

The Scientific Achievements and Historical Significance of "Manchu Anatomy"

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Abstract: *The compilation of "Manchu Anatomy" was based on the positive attitude of Emperor Kangxi towards science and technology, the activities of Jesuits in China, and the exchange of science and culture between China and the West. It integrates the visceral theory of traditional Chinese medicine and the anatomical knowledge of Western medicine, promoting mutual understanding and reference between the two medical systems. The completion of this book not only increased the popularity of Western medicine in China, but also promoted the development of courtly medical education. The Complete Record of "Manchu Anatomy" has become an important bridge for the exchange of science and culture between China and the West, and has enlightening significance for the study of scientific and cultural literacy and interdisciplinary thinking. At the same time, it also demonstrates the openness and inclusiveness of technology and culture in the early Qing Dynasty. However, the closure and conservatism of the Qing Dynasty also had a limiting effect on the widespread dissemination of this work, resulting in the academic theory of Western medicine not being widely applied in China during the early Qing Dynasty.*

Keywords: "Manchu Anatomy", Medical anatomy, History of technology, Sino-Western exchange, Medical impact.

1. Introduction

As a Western medical anatomy work compiled during the Kangxi period, "Manchu Anatomy" not only marked the beginning of China's early acceptance and absorption of Western medical knowledge, but also was a milestone medical masterpiece. The compilation process of this book fully reflects the high importance that the imperial court attached to science and technology at that time, and also demonstrates the tolerance and integration attitude of traditional Chinese medicine towards foreign medical knowledge. During the publication of this book, we can clearly see the traces of the combined effects of technological progress and cultural exchange. At that time, Emperor Kangxi had great enthusiasm for the development of science and technology. He encouraged scholars to actively learn advanced Western medical knowledge and integrate this knowledge into traditional Chinese medicine. The compilation of "Manchu Anatomy" was carried out against this background. It is not only a study and reference of Western medical knowledge, but also an important integration of traditional Chinese medicine.

The completion of the translation of this book had an impact on the later development of medicine. Firstly, it provides a new perspective and method for traditional Chinese medicine, enabling TCM scholars to have a more comprehensive understanding of the structure and function of the human body, thereby better diagnosing and treating diseases. Secondly, it also promotes the exchange and integration of Chinese and Western medicine, enabling the two medical systems to learn from each other and develop together. Finally, it also cultivated a group of palace medical talents with international perspectives for the Chinese medical community, and gained a good understanding of the development and differences of world medicine through borrowing from the palace. As an important medical work, "Manchu Anatomy" not only represents the beginning of China's early acceptance and absorption of Western medical knowledge, but also reflects the joint role of technological progress and cultural exchange. The expression of Manchu also adds more mystery to its

interpretation, making it a rare and immortal work in the history of cultural exchange between China and the West today.

2. Compilation Background and Process

The compilation of "Manchu Anatomy" was carried out in an important historical context during the reign of Emperor Kangxi of the Qing Dynasty in China. During this period, Emperor Kangxi held a positive attitude towards science and technology, encouraging and supporting scientific research and technological development, which provided a favorable social environment for the compilation of "Manchu Anatomy". The activities of Jesuits in China also had a significant impact on the compilation of the Manchurian Anatomy. These Jesuits not only spread Western religious ideas, but also brought a wealth of scientific knowledge, including medicine, astronomy, mathematics, and other fields. Their activities provided Chinese intellectuals with the opportunity to access these advanced scientific knowledge, thus providing rich materials for the compilation of "Manchu Anatomy".

