

Analysis of the Qiang Museum Design Proposal

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Abstract: A museum serves as a window into a region, not only as a place to display artifacts and artworks but also as a bridge connecting history, the present, and the future. Museum design is a kind of interpretation method to effectively convey and express historical and cultural connotation by using architectural language. By introducing the design ideas of Qiang Museum located in Qiang Feng Village, this paper fully reflects the design concepts of past inheritance and future innovation in exhibit design and architectural design, hoping to create an interactive and inclusive rural museum of Qiang culture, better tap the original Qiang memory, and display the excellent Qiang culture.

Keywords: Qiang Museum, Heritage, Innovation

1. Introduction

As a specific type of museum, ethnography museum is a representative of the integration of history and culture, traditional culture and modern civilization of a specific region and a specific nation, and an important symbol of human protection and publicity of the development achievements of human civilization and the promotion of social progress. By protecting the precious national cultural heritage and realizing the combination with modern civilization, it can effectively promote the inheritance and development of national culture. How to design an ethnic museum, so that it has not only national characteristics, but also modern style, is worth our deep thinking.

2. Research Background

2.1. Analysis of the Research Site

Qiangfeng Village is one of the ancient Qiang villages in the Bori River Basin and is known as the "first village of Xiqiang" [1]. Qiangfeng Village is located on the west bank of the Mingjiang River, belonging to Mianhu Town, Wenchuan County, Aba Prefecture, Sichuan Province. It is 2 kilometers away from Mianhu Ancient Town, 20 kilometers away from Wenchuan County in the north, and 107 kilometers away from Chengdu in the south. On the west side is the local village road, on the east side the road connects the cable bridge across the Horijiang River, on the north side there is a large open space, and on the south side is close to the Horijiang River. According to the road situation, there is an obvious height difference between the main access area for people and vehicles on the west side and the east side of the open space, and the difference between the highest point and the lowest point is 4 meters. The northwest and southeast side have high terrain: the central side has low

terrain and gullies: the northwest side has cliffs, and the height difference can be rationally used in the design. See Figure 1 for the analysis of the site perimeter and Figure 2 for the analysis of the site topography.

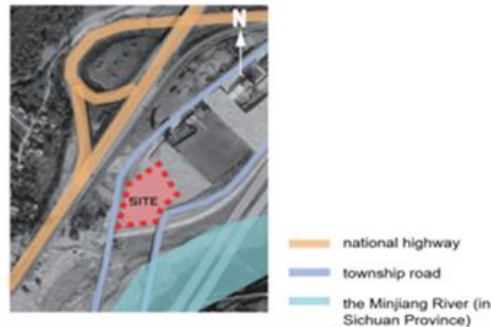


Figure 1: Site perimeter analysis

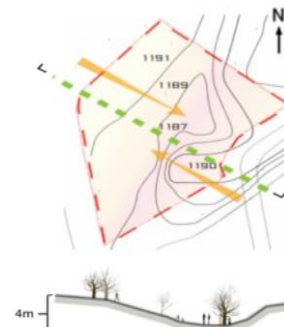


Figure 2: Site topography analysis

2.2. Qiang Culture

2.2.1. Ethnic Beliefs

The Qiang people believe in nature and worship many gods. The Qiang people worship natural gods such as God of heaven, God of earth and God of fire in many aspects of life, and many important intangible cultural heritage items have been passed down to the present day, including Huotang culture, sacrificial Mountain meeting, Qiang Li Nian, Shibi culture, and white stone worship on the roof of stone and Diaolou.

2.2.2. Clothing Culture

The Qiang clothing culture is famous for its "Qiang embroidery". Qiang embroidery is a kind of exquisite hand embroidery, often used to decorate clothes, bedding, curtains and other items. Qiang people both men and women like to wear cotton or brocade gown, usually the dress is right, relatively loose, and some also similar to cheongsam. Men's clothing generally extends beyond the knee, and women's clothing sometimes extends to the instep. The color of the clothes is different according to the age, generally in the collar, cuffs and on the front there are flowers, the front of the clothes embedded with a pattern, a variety of patterns, beautiful color. Women generally like to wear some accessories, including silver MEDALS, bracelets, rings, earrings, necklaces, hairpins, etc. Some also wear rings inlaid with agate, jade and coral, and some also hang chain beads and oval "color Wu" in the chest. Adult men usually have waist knives, iron fire sickles, cigarette bags and so on as ornaments.

