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Study of the Interior Style between the Palace Museum and the Hui Style Architecture

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ABSTRACT

This study focuses on the architectural style and features of the Palace Museum and the Hui-style. It also analyze and compare the similarities and differences of interior style between the palace museum and the Hui style architecture. The Hui-style architecture takes brick, wood, and stone as raw materials, and mainly uses a wooden frame. The beam is always built on a big scale and pays attention to decoration. However, in 1925, after the former emperor Puyi of the Qing dynasty was moved out, the Palace Museum was formally established. Many of the halls surrounding the museum are presented as they would have appeared in dynastic times. The main buildings of the museum include the Hall of Supreme Harmony, one of the largest wooden buildings in China

Keywords

Palace Museum, Hui-style architecture, Patio, Horse-head wall

Introduction

Chinese architecture plays an important role in the global history of architecture. It is one of the world's three major architectural systems with its long history, exclusive systematic features and prevalent employment as well as its abundant heritages. Chinese have always enjoyed an indigenous system of construction that has retained its principal characteristics from prehistoric times to the present day. The architecture of Chinese keeps growing and developing, emerging from a primitive system using earth and wood to one using bricks and wood, it held on its tradition of taking wooden structure as the main structure and carpentry as the main technology. Primitive traditional Chinese structures include high-arched stone bridges, multi-storied pagodas, and raised pavilions with walled compounds, wooden columns and paneling, yellow glazed roof tiles, landscaped gardens. Small private homes of the ancient Chinese were usually built from dried mud, rough stones, and wood. The most ancient houses are square, rectangular, or oval. They had thatch roofs (straw or

reed bundles) supported by wooden poles, the foundation holes for which are often still visible. However, careful application of town planning and use of space are all notable features of the primitive architecture of China, with many of them still playing an important part in modern architecture across East Asia.

Traditional Chinese buildings have tile roofs with swooping eaves. Their walls are usually made of brick or wood. The tile roofs are gray for ordinary buildings, yellow for imperial palaces and blue or green for other important structures. The upturned eaves are elaborately carved with extraordinary detail and are works of art in their own right. Sometimes bells hang from the eaves. There are several traditional arch gate features including carved flowering trees, peacocks and lucky bats that are painted red and gold. These features are placed at city gates, in stores and restaurants not merely for decoration but they are strategically placed to ward off evil spirits. The carvings, spirals and swirls are meant to confuse them further. A complete system of structure and construction was inherited both from Song Dynasty (1103 AD) and from Qing Dynasty (1734 AD) that is over 2000 years of development and evolution which includes regulations and standards. The properties of the wood in use have a big influence on the joints and the performance of the whole structure (Ze-li *et al.*, 2017).



Figure 1. A model of Primitive Chinese Building.
Source: Huzhou Zhuangyuan historical block

Materials and methods

Palace Museum

The palace consists of many separate halls and courtyards. The outer buildings of the palace became a museum in 1914, although the imperial family continued to live in the private apartments until 1924. In 1925, after the former emperor Puyi of the Qing dynasty was moved out, the Palace Museum was formally established. Many of the halls surrounding the museum are presented as they would have appeared in dynastic times. The main buildings of the museum include the Hall of Supreme Harmony, one of the largest wooden buildings in China. The Hall of Preserving Harmony displays a fine collection of works of art, many from the imperial treasures. Among the more impressive works is a 14-metre- (47-foot-) long Yuan fresco that was taken from the Xinghua Temple. Other areas of the palace contain displays of bronzes, sculptures, pottery and porcelain, jade, and

silks. Some of the treasures are exhibited in the northeast corner of the palace, known as the Palace of Peace and Longevity. These include priceless objects of precious metals and jewels and some examples of the 3,000 pieces that formed the imperial tableware (Geoffrey, 2020).

