

The Application of Hakka Enclosed House Elements in Rural Public Space-Taking Gankeng Town as an Example

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Abstract: This paper mainly focuses on the application of the representative elements unique to the Hakka Round House in the rural public space-Gankeng Town. In view of the background of the Hakka Enclosed House in the present era, this paper first puts forward the research methods and design concepts, analyzes and defines the relationship between the Hakka Enclosed House and the rural public space, and explores the common points. At the same time, it discusses and analyzes the influence of the geographical environment, construction raw materials and Hakka folk culture on the Hakka enclosure, and discusses the beauty of the tone, shape, image and decorative elements of the Hakka enclosure, and makes a concrete description of the application of these elements in the rural public space of Gankeng Town.

1. Introduction

As one of the representatives of Lingnan architecture, Hakka Enclosed House is also a unique expression of Chinese traditional dwellings [1]. The Hakka people originated from the southward migration of the population during the war in the Central Plains in ancient China. At the same time, they continued to integrate with the local people in the process of southward migration. The Hakka enclosure is the product of the interaction between the architecture of the Central Plains and the architectural culture of Lingnan [2]. Its unique form has also become a great treasure of traditional Chinese architecture. However, with the development of the times, new building materials and architectural forms are constantly emerging. Modern residential buildings will also replace the traditional enclosure buildings in the daily life of Hakka people. Perhaps in the future, they may also be buried in the museum of the long river of time. Therefore, the Hakka round house has to reconsider its future development direction. In the design of rural public space, this paper puts forward the transformation concept of combining the modern design concept of rural public space with the traditional architectural elements. Therefore, this topic combines the design idea of Gankeng rural town public space design with Hakka enclosure building [3].

2. Hakka Enclosed House and Rural Public Space Design Theory

(1) Analysis of Hakka Enclosed House and Its Characteristics

Enclosed house, as the name implies, is the enclosed house. If you want to give a concise

definition of the enclosure, then the most appropriate should be: set the temple, home, and fort one, with distinct defensive characteristics of the closed Hakka houses [4]. The architectural elements of Hakka Enclosed House refer to the elements that constitute the various components of the building in the form of Hakka Enclosed House, such as architectural form, color, roof, material, wall and other elements. The Hakka Enclosed Houses originated in the Central Plains of ancient China, and the distribution of Hakka Enclosed Houses in modern times roughly covers the three provinces of Fujian, Jiangxi and Guangdong. The following are several main features of Hakka Enclosed House.

The first is the architectural form characteristics. Square Enclosed house, square Enclosed house is mainly distributed in the border area of Jiangxi and Guangdong, among which the square Enclosed house in the southern part of Ganzhou is a typical representative [5]. The square Enclosed house can be divided into "kou" shape and "guo" shape from the horizontal section. Semi-circular enclosures, semi-circular enclosures, also known as horseshoe-shaped enclosures, semi-circular enclosures are mainly distributed in northern Guangdong, and represented by the enclosures in Meizhou City (often known as Jiaying Prefecture). The enclosures include two parts. The front part is like a square enclosure, and its layout is also similar to a square enclosure, such as two halls and two horizontal, three halls and four horizontal forms. Circular enclosure, circular enclosure is represented by Fujian Minxi Tulou. Circular enclosure is also a well-known Hakka classic building type among the three enclosure types, and it is also the most robust in Hakka buildings, because the cylindrical structure makes it well distribute the bearing capacity of the building [6].

The second is the cultural characteristics of the ancestral hall. The cultural characteristics of the ancestral hall are an integral part of the Hakka enclosure building system [7]. Influenced by the traditional patriarchal concept, the ancestral hall has a lofty position in the hearts of the Hakka people since ancient times, because the Hakka people are a group that is far away from their hometown and lives in different places. When migrating and leaving their hometown, in order not to forget the location of the root, they took the ancestral hall from the Central Plains together. In the wooden construction of the ancestral hall, beams will also be carved.

(2) Characteristics of rural public space

The concept of rural public space is developed from the field of public space in the West. In combination with the concept of local rural forms in China, rural society is a social form that has been in production for a long time. Rural public space is formed in the production and life of rural society [8]. At the same time, the village is a cultural accumulation formed by factors such as geography, environment, and human communication and life in a specific space. It has distinct regional characteristics in many aspects such as humanities, history, productive labor, and ideology. Rural public space has its own behavior structure and habits. From the analysis of its characteristics, it can be summarized into two levels: one is the place where residents gather with their production and life and form a place where they can freely join and share ideas; the other is that there are rules in this area that everyone will follow without agreement. The rural public space in this topic is a place that can meet the residents' activities and carry out various activities. It reflects the residents' life concept and attitude. It is one of the carriers of the material life form of rural residents. In China, there are a large number of villages and towns. There are also various forms of activities in public space, such as village gates, alleys, vegetable markets, shops and so on.

