

Health, Hygiene and Diets: Medical Missionaries and the Daily Life of Shanghai Residents (1870—1938)

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Abstract: Throughout the nineteenth and twentieth century, China was the main area of western medical missions. Medical missionaries, one of the largest cross-cultural groups, left a wealth of records in a foreign land. In this article the author explored how the housing, environment, drink and diets habits of British medical missionaries in China spread the western medical knowledge, and how the medical missionaries constantly recognized, interpreted and improved the health concept toward Chinese in their daily life. The intercultural communication of medical knowledge between China and the West enriched the western public health theory on the one hand, and promoted the establishment of modern public health system in China on the other hand.

Key Words: Medical Missionary; Intercultural Communication; Shanghai Hygiene; Diets and Health; Daily life

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1. Introduction

Christian religion had a strong cosmopolitan tendency since its birth, and adhered to a basic purpose, that is, the birth of Jesus Christ was not only to save the fate of Israelis, but also to save the fate of mankind. The preaching history of Christianity experienced a space-time process from past to present from individual behavior to group ministry. Before the Industrial Revolution, missionary activities were greatly limited by geographical barriers, traffic restrictions and language barriers. Only from the late eighteenth century to late nineteenth century, with the rise of capitalism, the improvement of transportation, the prosperity of commerce and trade, and the reforms within the church, the Evangelical Revival of Christianity (including Pietism in Germany, the Great Awakening in North America, and the Evangelism in UK) inspired the enthusiasm of Protestant Christianity to preach abroad. It was against this background that British medical missionaries came to China.

During this Global Evangelism movement, Christian missionaries made many contributions in education, publishing and medical services. The western medical missions of protestant missionaries occupied an important position in the history of Christianity and of medicine in modern China. Since the introduction of western medicine by missionaries, both colonist and indigenou people have greatly changed their epistemic configurations of Chinese medicine. According to a survey by the

China Medical Commission of the Rockefeller Foundation in 1916, Protestant missionaries supported 265 hospitals, 386 dispensaries, 420 physicians, and 127 nurses in China.^[1] It means that most missionaries to China were medical missionaries. Foreign medical missionaries became the dominant organizing force in modern medical education and health services in China in the early decades of the twentieth century.^[2] Missionaries believed that help China with medical reformation is the best way to carry out their mission.

However, the academic researches always limited by the previous research perspectives. Previous studies of the Christian medical missionary activities were mainly focused on three themes: biographies of several famous medical missionaries,^[3] the medical enterprises of missionary society (i. e., hospital, dispensary, medical school),^[4] and modernization issues of Chinese medicine during the introduction period of western medicine.^[5] Most Chinese researchers could not read the Primary English sources left by the missionaries. Thus, their analysis lacked the following points: the experiences and living environments of medical missionaries after coming to China, the attitude of all social strata in China towards western medicine, and the question of how medical missionaries reconciled the differences and conflicts between Chinese and western medicine.

The London Missionary Society sent its first Protestant missionary to China in 1807, and regarded medical missions in China as an important way of evangelism. Along with Protestant Christianity, the social charity affairs were also an important activity of the Catholicism in China. "It is estimated that by 1937, there were more than 70 French Catholic hospitals in China, with 5,000 beds."^[6] In order to focus on the main topic, this dissertation only takes the Protestant missionaries as the research object. To examine Chinese concepts of hygiene and health in a broad transnational context. It aims to provide rich intercultural histories about the comparative concept of daily health.

[1] Sean Hsiang-lin Lei, *Neither Donkey nor Horse: Medicine in the Struggle over China's Modernity*, 47.

[2] Lei, *Neither Donkey nor Horse*, 47.

[3] Dugald Christie, *Thirty Years in Moukden, 1888-1913. Being the Experiences and Recollections of Dugald Christie*, C. M. G (London: Constable and Company, 1914); W. Arthur Tatchell, *Healing and Saving: The Life-Story of Philip Rees* (London: Pickering & Inglis, 1914); J. C. Keyte, *Andrew Young of Shensi: Adventure in Medical Missions* (London: The Carey Press, 1924); W. Arthur Tatchell, *Booth of Hankou: A Crowded Hour of Glorious Life* (London: Charles H. Kelly, 1915).

[4] Rev. W. Arthur Tatchell, Hon. E. H. Fraser, *Medical Missions in China; in Connexion with the Wesleyan Methodist Church* (London, Robert Culley, 1909); Cui Dan, "The Cultural Contribution of British Protestant Missions to China's National Development During the 1920s" (PhD diss., University of LSE, 1998); Shing-ting Lin, "The Female Hand: The Making of Western Medicine for Women in China, 1880s-1920s" (PhD diss., Columbia University, 2015)

[5] 梁其姿 Angela. K. C. Leung, 《医疗史与中国“现代性”问题》Yiliaoshi yu Zhongguo xiandaixing wenti [History of Medicine and China's Modernity], 《中国社会历史评论》Zhongguo shehui lishi pinglun [China Social History Review], no. 8, (2007): 1-18; 杜丽红 Du Li-hong, 《世界现代公共卫生史的兴起与近代中国相关问题的研究》Shiejie xiandai Gonggongweisheng de xingqi yu xianguan wenti de yanjiu [The Booming of Modern World Public Health History and Relevant Issues in China], 《河南大学学报》(社会科学版) Henan daxue xuebao shehuikexue ban, [Journal of Henan University (Social Science Version)] 57, no. 6 (2017): 50-59.

[6] 顾卫民, Gu Wemin, 《基督教与近代中国社会》Jidujiao yu jindai Zhongguo shehui [Christianity and Modern Chinese Society], (上海 Shanghai: 上海人民出版社 Shanghai renmin Chubanshe [Shanghai People's Publishing House], 2010), 389. You Xilin and Paulos Huang, "The Contemporary Transformation of Educational Mechanism for Knowledge Innovation", *International Journal of Sino-Western Studies* ([www. SinoWesternStudies. com](http://www.SinoWesternStudies.com)), 1-20.

2. Three Important Stages of Medical Missionary Studies About China

As the medical activities of protestant missionary societies in China gradually developed over time, the academic research on the Protestant medical missionaries in China also showed different characteristics in different stages. The first stage (the middle and late 19th century) was the early stage of medical missionary research. In this stage, medical missionary researchers were mainly missionaries themselves or experts in the study of church history. This part of the studies was mostly comprised of accounts, reports or recollections of historical facts. The Chinese Repository, founded in 1832, published reports on hospitals founded in China and articles about missionary medical services for local people. Many newspapers and periodicals in bilingual editions (both in Chinese and English version) run by missionaries in the early period, such as Chinese Monthly Magazine, Eastern Western Monthly Magazine, The Chinese Recorder and The China Medical Journal, etc. The early medical missionaries shared their studies, thoughts, feelings with other colleagues in those journals and newspaper. These primary sources provided rich information for us to understand this group. The above publications included integrated records of missionary medical practices in China during that period. Most of these works were historical records. The contents related to the church's medical enterprise which focused on its contributions to evangelization or dissemination of professional medical theories, and was sufficient for recording the unique functions of Chinese herbs, folk treatments, etc. So, the works in this period showed us many primary sources. People can figure out the difference between Western modern medicine and Traditional Chinese Medicine. Moreover, people can explore how different culture understand “advanced” and “backward”.

The second stage (the first half of the 20th century) saw the emergence of relatively professional academic studies of Christian medical history. Donald MacGillivray, for example, published numerous investigations and reports on his field trip to China, including some translated works. He described different protestant denominations in China, including the history of their propaganda activities, medical and health services, publishing business, education works and some detailed recordings.^[7] Kenneth Latourette made a comprehensive and in-depth study of the history of Christian Missionaries in China.^[8] He discussed the medical undertakings of Christianity and Catholicism in China in different periods. W. A. Tatchell specialized in medical enterprise studies. With a humorous writing style, he showed the development of missionaries' medical careers in different regions of central, eastern, southern and northern China. He also thought that history should be made up of living stories, and that missionaries should do their best to ‘add flesh and life’^[9] in writing history.