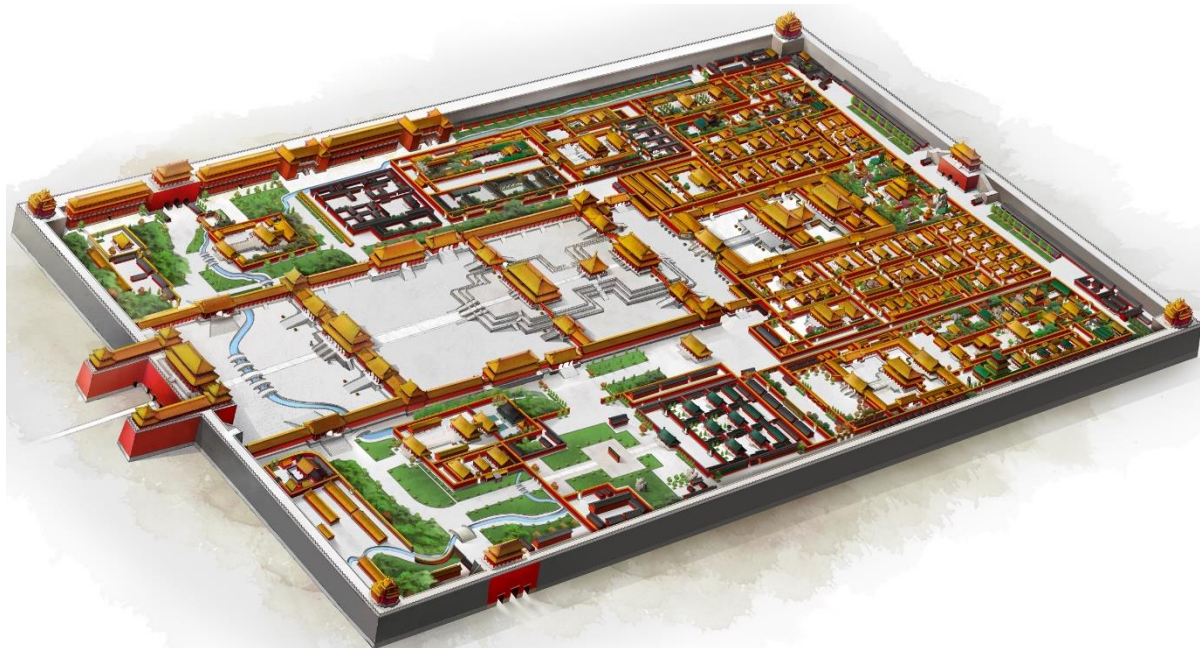


Figure 2: The layout of the (Forbidden City) Palace Museum

Architecture of the Palace Museum

The Forbidden City is surrounded by 10-metre-high walls and a 52-metre-wide moat. Measuring 961 meters from north to south and 753 meters from east to west, the complex covers an area of 1,120,000 square meters. Each side of the rectangular city has a gate. These four gates are the Meridian Gate (Wu men) on the south, the Gate of Divine Prowess (Shenwu men) on the north, and the East and West Prosperity Gates (Donghua men and Xihua men), respectively. Entering from the south, visitors will see a succession of halls and palaces spreading out on either side of the central axis. The glowing yellow roofs of the stately buildings seem to levitate above the vermilion walls. This magnificent sight is amplified by the painted ridges and carved beams of the ancient structures.



Figure 3: Interior style of the Palace Museum

Hui style architecture

Hui style architecture is one of the traditional Chinese architecture styles, which prevailed mostly in the historical Huizhou prefecture of Anhui, China as a critical element of Huizhou culture. The architecture uses bricks, woods and stone as raw materials, timber frames as significant structures. The bearing structure is a wooden beam, and parapet walls are made of bricks, rocks, and soils. The central room is decorated with painted beams, sculpted roof, and carved eaves with skylights. The technical features and style of Hui-style architecture majorly occur in residential houses, ancestral temples, joss houses, archways, memorial gates, and gardens. The architecture reflects mountainous features of the area and a geomantic omen of traditional Chinese religions (Xing et al, 2012).

