The Scientific Image of Ferdinand Verbiest and the Jesuits in China

南怀仁与来华耶稣会士的科学形象

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ABSTRACT

Ferdinand Verbiest is a representative figure among the Jesuits who came to China during the Ming and Qing dynasties. The common view of later generations is to place him alongside his predecessors Matteo Ricci and Johann Adam Schall von Bell, shaping them as leaders of Western Learning Spreading to the East and disseminators of Western science. However, the scientific image of Verbiest and the Jesuits in China has not always been like this, and it can be examined according to the general division of Chinese history into three stages: Ming and Qing dynasties, modern times, and contemporary times. The significance of Verbiest will also be discussed from the history of evaluation to the evaluation of history.

Keywords: Ferdinand Verbiest, the Jesuits, scientific image, science

Ferdinand Verbiest was a representative figure among the Jesuit missionaries who came to China during the Ming and Qing dynasties, and research studies on him have accumulated for centuries. Although Matteo Ricci had passed away for more than a decade when Verbiest was born, and Johann Adam Schall von Bell had already grown old when Verbiest came to China, the common view of later generations is to place him alongside these predecessors as the three iconic Jesuit figures in China, affirming their pioneering contributions to "spreading" and "importing" Western science and technology, and interpreting them as leaders of Western Learning Spreading to the East and disseminators of Western science. So, was the scientific image of Verbiest and the Jesuits unchanged? As Nicolas Standaert believed, Ricci's identity was shaped by the Chinese.[1] This article examines the scientific image of Verbiest and the Jesuits in China, which can roughly be divided into three stages according to Chinese history: Ming and Qing dynasties, modern times, and contemporary times. From the history of evaluation to the evaluation of history, the group significance of Verbiest will be discussed.

The first stage can be called "Closing the Coffin and Drawing the Conclusion". When Verbiest passed away, he received a favor from Emperor Kangxi and was posthumously awarded the title of "*Qinmin*"(勤敏). On the shaded side of his tombstone, there is an imperial text that more specifically reflects the official evaluation given by the Qing court. "It's truly commendable that you have worked so diligently and been able to govern the calendar in the *Qintianjian*. Moreover, you have put in all your efforts and made significant contributions to safeguarding national security." [2]

Nan Huairen--as Verbiest was known in China--was fully recognized for his years of service in astronomy and firearms. Of course, astronomy and firearms do not exactly coincide with science and technology. For example, astronomy also means "the theory of heaven", demonstrating the close connection between science and religion. As Hanqi (韩琦) pointed out, the reason why Verbiest and the Jesuits were favored by the emperor who opened up the path of spreading astronomy was because "the European astronomy that mapped the heavens was exclusively enjoyed by the rulers of the Qing Dynasty and became a tool for the emperor to rule the people". [3] Astronomy was also highly valued in ancient China due to its cosmological content related to the order of heaven and the world and was a science with strong political attributes. Whether it is science and religion in the eyes of Western missionaries or science and politics in the eyes of Chinese emperors, it indicates that the image of science is a key part of Verbiest's overall role in China. In the middle of the Qing Dynasty, while adopting a policy of banning religion, the authorities also strengthened their use of Western astronomy as an Eastern source of knowledge. Verbiest's scientific image is not as a disseminator of Western science, but rather a transmitter of Western science originating from the East.

The second stage can be referred to as "To Learn the Superior Skills of the Barbarians". Modern times ushered in a new wave of Western Learning Spreading to the East, and the Chinese intellectual community has reconstructed the image of Verbiest in that era of transformation. Under the slogan of "to learn the superior skills of the barbarians," advocates of Westernization sometimes cited the experience of palace missionaries and proposed the study of Western science. In 1891, it was suggested

1 Nicolas Standaert. *Matteo Ricci: shaped by the Chinese*. Claudio Giuliodori. Roberto Sani. *Scienza ragione fede: II genio di padre Matteo Ricci*, Marcerat: EUM. 2012: 149-166.

2 陈欣雨. 春秋石铭：北京栅栏墓地历史及现存碑文考. 北京：人民出版社. 2020. 167–168.

