

# The Application of the Characteristics and Design Techniques of Jiangnan Classical Gardens in Suzhou Museum

Yuhan Meng

School of Architecture, Ningbo University, Ningbo, Zhejiang

Lynnn.han@foxmail.com

**Abstract.** Suzhou Museum is located in the garden zone of Suzhou. As a translation of classical garden design techniques in today's architecture, it has become the landmark cultural architecture of Suzhou city. Taking Suzhou Museum as an example, this paper explores the application of Jiangnan classical gardens in modern architectural design from two aspects of features and design techniques, so as to contribute to the discussion on the inheritance and development of classical garden culture.

## 1. Background

Suzhou Museum is located in the historical protection block of Suzhou City, Jiangsu Province, close to the Humble Administrator's garden of the world cultural heritage and the loyal palace of the Taiping Heavenly Kingdom, a national key cultural relics protection unit. It is located in the west of Zhongwang mansion, north of Northeast street, east of Qimen road and south of Humble Administrator's garden, covering an area of about 10750 square meters. It is a typical representative that classical garden design techniques are applied to modern architecture.

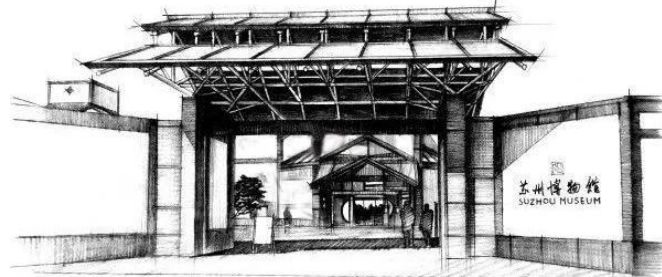


Figure 1 Entrance to Suzhou Museum(Self Drawing)

## 2. Application of Jiangnan classical garden characteristics in Suzhou Museum

### 2.1 Application of layout features in Suzhou Museum

#### 2.1.1 Layout characteristics of cohesive quadrangles.

The introverted layout of quadrangles is the best interpretation of the introverted and implicit national characteristics of the Chinese nation in architectural form. The introverted layout is also the most typical layout characteristics of the garden buildings of Jiangnan classical gardens, such as Changyuan garden and Crane garden: elements such as buildings, pavilions, plants and courtyard walls are arranged around, and the central inner courtyard forms a large and concentrated water surface. It has a strong sense of centripetality and cohesion. In addition, the buildings are mostly surrounded by quadrangles, which makes the garden space reach the realm of harmony and organic connection. This inward layout is an attractive place in private gardens, which is also reflected in the design of Suzhou Museum. The building is mainly divided into three parts: the central part, the western part and the eastern part, and each one forms an axis, connecting several surrounded courtyards in series. The main display part of the western part of the museum, (Fig. 2) the Chinese courtyard layout with strong sense of axis has obvious image, and the treatment of the corner of the ridge has Chinese characteristics. The garden space in the garden enclosed by the building is very centripetal and cohesive. (Fig. 3)

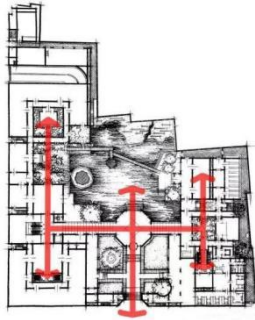


Figure 2 Axis Layout (Self Drawing)

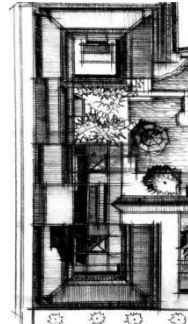


Figure 3 Quadrangle Shape (Self Drawing)

### 2.1.2 Main and subordinate layout features.

The hall is the core of Suzhou Museum. It is located between the entrance vestibule and the museum garden. This hall with eight corners is designed through the geometric transformation and reinterpretation of traditional Suzhou architecture and Chinese architectural elements. It is the guide for all visitors and provides access to all exhibition areas of the museum. It is the first transportation core of the Museum (Fig. 4) Its importance can be seen from its location. The main courtyard across the hall is prominent, and it opens the indoor and outdoor space of the whole museum. The water area is significantly larger than that of other space areas. The scope and space scale of the hall are considered best. The surrounding buildings, pavilions, mountains and plants are surrounded by rich and colorful scenery. In classical gardens, such as lotus root champs in Yiyuan garden and the central scenic spot in Liuyuan garden, these techniques are used to highlight the master-slave and key points, so as to explore the commonness between Suzhou Museum and traditional gardens in layout characteristics. [1]