3. The Design Strategy of Hakka Enclosure Elements in Public Space

(1) Principle of design

① Principles of localized design

In the design of rural public space, through in-depth understanding of the characteristics of public space in the place, the transformation of rural public space to add Hakka architectural

elements related to patterns, spatial layout, color, modeling elements [9].

At the same time, more in-depth exploration of Hakka culture, from the perspective of rural public space design. According to the characteristics of Hakka local folk culture, the architectural culture of Hakka Round House is sorted out. On this basis, these elements are injected into the design of rural public space. In the process of planning and space design of rural public space design in Gankeng Hakka Town as a township, the regional vitality that rural public space should show is fully demonstrated, and the vigorous development of rural public space design and transformation is further promoted.

②Rules based on humanity

This design scheme is a case of applying Hakka round house architectural elements in rural public space, and the main point of design is to provide a public space with Hakka cultural heritage for Gankeng Hakka Town [10]. Therefore, for the public space of Gankeng Town, it is not just a specific place to provide leisure and gathering, but on the basis of full investigation of the shortcomings and shortcomings of the public space of Gankeng Town. Starting from the overall spatial environment pattern, the rural public space with diverse functions is designed, so that Hakka culture can be more recognized in practical application, so as to better inherit and protect Hakka traditional culture.

(2)Design approach

①Symbolic use of architectural elements

The round roof of the traditional Hakka Enclosed Building provides a different feeling for the communication between man and nature [11]. The square and circular roofs of the Enclosed Building enclose the space and leave the open space in the middle, which not only provides people with a certain sense of security, but also provides the communication between man and the natural environment. It is also visually stretched, which endows the Hakka Enclosed Building with a certain spiritual and cultural connotation. The roof not only plays a role of enclosure, but also has a sense of atmosphere in appearance. In the appearance of modern architecture, such a design method is also used. For example, in the Hakka Museum in Meizhou, the shape of the Hakka Enclosed Building and the elements of the large roof are applied to it [12]. However, these elements are not directly quoted, borrowed from traditional elements, but based on the aesthetic of modern people to carry out a certain design, this way is also easy to get people 's acceptance.

②The use of color element expression

Hakka Enclosed building has a simple tone [13]. For example, the design of Meizhou Yannanfei Hakka Cultural Square, the yellow of rammed earth and the grayish white of tiles are the main colors, and the brown and red of logs are decorated and embellished. These colors are properly matched, highlighting their respective characteristics in mutual comparison. From the local to the whole, it is natural and harmonious, and the collocation is simple but not monotonous. The colors used by different classes in ancient society are strictly limited, especially the plain people. Only the simplest color matching can be used, which is why the main color of Hakka roundhouse buildings is yellow [14], gray and white. The main reason. At the same time, color is also a very critical design method, which can control the overall style of the building and integrate into the whole public space without being abrupt [15].

4. The Design Practice of Hakka Enclosure Elements in the Public Space of Gankeng Town

(1)Basic project overview

Based on the practice site selection of Gankeng Town, also known as ' Gankeng Ancient Village ' project, the location map (Figure 1) is drawn. It is a traditional Hakka village and town type with a history of 350 years. Its traditional residents are mainly Hakka people. Therefore, the

transformation of the public space of Gankeng Town will better inherit the charm of Hakka traditional architecture. In the analysis of the elements of Hakka classic enclosure architecture, the elements are extracted and reorganized to create a rural public space with Hakka characteristics.



Figure 1: Satellite map of location analysis of Gankeng town

(2)Project status and existing problems

The project is located in Gankeng Community, Jihua Street, Longgang District, Shenzhen City. The author has visited this area on the spot, so he has a more in-depth understanding of the environment and infrastructure around Gankeng Town. This place is located in the traffic artery, the north is Shenhai Expressway, the Qingping Expressway, the east is Gankeng New Village, office buildings, the south is the industrial city, which belongs to the urban center area.

The main problems of the site are the lack of integrity and the weak connection with the surrounding areas. Insufficient reflection of the regional cultural characteristics of the city; the design principle of 'people-oriented' is lost.

