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Guest Editor-in-Chief
Prof. GAO Xi

SPECIAL ISSUE
RESEARCH ON THE HISTORY OF CHINESE MEDICINE FROM GLOBAL PERSPECTIVES

全球史视域下的中医药史研究

Wolters Kluwer

Special Issue: Research on the History of Chinese Medicine from Global Perspectives

Guest Editor-in-Chief:

高晞 Gao Xi

Gao Xi Ph.D. is professor and doctorial supervisor of the Department of History, Fudan University. She is executive director of the Chinese Society for the History of Science and Technology, and deputy director of the Professional Committee of the History of Medicine of the Chinese Society for the History of Science and Technology.

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She has published monographs including *A Biography of John Dudgeon: A British Missionary and Chinese Medical Modernization in Late Qing* (《德贞传 ——一个英国传教士与晚清医学近代化》), *The Walker - Biography of Wen Yumei* (《步行者—闻玉梅传》), and has co-authored *The History of Intercultural Medicine Communication betweenChina and Foreign Countries* (《中外医学文化交流史》), etc. She has chiefly edited *Medicine and History* (《医学与历史》), *Materia Medica around the Globe: Trade of Medicine and Production of Knowledge of Health in the Global Market since the 5th Century* (《本草环球记——5 世纪以来全球市场上的药物贸易与健康知识生产》), and has been appointed as deputy editor-in-chief of *History of Medicine* (2019 edition) (《医学史》), the general higher education "13th Five-Year Plan" undergraduate planning textbook for national higher medical schools, and deputy editor-in-chief of *The History of Anatomy in China* (《中国解剖学科史》), etc. She published academic papers in Chinese and English in journals at home and abroad, and her English papers were included in *Critical Readings in the History of Christian Mission* published by Brill. She has successively served as visiting scholar at the Yenching Institute of Harvard University, University of Glasgow and University of Warwick in the UK, University of Hamburg in Germany, Kansai University in Japan, and the Ecole Supérieure des Sciences Sociales in France.

The Purpose of the Special Issue

The history of Chinese medicine is a classical discipline in which medicine and history are intertwined, aiming to explore the various cultural factors in the origin, formation, and development of Chinese medicine and its historical phenomena.

The Special Issue for *Chinese Medicine and Culture* seeks to bridge the political and cultural barriers between regions, nations, and countries from a global historical perspective and to examine the diversity and complexity of Chinese medical culture from the viewpoint of politics, economic trade, material culture, science and technology, and the production and derivation of medical knowledge concepts in a cross-cultural and interdisciplinary manner. This intent is to analyze the phenomenon of the cross-cultural transmission of medicine in world history.

Chinese Medicine and Culture
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Chinese Medicine and Culture is an interdisciplinary academic journal focusing on the study of Chinese medicine. It aims to promote communication and dialogue between researchers in the natural sciences and humanities of Chinese medicine. The objectives are to build an interactive platform for interdisciplinary research on Chinese medicine and to comprehensively reflect the high-level and latest research results of Chinese medicine in the fields of medical science research, cultural exchange and historical heritage conservation.

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Research on Chinese Medical History from a Global Perspective: Theory, Method, and Historical Materials

GAO Xi[1,✉]

1 Research on the History of Chinese Medicine

The years 2020 to 2023 are etched in stone for most of the world's population, an era to feel the world with the body's sense of pain, a prevail for a time knowledge of the pandemic, and a time when physical responses will decide politics. Since the COVID-19 outbreak in 2020, academic exchanges between countries have been hampered; there are signs that globalization is getting to an end. However, the result of the rapid global spread of a virus that humans could not capture has created new scholarship opportunities. On the one hand, politicians, physicians, public health officials, and economists have had to think about how to respond to the pandemic, which has prompted historians of medicine to empathize with the connections between globalization and the scientific community, thus expanding the perspectives and pathways of the study of the history of the disease. On the other hand, the various transportation barriers caused by the epidemic have opened a new space for academic exchange, and online academic activities have become a norm, further stimulating global communication and dialogue. In this aspect, such communication starts an era of new trends for academic globalization. During the global locking down, the online lectures can create a platform to support the Chinese scholars to catch up the latest academic trends outside China and to be more conducive to young scholars to open their eyes and learn new methods and new thinking.

