Comments on Missionaries’ Biological Translation in Qing Dynasty (1644-1911)

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\textbf{Abstract.} During the history of Qing Dynasty which lasted over 260 years, many biological translation works translated by missionaries in China had been published. These biological translation works were the basis of the development of the Chinese biology in modern times; and at the same time, the process and result of the translation could not only be analyzed by modern translation theories such as Skopos Theory, but also had provided materials for the research of translation theory and practice. Therefore, making research on these translation works is helpful to reappear the conditions of biological communication between China and western countries in Qing Dynasty and make research on missionaries’ scientific translation.

1. Introduction

Western missionaries’ coming into China, which began from the end of Ming Dynasty, started the era of eastward spread of western culture in Chinese history. The era of eastward spread of western culture was an important period in Chinese cultural history, which lasted hundreds of years and ran through the whole time of Qing Dynasty. With its on-going, the scientific and cultural communication between China and western countries had become more and more frequent. Although the final aim was to spread the religious doctrine, it can’t be denied that these missionaries had indeed brought some advanced western scientific knowledge to China, thus to promote Chinese science to go up to a new level. As an important branch of science, biology was also spurred by the activity of missionaries’ scientific communication. At that time, some western biological research results had been introduced to China and broadened the horizon to Chinese traditional biology study, which was beneficial to the overall development of Chinese biology.

The missionaries’ biological communication had been undergone in many forms, such as introducing western biological species to China, writing or translating influential biological books, etc. In recent research, missionaries’ contribution to Chinese-western biological communication as well as to Chinese biological development was fully approved. Chinese famous scholars, such as Luo Guihuan, Wang Zichun, and some other professors used to make research in this field and give highly appreciation to missionaries’ influence to Chinese biological development. In recent years, there have been more and more scholars paid attention to the missionaries’ translation activities in their study on translation history, but their focus was usually on astronomy, geoscience, mathematics and the other scientific subjects which had developed earlier than biology. Their focus was mainly on the aspect of translation, but not on the influence of the missionaries’ translation activities to Chinese traditional science and technology. Therefore, this paper chooses Qing Dynasty (1644-1911) as the research time slot and missionaries’ biological communication as the research point to make systematic and deeper research on biological books translated by the missionaries individually or cooperatively. This paper also makes classification to these books and gives comments both from the aspects of scientific history and from the translation study. Compared with former research, this paper has a more pertinent research target, more painstaking research contents,
and more comprehensive research aspects. Therefore, this paper will be useful to the study of the biological history of Qing Dynasty, the Chinese-western scientific communication history and translation history. It will be also helpful to better understand the conditions of the publication of biological books during Qing Dynasty.

2. The Spread of Biological Knowledge at Early Times

The research of western biology had been flourishing since the 18th century. Therefore, there was only a little biological knowledge spread to China at early times. The earliest biological knowledge transmitted to China was the knowledge of anatomy, which started from the charges of emperor Wan Li, Ming Dynasty, and first appeared in the book Xi Guo Ji Fa, written by Matteo Ricci (1552-1610), an Italian missionary. After that, Tai Xi Shui Fa, written by Sabbathin de Ursis (1575-1620), who was another Italian missionary, introduced some anatomy knowledge related to digestion and excretion. Besides that, Xing Xue Cu Shu, written by Julio-Aleni (1582-1649), who was also an Italian missionary, introduced some knowledge on anatomical physiology. Johann Schreck (1576-1630), a German missionary who introduced western anatomy knowledge to China in a more systematically way, contributed two books: Tai Xi Ren Shen Shuo Gai (written by him) and Ren Shen Tu Shuo (translated by him), which described western anatomy knowledge in detail [1].

Generally speaking, the spread of biological knowledge at early Qing Dynasty was limited and had little influence. The reason for this was because the level of the development of western biology—the systematic research work of western biology had not been started yet. Besides, in early Qing Dynasty (such as the period of Kangxi), in order to better propagate their religious doctrine, the missionaries had put their attentions more on establishing a good relationship with the governors than on the translation of scientific works. Then during Qianlong and Jiaqing period, Qing Government had started the policy of prohibition of religion and avoided having contacts with other countries, which greatly prohibited missionaries’ activities in China; both the religious spreading and scientific communication were all restricted. Then after the first Opium War in 1840, missionaries’ activities were live again. At that time, the western biology had made great achievements. Since then, more and more western biological knowledge in many biological research fields had been transmitted to China, which made greater influence than before. Therefore, the Opium War in was called the cut-off point of western biological translated works transmitted to China. This paper will make research on the influential biological books translated by the missionaries coming to China and give comments after classifying them into zoology, biology, natural history and anatomical physiology.