(3)Gankeng town public space design

①Roadway space transformation

The roadway formed in the barrier of ancient buildings, the road presents a linear form in the whole, and becomes an important part of the public space of Gankeng Town. However, the traditional elements on both sides of the road space are insufficiently injected, the atmosphere of the ancient town is lacking, and the primary and secondary roads are damaged. The new road facilities in the later period are inconsistent with the traditional style and style, which has caused certain damage to the overall landscape of the village. Through the structure and reorganization of the unique decoration of the Hakka house, the public space of the roadway is redesigned.

In the layout of the roadway, the structural form of the Hakka ancestral hall door table is borrowed to divide the road space of the roadway into three areas, stretching the extension of the roadway. On the ground pavement, the traditional auspicious patterns in Hakka window carving are used. After extraction and structural reorganization, new patterns are created and applied to the ground pavement. The lighting device of the roadway also adopts the beam structure of the Hakka enclosure, and the brick and stone patterns on the wall together constitute the lighting device

(Figure 2).

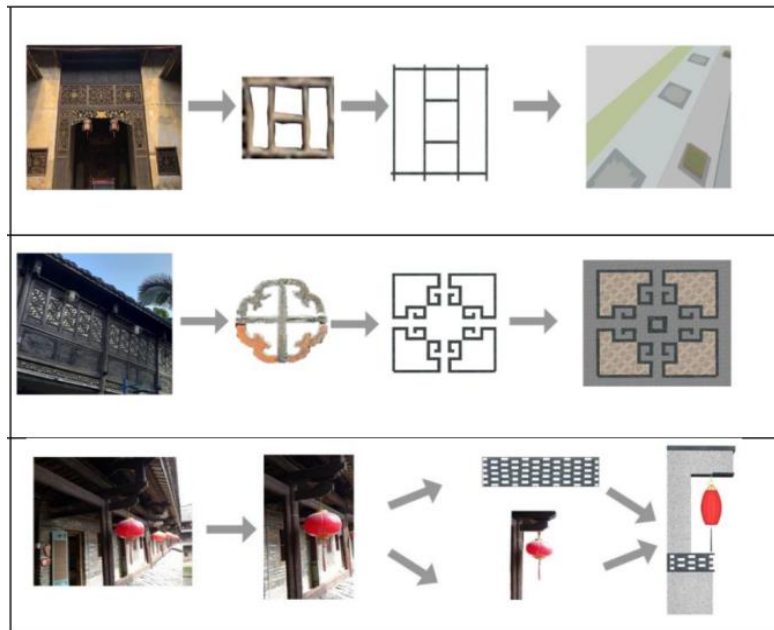


Figure 2: Analysis of roadway design elements

The roadway between the ancient buildings is an important space for people to deeply understand the historical and cultural context of the ancient buildings. Therefore, the space is mainly based on the experience space. The floor tiles and surrounding facilities of the roadway are updated, and the decorative elements of the Hakka enclosure buildings are used in the roadway to embellish, and the artistic quality of the space is improved with simple colors (Figure 3 and Figure 4).



Figure 3: Roadway effect diagram



Figure 4: Roadway effect diagram

②Renovation of square space

The square space in Gankeng Town (Figure 5) is currently mainly used for gatherings and activities, but the space boundary is not clear enough, the space lacks a sense of enclosure, and people lack dependence in the space. Because of the lack of rest space, people have great mobility. At the same time, the lack of uniformity in the use of building materials around the square results in a visual clutter in the square. The modernization of some facilities in the square lacks the characteristics of a village with 350 years of cultural history (Figure 6).



Figure 5: Square location



Figure 6: Present situation of square space

The pure square and circle combination, the gently extended roof, and the open up space together constitute the deepest artistic conception beauty of the Hakka enclosure building. Through the combination, deconstruction and deformation of the elements (Figure 7), the artistic conception of the Hakka enclosure is integrated into the design of the square corridor. Finally, the basic structure of the corridor will be designed, and then combined with the scope of the site space, the designed corridor will be placed in the entire square space (Figure 8).