Some scholars in this period also devoted themselves to the introduction of missionary hospitals. William Cadbury^[10] wrote a book which introduced the hundred-year-old history of Canton Hospital.

[7] D. MacGillivray, *A Century of Protestant Missions in China*, (London: Society for Promoting Christian Knowledge, 1929).

[8] K. Latourette, *A History of Christian Mission in China*, (London: Society for Promoting Christian Knowledge, 1929).

[9] A. Tatchell, *Medical Missions in China; In Connexion with The Wesleyan Methodist Church*, (London: Robert Culley, 1909), introduction, 11.

[10] W. W. Cadbury, *At the Point of a Lancet: One Hundred Years of the Canton Hospital, 1835-1935*, *JAMA* 108, no. 4 (1937), 327.

During the period of the Republic of China, the English version of History of Chinese Medicine written by C. Wong and L. W was an important book of introducing Chinese medical science to the West. Here, the authors made full use of the literatures of church and other historical sources to systematically describe the developments and changes of the church medical career^[11]. Similarly, B. X. Chen's Medical History of China, was the core text exploring the standard of church medical education at that time.^[12] However, these two books focused on the knowledge of medicine and neglect the history of the church and its influence on China^[13]. One of the earliest historians to connect Christian missionaries with medical development was Z. X. Wang, who was a Christian.^[14] He argued that China has been a country with many religions coexisting since ancient times. Since Confucianism, Buddhism and Taoism can all exist and develop in China, Christianity would certainly survive in China.^[15] The above works introduced the development of Chinese medicine in modern times and served as the basis of case studies of the history of health and hygiene in Shanghai.

By contrast, medical enterprises of protestant missionaries were relatively more studied outside the mainland China, which is the third phase of research (since the 1980s). In the framework of cultural exchange, infiltration and adjustment, these scholars tried to interpret the cultural, ideological and institutional changes caused by medical activities in China'.^[16] Li discussed the influence of Christianity on the image building of China in the context of globalization by combining religious studies and sociology.^[17] From the angle of pedagogy, Hu thought that the missionaries who came to China in modern times provided various guidance and ideas for China's educational reform, which objectively played a role in spreading advanced scientific and cultural knowledge for Chinese people.^[18] The existing primary sources about Chinese medicine mainly come from local chronicles, dynastic annals, private poems/notes, medical books. Most of their authors were not professional doctors, and moreover when these archives were used by scholars of 'non-historical' background, as a result, the descriptions of 'disease' were often replaced by a rough narrative of social panic, social tragedy of mass deaths, or all kinds of rumors and mysterious superstitions among the patients. In other words, humanists may lack the objectivity of naturalists' description of things. The value of Traditional Chinese Medicine in Chinese history was easily overlooked.

[11] 李传斌 Li Chuanbin,《20 世纪基督教在华医疗事业研究综述》Ershi shiji jidujiao zaihua yiliao shiye yanjiu zongshu [The Summary of the research of Christian Medical Enterprise in China],《南都学坛》Nanduxuetan [Academic Forum of Nandu], no. 4 (2006), 34.

[12] Ibid. ,p. 34.

[13] Ibid. ,p. 34.

[14] 王治心 Wang Zhixin,《中国基督教史纲》Zhongguo jidujiao shigang [The Outline of Chinese Christian History] (上海 Shanghai: 青年协会书局 Qingnianxiehui shuju [Youth Association Book Company], 1940), 323-338.

[15] 徐以骅 Xu Yihua,《教会史学家王治心和他的〈中国基督教史纲〉》Jiaohuishi xuejia he tade Zhongguojidujiaoshigang [Church historian Wangzhixin and his Outline of Chinese Christian History],《中国现代史论文集》Zhongguo xiandai shi lunwenji, [Essays on Modern Chinese History], ed. CCNU (Wuhan: CCNU press, 2005), 550.

[16] 陶飞亚, 杨卫华 Tao Feiya, Yang Weihua,《基督教与中国社会研究入门》, Jidujiao yu zhongguo shehui yanjiu rumen [Introduction to Christianity and Chinese social studies], (上海 Shanghai: 复旦大学出版社 Fudan daxue chubanshe [Fudan University, 2009], 101.

[17] 李向平 Li xiangping,《社区信仰方式: 教会与社会的双重建构》[The Bidirectional Construction of 'Church' and 'Society': The Problem of Socialization of Christianity in Contemporary China], <https://www.christiantimes.cn/news/34302/%E2%80%8B>

[18] 胡卫清 Hu weiqing, 民族主义与近代中国基督教教育 Minzuzhuyi yu jindaizhongguojidujiaojiaoyu [Nationalism and Christian Education in Modern China],《石河子大学学报》Shihezhidaxuexuebao [Journal of Shihezi University], no. 2 (2001): 12.

Before the birth of bacterial theory in the 1860s, due to the cultural differences, the dissemination and acceptance of other technology always requires a process. ‘Bedside medicine’, which was based on the patient’s life history, remained an effective method commonly used by medical missionaries in late twentieth century of China. In this case, due to the different habits of observation, thinking and writing style between the western people and Chinese people, western records were more specific and extensive, and they paid more attention to all levels and aspects of society, which supplementing the deficiencies in Chinese sources. The description of every ‘medical case’ wrote by way of ‘Beside medicine’ provided plenty of details patients’ diets, drinks and other living habits.

In the past ten years, more scholars have examined how Traditional Chinese medicine played an active role in promoting the development of western medicine theory (i. e. , healing practice). That is to say, the communication between China and the West is a process of two-way interaction. Traditional Chinese Medicine is not only a carrier, but also as a receiver, so is Western medicine. Bridie Andrew astutely noted that Chinese medicine was almost more clinically efficacious than Western medicine during most of this period. ^[19]

There are plenty of Christian missionary archives such as the mission reports, conference records, historiography of Protestant activities, autobiographies and diaries, which are all stored in the School of Oriental and African Studies (SOAS), and scatters in other printed publications, such as Medical Reports of Customs Gazette, The China Medical Journal, The Chinese Recorder and Missionary Journal and The Medical Missionary Record. Descriptions of missionaries’ daily life in those archives can reflect complex relationship between the overseas headquarters of the mission society in the UK and the branch of indigenous church in China. Clarifying the context of British missionaries’ activities in China, alongside an evaluation of their activities, provides a more nuanced understanding of the Christian medical services in China at that time.

3. Housing and Health

In the early nineteenth century, ‘public health’ in Britain was a matter for radicals for British. ^[20] Edwin Chadwick, the leading figure of British public health movement, thought that the relationship between disease and poverty presented vicious relations. In other words, the deterioration of the social or natural factors (food, water, clothes and housing) was easy to increase the possibility of illness. So, he believed that the government should not only improve medical technology, but also the level of social management (by improving ventilation, cleaning cookware and equipment, and concentrating waste treatment to improve housing conditions), so as to prevent the spread of diseases among the working population.

At the end of the nineteenth century, the most important contribution of medicine was the establishment of ‘germ theory of disease’, through the work of Louis Pasteur of France and Robert

[19] Bridie Andrews, *The Making of Modern Chinese Medicine, 1850-1960*, (Vancouver: UBC Press, 2014), 213-217.

[20] Roy Potter, *The Cambridge Illustrated history of medicine* (Cambridge: Cambridge University Press, 2001), 319.