3. Zoology

The two influential ones were Shi Zi Shuo and Jin Cheng Ying Shuo, translated by an Italian missionary, Ludovicus Buglio (1606-1682).

Shi Zi Shuo was finished in 1678, and was the first specialized document talking about lions from the perspective of zoology. The cause of its translation could be caught from its preface: “On August 2nd of the 17th year of Kang Xi, a country faraway from China paid a lion as tribute to the emperor. As lion was rare in China then, many people asked what lion looked like, what about its temper, etc. As it couldn’t be answered simply, this book was translated.” [2]

There are six chapters in this book, including: Lion’s Body, Lion’s Temper, Lion’s Ingratitude, Pharmacological Value of lion, English Proverbs Related to Lion and Explanations of the Questions about Lions. This book “started from the natural quality of lion, then discussed the lion’s animal ethic questions, referred to its pharmacological value and idioms related to lion in western culture; at the end, the book also talked about the translator’s own opinions about lion’s coming to China. Although it is short, this book could be called a concise encyclopedia about lion’s culture.” [3]

Before the translation of Shi Zi Shuo, there were little records on lions in China. Therefore, this
book could be called the first document on general knowledge of lions systematically, even the knowledge of western animals. It also transmitted the definition of animals in Christian culture. In the chapters of *Lion’s Temper* and *Lion’s Ingratitude*, there were descriptions about lion’s emotion, thought, ethic, etc, which were identical with the cognition of animals in western culture. In the fifth chapter, the translator used English proverbs as warnings to people, such as: “when the lion is dead, the rabbits would show contempt for it”, “lion at home, fox in war”, etc, which not only exemplified the cultural significance, but also expressed the connotation of warning.

There are several opinions on the finishing time of *Jin Cheng Ying Shuo* in Chinese academic circle: 1. no exact time, for example, in the book *General Introduction of Missionary’s Translation during Ming and Qing Dynasty*, Xu Zongze used to say “translated by Ludovicus Buglio, a missionary from western country, no proface, no record about its translated time ”; 2. in 1688, the representative scholars holding this opinion is Cao Zengyou, who said “in the year 1688, Ludovicus Buglio translated another book *Jin Cheng Ying Shuo*” in his book *Missionaries and Chinese Science*; 3. in 1679, which is the saying in this paper, this opinion comes from *History of Chinese Science and Technology-Biology Column*, written by Luo Guihuan and Wang Zichun. *Jin Cheng Ying Shuo* was also translated by Ludovicus Buglio in 1679. As Manchu people like to breed eagle, Ludovicus Buglio compiled this book to introduce the approaches of eagle-breeding in western countries under the order of Kangxi. Later, this book was collected into *Eagle Chapter*, the 12th column of birds and insects of natural science collection in *Book Collection of Ancient and Present from the Order of the Emperor*, which contains several chapters discussing eagle, the image of eagle, prevention and cure of common diseases of eagle, etc. *Jin Cheng Ying Shuo* was regarded as a classic book about zoology and animal psychology. The contents about eagle’s temper and ways of training eagle was more targeted, which had special values to the people who like breeding eagles in Qing Dynasty.

On the research of foreign versions of *Shi Zi Shuo* and *Jin Cheng Ying Shuo*, Fang Hao is one of the most famous scholars in the academic circle. Fang Hao holds that the two books were translated from *Biology*, written by Ulisse Aldrovandi, an Italian naturalist [4]. Both the two were selectively translated from the foreign. From the perspective of translatology, there was specific purpose in the translation of the two books, and both had achieved their original purpose: *Shi Zi Shuo* clearly transmitted the basic knowledge about lions, thus to make the Chinese target readers who were nearly unknown to lion get more information about lion, an exotic animal at that time; the translation of *Jin Cheng Ying Shuo* was to meet the target readers’ requirement—Manchu people like breeding eagles. Of course, Ludovicus Buglio’s final purpose was correspondent with the other missionaries—spreading religious doctrine in China, *Shi Zi Shuo* contains symbols representing Christian culture, and *Jin Cheng Ying Shuo*’s translation purpose was to get a good relationship with noble people in Qing Dynasty, they were all correspondent with Skopostheorie.

