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汉学视域下的中药研究

Research on Traditional Chinese Medicine from the Perspective of Sinology

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The journal *Chinese Medicine and Culture* (CMC) was launched in 2018 (ISSN: 2589-9627; CN: 31-2178/R9). It is a quarterly journal sponsored by Shanghai University of Traditional Chinese Medicine and Chinese Association of Chinese Medicine. CMC is a peer-reviewed OA (open access) journal with Wolters Kluwer. To date, it is the only academic journal on Chinese medicine and humanities in the world. Its goal is to offer a whole picture of traditional Chinese medicine from its cultural perspective and build a bridge of communication with other medical systems. In 2019, CMC was selected as a new high-level journal of the "Excellence Action Plan for Chinese Sci-tech Journals". In 2020, CMC became a COPE (Committee on Publication Ethics) member. The journal is now attracting widespread attraction from the international academic community.

Editor-in-Chief Prof. Xu Jianguang, MD

Dr. Xu Jianguang (徐建光) is a Professor of Orthopaedics (Hand Surgery, Microsurgery) and Doctoral Supervisor at Fudan University. He currently serves as a member of the Standing Committee of the 15th Shanghai Municipal People's Congress, Vice Chairman of Shanghai Association for Science and Technology, President of Shanghai University of Traditional Chinese Medicine, President of Shanghai Medical Association, President of Shanghai Medical Doctor Association, and Director of Reform and Development Committee, China Association of Chinese Medicine. He served as the President of Huashan Hospital, Fudan University, Director General of Shanghai Health Bureau, Director of Shanghai Food and Drug Administration, Vice Director of Chinese Medical Association (CMA), Director of CMA for Surgery of the Hand and the Founding Director of CMDA (Chinese Medical Doctor Association) for Hand Surgeons.

Dr. Xu studied under Prof. Gu Yudong, an academician of Chinese Academy of Engineering and a well-known expert on hand surgery and microsurgery, whose career includes remarkable achievements ranging from clinical treatment of brachial plexus and peripheral nerve injuries and functional reconstruction of hand injuries to basic studies and clinical use of increasing the success of free tissue grafting. Dr. Xu has chaired research projects funded by National Natural Science Foundation of China, China Medical Board (CMB), the Ministry of Health, the State Education Commission, and Shanghai Municipal Science and Technology Commission. He was awarded the second prize of National Scientific and Technological Progress, the first prize of Chinese Medical Science and Technology and the first prize of Shanghai Municipal Scientific and Technological Progress.

Dr. Xu has authored the *Blue Book: Study on Overseas Development of Traditional Chinese Medicine* (2017). In addition to being a reviewer for multiple peer-reviewed journals, including the *Chinese Journal of Reparative and Reconstructive Surgery*, *Chinese Journal of Orthopaedic Trauma* and *Journal of Biomedical Research*, he also serves as the Deputy Editor-in-Chief of *Chinese Journal of Hand Surgery* and *Chinese Journal of Microsurgery*.

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《中医药文化（英文）》

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AIMS AND SCOPE

Chinese Medicine and Culture (CMC) is a peer reviewed, open-access quarterly journal dedicated to the development of social humanities/ancient literatures/historical events/multi-disciplinary researches related to Chinese medicine. CMC publishes original research, scholarly reviews, opinion papers, and research highlights/commentaries in these fields. CMC aims to rapidly report the new progress, new insights, and research achievements on Chinese medicine, and build a communication platform for international researches to share scholarly achievements effectively..

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Boym and Rémusat: Communication of Traditional Chinese Medicine and the Rise of Western Sinology

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Abstract

This article provides an introduction to Michel Boym (1612–1659) and Jean Pierre Abel Rémusat (1788–1832) and examines the research on traditional Chinese medicine (TCM) conducted by the two prominent sinologists. This work points out that Michel Boym introduced TCM to the West and Rémusat was the first to write a doctoral thesis on TCM. A historical overview of the translation, communication and impact of TCM in Europe at that time reveals that this communication of TCM to the West played a significant role in the rise of the study of Sinology in Europe.

Keywords: Jean Pierre Abel Rémusat, Michel Boym, sinology, traditional Chinese medicine

Introduction

The study of sinology could be divided into Missionary Sinology and Academic Sinology. The historical roots of sinology in France becoming the birthplace of Academic Sinology (or sinology as an academic discipline) lie in the social and cultural advances in France and the leading research in Missionary Sinology undertaken by Jesuit missionaries.

Rise of Sinology in France

Since the arrival of the five French Jesuit missionaries (known as the King's Mathematicians) sent by the King Louis XIV in China, French Jesuits had played a central role pioneering research in Missionary Sinology. The study reached an apex with the publication of *Confucius Sinarum Philosophus*, *Histoire Universelle de la Chine, Mémoires concernant l'histoire, les sciences, les arts, les moeurs, les usages, & c. des Chinois: par les missionnaires de Pékin,* etc., in Paris. The translated works, represented by *Confucius Sinarum Philosophus*, introduced the original magnum opus of Chinese philosophy hitherto unknown to European readers and mapped the Chinese intellectual and spiritual landscape. It caused quite a stir in Europe. For one hundred years, the works by these missionaries attracted the attention of the learned intellectuals in Europe with their exotic novelty and, more importantly, "a vast library of images and thoughts. Europe found itself being not the center of the world…like other foreign literatures travelling to Europe; these works contributed on a large scale to the disintegration of the old system and developed a relative significance in a system of ideas at its critical moment of crisis."[1] Chinese philosophy and thinking were recognized, spread, and became part of the revolution in thinking modes and cultural attitudes in Europe, spurring sinophilia in 18th century France and laying the foundation for French sinology. Aptly stated by the French sinologist Édouard Chavannes, "one remains amazed at the enormous work accomplished by the French missionaries. Placed before a formidable civilization by its history, variety, and extent, these pioneers paved the way to enabling their successors to navigate this immense field of study and decide on their research priorities."[2]

In the meantime, research on Chinese studies by sinologists in France continued to advance. The more well-known figure was Arcadio Huang (1679–1716), who was born in Fujian, China and was brought to Paris by Artus de Lionne (1655–1713), a

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member of the Society of Foreign Missions of Paris.[3] The works by Arcadio Huang include the first Chinese grammar book *Grammatica Sinica* and the first Chinese-French dictionary. He was the first to translate Chinese novels into French, and more importantly, he was instrumental in shaping the works written by both Fourmont (1683–1745) and Nicolas Fréretm (1688–1749). Just as Joseph Dehergne (1903–1990) put it, "The arrival of Arcadio Huang proved pivotal to French Sinology." He was highly praised by Xu Minglong, who wrote, "Arcadio Huang, although an ordinary Chinese, conveyed reliable information on China that helped Montesquieu and the Enlightenment philosophers to acquire a comprehensive vision of China. He contributed to a good start of the Chinese studies in France, leaving behind him some valuable manuscripts."[3] From then on, Chinese studies in France began to transfer from priest scholars to secular scholars and grew through the continuous efforts of Fourmont, Fréretm, and Chrétien Lauis De Guignes (1759–1845), making it possible for secular scholars such as Rémusat to be appointed to sinology teaching posts.[4]

One further fact is notable: approval and support from distinguished academics, for example, Antoine Isaac Silvestre de Sacy (1758–1838), a scholar and an orientalist who served as commissary-general in the Cour des monnaies and Director of the Collège de France. When setting up the School of Oriental Languages, he found himself sharing the view of Jean Pierre Abel Rémusat about introducing Chinese studies into existing scholarly disciplines. Jean Pierre Abel Rémusat published an *Essay on Chinese Language and Literature* and a paper on the Chinese learning foreign languages. Backed by the strong recommendation of Silvestre de Sacy, Rémusat was appointed as the first Chair in Chinese Studies. On April 5, 1816, again on the recommendation of Silvestre de Sacy, he was elected a member of the Académie des Inscriptions et Belles-Lettres.[5] It is with such "opportunities of time, advantages of situation afforded by the Earth and the union arising from the accord of Men" that Rémusat became the pioneer in Western Academic Sinology.

Michel Boym's Contribution to French Academic Sinology

Rémusat is central to the founding of French sinology. Even with all the societal and developmental advantages mentioned above, French sinology would never have achieved its heyday without his efforts and works. Rémusat learnt Chinese on his own from books brought back by French missionaries, the *Notitia linguae sinicae* written by Joseph de Prémare and the research of Fourmont playing an essential role.[6] Works of the Jesuits engaged his attention, particularly the research on Chinese medicine by Polish Jesuit Michel Boym (1612–1659).

Michel Boym was born in a family of physicians. His father Pawel, a prominent doctor, was the royal physician to the Polish King. Pawel studied medicine at the University of Padua, which was renowned for fostering such scholars as Andreas Vesalius, founder of the modern human anatomy, Girolamo Fracastoro (1478–1553), a pioneer of European epidemiology, and Copernicus, the renowned scientist and astronomer. In his will, Pawel expressed his wish that his sons and grandsons became physicians.

In spite of his father's wish, Michael Boym chose to study theology. In the meantime, he was interested in European medicine and read widely in the then important works on Western medicine. This interest in medicine betrayed itself in his preface to *The Medical Key to the Doctrine of the Chinese on Pulses* and the one to *Auctoris Vám Xó Hó pulsibus explanatis medendi regula*. His subsequent interest in Chinese medicine was to be expected.

Michael Boym was the first European to conduct in-depth research into Chinese medicine. However, his efforts were not acknowledged by the European academia until much later. Plagiarism in relation to knowledge about China was rife in the 17th and 18th centuries in Europe. The quaintness and rarity of resources relating to China resulted in books on China being repeatedly copied, adapted, pirated and counterfeited. Boym's works were no exception. His keen interest in Chinese medicine led him to do further research while he was in China. The first reference to his own medical work appeared in the report he wrote under the title *Brieve relazione della memorabile conversionne di persone regali di quella corte alle religione christiani*, which was published after he returned to Rome. A French translation, *Briesve Relation de la Notable Conversion des Personnes Royales et l estat de la Religion Chrestienne en Chine. Faicte par le tres R.P. Michel Boym de la Compagnie de Jesus*, was later published in Paris in 1654. In the report, he wrote that he was to publish a book on Chinese medicine, saying that "Chinese medicine is a special practice using pulse diagnosis to predict the symptoms and foresee the outcome of illness, with a history dating back to centuries before Christianity. Pulse diagnosis originated in China. Chinese medicine is admirable and differs from the European medicine."

Boym also published the *Flora Sinensis* in Vienna in 1656. "In this book, Boym introduced a series of plants and animals used in Chinese medicine, such as ginger, Chinese root, Chinese cassia, pepper, areca catechu, Chinese rhubarb, snake gallbladder, and snake venom. In some instances, Boym further explained the medicinal's flavor, nature (warm or cold) and what illness it might treat from the point of view of the Europeans."[7] Plants in the *Flora Sinensis* extended from plants Boym saw in China to those in India. Polish sinologist

Edward Kajdański believed that the *Flora Sinensis* might be the only published work of Boym that he himself had ever seen during his lifetime.

Boym's work on Chinese medicine had been completed when he returned to China from Rome. However, he was met with the rough humor of history: By then, China had been taken over by the Manchus and the Yongli Southern Ming court to which Boym had remained loyal had been overthrown. He was therefore banned from traveling to China through Macau. It was then that he handed his manuscript of the study on Chinese medicine over to Father Philippe Couplet (1624–1692) and after that, Boym's work on Chinese medicine started a journey full of twists and turns.

Instead of sending Boym's manuscript back to Europe for publication, Couplet gave it to "a Dutch merchant named Jan van Rick, who mailed it to Batavia in Indonesia, where it was confiscated by Johann Maetsuyker, Governor-General of the Dutch East Indies, who reckoned that the medical text would prove useful to his doctor and pharmacist."[7] This pharmacist was Andreas Cleyer, a Dutchman and the chief doctor of the Dutch East India company living in Batavia. In 1682, Cleyer sent the manuscript of the *Specimen Medicinae Sinicae* to the German sinologist Christian Mentzel (1622–1701). With Mentzel's help, the book was published in Frankfurt under the name of Andreas Cleyer, altogether omitting Boym's name.

Andreas Cleyer was the first to plagiarize Boym's medical works. In 1671, he published a book in France entitled *Les secrets de la medecine des Chinois, consistant en la parfaite connaissance du pouls: Envoyez de la Chine par un Français, Homme de grand mérite*. Pelliot says that this Frenchman in Canton is Andreas Cleyer himself, who is perhaps also the author of parts II and III of the *Specimen Medicinae Sinicae*. Pelliot, however, could not determine which missionary in Canton wrote the book. Polish sinologist Edward Kajdański believed that the "*Les secrets de la medecine des Chinois* is undoubtedly part of Boym's medical works."

In 1680, Cleyer published a couple of other works, one under the title *Herbarium parvum Sinicis vocabulis indici insertis constans*, another under the title *Clavis medica ad Chinarum doctrinam de pulsibus* published in Frankfurt, which appears to be an excerpt of the previous one.[8]

Four years after the publication of Cleyer's *Specimen Medicinae Sinicae*, Mentzel published a book on Chinese medicine in Germany. In 1686, he published *Clavis Medica ad Chinarum Doctrinam De Pulsibus. Autore R.P. Michaele Boymo, e Soc. Jesu, and in China Missionario* (*The Medical Key to the Doctrine of the Chinese on Pulses*) in Nuremberg's annals of science, clearly stating that the author of this work is Boym. It is from Mentzel's publication of the *Medical Key* that Boym's works started to gain recognition and subsequently put a halt to plagiarism of his works.

At the end of his *Briefve relation de la notable conversion des personnes royales*, Boym mentioned that he had written the *Medicus Sinicus*. In his book *China illustrata*, Kircher referred to a work on medicine written by Boym, which, as Pelliot concludes, is surely *Clavis medica*.[9]

Rémusat's Research in Chinese Medicine

On November 29, 1814, Jean Pierre Abel Rémusat (1788–1832), the young French sinologist, was appointed the first Chair of Chinese Studies ("Chaire de langues et littératures chinoises et tartares-mandchoues") at the Collège de France. This was a day worth to remember. "The establishment of the very first Chair in Chinese studies at the College of France brought about a massive change in the Chinese studies landscape. This is a key date for both French and European sinology when Chinese studies first became part of a university curriculum in the West."[10-12]

Rémusat had been closely following the publication in Europe of Boym's works on Chinese medicine and was fully aware of how Boym's works were copied and plagiarized. He said, "but these are weaker titles for Boym, compared with his translation of four books by Wang-cho-ho on knowledge of the pulse. *Signes des maladies par le couleur de la langue* and *Exposition des mndicamens simples* were both written by Boym based on Chinese medical works, containing 289 articles." All these works, and some other fragments that Father Couplet had passed on to Batavia, in 1658, to be transported to Europe, were, as a result of dissatisfaction of the Dutch company with regard to the Jesuits of China, deprived of the name of their author, and published in Frankfurt in 1682 by Andreas Cleyer, chief doctor of the Dutch East Indies, under the title of *Specimen medicinæ Sinicæ*. The plagiarist editor there also inserted some pieces translated from Chinese, and probably by the same Jesuit, but which had not been sent from Canton until 1669 and 1670. We find in the same volume 143 figures engraved in wood, and thirty intaglio plates, all of which would give a very unfavorable idea of the knowledge of the Chinese in anatomy, had we not known that the original works of Boym contained much better information on this. Part I of *Specimen Medicinae Sinicae* inserts 29 woodcut illustrations and one intaglio plate while parts II and III are analyses by a European textual critic, "several letters sent from Canton by this critic are included in part IV."[8]

Boym's works inspired Rémusat's doctoral thesis carrying the title *Dissertatio de glossosemeiotice, sive de signis morborum quae è linguâ sumuntur, praesertim apud Sinenses*， in which Rémusat spoke highly of Chinese medicine thus. "In China perhaps no subject is more advanced than medicine and none

of the physicians in the world can be compared to the Chinese physicians. They had studied medicine since the beginning of the empire. The venerated emperors are considered inventors and promotors of medicine."[13] Books on Chinese medicine were very rare in France. Rémusat says that "a work fairly easy to read is the book translated by Boym from Chinese into Latin and this book was later copied, compiled and published by Cleyer under his own name." This doctoral thesis was largely a translation of and introduction to Boym's manual on tongue diagnosis, and it presented a comparative study of Chinese medicine's tongue diagnosis and treatment, as well as the Western treatments.

Rémusat's doctoral thesis, naturally, "is written within the framework of western medicine and rhetoric. Within this framework, all statements and arguments about Chinese and western medicine were made and western medicine was used to explain causes of signs and symptoms manifested in the appearance of the tongue, falls within this framework. The purpose is not to create new ideas or make discoveries in tongue diagnosis but rather to attempt to prove, through a comparative study of the Chinese and western medicine, that they are congenial and kindred."[13] He cited statements from Hippocrates, the Father of Medicine, and other scholars, while also explicitly proclaimed that all these are centered on Chinese medicine, as shown in the title *Dissertatio de glossosemeiotice, sive de signis morborum quae è linguâ sumuntur, praesertim apud Sinenses***.** Rémusat cited Boym's study on tongue diagnosis in Chinese medicine and based his comparative study on Boym's translation and research on Chinese medicine. One of his aims in writing this thesis was to prove the value of Chinese medicine, and he reasserted in the conclusion that "I've clearly demonstrated that the tongue diagnosis of Chinese medicine is compatible with doctrines of European medicine. Through all these indications and the modes of treatment choices, their talent shines. I'm not amazed that such an opinion is in complete opposition to those who think the books published so far on Chinese medicine are futile and untruthful."[13]

Conclusions

The process of transmitting knowledge from China to the West is cumulative and progressive. Communication of TCM should be studied within the historical framework of sinology. Chinese studies in the West is to be examined in the context of their history by taking a bibliographical approach, i.e., "to analyze texts and elucidate their meanings and values, to investigate and trace the origin and development of branches of learning," and conducting a critical study of each stage, each sinologist and each specific text. TCM research from a sinology perspective calls for historical inquiry into the development of sinology. Through the transmission of Chinese culture to the West from the 16th to 18th centuries, knowledge of TCM had been assimilated into the repertoire of knowledge in Europe and the Western sinologists drew upon such knowledge for their research. Among them, Michael Boym was the first to introduce TCM to the West and Rémusat was the first to write a doctoral thesis on TCM. Their efforts to communicate TCM to the West contributed greatly to the rise of Academic Sinology (or sinology as an academic discipline) in Europe.

Translator: Li-Hong Wei (魏立红).

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None.

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Approaches and Perspectives of the Westward Spread of Traditional Chinese Medicine: A Case Study of the *Radicis Chynae*

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Abstract

Some Western scholars have re-examined the concept of "Chinese medicine" and its knowledge system under the influence of global history research methods in recent years, in an attempt to understand the factors that led to the spread of Chinese medicine around the world, and what kind of Chinese medicine is constituted outside of China. Thus, researchers have studied the initial stage of traditional Chinese medicine (TCM)'s entry into the western world, tracing its roots and observing new knowledge systems formed in the process of cross-cultural communication. Responding to the research of Western scholars, this paper studies the *Radicis Chynae* (《中国根书简》 *Letters on Chinese Root*), a monograph written by Andreas Vesalius, a famous European anatomist who lived in the 16th century. The author of this article examined the understanding and interpretation of Chinese medicine by the European intelligentsia from 16th to 19th century, investigated the influence of the westward spread of TCM on the scientific revolution and medical progress in Europe, and analyzed its relationship with the rise of Sinology in Europe. This article discusses the knowledge interaction between Chinese medicine and the formation of modern European medicine from the perspective of global history and cross-culture.

Keywords: Andreas Vesalius, Charles V, China root, Tu Fu Ling (土茯苓 *Rhizoma Smilacis Glabrae*), westward spread of traditional Chinese medicine

Introduction: New Trends in Research on the Westward Spread of Traditional Chinese Medicine

Research interest in Chinese medicine spread to the West has taken two paths. First, at the theoretical level, European sinologists, scientists, and anthropologists have used traditional Chinese medicine (TCM) scriptures, materia medica monographs, folk medical formularies, and translations of TCM classics through which to study the theoretical and cultural aspects of TCM. Some of these scholars are also translators, and their researches have revealed cultural understandings of TCM from the western perspective. Second, on a practical level, European doctors have examined the efficacy of TCM and its cultural characteristics through patients' experiences, particularly focusing on acupuncture treatment and technical instructions. However, Chinese medicine has typically been regarded as a heterogeneous field in the West, whether through academic research or the promotion of foreign doctors in practicing TCM. Although TCM has been applied in the West for almost 500 years, it remains largely independent of the Western culture, with its theories and treatment methods treated as distinct from those of Western medicine.

In recent years, some western scholars have re-examined the concept of "Chinese medicine" and its knowledge system under the influence of global history research methods, in an attempt to understand the factors that led to the spread of Chinese medicine around the world, and what kind of Chinese medicine is constituted outside of China.[1] Thus, researchers have studied the initial stage of TCM's entry into the western

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world, tracing its roots and observing new knowledge systems formed in the process of cross-cultural communication. Two of the most influential papers on this topic are co-written by Marta Hanson (韩嵩) and Gianna Poma (波玛塔), medical professors at Johns Hopkins University in the United States. The authors' first paper examined a book translated by the Polish missionary Michal Boym (卜弥格 1612–1659) in the 17th century. The second paper was a study of the Latin and French translations of *Tu Zhu Mai Jue Bian Zhen* (《图注脉诀辨真》 *Illustrated Differentiations of The Pulse*).[2,3] In their studies, Hanson and Poma considered medical prescriptions as a unique type of knowledge and examined how Boym and other European writers translated this specialized knowledge from Chinese into Latin and French. According to Hanson and Poma, Boym noted that the textual structure pattern of the Chinese medical and its formula shared a common feature with the text of premodern European medical prescriptions, which were both based on doctors' experience.[2] This notion prompted translators like Boym to attempt to find other commonalities between European medicine and TCM. Hanson believed that these translations in the 16th century indicated an attempt to construct a textual format that could be shared by the intelligentsia in eastern and western societies and to enable the transfer of knowledge between the two cultures.[2] The study of intercultural communication of medical knowledge constitutes a new research approach, potentially leading the study of Chinese medical history in Western countries into a new paradigm.

In terms of the domestic research in China, in 2018 the National Social Science Found of China launched a research project to support less popular disciplines that have received little attention, including the "Study on the westward spread of Chinese medicine by European scientists and sinologists before the 19th century."

This study examined the understanding and interpretation of Chinese medicine by the European intelligentsia from the 16th to 19th century from the perspective of global history, investigated the influence of the westward spread of TCM on the scientific revolution and medical progress in Europe, and analyzed its relationship with the rise of sinology in Europe. At present, Chinese researchers and international scholars agree that after the Age of Exploration in the late 15th and early 16th centuries, the eastern and western hemispheres were connected by frequent sea traffic, and the world entered the first era of globalization.[4] At that time, the theoretical aspects of TCM as well as its diagnostic and treatment methodologies began to find its way into many parts of the world. However, Western scholars tended to focus more on medical texts introduced to Europe by Jesuit missionaries after the 17th century. Chinese scholars, however, noted the influence of Chinese medicine knowledge on European society and doctors during the Renaissance in the 16th century as well. A typical example was the "Chinese root": Tu Fu Ling (土茯苓*Rhizoma Smilacis Glabrae*), which was referred to as the "magic medicine" in Europe.

Charles V Firmly Believed in Tu Fu Ling (土茯苓 *Rhizoma Smilacis Glabrae*), the Chinese Root

The prevalence of Chinese root in 16th century Europe was related to two important historical figures: Charles V (1500–1558), Emperor of the Holy Roman Empire, and his imperial physician, Andreas Vesalius (1514–1564), a Belgian anatomist.

Gout and syphilis were widespread diseases at that time, and Charles V had suffered from gout for many years. In 1546, Vesalius followed Charles V to Brussels, where his disease relapsed. Together with other imperial physicians, Vesalius was involved in the treatment of Charles V. However, the emperor did not believe the therapeutic methods provided by his team were effective and sought a panacea. Charles V learned of an exotic herb named Chinese root, which was used for the treatment of gout, calculi and syphilis. Syphilis, an infectious disease that suddenly appeared in Europe in the early 16th century, was mainly transmitted among royalty and other elites. For European doctors, syphilis was a new infectious disease and there was no cure for it. The only method was the traditional mercury inunctions, which, if not properly administered, caused patients to "become poisoned, their noses and feet festered, and turned into chronic diseases that would last a lifetime."[5] Syphilis was stigmatized because of its severe symptoms and peculiarities regarding the way the disease was transmitted, and it involved a heavy moral burden for patients. Later, doctors used herbal medicines such as Yu Cang Mu (愈疮木 *Guaiacum officinale*) and Ba Qia (菝葜 *Smilax china*) imported from North America to treat syphilis. Some doctors decocted Chinese root brought back from the East by Portuguese and Spanish traders. Both treatments could effectively deal with syphilis.

The use of Chinese root spread in Europe for nearly 10 years and gained a positive reputation. At that time, Spanish nobles recommended this treatment to Charles V as a more effective medicine than the Yu Cang Mu (愈疮木 *Guaiacum officinale*) used by the imperial physicians. Charles V had high hopes for treatment with Chinese root and was convinced of its effectiveness. According to historical records, on February 10, 1546, Charles V ordered Vesalius to make a decoction according to the court medical regulations and drank it immediately. Moreover, Charles V also personally issued a drug license, which enabled the use of Chinese root widely available via proper regulated channels.[6]

Chinese root is translated from the medical term in Latin *Radicis Chynae*, and its scientific name in Chinese is Tu Fu Ling (土茯苓*Rhizoma Smilacis Glabrae*). This Chinese name first appeared in the West in 1653, when the Polish missionary Boym recorded it in Chinese and illustrated it in his *Flora Sinensis* (《中国植物志》 *Flora of China*): "Fo lim (*Poria*)." In this book, Boym explained: "the Portuguese call the Chinese root Pao de Cina, Europeans call it China vocant and Chinese call it Pe-fo-lim (白茯苓*White Poria*)."[7] In Chinese herbal medicine, Bai Fu Ling (白茯苓 *White Poria*) belongs to the Fu Ling (茯苓 *Poria*) family. However, Bai Fu Ling (白茯苓 *White Poria*) and Tu Fu Ling (土茯苓 *Rhizoma Smilacis Glabrae*) are two different medicines. The Chinese root used for treating syphilis was actually Tu Fu Ling (土茯苓 *Rhizoma Smilacis Glabrae*). Tu Fu Ling (土茯苓 *Rhizoma Smilacis Glabrae*) appeared very late in Chinese medical texts and materia medica monographs. Officially it first appeared in 1522. Yu Bian (俞弁), a doctor from Suzhou (苏州), mentioned this treatment in the "Bi Xie" chapter of his medical history book *Xu Yi Shuo* (《续医说·蓣薢》*Supplement to Treatise on Medicine* "Yam Rhizome"), noting that it was used for treating syphilis.

