

Research on Cultural Intention and Spatial Form of Jiangnan Academy Architecture

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Abstract

In the Internet age with developed information and media, influenced by global economic integration, informatization and the progress of scientific and technological civilization, the regional differences of architecture are narrowing, the phenomenon of "architectural culture convergence" continues to develop, and the characteristics of cities and buildings are disappearing. Academy was the place where ancient Confucian scholars gathered, gave lectures, collected books, studied arts and enjoyed themselves. It was also an important place for spreading traditional culture in ancient China. It has played an important role in spreading cultural ideas and popularizing basic education, and its use has also been influenced by both official and private schools, forming an architectural group with lecture, sacrifice and book collection as its core functions and lecture hall, memorial hall and library building as its main body. This paper investigates and analyzes the historical heritage, form layout, characteristic elements and other key points of the academy's architectural cultural space, combs the overall cultural background, regional culture and geographical environment of Jiangnan Academy, and discusses the design and application of contemporary academy's cultural space through the design and application practice of academy's cultural space in Jiangnan architecture.

Keywords

Jiangnan Academy Building, Cultural intention, Spatial form.

1. Introduction

In the past century, the development of architecture has changed obviously. The First and Second World Wars, to a certain extent, stimulated the growth of industrial productivity, the rapid development of science and technology, and the economic instability, which had a positive and negative impact on the construction industry [1]. On the one hand, construction activities and science and technology have developed by leaps and bounds, and the close cooperation between construction and science and technology. On the other hand, the competition of architectural design is fierce, architectural ideas are chaotic, architectural shapes are colorful and complex, and various schools emerge in endlessly. Academy architecture not only reflects the characteristics of scholar culture, but also reflects the characteristics of folk culture architecture. It has an extremely important historical position and cultural value in the history of traditional architectural culture in China [2]. The number of academies in Jiangnan ranks among the top three in China, and the whole province is divided into five regions according to its geographical location. Each region has a certain number of academy building communities, and each academy has its own unique cultural characteristics, especially in eastern Zhejiang. It can be said that space is the premise of the existence of architecture, and architecture is the result of people's demand for space. At the same time, the change of space also promotes the development of architecture, so architectural art is the art of space, and space-the empty part-should be the protagonist of architecture [3].

The name of the Academy originated in the Tang Dynasty and has a long history. It is an important part of ancient cultural and educational architecture in China. On the one hand, it is reflected in the humanities and culture: the college is a cultural and educational concept that pursues academic freedom and ideological freedom, and an educational method that focuses on environmental education and situational integration [4]. On the other hand, it is reflected in architectural culture: the generation of architecture is bound to be affected by the culture of the times. The design of academy architecture pursues the design of cultural space and natural environment to be comfortable and bring out the best in each other. As most of the academies choose beautiful places with beautiful scenery, the overall space layout is rigorous and reasonable, elegant and natural. However, due to the sharp decrease in the number of existing academies and the increasing demand for academies, this phenomenon has led many academies to repair their original sites one after another, which has become a must go place for sightseeing around the country [5]. After a long period of development, the Academy has formed distinctive cultural and spatial characteristics. As most of the academies choose beautiful places with beautiful scenery, the overall space layout is rigorous and reasonable, elegant and natural. However, due to the sharp decrease in the number of existing academies and the increasing demand for academies, this phenomenon has led many academies to repair their original sites one after another, which has become a must go place for sightseeing around the country [6].

These spatial features have formed the unique urban personality of the ancient towns in the south of the Yangtze River, and the images of the unique spatial features and meanings of ancient towns projected on people's minds have made people's understanding of the space work, thus affecting people's behavior. Influenced and implied by the space of ancient towns, many unique behavior activities have continued, such as neighborhood rest, conversation and mutual watch in the space of arcade and veranda, communication activities at river ports and bridges, assembly and business activities in the square in front of the temple, and some other activities. Through the study of academy culture, we can deepen our understanding of China's educational system development and social and cultural changes. Through the study of academy architecture, we can explore the spatial design techniques of traditional academy and its relationship with modern educational architecture, which is helpful to the protection and inheritance of academy [8].

The purpose of this study is to summarize, sort out and extract the characteristics of the academy's cultural space. Through the feasibility exploration of the application of the academy's cultural space in the Jiangnan Academy, the analysis is made from multiple perspectives such as the characteristics of the traditional academy's architectural space layout, decorative elements, and landscape elements extraction, so as to make the traditional academy culture and regional culture mutually linked, and to provide a basis for the follow-up research on the regional traditional cultural architecture. The practice of diversified and universal application design of academy cultural space can provide reference and inspiration.