Emperor Kangxi had a strong interest in Western medicine, and Jean-Francois Gerbillon wrote in his "Diary" that the emperor also issued orders to inquire about certain issues related to medicine. He asked about burn medicine so that he could know how it was used in Europe, which parts of the body it was used for, what diseases it was used to prevent, and so on. This indicates that Emperor Kangxi had begun to devote himself to studying Western medical knowledge and had gained some understanding. In August of the 29th year of the Kangxi reign (1680), Emperor Kangxi was seriously ill and had just recovered. Joachim Bouve recounted the process of drafting an anatomical lecture: "Seeing the emperor's desire to understand human tissues and their functions, as well as the principles of beneficial effects that occur in these tissues... We (Joachim Bouve and Jean-Francois Gerbillon) included all the most precious and valuable discoveries about this science in this century in the anatomical lecture. These scholars, like other scientists, are leading the way in the study of anatomy". "Manchu Anatomy" was drafted in 1690, and Jean-Francois

Gerbillon and Joachim Bouve's compilation of anatomy was accompanied by copper plate printing and related explanations, making the explanation of anatomy more detailed and accurate (Figure 1). At the same time, Emperor Kangxi ordered Badomin to translate anatomical and medical works into a medical work from Manchu. "The reason why

the emperor was confident that I was capable of fulfilling his assigned task was because for about ten years, I was ordered to translate a large number of Tatar scripts into European languages." Finally, "Manchu Anatomy" was compiled around 1709.

