

# THE LAYOUT AND FACADES DECORATION OF HUIZHOU TRADITIONAL HOUSES UNDER THE INFLUENCE OF NEO-CONFUCIANISM IN THE 19TH CENTURY

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## ABSTRACT

*This paper investigates the relationship between Zhu Xi's neo-Confucianism and the layout and building facade decoration of three 19th-century buildings in Huizhou. The aim is to understand the philosophical thought of Neo-Confucianism embodied in Huizhou architectural design. The objective of this study was to provide designers with a new perspective on Huizhou vernacular architecture. Zhu Xi's Neo-Confucianism was the official philosophy of the Yuan, Ming, and Qing dynasties in China. Hongcun Village in Huizhou is Zhu Xi's hometown and a world cultural heritage site. Neo-Confucianism profoundly influenced Huizhou's architectural design. Space syntax was used to analyze the architectural plan. Field investigation, photography, drawing, and literature review were used to analyze the decoration of three Hongcun buildings facades and the design philosophy of Huizhou architecture. The study found that the layout of Huizhou buildings attaches importance to the privacy and tranquillity of the elderly, reflecting filial piety. The decoration of the building facades expressed the three aspects of Neo-Confucianism (filial piety, benevolence and etiquette) through a large number of carved patterns and painted patterns. Neo-Confucianism has influenced the ideology of the Huizhou people. These ideologies are also reflected in the architectural design of Huizhou, and these design methods also influence the lifestyle of the next generation.*

**Keywords:** Huizhou architecture, Confucianism, Architectural decoration, Space syntax



## **INTRODUCTION**

In the past two thousand years, the architecture of Huizhou in China has formed a famous and unique architectural style (Sun & Guan, 2012). The unique and completed of traditional ancient houses, Hongcun Village in Huizhou has made it possible to be included in the Cultural Heritage of the World directory on November 30, 2000 (Zhang & Liu, 2013). The Huizhou style architecture fully embodies the distinctive local characteristics which include in the planning of villages and towns, the treatment of planes and space, and the comprehensive application of architectural carving art (Tao, 2021). Huizhou is the hometown of the Confucian master Zhu Xi. The popularity of Neo-Confucianism makes the residential buildings here as one of the most regional architectural types (Pei, 2017).

Yu Yaqing (2002), director of the Archives Bureau of Huizhou Region, pointed out that Zhu Xi's Neo-Confucianism has strongly influenced Huizhou people's life and architectural design since the Southern Song Dynasty. Zhu Xi's Neo-Confucianism was the official philosophy of China from 1271 to 1912. In the Ming and Qing Dynasties, the Neo-Confucianism fever was formed in Huizhou, and the people had a strong belief in Zhu Xi and worshipped Neo-Confucianism (R. et al., 2022). Since the Ming Dynasty, Hui merchants have put emphasis on the importance of Huizhou's infrastructure construction, and Confucianism's education has reached an unprecedented peak (Peng, 2022). Huizhou merchants applied neo-Confucianism to the residential layout, structure, interior decoration, hall layout, so that the residential buildings of Huizhou have practicability and rich cultural connotation (Xing & Wang, 2010).

Neo-Confucianism highlighted patriarchal ethics and formed an ideological system with "filial piety" as the root, "benevolence" as the core, and "rites" as the form of expression, which influenced political ethics and secular ethics (Tucker & John, 1998). This paper selected three Huizhou inhabitant residential buildings in Hongcun Village, a world cultural heritage, and analyzed the two indicators of their layout and façade decoration strategy. The layout of the building was quantitatively analyzed using Depthmap software. The decoration strategy was photographed and measured on-site for qualitative analysis. Then, the relationship between these two indicators and the filial piety, benevolence and etiquette philosophy

of neo-Confucianism was analyzed

## **LITERATURE REVIEW**

### **Space Syntax**

Space syntax is the theory of space and is an analytical, quantitative, and descriptive tool for analyzing different forms of spatial composition in buildings, cities, interior Spaces, or landscapes (Hillier & Julienne, 1989) (Hillier, 2007). Spatial syntax concerns the relationship between humans and the space in which they live. Its idea is that society has unique features in a spatial system, and their knowledge is conveyed through space itself and the organization of spaces (Dursun & Gulsun, 2003). Space Syntax refers to this relational characteristic of space as a configuration and proposes that these characteristics form human behavior and contains social knowledge.

Space syntax research aims to develop description strategies for configuring inhabited spaces so that the underlying social meaning can be enunciated. This, in turn, can allow for secondary theories or often practical explanations regarding spatial configuration's effects on various social or cultural variables. A related theme in space syntax research is understanding configured space itself, particularly its formative process and social meaning (Bafna, 2003). Over time, empirical testing of the space syntax method has confirmed the capacity and innovativeness of analyzing spatial relationships to understand and explain the socio-spatial organization of built environments (Yamu et al., 2021).

