

A Study on Benjamin Hobson's Contribution to the Translation of Western Medicine in Modern China

WANG Ruoran^[a]; LI Changbao^{[b],*}

^[a]MA student, School of Foreign Languages, Zhejiang University of Finance & Economics, Hangzhou, China.

^[b]Ph.D., Professor, School of Foreign Languages, Zhejiang University of Finance & Economics, Hangzhou, China.

*Corresponding author.

Received 15 November 2018; accepted 17 February 2019 Published online 26 March 2019

Abstract

Benjamin Hobson is a British medical missionary who came to China in the Qing Dynasty. Living in China for nearly twenty years, Hobson had quite a few translation works published, and he was not only the first one who systematically translated various kinds of medicine theories into Chinese but also the pioneer of creating medical terms in Chinese. This paper first attempts to make a thorough inquiry into Hobson's medical translation practice and his views on translation, and then points out that Hobson's major contributions to the translation of western medicine in modern China are that his medical translation promoted the popularization of western medicine in China, that the publication of Treatise on Physiology set a milestone of translating medicine works for modern China to learn from the West, and that his compilation of A Medical Vocabulary in English and Chinese laid the foundation for the Chinese translation of modern medicine terminology.

Key words: Benjamin Hobson; Medical translation; Translation of western medicine; *Treatise on Physiology*; *A Medical Vocabulary in English and Chinese*

Wang, R. R., Li, C. B. (2019). A Study on Benjamin Hobson's Contribution to the Translation of Western Medicine in Modern China. *Cross-Cultural Communication*, *15*(1), 42-47. Available from: http://www.cscanada.net/index.php/ccc/article/view/10970 DOI: http://dx.doi.org/10.3968/10970

INTRODUCTION

Benjamin Hobson (1816-1873), a British medical missionary, was born in Welford, Northamptonshire, England. After graduating from London University with a master's degree in medicine, he came to China under the designation of London Missionary Society. In 1839, Hobson started his medical practice in Macao, and then was transferred to Hongkong as the dean of the London Missionary Society's hospital in 1842 and founded a medical school. In 1848, Hobson founded Huiai Medical Center, which was a church hospital in Guangzhou. Later in 1857, he took over William Lockhart's work at Renji Medical Center in Shanghai. In 1859, Hobson left China. Due to his poor health, he died of disease at Forest Hill near London in 1873.

During his time in China, Hobson compiled a number of representative western scientific works, and his achievements in the translation of western medicine are particularly prominent. "In the process of diagnosis, treatment and teaching, Hobson investigated the diseases in China, studied the theories and treatment methods of traditional Chinese medicine, and found that although descriptions about blood, bones, organs and meridians were contained in Chinese medical books, unfortunately, their uses were not known by the Chinese people" (Ma, Gao & Hong, 1993, p.372). Associating with his own experiences of medical education, Hobson began to translate medicine theories and clinical treatments step by step: from anatomy to basic scientific knowledge required by western medicine; to surgery practice; to gynecology; to internal medicine; to pharmacy; several translations of western medicine were published from 1851 to 1858. Wang (2015) points out that the "five kinds of Western medicine books" (Treatise on Physiology; First Lines on the Practice of Surgery in the West; Practice of Medicine and Materia Medica; Treatise on Midwifery and Diseases

of Children; and Natural Philosophy) compiled by Hobson systematically spread western anatomy, physiology, surgery, internal medicine, gynecology and pediatric to China for the first time. In addition, Hobson has made a breakthrough attempt at the creation of medical terms. Sun (2010) holds that *A Medical Vocabulary in English* and Chinese, which was compiled by Hobson, marked the beginning of the translation of medical terminology and has rich research value.