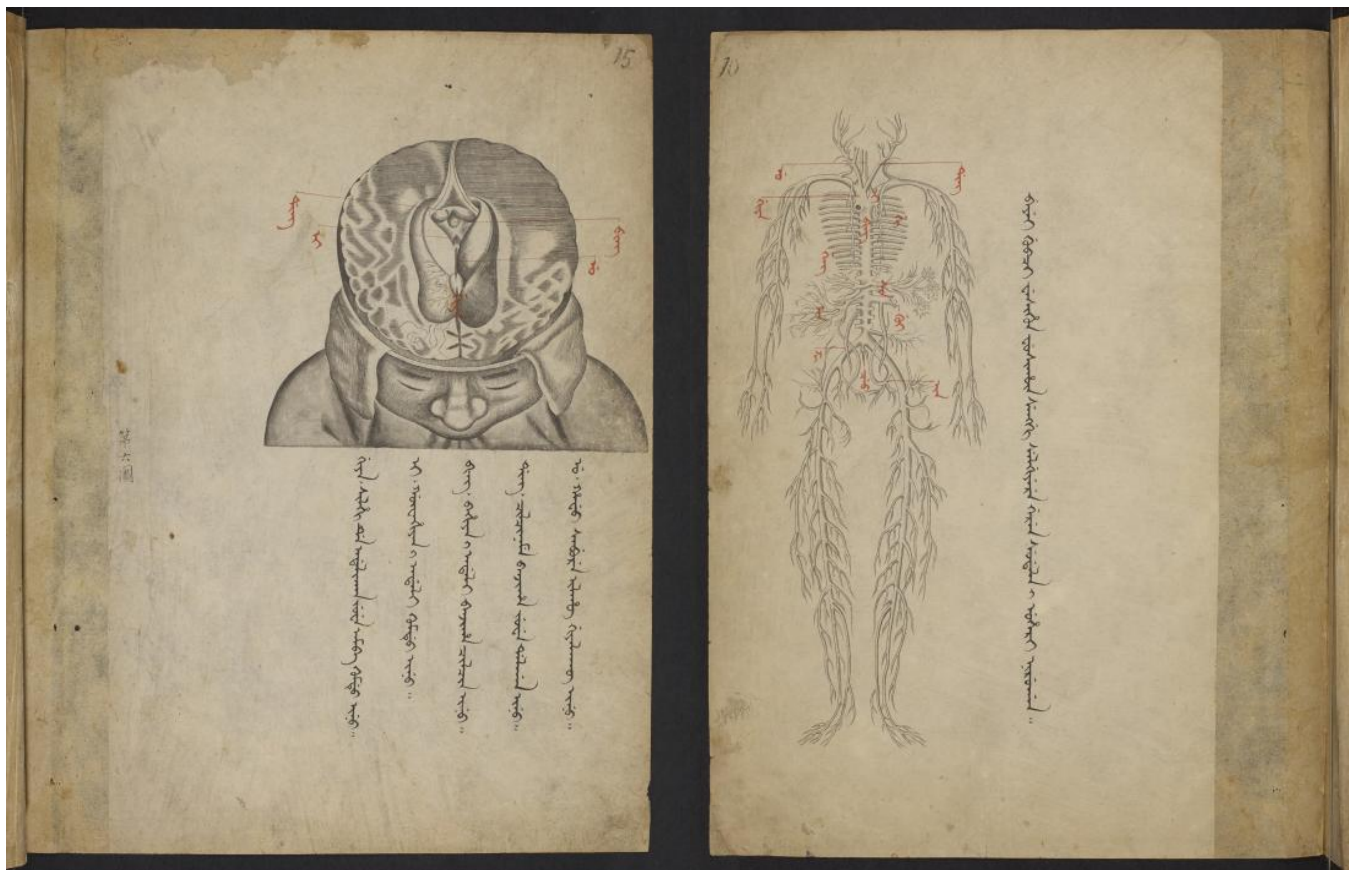


Figure 1: Image on the inner page of "Manchu Anatomy"

At that time, the scientific and cultural exchange between China and the West was also an important background for the compilation of "Manchu Anatomy". During this period, the scientific and cultural exchange between China and the West reached a new height. Many Western scientific works have been translated into Chinese, and at the same time, Chinese scientific achievements have also been introduced to the West. This kind of communication enabled "Manchu Anatomy" to absorb and draw on Western scientific achievements, thus more comprehensively and accurately reflecting the scientific knowledge of the time. The activities of Jesuits in China also provided important resources and knowledge for the compilation of "Manchu Anatomy". Jesuits are a group of missionaries from Europe who came to China to spread Christianity while also bringing a wealth of Western scientific knowledge and technology. Their activities in China not only promote exchanges between China and the West, but also provide new perspectives and methods for scientific research in China. Jesuits actively participated in the compilation of "Manchu Anatomy", integrating their knowledge and experience into the book, making it more comprehensive and in-depth reflection of scientific knowledge at that time.

3. A Bridge for the Exchange of Chinese and Western Medicine

"Manchu Anatomy" is not only an anatomical work, but also a

platform for exchanging Chinese and Western medical cultures. The book integrates the theory of traditional Chinese medicine's organs and the anatomical knowledge of Western medicine, showcasing the similarities and differences between the two medical systems, promoting mutual understanding and reference between the two. "Manchu Anatomy" is a deeply influential anatomical work that not only holds an important position in the field of medicine, but also serves as an important platform for cultural exchange between Chinese and Western medicine. The background and content of this book reflect the integration and respect for knowledge of traditional Chinese and Western medicine.

This book mainly uses Harvey's theory of blood circulation to replace Galen's understanding of the three levels of fluids associated with the brain, heart, and liver, as well as the dominance of spiritual energy over the entire human body. The book provides detailed records of the structure, function, and interrelationships of various parts of the human body, providing valuable reference materials for medical research. In terms of anatomical theory, Dominique Parrenin comprehensively cites the works of the famous French anatomist Guichard Joseph Duverney in the 17th century, who precisely represented the advanced arguments of the Western medical anatomy community at that time. At the same time, the author also introduced the theory of traditional Chinese medicine's organs, combining traditional Chinese

medicine's understanding of the human body with the anatomical knowledge of Western medicine, demonstrating the similarities and differences between the two medical systems in theory and practice. This fusion not only enriches the medical knowledge system, but also promotes mutual understanding and reference between Chinese and Western medicine. Through comparative analysis, people can have a clearer understanding of the characteristics and advantages of the two types of medicine, and thus better apply this knowledge in practice to treat diseases and care for the body. Dominique Parrenin's Manchu medical translation of "Manchu Anatomy" refers to the most advanced anatomical theories in Europe at that time, representing the Western medical system of the 17th century. It is also the most abundant and comprehensive anatomical monograph introduced to China. In addition, "Manchu Anatomy" also emphasizes the rigor and scientificity of medical research. The author has repeatedly mentioned in the book that medical research should be based on facts, avoiding subjective speculation and blindly following the trend. This scientific attitude and method are of great significance for promoting the development of medicine.