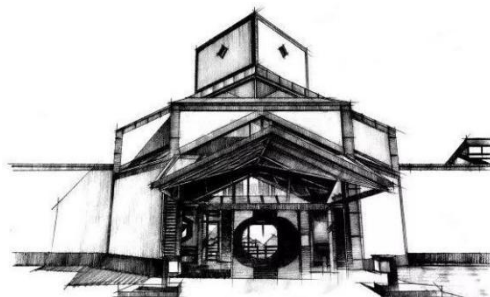


Figure 4 Central Hall with Eight Corners (Self Drawing)

## 2.2 Application of spatial features in Suzhou Museum

### 2.2.1 Tortuous spatial sequence characteristics.

The spatial combination of Suzhou Museum Architecture pays great attention to the overall sense of spatial sequence and the creativity of architecture. The general idea meets the continuity of people flow activities and the integrity of spatial art, which is also the focus of contemporary public architectural art. The spatial sequence organization of Suzhou Museum is related to the layout of the whole park, and the most fundamental element is the organization of viewing routes, so as to achieve the overall relationship of mutual penetration, mutual borrowing, interdependence and organic connection between architectural space and space. Suzhou Museum space organization forms a spatial sequence of the combination of "口" and "田" through the connection of indoor and outdoor overall space; Enter the museum from the main entrance, pass through the entrance courtyard to the hall, first browse the main exhibition hall on the west side, then pass through a relatively narrow and long one-sided corridor to reach the last yard on the West axis, pass through the landscape bridge on the water surface of the museum garden to the East exhibition area, then return to the hall, and then return to exit from the side door at the southeast corner of the museum. (Fig. 5, 6 and 7) The building scale is not large, but the internal space is rich and coherent, the scale is appropriate, the indoor light and shadow change properly, and the spatial experience and visual feeling obviously exceed the actual scale of the building. The reason is that the space is tortuous and

changeable, the size of the space is alternating, the light and shade contrast is obvious, and the indoor roof is scattered. In order to obtain the profundity of artistic conception, Suzhou museum uses corridors to connect spaces, making the group combination winding and changing. For example, the streamline organization of the two groups of exhibition spaces in the museum is as follows: the three side exhibition space encloses the core part in the middle, makes the primary and secondary clear, and sets up appropriate outdoor courtyards to enrich the spatial level. This way of organizing the exhibition streamline can highlight the axis and have a strong sense of direction in the overall image. It is convenient to form a streamline circuit for viewing the exhibition, and the inlet and outlet settings are flexible and adaptable.

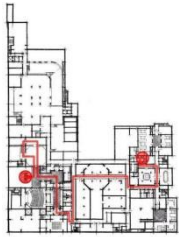


Fig.5 Basement Plan (Self Drawing)

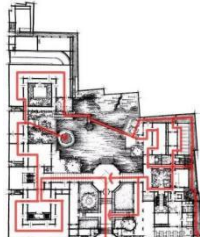


Fig.6 Ground Floor Plan (Self Drawing)

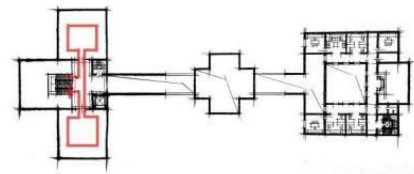


Fig.7 Second Floor Plan (Self Drawing)