In view of this, scholars introduced Hobson as an indispensable figure in the history of western medicine's propagation to the East. Wylie (1867), in A Medical Vocabulary in English and Chinese, records the history of western missionaries in modern China, including a brief introduction to Hobson and his translations. In Japan, also influenced by western medicine's propagation to the East, Shen (1996) at Kansai University makes a thorough list of translations of the western medicine since the Oing Dynasty, holding that Hobson's medical translation was of great significance to the formation of modern Chinese medical terms. In China, Chen (1897) and Wang (1882) discuss Hobson and his translations in the Qing Dynasty. Later in the 1980s and 1990s, Hu (1982), Zhao (1991) and Xiong (1994) probe into Hobson and his translation from the perspective of the propagation of western culture. Ma, Gao & Hong (1997) also elaborate on Hobson's activities in China and the process of his translation. Since the 21st century, microscopic researches about Hobson and his translations have increased. Li (2005) analyzes Hobson's translation of medical nouns, pointing out the important role Hobson plays in the determination and unification of medical nouns. Wu (2009) discusses Hobson's translation from the perspective of dissemination and localization of human physiology, pointing out that Hobson makes great efforts in the popularization of related knowledge. Sun (2012) explores the influence of A Medical Vocabulary in English and Chinese from the perspective of the creation of modern medical terminology, holding that Hobson's works have exerted a positive effect on the transmission of western medicine. Wang (2015) analyzes Hobson's compiling strategy, pointing out that the local language and words from Confucianism or Chinese medicine classics are constantly used in Hobson's translations. Guo & Li (2015) discuss Hobson's influence on the education of western medicine in modern times, holding that his textbooks have promoted the development of western medicine in China.

1. HOBSON'S MEDICAL TRANSLATION AND HIS VIEWS ON TRANSLATION

1.1 Hobson's Medical Translation

Hobson lived in China for less than 20 years, however, the amount of his translations is quite large. In 1851, he

had Treatise on Physiology published in Guangzhou, which was the first systematic translation of western anatomy. Xiong (1994) points out that this book has made a thorough introduction about main organs and systems of the human body, including the movement system, the digestive system, the respiratory system, the circulation system, the urinary system, the endocrine system, the nervous system and the reproductive system. His translation of The Natural Philosophy was published in 1855, introducing western scientific knowledge in three chapters: physics, astronomy, and zoology, which were all the basic knowledge required in the education of western medicine. In 1857, Hobson came to Shanghai to work at Renji Hospital and left China in 1858. However, during this short period, he cooperated with Chinese translators and had three translations published. The first was First Lines on the Practice of Surgery in the West, an introduction of illness and medicine; the second was Treatise on Midwifery and Diseases of Children, introducing theories of obstetrics, gynaecology and pediatrics; and the third Practice of Medicine and Materia *Medica*, which introduced theories of internal medicine. In addition, Hobson compiled the medical terminology used in his translation into A Medical Vocabulary in English and Chinese, a professional dictionary of English-Chinese medical terms.

1.2 Hobson's Views on Translation

1.2.1 Trans-Editing Is the Means to Achieve Better Translation

Chen, Luo & Kuang (2013) point out that Hobson has always defined his own translation as 'trans-editing', and he mentioned this in the preface of several translations. Just as what "trans-editing" implies, Hobson's translation refers to not only the transformation of language but also the reorganization of contents, which are mainly evidenced by two aspects. Firstly, when he was selecting the translation content, he chose various medicine works in the same field, picked up several chapters, and put them together as a book. For example, the original text of Treatise on Physiology included William Benjamin Carpenter's Animal Physiology, Jones Quain's Elements of Anatomy, Erasmus Wilson's The Anatomist's Vade Mecum and William Paley's Natural Theology, Hobson, however, selectively translated the contents of different works and compiled them into one book, and the translation cannot be completed without "examinations; the reference of created models; and a lot of discussions"(Hobson, 1851: Preface). Secondly, when translating chapters, Hobson did not translate the text word-by-word, but "summarize the main idea and translate it into Chinese"(Hobson, 1858: Preface). It is obvious that trans-editing can effectively serve Hobson's translation purposes: First, to ensure that the translation has a high degree of acceptance. Wang & Wu (2009) hold that Hobson has selected 'the facts of Western medicine' from the original text to translate

because these things were undoubtedly easier to be accepted, and more capable to avoid controversy. Shen (1996) points out that direct translation was very rare in Hobson's translation. In order to let the Chinese accept these theories, it was very common for Hobson to adjust the content". Second, to ensure that the translation has a high degree of practicality. Systematic translation of medicine works began with the needs of education, and for this reason, Hobson attached great importance to the practical value of his translations. He often deleted and reorganized the original text, and appropriately added his own narratives and interpretations, so there was almost no empty talk in his translations. In the dissemination of Hobson translation, the later generations rarely edited the text. For example, The Chinese Serial published by Christian missionaries in Hong Kong continuously published articles about various parts of the human body in 1855, and from its English catalogue we could found that these articles were extracted from the corresponding parts of Hobson's Treatise on Physiology. Wu (2009) points out that since Hobson's translation is very simple and the language is relatively popular, the journal basically did not modify the original text. It can be seen that Hobson, by way of his trans-editing, was to translate the essence of the western medicine, and to comprehensively introduce the knowledge of various fields in limited space, so that the translation would be more practical, and could achieve better results in both teaching and communication. Obviously, trans-editing the form that can effectively achieve Hobson translation purposes, and he did so in his translation practice.

