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‘Imposing and Provocative’: The Design, Style, Construction and Significance of Saint Anthony’s Cathedral, Xinjiang (Shanxi, China), 1936-40

Thomas Coomans 高曼士

KU Leuven, Department of Architecture, Leuven, Belgium

Yitao Xu 徐怡涛 & Jianwei Zhang 张剑葳

Peking University, School of Archaeology and Museology, Beijing, P.R. China

ABSTRACT

This paper questions the design, style, construction and significance of Saint Anthony’s Cathedral in the county of Xinjiang, Shanxi province, China, which was built by Dutch Franciscan missionaries from 1936 to 1940. The methodology combines archival research in the Netherlands and building archaeological fieldwork in China (June 2019). A rare set of photos of the construction site provides the only information on the building works.

Xinjiang Cathedral was the last Catholic cathedral built in China before the establishment of the People’s Republic in 1949. It was erected by a team of builders and craftsmen who were used to work for the Dutch missionaries in South Shanxi. The brick cathedral combines an unusual single-nave plan and a monumental Western-style façade with two spired towers. The nave and the apse are flanked with a series of side and radiating chapels, the structural function of which is to buttress the pressure of the heavy roof on the side walls. The roof combines a Chinese tiled covering and Western trusses with hanging lath and plaster vaults.

The homogenous interior space of the cathedral was part of the renewal of religious architecture promoted by the Liturgical Movement during the interwar period. However, despite the efforts of the Holy See to promote inculturation and Sino-Christian architecture, the Xinjiang Cathedral was an imposing and provocative Western-style building, located on a prominent urban site and competing visually with the pagoda of Longxing Temple on the skyline of the historical city.

1 INTRODUCTION

From 1870 to 1952, no less than 117 Dutch Franciscans have been sent to China with the mission of evangelising South Shanxi. Their central base at Lu’an became the seat of a Catholic vicariate apostolic in 1890. Among other things, the missionaries built churches, residences, schools, orphanages and dispensaries. According to a statistic from 1936, there were 3 cathedrals, 80 churches and 291 chapels in South Shanxi (Lazaristes 1937: 141-148).

In 1936, the Holy See created the Prefecture Apostolic of Jiangzhou (*Kiangchow*) in South Shanxi and appointed Mgr Quintinus Pessers, a Dutch Franciscan, as prefect apostolic. Accordingly, a cathedral was built in 1936-40 on a prominent site within the historical walled city of Xinjiang [Fig. 1].

This paper questions the design, style, construction and significance of Xinjiang Cathedral. The methodology combines archival research in the Netherlands and building archaeological fieldwork in China.

Mgr Constans Kramer, Bishop of Lu’an, wrote that Xinjiang Cathedral was ‘*imposing and provocative*’ (Kramer 1985: 7). What did he mean exactly? How was this cathedral erected in the context of the Second Sino-Japanese War? Who were the main actors, both Chinese and Western? What construction materials and techniques were used, both Chinese and Western? Finally, to what extent did this cathedral with its eclectic Western-style facade expressed a certain modernity, as well architecturally as liturgically?

2 HISTORICAL CONTEXT: MISSION AND WARS IN SOUTH SHANXI

Xinjiang 新绛县 is a county in the southwest of Shanxi Province, along the Fen River 汾河 about 45 km upstream its confluence with the Yellow River 黄河, in the People’s Republic of China (it should not be confused with the Xinjiang 新疆 Uyghur Autonomous Region). Until 1912, the name of Xinjiang was

Figure 1. Xinjiang Cathedral from the south-east, after its completion in 1940 (© Het Utrechts Archief, 1224, 291/43).

Jiangzhou 绛州 (*Kiangchow*), a name the Church continued to use until 1981, when it changed into Yuncheng Diocese 运城教区. The cathedral is still in Xinjiang, a historical city with rich heritage.

