

# Application Research of Regional Architectural Design Based on Chu Culture

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## ABSTRACT

As a distinctive branch of Chinese culture, Chu culture has a rich connotation and various forms. The colors, lines, images, skills and craftsmanship of Chu culture condense the wisdom and aesthetics of the Chu people. Inheriting traditional cultural characteristics in regional architecture can reshape the affinity of architectural culture and enhance people's sense of belonging and protection of traditional culture.

**Keywords:** Chu culture, regional architecture, design application

## I. INTRODUCTION

In the design of regional architecture, it emphasizes its differences, effectively inherits the unique original graphic context and unique cultural connotation of the local region, and innovates in the process of inheritance, endowing the local culture with new vitality, making it continue to be based on the multi-culture of today's world and shared by the international community. China's space environment design should be developed from "foreign for domestic use" to "ancient for modern use", conforming to nature and being compatible. Only such a design can inherit the traditions of the past and continue to develop, reflecting the distinctive national characteristics and unique aesthetic culture. Only in this way can we finally form our own characteristics in international design, and establish a multi-layered research system of spatial environment design and creative methods that embodies the cultural connotation of Chu, while meeting the modern design context.

Chu cultural elements are based on Chu culture, with systematic spiritual and physical existence, rich in content and diverse levels. They are not only the tools for Chu people to extract materials from nature and social life, to express aesthetics, social communication and emotions, but also the typical symbols, colors, images, techniques and crafts that embody the traditional culture, customs and human history of Jingchu region, and embody the positive attitude of Chu people towards life.

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## II. DESIGN CHARACTERISTICS IN CHU CULTURE

### A. Expressing the subtlety tactfully and finely

Chu people are good at using curves, the gentle curve makes people have a good association, and a strong sense of rhythm. There are some records about the state of Chu's good use of curves in historical allusions, "The king of Chu is on the stage of Xiaoqu" is in the "Biography of Women in Ancient China", "The Former Stories of Zhu palace", and the "stage of Xiaoqu" here is a platform with graceful curves. According to "Native Language. Chu language", the first emperor Zhuang, was the seat of the gourd, Calabash is a table with curved lines that look like a gourd.

From the layout, in the architecture of the state of Chu, pavilion platform building, cloister, pond shore, curved bridge and path, formed a beautiful rhythm of the curve. This is not only different from the starting point of western architecture, but also different from the central plains. The people of Chu attach great importance to the use of curves in all aspects, which not only appears in the large layout, but also appears on the roof, ridge and wing eaves flying Angle. At the same time, the Chu people's obsession with curvy beauty also influenced the design of Chinese gardens.

### B. Solemn romance

Chu people "love black and red". "Songs of Chu · Evocation" said, "Weave a net on the window and decorate it with red, Square connected", "There are red curtains and bamboo mats in the interior", "Paint the walls with red chalky soil, Paint partition board with red sand", it mentioned the Chu people palace

furnishings and decoration when the use of red, black color. According to research discovery, red is used for brocade, qi, group, embroider respectively, and yellow is used for silk more, brocade, qi, group and embroider craft are relatively complex, mostly used by the upper class. This shows that "red" color can only be used by people of high status. At the same time, Chu people also like to use black, such as, lacquerware with black paint for the bottom, red paint for the painting, or black paint outside, red paint inside, red color such as flame, enthusiasm bold and unrestrained, black such as the night sky, solemn and mysterious, two colors used at the same time formed a strong contrast, reflected the Chu people both solemn and romantic life attitude. (See "Fig. 1")



Fig. 1. Painted phoenix pattern lacquer ring box.

<sup>a</sup>. Picture source: Hubei provincial museum.

### C. Being grand and free

Since ancient times, Chu rich material conditions, the four seasons clear climate, make people here natural freedom, with love and hate clear character and romantic life interest.