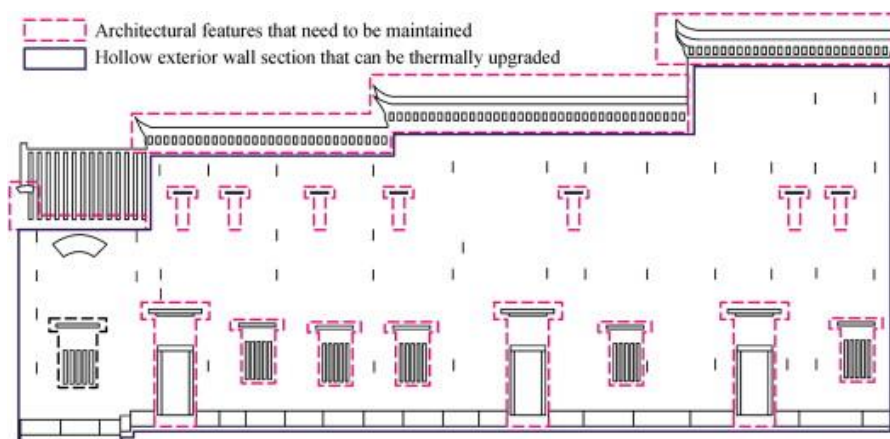


Figure 4: Elevation of a Hui-style exterior wall and its distinct architectural features

Architectural Layout

Crossing-hall layout

This layout is also known as loop-hall layout and is located behind the major hall and intimately connected with the considerable hall. It is the transitional space between the major hall and the inner rooms. The pavement is usually wood material. The entrance is at both left and right side of the major hall. The crossing-hall has typically three rooms, one bright lounge with illuminating patio and two rooms for temporary using.

Central-hall layout

The central hall is illuminated by three openings (front, right, and left) which are separated by moving screens for winter warming and privacy. Most central halls face to the major patio and have two corridors connecting to other rooms. There are screen doors in the front of the central hall, and the middle part of the door is usually closed. In daily manners, users enter the hall from sides. If there is a formal activity, the users can use the middle door. There are guest rooms under the patio area. The central hall is mainly used for official celebrations, guest meetings and daily activities of the owners, the hall is considered as the major part of the architecture

Features of the Hui style

The structure is much into courtyard type, facing south commonly and surrounded by the river and mountain. The layout is divided symmetrically by the central axis. The central hall locates in the middle, and the rooms are on two sides. The front of the central chamber is called "patio," which functions for lighting and

ventilation. The appearance of residential integrity is solid with closed tall bounding walls, horse head warping, black tiles, and white walls. In adornment respect, mostly use brick, wood, stone carvings craft.



Figure 5: Common wall materials in Hui-style

Structure

Hui-style architecture takes brick, wood, and stone as raw materials, and mainly uses a wooden frame. The beam is always built on a big scale and pays attention to decorate. The middle part of the beam slightly arched with Ming dynasty or Qing dynasty patterns carved on both ends. The middle section of the beam is often carved a variety of patterns, and the whole beam is designed to be magnificent and gorgeous. The material used for the vertical column is also bulky, and the upper part is slightly thin. The columns of Ming dynasty are usually spindle-shaped; most of them are carved with patterns. Girder does not apply color paint commonly but China wood oil. Patio, balusters, and screen walls are made of bluestones, red sandy stones or granite, which are cut into stone bars, and usually use natural textures of stone materials to combine into carving patterns. The wall uses small black bricks until the horse head wall.

