

# A Study on the Integrated Ornamental Features of West and China: A Case of Representative Historical Architectures in Huaxi Ba

Yunzhang LI, Xiaowen YUAN, Xi LIU, Huizhen ZHANG\*

**Abstract:** The historical architecture of Huaxi Ba is one of the representative buildings in Chinese church universities, the uniqueness of it being the decoration. The study selects twelve existing buildings in order to collect and classify the image data of the roof decorations through numbering and statistics. This paper is not only to summarize the unique expressions, but also to do further research on the historic reasons and the design ideas. The tentative design on decorations can be regarded as an occasional event as well as an inevitable tendency of culture fusion and as a reference for decorative and architectural design.

**Keywords:** church university; historical architecture; Huaxi Ba; integration of Chinese and Western style; ornament;

## 1 INTRODUCTION

Modern times (1840 - 1949) is a special period of the evolution of Chinese social form. Since the Opium War in 1840, China was forced to communicate with other countries. Western culture was introduced into China and had a fierce collision with traditional one. The long-term small-scale peasant economy and autocratic monarchy forced the society to transfer to the industrialization in a very short time, resulting in many unique cultural phenomena. The architecture was especially obvious, like the overturned treasure chest 0. It presented a state that in the western style architecture prevailed and mixed both the old and new buildings; the styles became mutual differentiation 0. Various architectural styles such as Classicism, Gothic Renaissance, Renaissance and Neoclassicism had all emerged while combination of Chinese and western of the Chinese ecclesiastic university was one of the special existences 0.

In early time, the western missionaries sporadically founded colleges to preach in China. And then, they raised funds and purchased lands to merge and expand colleges. At the end of the 19-th century and the beginning of the 20-th century, 17 ecclesiastic universities (including 14 Christian universities and 3 Catholic universities) were established in China, including Yanjing University, Fu Jen University and West China Union University 0. At the first phase, the architecture of ecclesiastic universities was mainly western style. However, influenced by the conflict between the different cultures and the struggle between the church and the local people, these architectures began to learn from the Chinese style, such as the Huaishi Hall (1894) of St. John's University in Shanghai, and the Science Museum (1899) 0. However, it was after the 1920s that the trend of combining Chinese and western architecture was really set off. Gradually, the integrated form became the inevitable choice of the modern times, with the large number of ecclesiastic university buildings. Architects were constantly exploring in the process of the intersection of Chinese and western cultures, and excellent buildings began to appear constantly 0. Although the fundamental purpose of ecclesiastic university construction at the early stage was to facilitate missionary construction, and it was a compromise method for Christ to conquer China 0, it still became the breakthrough

direction of modern Chinese national form architecture at that time.



Figure 1 The historical map of WCUC

Among these early exploratory buildings, the West China Union University (WCUC) is a special case. Located in Chengdu, Sichuan Province, it is now the Huaxi Campus of Sichuan University (SCU). As the flat ground is often called *Ba* in Chengdu area, the buildings of the West China Union University are also called the historical architectures of Huaxi Ba 0. Like other ecclesiastic universities in China, it is a way and carrier for the church to introduce western science and culture and spread its doctrines to the local Chinese people. WCUC was founded in 1905 by the cooperation of the Christian churches of Britain, the United States and Canada, designed by the architect Fred Rowntree, British Quakers 0. The Quakers is a small but influential group of Protestantism that originated in Britain 0. It attaches great importance to education and has a deep relationship with the famous Cornell University, the University of Pennsylvania and Hopkins University, where a large number of Quaker-style buildings have been left. The historical architecture of Huaxi Ba is the result of the

eastward migration of Western Quaker-style buildings 0. It is different from other ecclesiastic universities which take Chinese palatial architecture as the reference copy; however it integrated more localization features of Southwest China. The decorative flavor and traditional aesthetic taste of local architecture are prominent 0.



