

Inheritance and development of post disaster Qiang traditional architectural culture in Beichuan

李天驕¹ · 劉弘濤²

Tianjiao Li and Hongtao Liu

¹ Postgraduate, Southwest University of Science and Technology, School of Civil Engineering and Architecture
(Qinglong's Middle Road 59, Mianyang City, Sichuan 621000, China)

² Associate Professor, Southwest University of Science and Technology, School of Civil Engineering and Architecture
(Qinglong's Middle Road 59, Mianyang City, Sichuan 621000, China)

By analyzing the causes of the reasons for the formation of Beichuan Qiang architectural features, including building types and symbols of Qiang traditional buildings, the article try to provide reference for the inheritance of the traditional architectural culture, and looks for feasible method of inheriting and carrying forward Qiang nationality traditional architectural culture in the investigation of architectural design in the new town of Beichuan.

Keywords : *Beichuan, Qiang nationality, traditional architecture, watchtowers, symbol*

1. Intruduction

Beichuan County is located in the northwest of Sichuan Province, which is a typical mountain natural landscape (figure 1, figure 2).The archaeological discoveries show that, in the early ancient times, the Qiang people of generations lived in the vast southwest area, including the valleys of Minjiang and Fujiang rivers. Since the Qin and Han dynasties, the Qiang people in northwest area migrated southwards, one branch of the



Fig.1 Position of Beichuan County
in Sichuan Province



Fig.2 Position of Qushan and Yongchang
in Beichuan County

Qiang people came to Beichuan be known as Juda, those Qiang people and those lived in Beichuan mixed with each other and constitute the main body of the present Qiang Ethenic Group. In July,2003, the State Council approved to set up Beichuan Qiang Autonomous County. Beichuan also has become China's only Qiang Autonomous County. Qiang Self-proclaimed E'ma is one of the oldest people in the big family of the Chinese nation. Its origin can be traced back to the times of Emperors Yan and Huang. In the part thousands

of years, the ancient Qiang people has formed a unique brilliant and glorious culture. The Qiang building originated in New Stone Age and has a history more than 5000 years. It absolutely a necessary part of traditional culture' s inheriting and developing. Qiang buildings in Beichuan show us the wisdom of Qiang people by its high harmony with the surrounding and various space constructions. It's worth thinking about these traditional architectural form and borderism. At the same time, we have the responsibility to carry them forward.

2. Overview of Beichuan Qiang Traditional Architecture

The Qiang nationality migrated continuously ,they has experienced a history of blending with other nationalities.Since Beichuan is seated between the Tibetans and the Hans,Beichuan is the Qiangs and Hans combined inhabited areas since ancient times.Beichuan Qiang is deeply influenced by Chinese Han culture, many customs and ways of living of the local Qiang people have been assimilated by the han culture In different degree now,so Qiang traditional architecture in Beichuan area is composed of primary Qiang architecture and Qiang Hancombined architecture.The Qiang architecture covers Qiang's watchtowers, residential buildings, headman's offices,temples,bridges,plank roads along cliffs, workshops,pass, mills,etc.

3. Analysis of the reasons for the formation of Beichuan Qiang traditional architectural features

(1) The military crackdown

For its important strategic position in the history,the feudal dynasties of past ages always took military means to control the Qiang people, for the purpose of making the fringe area of Fan and Han the “barrier” and thus ensuring the safety of Shu Area. The period of the Ming and Qing' s traditional architecture in Beichuan. The policy of military suppression and hanization implemented by rulers of that time on the Qiang people gave great influence on the change in style of the Qiang architecture. Being in a state of war long time caused the instinctive defensive reflected in Qiang traditional architecture.Because the stone is the most strong building material and stone building is thickest and steadiest, so stone towers and stone blockhouse become typical Qiang' s traditional houses which have good defensive are widely built.

(2) Ethnic fusion

Due to the integration of Qiang and Han, Beichuan Qiang' s architecture is impacted profoundly by Han' s culture. Houses built on stilts in the form of plank houses has become the main form of construction in Beichuan Qiang' s village. The new Qiang' s architecture are mostly built in the form of wood structure plank house, but the interior still retains Qiang' s traditional architectural form, the bottom in the housing, the captive animals place, is still piled of stones. And a lot of stone houses built Qiang' s village in Han style roof.

(3) Survival environment

Facing the special survival environment, the Beichuan Qiang people use their intelligence to play against nature and utilize the natural resources. The formation of the plank house with pitched roof is an example. First of all,convenient to get building materials from local resources. For example,in some countryside,timbers are easy to obtain but stone and mud are lacking,but for others,stone chips are rich but mud and timer are lacking. The second reason is climate. In some areas where such houses are built, annual rainfall is about 1,000mm,so any flat roof made of brick with sand and mud cannot stand rain wash unless it has great tilt,like pitched roof suitable for this climate.