### **Zhu Xi's neo-Confucianism Influenced the Social Life of the Huizhou People**

Zhu Xi had the highest status in Confucianism studies after Confucius, and Zhu Xi had made incomparable contributions to disseminating Confucianism (Wei, 2018). Zhu Xi's Neo-Confucianism in the Southern Song Dynasty (960-1279) began to have an impact to the society and architecture of his hometown of Huizhou (Z. Chen & Feng, 2019). In the Ming and Qing dynasties, the Huizhou area was very important to neo-Confucianism education. The Huizhou merchants, also known as

Confucian merchants, admired the neo-Confucianism and Zhu Xi. They made outstanding commercial achievements (R. Wang & Wang, 2022). Therefore, the influence of Zhu Xi's neo-Confucianism on Huizhou is more profound than in other areas of China (Y. Wang, 2002).

Under the influence of Neo-Confucianism, Huizhou's academic culture, with its unique characteristics, has given birth to its unique forms of literature, painting, calligraphy, and opera (Zang, 2005). Zhu Xi often gave lectures in his hometown.

Huizhou literati admired Zhu Xi and were proud of him. The fundamental purpose of their study of Zhu Xi's Neo-Confucianism is to carry it into all aspects of social life and make it the standard of life here. In addition, Huizhou recognized the compilation of local records to ensure the dominant position of Zhu Xi Neo-Confucianism, and the construction of local culture (Zhai, 2012).

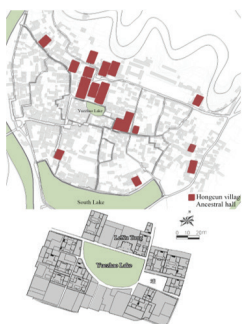
At the end of the Ming Dynasty, Huizhou merchants gained great wealth, they invested heavily in infrastructure construction and education in their hometown, and the educational environment peaked (J. Chen & Huang, 2019). The development of Zhu Xi Neo-Confucianism in the Huizhou area has very regional characteristics and gradually formed an important school with Huizhou characteristics - Xin An Neo-Confucianism (G. et al., 2009) through the massive investment in education, Zhu Xi Neo-Confucianism has influenced the Huizhou area's social customs, family rules, and life etiquette and has significantly impacted the construction of all aspects of Huizhou society.

For example, social customs and etiquette. Huizhou villagers build ancestral halls in important village locations to worship their ancestors, and essential events in the village will also be held and negotiated in the ancestral halls (Fang, 2017). Huizhou's people's lifestyle, education, and social customs are inevitably reflected in its architectural design (Wang Jun, 2018). Joseph Needham (1900-1995) believed that Zhu Xi's philosophy was similar to Whitehead's (1861-1947) in that they were both organic philosophies (Joseph & Francesca, 1984).

## **HUIZHOU ARCHITECTURE EMBODIES THE PHILOSOPHY OF NEO-CONFUCIANISM**

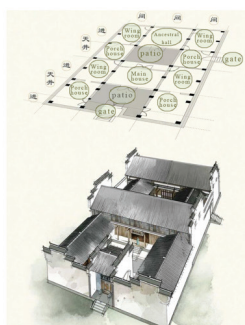
Zhu Xi's neo-Confucianism also affected the construction of Huizhou villages (Jin & Zhang, 2018), the spatial layout, decorative form, display art, and spiritual connotation of residential buildings in Huizhou also reflect the influence of Zhu Xi Neo-Confucianism (J. et al., 2019). For example, in the layout of the village space, ancestral temple building space, and residential building space layout, researchers believed that Family Rites, a book of rites, has an important influence on the formation of Huizhou village space. Huizhou merchants with high cultural quality infused their views on residential layout, structure, interior decoration, and hall layout into the architecture, which made Hui-style architecture practical and contained rich cultural connotations (Xing & Wang, 2010). It is of great value to explore the connection between Zhu Xi's philosophy of Neo-Confucianism and Huizhou architecture to protect the material cultural heritage and provide design materials and inspiration for contemporary designers (Hu, 2021).

Zhu Xi's Neo-Confucianism influenced the layout of Huizhou villages (Jiang, 2014). The family Rituals of Master Zhu summarized the essential content of the clan system, standardized the social etiquette and lifestyle of the clan, and strengthened the cohesion of the line. Respecting elders and ancestors is placed as an important position in the family life of the clan, so the ancestral hall must be in the village's core with the best accessibility. In addition, important events and meetings in the town are also held in the ancestral hall (Figure 2.1). Each residential building has a complete pattern, and the houses are connected in series to form a whole. Zhu Xi's "Family Rites" emphasizes the difference between the eldest son and the youngest son, by attaching the importance to the status and privilege of the eldest son, as the elders of the family, and has a clear patriarchal ritual hierarchy. This is also reflected in the layout of Huizhou residential houses. Under the influence of Neo-Confucianism, a basic axisymmetric architectural layout was formed consisting of a hall, a patio, two side rooms, and two corridors (Figure 2.2): Ancestor "Center" -- The hall is the most important place in Huizhou residential houses, used to worship ancestral tablets. Families receive guests and discuss family affairs here. It is the most solemn place in the home, and the direction of the hall determines the direction of the house.