Figure 2 Locations of 12 historical buildings in Huaxi Campus of SCU

The study of traditional Sino-Western transitional forms is in its initial stages, but since the beginning of the 21st century, research in this area has flourished 0. Because of the particularity of historical architecture, it attracts the attention of many scholars and the generation of this paper. The tentative design of combination of the Chinese and western culture helps us to fully understand the foreign

architects' attitude and treatment of Chinese culture in the special period (1912 - 1949). Through the research of Huaxi Ba architecture, especially the architectural ornamental research which is obviously different from other ecclesiastic universities, it can effectively fill the tangible historical materials in the same period.

## 2 STUDY METHODS

This paper selects 12 existing historical buildings constructed in the early period of Huaxi Ba as the main research objects, and the decorative elements of their roofs were comprehensively sorted out (Fig. 1 and Fig. 2). First of all, on the basis of fully understanding the historical background and spatial characteristics, through mapping, statistics, classification of the image data, the prominent features and change rules of the roof decoration were explored. Secondly, the historical reasons for the production and application of these decorative elements were deeply excavated to explore the design concept behind them. Finally, it summarizes the ornamental features of historical architectures in Huaxi Ba and the deep reasons why it is unique among ecclesiastic university buildings.

Table 1 Information of each building

NO.	Name	Completion Time	Floor Area	Elevation
N1	Canadian Boarding School	1915	343 m <sup>2</sup>	
N2	The Whiting Memorial Administration Building	1919	2618 m <sup>2</sup>	
N3	The Hart College	1920	2700 m <sup>2</sup>	
N4	The Vandeman Memorial	1920	2593 m <sup>2</sup>	
N5	Friend's College Building	1925	5700 m <sup>2</sup>	
N6	The Lamont Library and Harvard-Yenching Museum	1926	2688 m <sup>2</sup>	
N7	The Cadbury Educational Building	1928	2975 m <sup>2</sup>	
N8	The Building of Medicine and Dentistry	1928	7820 m <sup>2</sup>	
N9	The Atherton Building for Biology and preventive Medicine	1934	3450 m <sup>2</sup>	
N10	The Stubbs memorial building	1942	4532 m <sup>2</sup>	
N11	West China Hospital Buildings Cluster	1946	53340 m <sup>2</sup>	
N12	The Coles Memorial Clock Tower	1953	180 m <sup>2</sup>	

## 3 STUDY OBJECTS

The twelve buildings are ordered and numbered according to the completion time (Tab. 1). Most were

named after their historic functions and built with donations from churches or individuals. They were initially constructed as teaching buildings (N1, N3 - N5, N7 - N10), office (N2), library (N6), hospital (N11) and tower (N2).

Among them, N11 was once a wartime hospital with the largest scale and is now used as the administrative building. N12 is the landmark of SCU. It was a Gothic tower in the 1920s but was reconstructed into a Chinese clock tower by Chinese architect ZuoPingnan in the 1950s. These historical buildings have high cultural value, of which seven are national heritage buildings (N2, N3, N4, N7, N6, N9, N10).

#### 4 STUDY ON THE ELEMENTS OF ROOF ORNAMENT

According to the composition classification of traditional architecture and the ornamental characteristics of Huaxi Ba architecture, the study focuses on the roof and makes specific subdivision. All ornaments in different parts vary in themes, patterns and graphic compositions. The subjects include fauna, flora, natural textures (wind and clouds), geometric patterns, artifacts, etc. (Tab. 2). Different from the western architectural ornament which focuses on the wall body, the roof is the most wonderful part of Chinese ancient architecture. It includes seven parts: Central ridge (Main ridge, Aa, Side ridge, Ab), Vertical ridge (Ac), Diagonal ridge (Ad), Xuanyu (Ae), Eave tile (Af), Stepped gable wall (Ag) and Pointed roof (Ah) (Tab. 2). In addition, the ornament elements of each building roof are also different from each other.