In 1620, at the end of the Ming Dynasty, Catholic missionaries reached Xinjiang. From there, these Italian Jesuits began to evangelize Shanxi. Father Alfonso Vagnone (*Gao Yizhi* 高一志, 1568-1640), who was a famous scholar, passed away in Xinjiang in 1640. The Jesuits managed to settle in the viceroy's residence at the top of the city and build a church. After their expulsion in 1724, the complex was reassigned to high education (Dong Yong Academy 东雍书院). A gatehouse with a bell pavilion is the only remain from that time (Wang & Feng 2019: 32-34).

Italian Franciscans took over the Jesuit mission in Shanxi. In 1838, the Holy See created the vicariate apostolic of Shanxi, the seat of which was in Taiyuan 太原. In 1890, it was divided into the two vicariates apostolic of North Shanxi ruled by the Italian Franciscans of Taiyuan, while South Shanxi was entrusted to Dutch Franciscans based in Lu'an 潞安 (present diocese of Changzhi 长治). Because of the growing Catholic population, the vicariate apostolic of Lu'an was reduced twice, with the creation of the prefectures apostolic of Hongdong 洪洞 in 1932 and of Xinjiang on May 25, 1936. The former was entrusted to Chinese clergy; the latter to Dutch Franciscans (Camps & McCloskey 1995: 133-161).

Mgr Quintinus Pessers (*Hong Zhaoming* 孔昭明, 1896-1983), a Dutch Franciscan born in Tilburg, was appointed the first prefect apostolic of Jiangzhou (*Kiangnan*) on December 4, 1936 and immediately began to build a cathedral that expressed the status of the new ecclesiastical territory. Such an undertaking

was daring because the circumstances were everything but favorable. Nationalist China was divided and the Communists, after the epic Long March, had settled in October 1935 in the Yan'an 延安 region, ca. 200 km north-east from Xinjiang. Moreover, in July 1937, Japan invaded China and conquered Beijing 北京, Shanghai 上海, Nanjing 南京 and North Shanxi by December 1937. Refugees flocked to Xinjiang that fell in the spring 1938. The situation of Dutch missionaries worsened in 1942 after Japan had declared war to the USA and occupied the Dutch East Indies (Indonesia). The missionaries were first interned in a camp in Shandong 山东省 and placed in 1943 under house arrest in the Beijing Franciscan house. After the Japanese surrender, several Dutch missionaries returned to Xinjiang in December 1945. The Chinese Civil War between Nationalists and Communists soon turned to the advantage of the latter who controlled Shanxi from 1947. In 1954, Mgr Pessers was the last missionary to be expelled from Shanxi and Chinese priests took over the diocese (Kramer 1985; De Kok 2007: 398-403).

Building a cathedral in such circumstances was very challenging. Work started in 1936, was interrupted at the end of 1937, resumed and was completed in 1940, including the interior decoration. From 1952, the cathedral was used as a granary and the other buildings of the Catholic mission became a school. The cathedral was defaced during the Cultural Revolution by turning down the two spires. Eventually, in the 1980s, the buildings were returned to the Diocese, the cathedral was restored and the spires re-established. In 2020, bishop Wu Junwei 武俊维 and the community celebrated the 400th anniversary of Catholic presence in Yuncheng Diocese in the cathedral, which is its main monument and symbol.

3 SOURCES AND METHODOLOGY

The study of churches and other buildings erected by missionaries in China from the 1840s to the 1940s confronts the researcher with particular methodological issues. On the one hand, the difficult access to archival sources in China makes it almost impossible to find original plans, contracts, specifications, accounts, etc. and to identify architects, contractors, craftsmen, the origin of materials etc. With the exception of major cities like Shanghai, Beijing and Tianjin, most archives related to construction appear to have been lost or destroyed. On the other hand, the private archives of missionary institutes in Europe and North America conserve photos of buildings, among which those of construction sites are rather rare. In the case of big projects, photos of plans were sent to Europe and used for fundraising. Missionary archives usually keep a lot of correspondence which sometimes contains allusions to building activity. As for missionary journals, they often mention the newly

built churches but carefully avoid boring readers with technical details and do not identify the brother carpenters and builders. A unique manual for church construction in China, published by the Jesuits of Xianxian 献县 in 1926, has been found and studied in detail (Coomans 2014; Coomans & Xu 2016).

