

# The Imperial Astronomical Bureau and the Official Catholics Community during the late Ming and early Qing Dynasties

Qinghe XIAO

(Shanghai University, Baoshan, Shanghai, China)

**Abstract:** During the late Ming Dynasty, with the establishment of the Calendar Bureau (历局) by Xu Guangqi (1562-1633) and the recommendation of missionaries and Catholics to take part in the revision of the calendar, the Imperial Astronomical Bureau (钦天监) became an important institution for missionaries to stay in China and played an important role in the dissemination and development of Catholicism. Until the beginning of the Qing Dynasty, the Imperial Astronomical Bureau became a government office with the most official Catholics. Missionaries were not only in charge of the calendar revision, but also converted the officials and astrology students into Catholics through active preaching. The missionaries of the Imperial Astronomical Bureau provided protection for missionaries all over the country, and retired officials returned to their homes to continue spreading Catholicism. Even during the prohibition period, missionaries still stayed and worked in the Imperial Astronomical Bureau. The formation of the community of official Catholics in the Imperial Astronomical Bureau could be regarded as the embodiment of the Catholic preaching through sciences during the late Ming and early Qing dynasties. There are many studies on Adam von Bell (1591-1666) and Ferdinand Verbiest (1623-1688), but less on the official Catholics in the Imperial Astronomical Bureau. This article tried to illustrate the basic situation of the official Catholics during the late Ming and early Qing, by discussing the relationship between the Bureau and Catholicism, and analyzes the historical influences of preaching through the Bureau and the sciences.

**Keywords:** The Imperial Astronomical Bureau, Catholic community, preaching through sciences

**Author:** Qinghe XIAO, Professor, Department of History, Shanghai University, Baoshan, Shanghai, China, 200444. Tel: +86 15821851145, Email: xiaoqh@shu.edu.cn

## Introduction

In 1703, the Jesuit François Noël (卫方济, 1651-1729), in his report to the General of the Society of Jesus stated, “In the vast empire, it is often the common people who become Christians. As for members of the court, our experience in China, as elsewhere, is that it is difficult for the favored and the powerful to enter the kingdom of heaven. Especially they were non-believers. However, in addition to the merchants, soldiers, artisans, farmers and fishermen who often come into our churches, we also have bakers and doctors, even there were also a number of government officials, albeit small in number and concentrated in the Imperial Astronomical Bureau (钦天监) in Beijing.”<sup>(1)</sup> Noël’s report reflects the sources and social status of Catholics in the early Qing dynasty. Most Catholics in the early Qing dynasty were commoners, mainly from merchants, soldiers, artisans, farmers and fishermen. There were also a number of scholars and doctors as well as official believers, who were concentrated in Beijing.

In 1629, under the impetus and auspices of Xu Guangqi (徐光启, 1562-1633), the Chongzhen Emperor (崇祯帝) approved Xu Guangqi to form a new calendar bureau. This bureau was led by Xu Guangqi, assisted

---

(1) ‘Sur l’état des Missions de la Chine, présenté en latin à Rome, au révérend père Général de la Compagnie de Jésus, l’an 1703, par le père François Noël, missionnaire de la même Compagnie, et depuis traduit en français’, in *Lettres Édifiantes Et Curieuses, Écrites des Missions Étrangères*. Nouvelle édition, tome 9, Lyon, 1819, pp. 366-367.

by Li Zhizao (李之藻, 1571-1630); the calendar bureau used “western method”; Nicolas Longobardi (龙华民, 1559-1654), Jean Terrenz (邓玉函, 1576-1630) and other missionaries “held the positions to revise calendars”. The formation of the new Bureau to revise the calendar solved the “legitimacy” of the missionaries’ long stay in China. As early as 1616, influenced by the Nanjing Persecution, Xu Guangqi wished to recommend missionaries for appointment as officials of the Imperial Court in the Imperial Astronomical Bureau to resolve the problem of residency rights of missionaries in China. And with the finishing of the *Chongzhen Calendar* (《崇祯历书》) and the achievements in the revising calendars and casting of artillery by Adam Schall von Bell (汤若望, 1591-1666) and other missionaries, they gained a high status in Late Ming China. In the early Qing dynasty, Adam Schall von Bell changed the title of *Chongzhen Calendar* to *Shi Xian Calendar* (《时宪历》) and offered it as a tribute to the new dynasty, to meet its needs to release the royal calendars to the people with the mandate of the Heaven. The Qing court rewarded him to appoint him as the director of the Imperial Astronomical Bureau. From then on, missionaries were always in charge of the supervision of the Imperial Astronomical Bureau. The missionaries, in addition to practicing the calendar, undertook some official tasks in the Bureau and preached to the Chinese in the Bureau. There was a Catholic community around Adam Schall von Bell and Ferdinand Verbiest (南怀仁, 1623-1688) which consisted of Jesuits, believers and some friendly officials. Although confined to Beijing and unable to go out directly to preach, it is undeniable that through the platform of the Imperial Astronomical Bureau, Adam Shall von Bell and other missionaries had succeeded in converting the officials of this Bureau into Catholics. These Catholics were as François Noël had reported were little in number, however, they were government officials in imperial court. Thus, this community had a significant impact on the development of Catholicism in the early Qing dynasty, as in the case of Liu Yunde (刘蕴德, 1628-1707), who served as an official of the Imperial Astronomical Bureau and later became a Chinese Jesuit and presided over church life in the Nanjing diocese.

Compared with the late Ming Dynasty, the status of Catholic community in the early Qing Dynasty moved downward, and there was a lack of high-ranking scholar officials like the “Three Pillars” in the late Ming Dynasty. The few officials Catholics came from Catholic families, such as Xu Zuanzeng (许纘曾), Sun Zhimi (孙致弥), etc. The official Catholics in the Imperial Astronomical Bureau represented the high-ranking Catholics in early Qing. However, there are few concern and researches on these official Catholics, which pay more attention on famous Jesuits such as Adam Schall von Bell, or Ferdinand Verbiest. This article will focus on these official Catholics and the Catholic community in the Imperial Astronomical Bureau so as to contribute to the study of Catholicism in the Ming and Qing dynasties.