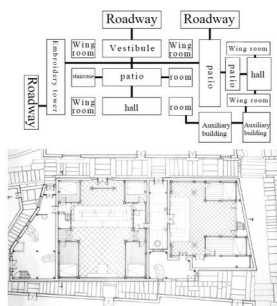


**Figure 2.1 Hongcun Village Ancestral Hall distribution map**

Source: Author



**Figure 2.2 Structure drawing of Huizhou folk house**



**Figure 2.3 Structure drawing of Folk house Da Fudi**

The wing rooms on either side of the hall were generally used as bedrooms, and living on the left side was seen as respectful, so older people lived on the left, and younger people lived on the right (Figure 2.3). The architectural layout of Huizhou can also reflect the etiquette and customs of the Huizhou people. Furthermore, the social etiquette and customs constructed by Zhu Xi are of guiding value to the harmonious coexistence of people in today's society (Li, 2018). The scientific significance and humanistic spirit embodied in it still have the reasonable value of inheritance and development in today's society (Yan, 2022).

In addition, Neo-Confucianism is also reflected in the decoration of Huizhou buildings, which is used to reflect the values of the host, educate the family, and promote harmony. Neo-Confucianism is also reflected in the decoration of Huizhou buildings, which is used to reflect the values of the host, to educate the family, and to promote harmony (F. Yang, 2012). Neo-Confucianism influenced literati and merchants here, who also applied these philosophical ideas when decorating their homes, with decorative patterns conveying the meaning of wealth, auspiciousness, loyalty, filial piety, and the homonym of auspicious characters (C. Wang, 2019). Additionally, the arrangement of patterns can affect people's emotions (Titus et al., 2024). Therefore, architectural space design should fully consider psychological needs essential for people's health (Hamzah et al., 2024).

## **METHODOLOGY**

Space syntax was used to analyze the layout of Huizhou residential buildings and the privacy and openness of space in different buildings by looking at the degree of overall and partial integration and also the degree of visibility. Through the investigation of the residential building site, photography, drawing, and literature review were adopted to analyze the facade decoration of the building. The aim is to analyze the relationship between these two indicators and the filial piety, benevolence and courtesy philosophy of Neo-Confucianism.

The three buildings were selected as research samples because Chengzhi Tang was the best-preserved residence of a wealthy merchant in Hongcun village. At the same time, the other two buildings were the best-preserved residence of an official. Besides, Huizhou merchants learned Neo-Confucianism from childhood and used the philosophy to guide their business work. In the Qing Dynasty, under the philosophy of Neo-Confucianism, one had to pass the imperial examination to become an official. Thus, these three buildings are well-represented as research samples.

## **CASE STUDY OF THE THREE RESIDENTIAL HOUSES IN HONGCHUN VILLAGE**

### **Huizhou Residential Chengzhi Tang**

Chengzhi Tang is one of the most representative and well-preserved residential houses in Hongcun Village (L. Yang, 2017). It is located in the northwest of Hongcun Village. Built-in 1885 during the late Qing Dynasty, it was the residence of the great salt merchant at that time. The layout of Chengzhi Tang reflects the respect for elders and care for the younger generation. Architectural decoration also reflects the values of neo-Confucianism, such as the importance of self-cultivation, etiquette, the care of nature, and the love for elders and children (Q. Chen, 2012).

### **The Layout of Chengzhi Tang**

The layout of Chengzhi Tang includes a bedroom, hall, side hall, inner court, outer court, hall, kitchen, smoking room, mahjong room, management

room, garden, study, and patio. Only the bedrooms are located on two levels, and the rest is only on one level. From the entrance of the building, people first enter the outer courtyard, which is a transitional space, and enter the inner courtyard from here. The outer courtyard ensures the privacy of the interior of the house. The inner courtyard, which is the largest, is a place for family activities and sports. There are two bedrooms on both side of the front and back halls; the butler's room is on the west side, away from the master's room, while to the east of the master room is the garden.

The adult master, who is in charge of the household usually lives in houses 1a and 2a. This is the area which the master enters the hall, to meet friends and guests, drink tea, and eat (Figure 4.1). The elders usually live in the two houses, 3a and 4a, and this area is relatively quiet and will not be disturbed as the elderly would rest. The area where the elders live is next to the kitchen because Huizhou people believe that the first bite of good food should be given to the elders, which reflects the filial piety of the younger generation. Teenagers live on the second floor (1b, 2b, 3b, 4b) because they can climb the stairs more flexibly and are not required to deal with housework. They only need to read books and study hard.

There is an entrance to the north and south of the building, and when friends visit, they usually enter the hall through the south door (which Figure?). The north door is only used for internal family members, such as shopping and going out, and it is the area where goods are placed and convenient to enter the kitchen. The overall distribution of traffic flow lines is nearly a symmetrical figure in the center axis (Figure 4.2). All the master rooms are located in the north, symmetrical according to the central axis. Between the two rooms are patios or public spaces, which are conducive for ventilation and communication between family members. The butler's room is on the west side, and is away from the master's room for privacy. The northern half of the building is mainly private and semi-private spaces, and the southern half is an open space area, such as courtyards and gardens.