Decoration

The Hui-style architecture also widely used brick, wood, stone carving, showing a high level of decorative art. The brick carving inlaid mostly on door covers, window lintels, and side walls. Vivid figures, fish, flowers, birds, and patterns are carved on the big black bricks. Wood carving plays a significant role in ancient residential houses with extensive content. There are many themes, such as traditional operas, folk stories, myths, and legends, as well as life scenes such as fishing, farming, feasting traveling and dancing. These wood carvings are not painted but require a high quality of wood natural colors and textures. Stone carvings mainly manifest in the ancestor halls, temples, memorial archways, towers, bridges and residential doorways, pools, flower tables, window leakage, pillars, stone lions, and so on. The content is mostly the auspicious dragon and Phoenix, the crane, the tiger, the lion, the elephant, and the auspicious cloud. Techniques are mainly relief, openwork carving, round carving, and so on.



Figure 6: Wood Window Carving

Patio

Patio referred to the open space enrolled by the rooms and rooms or walls among the Hui-style constructions which were used to store rainwater and drainage when it rained. Most of the Hui-style architectures were built with patios due to the business tradition. According to the geomantic theory of Huizhou businesspeople, water was the resource of money. It was the businessmen's taboo that the financial resources would flow to the outside, so the water was better that did not rush to the outside. The patio could prevent the pool which was through the roof ridge flow to the outside, and guarantee the water flow to the patio along the trench.

White Walls and Black Tiles

White Walls and Black Tiles. Regarding color, the Hui-style architecture adopted white wall, grey brick, and black tile, which inspired people with the sense of pure, fresh, and simple. After the ingenious arrangement of the three colors by Huizhou people, the whole of the building composed a beautiful piece of music with a series of jumpy note with musical composition and manifest features.

Horse-Head Wall

Horse-head wall referred to the wall which was between and higher than the two gable roof walls. Since its appearance was like a galloping horse, the wall was called horse-head wall. One of the main features of the Hui-style architectures was the broad range adoption of horse-like wall among the Hui-style architectures. Brick and wood were the main features of Hui-style architecture; while the main failure features of these architectures were the poor fire -proof performance. In ancient times, the firefighting was undeveloped. Once a building fired, it was straightforward that the nearby building burned. To prevent the spreading of fire, the ancient Huizhou residents created the Horse-like wall which could cut off fire effectively; just because of this, the horse-like wall was also known as fire seal wall.



Figure 7: Horsehead walls as a distinct architectural feature of the Hui-style

Differences

Palace Museum	Hui style
1. It is mainly for royal or imperial residents.	1. It is for residential houses, Ancestral temples, joss houses, archways etc.

2. Architectural materials are bricks, rocks, and soils.	2. Architectural materials are bricks and wood therefore not resistant to fire.
3. The palace has thick walls and huge buildings	3. Has hollow exterior walls sections that can be thermally upgraded.
4. The palace consists of many separate halls and courtyards.	4. The structure is normally surrounded by a river and mountain.
5. It features three main halls – the Hall of Supreme Harmony, Hall of Central Harmony, and Hall of Preserving Harmony.	5. It has a patio (front of the central chamber) which aids illumination and ventilation of the rooms.
6. The glowing yellow roofs of the stately buildings seem to levitate above the vermilion walls.	6. Adopted white wall, grey brick, and black tile, which inspired people with the sense of pure, fresh, and simple

Similarities

Generally, the layout of both the Palace Museum and the Hui- style architecture are axially symmetrical. Main palaces lie on the south-north central axis, and other palaces distribute in the two sides of axis symmetrically. The layout of the Hui- style is symmetrically divided by the axis.

Their central rooms are both decorated with painted beams, sculpted roof, and carved eaves with skylights.

Conclusion

Chinese ancient architecture, recognized worldwide as a unique and independent system of the architecture world. It has formed its typical structural styles and construction technology and the combination of the excellent features of traditional construction technologies with modern, western materials, techniques such as the Bauhaus approach has highly improved Chinese architecture internationally though there is still much work to advance future architecture. The architectural style of the Palace Museum and the Hui- Style has a lot of different embodiments, which can make it difficult to define. Therefore, most components of the interior design, from the furniture to the shape of the rooms, includes clean, straight lines with several additional detail.

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