



A Study on the Protection and Utilization of Qiang Watchtowers from a Functionalist Perspective

—Taking Li County, Sichuan Province as an Example

Yuanlin Huang

School of Architecture, Southwest Minzu University, Chengdu, China

Email: 871225313@qq.com

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Abstract

As a traditional architecture of the Qiang nationality, the watchtowers are rich in culture and profound in value. The construction techniques and functional changes of the watchtowers deeply embody the Qiang people's understanding of "functionalism". However, since modern times, the Qiang watchtowers have been decreasing under the impact of economic construction. Professional scholars urgently need to conduct systematic research on watchtowers and propose protection and utilization strategies according to their current situation. Starting from the construction techniques and functional changes of Qiang watchtowers, this paper deeply studies their relationship on the basis of settlements, and proposes systematic protection and utilization strategies by means of empirical research, literature research, comparative analysis and qualitative analysis. Based on the research results, this paper proposes a protection strategy of "regional coordination, spatial integrity, architectural authenticity, and cultural diversity" and a utilization strategy of strengthening governance, promoting tourism, and integrating education on the basis of settlements. This article is devoted to promoting the protection and utilization of watchtowers and promoting the inheritance and development of national culture.

Subject Areas

Architecture, Culture

Keywords

Functionalism, Qiang Watchtowers, Cultural Heritage Protection, Protection and Utilization of Watchtowers

1. Introduction

1.1. Functionalism

Functionalism, that is, focuses on functionality and practicality in design, followed by aesthetic feeling. In short, functionalism advocates “contribution is the best” and opposes “magic tricks”. The western functionalist design thought can be traced back to ancient Greece. The philosopher Socrates put forward the aesthetic concept of “compatibility”. The architect Vitruvius discussed the relationship between beauty and function in the creative activities in *Ten Books on Architecture*, and proposed that the basic principles of architecture were solid, applicable and beautiful [1]. The earliest thought of functionalism in China can be traced back to the Spring and Autumn Period and the Warring States Period. *Guoyu-Chuyu* recorded that Wu Ju called on architecture to emphasize the complementarity of function and form, and opposed extravagance and ornate decoration.

1.2. Overview of Qiang Watchtowers

Qiang is a general term for various tribes in ancient western China and is one of the ethnic minorities with a long history in the big family of the Chinese nation. Regarding the formation of the Qiang people, academic circles traditionally believe that their main body is originated from the descendants of the ancient Hehuang Qiang people who migrated south and east into the upper reaches of the Minjiang River in different historical periods. The modern Qiang people mainly live in the upper reaches of the Minjiang River and the upper reaches of the Fujiang River in the western margin of the Sichuan Basin, including Mao County, Wenchuan County, Li County, Songpan County, Heishui County and Beichuan County in Mianyang City in northwestern Sichuan Province. According to the *China Statistical Yearbook 2021*, the population of Qiang in China is 312,981. Watchtowers are the building support for the survival of the Qiang people in the thousands of years of development. The Qiang language calls the watchtower as *Qiong cage*. Along with the development and historical evolution of the Qiang ethnic group, watchtowers not only show the heroic and tenacious national characteristics of the Qiang people, but also deeply reflect the survival process of the Qiang people's hard work. Watchtowers are the core of the spatial pattern of Qiang villages, and can be described as the architectural form with the highest historical value of the Qiang nationality. But the existing watchtowers gradually withered and collapsed, which is very pitiful.

There are relatively few systematic studies on Qiang watchtowers in China. The data we have at present mostly concentrate on the evolution history, construction techniques and cultural aesthetics of the Qiang watchtowers, and we have conducted in-depth research on the glorious history of the Qiang watchtowers. However, there is a lack of research on the protection and utilization status of watchtowers. In view of the huge gap between the cultural value of Qiang watchtowers and the status quo of protection and utilization, this paper

will focus on Qiang watchtowers themselves, studying the correlation between their construction history and functional changes. On this basis, this paper will construct a protection and utilization strategy from the perspective of functionalism, and form a protection and utilization system from a global perspective, with watchtowers as the core, settlements as the foundation, and culture as the clue [2].