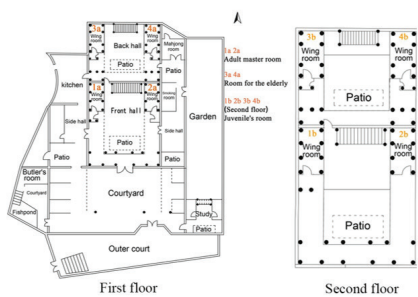
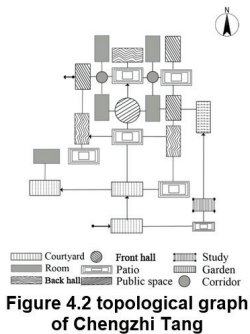


Figure 4.1 Building plan of Chengzhi Tang



Source: Author

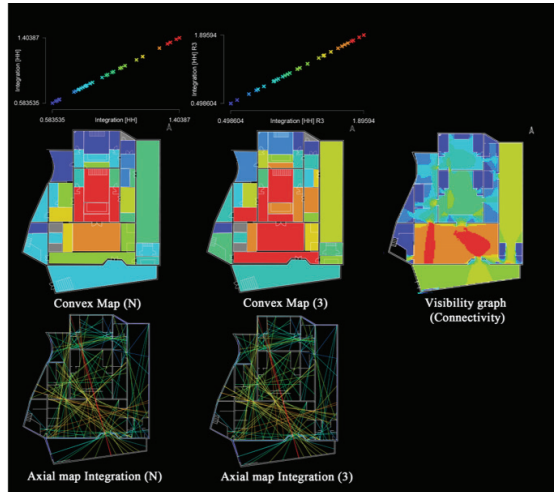


Figure 4.3. Analysis of Integration and Visibility of Chengzhi Tang

Source: Author

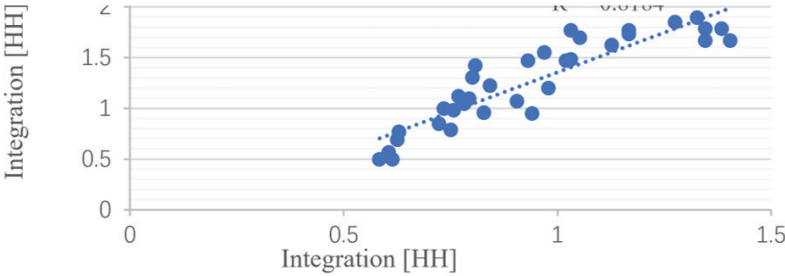


Figure 4.4. The spatial intergration degree of Chengzhi Tang

Source: Author

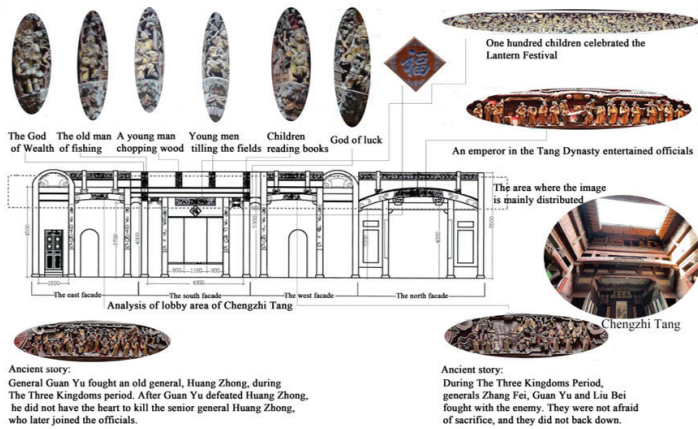
According to the spatial integration and visibility map of Chengzhi Tang drawn by Depthmap (Figure 4.3), it can be seen that the red area in the figure represents the high integration degree, and the blue area represents the low integration degree. The red areas indicate high openness, and the blue areas are more private and quiet. Refer to the line chart (Figure 4.4) for changes in the size of the numbers. In the visibility graph, the red area represents the area with high visibility and high openness, while the blue area represents the private area. In the figure, the courtyard is the area with the highest visibility, while the bedroom area is relatively private and quiet.

Older people's rooms are less accessible, quieter, and undisturbed. Bedrooms, smoking rooms, mahjong rooms, study rooms, and kitchens are all low in accessibility to ensure privacy. Study room and garden are placed together, so children can be happy when studying. The gates of the four areas of the elderly living area, the hall area, the inner courtyard, and the outer courtyard are linked into a main traffic flow line, which is inclined, and the four gates are not in a vertical line to block people's sight and ensure the privacy of the internal space. From the above design of these houses, we can see that Huizhou people respect their elders, kindness to children, and wisdom in life.

### **The Facade of Chengzhi Tang**

The hall area is one of the areas with the best accessibility and sight in the indoor area, and it is also the area with the most intensive indoor public activities. The architectural decoration in this area is the most intensive, used to reflect the owner's preferences and convey the values of neo-Confucianism. The beams on the buildings of Chengzhi Tang are carved with older people fishing for leisure, doing farm work, cutting wood, and children reading books (Figure 4.5). The young people work hard to create wealth, the older adults have a quiet place to relax, and the children need to study. This design arrangement expresses the Huizhou people's filial piety to the elders and their benevolence for the children. The God of wealth and luck is carved on both sides of the four grid figures, and the Chinese characters mean fortune in Chinese, praying for the advent of good luck. The embossed images of Chinese emperors entertaining officials during the Tang Dynasty expressed rites at social events, and the homeowner hopes that such a harmonious, ritualistic scene will also take place in the home. Other carved patterns of ancient Chinese stories expressed benevolence

and loyalty.