The churches themselves, when they have passed through the throes of time and history, are the main source. Many, however, have been demolished or transformed; all have lost their original furniture and interior decoration. Building archaeological analysis therefore provides the most accurate information on construction techniques, materials, masonry and roof structures, and makes it possible to identify the process of reciprocal influences between Chinese and Western projects, techniques and styles, as well as the infinite creativity resulting from these hybridizations on the path to modernity (Coomans & Xu 2015; Coomans 2018). Finally, oral sources are of crucial importance in China. Interviewing elderly persons, in particular professionals and craftsmen from traditional architecture, is very important.

In the best cases, the church still stands and one or another photo of its construction could be found in archives in Europe. We have proven that the collaborative method between European and Chinese scholars not only generates new architectural knowledge,

but contributes to the safeguarding of a threatened transcultural heritage and memories through material analysis and accurate heritage value assessments (Coomans & Xu 2017).

The present study of Xinjiang Cathedral is part of the collaborative program between the School of Archaeology and Museology of Peking University, and the Department of Architecture of the Faculty of Engineering Science of KU Leuven, which is developing since January 2014 and, among other things, resulted in the First International Forum on Sino-European Building Archeology in Beijing in 2016 (Xu, Coomans & Zhang 2019).

The archives of the Dutch Franciscans are conserved at the City Archives of Utrecht and contain a small section on China (Beck 2005: 1244). The most precious source on Xinjiang is an unpublished compilation written in 1985 by Mgr Constans Kramer (*Kang Jimin* 康济民, 1903-1998), the former bishop of Lu'an, entitled *The Kiangchow Story. The Dutch Franciscans in South-West Shansi (1936-1954)*, and a series of five pictures of the cathedral's construction works [Figs 3-7]. This was enough to organise a field school (2019 June 17-21) on modern architecture to studying Xinjiang Cathedral with about twenty 3rd-year undergraduate students from the building archeology program of Peking University.

4 DESIGN AND STYLE

Saint Andrew's Cathedral of Xinjiang is south-north oriented, with its main entrance facing south, according to Chinese rules of geomancy (*fengshui* 风水). The monumental brick Western-style façade with three portals and two spired towers, 36.75 m high, dominates the city. Unexpectedly, the plan of the cathedral is a single nave of 8 bays ending with a polygonal 5/8 apse [Fig. 2 plan]. The 41.50 m long and 12.60 m large inner space is rhythmmed with transversal arches falling on engaged columns along the walls [Fig. 14]. Each bay is covered with a lath and plaster groin vault with painted fake ribs. The arches reach a height of 13.30 m and the vaults about 14.50 m [Fig. 2 section]. There are no aisles, transept and ambulatory. Therefore the very homogenous main space offers a good view of the main altar and is not disturbed by the side chapels and the sacristy that are annexed along the sides of the nave and the apse. Two polygonal radiating chapels open onto the 45° bays of the apse, which is an original way of placing side altars in a church without transept. The two straight bays of the sanctuary are flanked with rectangular secondary rooms: the Bishop's Chapel to the east and the sacristy with its back entrance to the west. There is a tribune for the choir above the sacristy. Seen from outside, one might think this volume is a transept under a transversal saddle roof [Figs 8 and 11], but inside there is neither a transversal space nor a crossing.

Figure 2. Xinjiang Cathedral, ground plan (the south is to the right) and north-south section (© School of Archaeology and Museology, Peking University 2019).

Figure 3. Xinjiang Cathedral, earth-ramming works on the site, 1936 (© Het Utrechts Archief, 1224, 291/48).