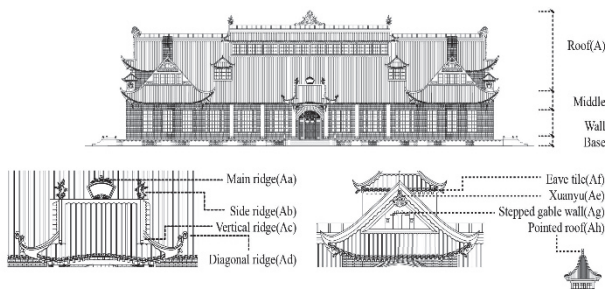


Figure 3 Graphic indication of ornamental parts

##### 4.1 Study on Each Element

(1) Central ridge: The central ridge is formed by the intersection of the two pitched roofs at the front and back of the house, and it is the highest point of the roof. The highlight of the roof ornaments is the central ridge. Aa1\_N6, Aa2\_N2, Aa3\_N6, Aa4\_N9 are imitations of a common traditional decoration, two dragons playing a pearl. But the proportional relationship of Aa1\_N6, Aa2\_N2 is quite unusual. And a lizard that is hardly mentioned in Chinese culture replaces dragon (Aa3\_N6, Aa4\_N9). Geometric graphics in Aa5\_N10 and Aa6\_N8 are simplifications of the traditional triangular pattern. Pearl is applied conventionally (Aa7\_N5). The fan (Aa8\_N2), hardly seen in the central ridge, is a misuse of the traditional ornamental element. The two ends of the central ridge, various in sorts, also play an important role in roof ornament. The Swimming Dragon (Ab1\_N4) is the traditional type, such as the dragon in Dongyue Temple in Sichuan. Chiwen (Ab2\_N2-Ab7\_N2) is authentic figure with a dragon head and a fish tail, which is one of the dragon's nine sons. It has a similar shape in Qiqu temple in Sichuan. But there is only one fish without dragon in Ab7\_N2. Although the fish and the dragon are combined

in Ab8\_N6 and Ab9\_N7, their postures differ from conventional figures. Simulation of Chiwen is applied with the role of lizards (Ab10\_N6-Ab13\_N2, Ab15\_N10, Ab16\_N6). Pegasus (Ab14\_N4) and lion with pearls on top (Ab17\_N7) are unprecedented novel subjects. The simple design of ridge edge (Ab18\_N7-Ab24\_N8) can be seen in many dwellings of Sichuan. They respectively mimic the plants ridge edge, the hard cloud edge, and the soft cloud edge in dwellings of Sichuan.

(2) Vertical ridge: Vertical ridge is the ridge that drops down from the ends of the main ridge. It is an element of traditional diversified craftsmanship, on which animals or human figures are commonly used. The architectural ornaments in Huaxi Ba are based on the fusion of innovative images and multiple ridge edges. Ruyi curly clouds (Ac1\_N4, Ac2\_N4) and the colorful phoenix (Ac3\_N7) are typical traditional Chinese elements. They are similar ridge ornaments in Baoguang Temple in Chengdu. Ac4\_N7-Ac13\_N9 are various Sino-Western figures with simple design and complex combinations, something diversified and intriguing. Ac14\_N6, Ac15\_N7 are plant-shaped, and Ac16\_N2 is only pure color paintings.