## **Xu Guangqi and the New Calendar Bureau in late Ming**

At the beginning of the Ming Dynasty, the court set up the Astrological Office (Taishi yuan, 太史院). In the first year of Hongwu reign (洪武), the Astrological office was changed to the Imperial Astronomical Bureau with four sections, namely Astronomical Branch (天文科), Time Branch (漏刻科), Islamic Branch (回回科) and Calendar Branch (历科). Officials of this Bureau may not be relocated to other positions, and their offspring continued the study and succeeded the positions. The court used the Datong Calendar which had lots of mistakes in late Ming dynasty. In 1629, the Ministry of Rituals (礼部) was already aware of the fact that there were errors to calculate solar eclipses by the Imperial Astronomical Bureau with using of Datong Calendar. Then the Ministry of Rituals sent a memorial to the Emperor to petition to revise the Calendar. In the same year, Xu Guangqi put forward four measures to revise calendars: electing staffs; selecting talents and specialties broadly; preparing salaries; assessing and examining the

staffs. Although Xu Guangqi eventually submitted only four suggestions for calendar revision, but during the drafting process, Xu Guangqi had listed five suggestions, among which was using the Western calendar, that is, following the example of using the Muslim calendar and recommended the use of Western missionaries to modify the calendar.<sup>(2)</sup> Xu Guangqi considered this suggestion too obvious in its purpose and removed it from the final edition of memorial. From the outset, Xu Guangqi wanted to give missionaries the legitimacy to stay in China by revising the calendar. Not only did Xu Guangqi want missionaries to serve as officials for the revision of the calendar, but he also recruited scholars and students who were familiar with Western Learning to come to Beijing to assist in the revision. In the article on “selecting talents and specialties broadly”, Xu suggested that “not only officials, scholars and non-degree holders, but also people with knowledge of the calendars should come to Beijing”. Here the “knowing the calendars” means to know the Western calendars, and in the late Ming dynasty people who was familiar with the Western calendars mainly came from the community of Catholics and their family and friends. It can easily be found that Xu Guangqi’s purpose to revise the calendar was, on the one hand, to correct the errors of the calendar and, on the other hand, through the official name, to provide official positions and shelter for the missionaries and their believers. This was the beginning of the formation of the Catholic community in Beijing. According to Xu Guangqi’s suggestion, the new calendar bureau would recruit no more than 10 Confucian scholars and 15 astronomical students. If missionaries were included, the bureau would have a concentration of nearly 30 Catholics.

After Xu Guangqi’s petition, Chongzhen Emperor approved his request and ordered it in practices according to his four suggestions. Chongzhen Emperor appointed Xu Guangqi to be the director of the new Bureau and command Li Zhizao to assist him.<sup>(3)</sup> In the same year, Xu Guangqi sent another memorial to the Emperor which recommended to use western calendar again and invited Nicolas Longobardi and Jean Terrenz to revise the calendars.<sup>(4)</sup> On the second day of April 1630, when Jean Terrenz died of illness, Xu Guangqi recommended Adam Schall von Bell and Jacques Rho (罗雅谷, 1593-1638) succeeded. Chongzhen decreed: “Adam Schall von Bell can be used to revise calendar, then the local officials help to support him to come to Beijing.” In July of the same year, Jacques Rho entered the new Bureau. Adam Schall von Bell arrived at the capital five months later in December of the same year, and checked in Honglu Temple (鸿胪寺), then served in the Bureau.<sup>(5)</sup>

Thus from 1629 onwards, a distinctly Catholic community was formed in the Imperial Astronomical Bureau. The Jesuit missionaries such as Nicolas Longobardi and Adam Schall von Bell was the center of the Catholic community which around them were official believers such as Xu Guangqi, Chen Yujie (陈于阶), Li Cibin (李次霖), Wu Mingzhu (邬明著), Cheng Tingrui (程廷瑞), and their friends such as Li Tianjing (李天经) and Wang Yinglin (王应麟). They had their own space, i.e., the Shoushan College (首善书院) which was changed to the office of the new Bureau. They also had their own legal status and position, and received the imperial salary. The students of astronomy who entered the Bureau should be Catholics, “the Chinese students who entered the Bureau were naturally Christians. Under the guidance of missionaries, they worked on the translation of astronomical and logarithmic tables (der astronomischen Tabellen und der Logarithmentafeln).”<sup>(6)</sup>

(2) Xu Guangqi, “Libu wei fengzhi xiugai lifa kailie shiyi qicai shu” (《礼部为奉旨修改历法开列事宜乞裁疏》), in *Xu Guangqi quanji* (《徐光启全集》), volume 9, Shanghai: Shanghai Rare Book Press, 2010, p. 151.

(3) *Ibid.*, p. 157.

(4) Xu Guangqi, “Xiuyi lifa xiuzheng suicha shu” (《修议历法修正岁差疏》), in *Xu Guangqi quanji*, volume 9, pp. 161-162.

(5) Xu Guangqi, “Yinying zaishen qianqing yi wan dadianshu” (《因病再申前请以完大典疏》), in *Xu Guangqi quanji*, volume 9, p. 188.

(6) Alfons Vāth, *Johann Adam Schall von Bell S.J.: Missionar in China, kaiserlicher Astronom und Ratgeber am Hofe von Peking 1592-1666, ein Leben und Zeitbild*. Nettetal: Steyler Verl., 1991, p. 103.

In 1630, Xu Guangqi stated in his memorial that the missionaries and Chinese believers had already completed some of the works and instruments needed for revising calendars. In 1631-1632, in Xu Guangqi's memorials appeared Zhou Yin (周胤), Liu Youqing (刘有庆), Liu Chengzhi (刘承志), Zhou Shichang (周士昌), Xue Wencan (薛文燦), Jia Liangqi (贾良琦), Liu Chongru (刘崇儒), Zhu Guoshou (朱国寿), Zhu Guangcan (朱光燦), as well as the Jesuits, to speculate on solar and lunar eclipses. Among them, Zhou Yin once joined the Catholic Church, but in the Calendar Case in early Qing, he confessed that he had left church, because of superstition and marrying a concubine.<sup>(7)</sup>