"Tu Fu Ling grew in the valley of Zhending (真定), and Jingchu district (荆楚 in what is now Hubei province) produces it nowadays. There are two kinds of them, one of which is nonprickly and soft, whereas the other is prickly, white, and hard. The former is superior to the latter. It is called Tu Fu Ling (土茯苓 *Rhizoma Smilacis Glabrae*), alias Xian Yi Liang (仙遗粮 Leftover Grain by the Immortal), and is commonly known as Leng Fan Tuan (cold rice balls)."[6]

There are many different names in Chinese for Tu Fu Ling (土茯苓 *Rhizoma Smilacis Glabrae*) aside from Bi Xie (蓣薢 *Yam Rhizome*). According to Li Shizhen (李时珍)'s *Ben Cao Gang Mu* (《本草纲目》 *Grand Compendium of Materia Medica*), some other names include Xian Yi Liang (仙遗粮), Yu Yu Liang (禹余粮 *Limonitum*) and Leng Fan Tuan (冷饭团). Some of these names are homonymous, i.e., two things having the same name, while some are synonymous, i.e., same thing but different names. Bi Xie (蓣薢 *Yam Rhizome*), Xian Yi Liang (仙遗粮) and Yu Yu Liang (禹余粮 *Limonitum*) were found in medical texts and materia medica monographs of the Han and Jin dynasties. They were also mentioned in *Huang Di Nei Jing* (《黄帝内经》*Huangdi's Internal Classic*), Zhang Zhongjing (张仲景)'s *Shang Han Lun* (《伤寒论》 *Treatise on Cold Damage*), Wang Shuhe (王叔和)'s *Mai Jing* (《脉经》 *The Pulse Classic*) and Tao Hongjing (陶弘景)'s *Shen Nong Ben Cao Jing Ji Zhu* (《神农本草经集注》 *Collected Commentaries on Shen Nong's Classic of the Materia Medica*). *Ben Cao Yuan Ming Bao* (《本草元命苞》 *Complete Compendium of Materia Medica*) was a book written in 1331 by Shang Congshan (尚从善) in the Yuan dynasty. This text mentioned that "Bi Xie" could be used to treat "malignant sores."[8] Thus, it is unsurprising that Boym confused the names of these medicines. It was not until the late 18th and early 19th centuries that westerners came to recognize Chinese root as "Tu Fu Ling," while traders in the East and West preferred to call it "Leng Fan Tuan."[9]

In 1525, Tu Fu Ling (土茯苓 *Rhizoma Smilacis Glabrae*) was introduced to Europe to promote perspiration and urination,[10] which fit the humoral theory that was popular in the West at the time. In 1535, it was used as a specific medicine for treating syphilis in Europe,[9] albeit awareness was limited among mainstream doctors, as they were reluctant to accept a new drug originated from foreign place. There was no mentioning of Tu Fu Ling in the European pharmaceutical works during the same historical period. When the royal physicians and medical advisers of dignitaries in European countries learned that Chinese root had been favored and approved of by the emperor, the medicine began to be in great demand, and Vesalius, the physician of Charles V, was consulted about its preparation method and treatment plan.[9]

Vesalius was born into a family of doctors in Brussels. His great-grandfather taught medicine at the Katholieke Universiteit Leuven (Catholic University of Louvain) and his grandfather was the royal physician for Emperor Maximilian I, of the Holy Roman Empire. His father Anders Van Wesel was Maximilian's apothecary and later became Charles V's personal attendant. Vesalius' father encouraged him to continue the family tradition of medical practice. In 1528, he studied arts in the Catholic University of Louvain. In 1533, he went to France to study medicine at the Université de Paris (University of Paris). There he studied under the Renaissance humanist German doctor Johann Winter von Andernach (1505–1574) and the famous French anatomist Jacobus Sylvious (1478–1555). As a student, Vesalius showed a deep interest in anatomy and often visited the Le cimetière des Innocents (Holy Innocents Cemetery) in Paris to study the human skeletal system. In 1536, he moved to Venice and studied at the Università di Padova (University of Padua) in Italy. After graduating with a doctorate degree in 1537, he stayed in Padua to teach surgery and anatomy. At this time, he was invited to lecture on anatomy at the Alma mater studiorum-Università di Bologna (University of Bologna) and Università di Pisa (University of Pisa). All professors and students of anatomy in Europe at that time had studied Galen's theory, which was illustrated by using animal anatomy. However, no one had attempted to empirically test Galen's theory. Vesalius taught students differently. He demonstrated the operations himself using anatomical tools, while the students gathered around the table to watch and learn. Vesalius considered face-to-face hands-on teaching to be the only reliable way of teaching, representing a major breakthrough in medieval anatomy teaching and practice. His

book *De Humani Corporis Fabrica Libn Septem* (《人体之构造》 *On the Fabric of the Human Body in Seven Books*) emerged from this background.

Vesalius was only 28 years old when *De Humani Corporis Fabrica Libn Septem* was published. The book was immediately welcomed by medical students. By openly disavowing Galenism, however, Vesalius threatened the Galenists in medical schools across Europe. Among them, the famous anatomist Sylvious, Vesalius' anatomy tutor at the University of Paris, was particularly angry. He criticized Vesalius' remarks in class as "offensive" and "pompous" and accused him of "disloyalty" for questioning Galenism. He also used his academic influence to alienate friends and colleagues from Vesalius. In the face of attacks from the authorities, the young Vesalius burned his manuscripts and the materials he had collected for research and left the university. Under the mediation of his father, the royal pharmacist, he became the imperial physician for Charles V, the Holy Roman Emperor. Nevertheless, European anatomists never stopped attacking him.

On June 13, 1546, Vesalius wrote a 60-page letter to Dominus, the royal physician of Belgium monarchy on a delicate parchment. In the letter, he fully introduced his understanding and use of Chinese root, including the screening of academic names, the history of the medicine in Europe, its botanical characteristics and properties, processing, therapeutic regime, and comparative study with other related drugs. Combined with his own practical experience and clinical cases, Vesalius performed a scientific analysis of the curative effects of Tu Fu Ling (土茯苓 *Rhizoma Smilacis Glabrae*).

Knowledge of Tu Fu Ling (土茯苓 *Rhizoma Smilacis Glabrae)* in *Radicis Chynae* (《中国根书简》 *Letters on Chinese Root*)

Vesalius' writing on Chinese root is more of a rigorous scientific treatise than a letter. He successfully demonstrated how to observe and study "new things" scientifically, and how to evaluate the effects and value of new drugs objectively.

In 1536, Vesalius witnessed the introduction of Chinese root and was aware of the enthusiasm and expectations of local doctors for the medicine while he was a clinical intern in Venice. According to Vesalius' research, Tu Fu Ling (土茯苓 *Rhizoma Smilacis Glabrae*) had a variety of names in Europe, namely "Chyna" "Chynna" "Cyna" "Echina" or "Achyna." Vesalius called it "Chynæ" because the Chinese root popular in Europe in the 16th century was brought back by Portuguese traders by sea, hence Europeans associated the medicine with the sea and seafarers and believed that the plant grew on the beach. In contrast, Vesalius believed that Tu Fu Ling (土茯苓 *Rhizoma Smilacis Glabrae*) may have come from India or the New World of America, based on the trade routes of Europe. In the letter, Vesalius described the shape of the Chinese root in detail: Huge, rough, jagged fragments, woody-like texture, and "looks like fungi." Tu Fu Ling (土茯苓 *Rhizoma Smilacis Glabrae*) is a tuberous root, and Vesalius explained that the "fresh root is juicy" but became dry and worm infested after been shipped to Europe. Vesalius understood that the Chinese root (Tu Fu Ling) was similar to but slightly different from, the American Ba Qia. This confusion was similar to that between Tu Fu Ling (土茯苓 *Rhizoma Smilacis Glabrae*), Ba Qia and Bi Xie (萆薢 *Rhizoma Dioscoreae Hypoglaucae*) in the 16th century in the Chinese materia medica.

The most important part of Vesalius' letter was a description on how to process the Chinese root, and Vesalius had a copy of the processing method written in Italian and a fragment of the recipe written in Spanish, which he translated into Latin and recommended it to his friend.

"Take 24 ounces of Tu Fu Ling (土茯苓 *Rhizoma Smilacis Glabrae*) daily and divide it into 24 parts to make a fresh decoction. The medicinal materials should be prepared one day in advance. Cut it into small pieces, as small as possible, and then soak these pieces with a little water until the next day before boiling them. Put Tu Fu Ling (土茯苓 *Rhizoma Smilacis Glabrae*) together with its soaking water into a new pot, add three pots of spring water, and boil them until a third of the water has evaporated. Ensure the decoction does not overflow from the pot and then put the cover on the pot to prevent the decoction from overrunning. Once the decoction is fully cooked, remove it from the fire or oven and cover it with a large towel to keep it warm. The fresh decoction should be made every day, or it will turn sour over time. If the medication does not work, add 1/2 ounce celery root to one serving of water and cook with the Chinese root."

A purgation will be carried out at the beginning, middle, and end on the advice of the physician, who will take into account the condition of the patient. Twenty-four ounces of the root should be divided into twenty-four parts to make a fresh decoction every day. If you want to boil the root tomorrow, then cut it into small pieces on the previous day, making the pieces as small as possible. And after that, pour a little water into the pot together with the pieces, leaving them to be soaked until the next day. Then put the infusion of the root and its water into a new pot and pour three pitchers of spring water into it and let it boil until a third of it has evaporated. The pot should be of a size to ensure that the boiling decoction does not overflow and it should always be covered so its potency does not escape. Once cooked and removed from the fire, it needs to be covered with large towels lest it cool off completely, and it needs to be made fresh every day because otherwise, it would

become acid. If the patient is unable to have physical benefit, add to each preparation of this water half of an eighth ounce of celery root cooked with this China root.[9]

European doctors developed strict protocols regarding the way in which Chinese root should be taken. In addition, doctors tailored individualized treatments for different patients. The process of treatment was divided into three stages. Before taking the medicine, patients were instructed to clear their bowels. During the 24 days of the first stage, patients took the medicine with an empty stomach and lay in bed for 2 h in the morning for sweating while avoiding wind. The dosage of medicine was reduced in the second stage and the patient should continue with the medicine for another 8 days. If the treatment was not effective, the patient should be given the medicine for another 24 days. The third stage was to clear the bowels. If patients with syphilis had ulcerations, or pain caused by gout, a towel soaked with medicament could be applied to the affected parts, or cleaned the sores with medicament. During medication, patients were instructed to observe various rules, including many diet and lifestyle taboos such as avoiding sexual activity, staying away from seafood, refraining from going outdoors, performing appropriate exercise indoors, keep warm when going out, and applying a towel soaked with medicine after returning to the house.

Vesalius' processing and administration methods for Tu Fu Ling (土茯苓 *Rhizoma Smilacis Glabrae*) were similar to current treatment principles of Chinese medicine. However, there is no direct historical evidence suggesting that western medicine at that time was influenced by Chinese medicine. Western medicine in Europe in the 16th century was in the phase of the classical humoral theory, so the application of herbal medicine and medical use of perspiration and diuresis were largely in line with the Western medical philosophy of that era. However, from the perspective of materia medica monographs and doctors' experience, the processing and application of Chinese root as a medicinal material from an exotic region represented new methodology and technology. Doctors at the time had mixed opinions about the effects of treatment with Chinese root. In his letter, Vesalius addressed the efficacy of Tu Fu Ling (土茯苓 *Rhizoma Smilacis Glabrae*) by describing two cases of failure he witnessed in Antwerp. He wrote that the patients were too ill to be treated and that the failure of treatment was not caused by Tu Fu Ling.

Vesalius' letter provided a comprehensive explanation regarding the clinical application of Tu Fu Ling (土茯苓 *Rhizoma Smilacis Glabrae*) from a scientific point of view, akin to the clinical guidance and instructions for treating with Chinese root. Handwritten copies of the letter were soon circulating among Belgian medical students, and Vesalius' younger brother obtained a copy from a friend and sent it to a Swiss publisher who published its epistles in August 1546. Although the section on "Chinese root" only accounted for one-fifth of the book, the main content of this book was Vesalius' explanation of his thoughts on *De Humani Corporis Fabrica Libn Septem*, as well as refutation of Sylvius' claim that Galen was infallible. The book was eventually published with the title *Radicis Chynae* [Figure 1]. Why did Vesalius put the two unrelated parts together and choose "Chinese root" as the title of his book? Vesalius' younger brother gave an answer to this question in the preface:

"This book included a new drug 'Chinese root,' especially its processing, and other drugs along with explanations. It makes it easy for truth-seekers to think about the teaching of Galen. This famous anatomist and professor did not dissect people but described many differences between humans and animals."

For in addition to the use of new remedies, especially the method of administering the decoction of China root (which I see is given to those who are most devoted to your glory), and other medicines that are not unpleasant to know and are included in this epistle, reasons are added as well by which a devotee of truth can consider that Galen, easily the foremost of professors of anatomy, did not dissect humans but described other animals differing in many places from humans.[9]

The "pursuit of truth" is the core value of *Radicis Chynæ*, and it is clear that Vesalius sought to justify the creation of his own new theory against Galen's classical theories by examining Chinese root as a new drug treatment. As commented by later researchers on the *Radicis Chynæ*:

"He discusses the Chinese root and at the same time attacks Galen in the same letter, dealing with both issues inspired by his distrust of authority and his belief in scientific explanation."

If it is due to the accident that his discussion of China-root is comprised in the same letter with a renewal of his onslaught

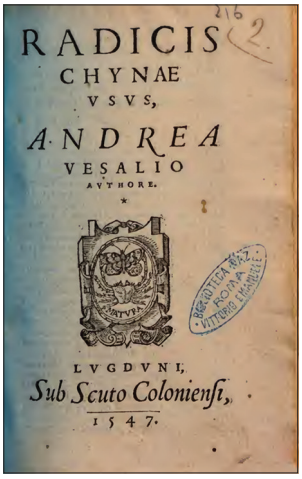

Figure 1 Cover of the *Radicis Chynae* published in 1547

on Galen, the juxtaposition is still a happy one. The treatment of both topics is inspired by the same mood, distrust of authority, and renewed hope in the possibility of a scientific understanding of the mechanism of the human body.[11]

Vesalius was a leader in the transformation of western medicine from classical theory to modern scientific approach. The *Radicis Chynae* recorded academic disputes between new scientific medicine and classical medicine, as well as academic disputes between Galen, Galen's disciples led by Sylvius and himself. In this direct contest between the "new" and "old," the new drug treatment with Chinese root played a guiding role and catalyzed the emergence of new scientific ideas.

The *Radicis Chynae* is a clear demonstration of scientific methodology and thinking. It is also an example on how how to criticize old theories and develop new ideas. First, Vesalius demonstrated scientific attitudes and cognition. Vesalius understood that the western demand for Tu Fu Ling (土茯苓 *Rhizoma Smilacis Glabrae*) resulted from the emperor's endorsement and pointed out that Charles V made his own decision to take "Chinese root," which was not based on his doctor's advice. Vesalius implied that the curative effects of Tu Fu Ling (土茯苓 *Rhizoma Smilacis Glabrae*) touted by Charles V were based entirely on his personal experience and did not represent a doctor's professional opinion. His criticism was directed at doctors who jumped on the bandwagon, "these pestilential men are so dependent upon calumny that if they notice that someone knows things they do not, they admit that he is indeed an expect about those things, but they deny he is doctor."[9] Vesalius disliked both doctors' adherence to power and blind faith in academic authority. Secondly, Vesalius re-examined the content of classical learning using an observational and empirical approach. In *De Humani Corporis Fabrica Libn Septem*, Vesalius realized that he had been "blind" to Galen's conclusions at first and that his knowledge and discovery of scientific truth had been built up by observing, dissecting with his own hands, drawing accurately while reading and comparing his results with Galen's writings. Vesalius explained the true effects of Chinese root through empirical methods of investigation, analysis, and comparison. He insisted on the anatomy of the human body, describing what he had seen with his own eyes and criticizing Galen's factual mistakes. Thirdly, although the European medical community had long believed Hippocrates' view that "anatomy is the foundation of medicine," Vesalius was the first to explain its relevance to clinical medicine. Fourthly, Vesalius explained how to treat "new" knowledge, methods, and drugs. Vesalius wrote in the letter that he was the first young man to challenge Galenism through his investigation of the truth, and he believed that his contemporaries would be proud of the younger generation for surpassing the older.

Contributions of the *Radicis Chynae* to the Westward Spread of Traditional Chinese Medicine

One thousand five hundred and forty-three was a milestone in human history. In May of that year, Copernicus' *De Revolutionibus Orbium Coelestium* (《天体运行论》 *Revolutions of the Heavenly Bodies*) was published in Nuremberg, Germany, and in June, Vesalius' *De Humani Corporis Fabrica Libn Septem* (《人体之构造》*On the Fabric of the Human Body in Seven Books*) was published in Basel, Switzerland. Vesalius' name may be unfamiliar to Chinese readers. Before the publication of *De Humani Corporis Fabrica Libn Septem*, the knowledge of European intelligentsia regarding the human body was largely derived from *De Anatomicis Administrationibus* (《解剖学》 *On Anatomical Procedures*), written by Roman doctor Claudius Galenus (129–199) in the first century AD. Galen's anatomical thought, constructed based on animal anatomy, was regarded as ideal by medieval doctors and could not be questioned. The European medical community canonized Galen as a "medical sage," and most of Vesalius' contemporaries were Galen's followers. Vesalius' work focused on human anatomy and observations of living bodies, criticizing the errors in Galen's theory and creating exquisite images of the human body to describe the normal body structure. If *De Revolutionibus Orbium Coelestium* enabled people to see the world differently and repositioned themselves in the universe, then *De Humani Corporis Fabrica Libn Septem* revised people's perception of their own bodies, helping them understand who they really were and completely overturning Galen's dominant theory in an innovative way. Western historians have proposed that the publication of these two works paved the way for the scientific revolution in Europe. In 1543, European scientific knowledge emerged from the Middle Ages. In the history of western science, Vesalius is regarded as the figure who ended the dominance of western classical medicine and is considered to be a scientist of equal standing to Copernicus in terms of their academic contributions.

Although Chinese scholars typically know little about Vesalius' scientific work on Tu Fu Ling (土茯苓 *Rhizoma Smilacis Glabrae*), the *Radicis Chynae* is the first and only western monograph named after this medicine. In 1546, the first edition in Latin was published in Basel, Switzerland. From 1546 to 2015, 13 editions of this work were published, including versions in Latin, French, Dutch, German, Spanish, and English. These included both complete translations and fragments comprising only the first part of the text. Interestingly, most reprints and translations included only the section on Chinese root, with no anatomical content. In the 17th and 18th centuries, translations of the *Radicis Chynae*

were used to guide the treatment of syphilis. If Vesalius' *De Humani Corporis Fabrica Libn Septem* was a challenge to the classical medicine of the Galen school, then through the analysis and research of Chinese root, the *Radicis Chynae* deepened the criticism of Galen's anatomy, creating the methods and approaches of medical science research and leading western medicine from the classical stage into the new era of the Renaissance.

In the past, China's research on the westward spread of Chinese medicine, science and technology focused on missionaries' letters and translated texts. The discovery of the *Radicis Chynae*, however, reveals the fact that there is not only one route for the transmission of Chinese medicine to the West and that the spread has not been limited to the influence of those sinologists with fluent competence in Chinese. This can inspire us to expand our research horizons by going back to the 16th century and discovering more information about medical, scientific or cultural exchanges between China and foreign countries from the writings and letters of European scientists during the Renaissance, and to explore the knowledge exchange between Chinese medicine and the formation of modern European medicine from an intercultural perspective. Cook writes that:

"For many centuries Chinese medicine has been a presence in the lives of people well beyond its homelands. The period that first saw sustained commerce across the Atlantic and Pacific oceans also witnessed a widening interest in forms of medicine emanating from China. The wealth and prestige of the celestial empire affected distant places, and as information and rumor about the customs to be found in circulation there, people living elsewhere sometimes responded by adapting in their own ways ideas, practices and medicinal identified with its heritage. To put it another way, some elements of the medical ways of China made a difference elsewhere and even circled back. Of course, in the process of translating ideas, practices, and substances among different cultures transformations of meanings were frequent. This thesis has explored how those multivalent processes of call and response occurred and has noticed some of the large effects produced, suggesting that attempts to slide over or through cultural boundaries, even when common understanding is not fully in evidence, may prompt changes."[1]

Western historians have begun to extend their research in this field, and we should also join the bandwagon instead of just eagerly anticipating the results.

Translator: Guo-Qi Shi (石国旗).

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Xi Gao is an editorial board member of *Chinese Medicine and Culture*. The article was subject to the journal's standard procedures, with peer review handled independently of this editorial board member and his research groups.

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Early Interactions between the Hellenistic and Greco-Roman World and the Chinese: The Ancient Afro-Eurasian Routes in Medicine and the Transmission of Disease

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Abstract

This paper discusses the historical exchanges, communications, and circumstances that initially enabled the opening of trade routes between China and the Hellenistic and Greco-Roman world. In addition, it explains how ancient Greeks first became aware of China, and the original premise of trading silk for horses. Historical Chinese texts are analyzed to identify references to the Hellenistic and Greco-Roman world in an attempt to elucidate the extent of official interactions between the two cultures. Historical and archaeological sources confirm that trade existed for millennia before Western Europeans traveled to China during the Age of Exploration. The thesis describes how silk and disease traveled from east to west and explains the historical conditions that allowed the exchange of ideas, practices, beliefs, and culture.

Keywords: Chinese medicine, Greco-Indian Kingdoms, Greek medicine, Serica, silk road

Why is the Presence of Greeks in Ancient China a Difficult Possibility to Accept

In 2013, a paper published in the *Bulletin of the School of Oriental and African Studies*[1] proposed that Greek artistic characteristics may have influenced the production of the terracotta army in China. This theory went largely unnoticed until 3 years later when several reports published by the *Independent*,[2] the BBC[3] and other online media quoted it as a possibility. The high-profile exposure of this idea caused an immediate backlash.[4] It was clear that in the era of political correctness some Western scholars felt it necessary to refute such a hypothesis[5,6] because they felt that the mentioning of Greek influence could lead to viewing the achievements of other civilizations through the "Greek lens."

After the renowned Chinese archeologist Li Xiuzhen (李秀珍) stated that "the terracotta warriors may be inspired by Western culture but were uniquely made by the Chinese,"[7] reflecting the official Chinese stance on the matter, the discussion largely died down.

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Ideally, the achievements of every civilization should be viewed independently. However, at various stages in ancient times, the exchange of ideas, art, music, knowledge, and even technology occurred freely. This raises the question of whether a line can be drawn in cases where civilizations intimately interacted and mutually influenced one another.

Historically, several Greek states existed in central Asia for centuries. In these places, Greek and Asian culture and religion fused together to create an amalgam of syncretism and the blending of philosophies and cosmotheories.[8,9] This facilitated communication between the East and West in ways that still impact on contemporary local populations. However, the presence of Greek populations in central Asia and South Asia should not be viewed through the lens of the horrors inflicted by Western Europeans during the Age of Exploration and European colonialism in their attempts to exploit China and the Far East, causing war and famine, and creating havoc.

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I propose that Hellenistic and Greco-Roman communication with China represents a separate historical phenomenon based mainly on the trade and exchange of art, ideas, and knowledge.

Etymology of Historical European Names for China and their Importance

To understand how the ancient Greeks viewed the Chinese, it is important to first explore the etymology of the various Greek names for China.

References to China first appeared in Greek literature around the 5th century BC, using the name Seres (Σῆρες) and Serica (Σηρική). Etymologically, Klaproth[10] traces the word Serica to the Chinese character 丝 (si) for silk. The difference between the pinyin pronunciation of 丝 and the Hellenized word σήρ (silk) was described by Yule[11] in 1866 as a variant which was possibly derived from other neighboring languages/dialects: "The Chinese See and Szu, Silk, is found in the Korean language or dialect in the form Sir, in Mongol Sirkek, in Manchu Sirghé. Klaproth supposes this word to have given rise to the, Greek σήρ, the silk-worm, and Σήρες, the people furnishing silk, and hence Sericum, silk.(*Mem. rel. l'Asie, iii, 265.*)."

Thus, China appears to have been known to the Greeks by its most famous product, silk, rather than the name of its people.

This situation radically changed around the 2nd century BC, when China became identified with the term Sinae (Σῖνα), or Thinae (Θῖνα).[12] Although the pronunciation differs from that in Chinese, etymologically it may indicate the unification of China under the Qin dynasty and the subsequent naming of China as the land of the Qin. The English geographic term "China" is considered to derive from the same root, but with an alternate spelling.

The Greco-Roman historian Theophylactus Simocatta (c.7th century AD)[13] uses the term Taugast (Ταυγάστ). This term, although not phonetically accurate, originates from the Chinese characters 拓跋 (tuo ba), pertaining to the Northern Wei dynasty (386 AD–535 AD) of the Three-Kingdom period. Theophylactus, who was perhaps the last great historian of late antiquity describes the Emperor of Taugast as being "The son of the God," carrying the title "Ταισάν" – (taissan-perhaps 太上). Theophylactus writes: "The 'Taugastian' Emperor is never overthrown and his title is hereditary. Chinese society has its own religion, Gods, and statues. The laws are righteous, and the society lives harmoniously. The (Chinese) morals follow the letter of the law. The (Taugastian) men never wear gold in public, although gold and silver is plentiful due to trading."[13] He also claims that Taugast is divided in two by a river, which is likely to refer to the Yellow River. In addition to describing the riches of the Taugastian, Theophylactus describes other important observations and historical anecdotes involving Alexander the Great and he briefly mentions silk and sericulture. However, the name Taugast soon became politically obsolete, and was not used in literature thereafter.

Greek and the Greco-Roman Worlds Look Eastwards

In surviving early Greek literature, a number of Far East tribes were mentioned by Alcman.[14] (c.7th century BC) and Herodotus[15] (c.484 BC–c.425 BC). However, the Issedones (Ἰσσηδόνες) were a specific ethnic group that was historically discussed in relation to China. This discussion began relatively late in the historical record, after Ptolemy[16] (c. AD 100–c. 170) mentioned "Issedon Serica" (Ἰσσηδών Σηρική) and "Issedon Scythica" (Ἰσσηδών Σκυθική). According to Herodotus, the Issedones practiced customary cannibalism, eating the bodies of the dead.[15] However, because of a lack of sufficient evidence, it is historically challenging to draw reasonable conclusions regarding the association of the Issedones with China and Chinese culture. In 1955, Phillips[17] suggested that the river Isset, located over the Sverdlovsk Pass East of the Urals, is the region referred to as Issedon. In addition, according to the same author: "The ritual cannibalism of the Issedones, compared to similar customs in medieval Tibet, was also found anciently among the Massagetae and Scythians, and is known in modern times among people in northern Asia from the Samoyeds to the Ainu."[17] This further suggested that China was heard of, but still not understood, during the time of Alcman.

China was first mentioned in western literature in the writings of Ctesias the Cnidian (5th century BC). Ctesias was a doctor, and according to Galen[18] he was a member of the family of the Asclepiads. Ctesias is known to have served as an imperial physician in the court of the Persian emperor Artaxerxes II Mnemon (435 BC or 445 BC–c. 358 BC). The extent to which Ctesias traveled around Asia is unclear, but he wrote extensively about Persia (*Persica*/Περσικά) and India (*Indica*/Ἰνδικά). Ctesias' books survived in a fragmentary form, mostly as descriptions of the topics he covered, and in ancient commentaries.

Ctesias was neither a historian nor a cartographer, and he was most likely to include (as Herodotus did) the "sensational" inaccuracies in his writings based on stories he heard during his time in the Persian court. Therefore, he was a controversial figure, both in ancient and modern times. Lucian[19] writes that Ctesias and Herodotus were both condemned to eternal punishment for their falsehoods. However, before Alexander the Great, it is possible that Ctesias' work was the only source of information about India that reached the civilized parts of ancient Europe.

Ctesias' *Indica* first contains the name "Σῆραι" (Seris), which is the earliest mention of China in Greek literature. However, because his original writings have been lost and only some of their fragments collected by Patriarch Photius have survived, the authenticity of any texts attributed to him may be disputable. Nevertheless, it is plausible that Ctesias did indeed obtain information about China during his time in Persia. Because the sphere of influence of the highly sophisticated Persian Empire extended far into central Asia, the complete absence of basic knowledge about neighboring countries seems unlikely.

The expedition of Alexander the Great (356 BC-323 BC) opened up central Asia to the Hellenistic world. Alexander built infrastructure and established important cities during his campaign, and maintained a strong Greek presence in Central Asia. This allowed communication between areas that are today located in modern Tajikistan, Afghanistan, and Chinese Xinjiang with the rest of the world, yielding accurate information about the East.

After the death of Alexander the Great in 323 BC, central Asia came under the Seleucid Empire, which lasted from 312 BC to 63 BC. The Seleucids strongly promoted the Hellenization of the urban centers across the empire, eventually leading to the fusion of civilizations with Greek characteristics. However, around 250 BC, Diodotus I (c. 285 BC–c. 239 BC) and his son Diodotus II (c. 252 BC–c. 223 BC), Satraps of the easternmost provinces, broke away and established what became known as the Greco-Bactrian Kingdom in the north. Demetrius I (reign c. 200 BC–c. 180 BC) established the Greco-Indian Kingdom in the south.

Even after the Greeks were no longer a political entity in those parts of the world, a large Greek population still thrived independently in the Far East for many centuries.

Strabo (c. 63 BC–c. 24 AD)[20] describes Bactria as follows:

"Some parts of Bactria lie along Aria to the north, but the greater part stretches beyond (Aria) to the east. It is an extensive country and produces everything except oil. The Greeks who occasioned its revolt became so powerful by means of the fertility and advantages of the country, that they became masters of Ariana and India, according to Apollodorus of Artamita. Their chiefs, particularly Menander, (if he really crossed the Hypanis to the east and reached Isamus,) conquered more nations than Alexander. These conquests were achieved partly by Menander, partly by Demetrius, son of Euthydemus, King of the Bactrians. They got possession not only of Pattalene, but of the kingdoms of Saraostus, and Sigerdis, which constitute the remainder of the coast. Apollodorus in short says that Bactriana is the ornament of all Ariana. They extended their empire even as far as the Seres (i.e., China) and Phryni."

Thus, according to Strabo, the ancient Hellenistic world and the Greco-Bactrian Kingdom's influence and trade reached as far as ancient China.

The earliest attempts to develop a world map were made in the 3rd century BC, visually describing the geography of the various ancient realms.

The earliest extant world map was created by Eratosthenes of Cyrene (c. 276 BC–c. 195/194 BC). Eratosthenes accurately calculated the circumference of the earth and the tilt of its axis, and is regarded as the originator of geography and cartography. The world according to his "Geography" reaches as far as Bactria and the island of Taprobane (Ταπροβανῆ), which is the area of modern Sri Lanka in the Indian Ocean.

Several decades later, Posidonius of Rhodes (c. 135 BCE–c. 51 BCE) created a map (reconstructed by Petrus Bertius in 1630)[21] that included "Seres" (the land of silk) and "Sinae" (literally the country of the Qin) for the first time, signifying that the Greeks had known about and/or had contact with China.

Two centuries later, Ptolemy's *Geographia*[16] again placed China at the far east border of the world, naming the region "Serica" and "Sinae" [Figure 1]. According to Ptolemy, Serica was located beyond the island of Taprobane. His book and the various maps assembled from his writings confirm a continuous relationship between the Hellenistic and Chinese worlds. Ptolemy's writings and calculations remained authoritative until well into the 15th century.