(3) Diagonal ridge: Diagonal ridge is a ridge that extends from the end of the vertical ridge to the outermost part of the eaves. Diagonal ridges are exclusive for gables and hip roofs, which prevailed in the historic building complex in Huaxi Ba. Hence, they are great in quantity and rich in types. Ad1\_N12, the only one with quadrupeds, follows official traditions, as it is on the roof of the Coles Memorial Clock Tower and redesigned by local architects. However, it is too rough to be recognized. Ad2\_N4-Ad5\_N4 are all decorated with animal patterns: a white elephant head below (Ad2\_N4), a dragon head on the ridge and a bat below (Ad3\_N4), a beast (Ad4\_N4), and a lizard spitting out water seemingly (Ad5\_N4). Ad6\_N2 has a complex and magnified shape with classical plant-shape motifs. Some are of simple style, like Ad7\_N3, N9, N10-Ad15\_N2. Dragon heads (Ad7\_N3, N9, N10-Ad9\_N5) or plant motifs (Ad10\_N6-Ad12\_N6) are decorated below the ridge. Ad13\_N9 is rather thick, making a strange proportion. Ad14\_N8-Ad15\_N2 is colored at the bottom, and *Ruyi* is ornamented at the head of Ad14\_N8.

(4) Xuanyu: Xuanyu is a component that hangs below the eaves of a house. Every Xuanyu is similarly composed in the historic building complex in Huaxi Ba. Ae1\_N4 is a hanging bat which symbolized good fortune in ancient times. Ae2\_N2-Ae6\_N4, the decoration which is similar to a peach is another common symbol of blessing. Ae2\_N2, Ae3\_N5 are carved with clouds, and Ae2\_N2 is jointly decorated with western sign stars. The shapes of the three-petal (Ae7\_N3) and the fan-framework (Ae8\_N8) were rarely used in traditional architecture.

























(5) Eave tile: Eave tiles are a special type of tile that sit at the edge of a roof or at the gable end of a roof. Eave tiles, engraved with the characters "min guobanianzao" (lit. made in 1919) (Af1\_N2) and "hua xi xie he da xuezhitu yin" (lit. the seal of WCUU) (Af2\_N2), retain the traditional style.

(6) Stepped gable wall: The triangular portion at the ends of the hipped roof, under the bargeboard, is the stepped gable wall. The Stepped gable wall in the traditional architecture of Sichuan is multifarious in patterns. But it is designed with simplified lines in the



buildings of Huaxi Ba (Ag1\_N2-Ag5\_N7). It is worthy to mention that Ag6\_N8, N12 is combined with a square window.

**Table 2** Collection of decoration graphic

The use of the Chinese traditional elements									
Aa1_N6	Aa2_N2	Aa5_N10	Aa6_N8	Aa7_N5	Ab1_N4		Ab2_N2		
									
Two dragons playing a pearl			Simplifications of the traditional triangular pattern		Pearl	The Swimming Dragon		Chiwen	
Ab3_N4	Ab4_N4	Ab5_N5	Ab6_N9	Ab7_N2	Ab18_N7	Ab19_N3	Ab20_N8	Ab21_N10	
									
Chiwen			The plants ridge edge		The hard cloud edge				
Ab22_N8	Ab23_N8	Ab24_N8	Ac1_N4	Ac2_N4	Ac3_N7	Ac16_N2	Ad1_N12		
									
The soft cloud edge			Ruyi curly clouds		Phoenix	Colored vertical ridge	Quadrupeds of official traditions		
Ad2_N4	Ad3_N4		Ad4_N4	Ad6_N2	Ad7_N3,N9,N10		Ad8_N7	Ad9_N5	Ad10_N6
									
White elephant head	a dragon head on the ridge and a bat below		The beast	Classical plant-shape	Dragonheads			Plant motifs	
Ad11_N6	Ad12_N6	Ad13_N9	Ad14_N8	Ad15_N2	Ad16_N9	Ac1_N4	Ac3_N5	Ac4_N6, N7, N9, N10, N11, N12	
									
Plant motifs		Diagonal ridge with strange proportion	Colored Diagonal ridge		Flying lion	Hanging bat	The peach shape		
Ac5_N8	Ac6_N4	Ac7_N3	Ac8_N8	Af1_N2	Af2_N2	Ah1_N11	Ah2_N12		
									