"Manchu Anatomy" is not only an anatomical work, but also a platform for exchanging Chinese and Western medical cultures. It showcases the similarities and differences between the two medical systems by integrating the visceral theory of traditional Chinese medicine and the anatomical knowledge of Western medicine, promoting mutual understanding and reference between the two. At the same time, it also emphasizes the rigor and scientificity of medical research, providing important guidance and support for the development of medicine.

4. Scientific Value and Historical Significance

As an outstanding achievement in the field of anatomy in 18th century China, the compilation and publication of "Manchu Anatomy" marked an unprecedented level in this field at that time. The publication of this work not only greatly enhanced the popularity and influence of Western medicine in China, but also promoted the exchange and integration of Chinese and Western scientific and cultural heritage, leaving valuable scientific heritage for future generations.

Firstly, from an academic perspective, the completion of "Manchu Anatomy" marks a significant breakthrough in the introduction of Chinese anatomy. In the 18th century, anatomical research in China was relatively backward, lacking a systematic theoretical and practical foundation. The publication of "Manchu Anatomy" injected new vitality into Chinese anatomy. It provides a detailed description of the structure, function, and interrelationships of human bones, providing valuable reference materials for doctors. The compilation process of this book also reflects the rigorous academic attitude of scholars at that time and their in-depth exploration of anatomy. As an important anatomical work, "Manchu Anatomy" not only filled the gap in this field in China at that time, but also laid a solid foundation for future medical research. Its emergence has led the Chinese medical community to pay attention to the research and application of anatomy, promoting the progress and development of medical science. In addition, the compilation process of "Manchu

Anatomy" also demonstrated the rigorous academic attitude and in-depth exploration spirit of scholars at that time. They provided a comprehensive and detailed description of human bones through a combination of on-site observation, experiments, and literature research. This rigorous academic attitude and method set a good example for later medical research. The completion of "Manchu Anatomy" marks a significant breakthrough in Chinese anatomy, providing valuable reference materials for the Chinese medical community and promoting the progress and development of medical science. At the same time, the compilation process of this book also reflected the rigorous academic attitude and in-depth exploration spirit of scholars at that time, setting a good example for later medical research.

Secondly, from the perspective of cultural exchange, the Manchu translation of "Manchu Anatomy" promotes the exchange and integration of Chinese and Western scientific and cultural perspectives. In the 18th century, the recognition of Western medicine in China was relatively low, and many people held a skeptical or even repellent attitude towards Western medicine. However, the compilation of "Manchu Anatomy" has formally changed this situation. It introduces the basic theories and practical methods of Western medicine in a scientific and systematic manner, providing a deeper understanding of Western medicine within the Chinese court. This understanding can to some extent eliminate people's misunderstandings and biases towards Western medicine, and also promote mutual learning and development between Chinese and Western medicine.

Thirdly, from the perspective of its historical background, although "Manchu Anatomy" can be regarded as a translated work, both in terms of title and content, it contains a large amount of content related to Chinese culture, philosophy, etiquette, and other aspects, which has had a significant impact on the development of Chinese medicine and cultural exchanges between China and foreign countries. Therefore, this work actually became an important achievement of medical exchange between China and the West in the 18th century. In the early Qing Dynasty, the cognition of the Manchu people mostly came from the Han ethnic group. Under the influence of Han culture, cultural cognition gradually formed and established. The pragmatic form in "Manchu Anatomy" has obvious expression characteristics of Han culture. The integration of Manchu culture and Han culture promoted the development of the two cultures, which played a significant role in promoting the diversified development of Chinese culture at this time. At the same time, Chinese culture is also influenced by Western culture in the process of foreign exchanges. As a Chinese culture with thousands of years of cultural history, absorbing and integrating multiple cultures is the driving force for its cultural development. The Western ideas in "Manchu Anatomy" are also influencing the traditional understanding of Chinese culture. Therefore, in the exchange of Chinese and Western cultures, it also has a significant impact on Chinese culture and produces a process of adjustment in its cultural integration. The three cultures blend and interact with each other, and in the process of cultural exchange between China and the West, "Manchu Anatomy" carries a cultural cognition of the Chinese, Western, and Manchu three body cultures. Therefore, the manifestation of the three body culture is more