1.2.2 Translation Should Be Localized

Hobson paid great attention to the localization of translation, aiming to improve the reception of translation. First of all, as for the content, in the process of compilation, Hobson studied traditional Chinese medical theories and made some adjustments in his translation. For example, the original text might contain guidance of specific medical operations, and if there was a new term that the Chinese people cannot understand or a tool that had not been used in China before, Hobson would replace these contents with something easier for the Chinese readers.

Secondly, as for language, Hobson often conducted indepth discussions on translations with Chinese translators and strived to ensure that the accuracy of translation could be achieved in a smooth way, therefore, the book was easy to read, and not a single sentence was awkward. For the selection of vocabulary, Hobson also made lots of efforts, Shen (2010) holds that maximizing the use of old words is an important feature of Hobson's language in translation. At the same time, in order to remove the difficulties for readers and expanded the real audience, Hobson carried out many ingenious designs in the narrative of his translation, and endeavored to conform with the Chinese way of saying things. For example,

Wang, Chen & Zhang (2015) point out that in order to comply with the traditional Chinese medicine, Hobson added a Chinese character "jing", meaning "meridian" to heart, liver, spleen, lungs, kidneys and other organs. In this way, the Chinese readers could gain a sense of intimacy when reading his books, which is one of the important factors for Hobson's success. Wang (2015) mentions that William Lockhart, a friend of Hobson's, also gave a high evaluation of Hobson's translations by saying: "The exquisiteness of the expressions, the printing and illustrations of the text, and the hard work of the author were all quite commendable. These works were outstanding for not only the wonderful compilation of a large number of medicine works but also the clear and admirable language." Hobson's translations were highly evaluated at the time, readers all over China were eager to buy the books, and some officials even ordered to print and distribute Hobson's medical translations, precisely because Hobson's translations were highly localized, which were easy to understand.

1.2.3 Translation of Medical Terms Should be Done Scientifically and Systematically

Hobson was the first one who tried to create Chinese medical terminology. Arguably, at the early stage, translation of medical terms varied from translator to translator, and there was no standardization for translation of medical terms that could be popularized. Different from the predecessors, Hobson insisted that the translation of medical terminology should be done scientifically and systematically, which could be reflected in the following aspects.

Firstly, Hobson made many corrections of Chinese medical terms, which has been mentioned in one of his translation works as saying that "diseases listed in the book were known to the locals, but their names might be different from what the Chinese people were familiar with. Because after reading several Chinese medical books. I found that some names were inconsistent with the facts, such as the deterioration of the beads was called green water instilled in the eye; some names actually have no corresponding illness; and some names only represented the symptoms but not the illness, which was confusing and needs to be changed"(Hobson, 1857: Preface), Hobson criticized that Chinese medical terms were unscientific, and Sun(2010) holds that it is obvious that Hobson's translation of diseases was not only an indiscriminate imitation of their original Chinese names, but also the correction of the names, because he has made an appropriate adjustment of those wrong and confusing ones in Chinese medicine terms.

Secondly, Hobson emphasized that the naming of each term must match the fact, and he did adopt various strategies to achieve this goal. For those medical terms that already have their corresponding names in Chinese, Hobson directly borrowed the Chinese ones; and for those terms that do not have their corresponding names in Chinese, he advocated to adopt domesticating translation instead of borrowing or transliteration. In his translations, Hobson also mentioned his naming principles as follows: "There are many terms in the book, and several terms were created for things that did not have names in Chinese before, and these newly created terms also match the facts" (Hobson, 1851: Preface). It can be seen that Hobson adopted specific strategies according to specific situations, and whether he chose borrowing or creation, it was very important to pay attention to the correspondence between the name and the fact, which could reflect the scientificity of his translation.

