the Quadrangle's practicability, economy, aesthetics, culture and other functions shall be considered by the architect in the future development. Rationally planning the structure and style of the courtyard to meet the needs of modern people's living requirements, promote the spread and development of Quadrangle culture, and advance the innovation and optimization of China's construction industry.

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