### 2.2.2 Scattered spatial features.

Chinese classical gardens emphasize the scattered height, which is bound to be accompanied by the change of apparent height from time to time; When people are at a moderate height, they can look up and down to absorb all kinds of deep and interesting picture compositions. [2] The central hall is the main traffic node in the museum and has high viewing value. Therefore, square and courtyard water surfaces are reserved on the north and south sides of the hall, so that visitors can see the sparkling waves and fish flying at the bottom when they look down. It is a scene of "branches connect with beautiful trees and reflect into clear ripples". When they look up, they can see the glittering facade of the museum, Suzhou's modern culture is moving. In the design of the South Square, there are high requirements for artistic treatment, and the problems of its spatial scale and three-dimensional composition are fully considered. The appropriate viewing distance and scope can fully show the facade of the central hall within the line of sight. (Fig 8) A certain water surface is set in the north of the hall, and the ground scale is carefully considered, so that tourists on the East and west sides of the water can watch the hall and the reflection in the water at an appropriate distance. (Fig. 9) Around the water surface boundary, there are several entrances leading to the boundary ground, and the height is lower than the normal ground, so that the water surface can be close, felt and touched. At the same time, these small nodes also form a contrast with the octagonal pavilion and small bridges and corridors. In order to obtain the fluctuation of height, Suzhou Museum has arranged a group of rubble rockeries in the north of the main courtyard on the Garden Lake. The rockeries are arranged in staggered rows, creating the artistic conception of ink landscape with "wall as paper and stone as painting". Several viewing nodes that can stay are set around the water surface, and three of them are connected by a small bridge corridor, which passes through the water surface at the same time. This small bridge corridor can be used as the streamline of tourists' viewing hall and water octagonal pavilion. At the same time, these tourists can also take the rubble fake mountain in the north as the background and become a part of the landscape. The facade is scattered and very realistic, Form a unique creative landscape garden. (Fig. 10 and 11)

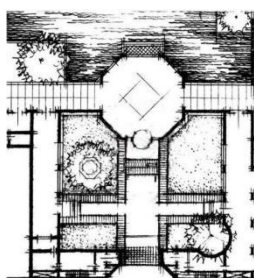


Fig.8 Front Courtyard of the Hall (Self Drawing)

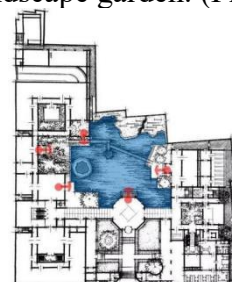


Fig.9 Central Courtyard Scenic Spot (Self Drawing)

### 2.2.3 Spatial level change characteristics.

Suzhou Museum adopts the method of penetration in the enclosure, penetration in the enclosure, and the combination of enclosure and penetration. The separation of doors, windows and corridors changes the spatial level. Several window holes are opened on the walls of the central hall, East and West corridors and small courtyards of the museum, so that the separated internal and external space sequences are connected tightly and organically. Walking in the museum, the tour route formed by the layout extends continuously along the window opening. During the journey, several levels of space can be viewed from different angles. The changing visual composition generated in the movement will certainly arouse people's strong viewing interest. Therefore, in the treatment of indoor space, the museum makes the limited space infinite by clever and changeable space division, With the changing space orientation, the spatial sequence shows an unusually rich and smooth conception. Not only that, the door and window openings also have the function of "viewing the scenery": in fact, they look at the scenery opposite through the window openings. Looking from the hexagonal window in the northwest of the Museum Hall, you can just face the pavilion in the main courtyard. Through the pavilion, you can also see the bamboo forest. If you move your steps a little, you can see the rubble rockery, water surface and curved ruler and curved bridge. Because you look across the first floor, although the actual distance does not change, it will be more implicit and far-reaching; [3] Along the corridor Pavilion in the west, through a series of continuous windows, there is a panoramic view of the outside. The looming and looming space will certainly cause people a strong sense of pleasure, and its dynamic effect will be more interesting and beautiful. This is the so-called "walking scenery difference" in classical gardens.

In addition, as for the layout of internal landscape nodes, the internal viewing nodes of the building are close to the outdoor courtyard and opposite to the plants. The scenery is beautiful and evenly distributed around the main courtyard of the museum. The viewing node of the museum garden surrounds the water surface, and the indoor viewing node also takes the water surface as the center, with clear hierarchy and organization.