(4) Local customs and culture

The Qiang Nationality worship more than one deity, but regard god as their main deity. As a symbol of such deities as sun god, Emperor Yan and other gods, white stone becomes the object that the Qiang Nationality offers sacrifice to. Multi-block quartzite is offered on the window top, door top, roof, back wall and the top of watchtower as symbol of the gods. The function of placing such most holy and pure white quartzite on the residential buildings of the Qiang Nationality is to bless people of the Qiang Nationality with safety, soundness, riches and wealth and to protect them against evil and disasters.

The ancient Qiang people made their living on shepherding. Sheep are the necessity for their life as well as the sacred object they worship. Modern Qiang people in Beichuan have carried forward this tradition. Shibis of Qiang (religious staff) hold the religious ceremony with the drums made with sheep leather. Sheep skulls are hung on the gate or the village's entrances for worshiping.

4. Main types of Qiang architecture

(1) Watchtower

In the Qiang architecture, the most impressive building is watchtower (figure 3). This particular spatial form originally was invented by the Qiang people. With regard to the watch tower existing in the Qiang's populated area now, some are as high as about 30m. In view of plane, they are quadrilateral, hexagonal and octagonal, or even in thirteen-angle shape. The inside is round or square, hexagonal or octagonal. Tilting is applied inside and outside. The integral body is a cone (figure 4). In view of building materials, the watchtower can be divided into two major types, stone or mud. The watchtower, covering common, pass and private watchtower, exist together with the Qiang's stockaded village.

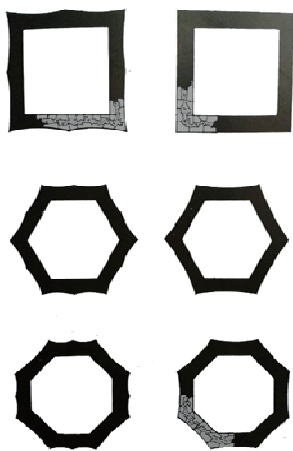


Fig.3 Schematic plan of a watchtower



Fig.4 Watchtower

(2) Stone residential buildings

Stone residential buildings are the primary type of Qiang architecture, predominating in number (fig.5). Form bottom to top, external walls are subject to tilting to present a shape of big top and small bottom separated by the center. It generally consists of 3 stories, seldom 4 or 5 stories.

Due to tilting, the wall body is relatively thick. The thickness of wall body from bottom story to top story is normally 0.2-0.7m. To reinforce firmness of a wall body, wood bars are embedded into as Joist. The room within the building are arranged in order with rich spatial content.

(3) Earthen houses

Earthen houses are constructed mainly with ramed earth (fig.6). They are greatly different from stone

residential buildings. But with similar construction principle to residential building,the wall body is also subject to titling. The building generally consists of about 3 stories. Exceptionally,there is also earth watchtower of over 10 stories.



Fig.5 Stone residential buildings



Fig.6 Earthen houses

(4) Plank houses with pitched roof

In view of plane,such house has no essential difference with common stone residential building. Only when the roof is transformed to pitched roof,the floor with cover changes to attic with rooms(fig.7).

The plank houses with pitched roof are significantly characterized in that,the area above the facade of stone wall are completely or partly covered by the pitched roof,and inside the house,the through type timber frame are always used as roof truss of external pitched roof. In most cases,the upper story is for human,the lower for livestock. The latter has stone wall. This type of building are most popular in Beichuan and they are well preserved even today.

(5) Watchtower residential buildings

Watchtower residential buildings have quite different concept from watchtowers(fig.8). They are a type of residential buildings classified by space. There is a direct spatial relation between residential buildings and watchtowers. For watchtower residential building,there are three relationships between watchtower and residential buildings:Watchtowers and residential buildings are separated in short distance;or,watchtowers and residential buildings connected by passages;or,watchtowers are completely incorporated into residential buildings.



Fig.7 Plank houses with pitched roof



Fig.8 Watchtower residential buildings

5. Typical symbols of Beichuan Qiang architecture

(1) White stone worship

Modern Beichuan Qiang people inherited the ancient tradition of worship gods from the ancient (fig.9). As the symbol of their deities, white stone is offered on the window top, door top, holy miniature pagodas on four corners of the roof and the middle niche of the back wall and white stone pagoda on top of the watchtower.

(2) Bridge gallery

Bridge gallery is a special structure affecting the internal space distribution in the ground road system (fig.10). Some bridge galleries even appear continuously over the road, affecting distribution of space in the stockaded village, and playing a role of linking up and unifying the buildings in the village.

Bridge gallery has a variety of forms, some form between two residential buildings or pattern together with the watchtowers; some belong to one family or shared with neighbors; some is living space or landing stage.

(3) Windows

Over the top of the window of the Qiang architecture a protruding step must be constructed, on which a row of white quartzite in different height is placed (fig.11). Such symbolic feature is an indispensable cultural element in the Qiang architecture.