The core area of the Chu palace adopts the axis layout, to create a "the symmetrical gate building on both sides of the front gate of the king's palace is far away from the balcony where the goddess appears" a spectacular sight (Li She from tang dynasty "Zhuzhi Ci"), the people of Chu used the combination of axis layout and free layout, it reflects the concept of respecting and conforming to the natural environment; The walls and palaces of Ji'nan reflect the cultural inheritance of "founder". However, it is not limited to simple and complete squares. The city walls change according to the natural terrain, and the palaces are freely combined on the basis of squares. The size of cities and palaces changes through rules. Chu architecture, on the basis of inheriting the rational spirit of Chinese architecture, makes the architecture present both magnificent atmosphere and free and flexible scene, fully demonstrating the spiritual essence of Chu people's pursuit of freedom and romance. (See "Fig. 2")



Fig. 2. Yunmeng king of Chu city.

<sup>a</sup>. Picture source: www.baidu.com

### D. Bionic-like objects

The architectural characteristics of bionic figurines in ancient Chu have a long history, such as, phoenix's morphological characteristics were extracted in the architectural design. The roof design was like the spreading wings of the phoenix, and the building community in the style of five phoenix buildings designed in the image of the phoenix was built by connecting the concave shapes of five houses, and the overall shape was like the huge spreading wings of the phoenix. Such architectural form not only appeared in the palace, but also affected the design of residential houses.(See "Fig. 3")



Fig. 3. Fig Five-phoenix tower.

<sup>a</sup>. Picture source: www.baidu.com

### E. An open house built on a high earth platform

The palace of the state of Chu is mainly characterized by "Pavilions", "gist of Songs of Chu·Evocation" record "Endless pavilions, Built from the top of that hill", and it shows the overall image of elevation, railing and other ups and downs. The towers of the state of Chu were used for observation of celestial phenomena and military observation. Jia Yi "New Book" recorded: There are several viewing platforms between the steps of the stage, so that the stage is combined with the view, fully reflecting the romantic feelings of Chu people. (See "Fig. 4")



Fig. 4. The palace of the king of Chu.

<sup>a</sup>. Picture source: www.baidu.com

## III. APPLICATION OF CHU CULTURAL ELEMENTS IN REGIONAL ARCHITECTURE DESIGN

### A. Simplified form

This paper summarizes the decorative structure of traditional architecture in Chu culture, simplifies and extracts the most representative elements in line with modern aesthetic feeling, and reconstructs them through repetition, variation, combination and interpenetration, so as to be used in modern regional architecture design.

Such as: Wuchang railway station (See "Fig. 5"), Located in the southeast of Zhongshan road, Wuchang district, Wuhan city, the new station was built in 1916 and put into use at the end of 2007. The overall shape of the new station of Wuchang railway station is like a rectangle, presenting the architectural form of "Chu palace", using the unique architectural form of Chu architecture such as axial symmetry, wide eaves, high platform and large slope roof. The four platforms above the exterior of the main building are all designed with large sloping roofs, just like phoenix birds spreading their wings, showing the dynamic beauty of Chu architecture. Wuchang railway station building outside wall inlaid with extract simplified design patterns by the chimes, laying the ground of the entrance of the railway station square pattern design, using the "Chime Bell" symbols in the square and on behalf of the Chu culture of Baoding chicken frame drum, such as installation art, embodied the Chu culture elements after simplification in the application of the modern regional architecture design. In the architectural design of Wuchang railway station, the elevated roadway and the two large roofs are at random, which are interlaced and intersected. This natural and harmonious combination shows the feeling of falling layer upon layer, and highlights the "hathpace" element. This kind of form brings people a kind of transcendent beauty, embodies the Chu people's awe of the universe, infinite pursuit of life and praise.