Further on, the nave is flanked with 4 almost square side chapels, 2 on each side, alternating with 3 bays with windows that directly illuminate the nave. The two square towers flank the first bay at the reverse of the façade: the south-west one contains the stair leading to the roof; the south-west one was the place of the baptistery. The interior of the cathedral is Romanesque style, characterized by round arches – all enhanced by voussoirs painted in alternating colors –, triplet windows and Romanesque capitals [Fig. 14].

The exterior of the cathedral, with its side chapels jutting out on the east and west flanks, has an unusual volumetry. A particularly intriguing element is the existence of an upper floor above the side and radiating chapels, whose blind windows and pediments rise as high as the walls of the nave [Fig. 1].

The eclectic Western style of the cathedral is mixes elements from Romanesque, Renaissance and Gothic architectural vocabularies. The exterior homogeneity is the result of the systematic use of brick as well as the high quality of the wall decoration made of molded bricks, shafts, capitals, arches, buttresses, blind windows and floral patterns (Wang & Feng 2019: 151-156). The Chinese roof tiles contribute to this overall harmony. On the main façade, Chinese and Latin dedication stones mention the year 1937.

5 CONSTRUCTION

Prior to being appointed prefect apostolic of Xinjiang, Mgr Pessers was, from 1929 to 1936, the pastor of Lu'an Cathedral and the procurator of the vicariate apostolic of Lu'an. The procurator was in charge of the physical organization of the diocese and was notably responsible for the construction, maintenance and financing of churches, schools, residences and other buildings. Since there was no church in Xinjiang worthy of becoming a cathedral, Mgr Pessers immediately built a larger one than that in Lu'an. He *'used the experience he had gained in his many building activities in the Luanfu district, and he put the work into the hands of the same family of builders and artisans,*

Figure 4. Xinjiang Cathedral, stone carvers at work, 1936. Note the city wall in the back (© Het Utrechts Archief, 1224, 291/49).

who had been building the churches there for generations' (Kramer 1985: 7). The missionaries had thus transferred Western architectural and technical knowhow to Chinese craftsmen who formed a specialised team that worked for them. This explains why Xinjiang Cathedral, as we will see, belongs to a group of large churches with similar plan, construction characteristics and Western-style decoration.

After having cleared the land to the east of the old church and the fathers' residence, the ground had to be rammed according to an ancestral technique (Coomans & Xu 2016: 169-173). One old photo shows two groups of about twenty rammers at work: a huge stone with a flat bottom is attached to a trunk, which is lifted at arm's length by the men and, at the foreman's signal, knocked to the ground [Fig. 3]. The operation is repeated as many times as necessary to obtain an unshakeable base. On another photo stone carvers are carving the rectangular blocks that were used for the foundation and plinth of the cathedral's walls [Fig. 4]. These bluestones came from Mashou Mountain 马首山, about 25 kilometers from Xinjiang, where stone carvers villages are established for generations (Wang & Feng 2019: 155).

A third photo shows an inner view of the nave under construction [Fig. 5]. The brick walls are completed and a heavy roof truss is standing obliquely in the middle of the nave, waiting for being lifted.

Figure 5. Xinjiang Cathedral, carpenters lifting a roof truss in the nave, 1937 (© Het Utrechts Archief, 1224, 291/45).

Figure 6. Xinjiang Cathedral, masons at works on the south-east spired tower, 1937 (© Het Utrechts Archief, 1224, 291/46-47).

This Western truss has the shape of a letter A and is made of two rafters, a collar and a king post. Wrought iron cramps are fixing the top of the rafters with the king post and the middle of the rafters with the collar. We will see later why this truss has no tie beam.

Two other photos of the works show masons on scaffolding raising the spire of the southeast tower [Fig. 6]. The roofs of the side chapels are covered with tiles. The two last old photos are a general outer view of the completed church [Fig. 1] and an inner view of the nave without decoration but furnished with altars, a communion rail and cushions for the faithful in the nave, the women on the left and the men on the right [Fig. 7].