During the 1st century AD, a maritime route to China was drawn in the Hellenistic manuscript entitled the *Periplus of the Erythraean Sea*[12] (Περίπλους τῆς Ἐρυθρᾶς Θαλάσσης). This book was written by a Hellenistic Greek who had traveled across the east coast of Africa and India and described trade as far as China (Θῖναι). The *Periplus* was an influential book that allowed the Roman Empire to open sea trade routes and establish ports as far as Vietnam.

In the 6th century, Cosmas Indicopleustis (Κοσμᾶς Ἰνδικοπλεύστης), a Greek merchant from Alexandria (and later a monk), published a manuscript entitled *Topographia Christiana* (Χριστιανικὴ Τοπογραφία)[22] [Figure 2]. Although Cosmas only traveled as far as Sri Lanka (Taprobane), his book confirms that the maritime routes described in the *Periplus of the Erythraean Sea* had indeed been opened up and remained popular among traders. In *Topographia Christiana*, China is mentioned as Tzinitza (Τζινίτζα). Cosmas describes the location of China as follows: "The Indian philosophers, the Brahmans, claim that if you (imagine) a straight line commencing from China passing through to Persia and reaching the (Greco-) Roman empire (Ῥωμανία), it will cut through the middle of the (known) world. And they claim (the Brahmans) that this is true."[22] He also mentions a network of

Figure 1 A world map drawn by Nicolaus Germanus based on a late-13th century rediscovered Greek manuscript of Ptolemy's 2nd-century Geography

Figure 2 World map created by Cosmas Indicopleustes. Vatican Library. The manuscript is likely to have come from the plunder of Constantinople

trade routes and the products that China (by name) and other unnamed areas exported to the Greco-Roman (Byzantine) empire: "from the inner lands that include China and other trade routes, comes the silk, aloe, the buds of the clove tree, the cloves, sandalwood, and whatever each country produces."[22]

The "Periplus of the Erythraean Sea" and the works of Ptolemy allowed the newly-emerging Roman Empire to greatly expand its sphere of influence and knowledge to the Far East, through the land and maritime trade routes of the Hellenistic world. These routes were kept busy even after the move of the Roman capital from Old Rome to the New Rome (Constantinople) in 330 AD, and the eventual formation of the Greco-Roman Empire. Thus, it is evident that the trade of silk, fragrances, and medicine flourished for more than 1000 years.

After the plunder of Constantinople (1204 AD) by the Crusaders, many official maps and geography books were seized and taken to western Europe. People in the Latin West stored these books in libraries, being unable to read Greek or understand the contents. It took almost two centuries to construct accurate translations and realize the wealth of knowledge that they had looted from the people of the Greek-East. Marco Polo's travels also roused western interest for contacting China. While the Renaissance was finally stimulating western European scholarship, the Ottoman Empire was shutting down all of the ancient trading routes to China. The works of authors in the Greek-East and Ptolemy's *Geography*, however, continued to inspire new maritime explorations and ultimately spawned the Age of Exploration. As the gaps were filled, eventually the ancient maps and traveling manuals became obsolete. However, their historical and cultural significance is still apparent today.

Finally, of all the surviving documents pillaged from Constantinople (New Rome), the *Peutinger Table* (*Tabula Peutingeriana*) is perhaps the only official state chart that has remained from the ancient world. This document was based on the original depiction prepared during the reign of Roman Emperor Augustus (27 BC–14 AD). This map, which is now stored in the National Library of Austria,[23] shows China at the Far East, using the name "Sera Major" (Greater China).

Historical Chinese Names for the Hellenistic and Greco-Roman World

Shi Ji (《史记》*The Records of the Grand Historian*),[24] and the *Han Shu* (《汉书》*Book of Han*)[25] mention the name Da Yuan (大宛) which in literal translation means "Great Ionians." Yuan is a direct Chinese transliteration of the word Yona or "Ιων," which was used to designate the Greeks throughout Asia. Thus, for the Chinese, Da Yuan was considered to be the descendants of the Greeks of Fergana. The Greco-Bactrian Kingdom was designated as the name Da Xia (大夏) in *The Records of the Grand Historian*.

In addition, the name Li Xuan (黎靬) was also found in the *The Records of the Grand Historian*. Although alternative explanations have been suggested, Li Xuan appears to be a Chinese transliteration of Alexandria. At the time when the *The Records of the Grand Historian* was compiled, Alexandria of Egypt was the center of the Hellenistic world, one of the largest trade ports on the planet and a global hub of science, philosophy and finance. If the Chinese had established trade with the Greeks of Bactria and Fergana, they would likely have heard about Alexandria, at least by reputation.

The names Da Qin (大秦), Li Jian (犁鞬) and Hai Xi Guo (海西国) appear together in the *Hou Han Shu* (《后汉书》*Book of Later Han*)[26] as an equivalent to Rome. *Book of Later Han* describes an embassy of Emperor Antoninus Pius (大秦王安敦), reaching China from the south, via the maritime route described

in the "Periplus of the Erythraean Sea," during the reign of the Emperor Huan of Han (汉桓帝 132 AD–168 AD). Rome at that time was described as Da Qin. It is unclear why the character Qin (秦) was used, except perhaps because it is suggestive of foreigners. In any case, although the Roman Emperor's name was recorded phonetically, the name of his Empire was not.

The name Da Qin (大秦), without any additional geographic locators, was also used in the text of the Nestorian Stele. However, in this case, it is highly unlikely that it indicated the Old Rome in Italy. At the time of Nestorius (Νεστόριος; c. 386–450), the capital of the Roman Empire had relocated to Constantinople (New Rome). Nestorius (who was born in Syria) held the title of Archbishop of Constantinople and New Rome, before his condemnation for heresy in 431 AD. Historically, even during Nestorius' lifetime, Old Rome ("Roma Aeterna", The Eternal City) had been left in ruins, caused by the attacks of the Visigoths in 410 AD. This disaster pushed the Latin West into what became known as the Middle Ages.

I propose that Da Qin at that time may have been a general term denoting the Greco-Roman (Byzantine) world, not referring specifically to Old Rome or another city on the Italian peninsula.

The word Fu Lin (拂菻) as an alternative to Da Qin appears in the *Jiu Tang Shu* (《旧唐书》*Old Book of Tang*).[27] The word Fu Lin may be a near transliteration of the word Polis (Πόλις), the short name for Constantinople (Κωνσταντινούπολις), the capital of the Greco-Roman (Byzantine) Empire. However, like Da Qin, this name may have been used to describe the entire Greco-Roman (Byzantine) Empire.

According to the *Xin Tang Shu* (《新唐书》*New Book of Tang*),[28] Fu Lin is the same as Da Qin, possibly indicating that it generally referred to the Roman Empire.

Ming Shu (《明书》*Book of Ming*)[29] also provided a summary of the name changes and official communications between the Greco-Roman world in different periods.

Many names of non-Chinese cities are also found in the Chinese historical records, but their accurate identification has largely been a matter of inconclusive and speculative debate. In the current study, the focus is mainly the major cities of the Greco-Roman empire that initiated ancient trade routes. Other important Kushan, Parthian/Persian, or Syrian cities, although significant in terms of the politics, conflicts, and history of the region, are outside the focus of this thesis.

China Looks Westwards to Greece and Rome

For cultural and/or geopolitical reasons, the Chinese were less eager to initiate westward explorations. Therefore, their expeditions began much later in history, and were related to the trade of military horses. According to Liu,[30] once the various nomadic tribes living in Central Asia learned to ride horses and fight on horseback, they began plundering rural areas of China. To counteract these attacks, the Chinese needed horses to maintain the balance of peace. After the 3rd century BC, the Yuezhi (月支) established themselves as a powerful confederacy on the steppes of Central Asia. During this time, the Chinese formed a symbiotic and harmonious relationship with the nomadic tribes, supplying each other with the materials they needed, including jade, warhorses, and silk. The Xiongnu (匈奴) lived to the East of the Yuezhi territory and were not on peaceful terms with either the Yuezhi or the Chinese. Eventually, they defeated the Yuezhi and pushed them towards Bactria, creating difficulties for the Chinese. During the Qin dynasty, China maintained peace through the efforts of General Meng Tian (蒙恬 c. 210 BC), who expanded the Great Wall to defend against the Xiongnu. However, the Xiongnu soon formed a confederation and became a threat to the Han dynasty, the dynasty that succeeded Qin dynasty. After the Han Emperor Gaozu (汉高祖 256/247 BC-195 BC) narrowly escaped capture in battle, a marriage treaty was signed to maintain peace. The Chinese kept supplying the Xiongnu with silk and other commodities, and the Xiongnu allowed the intermarriage of their chiefs with Chinese princesses and women of the Imperial Court. This treaty, however, was not considered to be a dignified way to keep the peace, and did not stop the Xiongnu from periodically pillaging Chinese settlements. According to *The Records of the Grand Historian*,[24] during the reign of Emperor Wu of the Han dynasty (汉武帝 141 BC-87 BC), the Chinese emperor decided to send ambassador Zhang Qian (张骞 d. 113 BC) to the Yuezhi to negotiate an alliance against the Xiongnu. This trip failed in its primary purpose, but was successful for a different reason: Zhang Qian became the first Chinese official to make the first contact with other countries, obtained accurate information about the world immediately outside the Great Wall, and directly contributed to the opening of the ancient Afro-Eurasian trade routes, which later became known as the Silk Roads.

Chinese Silk

The terms "Seres" and "Serica" indicate that China was well known throughout the Greek world for their production of silk centuries before the opening of the trade routes.

In late antiquity, when historical circumstances allowed the establishment of an extensive network of land and maritime Afro-Eurasian trade routes between China and Rome (before 330 AD), and later Constantinople (New Rome) (330 AD–1453 AD), Antioch and Alexandria, the rich and powerful could easily, though not cheaply, obtain this important material.

I propose that evidence appears to suggest a correlation between the Greek letter "π," which, in contrast to the Erasmian pronunciation, is traditionally pronounced as "pee," and the Chinese character 匹 (pi), which is a near homophone. In addition to the similar pronunciation, there is a close resemblance in shape between the letter "π" and the character 匹. This similarity is related to the basic agreement that opened the silk roads: The letter "π" represents the word πῆχυς (cubit) as a unit of length, while the character 匹 is still used in the Chinese language as a "measure word" for horses. Thus, it can be theorized that the silk trade was originally established between the Greek States in Central Asia and the Chinese on the premise of exchanging lengths (cubits) of silk cloth for Ferghana horses (大宛马/宛马 da yuan ma), otherwise known as "blood sweating horses" (汗血马 han xue ma) [Figure 3].

Because of its political and social importance as well as high market value, silk remained a crucial commodity for China, and was heavily guarded as a state and trade secret for many centuries. Nevertheless, the new overland and the maritime routes allowed communication, influence, and the exchange of ideas between the East and the West for the first time.

Ancient Overland and Maritime Afro-Eurasian trade Routes

As the above description demonstrates, both "overland" and "maritime" routes were established between China and Europe. From the perspective of Chinese traders, the overland routes were largely concerned with the trade of horses for silk. Where the silk would end up and whether it was transported to Europe or elsewhere was not their concern. The various intricacies of the horse trade are recorded in Yuan Zhen's (元稹 779–831) "*Yinshan Dao*" (阴山道 *Yin Mountain Route*), a Tang dynasty poem which describes the worries of China about the production of silk, the horse exchange and the various stresses related to this trade.[31]

Territorially, these paths were controlled by various ancient ethnic groups, including the Kushans (Yuezhi), Turkic tribes, Russian tribes, Mongols, and the Parthians/Persians among various other cultures and civilizations. This made traveling to and from Europe a lengthy and perilous journey. Despite the dangers, this is the road that Marco Polo[32] and early Catholics and Franciscans[33] attempted to use for traveling to China.

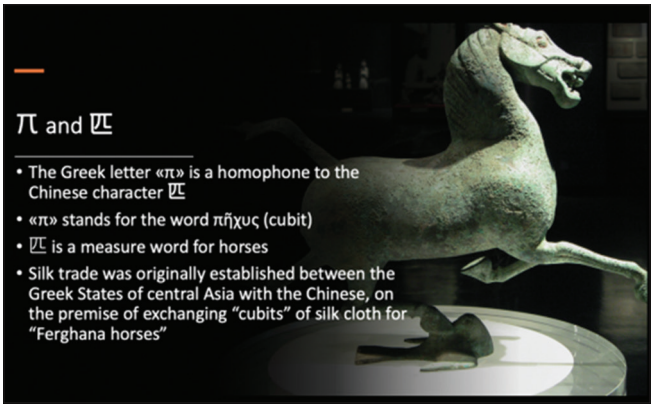


Figure 3 Comparison between the letter "π" and the character 匹

During the 15th centuries that the overland caravan paths were kept open, a perceived westward movement of populations (i.e., the migration of the Yuezhi, the Xiongnu, and the Turkic tribes) allowed substantial exchange among various civilizations in terms of art, religion, and culture, something that is best documented in the archaeological findings in the Tarim Basin and the Takla Makan desert.

The maritime routes to China were substantially faster and they adhered to the text of the *Periplus of the Erythraean Sea* described earlier. This is the same route used by the ancient Greeks, Romans, and later Persians to sail to Taprobane (Sri Lanka), and Vietnam, and by the Song dynasty to sail to Canton. When Michal Boym traveled to China from Rome, he took the same route because it was faster than Vasco da Gama's much longer trip. Although canals linking the Mediterranean with the Red Sea existed even during ancient times, the opening of the Suez Canal ensured that the same route would keep flourishing indefinitely as one of the most influential maritime routes in history.

The trade routes to China allowed various religions to reach China through the Greco-Bactrian and the Yuezhi Kingdoms, e.g., Manichaeism (明教) from Persia, Nestorian Christianity (景教) from Byzantium and Syria, Zoroastrianism (祆教) from Persia, and Buddhism (佛教) from India. The presence of so many ancient religions, as well as the fusion of cultures and foreign trade, indicates a much more cosmopolitan ancient China than is typically perceived today. Various accounts in the *Old Book of Tang*, and the *New Book of Tang* suggested that various foreign physicians with different religious backgrounds practiced what appears to be Greek medicine in China.

Nestorians and the Nestorian Stele

As mentioned above, the opening of trade routes permitted several western religions and their divisions to enter China. One such example, Nestorianism (景教), was vital to the work of Michal Boym. Nestorius (c. 386–450) was a Patriarch of Constantinople and New Rome and was considered a heretic. After his condemnation, his followers broke away from the Church and formed the "Church of the East," eventually re-establishing itself in Persia.[34] From Persia, they expanded through missionary work to areas as far as India, China, and the Arabian Peninsula. In China, the Nestorians developed a large following group, and archeological findings have

revealed churches and Nestorian worship as far as Beijing, Guangdong, and the North.

The Nestorian stele in Xi'an of Northwest China is considered to be the most important surviving relic from this time [Figure 4]. This relic was discovered in 1625 during construction close to Xi'an Fu, and a Christian Mandarin named Leo[35] understood the text and informed Rome of the discovery. The stele was copied and moved to a nearby Taoist temple.

However, because it defied their preconceptions, many Western European scholars initially believed the stele to be a Jesuit forgery. The various intricacies of the stele were explored in depth by Salisbury,[36] including Abel Remusat's commentary on why the stele was impossible to forge in imperial China.

Boym conducted a transliteration and a rudimentary translation of this stele, and this collection of characters formed the first Sino-Latin (French) Dictionary. Boym's work on the stele was first published in Kircher's *China Illustrata.* The full text was translated several times, but the translations by Holm[36] and Legge[37] are the most notable.

Boym also transliterated the pronunciation of the Chinese characters of the Xi'an Fu into the Cantonese dialect. Unable to make this connection even today, many Western scholars have developed theories about Boym's pronunciation method. I plan to explore this topic in more detail in a future thesis.

The persecution of the three foreign religions (三夷教) occurred during the Tang dynasty, and a massacre in Guangzhou in 878–879[38] almost completely eradicated foreign religions from China,[39,40] except for Buddhism and Islam. Although the Nestorians had largely recovered by the time of the Yuan dynasty, there is no historical evidence that any Christians persisted in China by the time the Jesuits arrived during the Ming dynasty.

When comparing the maritime and overland routes to China, it is obvious that the land routes were slow, and although Chinese goods were transported along them, they were not necessarily opened for the sole purpose of exporting/transporting silk to Europe. The quantity of European (Roman and Greco-Roman) coins[41] were found in south India, Vietnam, and Sri Lanka and this suggested that the maritime route was substantially more successful and popular than the overland routes. Using this route, silk, ivory, exotic animals, medicine, and fragrances were transported more quickly and safely to Constantinople and the rest of Europe via Alexandria and Antioch, as attested in the *Topographia Christiana*.

Figure 4 Nestorian stele in Xi'an (photograph from 1907)

Greek Medicine in China

Research on Greek medicine in China is currently at an embryonic stage and is overshadowed by substantial research attention focused on the impact of Persian medicine and Arabic medicine, both of which arrived in the region many centuries later.

The current thesis focuses on three main topics in the hope that it will spark further discussion and research: cupping, the trade of bezoar in China, and possible theoretical exchanges between Greek and Chinese texts, as evident in early sources.

In recent years, particularly during Olympic sporting events, many athletes from various countries have appeared with cupping marks on their backs. This endorsement of the ancient Chinese medical technique has become a selling point for the efficacy of Chinese medicine abroad. However, few Chinese practitioners understand that cupping entered China from the West, along with the establishment of the Afro-Eurasian land and maritime trading routes.

Historically, the earliest complete mention of cupping can be found in the writings of Hippocrates, and detailed illustrations of cupping vessels first appeared on the Greek coins of Astakos, Akarnania around 360 BC-330 BC[42,43] [Figure 5]. It can be hypothesized that cupping had become a popular Greek medical technique for centuries before it appeared on coins.

Several previous papers mention *Papyrus Ebers*[44,45] as evidence that the cupping treatment originated from Egypt. However, close examination of the translated text[46] reveals no strong indications supporting this notion. To the best of my knowledge, archaeological findings in Egypt to date have also failed to produce any cupping apparatus of that era to support such a hypothesis. Hopefully, future excavations might yield evidence for this theory, but it cannot currently be validated.

In China, cupping was first documented as a popular medical procedure in Ge Hong (葛洪)'s *Zhou Hou Bei Ji Fang* (《肘后备急方》*Handbook of Prescriptions for Emergencies*) Ge Hong (283 AD–343 AD) died in Luo Fu Shan, in Guangdong, a potential destination of the maritime trade routes described by Arrian. The many Greek glass objects[47] excavated across

Figure 5 Astakos, Acarnania. 400-344 BC. The flip side depicts a cupping vessel and tongs

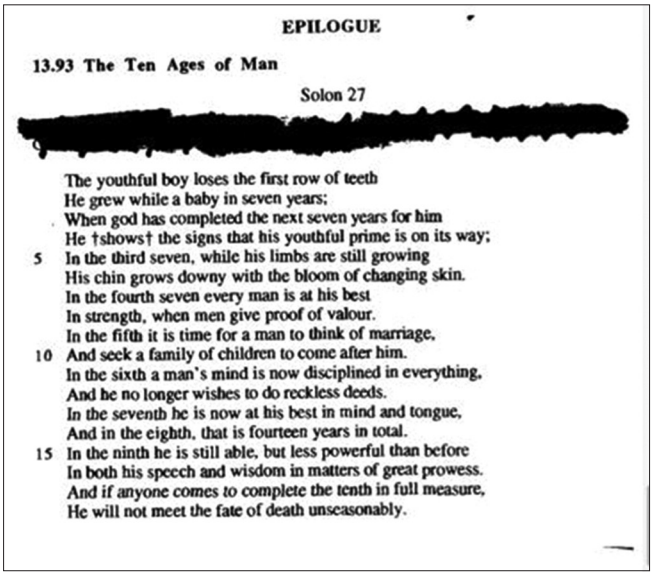
China, particularly in the Xinjiang, Guangdong and Guangxi provinces of China, potentially supported the hypothesis that cupping arrived together with glass objects, probably during the Han dynasty (202 BC–220 AD).

An influential article by Hong,[48] describes how bezoar, an object first described in Greek medicine, was ultimately traded in China by the Persians. Historically, after Alexander's campaign, ancient Persia became a Hellenistic Kingdom under the Seleucids (312 BC–63 BC) and the Greek influence continued even during the Parthian Empire (247 BC–224 AD). Therefore, Greco-Persians and Persians were well versed in Greek medicine, and traded medical knowledge and goods with China even centuries after the Greek influence waned in that part of the world.

Certain passages from the *Huang Di Nei Jing* (《黄帝内经》 *Huangdi's Internal Classic*), a traditional Chinese medicine literature, appear to resemble the known Greek medical texts, and the most striking of these is given in the example below. However, more research is needed to compare ancient Greek and Chinese medical texts in detail, to extend current understandings of the direction of the exchanges and the impact of each system on each other in the late antiquity and medieval periods. The text in the example shown was written by Solon (630 BC-560 BC), and is entitled *The Ten Ages of Man*[49] [Figure 6]. The text survives in a fragmentary form. However, even in this state, it is strikingly similar to the text found in the chapter *Discourse on the True Qi Endowed by Heaven in High Antiquity* of the *Huangdi's Internal Classic*. Further research may yield interesting conclusions regarding early interactions between Greek and Chinese people at the beginning of the establishment of the ancient Silk Roads.

Transmission of Disease Across the Silk Roads

In addition to the perceived positive effects of the Silk Roads, which included cross-cultural exchange, trade, exploration and knowledge, severe negative impacts also occurred. Of these



EPILOGUE

13.93 The Ten Ages of Man

Solon 27

The youthful boy loses the first row of teeth
He grew while a baby in seven years;
When god has completed the next seven years for him
He †shows† the signs that his youthful prime is on its way;
In the third seven, while his limbs are still growing
His chin grows downy with the bloom of changing skin.
In the fourth seven every man is at his best
In strength, when men give proof of valour.
In the fifth it is time for a man to think of marriage,
And seek a family of children to come after him.
In the sixth a man's mind is now disciplined in everything,
And he no longer wishes to do reckless deeds.
In the seventh he is now at his best in mind and tongue,
And in the eighth, that is fourteen years in total.
In the ninth he is still able, but less powerful than before
In both his speech and wisdom in matters of great prowess.
And if anyone comes to complete the tenth in full measure,
He will not meet the fate of death unseasonably.

Figure 6 The Ten Ages of Man by Solon (630 BC-560 BC)

negative effects, the most damaging was the transmission of disease and plague.

The first pandemic (541–542), named the "Justinian plague" (from the name of the Byzantine Emperor Justinian), ravaged the southern provinces of the Byzantine Empire, including Egypt, Syria, Palestine and Anatolia, bringing an end to late antiquity and facilitating the rise of Islam. Modern research confirms that the Justinian plague was caused by Yersinia pestis and it was originated from China.[50-53] Although it is not possible to construct a fully accurate map of the transmission route, the fact that it first arrived in Alexandria without leaving an obvious overland disease trail behind suggested the transmission was spread via the maritime trade route. The Justinian plague wiped out populations of the areas occupying the southern provinces of the Greco-Roman (Byzantine) Empire (Egypt and Syria), reaching Constantinople in 542 and North Africa, Italy, Spain, and the French-German border by winter of 543.[54] In the aftermath, large areas of the Greco-Roman (Byzantine) Empire were left unpopulated, enabling the Arabs to move into previously Christian areas, affecting the terrain in a way that is still reflected in world history and continues to create military, political and cultural friction, even fifteen centuries later. Importantly, the Arabs inherited the infrastructure of these key maritime trade routes, which were then renamed the "Spice Route."

The second pandemic is better known as the "black death" (1343–1353). Modern genetic research has confirmed earlier speculation that the black death originated from China.[55] The black death first arrived in Europe through Crimea, leaving an obvious overland trail of death recorded across the Silk Roads.

The death toll of the second pandemic was extremely heavy in both Europe[56,57] and China.[58] The second pandemic heavily influenced art, culture, music, literature, medicine, and religious practices, occurring towards the end of the Dark Ages. The Europe that came out in the aftermath was ready to move towards rebirth. This rebirth occurred almost a century later with the Renaissance and the Age of Exploration. Although these developments helped rebuild Europe, they also led to the worst kinds of imperialism, colonialism, and modern slavery practices.

Conclusions

The formation of the ancient Silk Roads led the "known world" to the earliest experiences of globalization. The available evidence suggests that people in the East and the West were aware of each other at least since the 6th century BC. Over the course of several centuries, these cultures were progressively brought together by mutual trade interests. The Chinese sought horses, while western populations developed a demand for silk, exotic animals, fragrances, medicine, and ivory. These trade routes facilitated all kinds of exchange, including cultural, medical, and religious communication between China and the western world.

The first pandemics broke out as a result of these interactions, and diseases were transmitted across the world much more quickly than would have been possible in the past.

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Conflicts of interest

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American Patients' Understanding of Traditional Chinese Medicine in the Late 19th Century: An Interpretation of Letters from *The Science of Oriental Medicine*

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Abstract

This study explores American patients' understanding of traditional Chinese medicine (TCM) in the late 19th century by referring to letters from American patients recorded in *The Science of Oriental Medicine,* written by Tan Fuyuan (谭富园), a Chinese medicine doctor working in the United States in the late Qing dynasty. Identifying a focus on significant effects, pulse diagnosis, herbal teas, dietary control, and long-term treatment, the results also discussed the differences between TCM and Western medicine in simple terms to show that the "ideological" spread of TCM was based on its curative effect. However, the "theoretical" spread of TCM requires more of intercultural exchanges.

Keywords: American patients, Tan Fuyuan (谭富园), traditional Chinese medicine

Introduction

At the end of the 19th century, the Western public changed their impression of China from that of a civilized Eastern country to a backward and stagnant country. In Western media writings, the Chinese people were often mentioned in negative terms as being barbaric and ignorant. The media considered traditional Chinese medicine (TCM) to be a kind of witchcraft, and the study was even associated with stigmatization and demonization.[1,2] One article stated that, "Most of the medicines used by Chinese physicians are herbs from the plant kingdom with little effect. In addition, many strange and abominable things are used, such as snake skin, fossil bones, rhinoceros or deer horn debris, silkworm or human secretions, asbestos, moths, oyster shells, etc."[3] Some western missionaries contended that TCM practitioners had no basic knowledge of human organs, nerves, blood vessels, and other human structures, and that TCM could not be incorporated into modern medicine as it was based on superstition and mysticism.

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Qin[4] explained that the motivation and enthusiasm of missionaries to spread TCM to the West were affected by the description and evaluation of TCM in the Western media, which tended to be slanderous rather than positive. The increasing number of TCM books introduced to the West by western missionaries improved the westerners' breadth and depth of knowledge about TCM. However, TCM knowledge became almost a "handmaiden" of Sinology; it was considered part of the intellectual heritage of a civilized Eastern country and was completely separated from clinical practice.

Comparatively, the situation was different in clinical medicine in the United States. By the middle of the 19th century, TCM had been introduced to American society by the increasing number of Chinese immigrants. Chinese physicians provided medical services for local Chinese and American people. They provided an alternative route for the transmission of TCM that did not depend on the effort by missionaries [Note 1]. At the end of the 19th century, Tan Fuyuan (谭富园) [Figure 1],

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a Chinese TCM practitioner in the United States, collected several letters from American patients in his book *The Science of Oriental Medicine*. Written in English, the book describes American patients' understanding of TCM at that time. The following part of this article discusses the contents of these letters as they are relevant to TCM.

Tan Fuyuan and *The Science of Oriental Medicine*

Born in 1851 in Shunde (顺德), Guangdong (广东) Province in South China, Tan Fuyuan received his training of medicine in the medical hall of the Imperial Academy of Medicine (太医院). In 1890, he was invited by his uncle Li Putai (黎普泰) [Figure 2] to serve as an assistant in his TCM clinic in San Francisco, US. Upon the death of Li Putai, Tan Fuyuan began to practice TCM independently, and opened Foo and Wing Herb Company in Los Angeles in 1895 [Figure 3].[5]

With his excellent medical skills, Tan Fuyuan cured many American patients of their illnesses, thus gaining a high social reputation and expanding the influence of TCM in American mainstream society. However, owing to a wave of anti-Chinese sentiment and the attempts to demonize TCM, Tan Fuyuan was also attacked by local doctors through the media. These physicians questioned his qualifications as a practitioner and his medical skills, accusing him of practicing medicine illegally and using impure substances such as toads and lizards in his practice. Tan Fuyuan turned to the media to counterattack. His patients also defended him, vouching for the authenticity of his qualifications and the reliability of the therapeutic effects of TCM, which is indicative that Tan Fuyuan had established good inter-personal relationships with his American patients.[6] Tan Fuyuan soon gained widespread prominence so that he attracted more American patients. In addition to his clinical activities, Tan Fuyuan wrote articles to better disseminate the TCM knowledge and some of these articles were later used in textbooks for American students in the Oriental Medical College.