2.2.3. Folk Art

The folk art of the Qiang nationality is mainly paper-cut, wood carving, stone carving, silver ware, etc. Wood carving and stone carving are the most famous. There are intangible heritage such as Qiang paper-cut, Qiang embroidery, Qiang male mask, and Brushi, as well as traditional manual skills such as embroidery art, construction technology, and "millennium wood lock".

The Qiang culture has been passed down from generation to generation without written records. Legends, ballads, folk stories and other oral legends and myths have been passed down to the present day.

2.2.4. Festival Culture

The traditional festivals of the Qiang people include "Lu Festival", "Torch Festival" and "Blue Clothes Festival", as well as celebrations such as sacrifices, dances, competitions and fairs. Qiang songs and dances include Qiang folk music such as Qiang multi-voice and Qiang ancient songs, ritual dances such as Hali, sheepskin drum dance and armor dance, self-entertainment dances such as Ba I and Salang dance, and Qiang operas such as "Huadeng Opera" and "Shibi Opera".

2.3. Qiang Architectural Features

The buildings of the Qiang nationality are built on the mountain, with the laneways in the village and the watercourse houses connected to the families. Most of the buildings are made of stone and earth ramming, which are not only strong, but also fire-proof and moisture-proof. The main Diahouse and residential buildings used for war defense functions and public sacrifice activities are scattered in height and distinct layers, making the whole Qiang Village look majestic like fortress-like buildings [2]. Qiang architecture mainly focuses on Diaolou. Diaolou is a symbol of Qiang culture and a unique architectural form of Qiang nationality, which bears witness to the bravery of Qiang people in history. The architectural style of Qiang nationality is shown in Figure 3, Figure 4 and Figure 5.



Figure 3: A glimpse of Qiang Feng Zhai space center [3]



Figure 4: Roofs pace perspective [3]

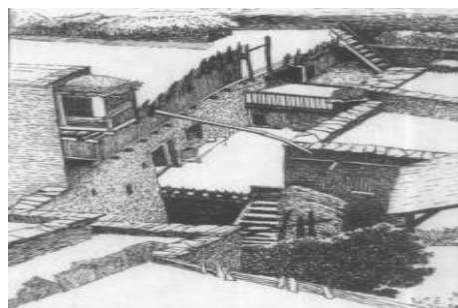


Figure 5: Tunnel entrance environment [3]

2.3.1. Unique Qiang Diao Art [4]

Qiang diaofu is a unique component of traditional Qiang people's residence and an important military defense facility in times of war. It is considered as an important cultural symbol and style modeling element of Qiang folk dwellings. The existing Qiang diastone spans from the Yuan Dynasty to the first half of the 20th century, witnessing the development of the Qiang nationality after hundreds of years of vicissitudes.

2.3.2. Conical Shaped and Stepped Form

Houses of the Qiang nationality are square and neat in plan, with inward and inward divisions, large at the bottom and small at the top, forming an outer shape with divisions similar to a cone. The Qiang folk houses are mostly quadrilateral and rectangular, with the length-to-width ratio generally lower than 2:1. The walls are concave in a little arc, and the outer maintenance walls are tilted inward at a certain Angle, in a trapezoidal shape. The Yarong folk houses are in a pyramidal shape. The building form develops in the vertical space direction, mainly with 2-3 floors, but also with 4-5 floors and the diaofu can reach 7-8 floors, and the height is staggered. The score is determined according to the height, the general inclination ratio is 1%~3%, the bottom wall thickness is 1000—1200mm, and the part is 400—600mm.

2.3.3. Terraced Spaces on Each Level

Qiang nationality area has no Pingba drying grain, using the roof as a platform, using the platform retreat space. A single building has a high and low scattered shape, and the appearance of the mountain residential houses is eclectic. Houses with short outer walls facing the street, side walls relying on the mountain, and back walls relying on the mountain are built in the same structure with the earth stone bank, forming regional characteristics. The layer-by-layer retreat not only adapted to the topography, but also shaped the unique style of Qiang folk houses.