Before his death in 1633, Xu Guangqi recommended Zhu Dadian (朱大典), the governor of Shandong, Li Tianjing, the Shandong Provincial Councillor, and Jin Sheng (金声), the imperial censor of Shandong, to succeed him to supervise the new Bureau. However, eventually only Li Tianjing arrived. These people who were recommended by Xu Guangqi were all friendly to the missionaries and Catholicism, such as Jin Sheng who "respected Western Confucianism, addicted to its learning".<sup>(8)</sup> Wang Yinglin was also recommended by Xu Guangqi who was also friendly to the missionaries. Fang Hao and other scholars all believed that Li Tianjing was a Catholic with Christian name of Petrus.<sup>(9)</sup>

In October 1633, Xu Guangqi sent a memorial to the Emperor to petition for the rewards for the contributors of the revising calendars. Among them, the Jesuits Jacques Rho and Adam Schall von Bell should be the firstly rewarded. Followed them were those people who also deserved rewards, including Wu Mingzhu who was a calendar student, Chen Yujie who was a non-degree Confucian scholar, Cheng Tingrui, Sun Silie, Meng Lvji (孟履吉) who all were calendar students, Li Cibin who was an Imperial student, Yang Zhihua (杨之华), Zhu Maoyuan (祝懋元), Zhang Caichen (张采臣), Huang Hongxian (黄宏宪), Dong Siding (董思定), Li Yuchun (李遇春), Zhao Chenen (赵承恩) who all were non-degree Confucian scholars and so on.<sup>(10)</sup> Xu Guangqi also mentioned officials in other Bureaus such as Wang Yinglin, Chen Yingdeng (陈应登), Wei Banglun (魏邦纶), as well as other members of the Imperial Astronomical Bureau, such as supervisory deputy Ge Chengke (戈承科), director of Autumn Department Zhou Yin, astronomy student Zhu Guoshou (朱国寿), director of security of five officials Liu Youqing, director of middle official Jia Liangdong (贾良栋), candidate for the director of security of five officials Jia Liangqi (贾良琦), doctor Zhu Guangxian (朱光显), astronomy students Zhu Guangchan (朱光燦), Zhu Guangda (朱光大), and so on. For these contributors, Xu Guangqi made a distinction: missionaries took the first credit, and Chinese believers who followed the missionaries and assisted in the interpretation, such as Wu Mingchu and others came second; again, other officials who assisted in the revising calendars. As for the other officials, they were originally officials of the Imperial Astronomical Bureau, but were not believers, and although "diligent study is desirable", they "will be recounted on another day when they have finished their studies".

In 1633, François Sambiasi (毕方济, 1582-1649) gave four suggestions in his memorial to Chongzhen Emperor. The first was "clear the theory of calendar to show the unification". He proposed that it needed to invite western missionaries who were familiar with astronomy together with the Imperial Astronomical Bureau to observe and calculate the stars and sun and moon eclipse. So, it was enough to enlighten the descendants

(7) An Shuangcheng trans., *Qingchu xiyang chuanjiaoshi manwen dangnan yiben* (《清初西洋传教士满文档案译本》), Zhengzhou: daxiang chubanshe, 2015, p. 22.

(8) Jin Sheng, "Shang Xu Xuanhu xiangong shu" (《上徐玄扈相公书》), in *Xu Guangqi quanji*, volume 9, p. 244.

(9) Fang Hao, *Zhongguo tianzhujiaoshi renwu zhuan* (《中国天主教史人物传》), Beijing: Religious Cultures Press, 2007, p. 243; Alfons Văth, *Johann Adam Schall von Bell S.J.: Missionar in China*, p. 103.

(10) Xu Guangqi, *Zhili shugao chuji* (《治历疏稿初集》), collected in *Bibliotheca Zikawei*, pp. 99-100.

and pass to future in thousand years.<sup>(11)</sup> He further emphasized the importance of inviting missionaries to revise calendars. Of course, as far as the situation was concerned, the imperial court at that time really needed talents who specialized in revising calendars, prospecting mines and casting artilleries, but for the missionaries, they just met these needs to solve the problem of the legitimacy of staying in China especially in the imperial capital Beijing.

But the Imperial Astronomical Bureau was full of suspicions that the revising Calendars was led by the Catholic missionaries. Li Tianjing once said in his memorial to the Emperor: “These people who were opponents to the new calendar viewed the missionaries be from alien countries. They don’t know that Your Majesty rule all nations and all people under the heaven are the subject of the Emperor. We take the theory which comply with the Heaven. Why discriminate the theory from China or the West?”<sup>(12)</sup> This also shows that the court was still wary about Adam Schall von Bell and had some objections to the new calendar. Xu Guangqi and Li Tianjing, because the new calendars were finished, sent memorial to the Emperor to petition for rewards to the contributors. One of the Bureau officials Cai Fuyi (蔡孚一) repeatedly requested rewards. However, in Xu and Li’s memorials, there were no Cai’s name. Thus, Cai sent memorials to accuse Wu Mingzhu, Cheng Tingrui and other Catholic officials of briberies.<sup>(13)</sup> Li Tianjing also said, “Those who disagreed with us, split up into different divisions and have conflicts and quarrelling with each other with all possible means”, in order to “stop the finished calendar by our Bureau and expel the officials in our Bureau.” There was evidently still a lot of resistances within the Imperial Astronomical Bureau to revise the calendar by using the missionaries and the new theories from the west.<sup>(14)</sup>

In addition, the struggle between the different factions of the new Calendar (the Western Calendar) and the old Calendars (Datong, Islam) within the Imperial Astronomical Bureau was quite intense.<sup>(15)</sup> There was also strife between Wei Wenkui (魏文魁), an official in the Bureau, and Jesuit Adam Schall von Bell. In December of Chongzhen reign, there was a sun eclipse, in the platform of observation (观象台), his son Wei Xiangqian (魏象乾) sent memorials to the officials from the Ministry of Ritual to accuse Adam.<sup>(16)</sup> In the same year, some officials who opposed to the new calendars impeached Adam and said that what Adam talked was contradictory to the way of Confucius, Yao and Shun. It should be forbidden to be circulated and practiced.<sup>(17)</sup> On January 12th of Chongzhen 11 years (1638), Li Tianjing suggested that “all officials of the Imperial Astronomical Bureau should calculate calendars according to the new theories from the West.”<sup>(18)</sup> He also suggested to establish a new Branch of New Theory (新法科) in the Imperial Astronomical Bureau. However, all his suggestions were not accepted by the Emperor. It was not until the early Qing Dynasty that the Imperial Astronomical Bureau abolished the Branch of Islam and totally adopted the new Western theory to revise calendars.