2. The Space Form and Culture of Jiangnan Academy

2.1. The cultural connotation of the space form of academy

Chinese Academy started in Tang Dynasty and flourished in Song Dynasty. This period was an important period for the founding and development of Neo-Confucianism in Song and Ming Dynasties. In order to publicize and promote their own theories, Neo-Confucianism in Song Dynasty relied on Academy to recruit talented people from all over the world, thus spreading rapidly among the people. Neo-Confucianism finally became the official ideology of feudal society in Song, Yuan, Ming and Qing Dynasties [9]. The reason for the academy's success lies in its traditional educational thought of "seclusion, study and leisure" and its pursuit of the ideal

state of "harmony between man and nature". Such a site selection is consistent with the academy's purpose of focusing on self-cultivation and self-cultivation, and it is full of sages and abstruses, so as to help calm the mind and study. In addition to choosing the victory, the location of the academy emphasizes the cultural origin, so the features of the academy location are: beautiful natural environment, long historical sites and rich cultural activities [10]. The location of the academy is a scenic spot with mountains and rivers. It is built close to mountains and rivers, and also reflects the aesthetic "morality" of traditional architecture. This aesthetic way of "comparison" is the embodiment of traditional architectural ethics. "Bi De" refers to the comparison and metaphor of some characteristics of natural scenery to human moral sentiments, so as to personify nature, spiritualize, materialize and objectify human thoughts and emotions. Therefore, for economically underdeveloped regions or countries, they are faced with the gradual convergence or even disappearance of regional culture. Similarly, this flow of globalization is also reflected in architecture. Developing countries have been seriously affected by western developed countries in many aspects such as new building technology, materials, theory, style, form, etc. The architectural culture in the Jiangnan area is also being affected by this flow, showing a phenomenon of one thousand cities and one thousand houses. In the process of development, Jiangnan architecture, which was originally rich in regional architectural culture and contained regional culture, was gradually submerged or even swallowed up.

As a resistance to the convergence, some cities in the south of the Yangtze River have put forward the development strategy of building a world of cities and towns. Although the starting point is to change the pattern of thousands of cities, they ignore their own environment and cultural characteristics, and finally adopt other people's things. The construction mode of the Academy is shown in Table 1 from three aspects: mountain face, overhanging eaves and treatment under eaves.

Table 1. Comparison of College Construction Practices

Name	Gable	Cornice	Smallpox
Lianjiang Ancient College	Stepped appearance	Multi-layer slab+curved rafter	Shed and caisson
Longjiang academy	Stepped, arched	Multi-layer cantilever slab and bucket arch	Shed and caisson
Liukeng literature hall	Stepped, arched	Board+curved rafters+supporting arch, beam+supporting arch, hanging flowers	Roll-up and folding porch Gallery and Douba caisson
Shanjiao academy	Stepped, arched, herringbone	Single-layer pick plate	Douzao well
Dongshan college	Stepped appearance	Single layer cantilever beam	a draw in chess or other board games

First, the gable walls are all horse head walls, and the gable walls of Lianjiang Academy, Longjiang Academy and Dongshan Academy are ladder shaped. Secondly, eaves can be divided into two categories. Lianjiang Academy, Longjiang Academy and Liukeng Library are a combination of multi-layer cantilever and curved rafters, while Shanjiao Academy and Dongshan Academy are single-layer cantilever. Third, the corridor ceilings are mainly

characterized by rolling sheds, broken lines and caissons. Under the corridors of Lianjiang Academy, Longjiang Academy and Liukeng Library, there are rolling shed ceilings, under the corridors of Shanjiao Academy, there are rectangular covered caissons, and under the eaves of the corridors of Dongshan Academy, there are ordinary flat grid ceilings.