2. The Characteristics of Qiang Settlements and the Evolution of Watchtowers' Function

2.1. The Characteristics of Qiang Settlements

Thousands of years ago, all the nomadic groups living in western China were collectively called the ancient Qiang. In the continuous exchange of ethnic groups, it has developed into different ethnic groups including Han, Tibetan, Qiang, etc. And the Qiang people are the only ethnic group that retains the original name and living habits after the evolution of the ancient Qiang. With the continuous progress of history, the differences of development of various ethnic groups have continued to expand, and two major ethnic groups have emerged in the eastern and western areas of the Qiang inhabited areas, namely the Han and the Tibetan. In the continuous expansion of the Han people and Tibetans, the Qiang people have been forced to shrink and live in the area where the first and second geographical steps meet in China, where the mountains are steep and the terrain is dangerous. But it is very conducive to the settlement of vulnerable groups to prevent foreign enemies. In this context, the site selection, spatial layout, and architectural form of Qiang settlements are all deeply affected.

Through in-depth investigation and analysis of the Qiang settlements, most of their settlement sites are located on the mountainside, such as Taoping Qiang Village and Zengtou Qiang Village in Li County. These typical national-level traditional villages are all located on high mountains. It is not difficult to know that the reasons for the site selection are formed around the natural environment, fengshui pattern, cultural traditions, and defense against the enemy. And among them, defending against the enemy is the primary consideration. The layout of the settlement space is based on the watchtowers. At the beginning of the construction of the settlement, in order to realize the defensive function, the residential buildings were built around the watchtowers. With the development of society, the task of defending the enemy is constantly reduced, and the settlement has gradually formed a more spacious spatial pattern [3]. From the three aspects of construction site selection, spatial layout and architectural form, it is easy to know that the settlements and buildings of the Qiang are in line with the concept of functionalism.

2.2. Construction Classification and Function Evolution of Qiang Watchtowers

2.2.1. Construction Classification

1) *Divided by construction materials.*

“It is based on the mountains, built on the rocks, and the tallest is more than ten zhang” is the specific record about the Qiang watchtowers in the historical book *Hou Han Shu-Southwest Yi*, which not only proves that the Qiang watchtowers have a long history, but also tells us that the Qiang watchtowers are constructed by stone. In fact, according to the different construction materials, Qiang watchtowers can be divided into two types: stone watchtowers (**Figure 1**) and clay watchtowers (**Figure 2**). As the name suggests, stone watchtowers are mainly made of stone blocks. This form of construction is the most common among the many watchtowers of the Qiang people. The main reason is that the Qiang group lives in the mountains, which is more convenient for the acquisition of stones. At the same time, because the stone is strong, it is more conducive to resisting foreign enemies. Clay watchtowers are mainly built with local yellow soil with strong adhesion, and the construction process generally adopts the rammed earth technique. Even though the watchtowers are made of clay, they are still very strong. The clay watchtowers are mainly distributed in Weizhou Town and Yanmen Town in the northern of Wenchuan County. There are profound



Figure 1. Qiang stone watchtowers (Source: author's photo).

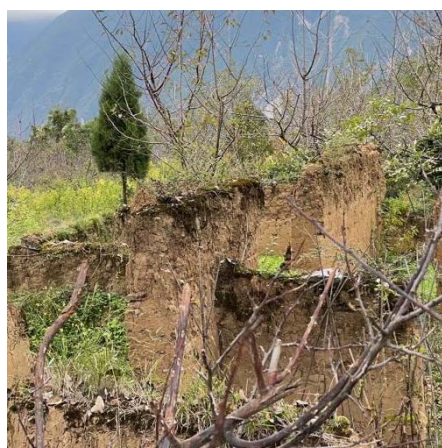


Figure 2. Qiang clay watchtowers (Source: author's photo).

historical reasons for it. The armed conflict between villages and ethnic interaction between villages that appeared since the Qing Dynasty prompted the masses of the Qiang people to learn the techniques of yellow clay ramming and building construction skills. The construction of watchtowers pays great attention to adapting measures to local conditions and local materials, emphasizing the efficient combination of building materials and functions. It contains profound functional principles.

2) *Divided by function.*

Watchtowers can be divided into the following different types according to their different functions: a) Owner's watchtowers. Due to the need to defend against enemies, Qiang villages generally form a relatively strict semi-military order. The owner's watchtower is usually located in the core of the village. It can not only show the majesty of the power, but also play the role of dispatching order in combat command. b) Home watchtowers. Home watchtowers are the most common type of watchtowers in Qiang villages. They are built around residential buildings, and mainly used for housing people, hoarding food, and housing animals. They mainly serve people's daily production and living needs, and also play the role of a small unit fortress during emergencies or war. c) Check watchtowers. They are mainly built on the main traffic road entering the village or at the exit of the checkpoint and play the function of the army's garrison, observing observation, and security inspection. d) Alert watchtowers. They are built on the top of the mountain or other places with a wide field of vision, and their function is similar to a beacon tower, which plays the role of remote information transmission and intelligence early warning. Watchtowers of different functional types make the best use of them, forming a complete military and living system of Qiang village. The functionalism principle runs through them, and contains the infinite wisdom of the Qiang people.