Thirdly, the terms were sorted by their meanings, which was closely related to the unique function of A Medical Vocabulary in English and Chinese as a dictionary. Sun(2010) points out that in general, a dictionary was usually sorted according to the sequence, radicals or ancient Chinese rhymes, but this one was sorted according to their meanings of Western medicine. Obviously, this dictionary was not for the public but the medical missionaries in China, for them, this dictionary can not only solve problems in daily doctor-patient communication, but also provide help for them to write medical books in the future. In this dictionary, Hobson has classified various medical terms into sections like "one of the Whole", "Muscles of the Whole", "The Apparatus of Running Blood", "Use of Brain", "Generally Used Functions", etc, which was to avoid ambiguity and ensure the scientificity of medical practice. In addition, the translated terms in the same section were highly unified. and were arranged from basic words to compound words, then to some medical definitions. For example, in the section of "the ear", terms were sorted from "the ear" to "the lobe of the ear", then to the definitions like "the external ear collects the sound", showing the rigorous systematicness of this dictionary.

2. HOBSON'S CONTRIBUTION TO THE TRANSLATION OF WESTERN MEDICINE IN MODERN CHINA

2.1 Translation of Western Medicine: Popularizing Western Medicine in China

During the late Qing Dynasty, medical books compiled by Hobson like *Treatise on Physiology*; *First Lines on the Practice of Surgery in the West*; *Practice of Medicine and Materia Medica*; and *Treatise on Midwifery and Diseases of Children* were quite influential in China, and had made great contributions to the propagation of western medicine. Hobson's contributions are mainly reflected as follows.

First is the introduction of theories. Hobson's translation made it possible for various kinds of western medicine theories, for the first time, to be propagated

in China. For instance, *Treatise on Physiology* was the first translation that introduced theories about western anatomy, and *Practice of Medicine and Materia Medica* was the first translation that introduced theories about western pharmacy. In this regard, Hobson's medical translation, to some extent, facilitated communications between Chinese and western medicine.

Second is the popularization of western medicine. Under the circumstance that traditional Chinese medicine had a dominated status. Hobson's translation enabled western medicine to enter the Chinese medical system and aroused the public's awareness of its value. Just as what was stated by Hobson (1851: Preface), "it is a supplement for Chinese medicine", introducing theories of some medical fields, including anatomy, that did not exist in China before. His translation was complementary as it enriched the concept of "medicine" in the cognition of modern Chinese people, and Hu (1982) holds that Hobson pointed out the gains and losses in the ancient Chinese medicine about the physiological truth, given affirmation to those who were conformed to the physiological truth, and corrected those who are inaccurate. And Zhang (2017) points out that Through the complementary and correction of Chinese medicine, Hobson's translation played an important role in arousing the attention of western medicine, thus promoting the popularization of western medicine theories and practice in China.

Third is the education of western medicine. Treatise on Physiology, First Lines on the Practice of Surgery in the West, Treatise on Midwifery and Diseases of Children, Practice of Medicine and Materia Medica and Natural Philosophy were published as a series of books, showing Hobson's plan of providing textbooks for the youth who were interested in western medicine. At that time, many doctors and medical students were affected by the Hobson's translations, they were both the recipients and the communicators of these theories, thus Hobson's translations were not only used in temporal medical practice, but also carried on from generation to generation through the education of western medicine. Zhao (1991) points out that in China, from the 1850s to the 1930s, Hobson's medical books were constantly influential in the medical field.

2.2 Compilation of *Treatise on Physiology*: A Milestone of Medical Works for Modern China to Learn From the West

The compilation and publication of *Treatise on Physiology* was a milestone in the communication history of western medicine. Before Hobson, there were also few western missionaries who published their translations regarding western medicine, such as Alexander Pearson's *British Vaccination List*, but the overall length was short and the content was scattered, and the rich connotations of western medicine could not been shown in these works. Hobson was the one who opened up a new situation in

which Sun (2010) holds that the systematic introduction of western medicine in China actually began with Hobson's translation. As Hobson's most representative translation work since modern times, Treatise on Physiology has been highly praised because it introduced the structure of the human body in detail and was popularized in a large scope. Apart from that, it also has a high status in translation field. Compared with previous medical translations, Hobson adopted systematic and scientific translation methods in the translation process of this book, and Zhang (2017) holds that the advanced methods and theoretical systems used in this book and the author's serious attitude set the standard for later generations. In this sense, the influence of Treatise on Physiology has surpassed the medical field and became a milestone in modern Chinese's tortuous course of learning from the West. Hobson's translation provided an important reference for later generations, as it created a paradigm for the translation of western medicine. Later, more and more theories of western medicine were translated into Chinese on the basis of Hobson's framework and ideas. Wang & Lv (2015) point out that although Hobson's later works were improved in speciality and scientificity, they all follow the compilation methods and styles created by Hobson. It is safe to say that Hobson's translation works, especially Treatise on Physiology, played a leading role in promoting the development of the translation of western medicine.