3 韩琦. 通天之学：耶稣会士和天文学在中国的传播. 北京：生活・读书・新知三联书店. 2018. 15.

that mathematics schools should be established in Beijing, provincial capitals, and counties. If its teachers cannot "fully subscribe to Western Confucianism," they can also hire "Western scholars who are teaching in China" to serve concurrently. "They should also be happy to follow in the footsteps of Matteo Ricci, Ferdinand Verbiest, and Johann Adam Schall von Bell, who were all used by China in the past."[4] Verbiest and others have also been established as pioneers and groundbreaking figures in the dissemination of science from the West to China. As Yu Fengbin (俞凤宾) said in 1929, "Matteo Ricci in the Ming Dynasty and Ferdinand Verbiest in the early Qing Dynasty pioneered the spread of Western science in China."[5] But Liang Qichao (梁启超) also said that Matteo Ricci, Ferdinand Verbiest and others "imported both Catholicism and shallow science" in China. Because they made great contributions to culture, we must pay special attention to them.[6] Through these modern Chinese arguments, at least three key words can be summarized, which also reflect three trends in the scientific image of Verbiest. One is the group, and since then, Verbiest has often been mentioned together with Matteo Ricci, Johann Adam Schall von Bell, and others, forming the overall scientific image of Jesuits in China during the Ming and Qing dynasties; The second is science, which explicitly refers to Verbiest's contributions and gradually abandons the original use of astronomy or Western learning; The third is culture, whether it is science or religion, the evaluation of Verbiest is often referred to as culture.

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The third stage can be called "Keeping Pace with the Times". Contemporary Chinese scholars have further developed the scientific image of Verbiest and regard the deeds of the Jesuits in China to devote themselves to the exchange of science and technology between China and the West as an important part of the history of Chinese science and technology. Although in some periods the narratives of colonization and anti-colonization, aggression and anti-aggression were overwhelmingly dominant, the Jesuits were once regarded as the vanguard of Western colonialism. However, since the reform and China's opening up, the scientific image of the Jesuits was quickly revived in a positive perspective and continuously expanded and deepened. Senior scholars Li Shen (李申) and He Gaoji (何高济) proposed in an article on Matteo Ricci published in 1985: "The purpose of Ricci's visit to China was to preach, but he also spread Western science and technology in China... Objectively speaking, his activities are no longer limited to preaching, and his role is not limited to that of a preacher."[7] In this view, Verbiest and Ricci are very similar. Over the past forty years, research on the scientific image of Verbiest has four basic characteristics: firstly, it affirms his contribution to cultural exchange between China and the West, and regards science

4 佚名. 推广设立算学学堂议. 申报, 1891-11-29（1）.

5 俞凤宾. 序. 科学丛刊, 1929（2）:1.

6 梁启超. 中国历史研究法. 长沙：岳麓书社. 2009. 171.

7 李申、何高济. 利玛窦与中国. 世界历史. 1985(3).23.

and religion as two fundamental points; the second is that the published results of translation, textual research, and organizational work are constantly emerging, relying on the continuously enriched literature and materials related to Verbiest to provide support for further research; the third is that the exploration of the scientific knowledge and activities he spread is becoming more in-depth, and the understanding is more comprehensive and systematic; the fourth is that there are more and more fields and hotspots involved, prompting a trend favoring multiple perspectives and interdisciplinary approaches. In short, contemporary research in this field can be described as grand, constructing a more diverse and three-dimensional scientific image of Verbiest and the Jesuits.

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From the history of evaluation, it can be seen that the scientific images of Verbiest and the Jesuits in China cast a shining light in the history of cultural exchange between China and the West, even surpassing their influence on the spread of Catholicism in China. The formation of this special situation is because this scientific image is the construction of social history, with its focus issues and realistic concerns. This can be understood through three questions: how to view "Western Learning Spreading to the East" and "Western Learning Originating Eastward"? What is the relationship between missionary work and the dissemination of science? Why hasn't China developed modern science?

For the first question, the social history construction of evaluating this scientific image cannot simply affirm the "Western Learning Spreading to the East" or deny the "Western Learning Originating Eastward," but should recognize the difference of the former and the duality of the latter. Although there is a certain similarity in the influence of the "Western Learning Spreading to the East" in modern times and the "Western Learning Spreading to the East" during the Ming and Qing dynasties through this scientific image, there are significant differences. During the Ming and Qing dynasties, the "Western Learning Spreading to the East" was shrouded in the relations between the Chinese and barbarians. Even admitting the academic contributions of Verbiest, they often interpreted the "Western Learning Originating Eastward" as a way of "losing ritual and seeking wildness," thus holding a high and disdainful attitude. The modern "Western Learning Spreading to the East" has gradually emerged from the relations between the Chinese and barbarians and entered an era of pursuing science. Currently, reviewing the scientific dissemination activities of missionaries is a project seeking a historical perspective, with the fundamental goal of promoting the development of science in China. The "Western Learning Originating Eastward" gradually declined from the late Qing Dynasty, but there was a certain continuity. Some inheritors who rely on traditional forces "defend Chinese learning" seek to resist Western learning, while others "introduce Western learning" to reduce resistance.