2.3.4. Simple Stone and Wood Texture

The biggest feature of the texture of the Qiang folk houses is rough, closed and thick. The building materials are largely made of local blueslate and yellow mud, forming a unique stone building texture and style. The appearance of the residential buildings is mainly based on solid walls, and the entrance is set up with the door gods and stone dareang, which play the role of warding off evil spirits and decoration. White stones are offered at the intersection, the gathering ground, and the window covers, the roof or the top of the diaolou of the residential buildings. The wood is presented with log door posts, door covers, window covers and heat collecting walls, which are used for the processing of indoor load-bearing partition components and external appearance.

2.3.5. Religious Symbolic Totems

① White Stone Religious Symbols: White stone religious totems are important stylistic elements of Qiang residences, commonly found on rooftops, lintels, and exterior walls.

② Sheep Totems: The Qiang people consider sheep as ancestors, with early Qiang ancestors sacrificing sheep to the mountains. In some areas, Qiang people worship deities with "sheep-bodied, human-faced" characteristics, a tradition that has endured. Various sheep items are present in the decorations of residences, becoming important symbolic ornaments of Qiang residential architecture.

③ Sun God Totems: Influenced by Tibetan Buddhism, traditional dwellings feature numerous sun god items used for exterior wall decoration and interior mural painting.

3. Design Positioning

The design starts from the unique terrain environment of the site, integrates the local cultural and historical information, respects the original architectural form of Qiangfeng Village and the local architectural characteristics such as Diaonlou as a cultural symbol, excavates the original Qiang memory, displays the Qiang culture, and builds a museum with Qiang elements and modern atmosphere as a research base and propaganda position of Qiang culture.

4. Design Concept

4.1. Site-Responsive Design, Highlighting Regional Characteristics

The design is based on the actual terrain inside the site. On the one hand, it conforms to the height difference of the terrain, on the other hand, it imitates the traditional architectural form of Qiang nationality, constructs the building blocks, and organizes the relationship between the buildings. It aims to achieve a dialogue with the surrounding buildings, and realize the continuation and transition of the architectural texture. The analysis of building blocks is shown in Figure 6.



Figure 6: Analysis of building block formation

In terms of architectural design, several Qiang cultural symbols are selected. For example, as a common carrier of worship among Qiang ancestors, Yi Yang totem is used as a high-low platform and a simple and practical special "road", such as a one-wooden ladder, which is easy to move and can be preserved for a long time. In addition, the special structure of the Qiang ethnic group is used to organize the building layout based on the Diaolou, integrate the Qiang cultural elements, and have a distinct regional identity, so that visitors can feel the regional cultural atmosphere, taste the local Qiang cultural heritage, and generate cultural cognition and experience.

4.2. Fusion of Tradition and Modernity, Elevating Cultural Characteristics

The design takes inheritance and innovation as the design concept, which is reflected in both exhibit design and architectural design. By creating buildings with Qiang characteristics and displaying the intangible heritage of Qiang culture, the traditional culture and national memory of the past are inherited and learned: the modern and interesting are integrated into the architectural design, the relevant records of cultural integration and reconstruction and the renewal and development of buildings are displayed: the exhibits are better interpreted by modern high-tech. Thus reflecting the beautiful vision of cultural development and sublimating cultural characteristics.

4.3. Strengthening Rich and Varied Spatial Structure

The internal flow line uses the curved and changeable street space in the Qiang village to form the exhibition flow line combined with the exhibition space. Starting from the preface hall, the temporary exhibition hall, outdoor exhibition hall, intangible heritage exhibition hall and comprehensive exhibition hall on the first floor are connected with the tour elements of "indoor, outdoor, and indoor". It is hoped that visitors can experience the twists and changes of the streets between the Qiang buildings in the route. The flow line analysis is shown in Figure 7. The tour route of the second and third floor exhibition halls also uses multiple bending methods in the design to enrich visitors' experience of the exhibition, and the streamline analysis is shown in Figure 8. Good design concepts, design forms and other elements are adopted to design the traffic flow lines inside the museum,

provide visitors with unique psychological feelings, enhance the effect of the interior modeling design of the museum, and improve the overall service level of architectural applications [5].