Koch of Germany. ^[21] Hence, if the 1930s was the ‘era of public health’, then this period would be the ‘era of laboratory’. ^[22] It was an remarkable sign of the development of medicine to use experimental means, technological innovation and natural science research results to reveal the mysteries of the human body and explore pathology to prevent diseases.

In the last decades of thenineteenth century, the laboratory discovered a new pathogenic microorganism every few months. The new discoveries were introduced and translated into China in a very short time by medical missionaries, which attracted the attention of some Chinese doctor colleagues. Although the germ theory was born in the West, Chinese society had its own experience in disease preventions and hygiene practices. Many Chinese traditional festival customs were related to epidemics prevention, such as burning *Atractylodes lancea*^[23], drinking or spraying realgar wine (Wine mixed with arsenic sulphide, people drink it to protect themselves from illness), eating onions, ginger, garlic and so on. Cleaning, bathing and changing new clothes to keep personal hygiene was also needed in some important festivals. In the middle and late nineteenth century, Chinese people had almost no concept of bacteria. John Dudgeon once wrote, ‘They (farmers who lived in villages) often kindle a large fire in the Kang (or the bed platform was made of the earth in the North of China.) to destroy or drive away the poisonous air’. ^[24] Obviously, the cognition of disease in China was very similar to the miasma theory in the West. Dudgeon also recorded that smallpox broke out in winter because fur or cotton gowns were redeemed from pawn shops, where they have been stored since spring, and toxic substances were also stored in warehouses. ^[25]

Another missionary of London Church in the UK, John Macgowan, came to China in the late Qing Dynasty and lived and traveled around for about 50 years. He said:

Almost every Chinese can become a doctor with some medical knowledge he has mastered. In fact, when you find that someone can modestly claim to know little about medical skills, it will surprise you. A Chinese with a dirty and oily face, clothes covered with dirt, and so dirty that you don’t want to touch them with a pair of hands, has attracted your attention. He is an ordinary laborer, without superhuman intelligence, and it is easy for you to dismiss and not want to get along with him. But at this moment, someone will whisper in your ear that he is a famous amateur doctor and has cured many people’s diseases! ^[26]

As late as the 1880s and 1890s, knowledges of bacteriology were simply confined to professional medical journals, and the general public avoided disease only based on custom in China. The relationship between housing and health has already been recognized and studied before World War

[21] Ibid, p. 263.

[22] 姬凌辉 Ji Linhui,《清末民初细菌学的引介与公共卫生防疫机制的构建》Qingmominchu xijunxue de yinjie yu gonggongweisheng fangyi jizhi de goujian [Introduction of Bacteriology and the Construction of Public Health and Epidemic Prevention Mechanism in Late Qing Dynasty and Early Period of China] (Master. Thesis. ,CCNU,2015), 24-26.

[23] Chinese herb, used for disinfection and sterilization by folks.

[24] Dr. John Dudgeon’s Report on the Health of Peking for the half year ended 31st March 1871, Medical Reports, 6.

[25] Ibid. , p. 6.

[26] 皮国立 Pi Guoli,《近代中西医的博弈》Jindai zhongxiyi de boyi [Game between modern Chinese and western medicine] (北京 Beijing: 中华书局 Chinese Publishing House, 2019), 276-282.

II, but the research of germ theory in China fell behind that of the West.

What about the public health knowledge in western countries? In the 1840s, the living conditions of the working class in Glasgow were described as extremely poor. For example, the back courts did not possess the stinking open drains common in other cities; refuse and excrement piled up in a general midden until the private contractors thought it worth taking away. Other descriptions of the environment can be found in Crowther's study:

I did not believe, until I visited the wynds county of Glasgow, that so large an amount of filth, crime, misery, and disease existed on one spot in any civilized country. It is hard to prove whether Scotland's urban poverty was, in fact, the worst in Britain... its housing stock never kept pace with demand. Even workers in regular employment were more overcrowded and poorly housed than in any other British city, and this persisted well into the twentieth century... Since unemployment and ill-health often went together, few medical officers were anxious to test an applicant's destitution to the limits of starvation. [27]

In 1850, Glasgow had a population of over half a million; and there were only 21 poor houses in Scotland with accommodation for 6058 paupers. By 1900 there were 65 operational poorhouses, with accommodation for 15509, but only half that number of inmates. [28] As for protestant preachers, frugal lifestyle appealed to their moral sentiments of their Protestantism upbringing. Compared with the house of the working class in UK, the living conditions of missionaries in China were much better:

Missionaries generally live at first in native houses, altered and fitted up in some degree in accordance with our ideas of comfort and convenience—putting in a few glass windows in place of the paper ones, and substituting boards for the flooring of a few rooms in the place of cement or brick. As soon as practicable, permanent houses are built somewhat after our own style of architecture. Our mode of living is similar to that at home. Most missionary families have an American cooking-stove. A great deal is said in some quarters about the luxurious manner in which missionaries live in the East, occupying 'palatial dwellings. . . [29]

The nineteenth century was an era when European Imperialism was strong and white people's sense of racial superiority was rising. Many missionaries except John Dudgeon criticize everything from the perspective of European center, such as the issue of Housing. They thought Chinese people are weak because of poor accommodation conditions. However, John Dudgeon wrote extensively on housing of the Chinese and their implications for health. He argued that China's lifestyle and urban conditions were superior to those in Europe; 'this duty is all but co-extensive with the adoption of obvious hygienic measures—the avoidance of putrid drain emanations, the supply of pure water, and regard to ventilation both in private houses and, on

[27] M. A. Crowther, "Poverty, Health and Welfare," in *People and Society in Scotland (1830—1914)*, ed. W. Hamish Fraser and R. J. Morris (1990), 266-268.

[28] *Ibid.*, p. 270.

[29] John Livingston Nevius, *China and the Chinese; A General Description of the Country and Its Inhabitants* (New York: Harper & Brothers, Publishers, 1869), 317.

the large scale, in cities by the prevention of over-crowding. ^[30] Dudgeon's observations in China, combined with his views on deteriorating economic conditions and heightened social tensions in Scotland, resulted in his critical reflections on British metropolitan culture and lifestyle. ^[31] Dudgeon criticized competition in Scottish society, 'We seem to live as if our bodies were valueless immortal, and as if it were no concern to husband our strength or nourish our powers'. ^[32] He praised the pace of Chinese life in 1880s benefit to health, 'Walking is slow, measured and dignified. Work is slow and steady. Periods of rest are frequent and highly valued. There is also mental repose.' ^[33] Dudgeon thought the 'civilized life' of westerners had deprived them of their 'nature power' of resistance to diseases. ^[34] Health condition in the cities was much worse, and overcrowding was an obvious feature of daily lives for the poor in Edinburgh and Glasgow. ^[35] A study showed that twelve to sixteen people to live in a room was common in the poorer areas in two cities in 1860s. ^[36] The miasma school represented by Edwin Chadwick believed that the cause of disease was not simply due to bad housing and contaminated drinking supplies but ignorance of the basic principles of hygiene. Unfortunately, two cities met both conditions at same time.

Was the situation in Shanghai really as Dudgeon described? With the development of urbanization and industrialization, Shanghai became the most important industrial and commercial city in Republic of China in 1920s. There were also many poor people living in the city. Probably due to famine or war, farmers were forced to flock to Shanghai from Anhui province and northern Jiangsu province. They can only engage in coolie work, such as being ricksha pullers, wharf coolies, etc. It was difficult to determine the exact number of this class of laborer, but Ricksha pullers alone number over 80,000 and their dependents about 240,000. Most of these unskilled laborers lived in grass huts, of which there were about 30,000 scattered all over Shanghai. ^[37]

In 1929, Wu The-chen, Mayor of the city of Government of Greater Shanghai, declared this year was a 'social reconstruction year' for Shanghai ^[38]. It aimed to improve housing conditions and help the poor. ^[39] According to the project, each village in the suburb would have a large playground for children as well as adults, a school building, a cooperative store a tea-shop, a nursery, public toilets and public bath houses. With such features, these model villages should become a target of a drive for

[30] Dr. Alexander Jamieson's Report on the Health of Shanghai for the half year ended 31th September 1874, Medical Reports, 18.