2.2.2. Functional Changes

During the continuous evolution of history, the functions of the Qiang watchtowers are also changing in practical life. The differences in the historical environment in which the watchtowers are located make the role of the watchtowers in the settlement continue to develop under the principle system of functionalism of the Qiang people. According to the time of its evolution, it is mainly included in the following three stages:

1) *Defending against the enemy*

The Qiang Village watchtowers were born for the defense of the village. Since ancient times, the ancestors of the Qiang people were harassed by foreign enemies and moved to the upper reaches of the Minjiang River to settle down, and began to shift from nomadism to farming [4]. The upper reaches of the Minjiang River are located in the "Southwest Ethnic Corridor", where there are many foreigners migrating back and forth. Therefore, the Qiang ancestors who chose to settle here not only face the severe cold climate and the harassment of ferocious beasts, but also suffer from external wars and threat of resource plunder. There-

fore, whether it is made by clay or stones, the watchtowers deeply reflect their solid and sturdy characteristics. The windows and doors of the watchtowers are narrower than those of ordinary residential buildings, and their main purpose is also for military defense. It is necessary to combine the terrain and terrain to form a first-mover advantage that is easy to defend and difficult to attack, so as to protect the safety and stability of the ethnic group.

2) *Storage enclosures*

With the development of society, the relationship between ethnic groups has become more and more harmonious, and many watchtowers originally built for military needs in the Qiang Villages have gradually changed their functions. The owner's watchtowers and check watchtowers have gradually abandoned their military value and turned to provide more production. The living function, like the home watchtowers, are more responsible for the role of storage or animal enclosure, while the home watchtowers that cannot serve for living are gradually abandoned. With the continuous development of social conditions, the integration of watchtowers and residential buildings has also become a very common phenomenon. Some residential buildings and watchtowers are very close to each other, and the ground floor is connected by small passages. The local people have completely transformed the watchtowers into living buildings [5].

3) *Cultural heritage*

In modern times, the government continues to build a better countryside. After a series of work such as new rural construction, rural revitalization strategy development, and traditional village protection, more and more Qiang people have entered modern life. The watchtowers used to defend against enemies and store captives are gradually losing their specific functionality [6]. However, their value as a cultural heritage has become increasingly prominent. Since China started the protection of traditional villages in 2012, traditional villages have been paid more and more attention as the basic carrier carrying important cultural resources. As of February 2022, the list of Chinese traditional villages has announced 41 traditional Qiang villages, and many of watchtowers contained in them will also be protected as an important material cultural heritage for in-depth study of national culture and national spirit.

3. The Protection and Utilization Strategies of Qiang Watchtowers

3.1. The Protection and Utilization of Qiang Watchtowers

Among the 13 counties in Aba Prefecture of Sichuan province, except hongyuan, Ruorgai and Nanping, the remaining 10 counties have diaolou watchtowers, especially in Maerkang, Wenchuan, Li and MAO counties where the Qiang people live in large communities. The oldest Qiang watchtower is more than 2000 years ago, and the youngest is 500 years ago. With the development of society, the military value of Qiang watchtowers has long disappeared. Under the impact of modern civilization and economic construction, the status quo of the

protection and use of Qiang watchtowers are also in jeopardy. With increasing villages are hollowing out and aging, the buildings in the villages, including Qiang watchtowers, are not maintained and constructed, leading to the gradual decline of most Qiang watchtowers. Whether they are stone blockhouses or clay blockhouses, the miserable ending of them are deserted and collapsed. Under the impact of such a strong history, there are only a few Qiang watchtowers left. Yet, the deeper reasons why it has finally survived and splashed such a colorful piece in the national picture are worth exploring.

3.2. Qiang Watchtowers' Modern Research Value

With the development of society, the function of the Qiang Watchtowers changed. From the initial defense to storage, and now as cultural heritage to be protected and retained, it gives us a profound inspiration that in the context of modern society, we should do a more in-depth excavation of Qiang Watchtowers to demonstrate its modern research value and achieve its modern protection, which could be used to provide a solid foundation.