(11) François Sambiasi, *Memorials* (《奏折》), collected in Bibliotheca Zikawei, p. 4.

(12) Li Tianjing, “Li Tianjing zouwei shuqi gaocheng jinzhao yuanti chaxu zaishi zhuchen shu” (《李天经奏为书器告成谨照原题查叙在事诸臣疏》), in *Zhili shugao chujì*, p. 168.

(13) Huang Shijun, “Huang Shijuan deng tiwei shuqi gaocheng jinzhao yuanti chaxu zaishi zhuchen shu” (《黄士俊等题为书器告成谨照原题查叙在事诸臣疏》), in *Zhili shugao chujì*, pp. 222-223.

(14) Li Tianjing, “Li Tianjing tiwei jiaoshi jieqi qiling gefa tongri baojin yiding shumì shu” (《李天经题为交食届期乞令各法同日报进以定疏密疏》), in *Zhili shugao chujì*, pp. 279-280.

(15) Alfons Vāth, *Johann Adam Schall von Bell S.J.: Missionar in China*, pp. 106-108.

(16) Zhou Yin, “Zhou Yin zouwei fengzhi jushi zooming shu” (《周胤奏为奉旨据实奏明疏》), in *Zhili shugao chujì*, pp. 291-292.

(17) Huang Bolu, *Zhengjiao fengbao* (《正教奉褒》), in *Zhongguo tianzhujiao shiji huibian* (《中国天主教史籍汇编》), Taipei: Fujen Catholic University Press, 2003, pp. 478-479.

(18) Li Tianjing, “Li Tianjing tiwei gefa shumì weijian qinzun zaiken mingduan zaoding lifa shu” (《李天经题为各法疏密未见钦遵再恳明断早定历法疏》), in *Zhili shugao chujì*, p. 300.

## Adam Schall von Bell and the Catholic Community in the Imperial Astronomical Bureau

The formation of the Catholic communities during Chongzhen reign and Shunzhi reign was closely related to the Jesuit Adam Schall von Bell. In *Chongzhen Calendar* which was titled as *Calendrical Science According to New Western Methods* (《西洋新法历书》) in Shunzhi reign and the Adam's memorials to the emperors, we could find a lot of the officials were disciples of Adam.

On January 28<sup>th</sup> of Chongzhen 4 years (1631), Adam Schall von Bell firstly presented the Calendar to the court which included seven volumes of *A Table of the Grades of the Sphere* (《升度表》). In this book, we found the list of contributors: the author Jean Terrenz, the revisor Adam Schall von Bell and the proofreaders Yang Zhihua, Li Zubai, Zhu Maoyuan (祝懋元), Chen Yujie, Wei Banglun, Zhang Cheng (掌乘) who all were disciples of Adam Schall von Bell.<sup>(19)</sup>

On August 1<sup>th</sup> of Chongzhen 4 years (1631), Adam Schall von Bell secondly presented the Calendar to the court which included three volume of *Calendar of Stellar* (《恒星历指》). The list of contributors is that the author was Adam Schall von Bell, the revisor was Jean Terrenz, and the proofreaders of the first volume were Li Yuchun, Li Zubai, Chen Yingdeng, Yang Zhihua, Wu Mingzhu, Zhang Cheng who all were disciples of Adam.<sup>(20)</sup> The proofreaders of other two volumes were Li Yuchun, Song Kecheng, Chen Yingdeng, Dong Siding, Chen Yujie, Zhu Guangxian, Wei Banglun, Zhu Maoyuan, Zhu Tingshu. In the same year, Adam also presented the *Explanation of the Proportional Compass* (《比例规解》) to the court. The proofreaders were Li Zubai, Zhang Caichen, Zhang Cheng, Zhou Yin, Sun Silie (孙嗣烈) and Song Kecheng.<sup>(21)</sup> In the same year, Adam also presented the *Complete Theory of Surveying* (《测量全义》). The proofreaders of the volume 3 were Li Zubai, Dong Siding, Song Kecheng, Sun Silie and Jiao Yingxu (焦应旭).<sup>(22)</sup>

On April 4<sup>th</sup> of Chongzhen 5 years (1632), Adam Schall von Bell thirdly presented the Calendars to the court which included four volumes of *Calendars of Eclipses* (《交食历指》). The author was Adam Schall von Bell, the revisor was Jacques Rho, and the proofreaders were Zhu Maoyuan, Zhang Youzhan (掌有篆), Zhu Guoshou, Zuo Yunhe (左允和), Li Zubai, Wu Zhiyan (武之彦).<sup>(23)</sup> In the same book, the proofreaders included Huang Hongxian, Li Hua, Jia Liangdong, Jiao Yingxu, Zhang Cheng, Song Keli, Pan Guoxiang, Liu Youqing, Zhu Guangda, Zhou Shichang, Chen Yingdeng, Wu Mingzhu.<sup>(24)</sup> In the same year, the Calendars which Adam presented also included four volumes of the *Calendar of Moon* (《月离历指》). Its proofreaders were Li Zubai, Cheng Tingrui, Lu Changlu, Song Fa, Zhu Guangda and Zhang Cheng.<sup>(25)</sup>

On July 19<sup>th</sup> of Chongzhen 7 years (1634), Adam Schall von Bell fourthly presented the Calendars to the court which included the four volume of *A Table of Eclipse* (《交食表》). The proofreaders were Zhu Guangda, Zhou Shichang, Cheng Tingrui, Zhang Cheng, Li Zubai, Song Keli, Cheng Tingrui, Cheng Yingdeng, Song Fa,

(19) Xu Guangqi etc. ed.s, *Xiyang xinfa lishu* (《西洋新法历书》), book 3, in *Gugong zhenben congkan* (《故宫珍本丛刊》), book 385, p. 86.

(20) Xu Guangqi etc. ed.s, *Xiyang xinfa lishu*, book 2, in *Gugong zhenben congkan*, book 384, p. 325.

(21) Xu Guangqi etc. ed.s, *Xiyang xinfa lishu*, book 5, in *Gugong zhenben congkan*, book 387, p. 11.