After 1840, more biological works were translated by missionaries. The number of translated books about zoology was increased, but most were classified into the category of nature, which will be analyzed in detail in following paragraphs. Besides that, there were few separate translated books about zoology, among which the most influential one was *General Introduction to Zoology*, cooperatively translated by Belgium missionary Hull Chan and Chinese scholar Zhu Fei in 1903.

4. Botany

4.1 *Zhi Wu Xue*: translated by Li Shanlan, A. Williamson, and Rev. J. Edkins

There were few books specifically on botany among missionaries’ translations during the early period of the second wave of the Eastward Spread of Western Culture. Therefore, *Zhi Wu Xue*, translated between 1856 and 1857, has a special status in Chinese scientific history. *Zhi Wu Xue*, the first translation on botany in late Qing Dynasty, described western botanical basic knowledge after 18th century. “This book introduced the modern theories on physiological function of the plant’ organs in western countries, and these theories were based on experiment and unknown to Chinese people then.” [5] *Zhi Wu Xue* was published at London Missionary Society Press, and was cooperatively translated by Li Shanlan, A. Williamson (1829-1890), and Rev. J. Edkins (1823-1905).
“There are eight chapters, the first seven were translated by Li Shanlan and A. Williamson. After A. Williamson returned to England for health problems, the 8th chapter was continued to be translated by Rev. J. Edkins.” [6] The English version of Zhi Wu Xue is botanical works from British botanist John Lindley (1799-1865). There are several opinions on the original manuscript of Zhi Wu Xue: 1. it is commonly recognized as being translated from John Lindley’s Elements of Botany, some scholars hold this opinion, such as Wang Zichun, Xiong Yuezhi, etc. but there is no record on the exact version and the public place; 2. The Outline of the First Principles of Botany, but there is also no record on the exact version, Pan Jixing and Shen Guowei support this opinion.

There are totally 35,000 words in Zhi Wu Xue with 88 illustration pictures. Although not long, this book contains tremendous professional information, including western botanical research methods that focused on experiment and observation, which had provided a new perspective for the Chinese traditional botanical research. It could be called the transitional work in Chinese botany history and also famous in the history of scientific communication during the time of eastward of western culture in late Qing Dynasty. Thereafter, it contains more cultural value compared to its scientific value. For example, it was significant to modern research of translation.

The main characteristic of Zhi Wu Xue is the creative translation of the botanical terms. Li Shanlan and the other translators creatively translated a series of terms which never appeared before, such as Zhi Wu Xue (植物学), Cell (细胞), Ke (科), etc. Most of these terms had been taken into use since then and continually used up until now. These terms were significant both in science and translation. For example, Zhi Wu Xue unified the names of many branches of Chinese traditional botanical research, such as herbal research, flora research of different areas, and plant mapping, etc., thus to form a new subject. This expression was also spread to Japanese botanical circle and replaced the original ones. Xi Bao was the appropriate translation of cell. Although there used to be different versions of translation after Li Shanlan, Xi Bao was the final translation in Chinese academic circle, thus to provide an essential condition for the Chinese biological research to joint track with international biology. The translation of Xi Bao was first appeared in Botany. It was both accidental to some extent for Li Shanlan translating “cell” into Xi Bao. The earliest description on cell was “little soma”, and “little” in Chinese means “xiao”, which was pronounced as “Xi” in Li Shanlan’s home town, therefore, Li Shanlan translated cell into Xi Bao. But at first, the academic circle didn’t regard this translation as appropriate, as some scholars thought it cursory to translate the word “cell”, which represented the biological development in 19th century. Thereupon, the translation of “cell” wasn’t decided right away after Li Shanlan’s translation. There were different versions from different translators, such as “Tang” or “Ju Bao Ti”, translated by John Fryer. But finally, Xi Bao was regarded as a more exact translation. And at about the beginning of the 20th century, Xi Bao was commonly recognized as the translation of “cell”. The expression of Ke made the classification of plants more clear, which was beneficial to the development of Chinese plant taxonomy.

Besides the creative translation of the terms in Zhi Wu Xue, the localization in the translation process was significant in translation study. The process and the results of localization are both meaningful in translation theory and practice. As the translators had fully considered the target readers’ ability of cognition and acceptance, they made domestication to the contained botanical knowledge and terms. They combined the western botanical knowledge with Chinese traditional biological research by using the expression which was more acceptable for Chinese readers. Taking the method of localization, the translators transited the more advanced western botanical knowledge to Chinese botanists in a more effective way, thus to achieve the translated text’s purpose of scientific communication. This is of course a classical case in the history of translation.