The peach shape		Three-petal shape	Fan-framework shape	The traditional style of Eave tile		Pointed roof			
The misuse of the Chinese traditional elements			The use of western ornamental elements						
Aa8_N2	Ab8_N6	Ab9_N7	Aa3_N6		Aa4_N9	Ab10_N6	Ab11_N6	Ab12_N2	
									
The fan seen in the central ridge	Combination of the fish and the dragon		The lizard						
The use of western ornamental elements									
Ab13_N2	Ab15_N10	Ab16_N6	Ad5_N4	Ac2_N2	Ah3_N2	Ah4_N6	Ab14_N4	Ab17_N7	
									
The lizard				Western sign stars	Tulips	Lotus	Pegasus	Lion with pearls on top	
Ac4_N7	Ac14_N6	Ac15_N7	Ac5_N7	Ac6_N8	Ac7_N7	Ac8_N7	Ac9_N5	Ac10_N6	
									
Simple symbols	Plant-shaped		Simple design and complex combinations						
Ac11_N7	Ac12_N7	Ac13_N9	Ag1_N2	Ag2_N2	Ag3_N3,N6	Ag4_N3,N6	Ag5_N7	Ag6_N8,N12	
									
Simple design and complex combinations			Simplified lines						

(7) Pointed roof: Pointed roof is a special form of architectural roofing. Ah1\_N11 and Ah2\_N12 are basic modes of pointed roof in these buildings. Ah3\_N2 and Ah4\_N12 are dominated by Chinese and Western elements

respectively which are lotus and tulip.

### 4.2 The Roof Ornamental Features of Each Building

The uniqueness can be observed through the analysis on the decoration types and their quantities in each building (Tab. 3, Tab. 4 and Tab. 5).

(1) N1 architectural style is more westernized, with few roof ornamental elements and only has Xuanyu.

(2) N2 has the most comprehensive parts ( $NP = 8$ ) with the highest variety in decoration ( $NA = 15$ ). Every part is adorned differently, apart from Ac where only one type of ornament appears (Ac16).

**Table 3** Collection of roof decorations in each building

	N1	N2	N3	N4	N5	N6	N7	N8	N9	N10	N11	N12
A	Aa	Aa2, Aa8			Aa7	Aa1, Aa3		Aa6	Aa4	Aa5		
	Ab	Ab2, Ab7, Ab12, Ab13	Ab19	Ab1, Ab3, Ab4, Ab14	Ab5	Ab8, Ab10, Ab11, Ab16	Ab9, Ab17, Ab18	Ab21, Ab22, Ab23, Ab24	Ab6, Ab11, Ab15	Ab15, Ab20		
	Ac	Ac16		Ac1, Ac2	Ac9	Ac10, Ac14	Ac3, Ac4, Ac5, Ac7, Ac8, Ac11, Ac12, Ac15	Ac6	Ac13			
	Ad	Ad6, Ad15	Ad7	Ad2, Ad3, Ad4, Ad5	Ad9	Ad10, Ad11, Ad12	Ad8	Ad14	Ad7, Ad13, Ad16	Ad7, Ad16		Ad1
	Ae	Ae7	Ae2	Ae7	Ae1, Ae6	Ae3	Ae4	Ae4	Ae5, Ae8	Ae4	Ae4	Ae4
	Af		Af1, Af2									
	Ag		Ag1, Ag2	Ag3, Ag4			Ag3, Ag4	Ag5	Ag6			Ag6
	Ah		Ah3				Ah4				Ah1	Ah2

**Table 4** Numbers of decorations in each building

Roof	A							
Each Part	Aa	Ab	Ac	Ad	Ae	Af	Ag	Ah
Nos. of Types in Each Part	8	24	16	16	8	2	6	4
Proportion of Types in Each Part / %	9.5	28.5	19	19	9.5	2.4	7.1	5

**Table 5** Comparison of vital decorations

NO.	N1	N2	N3	N4	N5	N6	N7	N8	N9	N10	N11	N12
Nos. of Decorated Parts ( $NP$ )	1	8	4	4	5	7	5	6	5	4	2	4
Nos. of All ( $NA$ )	1	15	5	12	5	15	14	10	9	6	2	4

(3) The roof embellished parts of N3 are not widely distributed, focusing on the Diagonal ridge (Ad). The classical Chinese upswept eave can be found in Ad7, which are closely related to the triple- eave tower roof of N3.