(22) Xu Guangqi etc. ed.s, *Xiyang xinfa lishu*, book 5, in *Gugong zhenben congkan*, book 387, p. 157.

(23) Xu Guangqi etc. ed.s, *Xiyang xinfa lishu*, book 1, in *Gugong zhenben congkan*, book 383, p. 374.

(24) Xu Guangqi etc. ed.s, *Xiyang xinfa lishu*, book 1, p. 391.

(25) Xu Guangqi etc. ed.s, *Xiyang xinfa lishu*, book 5, in *Gugong zhenben congkan*, book 387, p. 118.

Song Siding, Li Hua, Chen Yujie, Jiao Yingxu, Zhang Caichen, Zhou Shitai, Yang Zhihua, Zhu Maoyuan, Zhu Guangda, Zuo Yunhe, Wu Mingzhu, Liu Yunde and Bao Yingqi (鲍英齐).<sup>(26)</sup>

On November 24<sup>th</sup> of Chongzhen 7 years (1634), Adam Schall von Bell fifthly presented the Calendars. The proofreaders were Liu Youqing, Li Zubai, Zhu Tingshu, Zhu Guangda, Cheng Tingrui, Song Fa and so on.<sup>(27)</sup>

In Chongzhen 7 years, calendar student Wu Mingzhu and Confucian scholar Chen Yujie were sent to test and observe in Shanhai Gate (山海关) and Deng Zhou (登州) by the Imperial Astronomical Bureau. In the tenth year of the Chongzhen reign (1637), Wu Mingzhu resigned from the Bureau and returned to his hometown Wuchang in Hubei to spread the Catholic faith.

In the fifth month of the first year of Shunzhi reign, Adam Schall von Bell and his colleagues and disciples surrendered to the Qing court. Adam changed the title of *Chongzhen Calendar* to the *Calendrical Science According to New Western Methods* and offered it as a tribute Shunzhi Emperor. The Qing court appointed Adam as the director of the Imperial Astronomical Bureau.

In the August of the first year of Shunzhi's reign, Adam mentioned 11 Chinese disciples in his memorials. At that time, besides Li Zubai, there were other members of the Bureau, such as Jang Youzhuang, Xu Huan, Sun Youben, Zhang Zhonghu, Bao Yingqi, Yin Kai, Wu Zhiyan, Li Hua, Song Keli, Liu Yunde. Among them, Liu Yunde joined the Society of Jesus in 1684 and was ordained a priest by Luo Wenzao (罗文藻, 1616-1691) in 1688.

On October 29th, the Qing court asked Adam to list the names who should be rewarded because of their contributions to the Calendar. On the 4th of November, Adam made a list of names as follows: Zhu Guangda, Huang Hongxian, Song Fa, Zhu Tingshu, Li Zubai. Adam also deliberately stated that these five officials had the most contributions. Thus, they were in the beginning of the list. After Li Zubai, Adam listed other 16 names including Zhu Guangxian, Liu Youqing, Jia Liangqi, Song Kecheng and so on.

Among the disciples of Adam Schall von Bell, these were obviously Catholics according to the present materials. They were Chen Yujie, Li Cibin, Wu Mingzhu, Li Zubai, Liu Yunde and Bao Yingqi. Those who Adam highly esteemed such as Zhu Guangda, Huang Hongxian, Song Fa, Zhu Tingshu were most likely also Catholics. The Imperial Astronomical Bureau became an important platform for Adam's missionary work, "because Adam's original purpose, is to make the Bureau as much as possible into a Catholic Agency."<sup>(28)</sup>

## Ferdinand Verbiest and the Catholic Community in the Imperial Astronomical Bureau

After the Calendar Case (1669), Ferdinand Verbiest became the key core of the Catholic community in the Imperial Astronomical Bureau after Adam Schall von Bell's death. In February of Kangxi eight years (1669), the Ministry of Personnel (吏部) proposed to appoint Ferdinand Verbiest for the deputy director of the Imperial Astronomical Bureau. Kangxi Emperor decreed that the appointment should be made "according to suggestion". Although Ferdinand Verbiest refused to accept the appointment, but was declined by the Kangxi Emperor.<sup>(29)</sup> In fact, although Ma Hu (马祐) was appointed as the head of the Bureau, Ferdinand Verbiest began to manage the affairs of the Bureau. In

(26) Xu Guangqi etc. ed.s, *Xiyang xinfa lishu*, book 2, in *Gugong zhenben congkan*, book 384, pp. 88, 108, 128 and 157.

(27) Xu Guangqi etc. ed.s, *Xiyang xinfa lishu*, book 3, in *Gugong zhenben congkan*, book 385, p. 186.

(28) Alfons Vâth, *Johann Adam Schall von Bell S.J.: Missionar in China*, p. 304.

(29) Ferdinand Verbiest, *Xichao ding'an* (《熙朝定案》), Beijing: Zhonghua Book Store, 2006, p. 56.

the ninth year of the Kangxi reign (1670), Ferdinand Verbiest called himself “the minister of the making calendars of the Imperial Astronomical Bureau”. In the eleventh year of the Kangxi reign (1672), Christian Herdtricht (恩理格, 1624-72), Philippe-Marie Grimaldi (闵明我, 1639-1712) and Thomas Pereira (徐日昇, 1645-1708) went to the Bureau to assist in the revision of the calendar. In the same year, in Ferdinand Verbiest’s memorial, Li Guangxian was appointed as the first deputy director and Liu Yunde as the second deputy director.<sup>(30)</sup>

In the thirteenth year of the Kangxi Emperor (1674), Ferdinand Verbiest completed a total of fourteen volumes (two volumes of catalogues) of the *Compendium on the Newly Constructed Instruments of the Observatory* (《新制灵台仪象志》), and 31 officials participated in the writing and revising of this book. Among these contributors, Liu Yunde and Bao Yingqi were Catholics.