Finally, Tan Fuyuan became a famous TCM doctor in Los Angeles. His achievements promoted the spread of TCM in the United States and eliminated much of the prejudice that many Americans held against TCM, which has turned out to be a substantial contribution to the development of TCM and its modern application in the United States. Moreover, the good relationships that Tan Fuyuan had with his white American patients played an important role in improving relationships between the Chinese Americans and white Americans and protecting the Chinese community.[6,7]

In 1897, Tan Fuyuan published the book *The Science of Oriental Medicine*, which was actually a collection of his articles published on newspapers. The book consists of 20 chapters dealing with such topics as the history and theoretical knowledge of TCM, the diagnosis and treatment of common clinical diseases in various disciplines, the personal profile of Tan Fuyuan, Li Putai, and his son, and the plan for establishing the Oriental Medical College. It also contains a large number of letters that reflected Dr. Tan's communication with patients in his treatment. The following is a summary and analysis of the content of the letters.

Statistics and Classification of Letters in *The Science of Oriental Medicine*

Ninety-five of the 99 letters in *The Science of Oriental Medicine* were written by Dr. Tan's patients, most of whom were Americans while a few of whom were Chinese. These

Figure 1 The portrait of Tan Fuyuan (谭富园)

Figure 2 The portrait of Li Putai (黎普泰)

Table 1 Frequency of traditional Chinese medicine keywords in the letters

Keywords	Frequency
Examination by the pulse, without asking any questions	21
Get better very slowly	7
The cause and location of the disease	10
A cure that is permanent	7
Treatment idea of disease	4
A graduate of the Imperial Medical College at Peking	5
Advantages over other methods	3
Establish a medical college	4
Good effects of the medicines	82
Herbal teas	16
A diet which is very plain and simple	7
Many of his publications explaining the Chinese system four of medicine	5
Causes of being worse after taking medicine	1
Preventive medicine	2
Adapt the oriental system of medicine to the four requirements of caucasians	1

95 letters are all complete, and were either directly posted to Tan Fuyuan or published in newspapers at the time.

The letters were divided into approximately four categories by Tan Fuyuan: Four letters in Chapters II and VI of the book verifies the qualifications of the two TCM doctors from the Foo and Wing Herb Company, in response to media accusations of illegal practice. Nine letters in Chapter II provided evidence that Foo and Wing Herb Company used natural and pure herbs, in response to media reports of the use of impure substances as medicines. Four letters in Chapter IV provided evidence that Dr. Tan's plan to set up the Oriental Medicine College had received support from his patients. The remaining 78 letters, mostly in Chapters IX to XVIII, were letters of thanks from patients describing how Dr. Tan's treatment had improved or completely cured their diseases.

The letters also contain other descriptions of TCM. Further analysis by extracting keywords and examining their frequency [Table 1] showed that the patients emphasized the curative effect of TCM, and that pulse diagnosis, herbal medicine, and diet also received considerable attention. In addition, the letters briefly described medical expertise on the causes, location, treatment ideas, and drug effects on diseases. Articles related to TCM were mentioned by some American patients who were interested in the discipline and wanted to learn more about the TCM system.

American Patients' Understanding and Discussion of Traditional Chinese Medicine

Substantial effect of traditional Chinese medicine

The following statement in the book can serve as a good summary of Tan Fuyuan's treatment of disease: "In fact, so far as I could learn, all those cases were chronic, difficult and unyielding, where the ordinary means as employed by our American doctors had utterly failed to effect a cure."[8] Most of Dr. Tan's American patients had been sick for many years and had not benefited appreciable or long-term results though they had received various types of treatment. In the extreme case, some patients were told that their disease was incurable. Then they turned to Tan Fuyuan for treatment as a last resort, after being told of his reputation or being persuaded by friends. After Dr. Tan's treatments, these patients reported that their conditions became substantially improved or completely healed.

Therefore, Dr. Tan's patients provided evidence that TCM treatment produced a favorable outcome. A letter signed by 45 patients [Figure 4] reads as follows:

"The results of our treatment by the Oriental system of medicine as practiced by you have been very satisfactory to us, and have proved to us that there is great benefit to be derived from the herbal remedies when their use is directed by the care and skill of which you are possessed... The favorable results in these cases have inspired confidence in the system and in your skill and ability. These remedies seem to be adapted to a great many different diseases and to be successful in an unusually large proportion of the cases which commence treatment."[8]

The curative effect of TCM and Dr. Tan's excellent medical skills are evident in the patients' experiences and observations. These successful cases convinced Dr. Tan's patients that he could cure people of their diseases by using herbal treatment.

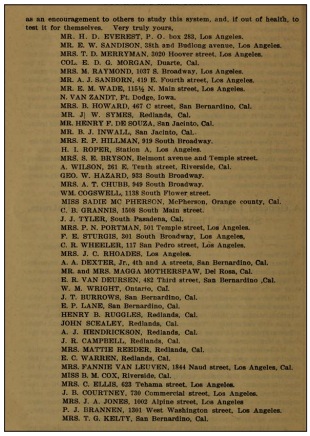
His patients also provided evidence that TCM had remarkable and persistently-effective effect in treating chronic diseases, as is evidenced in the following letter:

"In response to your inquiry I am pleased to say that my great improvement in health has continued until the present time. As advanced in age as I am I can now attend to my daily work, and feel well in every respect... I believe that if I had not obtained relief through your treatment and your herbal remedies, I should not have recovered. I still follow out in great measure the healthy diet which you taught me to observe, and I believe that it is of great assistance to me in keeping my health."[8]

A patient wrote to Tan Fuyuan again 3 years after Tan cured his rheumatoid arthritis, stating that his disease had never recurred and he was healthy enough to do his daily work.

In addition to treating chronic diseases, Dr. Tan used TCM to deal with acute attack of chronic illnesses. His treatment was of timely rescue and effective enough. Mrs. A. Amayhew, one of the patients, suffered from a chronic cough. In the winter, when there was a high incidence of influenza, she was impressed with the quick relief of an acute attack of her chronic cough after consuming herbal teas.[8]

Figure 3 Office of the Foo and Wing Herb Company



as an encouragement to others to study this system, and, if out of health, to test it for themselves. Very truly yours,
MR. H. D. EVEREST, P. O. box 283, Los Angeles.
MR. E. W. SANDISON, 38th and Budlong avenue, Los Angeles.
MRS. T. D. MERRYMAN, 3020 Hoover street, Los Angeles.
COL. E. D. G. MORGAN, Duarte, Cal.
MRS. M. RAYMOND, 1037 S. Broadway, Los Angeles.
MR. A. J. SANBORN, 419 E. Fourth street, Los Angeles.
MR. R. M. WADE, 115½ N. Main street, Los Angeles.
N. VAN ZANDT, Ft. Dodge, Iowa.
MRS. B. HOWARD, 467 C street, San Bernardino, Cal.
MR. J. W. SYMES, Redlands, Cal.
MR. HENRY F. DE SOUZA, San Jacinto, Cal.
MR. B. J. INWALL, San Jacinto, Cal.
MRS. E. P. HILLMAN, 919 South Broadway.
H. I. ROPER, Station A, Los Angeles.
MRS. S. E. BRYSON, Belmont avenue and Temple street.
A. WILSON, 361 E. Tenth street, Riverside, Cal.
GEO. W. HAZARD, 553 South Broadway.
MRS. A. T. CHUBB, 949 South Broadway.
WM. COGSWELL, 1138 South Flower street.
MISS SADIE MC PHERSON, McPherson, Orange county, Cal.
C. B. GRANNIS, 1526 South Main street.
J. J. TYLER, South Pasadena, Cal;
MRS. P. N. PORTMAN, 501 Temple street, Los Angeles.
F. E. STURGIS, 301 South Broadway, Los Angeles.
C. R. WHEELER, 117 San Pedro street, Los Angeles.
MRS. J. C. RHOADES, Los Angeles.
A. A. DEXTER, Jr., 4th and A streets, San Bernardino, Cal.
MR. and MRS. MAGGA MOTHERSPAW, Del Rosa, Cal.
E. R. VAN DEURSEN, 462 Third street, San Bernardino ,Cal.
W. M. WRIGHT, Ontario, Cal.
J. T. BURROWS, San Bernardino, Cal.
E. P. LANE, San Bernardino, Cal.
HENRY B. RUGGLES, Redlands, Cal.
JOHN SCHALEY, Redlands, Cal.
A. J. HENDRICKSON, Redlands, Cal.
J. R. CAMPBELL, Redlands, Cal.
MRS. MATTIE REEDER, Redlands, Cal.
E. C. WARREN, Redlands, Cal.
MRS. FANNIE VAN LEUVEN, 1844 Naud street, Los Angeles, Cal.
MISS B. M. COX, Riverside, Cal.
MRS. C. ELLIS, 623 Tehama street, Los Angeles.
J. B. COURTNEY, 726 Commercial street, Los Angeles.
MRS. J. A. JONES, 1902 Alpine street, Los Angeles
P. J. BRANNEN, 1301 West Washington street, Los Angeles.
MRS. T. G. KELTY, San Bernardino, Cal.

Figure 4 Names of the patients who signed the letter

After being cured of by Tan Fuyuan, some patients built up full trust in TCM and would take TCM a primary choice for treatment when they were sick of subsequent diseases. A patient named Frank Ames said, "I get a bad cold occasionally, as most people do, and instead of taking quinine or some other poisonous drug, I go and take the doctor's herbs for a week or two and am cured."[8]

Pulse diagnosis as the only diagnostic method

According to his patients, Tan Fuyuan used only pulse diagnosis rather than inquiry in clinical practice. By placing three fingers on the patient's wrist, he could recognize the disease judging from the beating of the pulse and describe it accurately to the patient, which is astonishing to the patient. The following letters recorded the patients' response:

"In the first place, there was a radical difference in diagnosis. Dr. Foo asked me no questions, except my age. He found out for himself, simply by feeling my pulse, all that he wanted to know, and told me more facts about my physical condition than I had ever known before. However, everything that he said was reasonable, and coincided with my experience. A peculiarity of this diagnosis was that it at once gave me confidence in Dr. Foo."[8]

The method of pulse diagnosis was not available in Western medicine at that time. Most of the patients who turned to Dr. Tan for treatment had prior knowledge of their own diseases and physical conditions, so when Dr. Tan informed them of their conditions using only pulse diagnosis, they immediately grew into confidence in him and were willing to accept his treatment.

This diagnostic method was also highly appreciated by female patients. Mrs. Strong wrote in her letter thus:

"One beautiful thing about Dr. Foo's diagnosis is that the patient is not questioned. So many delicate, timid women suffer untold misery rather than go to a doctor and submit to a questioning process about all their aches and pains, their location, etc. Dr. Foo feels the pulse in both wrists, and then tells you what ails you, and whether or not he can cure you. I am satisfied with the results of this treatment, and I think it better than any that I ever tried before."[8]

At that time, the medical environment in the United States was not conducive to medical treatment of women. For example, women's privacy could not be assured of safety during examinations using diagnostic equipment, so women were often unwilling to discuss their symptoms.[9] Female patients favored pulse diagnosis because it was very convenient and did not require a physical examination. The use of pulse diagnosis helped to protect women's privacy and demonstrated respect for women.

The principle of how the pulse diagnosis worked was not profoundly explored in the letters but one patient discussed Dr. Tan's innate ability, acquired it through long-term patient training and expressed a belief that this ability was not something that everyone could master.[8]

Herbal teas and dietary control

Herbal tea has been used as therapeutic medicine in TCM for centuries. A typical prescription would include 10–18 types of herbs into which two to six cups of water were poured, then the mixture was boiled down to one cup (which was one adult dose) and was drunk while it was hot.

The simplicity and purity of the botanical drugs and their effects surprised American patients. First, according to patients' observations, Dr. Tan used exclusively botanical drugs, including rhizomes, flowers, leaves, seeds, and peels, with no animal materials. Therefore, his patients believed that the accusation by American doctors that Dr. Tan was using impure drugs was exaggerated and baseless. Second, patients who had a deep understanding of the effects of herbal medicines realized that the use of natural plant medicines in TCM was safe and nontoxic compared with Western medicines, which usually carried side effects. One patient wrote in a letter thus:

"Due to the unfortunate selection of the remedies employed, the false assumption that the human body can assimilate and use mineral substances and other poisons that a thing which would hurt a well man can cure a sick man. The Chinese employ in their remedies only vegetable materials, which are readily assimilated, are largely in the nature of special foods, and to return to Dr. Holmes's [Note 2] statement of the case, supply exactly what is needed to meet the 'want of organization, nourishment or vital stimulation,' which is at the bottom of many cases of obscure and chronic disease."[8]

In the late 19th century, the doctors in the United States would use quinine, aconitine, opiates, alcohol, amalgam, arsenic, and strychnine in their treatment and these substances had low efficacy and were even risky.[10] In contrast, herbal medicines were considered harmless and nutritious as most of them were foods that are easily absorbed. In other words, "drug homologous food." Mr. E. M. Wade, a well-known Los Angeles businessman who had professional knowledge of chemistry and an ability for exact observation and close reasoning, was one of Dr. Tan's patients. Wade wrote a letter stating that, "Herbal tea was not only harmless, but also beneficial under your (Tan Fuyuan) guidance."[8]

In addition to herbal treatment, Dr. Tan would strictly control his patients' diets during the treatment of their diseases. They would be provided with detailed menus to advise them the foods they were allowed to eat and those that were banned. However, Dr. Tan's patients had different views on dietary control, and it seemed that they did not realize the effect of diet on their health. Some patients did not understand the importance of dietary control and were worried that too light a diet during illness would affect their recovery. Nevertheless, they still followed the doctor's advice. As one patient said, "You gave me such a light diet that I feared you would starve me to death. After 12 days, you said you could cure me, provided I would follow your directions strictly, adding that the treatment would last about 7 months. You examined me, day after day, and I improved very much under your treatment."[8]

Some patients found that the menu recommended by Dr. Tan, though simple, were very suitable for their body conditions and more effective than the supplementary foods prescribed by other doctors. "He (Tan Fuyuan) prescribed for me and placed me upon a diet which, although very plain and simple, accomplished more for me, together with the herb teas, than all the tonics, raw meats, eggs and other so-called strengthening foods ordered by my former physicians had been able to do."[8]

In addition, some patients realized the important role of diet in the treatment of disease, as expressed in one letter:

"I believe that many mild cases of such diseases are made serious, and that many people are prevented from recovering by the use of stimulants and of strong foods in such attacks. I consider such treatment to be all wrong, and can see how a mistake in these matters is very likely to end in a fatal result."[8]

What American doctors ignored was that daily diet had a great effect on the prognosis of diseases and the effects of drug. A beneficial diet improved the effects of drug on the body, whereas an inappropriate diet could aggravate the disease or interfere with drug effects.

Slow and continuous treatment process

In their letters, the patients also discussed the slow and stable characteristics of TCM treatment by recording those points during the treatment process when their diseases had substantially improved. It took about 3–6 weeks to obtain an obvious effect, and complete cure took longer, from 4 to 5 months to as many as 12 months, depending upon the individual cases.

"I feel encouraged by the results to the extent they had already reached in my case, and shall continue the herbal treatment for another year, the length of time which Dr. Wing says will be required for a complete cure."[8] Dr. Wing's name is Li Wing. He was the son of Dr. Li Putai and the secretary of Foo Wing Herb Company.[8] As mentioned above, patients persisted in long-term treatment because they experienced gradual improvement in their symptoms and because Tan Fuyuan gave them the confidence to recover. There were also a few patients who realized that the treatment of chronic diseases required a slow and continuous process:

"I continued it for 3 months: Sometimes, I appeared to be a little better, sometimes worse. I saw so many of Dr. Foo's patients who were doing well, but a few of them not progressing very fast, that I decided to keep on. I noticed that, out of ten or twenty people, one or two would improve slowly, and I concluded that the difference was in the nature of the diseases and not in the character of the treatment. I reasoned that I could not expect to be cured at once of a difficulty of so long standing and of such a serious nature. Hence, I decided to keep on with the treatment in spite of discouragements."[8]

This patient was still not cured after 3 months of treatment. However, she observed that out of 10–20 patients treated by Dr. Tan, only 1 or 2 improved very slowly. Through this observation, she realized that gradual treatment was needed to cure her of her disease, which she had suffered for a long time. Therefore, she opted to continue the treatment.

Advantages of the traditional Chinese medicine system

The patients had little professional knowledge of TCM, and they only briefly mentioned this in their letters. Some examples

are "the origin of my troubles in the stomach and spleen, and not in the heart," "congealed blood has settled about the seat of the injury and keeps up a constant irritation of the nerve centers," "draw this blood away and to re-establish a normal circulation."[8]

A few patients who were interested in TCM read some of the articles published by Tan Fuyuan in newspapers, in which the TCM system was systematically explained. These articles included *Two Lessons on Physiology*, *The Cause and Origin of Diseases*, *Anatomy from the Chinese Standpoint,* and *The Herbal Remedies*. Patients discovered that TCM was a completely new medical system that was different from Western medicine. They believed that its value and benefits should be explored and confirmed, and that it was worthwhile to be widely disseminated in the United States.

One patient named George stated that the Chinese ancient system of medicine was superior to Western medicine in many respects, both in theory and in practice, supplying two examples to illustrate that American physicians knew nothing about the functions of the spleen [Note 3]. One example was a prominent physician in Southern California, who accused Tan Fuyuan of false pretenses, claiming to know something about the function of the spleen. Another example was a patient who died after the attending physician had cut out his spleen.[8] TCM contains important information about the spleen, which Tan Fuyuan described in detail in his article. George also stated that TCM had advantages in the treatment of many diseases, whereas the methods of Western medicine were always effective to advance or improve the process of health care and the treatment of diseases.[8]

Another patient realized that the TCM concept of "preventive treatment" was very important for maintaining good health. He wrote as follows:

"But between the first of August and the first of October, it seemed to me that my system was not in as good trim as it had been, perhaps on account of the long continued hot weather. Then I saw at once what Dr. Foo had taught me was a necessary thing to know. I made up my mind that it is better to take medicine for health than for sickness. I made a big mistake once when I let my sickness go so long, and do not intend to make another of that kind. I propose to take a short course of medicine for 1 or 2 months and to check whatever difficulty there might be right at the start. I believe that in this way everybody could keep well and healthy, and could stop sickness at the start."[8]

This patient gradually recovered after undergoing more than 4 months of treatment. He then asked Dr. Tan about the precautions he should take after stopping his medication. Dr. Tan told him about the concept of early prevention. As diseases occur through a process of gradual accumulation, timely treatment before the disease becomes serious can prevent the occurrence and deterioration of the disease. In particular, after being cured of a chronic disease, the patient's body could still be affected by factors such as weather, diet, emotions, and fatigue. This patient followed Dr. Tan's advice and promptly consulted a doctor when he felt uncomfortable. He believed that instead of allowing mild illness to progress into a serious situation, it was better to devote 1–2 months to treatment to maintain his health.

Discussion

TCM is characterized by the dual attributes of natural science and humanism. Therefore, communication about TCM also has dual characteristics: That of scientific communication and cultural communication. In *The Social Function of Science,* Bernal states that, "This requires the most serious thinking out of the whole problem of scientific communications, not only between scientists but also to the public."[11] Bernal defines scientific communication as the popularization of science, which includes communication between doctors and patients. At this level, the curative effect is the most important factor. However, because of the different cultural backgrounds between China and the United States, and the existence of intercultural communication problems, communication between Chinese physicians and American patients should depend upon the standpoint of TCM when it comes to explaining the treatment methods and the curative effects.

The letters in *The Science of Oriental Medicine* shed light on the research into the early spread of TCM and showed that American patients were appreciative of and complimentary about TCM. Compiled by Tan Fuyuan, these letters reflected the patients' attitudes that were completely different from the comments on TCM by the US media at that time.

Furthermore, the patients' letters demonstrated that they had only a temporary "ideological" understanding of TCM, rather than a "theoretical" understanding. In other words, because of the clinical effect achieved by Tan Fuyuan, American patients began to understand some of the TCM health concepts that differ from those of Western medicine, including pulse diagnosis, use of herbal teas, daily dietary control, and gradual treatment processes. However, most patients had not been aware of the more complex concepts of TCM, such as yin and yang, five elements, zang-fu organs, and meridians.

Tan Fuyuan's communication strategy based on cultural differences accounted for the patients' understanding of TCM. At that time, with the development of Western science and technology and the birth of modern Western medicine, TCM could not be incorporated into the Western medical system. Tan Fuyuan noticed that Western medicine could not address

some aspects of diseases, so he used the curative effect as his starting point to introduce TCM. As the Chinese culture and medical concepts had met strong exclusion in the Western countries, to spread TCM under the pressure of the Western culture, Tan Fuyuan had to adapt TCM to the Western needs, using Western medical knowledge while highlighting those characteristics of TCM that differed from Western medicine.

Tan Fuyuan's practice embodied some of the characteristics of the early intercultural communication about TCM, such as the emphasis on practical effect supplemented by conceptual guidance, though his work did not reach the level of "intercultural education." The concept of intercultural education was first proposed by the United Nations Educational, Scientific and Cultural Organization (UNESCO) in 1992 and it was further elaborated in 2006 in the "UNESCO Guidelines for Intercultural Education."[12] Compared with intercultural communication, intercultural education requires a more comprehensive and continuous educational process, and places greater emphasis on initiative and interaction. In fact, it can be observed that Tan Fuyuan has possessed an awareness of intercultural education from his plan to set up a school, but the results of putting this awareness into practice were not observed. Judging from the practice of TCM over the last 100 years, the development of external exchange in TCM from intercultural communication to intercultural education requires the efforts of several generations. Tan Fuyuan's efforts in promoting the prevalence of TCM in the United States have turned out to be a reference for the dissemination of TCM in the new era.

Notes

Note 1: Although acupuncture in TCM was introduced into the United States earlier than herbal medicines in TCM, its application was still limited to a small number of people and did not have much development. After 1972, acupuncture began to develop in the United States. For details, please refer to the papers *A Brief History of Acupuncture Journey to the West* by Gary Kaplan (*The Journal of Alternative and Complementary Medicine*, 1997), and *Current and Future Development of Chinese Acupuncture and Moxibustion in the USA* by Liu Xinyan (*World Chinese Medicine*, 2017).

Note 2: According to Tan Fuyuan's book *The Science of Oriental Medicine*, the late Dr. Holmes was a well-known anatomist and professor at Harvard University. He was the author of *Border Lines of Knowledge*.

Note 3: Tan Fuyuan gave a detailed explanation of the function of spleen in TCM in Chapter III of his book. Spleen belongs to the earth element of the five elements, and has two functions: Governing transportation and transformation and controlling blood. In Western medicine, spleen is a lymphatic organ and does not have the function of digestion. Modern researches believe that the function of spleen in TCM is similar to that of pancreas in Western medicine. The difference in the understanding of the spleen between TCM and Western medicine is largely related to the translation dislocation between the Term Pi in TCM and Spleen in Western Medicine. For details, please refer to *The Occurrence and Evolution of the Translation Dislocation between the Term Pi in Traditional Chinese Medicine and Spleen in Western Medicine* by Zhou Donghao (*Studies on the History of Natural Sciences,* 2019).

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Authors' contributions

Yu-Qing Qi put forward the concept and wrote the original draft. Hong Zheng undertook the task of supervision. Shan Liu collected data, reviewed and edited the manuscript.

Ethical approval

The authors have no ethical conflicts to disclose.

Conflicts of interest

None.

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Spread of Traditional Chinese Medicine to the West and the Development of Sinology: A Case Study Based on the Translation of Traditional Chinese Medicine Literature by German Doctor Gottlieb Olpp

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Abstract

German doctor Gottlieb Olpp played an important role in Sino-German medical exchanges during the late Qing dynasty. During his stay in China for more than 9 years, he wrote a large number of texts related to local Chinese medical and hygienic conditions. In these works, he introduced traditional Chinese medicine (TCM) and its situation at that time but also translated TCM literature. His translations and his achievements facilitated the development of sinology in Germany. Not only was he responsible for the development of the method used by German sinologists in translating TCM literature, but also his work gave an impetus to the combination of academic goals and current considerations in sinology studies. In this way, the study of TCM is the internal force driving the development of sinology.

Keywords: Gottlieb Olpp, Germany, sinology, traditional Chinese medicine

The Germans who came to China during the late Qing dynasty not only introduced modern Western medicine into China but also spread traditional Chinese medicine (TCM) to Germany. During this period, the German doctor Gottlieb Olpp, born in a missionary family in the year 1872, played an important role in the Sino-German medical exchanges. From 1898 to 1907, he served as a medical missionary at the Rhenish Mission Society (Rheinische Missionsgesellschaft), where he performed medical and missionary tasks in *Dongguan* (东莞 Mission District of the Rhenish Mission Society in Guangdong Province in China). After returning to Germany, he was appointed to be the director of the German Institute of Medical Missionary (Deutsches Institut für ärztliche Mission) and worked as such from 1909 to 1937. Dr. Olpp wrote extensively. As a professional doctor knowledgeable in tropical medicine, not only did he wrote a large number of academic medical papers but also introduced his medical experiences in China to Germany. In this way, his medical writings contain the results of his research in tropical medicine, and a lot of information about the medical and hygienic conditions of China at the time.[1] These writings included not only the introduction and interpretation of TCM and its situation at that time but also the translations of some TCM classics.

Previous studies have mostly used Dr. Olpp's writings to discuss the German medical activities in China during the period of German expansion,[2] the German's view of TCM,[3] and to highlight the instrumental role of medicine in the course of German expansion. Little attention has been paid to Dr. Olpp's role in promoting the spread of TCM to Germany and the academic contributions of his translation of TCM literature. As an integral part of traditional Chinese culture, TCM is an important part of sinology studies. Dr. Olpp's translation of TCM classics is a reflection of

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German sinology studies in this period. This thesis, based on previous studies, attempts to systematically discuss Dr. Olpp's translation of TCM literature and evaluate the value and significance of his works from the perspective of German sinology.

German Translation of TCM Literature before the 19th Century

Language differences are one of the main factors that hinder Germans from understanding China, and translating Chinese classics is a significant way to break through the barriers. For this reason, the German translations of Chinese classics have always been one of the channels used by Germans to understand China. However, the conversion between two languages is not only a linguistic act but also a dialog between two cultures. For this reason, Western sinologists with dual background, bilingual ability, and knowledge of China have always been the main force in translating various Chinese classics.[4] Although TCM literature is an important part of Chinese classics, its translation has received little attention from German sinologists due to its interdisciplinary characteristics, and there have been few attempts to translate from the original TCM classics directly.

In Germany, before the 19th century, the translation or compilation of Chinese classics was mainly concentrated in the fields of language and history.[5] The German and Latin translations of TCM classics mostly came from works translated by missionaries speaking other European languages, rather than from the original TCM literature directly. During this period, the Germans' knowledge of TCM mainly came from the works of Polish Jesuit Michal Boym, French Jesuits Dominique Parrenin, and Jean Baptiste Du Halde. German translations of TCM classics, such as *Huang Di Nei Jing* (《黄帝内经》 *Huangdi's Internal Classic*), *Mai Jing* (《脉经》 *Pulse Classic*), *Mai Jue* (《脉诀》 *Rhyming Book of Pulse Determination*) and *Ben Cao Gang Mu* (《本草纲目》 *Compendium of Materia Medica*), were based on the direct or indirect translations of these individuals' works on TCM literature.

From the middle of the 19th century, more and more Germans came to China when China was forced to open its border. They were in direct contact with the TCM classics and they carried out translation driven by needs and personal interest. Among them, Dr. Olpp was one of the most important figures of the time.

Dr. Olpp's Translation of TCM Literature

As a medical missionary, Dr. Olpp's job was to practice medicine and preach Christianity to the Chinese people. Other than regularly submitting work reports to the missionary organization in Germany, he was given no writing tasks. However, as a doctor, he took the opportunity to carry out medical research on local Chinese medical and hygienic conditions, and actively published his research results in Germany. In the process of living, working, and doing research in China, Dr. Olpp came into contact with TCM, a system of medicine that was different from his own practice.

Just like his contemporaries, Dr. Olpp's overall evaluation of TCM was not high. He was of the opinion that TCM was built on the wrong foundation and was "a tall building of numerous errors and a few golden grains of truth."[6] However, in contrast to his contemporaries who often wantonly denied and slandered TCM, he observed and discussed it with the "professional" eye of a doctor. In addition, as a result of his one and a half year's systematic study of the Chinese language and continuous improvement of his language skills while working and living in China, he was able to read TCM literature directly.[7]

In the course of introducing TCM to Germany, Dr. Olpp translated TCM literature, not only clarifying the peculiarities of TCM literature in terms of appearance, image, type, style, and so forth, but also translating parts of the content of some TCM classics directly. The main purpose of his translation was to show readers TCM as a whole, rather than out of a purely academic interest in TCM literature itself. As the perception of TCM was generally negative at that time, which was reflected at the medical level, Dr. Olpp placed emphasis on the historical cultural significance of TCM literature rather than on its medical academic benefits. As a result, Dr. Olpp did not translate an entire book but only parts of it.

Dr. Olpp's translations of TCM literature are mainly scattered in his books, magazine articles, and reports. He translated textual contents of some TCM classics. Among them, the *Ming Yi Lei An* (《名医类案》 *A Compilation of Healing Methods of Famous Doctors*) (published in 1552, 1871 Version, 12 volumes) edited by the famous doctor of the Ming dynasty, Jiang Guan (江瓘) [Note 1] and his sons Jiang Yingyuan (江应元), Jiang Yingsu (江应宿), and etc., the *Shou Shi Bao Yuan* (《寿世保元》 *Longevity and Life Preservation*) (published in 1651, 10 volumes) written by the famous doctor of the Ming dynasty Gong Tingxian (龚廷贤), and the book on surgery *Jin Jian Wai Ke* (《金鉴外科》 *Golden Mirror of Surgery*) (published in 1742 [Note 2], 16 volumes) compiled by Hong Zhou (弘昼) and other scholars of the Qing dynasty, and a few other books on TCM were partially translated.