3.3 Compilation of *A Medical Vocabulary in English and Chinese*: Laying the Foundation for Chinese Translation of Modern Western Medicine Terminology

Hobson is not only the first person who systematically translated various kinds of western medicine works, but also the pioneer who tried to create medical terminology in Chinese. Before Hobson, there were also other missionaries who tried to translate medical terminology and compiled a dictionary of medical terms, but their vocabulary was in short of speciality and scientificity, and their classification of terms was not systematic, so the reference value was quite low. Shen(1996) recalls Chinese translation of western medicine in the 19th century, and holds that the creation of medical terminology can be divided into several periods: the medical terminology before Hobson; the medical terminology created by Hobson; the medical terminology created by John Glasgow Kerr; the medical terminology created by John Dudgeon; and the medical terminology created by John Fryer. Since Hobson, different series of medical terms had constantly influenced each other, and finally, the committee on terminology of China Medical Missionary Association compiled various series of medical terms into An English-Chinese Lexicon of Medical Terms. It can be seen that the creation of medical terminology and the later development of its standardization and unification were originated from Hobson, the main member of the committee on terminology, Cousland(1908) points out that a series of textbooks and a list of English-Chinese terms translated by Dr. Hobson were the first rigorous attempts to the creation of scientific medical terms in Chinese.

Hobson's creation of the medical terminology includes both the borrowing of inherent Chinese vocabulary and the creation of new vocabulary, and he strived to make the naming of each term conforming to the fact. With Hobson's diligent selection of vocabulary, his dictionary had high reference value and laid a solid foundation for the translation of medical terminology in later years.

The fundamental status of A Medical Vocabulary in English and Chinese is reflected in its subsequent use. Although some of the medical terms created by Hobson have the limitations of his times and even have been eliminated in the society today, they still have farreaching influence in the history of the translation. For example, Hobson's translation of the term "anatomy" into "Quan Ti"(全体), meaning "the whole" in Chinese, has been used by many doctors and translators for a long period. And some medical terms originally created by Hobson are still used by the Chinese today, Luo (2004) points out that the way of using the Chinese character "Yan" to refer to "inflammation" first appeared in 1857 in Hobson's translation, before that "Yan"(炎) only has the meaning of hot, power, or the name of a legendary king in Chinese. According to the original meaning of "inflammation" in English, Hobson might find that there could be an indescribable connection between "Yan" and "swelling", one of the symptoms of "inflammation", so he gave the character "Yan" a brand new meaning in this way. Undoubtedly, Hobson's creation of medical terms has greatly enriched the Chinese vocabulary, thus making an irreplaceable contribution to the development of the Chinese language.

CONCLUSION

As medical missionary, Hobson has a dual identity as doctor and translator. As a doctor, he used his knowledge of western medicine to cure diseases and save lives, making him well-known in the medical field. Meanwhile, He has made great contributions to the translation of western medicine in modern China. He translated many western medicine works by putting his translation views into practice, and through the publication and dissemination of his works, hundreds of thousands of people were influenced. During his stay in China, Hobson was industrious in hospital and medical center, established a medical school and published many medical translations. All his works achieved great success in different fields and promoted both the development of western medicine and medical translation in China. His most prominent achievement must be his great contributions to the translation of western medicine in modern China, which is worthy of remembering.

This paper first made a thorough inquiry into Hobson's medical translation practice and his views on translation, and then pointed out that Hobson's major contributions could be summarized in three aspects: his medical translation promoted the popularization of western medicine in China; the publication of *Treatise* on Physiology was a milestone of translating western medicine works for modern China to learn from the West; his compilation of A Medical Vocabulary in English and Chinese laid the foundation for the Chinese translation of modern western medicine terminology.