In the Kangxi 17 years (1678), Ferdinand Verbiest and his followers were rewarded by the Emperor because they had finished the *Perpetual Calendar of the Kangxi Emperor* (《康熙永年历法》). In the list, Li Shi and Jiao Bingzhen (焦秉贞) were Catholics. Li Shi was the son of Catholic Li Zubai who was executed during the Calendar Case.<sup>(31)</sup>

The missionaries in the Imperial Astronomical Bureau were also involved in the Chinese Rites Controversy. In the 39th year of the Kangxi Emperor’s reign (1700), the Jesuits Philippe-Marie Grimaldi, Thomas Pereira, Antoine Thomas (安多, 1644-1709), and Jean-François Gerbillon (张诚, 1654-1707) from the Bureau presented a memorial to the Kangxi Emperor on the issues of Chinese rites. In this memorial, they took the rites of sacrificing ancestors and venerating Confucius as some kinds of secular actions based on the strategy of Jesuit Accommodation, and understood the term Venerating Heaven as Sacrificing the Master and the Origin of the Heaven and Earth and everything. Kangxi approved that: “This is written very good, there is a fit with the Great Tao, which respects for heaven, teachers and elders. It is universal value in the world. It is unalterable.”<sup>(32)</sup>

Antoine Thomas, a missionary in the Imperial Astronomical Bureau, in the fortieth year of the Kangxi (1701), was appointed as the vice-president of the Jesuit Province of China. At that time, it was the third stage of the Chinese Rites Controversy. On September 12, 1645, the Pope issued a decree forbidding the Chinese Rites. However, the Pope canceled this decree. On March 26, 1693, Charles Maigrot (颜珥, 1681-1730) of MEP who was the apostolic vicar of Fujian issued a condemnation of the Chinese Rites and Terms; and submitted it to the Holy See in Rome in 1697. At the same time, there was a growing debate in Europe, especially in Paris, about the Chinese rites. In response to Charles Maigrot, Antoine took steps to defend Jesuit position. From 1701 to 1704, Antoine collected numerous personal and collective testimonies concerning Chinese rites, including Kangxi’s own imperial approval, and the testimonies of literati of non-believers. In the 41st year of the Kangxi reign (1702), Antoine collected some 60 testimonies with more than 430 signatures. The testimonies came mainly from the Jesuit missions: 50 signatures in Beijing; 20 in Nanjing in the south of the Yangtze River; and more than 430 in Songjiang and Jiading. There are 33 in Suzhou, 32 in Suzhou, 13 in Shanghai, 50 in Changshu and 56 in Taicang; 10 in Ganzhou, Jiangxi and 15 in Nanchang; 27 from Huang’an and other districts of Huguang, 28 from Xiangtan, and 27 from Hanchuan. Among them were a testimony from the Imperial Astronomical Bureau.<sup>(33)</sup>

(30) Ibid., p. 101.

(31) About Li Zubai’s life and activities, see Xiao Qinghe, “The Great Dao is for the Universal World since the Original Time: New Research on Confucian Christian Li Zubai in early Qing”, in *Sino-Christian Studies* 23 (2017): 197-228.

(32) Ferdinand Verbiest, *Xichao dingan*, p. 363.

(33) Nicolas Standaert, *Chinese Voices in the Rites Controversy: Travelling Books, Community Networks, Intercultural Arguments*, Roma: Institutum Historicum Societatis Iesu, 2012, p. 26.

There were 33 signatures in the Collective Testimony from the church in Beijing, which dated the 17th day of the 7th month of the 41st year of the Kangxi Emperor (1702).<sup>(34)</sup> However, there were only baptist names and surnames in this signature list. It was difficult to identify these Catholics. However, we still recognized some of them. For example, the signatory Bao Vincent was Bao Yingqi; Jiao Paulus was Jiao Bingzhen; Xi Wuluo was Xi Yigong (席以恭); Bao Bartholomeus was Bao Kecheng (鲍可成); Fang Michael was Fang Liang (方亮); Zhu Laurentius was Zhu Shigui (朱世贵); Bao Alexander was Bao Xuan or Bao Yinghua (鲍英华); Feng Thomas was Feng Chengyin (冯承荫) or Feng Fangqing (冯方庆) or Feng Mai (冯迈); Zhang Leo was Zhang Wenming (张问明) or Zhang Dengke (张登科) or Zhang Shikui (张士魁) or Zhang Wenchen (张文臣); Sun Joseph was Sun Youben (孙有本) or Sun Yourong (孙有容) or Sun Erhui (孙尔蕙); Li Joseph was possibly Li Shi (李式) who was the son of Li Zubai. According to this collective testimony from Beijing especially from the Imperial Astronomical Bureau, the number of officials, doctors, astronomy students, and supervisors who became Catholics in the Bureau was considerable. Quite a few of the officials in the Bureau were Catholics from the same family, either father and son, or brothers, such as Bao Yingqi and Bao Yinghua; Sun Youben. Sun Yurong, etc.

Therefore, there were possibly largest number of official Catholics in the Imperial Astronomical Bureau than in any other places during early Qing dynasty. According to the records, there were more than 66 astronomy students in the Bureau in the period of Shunzhi reign and more than 94 astronomy students during Kangxi. Since Shunzhi, the directors of the Bureau were held by the missionaries.<sup>(35)</sup> Thus, these officials and students in the Bureau always were the objects of the missionaries' preaching. The Imperial Astronomical Bureau not only provided an institutional legitimacy for missionaries to stay in China especially in Beijing, but also became the significant platform for mission works.

The Catholic community in the Imperial Astronomical Bureau played an important role in the development of Catholicism in the early Qing dynasty: not only because the Bureau was the more important government department and, more importantly, the missionaries used the the Bureau as a platform for their missionary work. During the Calendar Case period, Catholics in the Bureau, such as Li Zubai, were willing to give their lives to defend their faith. Li Zubai also wrote books to spread Catholicism while he followed the missionaries to revise calendars. At the same time, the Catholics in the Bureau often returned to their hometowns to spread the Catholic faith after retirements, such as when Wu Mingzhu returned to Hubei to spread the Catholic faith; while Liu Yunde became a Chinese Jesuit and later became primarily responsible for the Catholic affairs in Jiangning Prefecture.

Because of the Catholic emphasis on family transmission, the descendants of those officials Catholics in the Bureau were often Catholics. During the period of persecution and prohibition, although the imperial court expressly forbade the Chinese officials of the Bureau to convert to Catholicism, there were still descendants of official Catholics of the Bureau who "practices Catholicism and did not want to repent." It is possible that some officials of the Bureau or astronomical students may have secretly practiced Catholicism, even though they were forbidden to go to church and had to "burn the scriptures and abide by the law".<sup>(36)</sup>

After Philippe-Marie Grimaldi, Bernard-Kilian Stumpf (纪理安, 1655-1720), Ignace Kögler (戴进贤, 1680-1746), Augustin' de Hallerstein (刘松龄, 1703-1774), Antoine Gogeisl (鲍友管, 1701-1771), Félix da

(34) Ibid., pp. 141-144.

