



Research on the Architectural Form of Detached House in Fuzhou Overseas Chinese New Village, China

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Abstract. Fuzhou Overseas Chinese New Village was built as a detached house area, through analysis of the residential area of detached houses and the living habits of returned overseas Chinese as the basic starting point, and studies of the architectural form of a detached house of returned overseas Chinese in Fuzhou, China through planning layout, architectural combination, plane layout, appearance characteristics and detailed decoration.

Keywords: Architectural Form, Detached House, Overseas Chinese New Village

1 Introduction

During the 1950s and 1960s, many overseas Chinese who settled in Southeast Asia returned to China to start businesses, stimulating China's social and economic development^[1]. Among the returned overseas Chinese groups, Fujian and Guangdong provinces are the most popular. To meet the living needs of overseas Chinese relatives after returning to China and provide a better living environment for overseas Chinese, local governments have gradually started to allocate land and build independent residential areas for returned overseas Chinese, also known as the Overseas Chinese New Village project.

2 Residential District Planning

The overall planning and design of Fuzhou Overseas Chinese New Village adopts the group planning method, and the relationship between the groups is relatively clear and reasonable. Based on the climate characteristics of the Fuzhou, the orientation of each building in the group fully considers the factors that fit the urban texture, respect the original landform features, and make full use of landscape resources. The residential area is composed of 72 buildings. At the same time, the building with its exquisite functional plane, distinctive architectural shape, and variety of detail decoration also provides a good and unique architectural form.

3 Building Combination Mode

The architectural layout of Fuzhou Overseas Chinese New Village, there are mainly three combinations: back-to-back, face-to-face, and unilateral (Figure 1). Back-to-back type means that the backs of the two buildings are close to each other, the front faces the road, and the entrances of the buildings are opposite. This combination ensures the privacy of buildings and courtyards to a great extent. Face-to-face type means that the road passes through the middle of two plots, the buildings are distributed on both sides of the road, and the entrances are opposite to each other. This combination provides maximum accessibility to buildings in belt bases. Unilateral type, which is the layout of one side of the building, one side is the road. It can provide a relatively independent traffic space, and at the same time, it can ensure that the main entrance of each building courtyard can be entered from the south side. These three kinds of building combinations form a combination of the overall building group according to the current land-form of the base and the planning of the road.

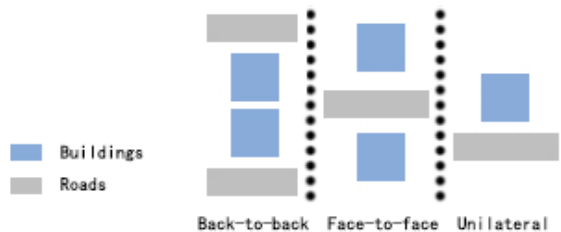


Fig. 1. Building combination mode

4 Architectural Form

As for the architectural form of the single building in Fuzhou Overseas Chinese New Village, the architects at that time fully considered the specific living habits and characteristics of returned overseas Chinese and designed building types with different areas and configurations. At the same time, the architectural appearance and detailed decoration are also exquisite. While adopting modern design techniques as a whole, it also introduces the unique Southeast Asian characteristics of overseas Chinese.

4.1 Building Layout

4.1.1 Types of Building.

At the beginning of the design, Fuzhou Overseas Chinese New Village provided a total of 14 standard types (Table 1), including single-family villas, double villas, and collective houses. The area of these 14 types ranged from 104-467.6[2], which provided more choices for overseas Chinese with different needs at that time.

Due to the limitation of specific land use conditions, and the difference between overseas Chinese personal preferences and living needs, the selected apartment types

have been adjusted and changed more or less according to the needs on the basis of basically extending the standard layout form.

Table 1. 14 standard types

NO.	Building Area (m ²)	Cost at that time (RMB)	NO.	Building Area (m ²)	Cost at that time (RMB)
1	467.6	51400	8	203.4	19700
2	381	41900	9	196.4	19000
3	320	35200	10	172	16700
4	298	31300	11	146.5	14200
5	281.4	29500	12	137	13300
6	248.2	26100	13	116	10200
7	220.3	21400	14	104	9100

4.1.2 Dynamic and Static Relationships.

Take the NO. 6 building as an example. The main functional rooms are the living room, guest room, kitchen, dining room, study room, bedrooms, workmate room, bathroom, and storage room. These rooms are divided into two categories according to the specific characteristics of residential buildings, public rooms and private rooms. In the specific plane design, the public room is arranged on the first floor of the building, and the private room is placed on the second floor. On the first floor, the relatively noisy living room and dining room are arranged on the east side, and the south side, where the guest room is arranged separately, is isolated from other functional rooms by walking and stairs, which not only ensures good lighting for the guest room but also provides it with a relatively independent and quiet space.