conducive to cultural dissemination. However, due to the obstruction of people's ideological consciousness and concepts in the early Qing Dynasty, the intersection of the three cultures has created a contradictory basis that is difficult to integrate. Based on this, the introduction of Western culture is relatively difficult to encounter cognitive obstacles.

Finally, from an educational perspective, the compilation and collection of "Manchu Anatomy" have had a profound impact on the development of palace education. In the palace, this book is borrowed and read by the prince while studying, and there are also some reading references for imperial physicians, but they cannot be taken out or copied. Emperor Kangxi issued an edict, "This book is very special and cannot be regarded as a leisurely book, nor can it be arbitrarily disposed of by uneducated people." This also becomes an important reason why this book cannot be widely circulated in the world. The confinement of feudal ideology and the shackles of ethical norms ultimately slowed down China's entry into the modern medical camp. In the end, this work was not printed and published, but three copies were copied and placed in Beijing Wenyuan Pavilion, Changchun Garden and Chengde Mountain Resort.

However, it cannot be denied that the compilation of "Manchu Anatomy" has made an undeniable contribution to the transformation and rise of modern Chinese medicine. It not only represents the highest level of anatomy in 18th century China, but also enhances the recognition of Western medicine in the Chinese court. In the future, we have reason to believe that "Manchu Anatomy" will continue to play its important role and make greater contributions to the research of Chinese medical history.

5. Conclusion

"Manchu Anatomy" is an outstanding achievement in the history of China's technological development. This work not only demonstrates the openness and inclusiveness of technology and culture in the early Qing Dynasty, but also provides rich historical experience and profound inspiration for the progress of modern medicine.

From the content of "Manchu Anatomy", it covers a wide range of medical knowledge, including anatomy, physiology, pathology, and other aspects. This comprehensive medical knowledge system demonstrated the high level of technological development at that time, while also reflecting the importance and investment of the Qing society in medicine. This emphasis and investment are not only reflected in government support and promotion, but also in academic exchanges and cooperation within the medical community. This open and inclusive technological and cultural environment provided favorable conditions for the compilation of "Manchu Anatomy". The position of "Manchu Anatomy" in medical history cannot be ignored. It was not only one of the most important medical works of the early Qing Dynasty, but also had a profound impact on the development of medicine in later generations. The compilation process of this work involves a large amount of medical practice and research, making the medical knowledge more systematic and scientific. This systematic and scientific medical knowledge provided important references and

references for later medical research, promoting the continuous progress of medical science. "Manchu Anatomy" also provides valuable historical experience and inspiration for today's medical development. In today's medical field, we are facing many new challenges and problems, such as changes in the disease spectrum and innovation in medical technology. By studying and drawing on the historical experience and medical knowledge from "Manchu Anatomy", we can better address these challenges and issues, and promote the further development of medical science. At the same time, this work also reminds us that the development of medicine needs to maintain an open and inclusive attitude, encourage academic exchange and cooperation, and promote the continuous accumulation and innovation of medical knowledge.

In summary, "Manchu Anatomy" is one of the outstanding achievements in the history of Chinese science and technology. It not only demonstrates the openness and inclusiveness of technology and culture in the early Qing Dynasty, but also provides valuable historical experience and inspiration for today's medical development. The existence of this work not only proves the brilliance of China's technological development, but also provides important guidance and reference for our future medical research and development.

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