(35) Qu Chunhai, "Qingdai qiantianjian ji shixianke zhiguan nianbiao" (《清代钦天监暨时宪科职官年表》), in *Zhongguo keji shi* (《中国科技史》) 3 (1997): 45-71.

(36) Zhang Xianqing, "Zhichang yu zongjiao: qingqianqi tianzhujiao de hangye renji wangluo" (《职场与宗教: 清前期天主教的行业人际网络》), in *Zongjiaoxue yanjiu* (《宗教学研究》) 3 (2008): 94-99.

Rocha (傅作霖, 1713-1781), Joseph d’Espinha (高慎思, 1722-1788), Anoré Rodrigues (安国宁, 1729-1796) and Joseph- Bernard d’Almeida (索德超, 1728-1805) served successively in the Imperial Astronomical Bureau. After the dissolution of the Society of Jesus (1773), the Bureau was taken over by Lazaristes. Alexander de Gouvéa (汤士选, 1751-1808), Domingos-Joaquim Ferreira (福文高, 1740-1824), José Reberio-Nunes (李拱辰, 1767-1826), Gaetano Pirès Pereira (毕学源, 1763-1838), Verissimo Monteiro de Serra (高守谦, ?-1852) served in the Bureau in succession. In 1837, Verissimo Monteiro de Serra resigned and returned to the West, and the Bureau never employed any Western missionaries again.<sup>(37)</sup>

## Conclusion

Ferdinand Verbiest had a more complete account of the importance of the Imperial Astronomical Bureau and revising calendars to Catholicism in the early Qing dynasty: “It was due to the fact that the prestige of Adam Schall von Bell and the Bureau under his leadership is such that our priests are able to live scattered in different provinces and start churches; and over and over again, new missionaries were brought into the interior of China. It is true that in the year of my arrival in China, fourteen or more of our party of missionaries, were on the pretext of astronomy to enter China at the same time. It is also this group of missionaries, supporting the whole cause of evangelization in China.”<sup>(38)</sup> From this we can see that the “apostolate through scientific works” which was initiated and promoted by Matteo Ricci and especially by Xu Guangqi had truly played a significant role in the process of the spread of Catholicism in the late Ming and early Qing dynasties. These Jesuit missionaries such as Adam Schall von Bell and Ferdinand Verbiest followed this strategy and put it into practices. Thus, Ferdinand Verbiest reminded the later missionaries that “astronomy became the most important root for the survival of our religion in all of China.”<sup>(39)</sup> Ferdinand Verbiest also wrote *Astronomy in Europe (Astronomia Europaea)* to explain to the Western world why astronomy was so important in China.

Why was the Imperial Astronomical Bureau and revising calendars considered by Ferdinand Verbiest to be the key to the survival of Catholicism in China? This is because it concerns the legitimacy of Catholicism in China. For Chinese literati and officials, as well as the imperial court, the fundamental reason for allowing missionaries to enter China and preach freely was that they were useful to the Qing dynasty by serving in the Bureau. During the Late Ming period, Xu Guangqi and Matteo Ricci’s proposal of “Complementing Confucianism and replacing Buddhism (and Taoism)” better solved the problem of Catholic legitimacy in China; however, during the early Qing Dynasty, especially during the Kangxi period, when the Neo-Confucianism of Zhu Xi became the official ideology again, society was more stable and peaceful, economic was steadily increased, it was not appropriate to say that the Catholicism could complement Confucianism and replace Buddhism and Taoism. The only reason for Catholic staying at China was to serve the imperial court especially to the Kangxi Emperor himself. Ferdinand Verbiest and other Jesuit missionaries well understood this. Thus, Ferdinand Verbiest served in the Imperial Astronomical Bureau, revised the Calendars, taught and trained Chinese astronomy students, and he also forged artilleries, built aqueducts and transported boulders. Other missionaries served as interpreters, surveyors, and even

(37) Bo Shuren, “Qing qiantianjian renshi nianbiao” (《清钦天监人事年表》), in *Kejishi wenji* (《科技史文集》) volume 1, Shanghai: Shanghai kexue jieshu chubanshe, 1978, pp. 86-101.

(38) Ferdinand Verbiest, *The Astronomia Europaea of Ferdinand Verbiest*, translated into English by Noël Golvers, translated into Chinese by Yu Sanle, Zhengzhou: daxiang chubanshe, 2016, p. 10.

(39) *Ibid.*, p. 11.

became Kangxi's ambassadors to Europe. Through their "services" and "meritorious deeds", the missionaries gained the trust and favor of the emperor himself, and thus gained the legitimacy and patronages for the Catholic Churches in China. In several anti-Catholic movements such as Zhang Boxing (张伯行)'s and Zhang Penghe (张鹏翮)'s petitions to forbid Catholicism, missionaries did take advantage of the favor of the Kangxi Emperor himself to resolve the crisis. Even in 1692, the free preaching of the Catholic Church in China was confirmed by Kangxi himself, who wrote in his decree that: "Westerners do not do crimes. It seems inappropriate to prohibit Catholicism. Accordingly, all Catholic churches are to be kept as they are, and those who make offerings of incenses are to be allowed to walk as usual. No need to ban it."<sup>(40)</sup> This decree was called as *Edict of Tolerance* (《容教令》) which was viewed as the Edict of Milan (313). The later changed the history of Christianity in Rome Empire totally.