4.1.3 Primary and Secondary Functions.

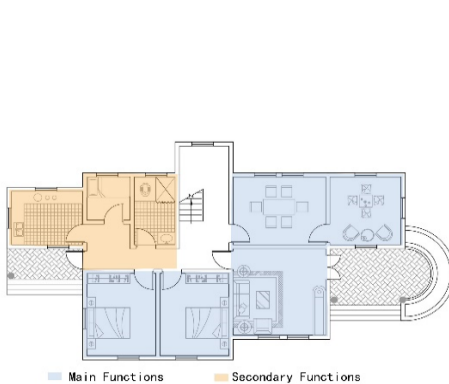


Fig. 2. 1st Floor of NO.2 Building

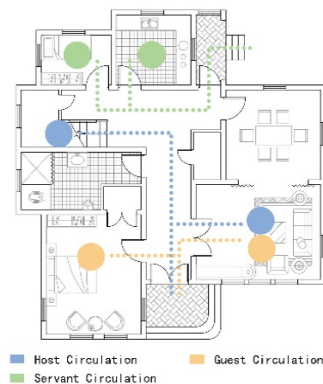


Fig. 3. 1st Floor of NO.5 Building

Take the NO. 2 building as an example (Figure 2). To classify room functions, the living room, study room, bedrooms, sunroom, and dining room can be classified as the primary rooms, while the workmate's room, kitchen, bathroom, and storage room can be regarded as secondary rooms. In the design, the main rooms are arranged in the most favorable southeast position on the first and second floors of the building and face the entrance garden. However, the secondary room is designed on the northwest side of the building, and its location is relatively hidden. The distinctive feature of the NO. 2 is its sunroom, which is connected to the dining room. There are windows in the north, south, and east, and there is abundant sunshine. It satisfies the living habits of many overseas Chinese who have lived for a long time and are influenced by Southeast Asian culture.

4.1.4 Architectural Circulation.

Take the NO. 5 building as an example (Figure 3). The main entrance is located on the south side of the building. There are three architectural circulations. Host circulations, guest circulations, and servant circulations. The main circulations of the host are to enter from the main entrance, turn left through the hall, and reach the second floor. The circulations of guests are guaranteed to move on the south side of the first floor, and will not cross into the host's activity area. The circulations of the servant are to enter the courtyard and then enter along the secondary entrance in the northeast corner of the building so that the servant can arrive quickly. Each function is effectively partitioned according to its users, ensuring that the three circulations' processing is reasonable and orderly, and avoids mutual intersection and interference.

4.2 Architectural Characteristics

4.2.1 Building Facade.

4.2.1.1 Architectural Image.

In the exterior design of the building in Overseas Chinese New Village, the designers at that time made full use of the formal beauty principles of proportion and scale, stability and balance, contrast and coordination in Western modern architectural aesthetics[3], and at the same time improved the style tradition of southeast Asian, providing overseas Chinese and their relatives with a living environment that can generate psychological identity.

4.2.1.2 Elevation Composition.

The buildings in Fuzhou Overseas Chinese New Village adopt a typical three-stage composition on the façade, generally, the upper part is a sloping roof paved with cement tiles. The exterior wall of the middle building is made of bricks or brushed with cement. The lower part uses clear water strips and stones. A larger balcony is set on the south side of the building, and a spacious porch is set at the entrance of the first floor. The window has shaped window covers that are all covered outside the window frame. There are prominent white border trim on the understory and transverse sills periphery.

4.2.1.3 Building Materials and Colors.

The facade materials of buildings in Fuzhou Overseas Chinese New Village are mostly cement brushed walls. The cement brushed walls have a rough texture effect and are mostly colored cement, including light yellow, light green, light blue, etc. Some buildings are made of red bricks or blue bricks.

4.2.2 Design of Balcony.

Most of the buildings in Overseas Chinese New Village have balconies designed in the south direction of the building. Functionally speaking, the balcony not only meets the needs of daily washing and drying but also provides a semi-outdoor place for leisure and entertainment. In terms of shape, the shape of the balcony provides rich blocks and light and shadow changes for the building, and at the same time, the curved balcony outline also makes the overall architectural shape continue the Southeast Asian characteristics (Figure 4).

4.2.2.1 Balcony Form.

The balcony of the building is relatively spacious, usually done in the upper part of the south porch, the plane shape is rectangular or L-type corner balcony, and the corner part is made into an arc or semicircular with Southeast Asian characteristics. In the form of structure, the floor and beam are mainly picked out or supported by two ways of columns. The former applies to the balcony with a smaller depth, the latter applies to the balcony with a larger space scale.