[31] Shang-Jen Li, 'Discovering 'The Secrets of Long and Healthy Life': John Dudgeon on Chinese Hygiene, Social History of Medicine 23, No. 1 (2010), 21-37.

[32] John Dudgeon, "Diet, Dress, and Dwellings of the Chinese in Relation to Health" in Health Exhibition Literature, XIX, (London: William Clowes), 471.

[33] Ibid, p. 474.

[34] Shang-Jen Li, "Discovering," 28.

[35] WW Knox, A History of the Scottish People Health in Scotland, 1840-1940, Chapter. 3, p. 2, https://www.scran.ac.uk/scotland/pdf/SP2_3Health.pdf.

[36] Ibid, p. 2

[37] "Toward Better Housing for Shanghai Workers", Chinese Recorder, vol. LXVII, no. 1 (Jan 1936), p. 31.

[38] 'The Greater Shanghai Plan' was a 1927 plan for the city of Shanghai, China, drawn up by the Nationalist Government of the Republic of China in Nanking. Please see 'The Greater Shanghai Plan' terms on Google, last modified on March 30, 2021, https://en.wikipedia.org/wiki/Greater_Shanghai_Plan.

[39] The housing project was probably the most important. These houses were terraced with five or six in a row. Each house would have a living room (about 13×11 ft.), kitchen, toilet and sleeping accommodations. All the houses were fireproof and waterproof with plenty of sunlight. Please see, "Toward Better Housing for Shanghai Workers", 31.

many hard-working but poverty-stricken people who were their prospective tenants.^[40] The aim of ‘The Greater Shanghai Plan’ was to build another modern, multi-functional city center in the Chinese community under the condition of the existence of the Shanghai International Settlement^[41]. Unfortunately, the plan was interrupted by the invasion of Japan before it could be put into practice. The government realized reduction in disease and other unhealthy factors was results from rising living standards and life qualities. Officials have replaced the intervention of missionaries in public health in modern China. It reflects the progress in the health history of the housing theme.

4. Hygiene, Environment and Drink

Shanghai was Chinese largest treaty port, located on the East China Sea coast during the nineteenth century, the global expansion of British Empire promoted the development of the tropical hygiene. Tropical Medicine (or Tropical hygiene) is an interdisciplinary branch of medicine that deals with health issues that infected by malaria, tuberculosis, leprosy, cholera or other epidemics in tropical regions. British troops, businessmen, officials and immigrants often encountered different climates and serious diseases in India, Africa and China. So, observing and studying the local environment and hygiene conditions became a subject of medical missionaries or medical officials in Customs. The London Missionary Society (LMS), founded in 1795, was the first one in the UK to promise medical missionary work. In order to increase the support for the medical affairs in China, LMS openly recruited volunteers to work as medical missionaries in China in 1838. In 1838 and 1839, both William Lockhart and Benjamin Hobson were sent by the LMS to explore medical missionary opportunities in China.^[42] In 1860, the LMS sent James Henderson, a Scottish medical missionary to Shanghai. Henderson earned a Ph. D. in medicine and surgery from the University of St. Andrews, and worked in a church hospital launched by William Lockhart.^[43] James Henderson (1830—1865), one of the most famous medical missionaries sent by LMS to Shanghai, was also the first doctor to systematically discuss the influence of Chinese climate on European health.

Only one year after Henderson arrived in Shanghai, he and his fellow missionaries in Shanghai met with considerable setbacks and difficulties. Previous missionaries to Shanghai before were sent to other places because of health problems.^[44] Dr. George Johnson expressed:

[40] Ibid, p. 31.

[41] The Shanghai International Settlement was rented by British and American citizens who enjoyed extraterritorially and consular jurisdiction under the Unequal Treaties signed in the nineteenth century with the Qing government. Many other Europeans except the British lived in this area.

[42] The Christian as the exotic religion was not very attractive to Chinese people in nineteenth century, but the Chinese people were very interested in the magical curative effect of western surgery. Therefore, many western churches such as LMS sent as many medical missionaries as possible to set up hospital outpatient clinics and train local medical assistants in China, and find opportunities to evangelize and declare in the process of treating diseases.

[43] 李尚仁 Shang-jen Li,《气候、节制与健康:韩雅各论欧洲人在上海的卫生之道》Qihou jiezhi yu jiankang hanyage lunouzhounren zaishanghaide weishengzhidao [Climates, Temperance and Health: James Henderson on the Hygiene of Europeans in Shanghai],《成大历史学报》Chengdalishixuebao [Cheng Kung Journal of Historical Studies], vol. 55, (2018):161.

[44] Ibid, p. 163.

“In a very large proportion of cases, there is as close a relation between diphtheria and insanitary conditions as exists between typhoid fever and similar insanitary conditions”, “we never know enough of the diseases prevailing among the Chinese to enable us to assert that the water drawn from the river and creeks is not probably so contaminated. What we do know is that at all events it is very impure, and that in nine cases out of ten no sufficient means of purification are adopted.”

As reflected in Johnson’s records, British imperial ideology made British colonist to think that Chinese were stagnant.^[45] ‘Imperial ideology prejudiced the otherwise objective and empirical rationality of British medicine in China’^[46], and dismissed the Chinese as ‘in great poverty, poor, weakly, scrofulous children are the rule and not the exception; and miserable, unhealthy, overcrowded, unventilated habitations are too common.’^[47]

People who lived near marshes and creeks were easy to get sick, because these places tend to be low-lying, constantly damp and dark, and people living here cannot get enough sunlight, so they were easy to get sick. Putrefying food, waste, corpses, rotting vegetable remains, and other filth may produce toxic gases, which would make people sick or even die if inhaled by human body. So, in order to let the Europeans who settled in China know which places were suitable for settlement and which places were not, there were so many descriptions of living conditions and natural environment in the writings of medical missionaries and medical customs officers. For example, Dr. Alexander Jamieson, editor-in-chief of Medical Reports, reported: “Although the temperature was at no time very high, the air was during the half year constantly laden with moisture, and with ground exhalations.”^[48]

Medical officials in Shanghai Customs paid attention to Climate and disease as Shanghai’s unique status in China. First, because of the harsh climate in Shanghai (at least from the perspective of Europeans), epidemics such as malarial fevers, diarrhea, and an inflammatory diarrhea approaching dysentery were prevalent among foreign residents.^[49] Second, after the signing of the Treaties of Nanking (1842), which made Shanghai one of the first five treaty ports, the urban population of Shanghai was rapidly growing. Third, in the nineteenth century and the early twentieth century, foreign factories were set up one after another, creating a large labor demanding market, and Chinese people flooded into the Shanghai Concession in large numbers. Large-scale population did not have to necessarily lead to the emergence of various environmental and health problems. However, when other factors (policy, technology) remain the same but except population, the greater the population, the greater the need of air, water and food. This may lead to a greater strain on environmental and health resources, which a direct impact on the phenomenon such as hunger, disease and environmental destruction.^[50]

[45] Stephanie Villalta Puig, “James Henderson’s Shanghai Hygiene and the British Constitution in Early Modern China,” in *Discourses of Disease: Writing Illness, the Mind and the Body in Modern China*, ed. Howard Y. F. Choy (Boston: Brill, 2016), 19.

[46] *Ibid.*, p. 19.

[47] Dr. John Dudgeon’s Report on the Health of Peking for the half year ended 31st March 1871, *Medical Reports*, 10-11.