(4) Ornamental parts of N4 are mainly employed in the entrances (Ab-Af), with a wide variety of decorations ( $NA = 12$ ). There is a fusion of Chinese and western customary animal themes, like dragon (Ab1\_N4), dragon-head ridge ornament (Ab3\_N4, Ab4\_N4), elephant (Ad2\_N4), bat (Ad3\_N4) etc. It uses right colors, such as milky white, light blue and golden yellow. Pegasus (Ab14\_N4) and eagle shaped metal inserted above the Xuanyu (Ae1\_N4) represent the kind of direct Sino-Western combination.

(5) The ornaments in N5 have been obviously reduced, and mostly are of one type that is used repeatedly. But it can be seen the designers added variations in the view of respect and understanding of traditional wood structure. For example, the window on the gable wall is integrated with a Chuandou form (the typical ancient timberwork in Sichuan).

(6) N6 is built by imitating the form of N2; accordingly, they are similar in composition and distribution of the ornaments (with the similar  $NP$  value). N6 was completed

seven years later than N2, so the ornament subjects and methods have changed from monstrous iconic symbols to more appealing and aesthetic figures. For example, the dragon, crude in manner (Aa2\_N2), changed into a more vivid style (Aa1\_N6); the lizard with a vile visage (Ab11\_N6, Ab12\_N2) ridges interact well (Aa3\_N6, Ab16\_N6).

(7) N7 is characterized by its abundant and diversified decorations of the ridge, which is detail- oriented. There are eight kinds of single ridges, some bind traditional and western elements, like a lion carrying a pearl on the head (Ab17\_N7), Eight trigrams combined with geometric patterns (Ac12\_N7); some are conventional forms endowed with imaginary variations like the crawling dragon (Ab9\_N7). The balance between details and the whole is well reflected in N7.

(8) Most of the ornamental parts of N8 began to be simplified, which can be seen from the geometric and cloud motifs on the ridge (Aa6\_N8, and Ab21\_N8-Ab24\_N8).

(9) N9 and N10 are alike to a large extent. A majority of the parts share the same decoration (Ab15\_N10, Ad7\_N9, Ad16\_N9). The animal type, action and location are distinctive. The pattern of giant lizard spitting fire (lizard is the dragon in Western History) is emphasized for the first time. And the lion (Ad16\_N9) is the only one located at the roof drainage among the whole architecture complex. The arch line of the Diagonal ridge is another expression for capturing the traditional ridge curving (Ad13\_N9).

(10) N10 is inferior to N9 in terms of richness of decoration. The lizard and the dragon-head ridge ornaments (Aa4\_N9, Ab6\_N9 and Ab11\_N9) in N9 are reduced to fold lines in N10 (Ab21\_N10). The double main ridge (Ac13\_N9), firstly shown in N9, is replaced by a chimney at the same position in N10.

(11) N11 has the least decorations ( $NP = 2$ ), and only has Xuanyu (Ae4\_N11) and pointed roof (Ah1\_N11) without any ridge ornaments.

(12) Though few in types ( $NP = 4$ ), the ornamental parts of N12 are peculiar as a landmark. Some ornamental

features correspond to traditional Chinese architecture, e.g. the soft ridge line, quadrupeds along the ridge (Ad1\_N12) and so on.