1) *Architectural value*

Qiang Watchtowers are not only the wisdom of the crystallization of Qiang ancestor, but also Chinese folk architectural art. Strengthening the study of their selection, construction, maintenance, use, etc., is conducive to understanding the level of Qiang in architectural skills, and then analyze the Qiang social development of deep-seated support factors. Strengthening the study of ethnic architecture with more special forms is also conducive to enriching the study of China's architectural system and improving the social development of the Chinese nation in the context of the architectural industry.

2) *Tourism value*

With the improvement of living standards, people's demand for outbound tourism has surged year by year. Li County, Sichuan Province is actively building a global tourism system. As a minority settlement that is not widely recognized, Qiang settlements are more and more admired and yearned by people from all over the country, so the tourism prospects are very bright. Watchtowers, as the most representative existence of the Qiang settlements, strengthen the tourism packaging and publicity represented by it. And it will surely maximize its tourism value. This will not only greatly improve the income level of local residents, but also allow more people to understand Qiang architecture and culture through the development of tourism.

3) *Cultural value*

The implication contained in watchtowers is far more than a single building. It fully demonstrates the hard-working, intelligent, heroic and tenacious character of the Qiang people, and inspires people to maintain their perseverance and enterprising quality like their ancestors from the bottom of their hearts. On the one hand, as a representative cultural symbol of the traditional villages of the Qiang people, the watchtowers fully reflect the diversity and richness of Chinese

culture. Strengthening the study of the Qiang culture represented by watchtowers is conducive to promoting the improvement of China's national culture. It can further protect the traditional culture of the Chinese nation and further solid cultural self-confidence.

3.3. The Protection and Utilization Strategies of Qiang Watchtowers

Since announced the first batch of *Chinese Traditional Villages List* in 2012, China has now announced the protection of 6799 traditional villages, including many Qiang villages. It is particularly essential to incorporate the protection and utilization of Qiang watchtowers into the traditional village protection system. The overall protection and utilization of Qiang watchtowers should match the protection system of traditional Chinese villages, regional ethnic characteristics and settlement architectural space. Qiang watchtowers fully reflect the concept of functionalism in site selection, spatial layout and architectural form, and all construction activities. The construction activities have all made various efforts around how to achieve the peaceful and secure development of the village. Consequently, the strategies for their protection and utilization should likewise closely follow the functionalist concept.

3.3.1. Protection Strategies

1) *Protecting the integrity and coordination of the whole area*

Li County, Sichuan Province is currently actively promoting the construction of global tourism, and plans to focus on building an integrated tourism demonstration area in accordance with the principle of "similar resources, cultural connectivity, and regional connectivity" [7]. The Qiang settlements are distributed in many areas in Li County. They have comparable resource endowments, similar cultural attributes, adjacent distribution areas, and similar economic levels. They have the basis and prospect of coordinating them for overall protection. Actively protecting the Qiang watchtowers in the whole county as a whole is not only conducive to strengthening the overall popularity, promoting the extension of protection, but also helping to balance the development level of each settlement, so as to achieve better protection of the watchtowers in the long run.

2) *Protecting the integrity of settlement spaces*

Watchtower is not an individual building independent of the settlement, but serves as the finishing touch as an important component in the settlement. The protection of a single watchtower can only be slightly weak. The protection of the watchtowers should be based on the integrity of the settlement space and restore the role of the watchtowers in the settlement. Only in this way can we truly understand the construction significance of watchtowers and truly achieve the purpose of protection. In the process of protection, attention must be paid to the integrity of the entire settlement, and the spatial pattern and style of the settlement should be included in the protection category [8].

3) *Protecting the authenticity of physical buildings*

For the watchtowers themselves, the protection process should pay attention to the principle of authenticity. Both clay watchtowers and stone watchtowers are the important part of Qiang architectural skills. Adhering to the principle of “less construction and prohibition of construction”, try to maintain the original appearance as much as possible without building a new one. Those need to be repaired as a last resort should try their best to restore their original construction skills to avoid repairing damage to the original watchtowers, and the behavior of building new watchtowers should be completely prohibited. And we must pay great attention to the inheritance of traditional skills in the process of modern protection.