In the series of articles *Letters from China* (*Briefe aus China*), which Dr. Olpp published in the magazine *Münchener Medizinische Wochenschrift* (*Munich Medicine Weekly*), the following contents are literally translated: "Fu Ren Ke (妇人科 Gynecology)"[6] in volume 7 of the *Shou Shi Bao Yuan*, as well as "Yi Jie (医戒 Commandments for

the Doctor)"[6] in volume 2 and "Se Zhen (色诊 Color Diagnosis)"[7] in volume 10 of the *Ming Yi Lei An*. Among them, the parts "Fu Ren Ke" and "Yi Jie" are full-text translations, whereas the part "Se Zhen" only the "Story about Pian Que and Cai Huan Gong" and the "Six Incurable Types of Sickness" are translated. In his monograph *Beiträge zur Medizin in China mit besonderer Berücksichtigung der Tropenpathologie* (*On Chinese Medicine from the Perspective of Tropical Pathology*), Dr. Olpp translated the catalogs of the *Ming Yi Lei An* and *Jin Jian Wai Ke*.[7]

Dr. Olpp also reproduced and translated the original illustrations of some TCM classics, for example, *Nei Jing San Bu Zhen Hou Tu* (《内经三部诊候图》 *Picture of Pulse Diagnosis of Huangdi's Internal Classic*) from the *Wang Shu He Tu Zhu Nan Jing Mai Jue* (《王叔和图注难经脉决》 *Work of Wang Shuhe about Classics of Difficult Inquiries and Rhyming Book of Pulse*),[7] *Chun Chu* (《椿樗》 *Simarouba*) from the *Ben Cao Gang Mu*,[7] *Xuan Er Chuang Tu* (《旋耳疮图》 *Picture of Ulcer Behind the Ear*) and *Zha Sai Tu* (《痄腮图》 *Picture of Parotitis*) from the *Jin Jian Wai Ke*,[6] *Dan* (《胆》 *Gallbladder*) and *Pi* (《脾》 *Spleen*) from the *Chen Xiu Yuan Yi Shu Er Shi Yi Zhong* (《陈修园医书二十一种》 *Twenty-one Kinds of Medicine Books by Chen Xiuyuan*),[7] *Lan Hou Bi* (《烂喉痹》 *Tonsillitis*) and *Hong Dian Zi She* (《红点紫舌》 *Glossitis*) from the *Zeng Ding Yan Fang Xin Bian* (《增订验方新编》 *Revised Edition of New Compilation of Empirical Formulas*),[7] and *Ru Yan* (《乳岩》 *Matitis*) from the *Xu Hui Xi Xian Sheng Shi San Zhong* (《徐洄溪先生十三种》 *Thirteen Kinds of Books by Xu Huixi*)[7] [Figures 1-6]. By publishing these illustrations, the contents of TCM literature and the concepts of TCM could be conveyed more clearly to the German readers.

Overall, Dr. Olpp's translations focus mainly on the TCM classics published in the Ming and Qing dynasties, including both textual translation and illustration reproduction. In comparison with the translation and introduction of TCM literature in Germany before the 19th century, Dr. Olpp began to translate from the original texts of TCM literature. As a

Figure 1 *Nei Jing San Bu Zhen Hou Tu* (《内经三部诊候图》 *Picture of Pulse Diagnosis of Huangdi's Internal Classic*)

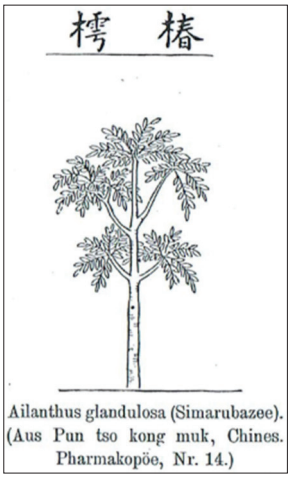

Figure 2 *Chun Chu* (《椿樗》 *Simarouba*)

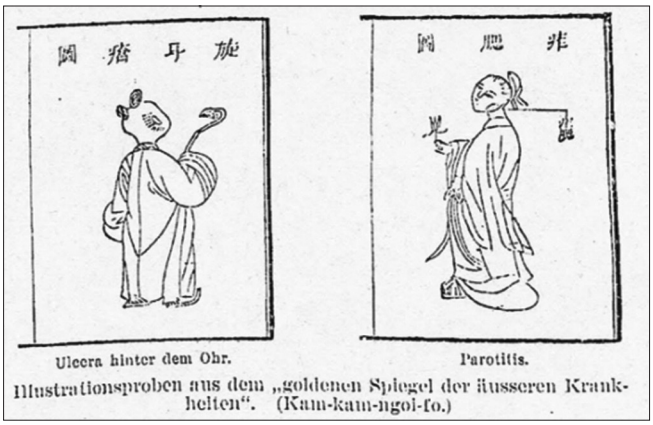

Figure 3 *Xuan Er Chuang Tu* (《旋耳疮图》 *Picture of Ulcer behind the Ear*) and *Zha Sai Tu* (《痄腮图》 *Picture of Parotitis*)

Figure 4 *Dan* (《胆》 *Gallbladder*) and *Pi* (《脾》 *Spleen*)

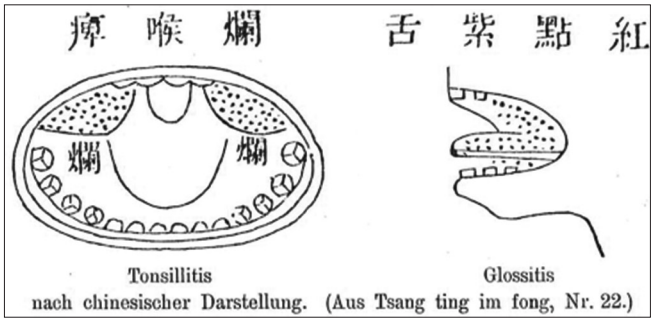

Figure 5 *Lan Hou Bi* (《烂喉痹》 *Tonsillitis*) and *Hong Dian Zi She* (《红点紫舌》 *Glossitis*)

Figure 6 *Ru Yan* (《乳岩》 *Matitis*)

result, although the scope of his translation and the quantity of his translations were limited and his primary purpose was of an introductory nature, his translation work and achievements increased the academic value of his writings on TCM. While the German scholar on the history of TCM, Dr. Franz Hübotter, denied in the late 1920s most European works on TCM, but he listed Dr. Olpp's articles *Letters from China* and his monograph *Beiträge zur Medizin in China mit besonderer Berücksichtigung der Tropenpathologie* (*On Chinese Medicine from the Perspective of Tropical Pathology*) as important documents of early European research on TCM.[8] This is a testimonial to the academic significance of Dr. Olpp's works and his contributions to the spread of TCM to the West. In addition, his translation of TCM literature had a positive influence on the development of sinology in Germany.

Contributions to the Development of German Sinology

A change took place in German sinology at the end of the 19th century and the beginning of the 20th century. With the advancing expansion of the German influence in China, deeper understanding of China became an increasingly pressing issue for the German government. Under the impetus of politics, sinology studies developed rapidly in Germany. In this context, German sinology began to shift from "amateurish" and "utilitarian" to "professional" and "academic."[9] However, the transformation was a gradual process, and so German sinology scholars at that time was a mixture of old amateurs and new professionals. The official profession of Dr. Olpp was that of a medical missionary and his translation of TCM literature was a typical activity of "amateur sinology." But at the same time, the works and achievements of his translation were also the epitome of this transformation process, promoting the development of German sinology.

First, Dr. Olpp's activity of translation promoted the development of translating methods for TCM literature in the field of sinology. Before the 19th century, most translations of TCM classics were done by Jesuits with certain knowledge of the Chinese language. The Jesuits usually had some medical background, but many had no professional medical training. The correct interpretation and translation of TCM literature must be realized both in the context of Chinese culture and medical expertise. Therefore, although the translations by the Jesuits and their translating methods laid the foundation for Europeans to translate TCM literature, there was room for the expansion of medical professionalism in translation.

Dr. Olpp received professional medical education and training, and although he was not a sinologist, he was familiar with the Chinese language. He wrote, "One and a half year's study of the Chinese language enabled me to research into the intricate problems of TCM and forcefully demonstrated to me the need to use Chinese characters in Chinese literature studies and their scientific processing."[7] At the same time, during his long-term contacts and exchanges with local residents in China, his understanding of Chinese culture was imperceptibly deepened. It can be said that Dr. Olpp, sometimes supported by his Chinese teachers or Chinese assistants in China, fostered the connection between "cultural background" and "medical expertise" with his translation of TCM literature more than the Jesuits had done. This was a preliminary implementation of cooperative translation by sinologists and medical professionals, which is advocated by the current academic circle.[10] Dr. Olpp's promotion of the translation method set an example for the translation of TCM literature. This also helped the professional development of the translation of TCM literature and the formation of German "professional sinology."

Secondly, Dr. Olpp's translation works gave an impetus to the combination of academic goals and current considerations in sinology studies. By translating TCM literature and combining with his experience in China, Dr. Olpp was able to understand TCM, the medical and hygienic conditions in China at that time. As a result, he was able to provide relevant examples of medical experiences to German doctors who were interested

to come to China armed with the necessary learning about the Chinese culture. That was exactly the important reason for which Dr. Olpp wrote and published his works on TCM. As he said, "Out of practice, they are primarily intended for practice."[7]

This marked the paradigm shift in sinology studies advocated by the famous contemporary German sinologist Otto Franke: "The scientific power of sinology lies in the connection between ancient and modern times."[11] Franke, who had proven himself as a historian for both ancient and modern China, shaped "the modern, scientifically founded and practically oriented sinology of Hamburg" and he also influenced the development of sinology in Germany.[12] He was of the opinion that sinology studies in the contemporary era should eliminate the situation of the present sinology studies which was limited to research on ancient China and lacked current considerations. He also felt that contemporary sinology studies should not use the present sinology approach which made no academic claims and only served as language training and advice about national conditions of China. He suggested that "sinology studies should not only convey ancient knowledge, but also grasp the contemporary through this knowledge."[11] He considered that this kind of sinology studies should be the research approach adopted by German sinologists. Instead of relying solely on medical phenomena, Dr. Olpp paid attention to TCM literature and used the knowledge from TCM literature and his China experience to understand TCM and its situation. Dr. Olpp's research on TCM, in particular his translation of TCM literature, might not have reached the level of "academic research" and "actual understanding" in Franke's understanding, but he promoted the development of the combination of "academy" and "reality," which was what emphasized in sinology studies at that time.

Conclusions

It should be noted that it was difficult for Dr. Olpp to break free from the limitations of the times from the political motivation and medical professional standpoints, but he still differentiated himself in his attitude to TCM from the majority of his European contemporaries who turned to various medical phenomena in China and arbitrarily denied the value of TCM. Although the translation of TCM literature was not the focus of his mission in China, his translation works and achievements made him one of the most important figures in spreading TCM to the West and advancing the development of German sinology by way of translation method and research paradigm. Based on Dr. Olpp's activity, we can see the interior connection between the spread of TCM to the West and the development of sinology. In this way, the study of TCM is the internal force driving the development of sinology.

Note

Note 1

Jiang Guan (江瓘), also Jiang Tingying (江廷莹) or Jiang Minying (江民莹). Dr. Olpp made a mistake in marking the author of the *Ming Yi Lei An* as Chen Ying (陈瑛), possibly due to transliteration problem.

Note 2

Dr. Olpp's statement, that the *Jin Jian Wai Ke* (《金鉴外科》 *Golden Mirror of Surgery*) was published in 1740, is incorrect.

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Ethical approval

The author has no ethical conflicts to disclose.

Conflicts of interest

None.

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Conveying Traditional Chinese Medicine to Europe in the 17th–18th Centuries from the Tradition of Natural History

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The translation efforts and missionary works by the Society of Jesus (or Jesuits) in China between the 16th and 18th centuries is a significant part of the history between China and the Western world. The Jesuits were instrumental in the transmission of knowledge, science, and culture between China and the West, which had an impact on the Chinese society and has continued to this day.

Jesuit's China Missions and Scientific Exchanges in the 16th–18th Century

The late Ming and early Qing periods (16th–18th century) were marked by rapid colonial expansion into the New World by major European countries, thereby giving rise to cultural contact on a massive scale and ensuing Christian infiltration into the Asian countries. The period from the late Ming to early Qing dynasties, particularly from 1582 to 1793, was also a new era featuring the first close scientific exchanges between Europe and China. Spearheaded by the arrival of Italian Jesuit missionaries Michele Ruggieri (罗明坚1543–1607) in 1579 and Matteo Ricci (利玛窦1552–1610) in Macao in 1582 and with the death of Jean Joseph Marie Amiot (钱德明1718–1793) in Beijing in 1793, hundreds of European Jesuit missionaries came to China to preach the Gospel of Jesus Christ and spread Catholicism to the Chinese soil. In 1685, the French King Louis XIV sent a mission team of five Jesuit mathematicians to China in an attempt to undermine the influence of the Portuguese patronage in the Far East. The first contingent of French Jesuits headed by Jean de Fontaney (洪若翰1643–1710) arrived in Ningbo, China, in July 1687, marking a watershed in the Jesuit missions in China that saw the beginning of cultural and scientific exchanges between China and Europe in the ensuing two-century period. The Jesuits translated the Western texts and disseminated Western science and technology knowledge in China, thus enabling China's educated elites and well-known intellectuals to access the early discoveries of modern science. At the same time, the Jesuits in China were among the first Europeans in the modern era to study the Chinese language and to tell Europe things about China. As their goal was to disseminate a complex religious message into a sophisticated culture, the Jesuits subjected themselves to years of study the Chinese language and culture before attempting to evangelize the Chinese people. Both Ricci and Ruggieri were determined to adapt to the religious traditions of the Chinese. In particular, Ruggieri learned about the common people whose minds were dominated by Buddhist and Taoist thoughts while Ricci contacted the educated classes among whom Confucianism prevailed. Through their efforts of translation, publication, and correspondence with their targets of preaching, the Jesuits transmitted Chinese culture and science to Europe, thereby giving rise to the emergence of Chinoiserie and deepening the Europeans' knowledge and understanding of China.

Numerous elements account for the proliferation of Jesuits' intercultural concepts both in China and Europe. Among them were the international and domestic backgrounds at that time, the scientific needs of the Chinese intellectuals, the political needs of the ruling class, and the policy of cultural adaptation on the part of the Jesuits. In the late Ming dynasty of the late 16th century, capitalism gradually gained its momentum throughout Europe and expanded itself overseas as Europeans searched for raw materials, consumers, and geopolitical influence worldwide. The discovery of the New World further triggered off the Europeans' further enthusiasm in exploring China. The maturity of the feudalistic society and the infancy of capitalism in the late Ming dynasty

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brought about many changes in politics, economics, culture, and social customs, thus paving way for the imperial China to adopt and introduce whatever was good for the empire. In the field of science and technology, the need for the practical application of advanced science and technology was greater than before. To the ruling class who sought to cement its power, the advanced science and technology transmitted by the Jesuits would be crucial for consolidating the rule of law. For the Jesuits, the powerful and prosperous society of the Ming dynasty forced a reconciling of indigenous culture and catholic theology through cultural adaptation rather than military conquest as was the case in the colonization of the Americas and Africa.

Matteo Ricci's arrival and settlement in Beijing in 1601 was a turning point for the Jesuit missions in China. By his pioneering the cultural adaptation or accommodation strategy, Matteo Ricci established a successful missionary enterprise in the Ming China. During his stay in China, he translated into Chinese quite a number of important books of the West, including the Chinese edition of Euclid's Elements. The Chinese Euclid's Element is the collaborative result between Ricci and Xu Guangqi (徐光启1562–1633), a celebrated Chinese scientist. Many other Jesuits also contributed to the dissemination of Western learning to China and among them were Sabbathin de Ursis (熊三拔1575–1620), Diego de Pantoja (庞迪我1571–1618), Giulio Aleni (艾儒略1582–1649), Alfonso Vagnoni (高一志1568–1640), Nicolas Trigault (金尼阁1577–1629), Johannes Schreck (邓玉函1576–1630), Philippe Couplet (柏应理1623–1693), Johann Adam Schall von Bell (汤若望1592–1666), and Ferdinand Verbiest (南怀仁1623–1688).

From the start of their missions in 1687, the French Jesuits played a dominating role in translating and disseminating Chinese scientific texts. Not only did they engage themselves in the continued transmission of Western learning to China, but also they concentrated their efforts on the dissemination of Chinese classics and books of Chinese science and technology to the European society. Their texts of Chinese studies gave rise to the emergence of Sinology in France. On the basis of these Chinese classics introduced to the West, in 1813, Jean-Pierre Abel-Rémusat (1788–1832) [Figure 1] published the *Dissertaio de Glosso-semeiotice, sive de signis morborum quae è lingua sumuntur, praesertim apud Sinenses,* and in the subsequent year, he was appointed to be the first chaire de langues et littératures chinoises et tartares-mandchoues, a chair devoted to sinology in Europe at the Collège Royal which later became the Collège de France, and served as such from 1814 to 1815.

In addition, contrary to the previous Jesuits who sought only to preach Catholicism, the French Jesuits in China were

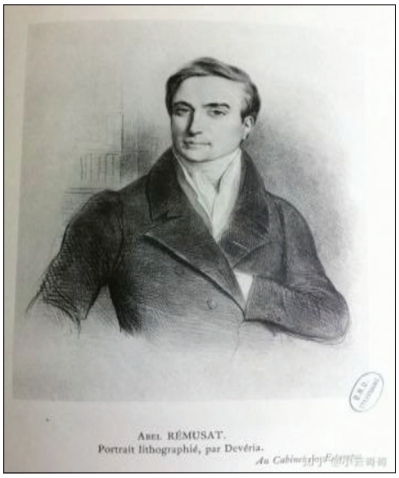

Figure 1 Jean-Pierre Abel-Rémusat (雷慕沙1788–1832)

commissioned with the task of scientific investigation which covered the fields of history, literature, science, anatomy, astronomy, botany, and folklore. They became the *de facto* earliest Sinologists, and their information about the Chinese society exerted great influence on profound thinkers of the era of Enlightenment in Europe. Among these French Jesuits were Joachim Bouvet (白晋1656–1730), Jean-Francois Foucquet (傅圣泽1663–1739), Joan-Baptiste Régis (雷孝思1663–1738), Joseph Henri Marie de Prémare (马若瑟1666–1736), Francois-Xavier d'Entrecolles (殷弘绪1664–1741), Joseph-Francois–Marie-Anne de Moyriac de Mailla (冯秉正1669–1748), Antoine Gaubil (宋君荣1689–1759), Michael Benoit (蒋友仁1715–1774), and Jean Joseph Marie Amiot (钱德明1718–1793). Dominique Parrenin (巴多明1663–1741) was the first Westerner and the only Jesuit missionary to complete a comprehensive study of China's issues with scientific and technological achievement, and this achievement of his was about 200 years earlier than *Science and Civilization in China*, the masterpiece written by Dr. Joseph Needham (李约瑟1900–1995). Parrenin's study helped reduce the European prejudice against China's achievements of science and technology and his study also refuted the prejudice of Eurocentrism that was upheld by the prevailing European scholars of the day.

Michal Boym's Translation of Chinese Medicine Knowledge

Although the Jesuits' translation and publication centered on Chinese classics such as the Four Books: *Da Xue* (《大学》*The Great Learning*), *Zhong Yong* (《中庸》*Doctrines of the Mean*), *Lun Yu* (《论语》*The Analects*), and *Meng Zi* (《孟子》*Mencius*), they also publicized Chinese science and technology in the European society. Michal Boym (卜弥格1612–1659) [Figure 2], a Polish scientist, explorer,

and Jesuit missionary, is most notable among the Jesuits for being one of the first Westerners to travel within the

Figure 2 Michal Boym (卜弥格1612–1659)

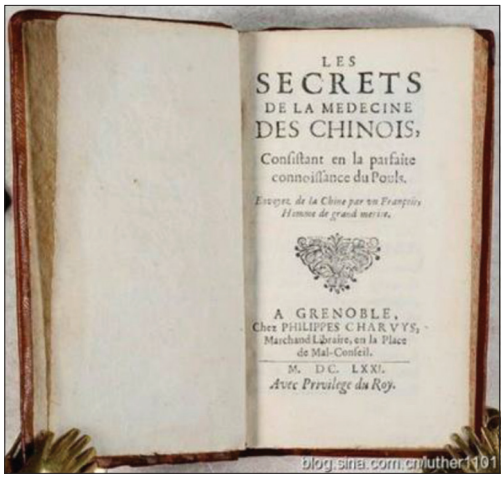

Figure 3 *Les Secrets de la Médecine des Chinois, Consistant en la Parfaite Connoissance du Poudls* (*The Secrets of Chinese Medicine, Which Consists in a Perfect Understanding of the Pulse*)

Figure 4 *Specimen medicinae Sinicae* (*Chinese Medicinal Plants*)

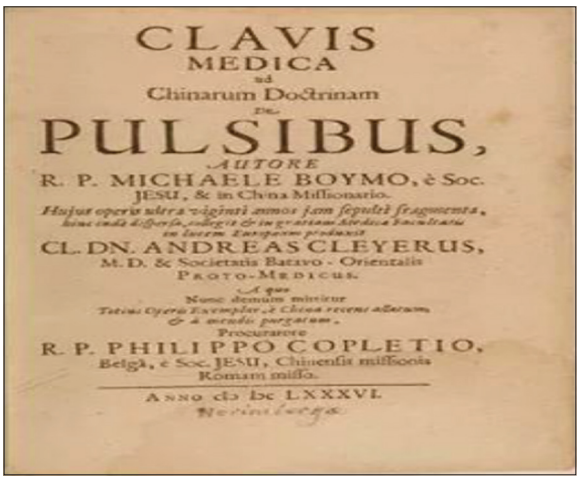

Figure 5 *Clavis medica ad Chinarum doctrinam de pulsibus* (*Key to the Medical Doctrine of the Chinese on the Pulse*)

Chinese mainland. Boym was the author of numerous works on Chinese fauna, flora, and geography. His books include those which were the earliest European writings on Chinese plants (e.g., *Flora Sinensis*), the bilingual *Atlas of China* (Chinese–Latin), and the pioneering book on Chinese medicine. The best known Boym's work is *Flora Sinensis* (literally *Chinese Flora*) published in Vienna in 1656. The book was the first description of an ecosystem of the Far East ever published in Europe. Boym emphasized the medicinal properties of Chinese plants. His translation of *Zhongguo Maijue* (Medical Doctrine of the Pulse), written by a renowned Ming dynasty doctor, was among the first book on traditional Chinese medicine (TCM) translated into Latin-based languages. His other works include *Les Secrets de la Médecine des Chinois, Consistant en la Parfaite Connoissance du Poudls* (*The Secrets of Chinese Medicine, Which Consists in a Perfect Understanding of the Pulse*) [Figure 3], *Specimen medicinae Sinicae* (*Chinese Medicinal Plants*) [Figure 4], and *Clavis medica ad Chinarum doctrinam de pulsibus* (Key to the Medical Doctrine of the Chinese on the Pulse) [Figure 5], and in these books, he described TCM and introduced several methods of healing and diagnostics previously unknown in Europe, particularly the measurement of the pulse.

Michal Boym is one of the first Europeans to inform the Western world of China's scholarly medicine. His achievements are monumental, and his translations laid early foundation for the spread to Europe of Chinese medical practice and learning later. He was a prolific author, leaving behind a multitude of writings on a variety of topics including the transcription and translation of the Nestorian Stele and Chinese botany, fauna, flora, medicine, geography, and cartography. It is remarkable that he accomplished all these translations and writings in extreme hardships amid

the chaos, unrest, and turmoil that the Chinese society underwent. He also continued his translation of TCM while returning to Europe from China and later during his journey back to China. The publication of Boym's works was further complicated by the strained relations at the time between the Dutch East India Company (VOC) and the Jesuits. The question of Boym's medical manuscripts is also complicated by his later relationships. From the early 18th century on, there had been debates about the authorship of the three works on TCM published in Europe. Some scholars contend that these publications in the 1680s in Europe were in fact a sometimes fractious but collaborative effort. They believe that the Jesuits in China worked with the Dutch and German medical employees of the VOC in Asia and their local informants over a period of at least two decades. The significance of Boym's role in this regard has therefore also been discussed by TCM scholars. Evidence suggested that Boym wrote those chapters on drugs. The extraordinary plates in the text are the reprintings of rare Chinese medical illustrations with newly engraved Latin captions, appearing to have been printed on paper from China or the East Indies. In 1658, Boym entrusted his manuscript to his fellow Jesuit Philippe Couplet for shipment to Batavia, the then Indonesia, and then to Europe for printing. The VOC, however, suppressed Boym's name, believing that the Jesuits in Peking were responsible for the VOC's failed mission to China. Andreas Cleyer (1634–1697/98) the editor, a Dutch physician and botanist who was attached to the VOC in Batavia, used some of the same Chinese medical works as well as Boym's work for his own Clavis *medica* ad *chinarum* in 1686.

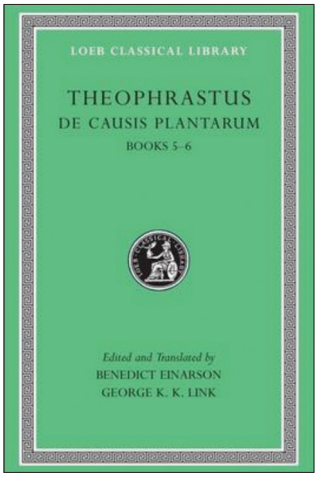

Figure 6 *De Historia Plantarum*

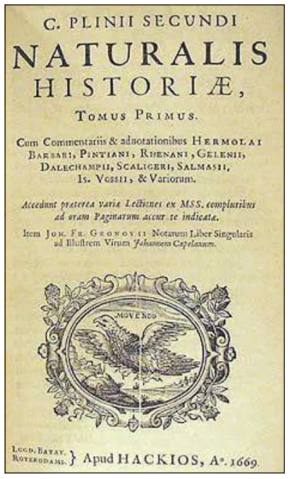

Figure 7 *Naturalis Historia*

TCM in the Tradition of Natural History in Europe

From *De Historia Plantarum* [Figure 6] by Theophrastus (372 BC-287 BC), through *De Materia Medica* by Pedanius Dioscorides (c. 40 BC–c. 90 BC), and to *Naturalis Historia* [Figure 7] by Gaius Plinius Secundus (AD 23–79) [Figure 8], natural history is one of the two knowledge systems in the European scientific tradition that can rival natural philosophy and can be distinguished from metaphysics

Figure 8 Gaius Plinius Secundus (AD 23–79)

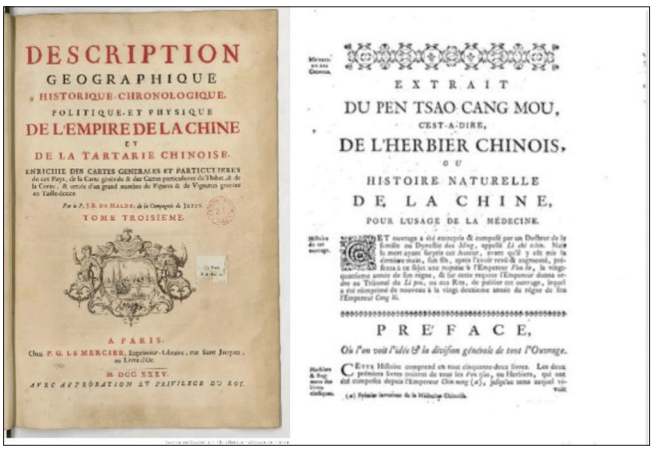

Figure 9 *Lettres edifiantes et curieuses ecrites des missions etrangeres, Description géographique, historique, chronologique, politique et physique de l'empire de la Chine et de la Tartarie chinoise*

and mathematics. Natural history is traditionally understood to encompass a wide range of subjects that Aristotle included in the physical sciences. To facilitate people's identification of plants, European natural history books pay special attention to selecting plant illustrations.

Beginning in the 15th century, the Age of Exploration greatly enriched people's understanding of species and took all kinds of novel flora and fauna to Europe, thereby widening the horizons of the naturalists. The Age of Exploration also aroused great interest in global colonial expeditions and gave birth to a visible and invisible "plant route." This route of global plants circulation connecting America, Asia, Africa, and Europe integrates plants, planting culture, knowledge, ideas, ecological environment, and the geo-economic politics that depend on them globally, thereby changing the world entirely. Botanists in the Renaissance began to search, identify, and describe various plants, combining new knowledge to annotate and review ancient authoritative works. Since then, the meticulous study of the natural forms and characteristics of plants has become important to botanical studies. From that time on, naturalists began to emphasize the acquisition of natural knowledge through on-site research. With the improvement of specimen preparation techniques, naturalists began to produce more specimens of animals and plants. Thus, plant classification began to show results, and botany as a discipline began to shape.