## 5 STUDY ON THE CAUSES OF THE CHARACTERISTICS OF ROOF ORNAMENT

### 5.1 Fred Rowntree and Huaxi Ba

Fred Rowntree, the planner and designer of West China Union University, formally entered the architecture industry around 1890. In the early 20th century, he lived and worked in Hammersmith, on the north bank of the Thames, along with many other architects, artists and painters. Their activities gradually formed a clique, and successfully promoted the Arts & Crafts Movement, which rejected the rigid and stereotyped product design brought by mass production after the Industrial Revolution, and opposed the complicated style of the Victorian architecture. Combined with the cultural and artistic input of the Meiji Restoration in Japan, the Glasgow School artists absorbed nutrients, integrated the East and the West, transformed European art, and finally created the Glasgow Style, with obvious School styles in architectural forms and decorations, such as Morris's Red Mansions. As a famous architect of the Arts and Crafts Movement, Rowntree's designs in distant China were also rich in this genre. Although the overall style needs to be more integrated with the local area, some details, such as the eaves of buildings, are heavily used in red.

At the same time, it is obvious that Rowntree himself had a deeper understanding of eastern culture than most western architects in this movement, and had his own experience of the integration of eastern and western culture. For example, the eaves decoration style of N3 and N4 was Tang pofeng (ornamental elements of the front door roof in traditional Japanese architecture), which had a typical personal style. In addition, Rowntree himself was a Quaker member and an outstanding architect in the Quaker society. The church thoughts and Quaker architecture's pursuit of symmetry, balance and simplicity were consistent with traditional Chinese architecture in some aspects. Therefore, Rowntree's personal deeds and design ideas are closely related to Huaxi Ba in his architectural career, which has a direct impact on architectural decoration.

### 5.2 Wrestles Between the Local and the Church

Christianity had a profound impact on China in 1840 - 1949 and was the primary channel for foreign forces to enter China. However, with the deepening of missionary activities, the local resistance was bigger. Especially after entering the hinterland of Southwest China, there were obvious differences in attitude between Southwest China and coastal areas that had accepted new ideas for a long time. At the turn of the 20-th century, the church power was the weakest period. When various forces were competing, the church adhered to the long-term policy of continuing missionary work and made concessions and compromises in many aspects, the Church architecture was a typical case. The construction of ecclesiastic universities was to better train intellectuals, hoping these students can help the spread of religious ideas, and attracting students was the key to the initial construction of the ecclesiastic university.

Therefore, the architectural style must be skillfully integrated with traditional Chinese architecture in order to eliminate people's sense of exclusion. Under the influence of this situation, West China Union University's architecture became a special work in many China ecclesiastic universities, as well as architectural decoration, which is mainly reflected in four aspects. First, building materials were locally sourced, except for some metals and glass, which needed to be transported from other cities, such as the traditional black bricks and tiles. In this way, the architectural appearance with gray and black as the main color, with some color embellishment. Second, they absorbed the typical elements of traditional architecture in Sichuan area, such as upturned eaves, buckling structure, forming a very impressive roof style of Sichuan. Third, the construction process was completely completed by local workers, who had their own understanding of the construction, these steps made the buildings more localized. Fourth, part of the roof decoration, as far as possible the use of traditional architecture.

### 5.3 Application of Chinese and Western Elements

According to the above summary of ornamental elements, statistics can be roughly divided into the following three kinds: the use of Chinese traditional elements, the misuse of Chinese traditional elements and the use of western elements. First of all, the number of using Chinese traditional elements has reached 49 cases, and the other 11 buildings have been used except N1, which was constructed at the earliest. These traditional elements are present in all parts of the roof except Stepped gable wall (Ag). Secondly, the misuse of Chinese traditional elements is rare, with only 3 cases, which are concentrated on the central ridge of N2, N6 and N7, showing the fusion of screen, dragon head and fish body. The third is the use of western decorative elements, including 24 cases, and the large number of them are concentrated on the vertical ridge (Ac), and also appear in the stepped gable wall (Ag). These images include lizard, seahorse, Pegasus, eagle, pig head, dolphin, tulip, etc. Finally, considering the overall layout, decorations in Huaxi Ba are in line with the composition pattern of traditional Chinese architecture. In traditional architecture, important places also try to pursue similar shape, such as animal decorated ridge and rise of eaves, which have enriched the aesthetic characteristics of Huaxi Ba architecture.