As usual, the Qiang Nationality's window can be summed up to such types as frame window, rising window, sheep-horn window, cattle-costa window, ground window and carved window.



Fig.9 White stone worship



Fig.10 Bridge gallery



Fig.11 Window of Qiang style

(4) Cantilever platform

Practice of "Breaking Top and Raising Platform" often appears on top of the watchtower, i.e. chip off half of the enclosing wall at the top story (fig.12). Even purlin is inserted in the open face facing the valley and in the side wall, on which wood board is laid, and around which the rail is set. Nowadays, some cantilever platforms have evolved into corner building and cantilevered balcony.

(5) Other detail components

Taishan Shigandang shall be placed at the left side of the gate of the residential building (fig.13), also called rescuing stone, belonging to the objects for scaring off evil out of the residential buildings. Sheep skull is regarded as holy thing by the Qiang people, which is normally offered above the gates of the residential buildings or the gate of the stockaded village. Even family could offer one or two sheep skulls. Hanging of excessive sheep skulls would be regarded as being disrespectful.



Fig.12 Cantilever platform

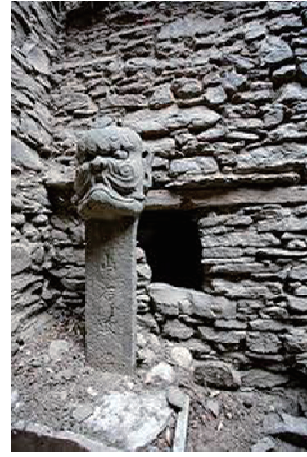


Fig.13 Taishan Shigandang

6. Inheritance and development of Qiang traditional architecture culture in the new Beichuan County

The massive earthquake on May 12 of 2008 not only caused damages to mountains and rivers, but also caused a heavy casualty to people in Beichuan. All of the 20 towns and 278 villages throughout the county suffered from great losses in the disaster. A total of 93% of the houses fell down or seriously damaged and 142,000 people became homeless. The earthquake caused a casualty of 15,645 dead and 26,916 wounded, and 4,311 people were missing. The direct economic loss in the county was as much as RMB 58.57 billion.

In the disaster, we suffered heavy losses, but at the same time, we got a great chance to inherit and develop the Qiang culture. From the security point of view, we did not choose to reconstruct the in-situ Qushan as the county of Beichuan, but Yongchang in the county 23 kilometers from the old county. The national people turned grief into faith and made the new Beichuan to be “safe, livable, features, prosperous, civilized and harmonious”.

(1) Design guidelines for Beichuan County architecture

a) Traditional Qiang-style architecture

Traditional Qiang-style architecture, architecture image shall be of local features and cultural connotations. Single buildings of different types and scales shall be of different representation forms of architecture. Traditional Qiang-style architectures includes primitive Qiang-style architectures (fig.14) and simulated primitive Qiang-style architectures (fig.15).

b) Modern Qiang-style architecture

Modern Qiang-style architecture refers to the newly-built modern building that are designed and constructed with modern architectural science and technology and meet the demand for modern special functions while abound in traditional Qiang's architectural cultures (fig.16). Modern Qiang-style architecture includes low-rise modern Qiang-style architecture, multi-stories modern Qiang-style architecture and high-rise modern Qiang-style architecture.



Fig.14 Primitive Qiang-style architectures

Fig.15 Simulated primitive Qiang-style architectures

Fig.16 Modern Qiang-style architecture

(2) Analysis of cultural heritage

a) Inheritance

The architectural design of new Beichuan county extract the traditional architectural culture, Adhering to the historic context, pay attention to the top shape of building . It is necessary to combine the flat roof, sloping roof and flat slope roof, the three kinds of roof form mixed to use, achieve strewn at random have send, avoid large area of flat rigid roof contour (skyline). Because of the Qiang people have a tradition of white stone is placed in the roof to pray for peace, so new buildings except design the four facade , also focus on the fifth elevation, namely the design of the roof.

b) Innovation

Compatible with all kinds of advanced culture, innovative development, implement the construction technology and economic development level sustainable development synchronously. Promote new structure, new materials, new equipment which is mature and reliable and new technology of energy saving, environmental protection, create new architecture with the environmental protection, earthquake resistance.

5. Conclusion

We have found that traditional architecture of Qiang people’s buildings require no aesthetic principles or integrated planning at all, though these are widely used in the modern world. The Qiang people, who have folk traditional environmental awareness, have the artistic conception----“To make full use of what we got”. Using this conception they have built many fantastic buildings. Modern architects should analyze the types and borderism on the basis of understanding how did Qiang traditional architectural culture form. Only by mastering these representative elements, can they rebuild their idea and make the most of them when they design a new building that meet the demand of modern use or Repair an old one. Of course the construction of new Beichuan county is not perfect. It has success and also has something improper. We should regard it as an exploration of Qiang people’s traditional architectural culture during inheriting and developing.

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