2.2. Design and Application of Academy Cultural Space

Traditional academy buildings are deeply influenced by local residential buildings, and are built by traditional folk crafts. Scholars' aesthetic appreciation of academy students makes the overall architectural decoration of academy simple and simple, with few ornate decorative paintings of official buildings. Decorative colors are usually white walls, gray tiles, blue bricks and wooden frames. White, turquoise, and log colors are extracted and used in architectural design. Traditional academies are usually wooden structures, and the interior furnishings in traditional academies are often made of wood. Wood is used as the decorative symbol of traditional academies, and the interior space is dominated by wood. The use of wood is also an inheritance of traditional academies. Academy architecture culture has a unique value in the long history of development, and the core content of its cultural heritage is dependent on regional culture. Due to the development of material conditions and the support of local governments and successful people, the Academy has developed from a traditional local community to an independent spatial individual. In most of the traditional academy environments in the south of the Yangtze River, natural stone, blue bricks, tiles, pebbles, etc. are often used for hard pavement. Different materials will be combined and spliced for the paving of different spaces of the Academy. Large stones will be used for the general entrance space, lecture hall space and other large scale space roads. Vertical blue bricks will be used for the paving of herringbone pattern or vertical square texture for the small scale space roads of the internal courtyard. The paving materials and collage techniques in the traditional Academy will be applied to the landscape paving of the scheme. As shown in Figure 1.



Figure 1. Map of Jiangnan Academy

Landscape stone is also a common landscaping element in traditional academy space in Jiangsu. Landscape stone is dotted in courtyard space or combined to form an independent landscape. The application of landscape stone is also a common design technique in academy landscape. The texture of landscape stone itself creates a kind of artistic conception and aesthetic feeling for the environment. The overall style of the ancient town inherits the village characteristics of Jiangnan water town style, completely retains the basic characteristics of the original buildings, and maintains the architectural details and cultural spirit of the original ancient villages to the

greatest extent. Green water, blue sky, blue bricks and grey tiles make Jiaoxi ancient village full of the charm of "Xanadu".

3. Rethinking of Design for The Cultural Space of Academy

3.1. Analysis of Architectural Space Form in Jiangnan

As a place for learning and self-cultivation, the academy takes the beautiful natural environment as the first condition to choose its site, and takes advantage of the scenic spots to cultivate sentiment and purify the soul. The plain area of Ningbo is characterized by rivers and canals, excellent hydrological environment, and the layout of local residential settlements is mostly built along the water. The external environment of this form of building is mainly water. Because the plain area is flat and there are few hills in the territory, the buildings are often built by the water, with a beautiful view and beautiful scenery. The street space of Jiangnan Academy is the most special type of space. It is a complete living space including water port, teahouse, noodle shop and cloth shop. They depend on each other, and they form an interactive relationship with the bazaar, the commodities sold in the bazaar, the old fishermen who sell fish, the housewives who buy food, and the people passing through. Therefore, the formation of a good environmental model depends not only on the various architectural elements that make up the environmental form, but also on the deeper living structure of users.

Compared with modern cities, Jiangnan Watertown Academies have more human feelings and more human nature. This is because in the growth process of the Watertown Academies, the principle of "starting from the needs of life" plays a decisive role. Some scholars in China believe that "public open space refers to urban public external space, including natural landscape, square, road, public green space and rest space." Some scholars believe that public open space refers to a space that is open, less closed, less space limiting factors and open to the public. These statements have their reasonable components, but they cannot fully understand the public open space. Because the times are developing, these conceptual things must also be developed, especially when today's ecological problems are widely concerned, the concept of sustainable development is widely accepted, and ecological culture is increasingly infiltrating into people's daily life space, it is particularly necessary to establish the concept of urban public open system based on the ecological planning and design concept. On the contrary, the building community warms up rapidly under the sun, forming a high temperature space with large warming and low air pressure. Air flows from low-temperature space to high-temperature space, increasing air circulation and regulating indoor temperature. At night, the air flow is completely opposite. The temperature difference between the building and the water surface continues to increase the exchange of hot and cold air, and air convection can form good ventilation. The humanistic environment of the Academy is a place of behavior that relies on the material world and reflects the humanistic spirit. Yongshang Witness Academy attaches great importance to the contacts and context of the base, and expresses the humanistic environment through the spiritual essence of scholars and celebrities. For example, setting up the inferiority complex pavilion, Hexitai Pavilion, Fengling Pavilion, Blowing Fragrance Pavilion and Quasi-Lanting Pavilion is to quote the national places of interest and historical sites, as well as the citations of classics, so that the academy has a certain cultural meaning. It is to use the method of analogy association, through the perception of a specific image, to make the thinking migrate to another specific thing, to cause association, and to make the depth and breadth of symbolic meaning far exceed the aesthetic value of the original image.