### 5.4 The Ornamental Evolution Route

Decorations of each building vary with the difference of architectural style, and are determined by the unique history and function. N1 was built at the initial stage of Chinese ecclesiastic university, it was a mostly westernization building with weak traditional ornaments. Among all the buildings in Huaxi Ba, N2 and N6 are the most typical combinations of Chinese and western. N2, the obvious building that integrates fusion culture of Huaxi Ba, lays the foundation of ornamental designs for subsequent constructions. Opposite the N6, which also has important functions, draws on the N2 decorative elements. The construction time of N3-N10 had witnessed the

construction process of Huaxi Ba, with a mutual adaptation between Chinese and western culture. N3 and N4 belong to the early period, when important decorated parts had been emphasized in both Chinese and western styles, such as eaves. When it comes to N5, N7 and N8, there are some prominent decorations and transitional components compared to the Chinese traditional style. Among them, N7 has abundant detail-oriented decorations and some fusion decorated parts. At last, N9 and N10 show the creation and promotion via the interpretation of western figures and the connection with traditional parts. It is written to see the reduction of decorative design as a hospital (N11). N11 was designed in the depression period of Chinese architecture, while N12 experienced a revival of nationalism after the founding of the People's Republic of China. N12 was originally a western-style decoration, after the reconstruction of N12 injected Chinese elements. From N2 to N12, the proportion of decoration tends to be balanced by exaggeration, and the craft becomes mature by rough. Themes are also changing and updating, but the proportion of decorative application in architecture is gradually decreasing. In general, the combination of Chinese and western style has changed from simple to flexible. China and the west, ornament and architecture, from conflict towards unity.

## 6 CONCLUSIONS

Based on this study, the ornament of historical architectures in Huaxi Ba is a unique case in modern Chinese architecture, church architecture and Church University architecture. First, Chinese modern architecture was born under the background of the struggle. The roof is the most prominent and special part of these buildings; disputes and changes often occur on the roof. The same is true of the roof of historical buildings in Huaxi Ba, where decorative elements are presented in profusion. Secondly, the West China Union University was closely related to the personal background of the architect Fred Rowntree. However, it had to consider the conflict between the church and local forces at that time. Local materials, Sichuan style, Chinese application and western changes were integrated in the architectural decoration. Thirdly, due to the influence of the construction time and background, there are obvious differences in the 12 existing buildings, and the decoration elements of each building are also different. Finally, the architectural complex is a special case of the Renaissance era of Chinese ancient architecture, with obvious Quaker style. Its shape pursues simplicity and harmony, also tries its best to communicate and collide with the local characteristics. These buildings, compared with the simple Chinese-style large square with Chinese-style large roofs of Peking Union Medical College and Peking University, are more integrated and balanced between Chinese and Western styles, with a more graceful form, and with decorative elements that try to utilize the elements of traditional Chinese architecture to achieve a fusion of Chinese and Western styles.

This paper collects and organizes the image data of roof decoration of 12 representative buildings to explore the decorative features as well as historic reasons and the design ideas of historical buildings in Huaxi Ba, but it may not be able to cover all the factors affecting the decorative

features. Future research can expand the sample range and adopt diverse research methods to further explore the connotations behind Huaxi Ba's historical buildings that combine Chinese and Western styles.

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**Contact information:**

**Yunzhang LI**

College of Architecture & Environment, Sichuan University, China

**Xiaowen YUAN**

College of Architecture & Environment, Sichuan University, China

**Xi LIU**

College of Architecture & Environment, Sichuan University, China

**Huizhen ZHANG**

(Corresponding author)

College of Architecture & Environment, Sichuan University, China

E-mail: 1364248518@qq.com