REFERENCES

- Chen, W. C., Luo, W. W., & Kuang, Y. H. (2013). Revisiting "Collaborative Translating" in Late Qing China: The Draft Manuscripts of *First Lines on the Practice of Surgery in the West* and *Treatise on Midwifery and Diseases of Children*. *Journal of Chinese Studies*, (1), 243-293.
- Chen, Z. Y. (1897). *The second sequel of royal classic selection*. Shanghai, China: Shanghai Book Co..
- Cousland, P, B. (1908). *An English-Chinese lexicon of medical terms*. Shanghai, China: The American Presbyterian Mission Press.
- Guo, Q., & Li, J. C. (2015). Benjamin Hobson and western medicine education in modern China, *Medicine and Philosophy*, (9), 85-88.
- Hobson, B. (1851). *Treatise on physiology*. Shanghai, China: Yan Chai Hospital.
- Hobson, B. (1857). *First lines on the practice of surgery in the west.* Shanghai, China: Yan Chai Hospital.
- Hobson, B. (1858). *A medical vocabulary in English and Chinese*. Shanghai, China: Shanghai Mission Press.
- Hobson, B. (1858). *Practice of medicine and materia medica*. Shanghai, China: Yan Chai Hospital.
- Hobson, B. (1858). *Treatise on midwifery and diseases of children*. Shanghai, China: Yan Chai Hospital.
- Hu, Z. Y. (1982). Early western medicine books and works on the combination of Chinese and western medicine theories published in China. *Chinese Journal of Integrated Traditional and Western Medicine*, (2), 125-126.
- Li, C. B. (2005) Medical missionaries and the definition and unification of medical nouns in the translation of western medicine in modern China. *Chinese Culture Research*, (4), 50-56.
- Li, C. B. (2005). Translations and writings of western medicine by protestant medical missionaries in modern China. *Forum on Chinese Culture*, (1), 117-121.

- Luo, W. W. (2004). The history of "Inflammation". *Chinese Language Review*, (3), 42-46.
- Ma, B. Y., Gao, X., & Hong, Z, L. (1997). The history of intercultural medicine communication between China and foreign countries. Shanghai, China: Wenhui Press.
- Shen, G. W. (1996). The creation and exchange of the scientific terms using Chinese character in modern times -- medical terms (1). *Bunrin*, (30), 59-94.
- Shen, G. W. (2010). A study of communication through vocabulary between China and Japan in modern times: Creation, acceptance and sharing of new words. Beijing, China: Zhonghua Book Company.
- Sun, Z. (2010). The creation of modern medical terms -- A case study of Benjamin Hobson (1816-1873) and his *Medical Vocabulary in English and Chinese. Studies in the History of Natural Sciences*, (4), 456-474.
- Wang, M., & Luo, J. J. (2008). A review on the modernization of biology and western medicine in the Late Qing Dynasty in China. *Journal of HIT (Social Science Edition)*, (5), 11-21.
- Wang, S., & Lü, L. F. (2015). Convergent but different: Weigh of western medicine by the Chinese school of converged medicine in the Late Qing Dynasty. *Studies in Philosophy of Science and Technology*, (6), 82-87.
- Wang, S., Chen, T., & Zhang, X. L. (2015). A side view of the introduction of western medicine: Benjamin Hobson's translation strategy of western medicine books. *Medicine* and Philosophy, (4), 88-90, 97.
- Wang, T. (1882). *Tao Yuan selection*. Hongkong, China: Hongkong Government Printing Bureau.
- Wu, Y. X. (2009). The spread and localization of western human physiological knowledge in China in the Late Qing Dynasty. *Journal of Sun Yat-sen University (Social Science Edition)*, (3), 78-94.
- Wylie, A. (1867). Memorials of protestant missionaries to the Chinese: Giving a list of their publications, and obituary notices of the deceased, with copious indexes. Shanghai, China: American Presbyterian Mission Press.
- Xiong, Y. Z. (1994). The spread of western learning in China from 1842 to 1860. *Historical Research*, (4), 63-81.
- Zhang, R. R. (2017). The forerunner of "Western Medicine Spreading Eastward" in modern China: A probe into Hobson's *Treatise on Physiology. Jianghan Tribune*, (8), 134-138.
- Zhao, P. S. (1991). Hobson's "Five Kinds of Western Medicine Books" and their influences in China. *Modern Chinese History Studies*, (2), 67-83, 100.