Ferdinand Verbiest believed that through astronomy the Chinese emperors could be guided, like the Three Kings of the East who worshipped Jesus, "to know the Lord of Heaven who rules the stars, and go on to believe in him." Ferdinand Verbiest wanted "a favorable opportunity to explain mathematics to the emperor, and as a matter of course, to insert a lot of the stories of our religion." "If without such favorable conditions, it would never have been possible for me to introduce and explain all these things to these royalties."<sup>(41)</sup> But Kangxi Emperor, and later Yongzheng Emperor and Qianlong Emperor were not interested in Western religion as the missionaries wished, nor did they further convert to the Catholicism. The reason why Kangxi Emperor favored Catholicism and let him surrounded by missionaries was not the "Muses in charge of astronomy" revealed the emperor's innermost heart, but the Emperor wanted to control these missionaries and their religion. In the early Qing dynasty, the literati were deliberate to distinguish between western religion and western sciences. And due to the impetus of Kangxi Emperor himself, many of the literati had a strong interest in Western sciences. However, the interests of the emperors as well as literati in Western sciences declined with the rise of the saying that the origin of western sciences was ancient China. The dream of Western Catholic missionaries especially Jesuits to preach through sciences was finally shattered. Until after the Self-Strengthening movement (洋务运动), the Catholic Church translated and introduced a lot of Western sciences according to the needs of the time, such as Li Wenyu (李问渔, 1840-1911), Ma Xiangbo (马相伯, 1840-1939) and so on.

In the late Ming and early Qing dynasties, Western missionaries firstly served in the Imperial Astronomical Bureau, then were appointed as the director of the Bureau, which realized Xu Guangqi's initial vision, which was to use the Bureau as the official platform for these foreigners and to serve the imperial court as the legitimacy of staying in China especially in Beijing. Thus, the Imperial Astronomical Bureau became an important institution for the development of Catholicism in the late Ming and early Qing dynasties. Firstly, the missionaries serving at the Bureau provided protection for missionaries from all over the country. Prominent missionaries such as Adam Schall von Bell were in charge of the Bureau, directly supported and protected other missionaries such as Gabriel de Magalhães (1609-1677), Lodovico Buglio (1606-1682) who were in trouble at that time. Secondly, the Bureau where missionaries presided over the revising calendars, became an official symbol of institution for the presence of foreign Catholicism in China. Missionaries gained royal support for their activities in China through such allegiance activities as calendar revision, translation, mapping, and cannon casting, thus supporting missionaries to preach freely in China. The anti-Catholic activities of some of the officials were halted precisely because they

(40) Ferdinand Verbiest, *Xichao dingan*, p. 359.

(41) Ferdinand Verbiest, *The Astronomia Europaea of Ferdinand Verbiest*, Chinese version, p. 12.

were opposed by the emperor himself. Again, the Bureau and revising calendars activities provided an opportunity for Western missionaries to enter China, both Jesuits and other missionaries, all of whom entered China under the name of calendars. Fourthly, missionaries preached directly to the officials, astronomy students of the Bureau and even the Emperor himself. The number of the official Catholics in the Bureau was the most at that time. And around these Catholics gathered lots of high-ranking officials who were friendly to the western religions, such as Xu Zhiqian (许之渐), Wang Duo (王铎), and Hu Shi'an (胡世安). These literati were the important patronages and supporters for Catholic developments. Some of the official Catholics returned hometown to preach Catholicism after retirements. Some of them even became Chinese Jesuits. At last, the Bureau became an important institution for missionaries to spread western sciences. The missionaries spread Western sciences and, indirectly, Western Catholicism through the highest scientific institution at the time, which attracted many literati to join Catholicism, and had a positive influence on the development of Chinese society and thought in the Ming and Qing dynasties. For example, during the Kangxi period, Li Changzuo (李长祚), the governor of Hengshan County, studied the calendars with missionaries and converted to the religion. Some famous intellectuals such as Fang Yizhi (方以智), Xiong Mingyu (熊明遇) and Mei Wending (梅文鼎) were deeply influenced by Western astronomy.

However, the Imperial Astronomical Bureau had some negative effects on the development of Catholicism in the Ming and Qing dynasties. Firstly, missionaries such as Adam Schall von Bell and Ferdinand Verbiest who served in the Bureau were stuck in Beijing for long time, unable to go out and preach freely. There was a conflict between the official position and the receipt of the salary, and the Jesuit vows, which triggered controversy within the missionary community. Secondly, the missionaries in the Bureau spent most of their time on these secular or civil matters such as revising calendars, teaching astronomy, casting cannons and other social activities, with little time for missionary works. Although Adam Schall von Bell preached Catholicism through books, the number of these books was little and had limited influences. Thirdly, missionaries obtained the emperor's patronage and protection through their loyalties and services. However, the relationship between missionaries and the Emperor was vulnerable and non-consistent. The fate of Catholicism in China depended on the emperor's own likes and dislikes. Fourthly, although the missionaries converted some officials in the Bureau to Catholics, the number was still limited. Some literati were quite fond of Western learning, but with the changing times, sciences such as astronomy could not provide the legitimacy for the Catholic mission in China. But objectively speaking, missionaries and official Catholics in the Bureau played a significant role on the development and exchange of Chinese and Western sciences during late Ming and early Qing dynasties.<sup>(42)</sup>

---

(42) The new research please refer to Han Qi, *Tongtian zhixue: Yesuishi he tianwenxue zai zhongguo de chuanbo* (《通天之学: 耶稣会士和天文学在中国的传播》), Beijing: sanlian shudian, 2018.

**中文题目：**  
**钦天监与明末清初官员天主教徒群体**

肖清和

上海大学历史系教授、博士生导师，研究方向是明清中西文化交流史

Email: xiaoqh@shu.edu.cn; 电话: +8615821851145

**摘要：**晚明时期，随着徐光启主持组建历局，推荐传教士以及天主教徒入局修历，钦天监成为传教士居留中国的重要机构，并对天主教的传播与发展起到了重要作用。迨至清初，钦天监成为官员天主教徒最多的官府衙门。传教士不仅掌管钦天监修历事务，而且还通过积极传教，将钦天监官员、天文生变成天主教徒。钦天监的传教士为各地的传教士提供了保护，官员信徒在致仕之后返回家乡继续传播天主教。即使在禁教时期，钦天监仍然有传教士供事。钦天监官员天主教徒群体的形成，可视为明清天主教科学传教之体现。学界对汤若望、南怀仁研究颇多，但对钦天监与官员天主教徒研究较少。本文在相关档案文献的基础上，通过梳理钦天监与天主教之间的关系，展示明末清初官员天主教徒群体的基本情况，并对通过钦天监（科学）传教的历史影响进行分析。

**关键词：**钦天监；官员天主教徒；科学传教