Figure 7: Square corridor design

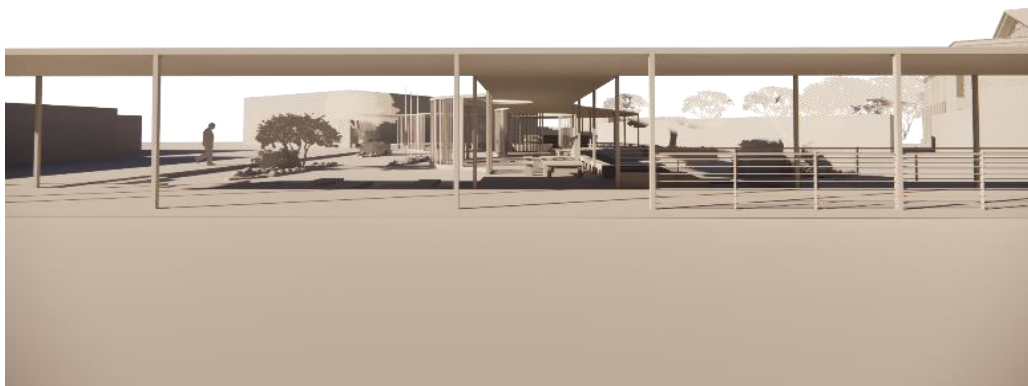


Figure 8: Corridor space

As the main gathering place for local residents, the space of square adds corridor space to provide people with space for rest and entertainment. At the same time, the curved and turning structure of the corridor also surrounds the open landscape space, and meets the actual functional

requirements. It will not be abrupt with the surrounding environment, but also bring people the beauty of the artistic conception of the Hakka house building (Figure 9 and Figure 10).



Figure 9: Square space renderings



Figure 10: Square space renderings

③Renovation of pond space

There are few rivers and lakes in Gankeng ancient town, and the living water pond (Figure 11) located in the main road of the village has formed a rare waterscape in Gankeng ancient town. The living water pond assumed the daily water intake of the village and town 20 years ago. With the opening of the tap water pipeline, the living water pond has also been abandoned from the initial daily water intake without management. However, due to the lack of daily maintenance, there are many weeds in the pond, less ornamental vegetation, and the water quality has become slightly turbid due to the accumulation of silt, which brings inconvenience to the life of local residents (Figure 12).



Figure 11: Spatial location of ponds



Figure 12: Current situation of the pond

The living water pond is the only waterscape in Gankeng Town. The silt of the pond is cleaned up, the ornamental aquatic vegetation is added, the edge of the pond is strengthened, and the layout of the pond is introduced. The Hakka enclosure modeling elements enhance the practicality and ornamentality of the pond space (Figure 13 and Figure 14).

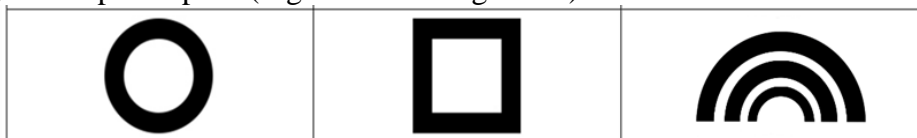


Figure 13: Extraction of modeling elements of Hakka round house

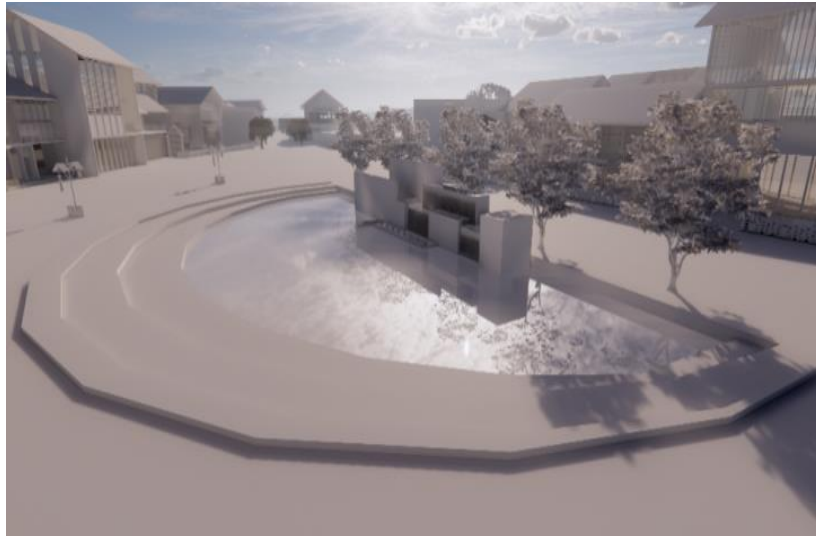


Figure 14: Application of Hakka Enclosed House Modeling Elements

An annular sunken viewing platform is established on one side of the pond. The annular viewing platform allows people to have a broad sense of visual extension, and also improves the overall space utilization of the pond. At the same time, a waterscape wall is set in front of the viewing platform, giving people on the viewing platform a visual focus (Figure 15 and Figure 16).