From 2021 to 2022, the Department of History of Fudan University has invited international outstanding and representative scholars who are engaged in the research on the History of Chinese medicine to organize a series of lectures on the history of Chinese medicine with the theme of "Research on the History of Chinese Medicine from a Global Perspective: Theory, Methodology, and Historical Materials." The initial intentions of this series of lectures are: first, research on the history of medicine and social history of health is no longer a new hotspot in historiographical research. From the beginning of this century, historians and sociologists have shifted their research horizons to the knowledge of medicine, the history of disease, and public health. After more than two decades of accumulation, the study of the history of medicine has gradually evolved into a mature discipline, which has received extensive attention from scholars in the field and has advanced the development of this domain. Second, as more and more young scholars and postgraduates enter this research field, it was found that there is currently a lack of mechanisms to cultivate the corresponding disciplines in China, and the domain is always in the middle of marginal fields or interdisciplinary disciplines. Systematic methods and a mature concept system for the discipline have not yet developed. Some overseas research institutes and colleges have a mature instruction system in the history of medicine, including the history of Chinese medicine, which has been accumulated for quite a long period and has led to in-depth thinking on many issues and constitutes a unique set of modes of analyzing the medical classics and understanding therapeutic in China. In recent years, international scholars and young Chinese scholars educated overseas have presented many achievements.

Nine scholars from Britain, the United States, France, Germany, and Hong Kong were invited to introduce their latest issues and achievements in the study of the history of Chinese medicine (Fig. 1 and Fig. 2). They gave a complete account of their research interests, historical materials they adopted and applied, their arguments, and shared their research methodologies and the theories they used. At the same time, we also invited domestic scholars and experts to conduct in-depth dialogues with the speakers to expand the wide extension and profound of the presentations. The lecture series was open to scholars from all over the world online, totaling over 3,000

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Figure 1 Poster for the lectures under the theme of "Research on the History of Chinese Medicine from a Global Perspective: Theory, Methodology, and Historical Materials", season 1, from October 2021 to December 2021 (source from: the author).

Figure 2 Poster for the lectures under the theme of "Research on the History of Chinese Medicine from a Global Perspective: Theory, Methodology, and Historical Materials", season 2, from April 2022 to June 2022 (source from: the author).

audiences directly learnt the current situation of overseas Chinese historians of medicine and the trend of the history of medicine research through face-to-face questions and answers on the spatial network, as well as to start a direct dialogue with the admirable scholars online.

2 Perspective and framework: how to write the history of Chinese medicine

Interests of Western scholars in Chinese medicine and medical history originated from the Jesuits who visited China in the seventeenth century, who translated Chinese medical literature and *materia medica* into Latin and delivered the knowledge of Chinese medicine to philosophers and naturalists in European through letters, diaries, and society reports. The information constituted the primary historical material for the European intelligentsia's understanding of the knowledge of Chinese medicine and the history of Chinese medicine, which formed the essential cognizance of the image of Chinese medicine in the Western world. In the early nineteenth century, French Sinologist Jean-Pierre Abel-Rémusat, studying at the Medical School of Paris, reflected on the Chinese medical system with scientific thinking. He believed that though Chinese doctors' writing style had always been abstruse, plenty of works on natural science in China deserved Europeans to take a serious interest in them. So did the literature on Chinese medicine. French scholar Frédéric Obringer pointed out that in the nineteenth century, curiosity about the innovation of Parisian medical circles promoted Abel-Rémusat's research on Chinese medicine and culture, forming his own unique way of thinking, that is, observing Chinese medicine with scientific thinking. The track became the basic principle when observing Chinese medical knowledge and the history of medicine in the Western world. This set of methods significantly impacted the field of history of medicine in twentieth-century China. However, it aroused reflections of Western scholars in the twenty-first century. *Routledge Handbook of Chinese Medicine*, a recently published handbook edited by

Vivienne Lo from the University of London,voiced the latest thinking and concerns of Western scholars on the following issues: "What is Chinese medicine?", "How to define the boundaries of Chinese medicine?" and "How to write the history of Chinese medicine?"

Interpreting the "Limits of TCM" from the two perspectives of "China" in geopolitics and "medicine" with multiple concepts to explore the historical significance of both are the basic principles of underlying the writing *Routledge Handbook of Chinese Medicine*. The editor puts forward that before the emergence of other countries or different forms of medicine coming into China, there was no such term as "Chinese medicine(中医)." Such cognition corresponds to that of Chinese scholars in the past decade. Scholars from home and abroad agreed that in Chinese history, "medicine" in Chinese vocabulary was only a neutral word. In the history of Chinese medicine, we can find the terms "Southern Doctors (南医)" and "Northern Doctors (北医)" with regional characteristics, but the term "Chinese medicine (中国医学)" never existed. With the introduction of European biomedicine by the medical missionaries in the 19th century, Chinese doctors and the general public became aware of the differences between indigenous and exotic medicine, which led to the creation of the term "Chinese medicine" corresponding to "Western medicine." The propagation of Western medicine – the modern biomedicine system – greatly impacted the identity of indigenous medicine. This shows us the convergence between Eastern and Western historians in their study of the history of Chinese medicine. However, when it comes to how to define the Chinese medical system, there is still a vast difference in opinion between the perspectives of "ego" and "the other." In general, Western scholars compare the different healing modalities of TCM in Beijing *vs*. Taibei, Tokyo, and London, as well as practitioners surviving on the streets of San Francisco to observe who represents ancient orthodox medicine and inherits the treatment methods of medieval Taoism or Buddhism.