Fig. 5. Wuchang railway station.

a. Picture source: www.baidu.com

### B. Grand layout

A large number of archaeological remains confirm the grand scale of Chu architecture, Jinan city of Chu capital, it is 4.5 kilometers long from east to west and 3.5 kilometers wide from south to north. The total area is about 16 square kilometers. The perimeter of the wall is 15.5 kilometers. In the palace area in the southeast of the city, the excavated building base is not only large in number, dense in distribution and large in scale, but also piled up with thick layers of rubble, Shows that the year of the high-rise building continued prosperous scene. The largest one is 130 meters long and 100 meters wide. Therefore, no matter it was the city of Chu or the palace of Chu, its scale was the largest among all the vassal states at that time. The application of Chu architecture layout and combination to modern architecture group combination can be realized from two aspects: The first is the superposition and additional method of multiple sets and groups. The other is the architectural combination of distributed axis, following the combination of cross symmetry, central axis symmetry, one main wing and two wings, and hub-and-center radiation in the spatial layout of Chu architecture. Hubei provincial museum, located in Wuhan east lake scenic area, covers an area of 81909 square meters, a building area of 49,611 square meters, exhibition hall area of 13,427 square meters, With the third phase of the museum project currently under construction, the Hubei provincial museum will reach 110,000 square meters, making it one of the top three provincial museums in China. The main building of the museum is northwest oriented, and the whole building is composed of three parts: comprehensive exhibition hall, Chu cultural center and chime hall. These three buildings with high platform foundation, wide eaves and large slope roof stand together. The comprehensive exhibition hall is located in the middle, with the Chu culture center and chime bell hall on the left and right sides, forming a huge word "品". The overall layout of the pavilion area highly embodies the layout pattern of the buildings of the state of Chu, namely, "one building, one temple", "multi-platform group" and "multi-component group".(See "Fig. 6")



Fig. 6. Hubei provincial museum.

a. Picture source: www.baidu.com

### C. Exquisite decoration

Qu Yuan's "The Gist of Songs of Chu · Evocation" recorded, the typical features of doors and Windows in Chu architecture; The transparent wood case that red lacquer decorates spends window, face is acted the role of on having square two square successive design; Looking up, we can see the well-carved square rafters, and the beams below the rafters are painted with vivid dragon and snake patterns; The polished stone floor shows the beautiful pattern like peacock tail feather, and the wall is decorated with curved jade carvings; The bead curtain of suspension and string compose among them gem, ray is reflected mutually; The Palace Maids stood behind the curtain, waiting for the king's summons. Wipe the walls clean with soft herbs and hang up the curtains; Strings of silk tassels, tied with delicate jade pendants, hung from one group of tents to another; Emerald curtains adorned the lofty halls; With the essential oil of flowers and plants lit candles to illuminate the gorgeous hall; Through the hall into the inner room, decorated with red ceiling, the floor is covered with exquisite bamboo mat. These descriptions reflect the interior decoration characteristics of Chu architecture, from which we can see that the fine and colorful decoration in the palace at that time reached a high level, and combined with the unearthed furniture of the state of Chu, we can analyze the people of Chu's pursuit of colorful decoration to the utmost.

Qintai Great Theater (see "Fig. 7"), Located on the bank of the moon lake, Shore of Jiangnan, The south view was a built during the northern song dynasty, The design of the theater takes the charm of the Guqin, abstracts it, extracts its basic elements, and forms a unique architectural language according to the principle of formal beauty: The projecting framework is like the reed of a piano, as if "Keys fly" or "fly sleeve". The audience hall of the grand theater chooses the red color, which best represents the characteristics of Chu culture, as the main color, implying the warm and surging blood of Chu people. The walls of the theater are designed in accordance with the shape of chime bells, and the two sides of the stage are inlaid with gold-plated Chu culture decorations, which are elegant, following the exquisite decoration of the palace of the king of Chu. 3600 square meters of the theater hall, is a large number of red stone "piece by piece" into rolling hills shape, "mountain" surrounded into a circle, forming the inside of the theater hall wall. On the red stone, carved in a row of Chu characters symbols, the face of the wall was a mottled light red, looks like the grain of wood. Compared with the publicity and modern appearance of the exterior of the theater, the decorations in the grand theater, which originated from the Chu culture, are warm and calm, and full of strong symbols of Chu culture.