**Figure 4.5. Carved Pattern of the Hall area of Chengzhi Tang**

Source: Author

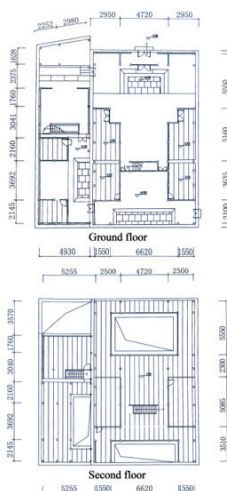
## The Huizhou Residential Zhenqi Tang

Zhenqi Tang, which is located in the south of Hongcun Middle Street, Huizhou, was built in 1899. Zhenqi in Chinese means shaking the body's beautiful clothes, meaning to slap on the body's clothes and cheer up (Figure 4.6). Zhenqi Tang covers an area of about 600 square meters, a construction area of 437.15 square meters, and upper and lower floors. The length of the first-floor space is about 16.8 meters, and the width is about 14.7 meters. The second floor is 16.4 meters long and 14.7 meters wide (Figure 4.7).



**Figure 4.6 Entrance of Zhenqi Tang**

Source: Author



**Figure 4.7 Zhenqi Tang's plan**

## The Layout of Zhenqi Tang

The building's entrance gate is on the north side, and there is a transition space after entering through the gate, which blocks the view from the outside and protects the privacy of the building's interior. The east and west sides of this transition space provide access to the front room of the house. Four bedrooms are on the first floor, with the older owners in the south bedroom and the younger generation in the north bedroom. This design arrangement allows the elderly to have a more private resting environment. Between the front and back halls is a stairwell, which provides access to the second floor and also acts as a separation between the north and south spaces. This allows for more privacy between the spaces. A patio for light and ventilation is between the bedrooms in the front and back lobbies. On the west side of the house is a kitchen and courtyard where residents can cook and relax. The second floor of the building houses the children's bedroom and study. The building is smaller than that of Chengzhi Tang, where wealthy merchants lived, partly because of financial resources and differences in the number of families.

Based on the topological analysis of space syntax (Figure 4.8), it can be seen that the west area of the building is where the activity and leisure

take place, and the east area is the living area. A transition space links the two areas, and neither the bedroom nor the hall has direct access to the activity and leisure area. The arrangement guarantees the quiet and privacy of the living area. The regional setting of the garden courtyard reflects the harmonious relationship between Huizhou people's life and nature. All the master bedrooms in the residential area are located in the interior of the building and are symmetrical according to the central axis, ensuring the safety of the bedrooms. Between the rooms are patios or halls, which facilitate ventilation and communication between family members.

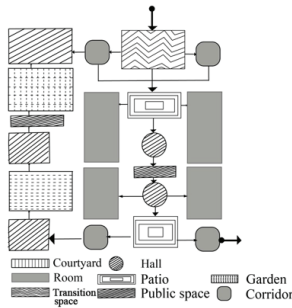


Figure 4.8 Topological pattern of Zhenqi Tang

Source: Author

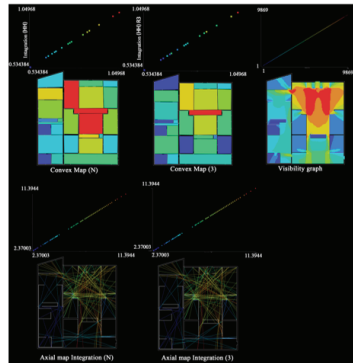
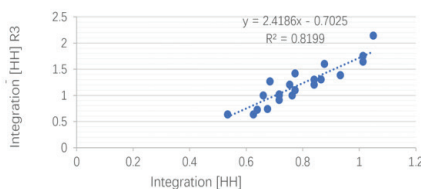


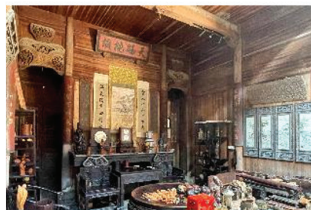
Figure 4.9 Space syntax analysis of Zhenqi Tang

The young master's room is on both sides of the outer hall, easy to access from the main door, and convenient for meeting guests. The older man's house is on both sides of the inner court to ensure the room maintained quiet, and the kitchen is on the west side of the building, which is close to the older man's room.

According to the analysis diagram of Zhenqi Tang that was illustrated using the space syntax method (Figure 4.9), it can be seen that the red area in the figure represents the high integration degree, and the blue area represents the low integration degree. The red areas indicate high openness, and the blue areas are private and quiet.



**Figure 4.10 The spatial Intergradation Degree of Zhenqi Tang**



**Figure 4.11 Reception Room in the Front Hall**

Source: Author

Refer to the line chart (Figure 4.10) for changes in the size of the numbers, we can see that the hall and foyer in the middle of the residence are the areas with high integration, the transition space at the door's entrance ensure interior and exterior privacy. Young homeowners live in areas with better accessibility, which is convenient for hosts to meet and socialize. The rooms where older people live have better privacy and are quieter and undisturbed. The garden and kitchen are both low in accessibility to ensure privacy and a calm environment. The elder's bedroom, kitchen, and toilet are placed adjacently to facilitate the life and diet of older people. The main traffic flow is concentrated in the east area of the house, which is the principal place of life, while the west area is relatively quiet, ensuring the privacy of the west space, these different design arrangements can meet different needs in life. The above design of these houses shows that Huizhou people respect their elders and wisdom for a better life.