[48] Dr. Alexander Jamieson’s Report on the Health of Shanghai for the half year ended 30th September 1874, *Medical Reports*, p16.

[49] Dr. Alexander Jamieson’s Report on the Health of Shanghai for the half year ended 30th September 1874, *Medical Reports*, p16.

[50] 彭善民 Peng shanmin, 《公共卫生与上海都市文明》Gonggongweisheng yu shanghai dushi wenming [Public Health and Modern Shanghai] (上海 Shanghai: 人民出版社 renming chubanshe [People’s Publication], 2007), 23-24.

Similarly, there was not modern germ theory in the medical experience of ancient Chinese medicine at the beginning either. Most Chinese people thought that human body's illness may be caused by excessive inhalation of a gas called 'Zhangqi'. The 'Zhangqi' was a poisonous gas produced by rotting animals and plants in tropical primeval forests. If the dead animals/human bodies were not buried or burned, the 'Zhangqi' would be produced especially with help of high temperature in tropical areas. It was convinced by well-educated social groups such as Chinese doctors, Daoist, government officials. Among the well-educated people, they thought there were two ways to avoid inhale 'Zhangqi'. First, staying away from the wilderness, because Traditional Chinese Medicine believed that tropical areas can produce toxic gases, and they can cause diseases as well; second, keeping physical fitness. A strong body can resist the invasion of outside poisonous gas. From the second point, they used 'hygiene' from the traditional meaning of 'protecting life' or 'nourishing life'. People mentioned above often use 'yangsheng' to refer to the meaning of 'hygiene'. The 'yangsheng' text mainly originated from Chinese Daoist classics, which means to prolong personal life by strengthening physical fitness.^[51] Therefore, in the concept of TCM, 'hygiene' referred to 'yangsheng', and 'yangsheng' means to prolong one's life by strengthening one's physique fitness, and thus to be healthy. In the New English-Chinese Dictionary published in early 1911, the word of 'hygiene' was added to the definitions of 'health'. Although the original words such as 'protecting one's health' and 'protecting one's health' were retained, the prominent position of 'health' has been fully demonstrated.

The American seminal figure in public health, Charles-Edward Amory Winslow (1877—1957), argued 'Public health is the science and the art of preventing disease, prolonging life, and promoting physical health and efficiency through organized community efforts for the sanitation of the environment.'^[52] 'The community reflects that hygiene is based on the public unit rather than personal affairs. Public health was developed to prevent the spread of infectious diseases among people. However, the hygiene in Chinese life experience was deemed private, and had nothing to do with the public health, so the environment in public sometimes was dirty. The observation of William Lockhart in Shanghai in 1845 told a similar story:

The average of public health in the city of Shanghai, which may be taken as a type of Chinese cities, has often been to foreigners, especially during the summer months, a matter of surprise. The sewerage is, moreover, of the most imperfect kind. The drains are no better than a continuous cesspool, where filth of all varieties is allowed to accumulate and pollute the air. Ordinarily, however, the nasal organs of the Chinese seem wanting in sensitiveness; for while the foreigner is almost prostrated by the offensive odors which assail him on every side in a

[51] The history of yangsheng has a long and complicated history in China. It was widely published and have circulated continuously from the early years of the Ming dynasty (1392—1644). For a clear explanation and summary, please see H. ,Chen, "Nourishing life, cultivation and material culture in the late Ming," *Asian Medicine*4, no1 (2008) 29-45; Seung-Joon Lee, "The Patriot's Scientific Diet: Nutrition science and dietary reform campaigns in China, 1910s—1950s," *Modern Asian Studies*49, no. 6(2015)1808-1839.

[52] C. E. A. Winslow, *The Untilled Fields of Public Health* (Toronto: The Canadian Red Cross Society, 1920) 10.

Chinese city, the natives care little for them either at home or abroad. ^[53]

But the “terrible” living environment unintentionally formed a unique drinking habit of Chinese people: the Chinese had a strong prejudice against cold water, either taken internally or applied externally, and they were surprised by foreigners who took cold showers or drank cold water. For example, warm tea was a kind of popular drink in China. ‘No water should be drunk that has not been boiled, and filtered by alum at first, as it is most probable that the contagion of disease is communicated by water.’ ^[54] There was even a popular saying that goes like this: A man who drinks water simply drawn from alongside the ship is seeking his death. ^[55]

The acceptance of tap water by Shanghai residents had a long and tortuous history. Dr. Alexander Jamieson organized a long-term test of the water quality of Wusong River in 1875. He came to the conclusion finally: ‘Ordinary Shanghai drinking water after filtration, unobjectionable from a chemical point of view, but swarming with bacteria and vibrio, and therefore to be regarded as suspicious if no danger.’ ^[56] Under the residents’ Pressure of hygiene living in the International Settlement, Dr. Jamieson suggested: ‘Invest in a water plant that will eventually prove it has the same high value as the sewer construction.’ ^[57] After repeated discussions by the Board of Directors of the Ministry of Industry and Technology to raise capital in the UK, in November 1880, Shanghai Water Supply Co., Ltd. was formally established in London, England. Therefore, the water company was often called ‘British Shanghai Water Supply Company’. ^[58]

At the beginning of the business of the British water company, most Chinese people expressed various concerns about whether tap water can be drunk. Rumor had it that tap water was toxic and not drinkable. ^[59] The proper propaganda in promoting public health education and water supply was important. It led the tap water company advertised successively in Shenbao since February 15, 1884, publicizing that its tap water is of good quality, mellow and delicious. The company also declared the rumor that the water was toxic and unhealthy was not true. Now it has been checked here and it was extremely clean. Tap water can be taken at any time, and it was inexhaustible. It was clear and cheap, and residents can avoid disasters and epidemics by using it. ^[60] This official announcement played a very positive role in promoting the tap water business of the tap water tower in Shanghai. Gradually, more and more Shanghai residents realized tap water brings people daily cleanliness, hygiene and convenience.

With the advancement of urbanization, the public health awareness was further deepened, and

[53] William Lockhart, *The Medical Missionary in China: A Narrative of Twenty Years' Experience* (London: Hurst and Blackett, 1861), 36-37.

[54] Dr. John Dudgeon's Report on the Health of Peking for the half year ended 31st March 1871, *Medical Reports*, 13.

[55] Dr. Alexander Jamieson's Report on the Health of Shanghai for the Half Year Ended 31st March, 1876, *Medical Reports*, 255.

[56] Dr. Alexander Jamieson's Report on the Health of Shanghai for the Half Year Ended 31st March, 1875, *Medical Reports*, 82-82.

[57] Alexander Jamieson's Report on the Health of Shanghai for the Half Year Ended 31st March, 1874, *Medical Reports*, 33-34.

[58] Kerrie L. MacPherson, *A Wilderness of Marshes: The Origins of Public Health in Shanghai, 1843-1893* (Oxford: Oxford University Press, 1987), 90-97.

[59] 《闸北市民请督促改良自来水》Zhabei shimin qing ducu gailiang zilaishui [Zhabei citizens asked government departments to urge the improvement of tap water]《申报》[Shenbao], 1926年4月10日, 第4版。

[60] 《推广禁止谣言说》Tuiguang jinzhi yaoyanshuo [On the prohibition of rumor propaganda]《申报》[Shenbao], 1884年2月16日第1版;《接水入城》Jieshuirucheng [Drawing the water into the city]《申报》[Shenbao], 1884年5月25日第2版。

people were increasingly dependent on tap water at that time. In the early twentieth century, tap water was widely used beyond the International Settlement area, and the demand of Chinese local residents promoted the establishment of the indigenous Water Company in 1902, which was controlled by Chinese themselves.^[61] In July 1929, Shanghai Water Supply System was broke down for excessive work, people were panicking over the lack of water. As a result, ‘The residents holding wooden barrels waiting for water pumping, stood on the street with anxiety and irritability, worried about water shortage and caused riots.’^[62] Tap water entered people’s daily life and became their daily necessities. The efficiency and quality of tap water supply are important events related to urban public health.