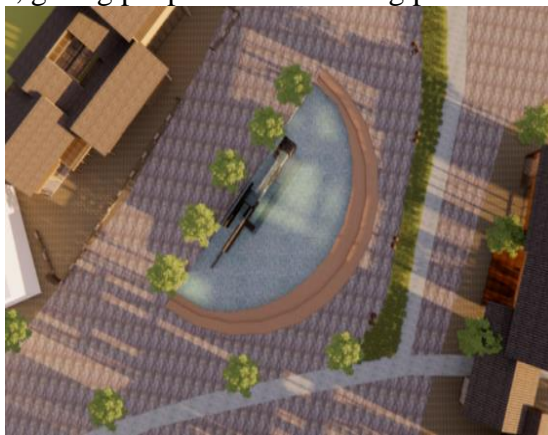


Figure 15: Plan of pond reconstruction



Figure 16: Pond effect diagram

④ Ladder space transformation

A ladder space is located at the entrance of Gankeng Town. The ladder space is about 20 meters long. The functions and facilities are relatively lacking, and the color matching is extremely single. The whole ladder space only leaves the cement gray color. The main problems under the current spatial status are: only the function of ordinary stairs, lack of spatial characteristics, more weeds and shrubs, often neglected, and lack of spatial functionality. The main colors of Hakka Enclosed Buildings are the earthy yellow of rammed earth, the gray of tiles, the white of wall painting, and the wood color. At the same time, these materials are obtained in nature, so they often give people a sense of closeness to nature and calmness (Figure 17).

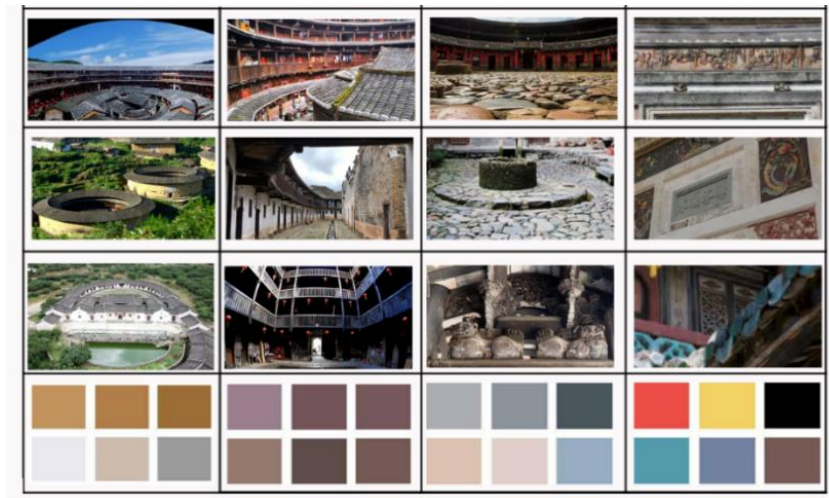


Figure 17: The color analysis of Hakka Enclosed Buildings

The ladder space is still yellow, gray and white as the main tone in color matching. Some areas choose red as the embellishment color to activate the space atmosphere. The ladder uses white floor tiles. The open area in the middle of the ladder is mainly light blue floor tiles. The surrounding building walls are backgrounded by log color, and with black and white sculptures, the spatial texture of the ladder is increased (Figure 18 and Figure 19).



Figure 18: Ladder space effect diagram



Figure 19: Ladder space effect diagram

Complimentary close

Hakka Round House style architecture adheres to the principle of long-term development and always keeps pace with the times. Seekers can adapt to their own design schemes, constantly adapt and develop in the trend of urbanization, and conform to the trend of the times. At the same time, the attributes of rural public space design are also advancing with the times, and the simple formula model is no longer the mainstream. As latecomers, we need to focus on development, change the solidified thinking mode, and apply the design principles and spiritual connotation of Hakka traditional enclosure buildings to the design practice of contemporary rural public space, and strive to achieve the integration of modern and traditional.

From the overall spatial layout of rural public space to the specific functional settings, this paper constitutes a relatively complete and comprehensive public space design concept, and tends to be standardized, green and diversified. It emphasizes the inheritance and innovation of the architectural elements of the Hakka enclosure architectural style, and requires that the original flavor of the building itself cannot be lost. When applying traditional architectural elements to the design of rural public space, it is necessary to determine its ideological content, and on this basis, better innovate and constantly innovate. From the perspective of the overall development trend, create a rural

public space design with local characteristics.

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