Before being influenced by the Western science and culture, China had developed a natural history system represented by Materia Medica. To be specific, the *Ben Cao Gang Mu* (《本草纲目》 *Compendium of Materia Medica*) is the Chinese masterpiece that is closely equivalent to the natural history knowledge system in the European scientific tradition. Charles Darwin (1809–1882) rated *Compendium of Materia Medica* as "an encyclopedia of ancient China." Joseph Needham (1900–1995) regarded its author Li Shizhen (李时珍) as a naturalist and believed that the core value of the *Compendium of Materia Medica* lies in natural history rather than medicine. In other words, the *Compendium of Materia Medica* was of great appeal to the European scientific community because it was a masterpiece of natural history rather than a pharmacopeia.

The European Jesuit missionaries who entered China in the late Ming dynasty were very clearly "plant hunters" and this is especially true of the French Jesuit missionaries who came to China after 1687. They inherited and carried the tradition of European natural history research out of their own interests, as is evidenced by their research on Chinese culture. This research did not confine itself to the Four Books and Five Classics, but it expanded its exploration of many fields including history, folklore, literature, crafts, science and technology, animals, plants, and mineralogy. Being well aware of the compatibility between Chinese medical classics and the tradition of natural history in Europe, the Jesuit missionaries in China investigated and studied Chinese plants, especially medicinal plants, thus promoting the spread of Chinese medicine to the West, enriching the European natural history research as well as paving way for the birth of Sinology.

The book entitled *China Illustrata* (Amsterdam, 1667) is recognized as a masterpiece of early European Sinology. Later on, another three books came out, and they are recognized as the major masterpieces of European Sinology in the 18th century, namely, *Lettres edifiantes et curieuses ecrites des missions etrangeres, Description géographique, historique, chronologique, politique et physique de l'empire de la Chine et de la Tartarie chinoise* [Figure 9], and *Mémoires concernant l'histoire, les sciences, les arts, les moeurs, les usages, etc., des Chinois, par les missionnaires de Pekin*. In terms of their content, these books are more like scientific works that fall in line with the European naturalistic tradition. Whether it is Michal Boym's *Flora Sinensis*, his three books of translations on Chinese medicine (whose authorship disputes have not yet been settled), or the introduction of Chinese medicinal plants by the French Jesuit missionaries Dominique Parrenin (1663–1741), Pierre Jartoux (1668–1720), and Francois-Xavier d'Entrecolles (1662–1741) as recorded in the *Description géographique, historique, chronologique, politique et physique de l'empire de la Chine et de la Tartarie chinoise*, the texts sufficiently demonstrated that research on the spread of Chinese medicine to the West should have shed light on the European tradition of natural history.

Conclusions

Beginning with Matteo Ricci, the Jesuits who came to China during the late Ming and early Qing period played a monumental role in promoting the European understanding of China and publicizing Chinese culture, science, and technology in the West. Their favorable comments on Chinese civilization exerted a profound impact on the Enlightenment of the 18th century, creating "Chinoiserie," a period of almost fanatical infatuation in Europe over all things of the Chinese. The Jesuits were very active in transmitting Chinese knowledge to Europe. The reports of scientific investigation, the observation notes, and the letters sent home by the Jesuits, in particular the French Jesuits, were the chief source of information about China in 17th and 18th century Europe. Meanwhile, the Jesuits made efforts to translate Western mathematical and astronomical works into Chinese and aroused the interest of the Chinese scholars in these scientific fields. Conversely, the Jesuits were

very active in transmitting Chinese knowledge to Europe. Through the correspondence of these Jesuit missionaries, European scientists for the first time came to learn about Chinese science and culture.

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Sinology in Seattle: The University of Washington and its Influence on the Study of Chinese Medicine

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Abstract

The University of Washington has played a pivotal role in the field of sinology with faculty and alumni producing major publications in Chinese history, literature, phonetics, and linguistics. These contributions have been instrumental in the development of sinology as a field and have both directly and indirectly influenced the study of Chinese Medicine. By tracing the history of the Department of Asian Languages and Literature and examining several major figures, we can better understand how these individuals shaped the development of Chinese Medicine and contributed to its spread worldwide.

Keywords: Chinese medicine, history, influence, Seattle, sinology

Introduction

There are few famous scholars in the field of sinology in the West that have worked primarily on Chinese Medicine. Sinologists such as Paul Unschuld (文树德), Joseph Needham (李约瑟), Donald Harper (夏德安), and Nathan Sivin (席文) are well-known for their work in expanding the study of Chinese Medicine, but there are few others who have focused on this area.

Interest in Chinese Medicine, however, is quickly growing both clinically and academically as there is better access to Chinese references and resources. Many sinologists who came before laid the foundation for improved translations and research methods, and a better understanding of the Chinese language and culture. In addition to the scholars mentioned above who are known for their work in Chinese medicine, there are numerous other scholars that have made major contributions improving the study of sinology that have directly or indirectly affected the study of Chinese Medicine. One place where major advances in the field of sinology have taken place and done just this is at the University of Washington in Seattle.

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Sinology at the University of Washington

Over the course of its history, the University of Washington [Figure 1 a and b] has had numerous professors and graduates that have impacted the world of sinology not just in the US, but worldwide. As the university grew and changed, notable scholars including Erwin Reifler (罗逸民1903–1965), K. C. Hsiao (萧公权1897–1981), Li Fang Kuei (李方桂1902–1987), Hellmut Wilhelm (卫德明1905–1990), Isabella Yen (严倚云1912–1991), Paul L-M. Serruys (司礼义1912–1999), Vincent Y. C. Shih (施友忠1902–2001), Hok-lam Chan (陈学霖1938–2011), and Jerry Norman (罗杰瑞1936–2012) among others, made contributions to the study of Chinese language and literature. By looking at a few individuals, we can better see how their study of sinology influenced the study of Chinese Medicine.

The Territorial University of Washington was founded on November 4th, 1861. With only 250 residents in the village of Seattle, there were very few collegiate students in the early years. It was not until 15 years later, in 1876 when Clara A. McCarty received a Bachelor of Science diploma.[1]

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Figure 1 (a) Denny Hall of University of Washington (b) Cherry Blossoms at the University of Washington

In 1889, it became the University of Washington, and in 1895 classes began at the current campus in the newly constructed Denny Hall. The Department of Oriental History, Literature, and Institutions, also known as the Department of Oriental Subjects, was founded in 1909 and its first faculty chair was Reverend Herbert H. Gowen. Reverend Gowen was an Anglican missionary and scholar who wrote works on Indian, Japanese, and Chinese history. He served as the chair for the department until 1929.

Over the course of the next several years, the department was restructured multiple with various new names including Oriental Life, History, Languages, and Literature; Oriental Life, Languages, Literature, and History; Oriental Studies; and Far Eastern Studies. Under the direction of Professor George E. Taylor, who studied in Peking in the early 1930s and assisted the Eighth Route Army in North China by smuggling them medical supplies during WWII, the department became the Far Eastern and Slavic Languages and Literature.

Erwin Reifler, an Austrian-born philologist, taught at the University of Washington from 1947 to 1965. He published works on comparative semantics and presented an influential paper at the American Philosophical Society conference in 1948 titled, *the Chinese Language in the Light of Comparative Semantics*.[2] He was also instrumental in the early study of machine translation and published works such as *The Mechanical Determination of Meaning* in *Machine Translation of Languages* edited by William N. Locke and A. Donald Booth in 1955.[3] As an early pioneer in machine translation, his work spurred on the research that continues to this day with enormous machine translation projects and services such as Google translate.

Li Fang Kuei was a Chinese linguist born in Guangzhou during the Qing dynasty (1644–1912). Li earned his Ph.D. at the University of Chicago in 1928 and taught at the University of Washington from 1949 to 1969. He is well known for his work in linguistics and phonology, publishing research on Chinese, Tai, Tibetan, and Athabaskan languages. His work on Chinese dialects, minority languages, and reconstructions of Middle Chinese (中古汉语) and Old Chinese (上古汉语) continue to be influential. His Old Chinese reconstruction published in the 1970s made significant improvements on the earlier work of the renowned linguist, Bernhard Karlgren (高本汉1889–1978) before eventually being largely replaced once again in the 1990s.[4] Old and Middle Chinese reconstructions have provided invaluable information on the Chinese languages as a whole. Information on medical exchange and the incorporation of foreign medicines into Chinese Medicine is made much more accessible as these reconstructions provide greater insight into the language at various periods in history.

Hellmut Wilhelm was a German sinologist who earned his Ph.D. in 1932 from the University of Berlin. He taught at the University of Washington from 1948 to 1971. Wilhelm's work on the *Yi Jing* (《易经》*Classic of Changes*) built upon the famous translation done by his father, Richard Wilhelm (卫礼贤1873–1930) in 1950. Two collections of Hellmut Wilhelm's lectures on the *Yi Jing*, *Change: Eight Lectures on the I-Ching*, and *Heaven, Earth, and Man in the Book of Changes: Seven Eranos Lectures,* remain foundational texts for the study of this important classical work. His student and professor emeritus at the University of Washington, David Knechtges said after his passing, "Professor Wilhelm was among the last of the universalist China scholars, who knew China at first hand and from its great books. He was the embodiment of the Chinese ideal of the chun-tzu (君子), a princely man and gentleman of learning and high moral character."[5] As Chinese Medicine works are often laden with references to the early classics, especially the *Yi Jing*, Wilhelm's work sheds light on one of the most complicated texts in the Chinese corpus, making it more accessible to scholars.

Another important sinologist at the University of Washington during these years was Vincent Shih. Shih earned his Ph.D. from the University of Southern California in 1939 and taught at the University of Washington from 1945 to 1973. His later years were part of the Far Eastern and Russian Studies Institute which would later become the Henry Jackson School of International Studies. Shih was active in researching modern China, but his work *The Literary Mind and Carving of Dragons*, a translation of the *Wen Xin Diao Long* (《文心雕龙》*Literary Mind and the Carving of Dragons*) by Liu Xie (刘勰 465–522) is still the most influential Western-language translation of this monumental work of literary criticism.

In 1969, this department divided into the Department of Slavic Languages and Literature and the Department of Asian Languages and Literature.[6] He first chair of the newly formed Asian Languages and Literature department was Professor Turrell V. Wylie, who graduated from the University of Washington in 1958, and is best known for his work in Tibetan. The Wylie transliteration scheme that he developed for Tibetan

that was published in 1959 continues to be the standard for Tibetan studies. The department continued to bring in new scholars that would go on to impact sinology.

Jerry Norman, an American linguist, completed his Ph.D. at Princeton University in 1969 and taught at the University of Washington from 1972 to 1998. He is known for his research on Chinese dialects, especially Min dialects (闵语) and their use in Old Chinese reconstruction. His work, *Chinese*, published in 1988, is widely used in the study of Chinese linguistics and dialects and is used at a textbook at many universities including the University of Washington.

A more recent scholar, who retired in 2014 after teaching at the University of Washington since 1972, is David Knechtges (康连维). After earning his Ph.D. at the University of Washington under Hellmut Wilhelm in 1968, Knechtges taught briefly at Harvard and Yale before returning to his alma mater. He is best known for his translation of the *Wen Xuan* (《文选》 *Selections of Refined Literature*) that was compiled by Xiao Tong (萧统501–531) and others in the 6th century. His three-volume translation provides some of the best examples of translations of Chinese poetry into English. These translations give greater understanding of the poetry of that period and are helpful in understanding the larger body of literature from that time, including medical texts. It also serves as a model for the precise and accurate translation of a wide variety of topics. In addition to this, his multi-volume reference guide, *Ancient and Early Medieval Chinese Literature*, published with his wife, Taiping Chang, is a comprehensive resource for anyone studying Chinese literature. Many influential medical scholars and texts are discussed in this work, making it an important reference for researchers of Chinese Medicine. Knechtges continues to serve as an advisor to several students in the process of completing their dissertations.

Two more sinologists whose work has influence on the study of Chinese medicine, though also indirectly, are William Boltz and Zev Handel. Boltz, who earned his Ph.D. at the University of California at Berkeley in 1974, began teaching at the University of Washington in 1981. A major work, *The Origin, and Development of the Chinese Writing System,* published in 1994, is imperative for understanding the Chinese script and dispels several common myths about the Chinese language. His research covers historical phonology, manuscript studies, philology, and textual studies. He was also involved in writing definitions for Paul Kroll's *A Student's Dictionary of Classical and Medieval Chinese* which is considered the most reliable Classical Chinese dictionary for those studying and translating Classical Chinese texts into English. This has been especially valuable to scholars working with Classical Chinese Medicine texts.

Zev Handel earned a Ph.D. from the University of California at Berkeley in 1998 and began working at the University of Washington in 1999. He works on Chinese historical linguistics and phonology, as well as the Chinese script, and has published extensively on these topics. He was an associate editor of the *Encyclopedia of Chinese Language and Linguistics* where he contributed a number of entries ranging from rime groups and phonology to Chinese characters and the zodiac. He also published a text on the Chinese writing system called *Sinography: The Borrowing and Adaptation of the Chinese Script*, in 2019.

The in-depth sinological study by the scholars mentioned above has profoundly influenced the field. This work has permeated all aspects of sinology including Chinese medicine. The translations, linguistic analysis, and historical study of these scholars have allowed for improved translations and contextual understanding of Chinese medicine.

General Gains in Sinology to Specific Gains in Chinese Medicine

Much of the influence that the sinologists discussed thus far have had on Chinese Medicine has been indirect. They have improved the understanding of the Chinese language and literature advancing the field of sinology, and by extension have allowed for improved translations and interpretations of Chinese Medicine and the culture that surrounds it.

The scholars mentioned above only represent a small fraction of those individuals who have influenced the field of sinology but give a snapshot into the wide range of scholarship produced at the University of Washington's Department of Asian Language and Literature over the course of its history. While their publications may not directly reference Chinese Medicine, many of these books, articles, and lectures are used and referenced by translators and practitioners of Chinese Medicine to translate and better understand the primary texts in Chinese Medicine.

Current faculty members such as Boltz and Handel continue to improve the understanding of the Chinese language in the West and allow for improved translation while teaching students, some of whom directly work with Chinese Medicine, just as they, and some of their predecessors and colleagues, have done in the past.

Current students such as John Aguilar, a student of William Boltz, and myself, a student of David Knechtges, and are clinicians of Chinese medicine who are studying sinology at the University of Washington. Both of us are active in the field of Chinese Medicine clinically and academically. I have been able to use the teachings and work of my professors and predecessors to improve my translations of Chinese Medicine by better understanding allusions and complicated passages, interpreting difficult and obscure characters, and conduct more efficient research on the cross-cultural exchanges that have impacted Chinese culture.

Direct Impact on Chinese Medicine

While most faculty members at the University of Washington have been directly involved in research on Chinese Medicine, there are the current students mentioned above, as well as graduates whose work in Chinese Medicine has made significant additions to the field. Three alumni, in particular, have been major contributors to the study of Chinese Medicine in the West: Dean C. Epler, Paul D. Buell, and Daniel Bensky.

Dean C. Epler began as a student of Hellmut Whilhelm and finished his doctorate with David Knechtges in 1977. His focus of the study was Chinese Medicine in the Han dynasty (202 BCE-220 CE), and his dissertation, *The Concept of Disease in Two Third Century Medical Texts*, provided a detailed study of the *Shang Han Lun* (《伤寒论》*Treatise on Cold Damage*) and the *Huang Di Nei Jing* (《黄帝内经》*Huangdi's Internal Classic*). He also wrote an influential article in 1980 on bloodletting and the origins of acupuncture.

Paul D. Buell was another graduate of the University of Washington, earning his M.A. degree under Jack Dull in 1968 and then continuing his studies in history earning a Ph.D. in 1977. He is a prolific writer with over 200 publications. His work, *A Soup for the Qan* is an in-depth study of *Yin Shan Zheng Yao* (《饮膳正要》*Principles of Correct Diet*) by Hu Sihui (忽思慧1314–1330) and the forthcoming *Arabic Medicine in China: Tradition, Innovation, and Change* will include a translation of the *Hui Hui Yao Fang* (《回回药方》*Muslim formulary*) from the Yuan dynasty (1271–1368). These two previously untranslated texts provide significant insight into the cross-cultural exchanges involved in the development of Chinese Medicine. Buell is also a major contributor to the *Ben Cao Gang Mu* (《本草纲目》*Compendium of Materia Medica*) project spearheaded by Paul Unschuld that has already produced three dictionaries and four volumes of translation of the text by Li Shizhen (李时珍1518–1593).

The final graduate of the University of Washington that has played a significant role in the development and study of Chinese Medicine is Daniel Bensky. Bensky earned a Diploma in Chinese Medicine from the Macau Institute of Chinese Medicine in 1975 and Doctor of Osteopathy from the Michigan State University College of Osteopathic Medicine in 1982. He was a seasoned clinical physician before attending the University of Washington and earning his M.A. under William Boltz in 1996. He continued his studies in Chinese medicine earning a Ph.D. from the Chinese Academy of Traditional Chinese Medical Sciences in 2006. He has been extremely active in teaching, translating, lecturing, and in clinical practice especially as a founder of the Seattle Institute for East Asian Medicine which was accredited in 1998. Bensky is a distinguished author with two of his major works serving as the foundational texts for nearly all students of Chinese medicine in the US, *Chinese Herbal Medicine: Materia Medica* and *Chinese Herbal Medicine: Formulas and Strategies*. He was also a major contributor and editor of *Acupuncture: A Comprehensive Text*, which is also widely used.

These three graduates of the University of Washington show the direct influence that this Department of Asian Languages and Literature has had on the study of Chinese Medicine. This clear impact combined with the vast influence on the field of sinology in general by the scholars listed prior demonstrates how influential sinology at the University of Washington has been on the study of Chinese Medicine.

Conclusions

The University of Washington remains one of the top universities in the United States, and in the world. According to the 2021 Best Global Universities ranking by U.S. News, which included over 1500 universities worldwide, University of Washington was ranked 8.[7] The university consistently has high rankings which take a variety of factors into consideration ranging from cost and facilities to job placement and faculty, but from an academic standpoint alone, it also maintains a very high reputation.

The Department of Asian Languages and Literature is no exception with faculty and alumni that continue to publish, lecture, and influence sinology in the West and worldwide. With this continued effect and the growing number of students focusing on Chinese Medicine as a niche in the sinological world, the study of sinology in Seattle at the University of Washington will continue to influence the growth and development of Chinese Medicine.

My personal experience as a doctoral student in this department has given me the opportunity to gain a much deeper understanding of Chinese Medicine and apply it to both my clinical practice and my research. Through the depth of knowledge of the professors and research rigor that is demanded at the University of Washington, the impact of the study of sinology in this department will continue to be influential to the general growth of sinology as a field, but also to the expansion and deeper understanding of Chinese Medicine.

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Ethical approval

The author has no ethical conflicts to disclose.

Conflicts of interest

Sean Bradley is an editorial board member of *Chinese Medicine and Culture*. The article was subject to the journal's

standard procedures, with peer review handled independently of this editorial board member and his research groups.

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Description Générale de la Chine and the Spread of Traditional Chinese Medicine to the West in the 18th Century

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Abstract

Description Générale de la Chine is an important sinology masterpiece published in France in the late 18th century. Its author Jean-Baptiste Grosier summarized and rearranged a large number of first-hand materials to systematically introduce China's national traditions and culture. A great part of this book introduced ancient Chinese medicine, which facilitated the unbiased understanding of traditional Chinese medicine (TCM) in Europe and fostered a knowledge dialogue between the Chinese and Western medicine systems. Such content also provided a historical reference for how to promote the further going out of TCM to the world.

Keywords: *Description Générale de la Chine*, French sinology, Jean-Baptiste Grosier, spread of traditional Chinese medicine to the west

Introduction

The 17th and 18th centuries were a key stage that witnessed the reciprocal introduction of Chinese and European cultures to each other, particularly after the French Jesuits entered China. That was also the stage when Sinology research in Europe began to boom. Many Chinese-themed works were concerned with things of all walks of life, describing and interpreting China in their own way. China, known as the other, boosted Europe's own ideological and cultural awakening during the Age of Enlightenment.

According to the records in *Bibliotheca Sinica* (《西人论中国书目》) by French Sinologist Henri Cordier (考狄 1849–1925), *Description Générale de la Chine* (《中国通典》),[1] an important Sinologist book was published in France, 1785. This book was originally published as a supplementary 13th volume to *l'Histoire générale de la Chine* (《中国通史》) edited by a French Jesuit named Joseph-Francois-Marie-Anne de Moyriac de Mailla (1669–1748). The author of the book in question was Jean-Baptiste Gabriel Alexandre Grosier (1743–1823), a famous scholar of the Society of Jesus who was one of the editors and publishers of *l'Histoire générale de la Chine* and he was also responsible for publishing *Mémoires concernant l'histoire, les sciences, les arts, les moeurs, les usages, etc., des Chinois, par les missionnaires de Pekin* which was regarded as one of the three greatest Sinologist books in Europe of the 18th century.

Description Générale de la Chine [Figures 1 and 2] inherits an encyclopedic narrative style that was used in *Description Géographique, Historique, Chronologique, Politique et Physique de l'empire de la Chine et de la Tartarie Chinoise* (《中华帝国全志》) characterized by a grand layout, rich content, and the classified and detailed use of China's geography, nature, history, society, economy, politics, military, belief, language, literature, science, and many other aspects. *Description Générale de la Chine* is divided into two parts in a total of eight volumes. Part I is formed of four volumes, with volume one introducing the 15 provinces of China and volume two describing China's Tatar region while volume three is about China's vassal states and volume four talking about China's natural history. Part II also consists of four volumes, with volume one introducing the Chinese government, volume

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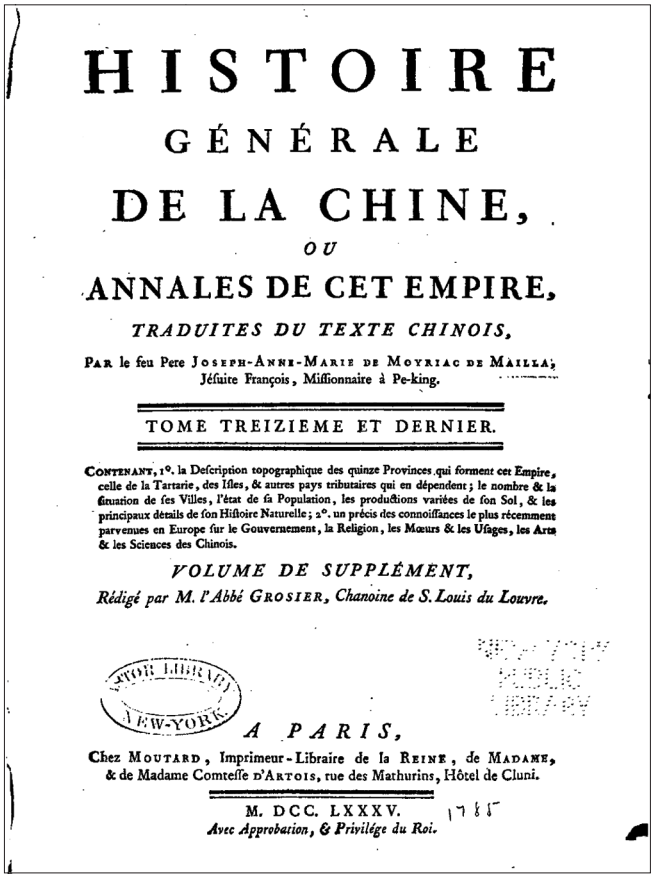
HISTOIRE
GÉNÉRALE
DE LA CHINE,
OU
ANNALES DE CET EMPIRE,
TRADUITES DU TEXTE CHINOIS,
PAR le feu Pere JOSEPH-ANNE-MARIE DE MOYRIAC DE MAILLA; Jéſuite François, Miſſionnaire à Pe-king.
TOME TREIZIEME ET DERNIER.
CONTENANT, 1°. la Deſcription topographique des quinze Provinces qui forment cet Empire, celle de la Tartarie, des Iſles, & autres pays tributaires qui en dépendent; le nombre & la ſituation de ſes Villes, l'état de ſa Population, les productions variées de ſon Sol, & les principaux détails de ſon Hiſtoire Naturelle; 2°. un précis des connoiſſances le plus récemment parvenues en Europe ſur le Gouvernement, la Religion, les Mœurs & les Uſages, les Arts & les Sciences des Chinois.
VOLUME DE SUPPLÉMENT,
Rédigé par M. l'Abbé GROSIER, Chanoine de S. Louis du Louvre.
A PARIS,
Chez MOUTARD, Imprimeur-Libraire de la REINE, de MADAME, & de Madame Comteſſe D'ARTOIS, rue des Mathurins, Hôtel de Cluni.
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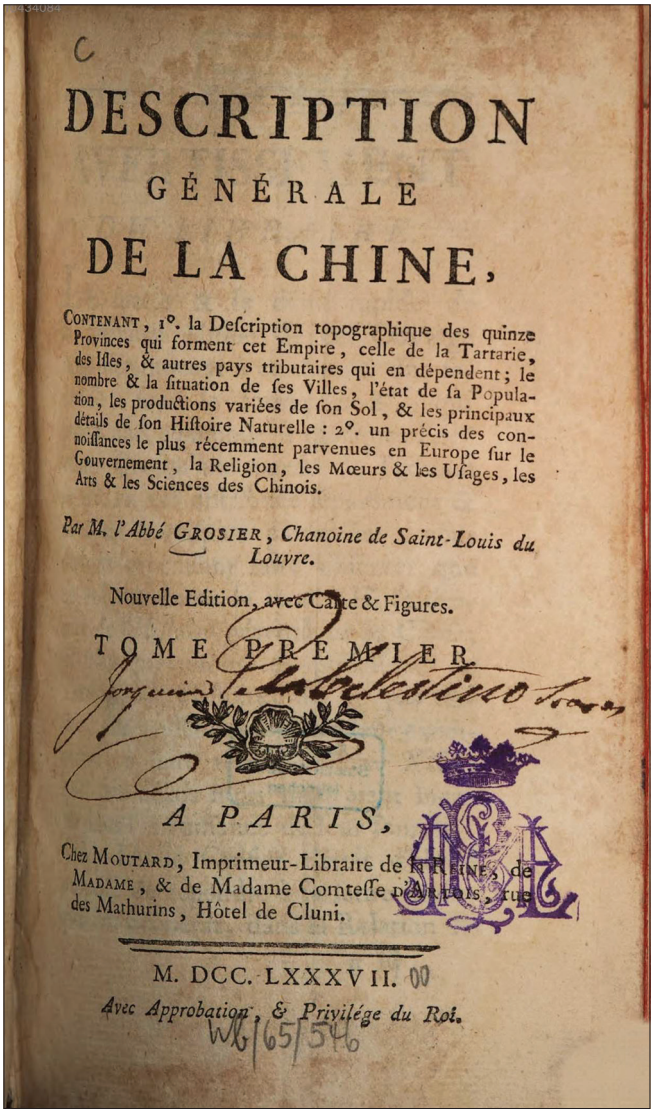
Avec Approbation, & Privilége du Roi.

Figure 1 Title page of the *Description Générale de la Chine* published in 1785

two discussing the religious beliefs of the Chinese people, while volume three dealing with morals and customs, and volume four is connecting with literature, science, and art. After its first publication in 1785, this book was republished in 1787 and 1818–1820. It was also translated into English, German, and Italian. *Description Générale de la Chine* received enthusiastic responses in various European countries and became the best-selling Sinology work in Europe after the *Description Géographique, Historique, Chronologique, Politique et Physique de l'empire de la Chine et de la Tartarie Chinoise* (《中华帝国全志》), representing the highest level of Sinology study in France at that time.

Medicinal Materials Across Areas in the *Description Générale de la Chine*

In this book, its author Jean-Baptiste Grosier paid particular attention to Chinese medicine and leveraged on the first-hand information in the reports and letters sent home by French missionaries from China. He then reorganized and arranged these reports and letters according to his own editing plan and frameworks. This thesis selects the key parts of the book for analysis.


DESCRIPTION
GÉNÉRALE
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Par M. l'Abbé GROSIER, Chanoine de Saint-Louis du Louvre.
Nouvelle Edition, avec Carte & Figures.
TOME PREMIER.
A PARIS,
Chez MOUTARD, Imprimeur-Libraire de LA REINE, de MADAME, & de Madame Comteſſe D'ARTOIS, rue des Mathurins, Hôtel de Cluni.
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Figure 2 Title page of the *Description Générale de la Chine* published in 1787

It can be seen from the book that China's medicinal materials were primarily found in the central plains, the southwest and the northeast regions, including Henan (河南), Shandong (山东), Shaanxi (陕西), Sichuan (四川), Yunnan (云南), and Jilin (吉林). Such records are relatively scattered, with brief introductions described in a few sentences. For example, the author mentions that a white-spotted snake originating in Nanyang (南阳), Henan Province, which was used for medicinal wine to treat paralysis. Niu Huang (牛黄 *Calculus Bovis*) produced in Qingzhou (青州), Shandong Province, was used to treat catarrhal inflammation and stubborn lumps, and Shaanxi Province was rich in Da Huang (大黄 rhubarb). The prosperous province of Sichuan is also famous for Da Huang (大黄 *Radix et Rhizoma Rhei*) and Fu Ling (茯苓 *Poria*). Yunnan (云南) is an important source of herbal medicine in China. Jilin (吉林) in northeast China is famous for producing Ren Shen (人参*Radix Ginseng*).