4.4. Introducing Energy-Saving Technologies Based on Traditional Architecture

4.4.1. Thick Enclosures

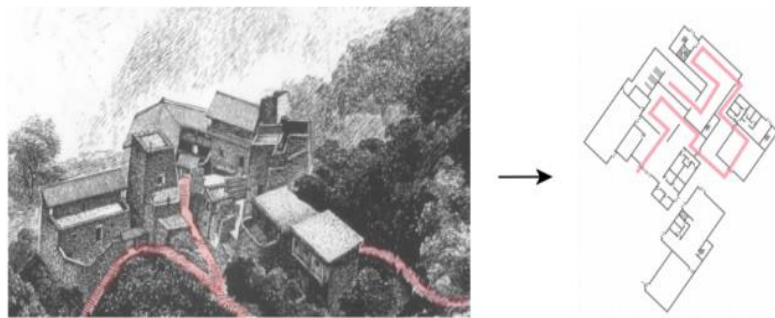


Figure 7: Analysis of building flow line formation

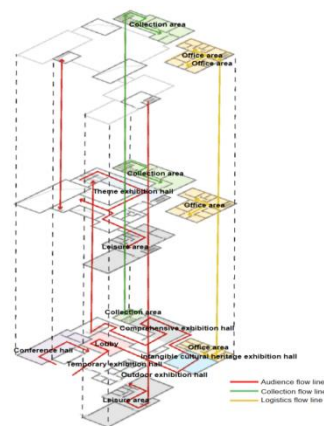


Figure 8: Architectural flow line analysis

The thick and heavy building envelope of rammed earth wall and stone wall are used in the Qiang area, the thickness of which is more than 40cm, which plays the effect of heat preservation and insulation, and can effectively keep the indoor temperature constant. The thick raw earth wall, which is renewable, easy to degrade, can store heat, adjust humidity and breathe, is the ecological technology model of traditional Qiang folk houses. The stone wall made of tamping or yellow stone is renewable and degradable, which can effectively reduce the thermal conductivity of the external wall and reduce heat loss. As long as the use of few auxiliary heat sources, it can maintain a relatively comfortable state. The raw wall can effectively absorb excess moisture and maintain the humidity of the indoor air. To relieve the dryness of the room. We can use the earth wall as a breathable wall, and through effective "breathing", a relatively constant humidity range can be maintained throughout the year. The roof structure is covered with soil, with a large number of plant fibers, and a large number of small gaps can act as an air interlayer, effectively reducing heat loss, achieving thermal insulation effect, and playing a good role in thermal insulation and heat storage.

4.4.2. Low-Height Spaces

Traditional Qiang dwellings, including watchtowers and flat-panel residences, typically have a floor height of 2.6-2.8 meters. In the Qiangfeng Township, houses have a lower floor height of 2.3-2.5 meters. By lowering the building height, it is advantageous for wind resistance and contributes to a reduced form factor, thus achieving energy-saving objectives.

4.4.3. Unbalanced Enclosures

An unbalanced maintenance structure refers to the varying thickness and insulation layers in the north and east-west directions of a residence. It involves using materials with high heat storage coefficients, thicker walls facing north, and thinner walls facing south. North-facing walls either have small or no windows, while south-facing walls have larger windows. The second floor has a concave shape, with open spaces in the middle to increase the sunlit area. Glass-covered outer corridors create sunspaces, or wooden board windows act as solid wood blinds, functioning as a heat-collecting wall. These features absorb heat during the day and release it into the interior at night, providing a passive solar energy effect.