4) *Protecting the diversity of cultural heritage*

At present, Li County is guided by “tourism+”, and continually explores and develops cultural tourism resources with local characteristics and regional connotations. The protection of Qiang watchtowers should also adhere to this orientation. As an important part of Qiang society, watchtowers must have written a brilliant chapter in the long river of history. Consequently, in the process of protection, it is necessary to go deep into each settlement to excavate cultural resources. The watchtowers in different regions and different watchtowers in the same region contain rich historical and cultural connotations. The cultural heritage contained in them should be excavated and exhibited; it is conducive to promoting the protection of cultural diversity in the region.

For the protection of Qiang watchtowers, it is necessary to establish a complete structure and multi-depth system covering the whole region, settlement space, watchtowers themselves and cultural heritage. In this way, a virtuous cycle system can be formed that makes full use of regional resources to develop itself, create a complete village space environment, restore the original architectural appearance and protect the connotative history and culture. This can fundamentally realize the original ecological and systematic protection of Qiang watchtowers

3.3.2. Utilization Strategies

1) *Strengthening the rural governance*

Self-organized development in rural areas is often blind and extreme. For example, Luobo Qiang Village in Wenchuan County, due to the lack of scientific construction guidance, the construction of new villages is in a stage of disorderly development. And Zengtou Qiang Village in Li County is hollowed out due to population loss. The village is sparsely populated and the buildings are withered. Therefore, taking the opportunity to promote the development and utilization of Qiang watchtowers, promote villagers to select talented people in the village or introduce outstanding officials to strengthen rural governance. This is conducive to promoting villagers to pay attention to the cognition, protection and development of watchtowers.

2) *Promoting tourism*

In order to improve the level of infrastructure and public service facilities in

ethnic areas, and provide a good traffic condition and business environment for tourism development, we should fully combine the economic value advantages of Li County's overall tourism and watchtowers ethnic business cards, and focus on building the Qiang watchtowers' brand, [9] and strive to promote the watchtowers' brand to the whole country. It can cultivate more groups to have enthusiasm for the Qiang culture. Promoting tourism, optimizing the development and utilization mode, and realizing "tourism-style protection" will maximize the value of watchtowers on the basis of balancing the interests of all parties.

3) *Establishing educational bases*

Qiang watchtowers have a long history of construction. Among the existing watchtowers, the shortest one is more than 500 years old, and the longest is more than 2000 years. It is also different from buildings in other areas due to its minority characteristics and small distribution range. In order to prevent the loss of traditional Qiang architectural construction skills, it is particularly necessary to establish an education base based on watchtowers. The establishment of an education base will not only promote the promotion and dissemination of watchtowers' construction techniques, improve the architectural map of the Chinese nation, but also help to strengthen the development, utilization and protection of watchtowers. At the same time, the establishment of education bases is more conducive to promoting national cultural and humanistic education, and promoting the common people to strengthen their understanding of Chinese national culture.

The utilization of Qiang watchtowers should be based on the traditional settlements. Strengthening the governance ability on the basis of the settlement and promoting tourism and practical education based on the settlement. This will not only make better use of the watchtowers, but also cultivate potential people who love watchtowers and their connotative culture. This will help to expand the number of Qiang watchtowers protected and utilized, and better utilize the Qiang watchtowers in the long run.

4. Conclusions

Combining the existing domestic social environment and rural work experience to put forward practical suggestions and strategies for the protection and utilization of Qiang watchtowers is the so-called functionalism. From ancient times to the present, the Qiang watchtowers have experienced a social life process from practicality to ornamental. It was first used as a military function, and returned to the production and living needs of the people, and now it has been developed into a cultural heritage landscape. The history of Qiang watchtowers is the epitome of the historical development of the Qiang people. For the modern Qiang people and other people, the watchtowers not only have residential and economic value, but also contain rich national culture at a deeper level, and are a historical and cultural treasure shared by the Chinese nation.

Qiang watchtowers were built in the difficult years when the Qiang people

defended against foreign enemies and beasts, and have accompanied the Qiang people across the long river of history until now. It embodies the functionalist concept of Qiang ancestors in architectural skills. Under the background of the modern social environment, even if the inherent role of the watchtowers is no longer, the cultural heritage contained in them is timeless. From the perspective of functionalism, the relevant strategies for the protection and utilization of the Qiang watchtowers are proposed, which will not only help to promote the protection of national culture, but also is helpful to the rural revitalization strategy.

Conflicts of Interest

The author declares no conflicts of interest.

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