When introducing trees and plants, this book focuses on some plants' medicinal and beneficial aspects, which enriched the Europeans' knowledge of Chinese flora. The book mentions that locust tree seeds can be used as medicine by soaking the seeds in cow's bile during winter before drying them in the shade for 100 days. Taking one seed a day after a meal can help improve eyesight, darken the hair, and treat hemorrhoids.

Grosier, author of the book, also uses all of the contents in an investigation report related to Chinese tea written by Father Louis le Comte (1655–1728) in the *Nouveaux mémoires sur l'état present de la Chine* (*1687–1692*) (《中国近事报道》) and Grosier consulted almost all of the contents in it.[2] Louis le Comte's detailed that lengthened description of tea in the original book was not indiscriminately copied by Grosier. Instead, he simplified and abstracted key points concerning the medicinal value of the four major types of tea in China. For example, Songluo tea (green tea) can treat multiple diseases, while Wuyi tea (武夷茶) can clean blood and rejuvenate strength.

Piper betle(蒌叶), a climbing vine plant of the family *Piperaceae* in Piper genus, can have its aromatic oil extracted as konjac soy sauce. Its stems and leaves can be used as medicine for warming the middle energizer to harmonize the stomach; thus, directing qi downward to dissipate binds. As introduced by Grosier, the Chinese people use piper betle leaves as a panacea for lung and stomach diseases. Since many provinces in South China suffer from hot and humid environments, the southerners like to wrap lime and betel nut with such leaves as the chewing materials and the mixture of such nut and leaves is able to strengthen the gums, moisturize the throat, purge fire, and prevent asthma.

Another medicinal plant highlighted in the book is Ai Cao (艾草 *Folium Artemisiae Argyi*). It is a plant that grows in different climate and regions. China is the world's largest producer of Ai Cao (艾草 *Folium Artemisiae Argyi*), with a long history of its use in moxibustion. Grosier mentions that there is a widespread custom in ancient China: Ai Cao (艾草 *Folium Artemisiae Argyi*) was first regarded as an anti-evil item, which, on the 5th day of the 5th lunar month, would be hung everywhere to ward off yin pathogens. Later, its medicinal value was gradually discovered. He states that Ai Cao (艾草 *Folium Artemisiae Argyi*) is also called *l'herbe de Médicans* and is roughly divided into four types: common, thorn, wild, and alpine Ai Cao (艾草 Folium *Artemisia*e Argyi) (which only grows on the high mountains in the south). The book written by Grosier specifically points out that Jizhou (蓟州) and Mingzhou (明州) are the two places that produce the best of medical Ai Cao (艾草 *Folium Artemisiae Argyi*), a point similarly recorded in medical books written in Chinese. The book *Ben Cao Pin Hui Jing Yao* (《本草品汇精要》 *Collected Essentials of Species of Materia Medica*) was published in the Ming Dynasty and it stated that "according to the *Ben Cao Tu Jing* (《本草图经》 *Illustration Classics for Materia Medica*), Ai Cao (艾草 *Folium Artemisiae Argyi*) is found in the fields, but now, it grows everywhere, including Daodi (道地 now Tangyin County, Anyang, Henan Province), Jizhou (蓟州 now Jichun County, Hubei Province), and Mingzhou (明州 now Ningbo and around Dan County, Zhejiang Province)". Regarding the medicinal use of Ai Cao (艾草 *Folium Artemisiae Argyi*), Grosier cited Chinese medical books, saying that Ai Cao (艾草 *Folium Artemisiae Argyi*) cures gynecological and obstetric diseases, similar to its European usage. In addition, the juice of the mugwort leaves can treat hemoptysis. Its seeds, when burned to ashes, can cure nosebleeds; it is also effective for dysentery, pleurisy, and spleen-stomach weakness. Its stems and shoots can be used as a substitute for tea for the elderly. "Moxa floss" is a naturally processed product that is made from dried mugwort leaves, which is gray, soft as velvet, fragrant in smell and is suitable for use in moxibustion. According to Grosier's understanding, moxibustion in traditional Chinese medicine (TCM) can treat strokes and sleeping problems, while belts made of moxa floss can treat sciatica. Finally, Grosier introduces to the Europeans the production technique and usage of moxa floss. For example, moxa floss must be made from mugwort leaves picked in the autumn. Moxa floss should be short, soft and thin, which also should be made of sulfur instead of saltpeter. He specifically mentions that acupuncture and moxibustion are commonly combined in northern China, which can cure patients of rheumatism in the legs. This is also usually referred to as "warm acupuncture", by wrapping a mass of moxa floss around the needle handle and putting a small piece of moxa stick around it. Needling synchronizes with moxa floss ignition, thereby simultaneously performing acupuncture and moxibustion.

Medicinal Plants and Chinese Medicinal Materials in Description Générale de la Chine

Moreover, Grosier gave a unique introduction of several well-known herbal medicines, including Da Huang (大黄 *Radix et Rhizoma Rhei*), Dong Chong Xia Cao (冬虫夏草 *Chinese caterpillar fungus*), San Qi (三七 *Radix Notoginseng*), Jue Ming Zi (决明子 *Semen Cassiae*), Ren Shen (人参 *Radix Ginseng*), Fu Ling (茯苓 *Poria*), and Di Huang (地黄 *Radix Rehmanniae Recens*).

Da Huang (大黄*Radix et Rhizoma Rhei*) is a type of medicinal material that Europeans are familiar with, and those of Sichuan Province have the best quality. The botanical characteristics of rhubarb were described in this book. Earlier, Father Dominique Parrenin (1665–1741) obtained knowledge about the plant

morphology of rhubarb from the narratives of the Chinese pharmacists who purchased rhubarb from its place of origin. Parrenin recorded and described the plant morphology of authentic Chinese rhubarb, particularly Sichuan rhubarb and his description was later on relayed in Grosier's *Description Générale de la Chine*. He also introduced how to store rhubarb as a medicine after exposing it to the sun for drying. Since Da Huang (大黄 *Radix et Rhizoma Rhei*) was a medicinal material much valued both in China and Europe, its medicinal properties and uses had been well known to the world, Grosier did not talk too much about it, omitting many details about Da Huang's (大黄*Radix et Rhizoma Rhei*) production process explained by Father Dominique Parrenin in his original letters.

Dong Chong Xia Cao (冬虫夏草*Cordyceps sinesis*) boasts a high medicinal value and a history of more than 1000 years of medicinal use in China. The translation in Grosier's book is transliterated from the original phonetic notation (Hia-tsao-tong-kong) in the French and English versions. The editor explains in the footnote that "the Chinese meaning of this name refers to a plant that takes the form of grass in the summer but a worm in the winter". It is mentioned in the *Description Générale de la Chine* that this medicinal material mainly grows in Tibet and its neighboring provinces of Sichuan, and Huguang, and is exceptionally rare. Dong Chong Xia Cao (冬虫夏草 *Chinese caterpillar fungus*) can fortify the stomach, strengthen the body, and relieve fatigue and its stunning effects amazed the missionaries who came to China. Grosier recounts Father Dominique Parrenin's personal experience. Due to frequent travels during the cold season, he was extremely tired, suffering decreased appetite, insomnia, and fatigue all of which were not alleviated through the various medications he was taking. Later, his friends namely the governors of Sichuan and Shaanxi provinces came to Beijing to meet with the emperor, bringing Dong Chong Xia Cao (冬虫夏草 *Chinese caterpillar fungus*) and teaching him to put the Dong Chong Xia Cao (冬虫夏草 *Chinese caterpillar fungus*) into the belly of a duck to make a stew. After the duck was cooked, the Dong Chong Xia Cao (冬虫夏草 *Chinese caterpillar fungus*) should be taken out, when the medicinal effect of the Dong Chong Xia Cao (冬虫夏草 *Chinese caterpillar fungus*) was infused into the duck meat. After taking this dietetic therapy for 8–10 days, Dominique sensed the miraculous effect and quickly improved his appetite and strength.

Later, Grosier introduces San Qi (三七 *Radix Notoginseng*), a type of readily available herb that primarily grows in Yunnan and Sichuan Provinces and Guizhou. The rootlets of San Qi (三七 *Radix Notoginseng*) grow from the main root and can be used as medicine to treat trauma, hemoptysis, excessive blood loss, as well as smallpox. Grosier states that missionaries in China personally saw patients' pustule wounds heal after taking San Qi (三七 *Radix Notoginseng*), thus indicating its medicinal efficacy.

The *Description Générale de la Chine* claims that Ren Shen (人参*Radix Ginseng*), the "Queen of Plants", is the most precious and rare among Chinese medicinal plants. A detailed description of Ren Shen includes its morphological characteristics, growing environment, distribution areas, harvesting regulations, and market price, together with a brief list of its medicinal effects that the Chinese admire such as eliminating fatigue, restoring strength, alleviating hangover, curing vomiting, fortifying the stomach and digestion, refreshing the brain, and prolonging life.

In addition, in *Description Générale de la Chine*, there is an introduction to Fu Ling (茯苓 *Poria*) and Di Huang (地黄 *Radix Rehmanniae Recens*). The Tuckahoe-related section of the book explains Fu Ling (茯苓 *Poria*)'s characteristics, growing environment, areas of origin, and contraindications, emphasizing that this mild medicinal herb is primarily used to treat liver and lung diseases, asthma, edema, dysuria, and vomiting and that it can warm the core and dissipate cold and helping with a smooth delivery. Di Huang (地黄 *Radix Rehmanniae Recens*) is a medicinal material that Grosier believed to have a strong health-care effect. It is mentioned that Chinese doctors would combine Di Huang (地黄 *Radix Rehmanniae Recens*) with other five types of herbs to make Liu Wei Di Huang Pill (六味地黄丸), something that wealthy people would allegedly take every morning to stay healthy. The original book translates the five types of supporting herbs as aromatics (aromates), cardiotonics (codiaux), diuretics (diulétiques), acidulants (acides), and sleep aids (légers soporifiques) all of which are slightly different from the actual ingredient names used in TCM for this formula: Di Huang (地黄 *Radix Rehmanniae Recens*), Shan Zhu Yu (山萸肉), Mu Dan Pi (牡丹皮 *Cortex Moutan Radicis*), Shan Yao (山药 Chinese yam), Fu Ling (茯苓 *Poria*), and Ze Xie (泽泻 *Rhizoma Alismatis*).

TCM Knowledge in the *Description Générale de la Chine*

In one chapter, Grosier integrates knowledge and records of TCM from the writings of several generations of Jesuits, added his own comments, and summarizes traditional Chinese medical views, diagnosis, treatment experience, and life nurturing and disease prevention techniques. These points played a role in promoting the spread of TCM to the West.

Core ideas

Huang Di Nei Jing (《黄帝内经》*Huangdi's Internal Classic*) mentioned that "the human body has its shape and cannot do without yin (阴) and yang (阳). The five viscera are yin, and the six bowels are yang." This is an important theory in

TCM which reveals that a human being is an organism that consists of opposing yin and yang, with connections within its structure and between different parts. Grosier certainly has an understanding of this theory. He introduces the Chinese belief that the unity of opposites between yin and yang exists in the upper and lower parts, the internal and external parts, the exterior and interior parts, the front and back parts of the human body as well as among the internal organs. Essence and qi constitute the basic materials of the human body, maintaining human life and energy. Later, it briefly explains the theory of the five viscera and the six bowels in TCM where the "five viscera" refer to the heart, liver, spleen, lung, and kidney, constituting the center of the yin, while the "six bowels" refer to the gallbladder, stomach, large intestine, small intestine, bladder, and triple energizer, constituting the center of the yang. Although these organs are divided by form and function, they are not isolated but mutually cooperative and conducive. Therefore, the Chinese believe that the body will not get sick with smooth circulation and unimpeded movement of blood and qi, as well as the harmony of yin and yang.

Theories on diagnostic methods

The *Description Générale de la Chine* describes the four examination methods of "inspection, listening, smelling, inquiry, and palpation" in TCM. Grosier believes that pulse diagnosis is superb and sometimes there is no need to ask the patient too much. By just taking the pulse, the doctor may come to discern where the patient is hurt, and which disease is the most severe to confirm the course and duration of the disease as well as the type of treatment to be given. To help European readers intuitively know the Chinese pulse diagnosis method, Grosier also borrows Jean-Baptiste Du Halde's words, comparing the human body to a musical instrument that would change along with changes to the shape, situation, purpose, and performance fingerings. Accordingly, a person's pulse condition resembles a string, which will emit various tones based on its tightness, height, and strength. From this point of view, a Chinese doctor can determine what conditions of the patient's body is in.

Mechanism of disease and therapeutic principle

Grosier regards TCM as something extensive and profound with an extensive history. Since ancient times, Chinese people have had an excellent tradition of writing medical books upon whose information many famous works have drawn. Moreover, these books provide indispensable resources for European doctors. Chinese doctors believe that since there are many causes of disease and any disease would affect the internal organs from one of which the cause can spread to another. Moreover, the disease progression is complicated. A small lesion can cause others, so the principles of dialectical treatment and seeking the root of the disease should be emphasized in the process of treatment and medication.

Grosier emphasizes that Chinese medicine pays special attention to experience inheritance and summarizes herbal medicine, acupuncture, and moxibustion methods, vaccination methods, life-nurturing methods, and forensic medicine as the strength of TCM. For example, he mentions that China's herbal medicine library covers a wide range of aspects and undergoes a process of standard organization. The *Shen Nong Ben Cao Jing* (《神农本草经》*Classic of Materia Medica*), the earliest known traditional Chinese herbal monograph, recorded the nature, taste, and origin of hundreds of Chinese herbal medicines. Its author Shennong is thought to be the originator of TCM. Moreover, the Chinese people who deeply understand different medicinal properties of Chinese herbs and can flexibly and aptly combine various medicinal materials to treat diseases.

Acupuncture and moxibustion, in Grosier's words, are special treatments in TCM. He mentioned again that the warm acupuncture and moxibustion therapy using Ai Cao (艾草 *Folium Artemisiae Argyi*). He also expresses his confusion about how Chinese doctors determine the acupuncture points needed for the condition, the number of needles, and the needling technique, viewing this as the secret method of acupuncture.

Regarding vaccination method, Grosier mentions that the history of vaccination in China is earlier than that in Europe. The Chinese people, who think of it as a "congenital disease", can identify more than 40 kinds of smallpox and so they can deal with smallpox differently according to the climate, the age of the patients, and the constitution.

For life nurturing, Grosier emphasizes that the Chinese people are in the habit of taking nourishment from food or herbs, believing that nourishment is a necessary means to prevent diseases. In addition, during the period of illness, patients must follow doctors' instructions to control diet and restrain from drinking raw cold water.

Finally, Grosier talks in his book about Chinese forensic medicine. He believes that although the Chinese have hardly ever dissected a corpse, their knowledge is not superficial. Particularly in the forensic appraisal, they have unique techniques that help determine whether a person has died naturally or by brutality in the form of hanging himself or being strangled, getting drowned, or being thrown into the water after being murdered. Even if a corpse is decomposed, they can still complete the autopsy. Since the ancient times of China, quite a number of forensic techniques have been passed down from generation determining the extent of injury; and a bone examination starting with the skin, muscles, and bones damaged premortem or postmortem, thereby providing accurate evidence for the case's conclusion. Moreover, these forensic techniques are worth getting across to the interested Europeans.

Conclusions

The missionaries who came to China in the 17th and 18th centuries introduced relevant knowledge and theories of TCM to Europe, some of which are similar to European medicine theories and have became a focus of European medical circles of the time, such as pulse diagnosis, acupuncture, vaccination, herbalism, among others. However, They reacted rather flatly to other aspects of Chinese medicine and even expressed a certain degree of misunderstanding and distrust.

Judging from the attitudes of the missionaries in China, the Europeans' attitude toward TCM encompassed two viewpoints. One was to belittled and looked down on TCM, thinking that TCM doctors treated patients solely based on their experiences from practices, unwilling to learn the knowledge of other subjects that can aid medical progress, such as philosophy, anatomy, and natural science, which was a huge flaw in the eyes of the Europeans. Even among the relatively enlightened Jesuits, some did not have a natural liking for TCM as they did for other outstanding achievements of the Chinese civilization. In a letter to the French Academy of Sciences, Father Dominique Parrenin mentioned that even Emperor Kangxi of the Qing Dynasty believed TCMs knowledge system to be incomplete without the addition of anatomy knowledge needed to guide doctors in the diagnosis, treatment, and surgical operations of patients. Therefore, this emperor ordered Parrenin to translate a European anatomy book and medical encyclopedia into Manchu.[3] Louis le Comte held a similar view in his *Nouveaux mémoires sur l'état present de la Chine*, saying that despite China's advanced pulse science, a lack of understanding of the anatomy and physics never led to the significant progression of TCM. To gain fame sometimes, doctors would make false claims by adopting superstitious pseudoscience practices.[2] Due to huge differences in medical concepts, ways of thinking, and principles of diagnosis and treatment between Chinese and Western medicine systems, coupled with translation difficulty, some missionaries have developed misunderstandings and negative views toward TCM. When such negative information was transmitted back to France, false opinions were ubiquitously spread, generating prejudices. Especially when "Western scientific circles judged TCM against the European standards based on human anatomy and experimental medicine, they found something vague in such things as the yin-yang theory, the five phase theory, essence, qi and spirit theory, as well as meridian and collateral theory, all of which cannot be intensively elaborated or demonstrated in a laboratory system. Hence, pride and prejudice will uncontrollably reveal themselves."[4]

Another view was to evaluate TCM characteristics and achievements objectively and fairly from the perspective of an inter-cultural comparison, which was the attitude of the missionaries who personally experienced TCM therapies for treating their own illnesses. These missionaries recovered from their illnesses by adopting TCM therapies or taking TCM medications, which further deepened their understanding and trust in TCM as well as their enthusiastic willingness to introduce this unique oriental medicine and pharmacy to the Europeans. For example, the Portuguese Jesuit Alvare de Semedo (1585–1658) mentioned in *The History of That Great and Renowned Monarchy of China* (《大中国志》) that he witnessed several sick priests in Nanjing City and Jiangxi Province who became healthy after their treatment by TCM doctors.[5] Jesuit Jean-Joseph-Marie Amiot (1718–1793) also had a personal experience of recovering from illness by receiving TCM treatment, and he had done a lot of in-depth research on TCM. TCM has a long history in the writings of these missionaries. It is a self-contained system, with outstanding achievements being made in pulse diagnosis, herbal medicine, vaccine, and life nurturing.

In the second half of the 18th century, Grosier came to acquire a more positive attitude toward TCM from within the missionaries' reports when compiling the *Description Générale de la Chine*, delivering an overall positive and objective tone. In this book, he tells the Europeans that the history of Chinese medicine is as old as the empire itself whose people have acquired both superb sphygmology skills and herbal medicine. More importantly, with a scientific and rigorous view of TCM, Grosier admitted its shortcomings and limitations while discarding excessive misunderstanding and depreciation to discover the values and strengths of TCM and that the Europeans can learn from it. He points out that the Chinese are indeed neither great anatomists nor knowledgeable natural scientists. However, this does not hinder the tremendous progress made within their medicine, which amazed the best doctors in Europe. Regarding the underdevelopment of the knowledge of anatomy that has been repeatedly criticized in TCM, Grosier went the other way, using the accuracy of the pulse diagnosis method of Chinese medicine to grasp the disease to infer that, in fact, the Chinese people may have much more knowledge and understanding of anatomy than the Europeans had imagined. Grosier also praises the writing style of the Chinese medical books, especially that in the flora description, stating that when introducing and describing a plant, the Chinese tend to mark its highest-quality place of origin behind the term, as they understand that soil and climate diversity will cause the plant to produce different qualities and effects. Comparatively, Europe's botany research lacks this information, so it is important that the Europeans learn from the Chinese in this regard.

Grosier's introduction of and attention to TCM is partly due to his interest and study in Chinese culture for years and partly because of a focal shift on Chinese knowledge

from historical humanities to practical natural science and technology in France. The writing materials that Grosier mastered primarily came from the missionary reports of the French Jesuits who came to China over the years and their correspondence with Chinese political and academic circles. King Louis XIV sent "Jesuit mathematicians" to China helped establish the dominance of French missionary in 1687. It marked the beginning of the prosperous Catholic missions in China. This event also pointed to an organic combination of missionary Sinology study with diplomatic relations, scientific investigation, and religious dissemination. To cater to the new needs of people from all walks of life in China for domestic and diplomatic affairs, the Jesuits gradually shifted their attentions from traditional Chinese culture to natural sciences, writing more articles on the Qing Dynasty's current affairs, science, techniques, and crop production. Therefore, the frequency of the introduction to China's science and technology became much greater than before. All of these translations provided a solid informational foundation for the incorporation of TCM into Grosier's *Description Générale de la Chine*.

In the late 18th century, when Grosier was writing his book, the "Chinese cultural fever" that had once swept across Europe began to ebb down. Moreover, despite a lingering desire by the common people and within intellectual circles in Europe to comprehensively understand China, some radical Eurocentrists spread hatred and distrust of Chinese civilization. In this regard, Grosier maintained an independent thinking and an objective attitude typical of a scholar, harboring an academic mind featuring open-mindedness, inclusiveness, and mutual respect toward Chinese culture in the missionary Sinology era. He fully recognized China's long history and civilization achievements. His attitude was rare considering that the voices of "Sinophobies" gradually gained traction with the European ideological and cultural circles. Grosier's book recorded various TCM characteristics and provided a fair, impartial review of Chinese science, technology, and medicine that was superior to Europe at the time. This promoted the comprehensive European understanding of TCM and the dialogue between Chinese and Western medicine as well. Together with other methods, theories, and classics of TCM introduced to Europe at the time, his book gave the European scientific community ample sources of knowledge and valuable first-hand materials to re-examine and enrich their own medical system using TCM research. This process is worthy of being written into the history of China-European scientific and cultural exchanges, the history of the spread of TCM to the west, and the history of Western Sinology. Understanding how this 18th-century European Sinology book helped spread TCM to the west will provide us with a practical significance to better implement the national development strategy of TCM and promote TCM to the world.

Translator: Yu Guan (管宇)

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Ethical approval

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Conflicts of interest

None.

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Dissemination of Traditional Chinese Medicine in Germany from an Intercultural Perspective: A Brief Introduction of Franz Hübotter

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Abstract

Traditional Chinese medicine (TCM) is the cultural heritage of all humankind. TCM not only embodies the cultural crystallization of the region and the nation, but also performs the important mission of curing the lives, saving the sick and maintaining the health of the people. In the history of the spread of Chinese medicine to the West, foreign missionaries have played an important role, and researches about this role have continued in China. In the history of Chinese medicine in Germany, there is a pivotal figure named Franz Hübotter (1881–1967), who broke through the deadlock in the academic research of Chinese medicine in the 19th century in Germany, but the discussion on his contribution has been comparatively rare in China. His works and translations are not only of medical value, but are also valuable historically, culturally, and socially. The historical development of TCM has the authenticity of history, the integrity of the environment, and the richness of the times. Medical experts have explored and verified the value of medicine. Translators and scholars are mainly concerned with the dissemination of knowledge from an intercultural perspective. This paper provides a primitive and objective introduction to Franz Hübotter, hoping to trigger off the secondary research among scholars of different professional backgrounds and to expand professional thinking, and then get over the barriers of disciplines.

Keywords: *Contributions to the Knowledge of Chinese and Tibetan Mongolian Pharmacology*, Franz Hübotter, traditional Chinese medicine

Educational Background

On December 5, 1881, Franz Hübotter was born in a family with artistic atmosphere in Weimar. His father Eduard Hübotter (1839–1919) was a court actor, and his mother Hulda (1840–1915) was a Coloratura singer. Three years later, his family moved to Berlin. He had two uncles who were doctors and they surely had an influence on him. From 1892 to 1901, he studied at the Humanistischen Friedrichsgymnasiums Middle School in Berlin. At the same time, he showed a keen interest in linguistics. He learned Hebrew and Polish and began to learn Eastern languages in middle school. At the age of 20, he was formally enrolled by the School of Medicine, University of Jena. He studied in Jena, Berlin, and Heidelberg. In addition to medicine, he also studied Chinese and Manchu languages. Five years later, he received a doctorate degree at University of Jena in 1906 and passed the national medical examination. In 1907, he obtained the medical license.

From May 1907, Franz Hübotter worked as an assistant to the surgeon Professor Fedor Krause at Augusta-Hospital in Berlin. One year later, he worked as an assistant to the brain surgeon Victor Horsley in London. In 1909, Franz Hübotter worked as an assistant to the surgeon Eugéne Doyen in Paris while studying Sinology in Chavannes. In October of the same year, he returned to the Augusta-Hospital in Berlin. In the next few years, in addition to working in the circle of medicine in Berlin, he also participated in various language courses in Leipzig, including Sanskrit, Chinese, Manchu, Tibetan, Arabic, Persian, and Turkish. In addition, he also learned

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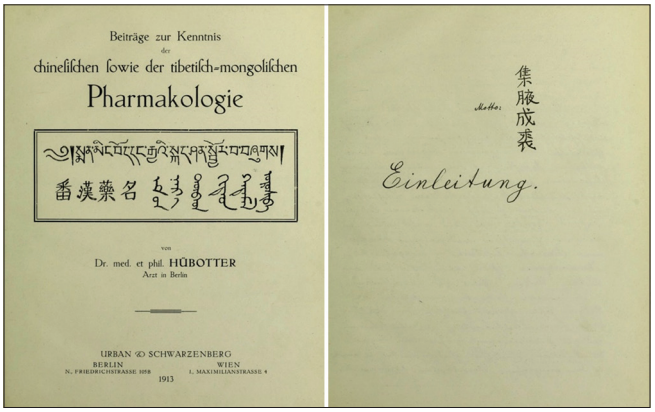

Figure 1 *Contributions to the Knowledge of Chinese and Tibetan Mongolian Pharmacology* translated by Franz Hübotter

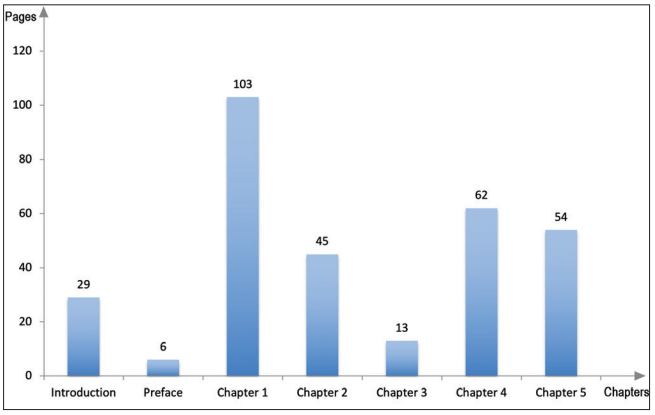

Figure 2 Diagram for the proportion of chapters in *Contributions to the Knowledge of Chinese and Tibetan Mongolian Pharmacology*

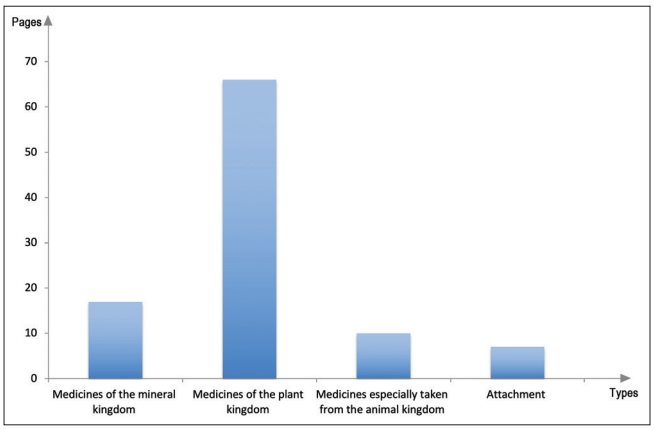

Figure 3 Distribution diagram of dosage form in *Contributions to the Knowledge of Chinese and Tibetan Mongolian Pharmacology*

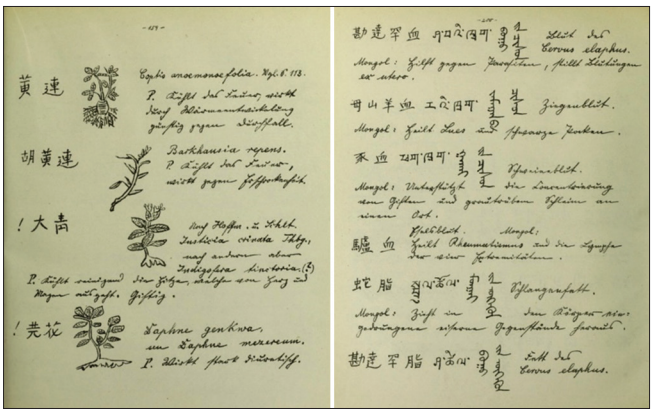

Figure 4 Excerpts from chapter two and chapter three of *Contributions to the Knowledge of Chinese and Tibetan Mongolian Pharmacology*

Italian, Russian, Danish, Swedish, and Japanese by himself, and wrote a doctoral dissertation in linguistics about *Zhan Guo Ce*, and finally received a PhD in Sinology in Leipzig in 1912.