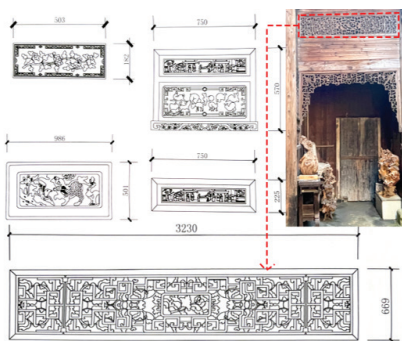
## The Facade of Zhenqi Tang

The front and back halls of Zhenqi Tang are the areas with the best visibility, and these are also the areas where the architectural decoration is most concentrated. A plaque is hanging on the hall's facade of the meeting room. The position of the plaque is very eye-catching (Figure 4.11). The black characters on the red background describe the meaning of praying for good wishes. Below the plaque is an ancient painting depicting the life scenes of ancient people. Next to it are vertical calligraphy works, meaning rivers and mountains are intelligent, can always exist, grow, and grow; strong flowers and plants will not wither all year round. This design reflects the homeowner's reverence for nature, advocating that people learn from nature and live in harmony.

The side facade of the hall area of Zhenqi Tang is a large area of warm wood. Doors and windows will be unified with the building facade decoration, will have a lot of animal and plant decoration. The upper part has hollow carving, with engraved patterns of cows, horses, deer, and other animal patterns, and large area of flowers and vine patterns surrounds the animal patterns. The middle of the doors and windows will be carved in bas-reliefs with farming scenes in the fields (Figure 4.12). A flower vase is a bas-relief pattern on the bottom half of the door and window.



**Figure 4.12 Side Door and Window Elevation**



**Figure 4.13 Intertwining Branch Patterns of the Back Hall**

Source: Author

The pronunciation of vase in Chinese is the same as peace, which means safety and good luck. The function of these animal and plant patterns is to make users have a good mood and love life. The middle of the primary structural columns will be decorated with Chinese characters; the area of this part, the visual center, will be raised a little and painted with light red paint. The general meaning of the Chinese characters is that the family needs to have an extensive collection of books to educate the children so they can have good character. People buy land to plant pine trees because pine trees are green; they will not fade in the cold winter. Indirectly this will teach the children to be strong like pine trees and instill the values to the children to be perseverance and etiquette. The house owner attaches great importance on the roles of space for people.

The eaves of the back hall are decorated with a group of intertwining branch patterns, which shows the ancient people's understanding and feelings of nature and social life and is a way for people to express their



feelings (Figure 4.13). The twig pattern is graceful, vivid, and elegant, symbolizing the good wishes of life, and wishing the family a prosperous population. The intertwining branch pattern was first seen on the lacquerware of the Warring States Period, matured in the Han Dynasty, and prevailed in the Tang, Song, Yuan, Ming, and Qing dynasties. These patterns also express the wish for the health and longevity of the elderly and the birth of more children in the family. The rich plant patterns also reflect the Huizhou people's benevolence to natural life.

## **CASE STUDY OF THREE RESIDENTIAL HOUSES IN SHUREN TANG**

The owner of the Shuren Tang in Hongcun is Wang Xingju, who worked as an official, when he was young. Later, he resigned because he was dissatisfied with the corruption of the Qing government at that time. He thought his political ideas cannot be realized, so he returned to his hometown to live an ordinary life. Although, the master did not get much wealth, the master's knowledge and moral character are higher. The Shuren Tang was built in 1862 (Figure 4.14). Shu Ren in Chinese means teaching children to be virtuous and cultured. Tang means house. The whole building covers an area of 266 square meters and is a two-story building; each floor has two bedrooms, and the house size is small but well-preserved, which was also the reason for choosing this building. Many buildings in Huizhou have either fallen into disrepair and been damaged or have become commercialized after modern transformation, losing their former appearance.