4.2 John Fryer’s Zhi Wu Tu Shuo, and his other brochures that introduced biological knowledge

Zhi Wu Tu Shuo, a brochure introducing western botanical knowledge, was finished in 1895, and published by Shanghai Educational Association. The original version was John H. Bolfour’s Botany [7]. This brochure was brief and divided into 4 columns, with 26,000 words and 154 illustrations. It
is appropriate for the beginners to get a general understanding of botany. The author used conciseness language to make a clear statement and tried to tell the truth by pictures accompanied by word description, which were more vivid and lively. A Chinese famous scholar, Liang Qichao used to say in *Du Xi Xue Shu Fa* that: “Studying the origin of zoology and botany could investigate the transition of species. They were useful to the development of agriculture and animal husbandry and they are the most influential in the category of biology. Among all the works, *Zhi Wu Xue* and *Zhi Wu Tu Shuo* are the essence.” [8]

In the translation of the terms in *Zhi Wu Tu Shuo*, John Fryer referred to the expression in *Zhi Wu Xue*. Based on *Zhi Wu Xue*, he introduced modern western botanical knowledge to Chinese readers furthermore. He also epurated the expressions not appeared in *Zhi Wu Xue*, such as “Daoguan”, etc. John Fryer also took domestication as the main translation method. He used Chinese traditional expressions in botany as many as possible and combined them with the connotations in western botany, thus to make the translation more acceptable and knowledgeable to Chinese readers. It was commonly recognized that based on *Zhi Wu Xue*, *Zhi Wu Tu Shuo* had made a progress on the spreading of botanical knowledge and the translation of the terms.

John Fryer compiled several brochures to spread the western botanical knowledge in Shanghai Educational Association, such as *Zhi Wu Xue Xu Zhi*, *Lun Zhi Wu*, *Dong Wu Xue Xu Zhi*, and *Quan Ti Xu Zhi*, etc., which were selected as textbooks in missionary schools. But we can’t investigate the foreign originals now as these are few documents left.

5. Natural History

The Translation on natural history was also a form of biological communication, especially in Late Qing Dynasty.

5.1 *Bo Wu Xin Bian*, compiled by Benjamin Hobsen

It was published in London Missionary Society Press in 1855 by Benjamin Hobsen (1816-1873). It was called the first work that spread the modern western scientific and technological knowledge. There were three series covered every aspect of science. The third series was divided into 16 parts, including birds and animals. This book first gave a brief introduction to modern western taxonomy on plants and animals, then introduced the characteristics that animals adapt to nature and beasts and birds in the following parts, especially some influential large beasts [9]. It introduced moneys, elephants, rhinoceros, tigers, lions, large bears, horse, camels, eagles, winged birds, wading birds, etc. It had great influence on Chinese earlier scientific studies and caused a resonance among Chinese earlier intellectuals, such as Wang Tao, who used to say: “This book is clear and smooth. If you want to study biology, you must start from this book.” [10]

What *Bo Wu Xin Bian* communicated was the enlightening knowledge of western science and technology. It was the inchoation work of starting the Chinese-Western scientific communication during the period of western culture spreading to east. The basic knowledge of zoology in this book was the basis of Chinese zoological research. Although the scientific knowledge transmitted in this book was too simple compared with the later development, its status in Chinese-Western scientific communication history cannot be replaceable.

Analyzed from the perspective of skopostheorie in translatology, Benjamin Hobsen’s translation had an obvious aim: to introduce a book on modern western science and it shouldn’t be too complicated. And this book finally achieved its aim, thus to fulfill its translation skopos, as its translation text was appropriate, full of knowledge and not too complicated for Chinese readers. Following the rule of skopostheorie, the translation was coherent both intralingual and interlingual, thus to achieve high praise and affirmation from Chinese academic circle.

5.2 *Ge Zhi Qi Meng Shi Liu Zhong*, translated by Rev. J. Edkins

This book was translated by an English missionary Rev. J. Edkins (1823-1905) in 1886 and was supported by Imperial Maritime Customs Service Administration of Qing Dynasty (the customs tax agencies of Qing Dynasty). The whole translation work was organized by Robert Hart, the secretary
of the Administration. He selected the translated chapters, but the translation was done by Rev. J. Edkins. There were 16 kinds, and this book was translated from the rudiment of scientific books from McMillan Company [11]. There are three parts related to biology, including *Shen Li Qi Meng*, *Zhi Wu Xue Qi Meng*, and *Dong Wu Xue Qi Meng*, which introduced modern western physiology, biology and zoology individually.