Contributions to the Knowledge of Chinese and Tibetan Mongolian Pharmacology

On June 26, 1913, Franz Hübotter submitted the translation of *Contributions to the Knowledge of Chinese and Tibetan Mongolian Pharmacology* (*Beiträge zur Kenntnis der chinesischen sowie der tibetisch mongolischen Pharmakologie*) for teaching qualification to the University of Berlin. However, the dissertation defense was held in 1914 in the auditorium of the University of Berlin, and the habilitation was not smooth because there was a fierce argument in the process.[1] *Contributions to the Knowledge of Chinese and Tibetan Mongolian Pharmacology* was in the Guan Bu Zha Bu period, when the Mongolian, the Han, the Manchu, the Tibetan, and other ethnic groups had friendly mutual contacts, the opportunities for medical exchanges and bilateral trading of medicinal materials increased among all ethnic groups. In order to encourage the Mongolian people to purchase medicinal materials, Guan Bu Zha Bu *Contributions to the Knowledge of Chinese and Tibetan Mongolian Pharmacology*, a book that recorded 380 kinds of Tibetan and Chinese medicines.[2] The translation of *Contributions to the Knowledge of Chinese and Tibetan Mongolian Pharmacology* by Franz Hübotter has the length of 324 pages. The Introduction of the book was written in German, Chinese, Tibetan, Mongolian, English, and Turkish. The main body of the book is not only the translation of names of these drugs, but also some explanatory manual drawings. What makes this book more interesting is that Franz Hübotter wrote his Motto in Chinese on the title page of the preface: 集腋成裘 (literally, many a little make a mickle) [Figure 1].

Franz Hübotter wrote in the Introduction thus: …A more complete collection of drugs used in Mongol or Tibetan Medicine can be found in Peking, in the shop of Wan J Hao (万亿号) between the British and Russian Legations near the so-called Mongol market.

The proprietor published a list of 365 drugs obtainable at his store, giving the names in Tibetan and Chinese characters

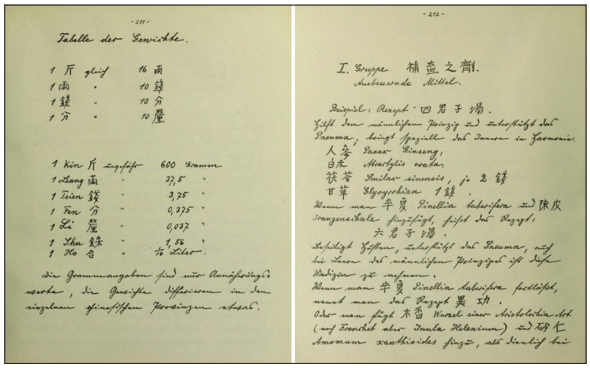

Figure 5 Two pages from chapter four of *Contributions to the Knowledge of Chinese and Tibetan Mongolian Pharmacology*

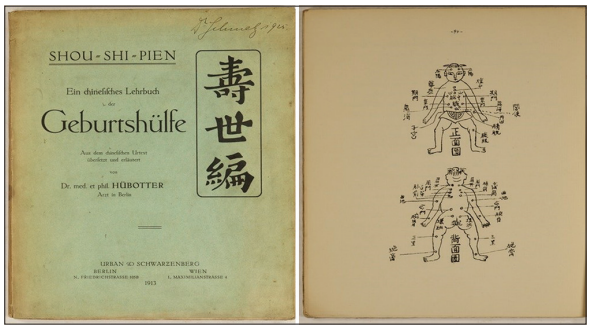

Figure 6 *Formula Compilation for Longevity* translated by Franz Hübotter

Figure 7 *3000 Years of Medicine* by Franz Hübotter

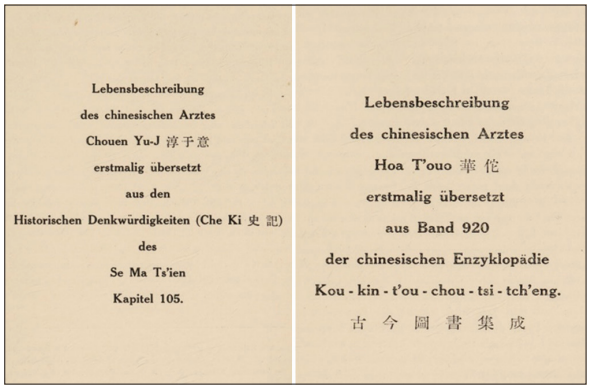

Figure 8 Chun Yuyi and Hua Tuo, two famous Chinese doctors' biographies translated by Franz Hübotter

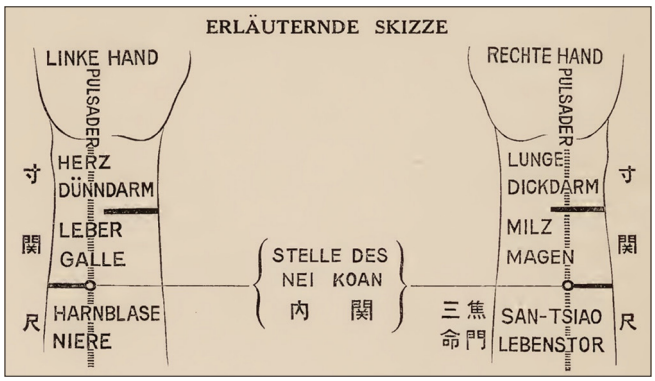

Figure 9 Illustrative rough draft in Chun Yuyi and Hua Tuo, two famous Chinese doctors' biographies, translated by Franz Hübotter

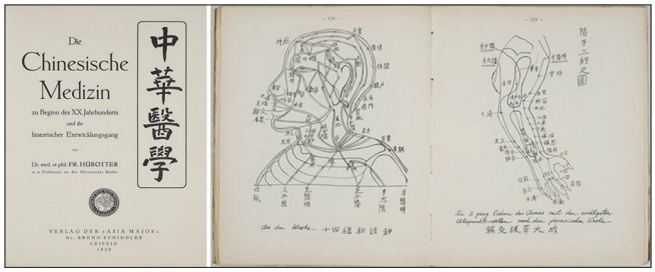

Figure 10 Chinese Medicine by Franz Hübotter

and adding the pronunciation of the Chinese in Tibetan letters: the drugs offered for sale in the shop were not always exactly the same as the original productions of Tibet bearing these names in that country; but their medical virtues were stated to be similar. Purchasers were requested not to suppose that these drugs have been collected without judgment. Besides this, the sellers direct the attention of the public to the advantage of procuring drugs from a great firm instead of buying them in retail shops. The postscript was signed by Gonbedian, Professor of the Tibetan school at Peking.[3]

The body of the book is divided into five chapters as follows [Figure 2]:

a. Tibetan–Chinese pharmacopoeia
b. Plants that are not listed in the Tibetan–Mongolian Pharmacopoeia, but are mostly used in China
c. A range of remedies of animal origin
d. Recipes
e. Indices.

According to the number of pages, the proportion of each chapter is as follows:

The first chapter is subdivided into four categories [Figure 3]:

a. Medicines of the mineral kingdom, e.g., gold, silver, copper, iron, songer shi jade, pearl, and abalone shell
b. Medicines of the plant kingdom, e.g., borneol, camphor, white sandalwood, red sandalwood, Acronychia pedunculata, suxiang incense, and eaglewood
c. Medicines especially taken from the animal kingdom,

Figure 11 Senile figures of Franz Hübotter

e.g., rhinoceros horn, pilose antler, Haibadou, Antelope blood, snake meat, peacock meat, and dragon bone

d. Attachment, e.g., Ulmus macrocarpa Hance, Xietengguo, Baiyicao, mandala, alfalfa, impatiens balsamina, and the root of kudzu vine.

In Chapter 2 of the book [Figure 4], there were plant medicines often used in China but not belonging to the Chinese, Mongolian, or Tibetan medicine system. For instance, walnuts, Chinese azalea, podophyllum, kelp, nanmu, camphor, geranium, daemonorops draco, Coptis chinensis, radix picrorrhizae, Clerodendron cyrtophyllum, and lilac daphne flower bud. In Chapter 3, Franz Hübotter recorded animal medicines from Mongolia: antelope horn, monkey bone, otter liver, groundhog liver, nanny goat liver, wolf stomach, and tongue.

In Chapter 4 of the book [Figure 5], Franz Hübotter translated formulas with different effects, only one prescription for each effect. However, there were many formulas about menstruation and child birth. There was a detailed description in *Shou Shi Bian* (*Ein chinesisches Lehrbuch der Geburtshülfe*) [Figure 6] published in the same year.[4] In the first page of the chapter, Franz Hübotter introduced the unit conversion table.

There were 21 categories of formulas and 51 formulas in total, namely:

a. Tonifying and nourishing formulas: Sijunzi decoction, liujunzi decoction
b. Exterior effusing formula: Renshen baidu powder
c. Interior-relieving formula: Dachengqi decoction
d. Emetic formula: Guadi powder
e. Harmonizing formula: Huoxiang zhengqi powder
f. Exterior–interior formula: Sanhuang shigao decoction
g. Dispersing and supplementing formula: Pingwei powder
h. Qi regulating formula: Buzhong yiqi decoction
i. Blood regulating formula: Xijiao dihuang decoction
j. Wind expelling formula: Xiaofeng powder
k. Cold dispersing formula: Lizhong decoction
l. Summer heat dispelling formula: Liuyi powder
m. Dampness disinhibiting formula: Wuling powder
n. Dryness moistening formula: Soufeng shunqi pill
o. Fire purging formula: Baihu decoction
p. Phlegm removing formula: Erchen decoction
q. Astringing formula: Jinsuo gujing pill
r. Worm killing formula: Huachong pill
s. Sore and ulcer formula: Jinyinhua wine
t. Menstruation and child birth formula: Qianjin baotai pill, antai drink, antai formula, antai dihuang sharen decoction, xiongqiong decoction, penmu pill, xiaoyao powder, xionggui buzhong decoction, foshou powder, supplemented xionggui decoction, mulberry wine, bianchan shenfang, baosheng wuyou powder, shenghua decoction, qinghun powder, shixiao powder, duoming powder, duoming elixir, pingwei powder, yongmai powder
u. Others: Mammary rock, mammary welling abscess, xianluan formula, cough, mammary swelling, sanxian decoction, huashi powder, yongquan powder, gualou powder, and baishaoyao powder.

For the fifth part of the book, the Indices, Franz Hübotter chose to write it in German, Chinese, and Tibetan.

Working Background

Franz Hübotter was qualified as a teacher for defending his thesis on *Contributions to the Knowledge of Chinese and Tibetan Mongolian Pharmacology.* Besides teaching in the University, he worked as a public medical officer at Augusta-Hospital in Berlin from August 4, 1914, to October 1, 1919. In 1916, he married a young nurse Eva Pusch, but Eva died only 4 years after the marriage. Shortly afterward, he was designated to serve as a medical officer on the Russian front. In 1918, he worked in two hospitals of X Army Corps in Hannover and returned to Berlin after the end of WWI in 1919. In 1920, he published *3000 Years of Medicine* in Berlin [Figure 7].[5]

From 1921 to 1925, he taught medicine and German at the medical college at Kumamoto University in Kyushu, Japan. Franz Hübotter married his second wife Annemarie Hornemann (1895–1968) when he was 40 years old. In 1923, his daughter was born and was named Eva probably out of the love for his first wife. The ensuing year saw the birth of his son Fritz.

In November 1925, Franz Hübotter came to Yiyang, Hunan Province of China, as a missionary, and worked as a doctor in a local Norwegian missionary hospital for 1 year and a half while squeezing time for academic research. In 1926,

Franz Hübotter's translation *Two Famous Chinese Doctors, Chunyu Yi and Hua Tuo* (*Zwei berühmte chinesische Ärzte des Altertums Chouen Yu-J und Hoa T'ouo*) was published in Tokyo, Japan, as the 21st volume of the research results of the German East Asian Mission, Part A (Band XXI, Teil A). This is a supplement to the second issue of the seventh volume of the *Archives of the History of Medicine (Archiv für Geschichte der Medizin Band VII, Heft 2, Leipzig 1913),* which was published in Leipzig in 1913. Franz Hübotter used the Couvreur–Zottoli system for Chinese names and expressions in the book. It was the first time that Chunyu Yi and Hua Tuo, the two ancient Chinese doctors, were introduced to the Germans. However, it is obviously clear from the preface that Franz Hübotter is more concerned about the medical value. He wrote: *This book may be the oldest Chinese medical history apart from the Huang Di Nei Jing, but the difference is that Huang Di Nei Jing has only theories and no records of practicing medicine.*[6]

There were totally 48 pages of this book, which were divided into two parts: 26 pages about Chunyu Yi and 17 pages about Hua Tuo. In the first part, Franz Hübotter translated the record of Chunyu Yi (淳于意) from chapter 105 of *Shi Ji* (《史记》*Records of the Historian*). Franz Hübotter translated the Biography of Chunyu Yi in the first 3 pages, especially the classic historical story of Tiying saving his father. After that, he translated the 26 medical records from the earliest medical history record *Zhen Ji* (《诊籍》*Medical cases*) in detail. In the translation, he specifically explained that because Sima Qian (司马迁), the author of *Shi Ji*, was not a doctor, but there were ambiguities that could not be explained in his records of medical records. He maintained this uncertainty in his translation, including its authenticity, and drew explanatory sketches. The second part of the book is about Hua Tuo. Franz Hübotter affirmed Hua Tuo's important historical position and medical value but he found that there were many controversial and contradictory evaluations about Hua Tuo. In his translation from *Gu Jin Tu Shu Ji Cheng* (《古今图书集成》 *Compilation for Ancient Modern Books*) Volume 920 [Figure 8], there was only less than one page of Hua Tuo's biography, but after that, there was a detailed translation of his 23 medical history records [Figure 9].

In 1929, one of his most important works Die Chinesische Medizin was published in Leipzig [Figure 10]. The full name of the book is Die Chinesische Medizin zu Beginn des XX Jahrhunderts und ihr historischer Entwicklungsgang,[7,8] which was completed by Franz Hübotter when he was a missionary doctor in Yiyang, Hunan Province of China. This book has a total of 356 pages and consists of thirteen chapters, including the translation of *Nan Jing* (《难经》*Classic of Difficult Issues*) wrote by Bian Que (扁鹊) and *Bin Hu Mai Xue* (《濒湖脉学》*Binhu's Sphygmology*) wrote by Li Shizhen (李时珍). In the history of German research on Chinese medicine, this book enabled Germany to surpass France in terms of gaining the direct contact with Chinese medicine.[9-11]

In 1930, Franz Hübotter worked as a doctor in Qingdao's Wunsch-Hospital. However, he opened his own private clinic later (with 8 beds, X-ray equipment and a full set of surgical equipment) at No. 36 Jiangsu Road, Qingdao City, Shandong Province, with his family residing away at No. 12 Longkou Road of the same city. Two years later, his clinic obtained a business license, and there was also an American associate, Dr. Don G. Lew, so the clinic was called *Mei De Hospital* (US-Germany-Hospital). The house in Qingdao was renumbered in 1935, so the clinic address was changed to No. 10 Jiangsu Road while the home address was No. 46, Longkou Road. In 1936, his wife returned to Germany with their children because the children were old enough to go to school. In 1938, Franz Hübotter moved the clinic to his home at No. 46, Longkou Road. The American doctor also left. Since then, the name *Mei De Hospital* no longer existed. A year later, the British doctor Dr. Richard Brown joined the clinic, so Franz Hübotter moved to reside at No. 9 Hunan Road and separated his residence from the clinic.

Franz Hübotter returned to Germany in 1953 and was appointed honorary professor of medical history at the Free University of Berlin. He began teaching in the following year. In addition to traditional medicine and homeopathy, he was the first person to usher in Chinese acupuncture and moxibustion to a German university. He taught students traditional Chinese medicine (TCM) and its history, which had a profound impact.[12,13] In 1960, he went to Tokyo, Japan, to give a speech at the Acupuncture Conference. In 1967, Franz Hübotter, the doctor whose work built a bridging communication between Chinese and Western medicine, died in Berlin at the age of 86.

Conclusions

The TCM culture is facing unprecedented historical opportunities, but it must also meet the challenges of the new era. The thriving of education is the basis of national rejuvenation and the rise of the country. The earliest pedagogical work *Xue Ji* (《学记》 *Education*) proposed that to rule the country and bring the people stability, the most important is to carry out moral education. The research on Chinese medicine is constantly changing from its striving by quantity to its strengthening by quality. Taking history as a mirror, we can observe the rise and fall of the important events and learn the lessons. Research on the history of Chinese medicine can help reveal the epoch's meaning of Chinese medicine as well as expand the social potentials of the Chinese medicine. In doing so, it particularly functions to pay attention to its multidimensionality, put it in the world coordinate system, inherit and carry forward the culture of Chinese medicine,

transform people with medicine, educate people with medicine, and enrich the mind with medicine. Franz Hübotter [Figure 11] studied Chinese medicine for more than 50 years, translated a large number of TCM classics into German, and spread the practice of Chinese medicine to Germany. He was good at both theory and practice. Patience, confidence, and perseverance enabled this German researcher of Chinese medicine to become a landmark doctor in history, especially in the 19th century when Western medicine held the decision-making position in the medical field. Under such Eurocentric circumstances, Franz Hübotter still made his choice of learning about Chinese medicine. His choice is more than a personal attitude but it represents a historical perspective that goes beyond time and space. And that made all the difference.

Translator: Shu-Na Zhang (张淑娜)

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The author has no ethical conflicts to disclose.

Conflicts of interest

None.

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Shared Wisdom about Health Preservation in Traditional Maltese and Chinese Proverbs

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Introduction

Health preservation plays a vital role in traditional Chinese medicine (TCM), and it is dealt with several times in the TCM classic *Huang Di Nei Jing* (《黄帝内经》 *Huangdi's Internal Classic*) compiled thousands of years ago. For example, the chapter *Discourse on the True Qi Endowed by Heaven in High Antiquity* contains the following description:

> The sages in ancient times who knew the tenets for cultivating health followed the rules of yin and yang and adjusted the ways to cultivate health. They were moderate in eating and drinking, regular in working and restraint, and avoiding any overstrain. That is why they could maintain a desirable harmony between the mind and the body, enjoy good health, and sustain a long life.[1]

Many other well-famed doctors and thinkers throughout the history have contributed inspirational sayings aiming at preserving health. The great physician Zhu Zhenheng (朱震亨) in the Yuan dynasty (1271–1368) observed in his book *Dan Xi Xin Fa* (《丹溪心法》 *Danxi's Experiential Therapy*) that: "It is better to take preventive measures ahead of the disease rather than treat the disease after it occurs (与其救疗于有疾之后, 不若摄养于无疾之先)."[2] with the emphasis of this observation being on the significance of disease prevention. However, these classical intellectual sayings are not well known to most Chinese people as classical form of the Chinese language is no longer in the current use.

In contrast to the intellectual teachings of scholars, there are proverbs concerning health preservation, which are often passed down from one generation to the next. They are simple and concise, making it easy for them to be understood and memorized. These proverbs summarize Chinese people's practical experience and are guided mainly by TCM theories. Bearing truths about life and profound life enlightenment, they are the crystallization of national wisdom, and an indispensable part of the extensive TCM culture.

The Republic of Malta (Maltese: Repubblika ta' Malta) is a Southern European country consisting of an archipelago situated in the center of the Mediterranean. The Maltese also have their unique traditional methods and principles for preserving health and well-being, and these principles are also passed down by oral tradition in the form of proverbs. In comparison, both in China and Malta, proverbs about health preservation are effective representation of medical culture. These proverbs represent concepts relating to survival and longevity in the two geographically separated countries. They advise us to change our inappropriate habits and develop a healthy lifestyle, thus making an important contribution to maintaining and restoring health. China and Malta, located on two different continents over 9000 km apart, share many common ideas about traditional health preservation, and many of the Maltese medical proverbs find echoes in the sayings of China. In terms of diet, both populations advocate against binge eating. For lifestyle, both groups of proverbs emphasize maintaining a peaceful mind and having a regular daily timetable with sufficient time for rest. Both cultures highlight the importance of disease prevention.

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Comparison of Maltese and Chinese Proverbs

Moderation in eating and drinking

Food is essential for maintaining health and well-being, but most proverbs concerning diet advise moderation in eating and drinking. The two cultures of Malta and China have near-identical proverbs advising a balanced diet and avoiding excessive eating [Table 1].

According to the TCM classical work *Qian Jin Yao Fang* (《千金要方》*Essential Prescriptions Worth a Thousand Gold Pieces*), overeating may cause stagnation, and drinking too much can cause phlegm-turbidity (饮食过多则聚积, 渴饮过多则成痰),[4] which indicates that moderate eating is of significance for health. In TCM, the spleen and stomach are the acquired foundation governing the transportation and transformation of water and food. They convert food into nutrients and distribute the nutrients to the entire body, thus giving the body sufficient qi and blood. Binge eating is thought to create an extra burden for the spleen and stomach so that food cannot be digested in time. This can affect the absorption and distribution of nutrients. Furthermore, spleen and stomach function can be damaged by binge eating, which in turn impairs the production and transformation of qi and blood.

Keeping a Peaceful Mind and Regularity in Rising and Resting

When it comes to lifestyle, we follow the rules of Yin and Yang and avoid emotional disturbances. The *Huangdi's Internal Classic* explains the circadian rhythm as follows: "When Yang-qi is exhausted and Yin-qi is abound, one falls asleep. When yin-qi is exhausted and yang-qi is abound, one wakes up (阳气尽, 阴气盛, 则目瞑, 阴气尽而阳气盛, 则寤矣)."[5] In the process of physical exertion, dissipation of yang-qi within the body leads to fatigue. Gradually, the brain goes into a state of inhibition, and one will enter the sleep stage. After sufficient sleep, fatigue has been eliminated. The brain moves from a state of inhibition to excitement, and one will wake up and start a new day. Working as much as possible during the day is conducive to sufficient inhibition of the brain at night, thus improving the quality of sleep and ensuring plentiful energy for the next day. Therefore, many proverbs in both Chinese and Maltese languages advise that rising and resting should have a regular pattern [Table 2]. Essentially, they advise against staying up late and not hitting the "snooze" button when it is time to rise.

Emotional disturbance is also associated with medical conditions. The chapter *Comprehensive Discourse on Phenomena Corresponding to Yin and Yang* in *Huangdi's Internal Classic* advises that:

> Too much anger damages the liver; overjoy damages the heart; excessive thinking damages the spleen; extreme grief damages the lung; and extreme fear damages the kidney (怒伤肝, 喜伤心, 思伤脾, 悲伤肺, 恐伤肾).[6]

To maintain health, we should keep a peaceful mind. With quiet peacefulness and absolute emptiness, the true qi follows. When essence and spirit are guarded internally, where would disease arise from?

Preventive Treatment/Disease Prevention

The chapter titled *Comprehensive Discourse on Regulating the Spirit in accordance with the Qi of the Four Seasons* in the *Huangdi's Internal Classic*, observes:

> The sages did not treat those already ill but treat those not yet ill. They did not put in order what was already in disorder, but put in order what was not yet in disorder. Drugs are employed for therapy only after a disease has become fully developed and attempts at restoring order are initiated only after disorder has fully developed. Doing so is just like digging a well when one is thirsty and casting weapons when the fight is already on. Would this not be too late?[1]

In reviewing the popular proverbs of the Maltese and Chinese cultures [Table 3], we can see that people have considered disease prevention a priority since ancient times. Disease prevention aims to strengthen the immune system and to avoid contracting pathogenic factors. TCM has long promulgated the notion of early intervention or "nipping diseases at their budding."

Table 1 Maltese and Chinese proverbs relating to moderation in food intake

Traditional Maltese proverbs[3]	Traditional Chinese proverbs
Min jibla' wisq imut qasir il-għomor (He who eats too much dies young)	吃少养命，吃多害命 (Eating less can live longer; eating too much will reduce life expectancy)
Bla ikel tmut, u l-ikel bosta jmewwet qasir il-għomor (Without food one dies, too much food cuts life short)	少吃香，多吃伤 (Eating less, one will feel that the food is delicious; eating too much will cause harm to the body)
Aktar tmut in-bies bix-xaba' u le bil- ġuħ (More people die from too much food than of hunger)	晚饭少一口，活到九十九 (One can live to 99 years old if eating one-mouthful less at supper)
Iż-żejjed (ħu in-) bħan-nieqes (Excess is similar to deprivation)	爆饮爆食易生病，定时定量保康宁 (Binge eating may cause diseases; moderation in eating can maintain health)

Table 2 Maltese and Chinese proverbs relating to maintaining a peaceful and regular way of life

Traditional Maltese proverbs[3]	Traditional Chinese proverbs
Minn ibakkar fil-għodu jista' jorqod fil-għaxija (He who starts work early in the morning can sleep during the night)	颠倒阴阳，早见阎王 (To overthrow yin and yang is to visit the king of hell)
Bakkar u ishar [waħħar] (Get up early and keep on working till late)	人勤病就懒，人懒病就勤 (If one is hardworking, he will not often get sick. If one is lazy, he will often fall ill)
L-irqad jagħmel il-ħmira (Sleep makes the yeast [i.e., regenerates new energy])	懒散易生病，勤劳可健身 (Working hard helps one to keep healthy; laziness makes one get sick easily)
Għix bil-mod u tgħix ħafna (Live easily and you will live a long life)	欲寡精神爽，思多血气伤 (Keep a peaceful mind and one will be healthy; excessive desire and thought will damage one's qi and blood)
Il-marda li wieħed l-aktar jibża' minnha aktarx imut biha (One generally dies of the illness one dreads most)	天天不发愁，活到百出头 (Don't worry every day and one can live to over a hundred years old)
Daħka bżonnjuża daqs ix-xemx (A good laugh is as useful as the sun)	吃洋参，不如睡五更 (Getting enough sleep is better than eating ginseng)

Table 3 Maltese and Chinese proverbs relating to preventive medicine

Traditional Maltese proverbs[3]	Traditional Chinese proverbs
Il-mard trid tilqagħlu (One must take preventive measures against illness)	有病早治，无病早防 (Take preventive measures before a disease occurs; treat the disease at its early stage when it occurs)
Kulħadd tabib tiegħu nnifsu (Everyone is his own doctor)	只忙治病不忙防，没有忙到点子上 (It is more important to present a disease than to treat it)
Fejn tidħol ix-xemx ma jidħolx it-tabib (Where the sun enters, the doctor does not)	常常晒太阳，身体健如钢 (Often sunbathing, one will be as strong as steel)
L-indafa oħt il-qdusija [is-saħħa] (Cleanliness is sister to healthiness)	预防肠胃病，饮食要干净 (To prevent gastrointestinal diseases, eat clean)

Conclusions

Proverbs are simple, concrete, and traditional sayings that express a truth based on common sense or experience. They are often metaphorical and use formulaic language. Collectively, they form a genre of folklore that reflects the communal accumulation of knowledge throughout the ages and cover a wide range of topics including healthy living and lifestyle. The practical experience and wisdom of a nation are captured in enlightening proverbs, especially those about preserving health. These proverbs have played, and will continue to play, an irreplaceable role in warning us about the importance of preserving our health. The similarity between the concepts conveyed in Chinese and Maltese proverbs, despite the significant geographical distance between the countries, suggests that cultures tend to reach similar conclusions regarding healthy living principles. Unquestionably, the ideas common to Chinese and Maltese cultures can benefit communication in TCM in relevance to lifestyle patterns.

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Authors' contributions

Jing-Bo Lu conceived of the study and designed the study. All authors were involved in writing the manuscript.

Ethical approval

The authors have no ethical conflicts to disclose.

Conflicts of interest

Charles Savona-Ventura is an editorial board member of *Chinese Medicine and Culture*. The article was subject to the journal's standard procedures, with peer review handled independently of this editorial board member and his research groups.

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Chinese Medicine and Culture (ISSN: 2589-9627; CN: 31-2178/R9) is a journal in English jointly sponsored by the Shanghai University of Traditional Chinese Medicine and the China Association of Chinese Medicine and supervised by the Shanghai Municipal Education Commission. As the only academic journal devoted entirely to the humanities nature of the traditional Chinese medicine (TCM), the journal seeks to reflect and interpret TCM by sketching its cultural origins and traditions, communicating the broader underlying humanistic significance, shaping and framing the international discourse on Chinese medicine, and promoting the interaction and exchange between TCM and the diverse medical cultures in the world. By teaming up in recent years with universities and research institutions outside of the Chinese mainland, the journal has made notable advances in delivering high quality editorial content and promoting academic impact. The Memorandum of Understanding that the journal entered into with the editorial board of *Acupuncture & Moxibustion* (France) in 2019 helps to expand the reach of the journal to the Confucius Institutes, the China Cultural Centers and the Chinese Medicine Centers in many countries other than China. The journal is included in the following abstracting and indexing databases: DOAJ, EBSCO Publishing's Electronic Databases, Ex Libris - Primo Central, Google Scholar, Hinari, Infotrieve, Netherlands ISSN Centre, ProQuest, TDNet, Baidu Scholar, CNKI (China National Knowledge Infrastructure), Wanfang Data. In 2019, soon after its official publication in the Chinese mainland, Chinese Medicine and Culture was listed among the "Excellence Action Plan for Chinese Sci-tech Journals", further enabling the journal to become an established platform for TCM to meet the world by providing a new platform for international academic exchange in the field of TCM.

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