Apart from the sentence about Mgr Pessers and this remarkable series of photos, there is no information about the architect, the number of workers, the financing and construction costs, the impact of war on the works, etc. It seems, however, that both materials and construction techniques are local and traditional. Neither the photos, nor building archaeological analysis suggest the use of rebar and concrete, then unaffordable in places like Xinjiang. In the late 1930s, these modern materials were only available in the treaty ports and places along railroads and great rivers like the Yangzi – which was not the case of Xinjiang.

Figure 7. Xinjiang Cathedral, view of the nave to the north after completion, 1940 (© Het Utrechts Archief, 1224, 291/50).

6 CHINESE ROOF, WESTERN TRUSSES AND INGENIOUS BUTTRESSING SYSTEM

From a constructive point of view, the two most interesting features of Xinjiang Cathedral are its large vaulted nave and the volumes of the side and radiating chapels that rise as high as the nave. Here we will see that both are structurally related.

The main roof structure of the nave is made of 8 trusses, which already have been described [Fig. 5]. The trusses have no tie beam because their lower part includes the transverse arches of the nave. These arches are not made of brick but of lath and plaster, like all vaults, according to a technique common in China (Coomans 2016). In the space between the trusses, the vaults of the nave rise about 1 m higher than the transverse arches and are hanging from the purlins, which have big round sections. This means that the vaults are light but the roof frame is robust to withstand the heavy load of the Chinese tiled roof.

The hybrid roof is thus made of Western trusses bearing a beautiful Chinese traditional roof covering. The purlins carry a floor covered with a layer of about 10 cm earth mixed with lime on which lines of convex semi-cylindrical tiles are assembled with mortar and alternate with vertical small canals made of slightly concave overlapping tiles [Fig. 8]. The slope of the roof is low (30°) and the span of the trusses is wide (12.65 m). In short, under this weight, the pressure of trusses on the side walls is strong and buttresses are required because there are no tie beams.

Since there are no aisles, it was easy to buttress the nave and the apse. However, instead of classical buttresses, the architect designed side chapels whose transverse walls act as a buttressing system. This solution is ingenious and all the more effective as the walls of the side chapels rise to the same height as the walls of the nave and the apse [Figs 1 and 9].

From a spatial-liturgical point of view, the side and radiating chapels did not need such a height because their vaults are much lower (8.60 m) than the side walls. What is the space above the vaults used for?

Figure 8. Xinjiang Cathedral, roof of the nave and east side chapels, from the south-east tower (© THOC June 2019).

Figure 9. Xinjiang Cathedral, buttressing system of the roof trusses by the transverse walls of the side chapels (© THOC June 2019).

There are dark and empty spaces between the vaults of the chapels and the saddle roofs which cover them. The lath and plaster vaults of these chapels are light and exert no pressure on the walls because they are hanging on a sort of ‘mikado’ of beams, the main ones of which are anchored in the walls [Fig. 10]. This type of carpentry looks like the backstage of a theatre.

Figure 10. Xinjiang Cathedral, Bishop's Chapel, east side of the nave, space and structure above the vaults (© THOC June 2019).

7 MODELS AND SIGNIFICANCE

When doing fieldwork in Xinjiang, we have been told that the unusual plan of the cathedral with its single nave, side chapels and two radiating chapels resembles the Chinese character *yang* 羊 [Fig. 11], which means ‘sheep, goat, ram’, and could refer to the Christian *Agnus dei*, the Lamb of God (*gaoyang song* 羔羊颂). This poetic interpretation is also reported in

Figure 11. Xinjiang Cathedral, vertical view showing the *yang* 羊 shape of the building (© School of Archaeology and Museology, Peking University 2019).

recent literature (Wang & Feng 2019: 151) but is not attested by old documents, to our knowledge. However, the relationship between Chinese characters and the shape of certain buildings is not unknown in Chinese architectural culture (for instance the characters 人 *ren*/ person, people; 中 *zhong*/ middle, etc).

The speedy construction of the cathedral's shell (1 year) suggests that the builders and craftsmen were familiar with this type of modular structure. Their model was the cathedral of Lu'an. Mgr Pessers *'lets his confreres in Luanfu know that [his cathedral] was to be one meter longer and it would get one tower more than their own cathedral'* (Kramer 1985: 7).