The author of the foreign original of *Shen Li Qi Meng* was a British physiologist, Michael Foster. It was a textbook for physiological beginners with some psychological knowledge in it, but there was no record on its exact published time. This book emphasized on the importance of experiment, as experiment would make the statement more concrete. This book proceeded in an orderly way, and selectively introduced the physiological knowledge to the readers gradually with its own focus. Its target readers were learners who had just begun their physiological learning. This book was divided into 10 chapters, containing blood physiology, digestion physiology, etc.

There were 30 chapters in *Zhi Wu Xue Qi Meng*, with J.D. Hooker its foreign original author. This book introduced the basic contents and teaching method about botany, etc.

According to its translator, *Dong Wu Xue Qi Meng* was translated from the works of G. Cuvier, who was a famous French zootomist and paleontologist. There were ten chapters in the foreign version, but Rev. J. Edkins only translated the first eight. As the last two were about mollusks and protozoan, the translator thought them “not as important as the other chapters.” [9] Compared with the other two, this book was more important in the history of science and technology, as it was the first translation that introduced western zoological knowledge comprehensively. It presented basic knowledge about animals, including classification, differences and anatomic characters of animals. It also introduced general knowledge about mammals, birds, reptiles and the other animals, including the morphological and anatomic character. Although this book hadn’t engendered great influences because of the readers’ cognitive ability and some other reasons, it had played an enlightening role in Chinese zoological research to some extent.

6. Anatomical Physiology

The translated works on anatomical physiology were also classified into the category of biological communication in early times. And up until the 19th century, anatomy was called “All studies” (Quan Ti Xue). Besides the books discussed above, the influential anatomical physiological translations were *Quan Ti Xin Lun*, which could be also classified into the category of the communication of medical science, *Quan Ti Tong Kao*, *Ge Lei Shi Xi Tong Jie Pou Xue* and *Ge Wu Qiong Li Wen Da*, etc.

6.1 *Quan Ti Xin Lun*, cooperatively translated by Benjamin Hobsen and Chen Xiu Tang

*Quan Ti Xin Lun* was the most influential translation on anatomical physiology. Together with Benjamin Hobsen’s another translation, this book also followed the rule of skopostheorie. This book was published in 1850 in Guangzhou. It introduced a series of comprehensive western medical knowledge to. This book was a high-level anatomical physiological work and high-quality translation with systematic contents and clear description at the same time. Its original name was Principles of Anatomy and Physiology. It was selectively translated from several English originals on anatomy and physiology with a clear aim. In the process of translation, Benjamin Hobsen also added his own opinions to the text. The cooperator Chen Xiutang was his assistant, who was mainly in charge of word embroidery of Chinese expressions.

*Quan Ti Xin Lun* referred to some basic knowledge on anatomy, discussed skeleton, brain, viscera, five sense organs, blood circulation, etc. It reflected the tendency of the development of western medicine in brief words accompanied by plates, and fully approved by biological circle and medical circle.

Besides its medical and anatomical value, the reason for *Quan Ti Xin Lun*’s common acceptance was its high-quality of translation. The expression in this book was brief and smooth. The ways of translation was the same with the other missionaries’ cooperative translation: Benjamin Hobsen was mainly responsible for the description of the information in the English original, and Chen Xiutang
recorded his translation in Chinese. They took domestication as the basic translation principle, and tried to use Chinese traditional medical wording to translate the terms or process the technical terms on the basis of traditional Chinese expression. All in all, the translators tried to make the expression close to Chinese traditional medicine. Using the method of domestication, the translation achieved the readers’ psychological recognition, and accorded with the target readers’ reading habit and psychological expectation.

6.2 *Quan Ti Tong Kao*, translated by British Missionary J. H. Dudgeon

*Quan Ti Tong Kao* was translated by J. H. Dudgeon in 1886 and published in the School of Combined Learning. J. H. Dudgeon was a British missionary with a medical master degree. He used to establish the first western hospital in China. He had been hailed as the famous doctor in Beijing for his excellent medical skill.