Figure 4.14 The Front Facade of Shuren Tang

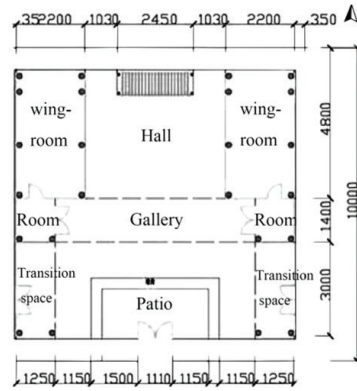


Figure 4.15 Architectural Plan of Shuren Tang

Source: At

## The Layout of Shuren Tang

Shuren Tang is relatively small, divided into two floors, covering an area of about 266 square meters. There is a hall, a patio, and two upper and lower floors; each floor has two bedrooms, two transition spaces on both sides and has an overall axisymmetric layout. The plan layout only has primary functional zoning common in Huizhou buildings, which can meet the needs of daily life and lacks entertainment and leisure space (Figure 4.15). The building is also a frame structure composed of a grid of wooden columns; the exterior is made of brick, and the interior is made of wood. The building has good light and ventilation. Entering the building from the entrance is a patio space, on both sides of the patio are two transition spaces. This building has more transition spaces, which can give the internal space more privacy. The southern space of the building is the main activity space and is the dynamic area. There is also a promenade between the lobby and the patio, which will prevent the rooms on either side from being disturbed by each other. At the same time, this corridor also makes the hall and bedroom private and quiet, as a result, this improves the comfort of living (Figure 4.16). The lobby is in the middle of the two bedrooms, which is the place for daily dining and meeting guests. Almost all of the Huizhou buildings are arranged based on the space between the lobby and the room in this way, there are only two bedrooms on the first floor, older adults generally live on the left side, showing respect for the elderly.

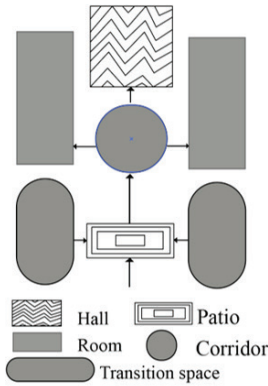


Figure 4.16 Shuren Tang Topological Graph drawn by Space Syntax

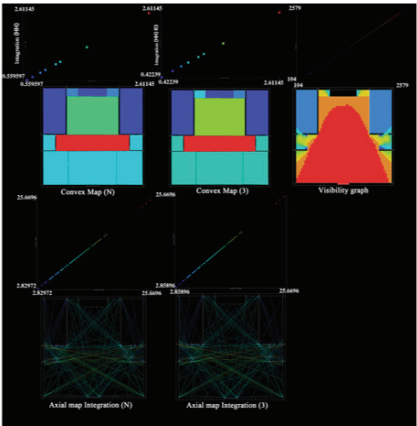


Figure 4.17 Space Syntax Analysis Diagram of Shuren Tang

Source: Author

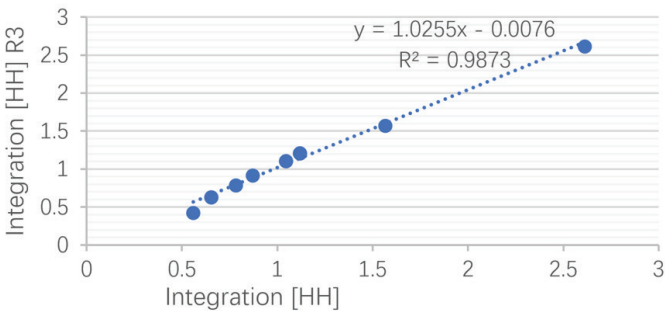


Figure 4.18. The spatial Intergration Degree of Shuren Tang

Source: Author

According to the analysis diagram of Shuren Tang drawn using space syntax (Figure 4.17) (Figure 4.18), we can see that the hall and the corridor in the residence are the areas with the higher integration, among which the corridor is the area with the highest integration. The entrance's transition space can ensure the interior's privacy and the bedroom's convenience is low, but it also ensures the quiet and privacy of the bedroom. The area in the southern half of the architectural plan is the transition space between the inside and the outside. In contrast, the corridor area is the transition space between the north and south areas of the interior. The lobby, promenade, and building entrance area have good visibility. At the same time, the small

space of the bedroom combined with the design of the ample space blocks the view of the bedroom and guarantees privacy.

## **The Facade of Shuren Tang**

The Shuren Tang owner was not a wealthy Huizhou merchant but attached great importance to interior decoration. This house has been decorated with unique features in essential positions. Wooden walls and beams dominate the hall of Shuren Tang, and the wood was painted with red paint to protect the wood (Figure 4.19). There are some decorative patterns of Chinese calligraphy characters on both sides of the hall, which means that the people should create an atmosphere of love reading in the family, be able to hone their perseverance and patience and learn to be a gentleman. The elders' seats are in the middle of the room, and the seats of the juniors and visitors are on both sides of the room. A mirror and a vase are placed behind the elder's place; the older woman sits on the side with the mirror, and the master sits on the side with the vase. The Chinese pronunciation of the mirror is the same as the calm pronunciation, which also reminds the hostess always to treat her family with a good facial expression. The pronunciation of the bottle in Chinese is the same as peace, meaning to bless the peace of the male host. Above the seat is a plaque with the house's name Shuren Tang on it.