To sum up, the setting and management of tap water was beneficial to urban public health. Shanghai Residents experienced a process from surprise, incomprehension to welcome. The demand of the masses formed a huge water market in Shanghai in modern times, and waterworks were set up. Natural water, which people used to take for granted in the past, has become valuable and popular after some treatment. Shanghai citizens’ public health benefits greatly from the modern public health facilities and management concepts in the International Settlement. Under the influence of national consciousness, Shanghai citizens gradually launched the festival-clearing and epidemic prevention campaigns, which also reflected the growth of Shanghai citizens’ consciousness and was the awakening of Chinese national health consciousness.^[63] The public health concepts were brought over from the European continent by Scottish medical missionaries. Those Scottish missionaries also experienced a process from contemptuous, curious to positive. They regarded the Chinese as a stereotype of unhealth people who did not understand health science, and rigidly apply medical experience of the West to understand China’s climate, sanitary conditions and drinking habits. When they set foot on the land of China and conducted an ethnological survey on the daily life of the Chinese people, they found that the Chinese people’s health concept had their rational factors. Hence, the colonial cultural superiority of the British Empire felt challenged, and the ecumenical values of Christianity such as, love, benevolence and sympathy work again. From this point, both sides are beneficiaries of cultural exchanges.

5. Diets and Health

Modern nation-states have long recognized and launched a campaign about the moral capacity of food-related health systems.^[64] Western food is like a window to observe western heterogeneous culture, which reflects the western material culture and the concept of hygiene. It has become an important part of Chinese

[61] 邢建榕 Xing Jianrong,《水电煤:近代上海公用事业演进及华洋不同心态》*Shuidianmei jindai shanghai gongyong shiyeh yanjin ji huayang butong xintai* [Water, Electricity and Gas: The Evolution of the Public Utilities in Modern Shanghai and Different Psychologies Between Chinese and Foreigners],《史学月刊》*Shixueyuekan* [Journal of Historical Science] no. 4 (2004):95-102.

[62] 《南市居民之水慌》*Nanshi jumin zhi shuihuang* [Water shortage of Nanshi residents yesterday],《申报》[*Shenbao*],1929年7月29日第15版.

[63] 彭善民 Peng shanmin,《公共卫生与上海都市文明》*Gonggongweisheng yu shanghai dushi wenming* [Public Health and Modern Shanghai] (上海 Shanghai:人民出版社 renming chubanshe [People’s Publication],2007),111.

[64] Melissa L. Caldwell and Angela Ki Che Leung,“Food and Health:Fortification and Modern Asian State Making,” in the *Moral Food: The Construction of Nutrition and Health in Modern Asia*,ed. Angela Ki Che Leung (Hawaii:University of Hawai’I Press,2019),1.

people's understanding and acceptance of western food etiquette and hygiene. As China launches 'Clean Plate' campaign to combat food waste in August, 2020, different labels and advertisements appeared in every restaurant, bearing signs that read 'clean your plate' or 'be thrift and diligent'.^[65] In today's China, the Chinese citizens have already accustomed to combining their diets habits and public health policies together. However, the 'habit' has not been formed for a long time. It began to form in the late nineteenth century and it was through the missionaries that the concept of nutrition and health became the leading role in the history of Chinese food.

Before many theories and ideas, such as, environment protection and nutrition support the idea of vegetarianism became a fad among westerners, ancient vegetarians was mainly based on ethical reasons.^[66] Plato condemned meat eating as he thought that consuming animal foods would not lead to true health but to a culture of sickness, disease, land disputes, lawyers and doctors.^[67] In Medieval Period, the famous Christian theologian Thomas Aquinas claimed the idea of the uniqueness of human beings and said, 'there is no sin in using a thing for the purpose for which it is... Wherefore it is not unlawful if men use plants for the good of animals, and animals for the good of man.'^[68] The ideology, organization and social environment of early nineteenth century in UK all provided the basis for the development of vegetarianism; Mainstream evangelicalism played an indispensable role within the mid-nineteenth-century vegetarian movement. The Industrial Revolution in UK brought about serious environmental deterioration problems, poverty, bad sanitation, food adulteration, and personal moral degradation. All these social problems were closely related to diet. Generally speaking, whether it was diet or vegetarianism alone, the topic of food and health in Britain was gradually formed by continuous improvement and self-correction based on the development of social economy and the theoretical contributions of many ideologists in its history. There was a mature theoretical system behind it.

It was slightly different in ancient China. First, agriculture production was the main pillar of the economy in ancient China, which determined that most of cattle and horses were used for cultivation and carrying goods. Moreover, Chinese people tended to emphasize the diet control, especially in meat eating. As early as Han dynasty (B. C. 202 — A. D. 8), because of the psychological cultural superiority of the ruling class, one of the Confucian classics named The Tso Chuan claimed that only 'barbarians' would eat meat without restraint, while civilized aristocratic stratum would consciously control their diet.^[69] Thus, animals were not used for food. In general, the diet structure of ordinary people (farmers) mainly consists of plants instead of meat.^[70] After the tenth century, rice

[65] Ben Westcott and Nectar Gan, "In Authoritarian China, eating freely is a cherished activity. Now a food Waste campaign wants to control meals, too", CNN, last modified August 29, 2020, <https://edition.cnn.com/2020/08/28/asia/china-xi-jinping-clean-plate-campaign-dst-intl-hnk/index.html>

[66] 欧阳昱 Ouyang Yu, 《西方文化中素食主义的伦理与实践》Xifang wenhuazhong sushizhuyi de lunli yu shijian [Ethical and Practical Justification of vegetarianism in western cultures], (西安 Xi'an: 西安外国学与大学硕士论文 Xi'an waiguoyu daxue shuoshi lunwen [Master dissertation in International Studies University], 2014), 7-13.

[67] T. M. Campbell, T. C. Campbell, The China Study, Benbella Books, 2005. p345.

[68] Ouyang, "vegetarianism", 8.

[69] 邓永芳、刘国和 Deng yongfang, Liuguohu 《中国先秦时期的素食观》Zhongguo xianqinshiqi sushiguan, [Vegetarianism in Pre-Qin Period of China], 《南京林业大学学报》(人文社会科学版) Nanjin linye daxue xuebao [Journal of Nanjing Forestry University], no. 2 (2020): 28.

[70] 张吾愚 Zhang wuyu 《素食主义在宋代的昌盛》Sushizhuyi zai songdai de changsheng [Prosperity of vegetarianism in Song Dynasty] 《深圳特区报》Shenzhen tequ bao [ShenZhen Special Zone Daily] (2017 年 12 月 26 日), 第 7 版.

cultivation technology had been gradually improved in Yangtze region; fourteenth to sixteenth century, three high-yield American cereal crops; maize, sweet potato and potato, were introduced into China, which greatly alleviating the problems of food shortage. Affected by soil and climate of different localities, rice was the great staple for food in the south, and wheat and millet in the north. At the same time, people's non-staple food types were also diverse; the bureaucratic class of meat consumption was mainly lamb, followed by pork, and the common people's consumption was mainly pork, supplemented by chicken, duck and aquatic products. The vegetables of China are numerous, including many varieties with which westerners were not familiar. The sweet potato was found in all the provinces. Carrots, turnips, leeks, and garlic were very common, also cucumbers, water-melons, and musk-melons. Peas were cultivated to some extent, and beans in great varieties and large quantities. In the north of China beans took the place of oats with Europe, as the principal hearty food for horses, mules, and donkeys. They were always cooked, and animals liked them, and thrived on them wonderfully. Grapes, peaches, and apricots in the north, and oranges and bananas in the south, compared favorably with the same fruits in Europe. ^[71]