Fig. 7. Qintai grand theatre.

a. Picture source: www.baidu.com

### D. Cultural implication

Study with Chu culture characteristic of the regional architecture, the purpose is to drive regional culture characteristics of architectural design, grasp the artistic characteristics of traditional culture and spirit, through concrete study verve of characteristics of Chu cultural elements, and then applied to the design of modern architectural form; this process runs through traditional culture meaning of guidance.

Cultural connotation can be abstract, conveyed through the external shape of architecture, and produce certain enlightenment, so that people can take the initiative to feel and experience the beauty of traditional culture. At the same time, the cultural implication can also be a representation, such as to be able to use modeling technique, present in the content of the construction on its external form, such as Chu form and cultural relics unearthed cultural relics on the decorative pattern and so on, these can be used as an intuitive way of cultural transmission in the regional architecture design, at the same time both decoration.

The Hubei province theater was designed in 1999 and completed in 2001. The construction area is 11,767 square meters and the height is 48 meters. The main body of the building conveys yellow crane, drum and Xieshan style of western Hubei dry railing buildings, Its most representative style feature is "deep out eaves", This architectural form is a comprehensive expression of the essence of Chu culture and modern architectural language. The overall appearance of the building is as light as the wings of a crane, and as harmonious as a drum song and music, representing the unique image of the art palace. The roof panels are curved and folded, and seven glass skylights and eight continuous smooth arc-shaped panels are interspersed in the middle of the roof of the building, just like the strings of a musical instrument, so that the intention of the architectural appearance has a necessary connection with the function of the building, showing the modeling characteristics in Chu culture. (See "Fig. 8")



Fig. 8. Hubei province theatre.

a. Picture source: www.baidu.com

Hubei publishing culture city, the inspiration of architectural design mainly comes from the musical instrument chime bells in the Jingchu culture, Chime bell is the highest achievement of bronze in the spring and autumn period and the warring states period. The architectural design theme is a symmetrical "H" shaped twin tower shaped like Chu tai. The two pairs of wings on the heads of the twin towers seemed to spread their wings and soar, taking from the image of "phoenix" in the Jingchu culture, full of romance and a sense of power. In terms of color, it adopts the representative color of Jingchu culture — red. The red volume on both sides forms the facade Windows, which are small and orderly. The square Windows with holes are like the nipple pattern on the chime bells. (See "Fig. 9 ")



Fig. 9. Hongshan auditorium.

a. Picture source: www.baidu.com

Hongshan auditorium, located in Hongshan district, employs a variety of Chu cultural elements: The shape of the bronze chime bells and the pattern of the Chu clothes, etc., the overall appearance of the auditorium looks like the image of flying phoenix birds, which contains the intention of "phoenix" advocated by the people of Chu. The facade of the building adopts the intention of the nine-headed bird and is abstracted into three large volumes, which is a typical form of one main wing and two wings in Chu architecture. The architectural shape in the middle is similar to the symbol of bronze chime bells, and the buildings on both sides are spread out slightly upward, just like wings about to fly. On the facade of the building, double tiger double bird drum is used as the decorative pattern. The glass curtain wall echoes the architectural shape, and the nine bronze chime bells above the main door are perforated in accordance with the implication of the nine head bird. (See "Fig. 10")



Fig. 10. Hubei publishing culture city.

a. Picture source: www.baidu.com

#### IV. CONCLUSION

General Secretary Xi Jinping put forward the slogan of "cultural confidence" in the report to the 19th national congress of the communist party of China, "If you want to be sure, be confident". A country must cherish its national traditions, and "creative transformation and innovative development" is the only way. Today, with the in-depth development of globalization, national self-esteem and self-confidence rooted in the traditional culture are the important spiritual support for a country and a nation to integrate into the international family. Chu culture, as a distinctive part of Chinese national culture, should be integrated into modern regional architecture design with the ideological elements that best represent the romanticism of Chu people, so as to arouse people's aesthetic awareness of traditional culture and rebuild their cultural self-confidence.

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