For the second question, science and religion are unavoidable topics in the research of Verbiest and Jesuits. Many scholars have expressed their views on this in modern times and have reached a certain consensus: the Jesuits balanced preaching and spreading science and thought that spreading science is beneficial for promoting preaching. Under the consensus, there is also a

disagreement on the priority between preaching and spreading science: some believe that the former is the main and the latter is the auxiliary, while the latter assists the former, mostly from the perspective of the church. Some also believe that the former determines the latter and hold a more strengthened stance. Others believe that the latter determines the former, often from a Chinese perspective. Overall, insiders emphasize their image as science disseminators to enhance their missionary identity, with a focus on the religious cause. In addition, since modern times, the pursuit of science has gradually become the basis for a consensus. The mention of Verbiest and others by religious insiders is not only a restatement of a friendly and successful history, but also a use of the image of science communicators to endow missionaries with the significance of keeping up with the times. As for non-believers emphasizing their image as science disseminators, they use this as the main thread to interpret the history of Catholic missionaries to China.

For the third question, scholars since modern times have pointed to this fundamental question: China had already been exposed to Western science as early as the time when Jesuits came to China, why did not modern science develop later? In other words, why did the "Western Learning Spreading to the East" during the Ming and Qing dynasties not last? This question contains reflections on the "Western Learning Spreading to the East" in different periods, and the history of missionaries spreading science is also seen as an opportunity for China to develop modern science. Zhang Yinlin (张荫麟) has published a classic discourse on this issue that is somewhat similar to the "Joseph Needham problem": "Due to the 'losers' and 'seekers' (Chinese government, the people seem to be still in a subordinate position). The purpose is not to learn at all. The missionary aimed to preach and imported it into academia, but it was close to one of the methods of society. The Chinese government aims to improve the almanac and studies Western arithmetic and other sciences, but occasionally it comes with additional matters."[8] His conclusion is that science is only a means for both China and the West, not an end.

In short, since the Ming and Qing dynasties, the scientific images of Verbiest and the Jesuits in China have undergone changes, which is the result of the shaping of corresponding concepts in the Chinese ideological community, thus a vane for interpreting the changes in Chinese society and ideology in different historical periods. Looking back on history is to better face the future. What kind of scientific image should we construct today for Verbiest and the Jesuits in China? The report of the 20th CPC National Congress sincerely calls for transcending cultural barriers through cultural exchange, transcending cultural conflicts through mutual learning, and transcending cultural superiority through coexistence, to jointly address various global challenges.[9] In today's China and the world, the scientific image of Verbiest and Jesuits in China should be updated with the concept of cultural exchange and mutual learning. Contemporary scholars have made some attempts to break through the traditional paradigm of Jesuits as science disseminators: "Jesuits and Chinese scholars are not just disseminators and receivers, but active producers of scientific knowledge in cross-cultural and interactive contexts."[10] On the one hand, the importance of this scientific image in the history of Chinese technology is self-evident, The paradigm constructing this will change with

8 张荫麟. 明清之际西学输入中国考略. 清华学报, 1924（1）:67.

9 中国共产党第二十次全国代表大会文件汇编. 北京：人民出版社. 2022. 52.

10 Qiong Zhang. *Making the New World Their Own: Chinese Encounters with Jesuit Science in the Age of Discovery.* Leiden: Brill, 2015: 14.

the change of future social conditions. On the other hand, the importance of this construction is actually exaggerated because of the historic role of social factors. More attention can be paid to the missionary group and the trend of the times that Verbiest is subordinate to. As Wu Huiyi (吴蕙仪) said: "It provides us with a non-imperial and possibly more representative perspective to comprehensively understand the scientific exchanges between China and the West in the early Qing Dynasty".[11] For contemporary China, which is open, confident, and technologically advanced, balancing these two aspects is also a necessary duty to carry forward in opening the future.

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11 吴蕙仪. 清初中西科学交流的一个非宫廷视角——法国耶稣会传教士殷弘绪的行迹与学术. 北京行政学院学报. 2018（6）.