After the opening of China to the outside world in the nineteenth century, British physicians came to China with quite different opinions about how European should eat, and whether Chinese food and their diets habit were healthy. Due to their curiosity about the diet of different civilizations, their professional medical knowledge background, and their habits of observation and recording, we have the opportunity to understand the relationship between the concept of food hygiene and the living habits of the Chinese at that time. For example, the British medical missionary Alexander Jamieson once reported a way of feeding that he had never seen before in the Report on the Health of Shanghai (1872):

‘The native mother before putting the food into the infant's mouth, carefully chews it into a soft and uniform bolus, by which process, unconsciously but most wisely, transforms all the starch into grape sugar. In this condition the food is readily assimilated, and hence the rarity amongst Chinese children of those convulsive affection which would infallibly follow the extensive use of farinaceous food among foreign infants.’ ^[72]

That was a meaningful personal experience for Dr. Jamieson, and revealed his strong dislike of the way of Chinese maternal and infant feeding. However, due to his professional medical training, he could still rationally analyze and affirm the merits of this feeding method. These complex feelings were a common phenomenon for Western medical missionaries on the first visit to China. On the one hand, it was true that the cultural arrogance of aristocratic class led them to despise the northern nomadic civilization (Ancient Mongolian tribes, etc.) who advocated meat; On the other hand, the living conditions of most farmers in the farming civilization were indeed poor, which made them unable to afford to enjoy meat at every meal, such as mutton, beef, fowl. What Jamieson recorded this time was the real diet of the bottom people. Some people agreed that economic status often

[71] M. H. Medhurst, *The Foreign in Far Cathay* (New York: Scribner, Armstrong and Company, 1873), 38.

[72] Dr. Alexander Jamieson's Report on the Health of Shanghai for the Half Year Ended 30th September, 1872, *Medical Reports*, 92.

determined the ‘healthiness’ of the diet consumed and foods were usually purchased in accordance with family budgets rather than its advantages to health.^[73] In fact, this view was not completely correct, because the poor also had their own wisdom to satisfy their need of food or drinks.

The diet habit that lasts for a long time in China was praised by American nutritionist named William H. Adolph (1890—1958). In order to figure out what exactly most ordinary Chinese eat every day, he made a survey in the rural areas of northern China in the Summer of 1926. The report reflected that the dietary of the typical family in north China consists of: bread and cereals 66%, fruit and vegetables 28%, meat 2%, fats and sugar 1%, eggs, milk, and other foods 3%.^[74] The ‘frugal eating habits’ of Chinese people brought obvious benefits unintentionally—they were not addicted to the meat-eating. Meat can be replaced by eggs, and eggs in China were not expensive. He finally concluded that: ‘China approaches very nearly to the status of a vegetarian country... the vegetarian habits of China, it should be noted, have meant the inclusion in the diet of a considerable amount of roughage, it is this which has insured the oriental against digestive lassitude and serious digestive disorders.’^[75] The severely unreasonable diet structure had caused Chinese farmers to lack calcium and protein. The reason of it lied in the high economic cost: feeding the cows with grains, the cows convert the grains into milk, then people drink the milk; but it was not worthy of it for Chinese farmers who were living in a difficult life. They chose to eat grains directly. Whether intentionally or unintentionally, Westerners found some valuable principles that should be learned in the diet, as Dudgeon stated: the Chinese, notwithstanding their ignorance of Western science, had admirably suited themselves to their surroundings, and enjoyed a maximum of comfort and health and immunity from disease which Westerners should hardly have supposed possible.^[76]

Before the theory of nutrition was introduced to China, Chinese people did not realize that some parts of their diet were very healthy. They were just used to it. Fortunately, many missionary doctors were keen observers of Chinese dietary customs and discussed extensively the healthiness.^[77] They didn’t just observe, they compared the differences between China and the West. At the end of eighteenth century and the beginning of nineteenth century, the eating habits of the West and Chinese began to blend to blend, which had a two-way influence on the change of nutrition knowledge in modern times. Moreover, the diets closely related to health and nutrition. It highlighted the perceptual and rational characteristics of Chinese and Western cultures on health issues.

As soon as these missionaries arrived in China, they observed Chinese society from a doctor’s unique perspective very soon. They soon realized that China provided an unparalleled opportunity for

[73] Leanne Dunlop, “Unhealthy City? Public Health in Interwar Glasgow, 1919-1939” (PhD diss., University of Strathclyde, 2012), 316.

[74] William H. Adolph, *Composition and Nutritional Value of Chinese Food* (Shanghai: China Science Press, 1926), 15-19.

[75] William H. Adolph, “What shall we eat?”, *Chinese Recorder*, Vol. 56, No. 7 (1925), 434.

[76] John Dudgeon, “Diet, Dress, and Dwellings of the Chinese in Relation to Health” in *Health Exhibition Literature*, XIX. (London: William Clowes), 258.

[77] Shang-Jen Li, “Eating well in China: British Medical Men on Diet and Personal Hygiene at Nineteenth-Century Chinese Treaty Ports,” in Ki Che Leung and Charlotte Furth (eds.), *Health and Hygiene in Modern Chinese East Asia* (Durham: Duke University Press, forthcoming), 109.

the study of Western pathology and bacteriology.^[78] Jamieson complained that Europeans settled in Shanghai lived in an extremely luxurious life without restraint, which was directly related to the high death rate from heart disease.^[79] He said, ‘It is perfectly absurd to think that a man can enjoy good health through the hot season, if he eats six, eight, or ten different dishes during a meal, which is frequently done here’, and suggested ‘never to eat unless we are hungry; and never to drink unless we are dry.’^[80] After Adolph’s third visit to China, he taught in the Department of Chemistry at Yenching University, and he published *Vegetarian China* in 1938. In this book, he explained vegetarian diet of China was cereal diet, which mainly consist of wheat, millet, corn, and sorghum.^[81] He also said Chinese did not rely on milk and meat to supplement protein and calcium, but they have achieved this nutritional balance over the centuries. He thought the fact that Chinese people can achieve a balanced nutrition without relying on milk and meat was worth studying.^[82] He said China’s long history of food culture was like ‘China herself has been carrying on a large scale dietary experiment on the feeding of her large population’, so he believed there were many experiences accumulated by them over such a long period of time are worth of study.^[83] Additionally, there was a wealth of natural food materials in this empire which many Occidentals has left untried. In the realm of green vegetables, the Qing empire presents a far greater variety than the vegetable market in England or America.^[84] He explained this further, and thought that this might be due to Chinese people’s abstemious living habits and light eating habits. In contrast, Europeans were not so peaceful, and they ate too much irritating food such as alcohol and so on.

If the poor ate vegetables and coarse grains because they were forced by life, the rich chose them was a positive choice based on health. First of all, the difference in the quality and expense of the food of the rich, as compared with that of the poor, consists principally in the kinds of ‘relish’ eaten with the rice or millet.^[85] The rich had pork, fowls, eggs, fish, and game, prepared in various ways. Before each chair was placed an empty bowl and two chop-sticks, while the dishes containing meat, vegetables, fish, etc., occupy the center of the table, the food which they contain being cut up in small pieces.^[86]

Second, the introduction of Western-style food helped the Shanghai well-off residents understood the European’s lives and culture. Because of the commercialization of social atmosphere and the psychology of blind worship, enjoying the western food is regarded as a fashioned trend in China. Cooking books became an important way to introduce western diet. At the end of the nineteenth century, as wedding gifts of the middle class in Europe, most cooking books were brought

[78] 何小莲 He Xiaolian,《西医东渐与文化调试》Xiyidongjian yu wenhua tiaoshi [Western medicine spreading eastward and the adjustment of eastern and western cultures], (上海 Shanghai: 上海古籍出版社 Shanghai guji chubanshe [Shanghai Classics Publishing House], 2006, 149.