5. Design Insights

5.1. Researching Qiang Architectural Characteristics, Continuing Regional Features

The accumulation of Qiang nationality's long history and its unique regional architecture culture, such as Qiang Diaofang Defense culture, Baishi religious culture, cattle and sheep wealth culture and stone construction culture, make its architecture with distinctive characteristics. Excavating and carrying forward the connotation of Qiang regional culture is a prerequisite and precious resource for researching and creating new architecture, and it is also a historical and cultural inheritance under the influence of social changes. To maintain the characteristics of Qiang architecture, first of all, it is reflected in maintaining regional cultural characteristics, and more importantly, cultural inheritance and change, manifested in cultural value orientation and humanistic characteristics of architecture. The design effect of the entrance of the building is shown in Figure 9, and the bird's eye view of the architectural design is shown in Figure 10.



Figure 9: Building entrance



Figure 10: Architectural bird 's-eye view

The Qiang Museum serves as a collective carrier of local culture and civilization. The designed museum is expected to apply modern architectural models that adapt to contemporary life, incorporating forward-thinking and practical elements. Utilizing advanced architectural and ecological technologies, it aims to create new architectural spaces and venues. Simultaneously, the design seeks to embody the essence of the times, giving modern architecture a new era aesthetic while nurturing a dynamic tradition.

5.2. Innovative Exhibition Methods, Expanding Exhibition Concepts

Continue to innovate the exhibition methods of the ethnographic museum to avoid a single display. In the exhibition design, the introduction of contemporary innovative concepts, the introduction of excellent scientific and technological achievements, the use of a large number of new materials, new processes, new equipment, new technology, new means, reflecting the interaction, participation, experience, the use of sound and light technology, multimedia means, to bring good hearing effects, visual enjoyment, to achieve the diversification of the exhibition, diversification, marketization, and the use of sound and light technology. Embodies a strong sense of involvement, so that the exhibition design has a rich form of expression, good performance effect.

5.3. Achieving Information Integration, Reflecting Multilayered and Multidimensional Characteristics

Presenting and reflecting rich factual values through historical introductions, historical documents, historical artifacts, and historical scenes is essential. Displaying the history of ethnic development, showcasing traditional and modern innovative processes, presenting historical records, evaluations, current status, etc., constructs a diversified and three-dimensional spatiotemporal framework. This framework forms a clear development trajectory and context. Utilizing various exhibition formats, including scene displays, object displays, model displays, image displays, multimedia displays, and document displays, effectively showcases a wealth of historical materials, artifacts, and cultural traditions. It achieves a comprehensive display from all angles, levels, and perspectives, as outlined in Table 1.

Table 1: Exhibit design

Exhibit design		
Exhibition hall	Exhibits	Default space
Intangible cultural heritage exhibition hall	Intangible cultural heritage (Qiang embroidery, Qiang paper-cut, Qiang Nuo mask)	Set up the intangible cultural heritage manual exhibition area, can be combined with the manual workshop experience museum
Comprehensive exhibition hall	Qiang folk culture, Qiang architecture exhibition	VR restore the scene, build 1:1 space restoration, tourists personally experience visit
Theme exhibition hall	Cultural integration and reconstruction, renewal and development of buildings after Wenchuan earthquake, post-disaster Memorial Hall	Display some ethnic integration achievements, documentary records, etc., restore scene interaction, video screening

5.4. Achieving Organic Fusion of Traditional Architecture and Energy-Saving Technology

Through the reference of heavy envelope, low space, unbalanced envelope and other energy-saving technologies, it is not only combined with the local traditional architecture, but also has a modern atmosphere, and matches the architectural style of the local buildings. It can not only make traditional culture and traditional architectural techniques get a good inheritance and development, but also

complement and improve each other with modern building energy saving technology, fully reflect the characteristics of the organic combination of nationality and times, and realize the integration with the environment and culture.

6. Conclusion

Qiang Feng village has a long history. The construction of the Qiang Museum is an effective place with historical and cultural characteristics, the combination of tradition and modernity, the promotion of ethnic exchanges and integration, and the harmonious development of society, which is not only the inheritance of history, but also the progress of society [7]. The unique regional cultural characteristics of the local area are fully integrated into the design of the museum, and the museum is used as the carrier to realize the symbiosis with the surrounding environment and regional culture, fully display the connotation of the material and intangible culture of the Qiang people, and realize the design concept of small place and big background. To realize the protection and publicity of traditional culture with interest, richness and systematism, to realize the educational function of the museum, and to promote the good interaction between visitors and the museum.

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