Lu'an Cathedral, built in 1903, has been demolished in the 1960s but old pictures make the comparison with Xinjiang possible. Both had a similar plan and structure with a single nave and the same display of side chapels, the radiating chapels excluded. However, Lu'an was pure Gothic, had a completely different façade and its single tower was located behind the choir [Fig. 12]. Inside, all the arches were pointed [Fig. 13]. Based on this model, at least two other smaller churches were built in southern Shanxi in 1930 at Fenyang 汾阳 and in 1932 at Jiucun 酒村. These two churches predate the cathedral of Xinjiang a little but may well have been erected by the same builders and craftsmen. Both have richly decorated Gothic-Romanesque style facades without towers. The parish church of Jiucun is particularly similar to that of Lu'an, including its campanile (Wang & Feng 2019: 148-151, 241-247, 299-301).

Having defined this group of four churches, it remains to wonder about the use of European styles and models which together raise the central question of

Figure 12. Lu'an Cathedral under construction, view from the south-west, 1903 (© Het Utrechts Archief, 1224, 289/4).

Figure 13. Lu'an Cathedral, inner view of the nave with furbishing, around 1930 (© Het Utrechts Archief, 1224, 289/6).

the modernity of Xinjiang Cathedral. Since the mid-1920s, the Holy See has been stimulating a new missionary thought and strategy based on inculturation. The rejection of European styles in favor of the Sino-Christian style was part of the strategy to sinicise church architecture (Coomans 2017). This new style does not seem to have penetrated the dioceses of South Shanxi, either because the Dutch bishops were conservative or Chinese Christians claimed the foreign identity of their religion (Coomans, 2021^b).

In Europe, however, elaborate Gothic Revival had been rejected after World War I and replaced by Romanesque and Byzantine references as well as modernist reinforced concrete and simplified modern Gothic churches. A facade like that of Xinjiang Cathedral was no longer built in Western Europe in the late 1930s and would have been considered conservative there.

Conversely, the interior space of the cathedral with its 12.60 m large single nave fitted perfectly with the architectural trends promoted by the Liturgical Movement since before World War I (McNamara 2009: 171-185). The idea was to bring the whole congregation together in a unified space without any visual obstacle between the faithful and the altar. In Europe,

the use of reinforced concrete facilitated the construction of large covered spaces. This was not possible in South Shanxi before the 1950s, because this region was too remote and poor.

8 CONCLUSION

Xinjiang Cathedral was thus well and truly *'imposing and provocative, on the highest spot of the city'*, according to the words of Mgr Kramer (Kramer 1985: 7). So it was certainly perceived by a large majority of Xinjiang's citizens. The monumental 'face' of the cathedral with two Gothic spires [Fig. 15] was a foreign religious identity statement on the skyline of the historic city and created a visual conflict with the pagoda of Longxing Temple 龙兴寺 (He 2016: 50-55). It was undoubtedly considered by many as a threat to the city's harmony and good *fengshui*. As often after 1900, Western-style churches were erected on visible places as part of a spatial strategy (Coomans 2021^a). This was the wish of Mgr Pessers who was commissioned by the Holy See to develop a new diocese in South Shanxi, in the footsteps of the 17th-century Jesuits. At the same time, Mgr Pessers' cathedral created successfully, with the available construction techniques, a modern liturgical space for the Chinese congregation which should be boosted by the feeling to belong to the universal Church [Fig. 14].

As last Catholic cathedral to have been completed at the time of foreign missions, Xinjiang Cathedral is a milestone in the history of modern architecture in China. It has been listed as a monument at city level on November 15, 2004 and at provincial level, on June 6, 2016.

Figure 14. Xinjiang Cathedral, single nave space, view from the south (© THOC June 2019).

Figure 15. Xinjiang Cathedral, elevation of the south façade, (© School of Archaeology and Museology, Peking University 2019).

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