[79] Shang-Jen Li, “Eating well in China: British Medical Men on Diet and Personal Hygiene at Nineteenth-Century Chinese Treaty Ports,” in Ki Che Leung and Charlotte Furth (eds.), *Health and Hygiene in Modern Chinese East Asia* (Durham: Duke University Press, forthcoming).

[80] James Henderson, M. D., *Shanghai Hygiene*, (Shanghai: Presbyterian Mission press, 1863), 7-22.

[81] William H. Adolph, “Vegetarian China,” *Scientific American* 159, no. 3(1938): 133-135.

[82] *Ibid.*, p. 134

[83] William H. Adolph, “What shall we eat?,” *Chinese Recorder*, Vol. 56, No. 7(1925), 433.

[84] *Ibid.*, 434.

[85] M. H. Medhurst, *The Foreign in Far Cathay* (New York: Scribner, Armstrong and Company, 1873), 244.

[86] *Ibid.*, p. 244.

to China along with their evangelical footprints. The *Foreign Cookery in Chinese*, published by the Presbyterian Mission Press, Shanghai, was a very useful cooking book in Chinese, prepared by Mrs. Crawford^[87]. The Preface told readers that it was designed to help both foreign house-keepers and native cooks. ‘The works opens with instructions to cooks in regard to cleanliness, and dispatch. Then follow two hundred and seventy-one recipes, the most of which are selected from standard authors on the culinary. It also has an English and also a Chinese Index.’^[88] In the Index the recipes were numbered both in English and Chinese figures, so that a person unable to speak Chinese has only to point out the number of any article desired, and the cook would find directions for its preparation. The book especially emphasized the principle of hygiene, pointing out that if the tableware was not washed or wiped, it was easy for the family to get sick. Three kinds of towels used to wipe hands, tableware and dust must be ‘distinguished separately’. For westerners, the food environment was important as the cookery, and even in China, it deserved to be emphasized to make Chinese servants gradually familiar with and bore in mind the ‘cleaning principles’ of kitchen. So, the kitchen hygiene was the most important content in this book.

6. Conclusion

Both Chinese culture and western culture have their own logics of development in the long history. When the Western medicine theories were translated from Western world to China, it showed the conflict of two ways of thinking between two heterogeneous civilizations. With the interweaving of resistance and acceptance, reflection and introspection, adaption and innovation, and moreover medical preachers were at the front of cultural communication between China and the West. Due to the European imperialism and white ethnocentrism in the nineteenth century, most of the medical missionaries who came to China adopted an attitude of disregard and contempt for Chinese sanitary theories. In other words, medical practice of those missionaries played a role of strengthening racial boundaries and confirming European supremacy.^[89] Only missionaries who jumped out of racism and colonialism can realize the value of oriental culture and were willing to accept and learn it with an open mind.

Different systems are actually complementary to each other, because a single system cannot adequately meet the health care needs of the whole population.^[90] The Chinese could have resisted European ideals/beliefs/practices. Likewise, the Europeans could have refused to adopt either of China’s approaches. But, as I have pointed out, in many cases, their beliefs and practices were combined. The trend changed the lives of Shanghai residents and Europeans. First of all, UK had experienced the industrial revolution. Overcrowding,

[87] Martha Foster Crawford, the wife of Baptist missionary Tarleton Perry Crawford, 1821-1902.

[88] 黄薇 Huang wei, 《劝说与规训: 基督教与近代上海社会风尚》Quanshuo yu guixun jidujiao yu jindai shanghai shehui fengshang [Persuasion and Discipline: Christian Church and the Changes of Social Life in Modern Shanghai] (上海 Shanghai; 上海大学博士论文 Shanghai daxue boshi lunwen [Ph. D. dissertation in Shanghai University], 2019), 107.

[89] Shang-jen Li, “Moral Economy and Health: John Dudgeon on Hygiene in China,” *Bulletin of the Institute of History and Philology* 76, no. 3 (2005): 499.

[90] Yuet-Wah Cheung, “Missionary Doctors VS Chinese Patients: Credibility of Missionary Health Care in Early Twentieth Century China,” *Social Science & Medicine* 21, no. 3 (1985): 312.

environmental pollution, and poverty of the working class were all negative effects of the booming Capitalism. In contrast, China was still in the feudal agricultural economy, and the problems of urbanization was less serious than that in Britain. This illusion created a wonderful dream for missionaries coming to China. Because of this, they can find each other's beauty from the perspective of bystanders. Second, in terms of living environment, the tap water system entered the daily life of Shanghai people for the first time, which improved people's sanitary environment and reduced the probability of infection with epidemics. Third, in terms of diet, Chinese cooking and eating habits had widely influenced the daily life of Europeans, vice versa, Chinese people's staple food of whole grains was inspired by the vegetarianism in modern western society.

The 'new experience of modern civilization' brought by Europeans living in Shanghai was only the beginning of China's transition from traditional society to modern society. At the turn of the nineteenth and twentieth centuries, people generally recognized the responsibility of society and the state for health, but because of the lack and weakness of national and local health administration, they often emphasized the importance of personal hygiene. In Chinese understanding of the causes of diseases, there was a lack of public health. All kinds of health care measures never rose to the public affairs. We cannot find 'hygiene' when reading the Chinese histories with the western terms and logics, because they were scattered in every corner and played an invisible role in safeguarding health from different dimensions.^[91] It wasn't until the modern Western medical missionaries came to the East that anyone thought to combine them.

The important signs of medical modernization are the professionalization of doctors and the systematization of healthcare.^[92] Medical missionaries were a special group who had unique advantages in contacting and understanding Chinese society. Because of medical practices, medical missionaries had extensive contacts with all sectors of Chinese society. They made many investigations on epidemics all over the country. Everywhere the missionary doctors went, they never stopped the observing, researching and investigating medical records.^[93] As a famous Chinese medicine historian said, 'The advances in medicine over the past century were largely due to the widely scattered efforts of foreign missionaries and their Chinese assistants using Western methods to treat patients, and in attempting to inculcate a spirit of tolerance towards modern ideas.'^[94] Since the twentieth century, China has gradually become a modern health country.

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[92] 高晞 Gaoxi,《德贞传:一个英国传教士与晚清医学近代化》Dezhenzhuan: yige yingguo chuanjiaoshi yu wanqing yixue jindaihua [J. Dudgeon's Early Chinese Medical Modernization] (上海 Shanghai: 复旦大学出版社 Fudan daxue chubanshe [Fudan University Press], 2009), 455.

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[94] 王吉民、伍连德 K. Chimin Wong, Wu Lien-TEH,《中国医史》History of Chinese Medicine (上海 Shanghai: 上海辞书出版社 Shanghai cishu chubanshe [Shanghai Lexicographical Publishing House], 1936), 'Introduction', xxiv-xxviii.

中文题目:

健康、卫生与食物: 医疗传教士与上海日常生活(1870—1938)

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摘要: 整个 19 到 20 世纪的西方全球传教运动中, 中国是其医学传教最主要的地区。作为最大跨国群体之一的医疗传教士留下了大量关于异乡生活的观察和记录。本文从跨文化视角出发, 集中考察居住空间、环境卫生、饮水和食物对来华英国医疗传教士的健康关注如何促进了其在华传播与流动, 以及医疗传教士如何在日常生活中对中国人健康观念进行不断认知、解读和完善的。中西医学知识的跨文化交流一方面丰富了西方公共卫生理论, 另一方面促进了中国现代公共卫生体系的建立。

关键词: 医疗传教士; 跨文化交流; 上海卫生; 饮食健康; 日常生活