4.2.2.2 Railing Board.

In the building, although the basic plane shape is similar, the balcony railing board style is almost impossible to find the same two kinds. For example, the balcony railing of the No.25 building uses the hollow pattern of diamond woven in the upper part, and the lower part is partial concrete filling as its style; the No.02 building adopts the form of the railing and the upper part of the handrail.



Fig. 4. The design of balcony

4.2.3 Window Style.

4.2.3.1 Ordinary Window.

On the design of the window, the overall style is more consistent, basically using the double open wooden frame glass window with bright son, the south open larger room

also uses 3-4 double windows, to strive for the largest daylighting area. The total width of the double window that can be opened is generally about 1m, the height is about 1.3m, the top bright son mainly uses flat open or open two forms, the height is generally about 0.5m.

4.2.3.2 Corner Window.

Corner window is a common way in Overseas Chinese New Village buildings, corner windows are generally set in the south corner of main rooms. Generally, the practice is to build a windowsill, outer frame, and lintel with strips of stone at the corner of the building where windows need to be opened, and build masonry with the same height as the window as the corner wall and window wall at the corner junction. The design of the corner window draws on the characteristics of modern architecture, which makes the details of the facade of the building more vivid, and also breaks the original stiff handover relationship between the two facades of the corner and enhances the sense of continuity.

4.2.3.3 Other Styles.

The building has other unique styles of windows according to its use needs. For example, The No.6 building, has a rectangular high window located in the storage room; The No.24 building is located in a round high window in the porch section; Double opening window of a square sash in the stairwell location of The No.65 building; And the L-shaped window of The No.52 building located in the stairwell, etc.

4.3 Detailed Decoration

The detailed decoration of Overseas Chinese New Village buildings follows the principle of similarities while reserving differences. On the basis of maintaining the overall harmony, it also pays attention to the detailed changes of the single building itself to show its artistic value.

4.3.1 Ceiling.

If the first layer is mostly painted with white ash, and if the second layer is a sloping roof, the beam frame will be covered with three ash boards and then the white ash will be painted. Living room, living room, bedroom, and other main rooms and walkways, etc., make a circle of simple plaster moldings around the room where the wall and floor meet.

4.3.2 Wall Surface.

Generally, white ash painting is also used. The main rooms and main walkways are made with 0.15m high stone baseboards at the roots of the walls, while the servant rooms and storage rooms are made with cement baseboards. The kitchens and bathrooms are mainly pasted with white tiles about 1.5m high for moisture-proof treatment.

4.3.3 Floor.

The floors of the main rooms and main walkways are mostly paved with colored terrazzo. For stairs or guiding spaces, gray terrazzo edges about 0.15m wide will be made along the wall roots on both sides of the wall. The ways of laying floor tiles are also more diverse and exquisite. Some villas use colored tiles as floor materials, and the patterns are more complex, mostly geometric figures or flowers and plants.

5 Conclusion

The detailed analysis of the detached houses in Fuzhou Overseas Chinese New Village summarizes its architectural forms. It was a combination of Chinese traditional architectural styles under the influence of Southeast Asian culture. This stage of cultural collision has brought new building materials, building structures, building technologies, etc., as well as rich and colorful architectural forms[4]. The existing buildings are the direct carriers of these architectural forms, which can reflect people's aesthetic concepts, social culture, and characteristics of the times during the construction period, and have high research value[5]. At the same time, it also hopes to provide a more theoretical basis for the protection of historical buildings in Fuzhou Overseas Chinese New Village.

Acknowledgments

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References

1. Tong Ying, Wang Xiao. (2024) Becoming an "Internet celebrity": Dietetic economy and the construction of returned overseas Chinese Cultural Community: a case study of Huasu community in Fuzhou. *Journal of Overseas Chinese History Studies*, 2024, (01): 52-60.
2. Compiled by the Fuzhou Overseas Chinese New Village Construction Committee. (1957) *Fuzhou Overseas Chinese New Village Design Atlas*, Fuzhou, China.
3. Ageeva E Y , Oskirko A A , Abrosimova Y V .Application of the Experience of the "Exemplary Facades" of the XIX Century in Order to Harmonize Modern Cottage Buildings[J]. 2022. DOI:10.1007/978-3-030-94770-5_1.
4. Jintong C .Repairs and cultural research for overseas Chinese's residence in the east of Guangdong province. *Shanxi Architecture*, 2015.
5. Niu Y , Meng S , Zhang N ."Form"and"Ideographic"Construct the Era of Architectural Features.*World Architecture*, 2020, 4(5):6.DOI:10.26689/jwa.v4i5.1551.

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