3.2. The Creation of Artistic Conception of Jiangnan Academy Space

As a public carrier of cultural communication, the academy cultural space plays a connecting role between the preceding and the following, and has important practical significance for the

construction of social and cultural industries. Due to the influence and limitation of time, space, region and other objective factors, the space composition of traditional academies cannot meet the needs of modern social development in terms of use function, environmental layout and operation mode. First of all, the proportion of the educational function of the academy is different, and the proportion of the area of each part of the space is also different. For example, Longjiang Academy is the highest school for Hakka children in Ninggang, Chaling and Yanling counties. The academy is mainly for educational function. The teaching area of the lecture hall and book collection is large, and the sacrifice is only on the third floor of the library, with a small area. Therefore, the sacrificial hall is the largest single building, and the lecture hall is only 33 m². Secondly, the scale of each space in the academy should meet the functional requirements. For example, the number of users of the lecture hall is large, and the scale is generally large. The courtyard in front of the lecture hall is an extension of the teaching function, and the scale is much larger than the courtyard between the lecture hall and the sacrificial hall. Under this influence, the buildings in the academy pay much attention to the ventilation and moistureproof treatment of the space. They are used frequently. The single buildings on the ground floor, such as the lecture hall and the sacrificial hall, are generally open to the patio. There is no separation or transparent partition fan in the middle, which is conducive to air circulation. The library is usually located at the last entrance, and the ground is high enough to be moistureproof; The buildings located on the second floor and above are usually separated by transparent partition fans.

On the whole, the space scale of the academy is relatively consistent: in the courtyard, the scale between the head gate and the lecture hall is large to meet the daily teaching needs, while the scale between the lecture hall and the memorial hall is small to create a quiet atmosphere for sacrifice or study; In terms of architectural monomer, according to the function and emphasis of the academy, there are differences in the proportion of lecture hall and sacrifice. The scale of dormitories and other ancillary buildings is the same, and the general space is small, mainly to meet the use function. The artistic language of ancient architecture in China synthesizes a "meaning" through those "vocabulary" and various forms and ways. It is a unique feature of ancient architecture in China that architecture combines with literature, poetry, painting and calligraphy to express a theme. The theme expressed is the social culture in which it is located. China's ancient social culture has many aspects: First, the "virtual" is the biggest, and the "real" represents the "virtual". Therefore, all dwellings, temples, palaces, gardens, etc. are laid out with the courtyard as the center (main body), which is the deep structure of architectural semantics; Second, the modal expression of ancient architecture in China is characterized by elaborate railings, corridors, steps, eaves, etc., with appropriate proportions and scales to express human feelings. Through the rational allocation of plants and buildings, Jiangnan Academy has formed its unique aesthetic mood, and then combined with poetry, couplets, celebrity inscriptions and other media to render the atmosphere. The academy relies on visual, auditory, olfactory and other ways to strengthen the association of the artistic conception of the environmental space, so as to reach the goal of being in the scene and feeling from the heart. It is precisely because of this constant blend of love and scenery that Yongshang Witness Academy has completed the sublimation from simple space to rich artistic conception, and achieved the goal of integrating the garden environment with traditional culture, making the landscape a success, borrowing the scenery from the text, and pursuing the artistic conception of space.

4. Conclusions

The prosperous economic level in the south of the Yangtze River has promoted the development of academies and formed a perfect academy system. Its academy construction

activities have been leading the advancement of academies all over the country and have a very important influence on the development of academies. As an important place of traditional cultural education in China, the academy's inheritance concept of "people-oriented" and the cultural heritage stored in the building itself are worth learning from. We should follow the development of traditional culture, explore the development law of public space design in modern academies, take its essence and discard its dross. Carrying forward and inheriting the traditional culture is not an infinite wait of waiting for a rabbit and sticking to the old ways, but an interactive and flexible reference development. Development and innovation are the last word for the cultural construction of academies. The design and application of academy cultural space in ancient villages should respect the traditional cultural context and root the essence of regional characteristic culture in the application of academy cultural space. Through investigation and data analysis, this paper finds that, as far as the courtyard layout and architectural form are concerned, they are in line with the characteristics of residential buildings, and most of them adopt the roof form of hard mountain, but in terms of architectural space layout, they use typical academic architecture ethics culture. The main buildings are arranged orderly along the central axis to create the spatial sequence of academic buildings.

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