Fig.10 Rubble Rockery (Pictures taken by the author)



Fig.11 Artistic Conception of Landscape Painting (Pictures taken by the author)

## 3. Application of design techniques of Jiangnan classical gardens in Suzhou Museum

### 3.1 Application of the design technique of group scenery in Suzhou Museum.

Group view includes opposite view, frame view, borrowed view, etc. In Chinese classical gardens, the technique of "facing the scenery" is often used to meet the visual requirements of seeing and being seen. [4] The octagonal pavilion of Suzhou Museum is cleverly placed in the visual focus. From the aspect of being seen, its position is prominent, especially from the octagonal central hall to the west corridor. As the object to be viewed, it has successfully played the role of scenery; In addition, good results can be obtained from the position of bamboo forest and small bridge; From the perspective of view, the location of the octagonal pavilion is also very interesting. It is not only open to the water, but also has a view through the doors and windows of the building in Suzhou Museum, people can see the modern version of Jiangnan garden scenery from various angles. These accidental aesthetic feelings at first glance, in fact, there are some visual constraints between different garden elements. If the emphasis on the scenery is on the scenery, the "frame

view" focuses more on the treatment of the frame: most of the window openings of Suzhou Museum are refined from the window leakage form of traditional gardens, combined with modern innovation, which is simple and simple, so as to provide a good prerequisite for the creation of artistic conception. As for borrowing scenery, it refers to introducing the scenery outside the park into the courtyard, which is also to let the space penetrate and increase the level beauty. [5] "The skill is better than borrowing, and the essence is appropriate". Suzhou Museum skillfully introduces the jagged trees in his garden into the pictures in the courtyard, which is uncanny and interesting.

### **3.2 The application of the design technique of hiding and revealing in Suzhou Museum.**

The design of Chinese classical gardens is deeply influenced by Chinese traditional culture

Following the golden mean, with the help of hiding and revealing techniques, it obtains the characteristics of introverted, low-key and implicit, and gives people a sensory experience of wanting to develop first, restraining first and suddenly opening up. For example, in the design of staying in the garden, the entrance is tortuous, narrow and long, which is the closing space. After passing through this space, it enters the center of the whole garden, Form a climax space, suddenly open, close, hide and reveal, ingenious and interesting. Suzhou Museum receives the impact of urban planning, surrounding environment and lot conditions. Considering its use nature and utility program, part of the functional space is arranged in the basement of the central hall, and the cantilever staircase above the indoor lotus pool connects the basement with the first floor. In the central hall, you can hear the sound of gurgling water, but you can't see where it comes from. Follow the direction of the sound, pick up the steps and go down. What you see is the water curtain wall with broken running water pouring down from high. It's amazing that there is such an interesting world in the museum.

### **3.3 Application of sparse and dense design techniques in Suzhou Museum**

The relationship between density and virtual reality is often involved in the art fields such as poetry and painting, and the art of gardening is no exception: the handling method of density and this relationship is interrelated with hiding and revealing, virtual and real. [6] Suzhou Museum is surrounded by buildings in the East, South and West, especially in the southwest. The space left in the north is like the "blank" of buildings, forming a relationship of contrast and unity. In addition, the elements of the building facade: the white wall is solid, and the hexagonal window opening and door opening are virtual. The virtual real relationship between them is very strong. Due to the large proportion of the wall, the real is in the dominant position. There is virtual in the real, and there is real in the virtual, alternating with density. In terms of mountain rocks, they are relatively dense under the north wall. The rest of the mountain rocks are scattered sparsely in the courtyard of Zhulin Tingbu, Moxi hall and the small courtyard of solitary pomegranate, with appropriate density. [7]

## **Reference**

- [1] Gao zhuoyao, Xiang Yanqiong. Application of Chinese classical garden features and design techniques in Suzhou Museum [J]. Industrial design, 2019 (12): 116-117
- [2] Peng Yigang. Key points of wood configuration in Chinese Classical Gardens [M]. China Flower news, 2007
- [3] Ji Cheng, Liu Yanchun. Yuan Ye (First Edition) [M]. Jiangsu Phoenix literature and Art Publishing House, 2015, 8
- [4] Han Hui, fan Baomin. Application of bridges in Chinese Classical Gardens [J] China forestry society. Proceedings of the 10th China forestry Youth Academic Forum. 2012:1-2
- [5] Peng Yigang. Analysis of Chinese Classical Gardens [M]. China Architecture Industry Press, 1986, 12
- [6] Huang Ruoyu. Traditional aesthetic interpretation of the design of the new Suzhou Museum [J], Journal of Zhengzhou Institute of light industry (SOCIAL SCIENCE EDITION), 2016, 17 (02) .

- [7] Yu Zhijun. Research on the application of Chinese traditional gardening techniques in modern landscape design [J]. Hainan University, 2012