There were 500 human anatomy diagrams in *Quan Ti Tong Kao*, which made the basic principles of anatomy more intuitive. It expressed the tendency of western biological development, and analyzed anatomical physiology from the perspective of biology, including the contents of the classification of anatomy, the direction of the anatomy development and the research method of anatomy. This book discussed the developing history of anatomy from the perspective of human life development and described the body structure of human beings and animals. The scientific research method which focused on experiment and observation was integrated into anatomic research and concepts. Judging from the contents and the contained scientific concepts, this book was the leading-edge work in scientific field of late Qing Dynasty. Because J. H. Dudgeon was a doctor himself, his translation was proceeding under the perspective of doctors, which added some scientific value to the translation.

As a translation work which had transmitted modern western anatomic knowledge, *Quan Ti Tong Kao* introduced the Chinese term “Jie Pou Xue” (解剖学). “J. H. Dudgeon was the first to use ‘Jie Pou Xue’ to set forth the knowledge of life and body in his Chinese works”. [12] “Quan Ti Xue” was commonly recognized by academic circle during the time of its translation. And up until 20th century, “Jie Pou Xue” had replaced “Quan Ti Xue” and become a professional term in the subject. It was bold and challenging for J. H. Dudgeon’s creative translation in *Quan Ti Tong Kao*.

6.3 *Ge Lei Shi Xi Tong Jie Pou Xue*, translated by D. Osgooel; *Ge Wu Qiong li Wen Da*, translated by William Muirhead

The two books were both finished in London Missionary Society Press. *Ge Lei Shi Xi Tong Jie Pou Xue* was translated by American missionary, D. Osgooel in 1878. It was taken as the anatomy textbook by many medical colleges and republished many times.

*Ge Wu Qiong li Wen Da* was translated by British missionary, William Muirhead in 1851. It was constituted by 23 dialogues, containing a few contents on anatomical physiology. Although there wasn’t much knowledge on anatomical physiology, it exerted great influences in the history of biology. Together with A. Williamson, Rev. J. Edkins and Benjamin Hobsen, William Muirhead participated in the translation work in London Missionary Press, “from 1847 to 1900, he spent 53 years in China and stayed at Shanghai most of the time; he was uninterested in anything except doing missionary work; he was the person who stayed the longest at Shanghai with the largest amount of works from London Missionary” [13]. Therefore, it was valuable to make a research both on William Muirhead and on *Ge Wu Qiong li Wen Da*.

7. Conclusion

The missionaries in China led the main stream in the period of the eastward of western culture during Ming and Qing Dynasty. With scientific translating as the main approach, they had undertaken the role of the medium of Chinese-Western scientific communication, when they spread their religious doctrine in China. Although scientific communication was not their final aim, the missionaries had indeed provided a new research perspective and scientific concepts for Chinese scientific circle, especially the physical science.
For hundreds of years’ development, traditional Chinese biological research had got some achievement and accumulation, but it was inclined to be pragmatism and empiricism. The input of missionaries’ biological translations had broken up the limitations of traditional biological research. More important, missionaries’ translations brought not only part of leading-edge theories in western biological research, but also the scientific methodology in modern western biology focused on experiments. Therefore, it is true that missionaries’ translations are the basis of the development of modern biology. As most of these translations had occurred during the period of 1644 to 1911, Qing Dynasty is the critical period for missionaries’ biological translation. During that time, the biological translations from the missionaries in China had covered nearly every aspects of biology, which were completed by the missionary individually or cooperatively. Most of these translations were turning points in the related subjects; for example, Zhi Wu Xue was the first botanical translation in late Qing Dynasty and introduced basic knowledge in modern western botany; further more, the term in it had laid solid foundations for the development of Chinese modern botany. Bo Wu Xin Bian, the biological contents made the introductory knowledge in western biology popularize among the Chinese readers. Therefore, missionaries’ biological translations finished in Qing Dynasty (1644-1911) had irreplaceable status in the history of Chinese biology and the history of Chinese-western scientific communication.

The value of missionaries’ biological translations was also embodied in the research of translation theory and practice. Although missionaries’ biological translations happened over 100 years ago (even longer), modern translational theories could still be applied to make analysis, such as skopostheorie. Besides, missionaries’ term translation also provided research materials for the research of translation theory. Most of the biological terms were creatively translated by the missionaries in China, such as “Zhi Wu Xue” and “Xi Bao” in Zhi Wu Xue, “Jie Pou Xue” in Quan Ti Tong Kao, these terms used to lead the development of the related subjects.

Most of the influential biological translations by the missionaries were occurred during 1644-1911; making a through research to these translations would be beneficial to re-appear the condition of Chinese-western biological communication in Qing Dynasty and guide the research of translation theory and practice in modern time.

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