**Figure 4.19. Hall Area of Shuren Tang**

Source: Author

On the top of the hall, many patterns are decorated with light blue and brown pigments, mainly butterflies and peony flowers, and the surrounding areas are decorated with simplified and repeated cloud patterns. The cloud pattern is used to pray for a good climate for crops throughout the year and for a good harvest. The pronunciation of the butterfly in Chinese characters is similar to that of fortune, and the butterfly has many special meanings for Chinese people (Figure 4.20). The transition of a butterfly's life cycle from larva to pupa to adult symbolizes freedom and change. Its wings represent freedom to fly, and its entire transformation process symbolizes change and growth in life. The metamorphosis process of a butterfly is seen as a symbol of hope and rebirth, representing a new beginning. The bright colors and elegant forms of butterflies make them a symbol of beauty, representing the diversity and beauty of life. Butterflies are believed to bring luck and blessings; seeing a butterfly is seen as a sign of good luck, while a butterfly resting on the body is considered a symbol of blessing. The butterfly is loyal to its partner and has only one partner for life, so it is regarded as a symbol of loyalty, and the double-flying butterfly symbolizes free love and the pursuit of perfection and beauty. Huizhou people use butterfly patterns to pray for their children to have a happy and successful marriage. Peony flowers symbolize happiness, peace, and prosperity and are auspicious flowers. It also symbolizes the noble and elegant literati, trustworthy people, national beauty, and elegant woman. The peony was once China's national flower, representing the country's dignity and national pride. These patterns reflect the homeowner's wish for his family to have good luck, perseverance, health, wealth, and loyal partners.



**Figure 4.20** Decoration on the Top of Shuren Tang



**Figure 4.21** Side Interior Facade of the Shuren Tang

Source: Author

The side of the hall is mainly divided by rectangles, and the main structure is straight, except for the decorative pattern with curves, and the curve is rarely used (Figure 4.21). Warm colors dominate the wooden walls, and cool colors dominate the material of the floor. In addition to some calligraphy works on both sides of the hall, doors, windows and corridors are also decorated with geometric patterns and plant patterns. Plant patterns are mainly peony flowers and wrapped branches. The text decoration mainly conveys some Confucian values and influences to the family. For example, a person with high moral character should also have good etiquette. Plants and geometric patterns are designed to spread nature's beauty and reasonable meaning in space. These designs promote harmony between man and himself, man and his family, and man and nature.

## **DISCUSSION**

From the floor plans of the three buildings, it can be seen that the rooms for the elderly in the Chengzhi Tang building are more private and it is placed in a quiet area. The rooms for the elderly are connected to the kitchen and garden, and the rooms for the young homeowners are connected to the living room (Table 5.1). Zhenqi Tang also arranged the bedrooms of the elderly in more private and quiet areas, connecting the elderly's rooms to the kitchen and garden and the rooms of the young homeowners to the living room. The size of the Shuren Tang is too small; there are only two bedrooms on the first floor, and if there are older adults in the family, they generally live on the left side, showing respect for the elderly. Arranging areas or space to be quiet, private and comfortable rooms for the elderly reflects filial piety to the elderly; the second floor of these three buildings is the junior room, where the children only need to study; the second floor is relatively quiet and can reduce the disturbance of social activities, which reflects the benevolence of the elders to the children.

**Table 5.1. The relationship between Three Ideas and Three Huizhou Buildings**

Samples	Indicators	Filial piety	Benevolence	Etiquette
Chengzhi Tang	Building plan	Older people's rooms are private and quiet.	-	seating arrangement
	Facades	Old people leisurely fishing	children focus on reading	The scene of the Tang Dynasty emperor entertaining officials
Zhenqi Tang	Building plan	Older people's rooms are private and quiet	-	seating arrangement
	Facades	-	harmonious coexistence between man and nature, man and animals	the characters and patterns reflect the importance of etiquette education
Shuren Tang	Building plan	The elders' rooms are on the left, a sign of respect	-	seating arrangement
	Facades	-	patterns of butterflies	The text decoration

Source: Author

The facade pattern of Chengzhi Tang reflects three ideas so that the elderly can have a relaxed and happy old age: filial piety, and children only need to study well, which reflects the kindness of the elderly to their children. The scene of the Tang Dynasty emperor entertaining officials reflects the importance of the Huizhou people's etiquette. The facade decoration of Zhenqi Tang depicts the harmonious coexistence between man and nature, man and animals, and man and plants, which in turn reflect the Huizhou people's benevolence for nature. Besides, the characters and patterns reflect the importance of etiquette education. Shuren Tang (year?) used the patterns of butterflies and plants to wish the children a good marriage, reflecting the benevolence of the elders, and the seating arrangement in the room reflects the importance of etiquette.

## CONCLUSION

Through the investigation of three buildings in Hongcun, Huizhou, it can be concluded that the layout of the buildings pays attention to etiquette. For example, the reception area is mainly the hall, and the seating arrangements of elders, juniors, and guests are also different to protect internal privacy.

The elderly's bedroom is quiet and closest to the kitchen, and the children's bedroom is on the second floor, reflecting the filial piety of the elderly and the benevolence of the children. In the visually pleasing architectural space, rich plants, animals, and geometry are used in the architectural decoration to express the love of nature and life and blessings for the health of the elderly and the happy marriage of their children. Some traditional Chinese story patterns express the importance of etiquette, which also expresses filial piety to the elders and the love for the children.

To sum up, the design of Huizhou architecture is deeply influenced by neo-Confucianism, and the wisdom in these architectural designs also has great reference value for contemporary design creation. Therefore, drawing lessons from these design philosophies can subtly influence the moral character of space users and promote family and social harmony.

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## **AUTHOR CONTRIBUTIONS**

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## **CONFLICT OF INTEREST**

The authors declared to have no conflict of interest.

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