With their open minds and consciousness of problems, Western scholars have argued that the early core ideas of Chinese medicine originated from the culture of divination and numerology under the framework of sociological, anthropological, and cultural analysis. It was the fundament of ancient Chinese healers who created their healing modalities. By analyzing the relationship between religion and healing arts, Western scholars have sought to uncover the diversity of traditions that medicine was interrelated with religion, philosophy, and social customs, which Chinese scholars deliberately want to abandon. In addition, the traditional medicine of the Sinographic World has gradually aroused academic interest; relevant research not only breaks the traditional thinking pattern of China-centrism or the unidirectional export of Chinese medicine to East and Southeast Asia. Gradually accepting the angle of "looking at China from the neighbor" also can liberate scholars from the constraints of geographic boundaries, explore the diversity of traditional Chinese medical knowledge in different geographic regions, and reorganize the mode of writing the history of Chinese medicine.

3 Theory and methodology: traditional Chinese medicine as anthropology

The methodology used to study Chinese medical knowledge is related to the object of investigation and collection of materials on Chinese medicine. Chinese scholars often rely on historical texts and archives to conduct research. Recent archaeological discoveries have provided new evidence that has helped Chinese scholars utilize these resources alongside texts to corroborate the origins of knowledge in the classical record; Western scholars have focused on uncovering from archaeological discoveries what is virtually invisible in orthodox classical works and widely circulated texts. *The Handbook of the History of Chinese Medicine,* for example, raises questions such as the significance of the Lao Guan Shan (老官山) for writing the history of Chinese medicine. Western scholars are more adept at using medical anthropology to explore recognizing and treating the body in traditional Chinese medical knowledge that can coexist with modern society and thus put forward the concept of "Chinese medicine as anthropology." Through field research, Judith Farquhar investigated the "five flavors" of "the taste of heaven and earth" in TCM. She believed that "the taste of heaven and earth" travels between heaven and earth, and the "five flavors" reshape the sense of breathing and feeling, forming sweet, salty, and bitter flavors and smells. Marta Hanson's research on *Zhang Jue* (掌诀 hand mnemonics) was obviously inspired by divination. She found that both in China and Europe, using hand variously to aid one's memory was widely accepted as a cultural custom. Her question awareness is where did Chinese doctors learn to use their hands as a tool for memory and calculation? Her article did not answer her own question, but her research created a new picture for our understanding of TCM knowledge. She believes Chinese healers instrumentalized their bodies in complex ways to improve their cognitive ability fundamentally. She extended her research perspective to the cognitive science field to explore the relationship between Chinese medical knowledge in words and medical technology practiced by doctors. Ruth Rogaski turned her eyesight to her hometown. She interviewed TCM practitioners who traveled across the ocean to practice medicine and local patients in a famous music town in the South United States. Her purpose was to observe how Chinese medicine from the Western perspective was adopted in the "translocal processes" process and the characteristics of creation and "localization" of TCM. For the Chinese people, TCM transformed by Western society more or less presents the "cosmopolitan" features of Chinese medicine, another image of TCM displayed by medical anthropology. Contemporary Western scholars have argued that

this image is created on the premise of a "real, imaginary or preset imagination" of China. However, isn't this the Chinese people's imagination of the "overseas TCM craze?" From this point of view, the research model of "Chinese medicine as anthropology" that tries to break the habitual thinking of Western dualism is still not free from the barrier of Western centrism.

4 Discovery and reinterpretation of historical materials

Two aspects characterize Western scholars' research on the history of Chinese medicine. On the one hand, anthropological and sociological methods have been used to collect and discover the folk medical cultures and historical materials not mentioned in orthodox classic works and widely circulated texts, especially the folk medical codices that have been deliberately neglected or abandoned since the twentieth century. On the other hand, the orthodox classic works have been reinterpreted from the perspective of the history of knowledge and concepts, with most scholars focusing on the three dimensions of "ethnic," "body," and "ontology" to discuss "local knowledge of China." Angela Ki Che Leung introduced the material turn in studying the history of Western medicine in her speech. She believes an object includes concepts such as a technological system, a sociotechnical system, the relationship between people and things, and the relationship between people and nature. Drugs and food contain complex social and ideological issues, and by deconstructing these objects, we can see the intertwined and complex connotations within. Such a research idea invariably expanded the research materials for the history of medicine, "Food and Drugs" is an example, a traditional topic in the study of the history of medicine in China. Angela Ki Che Leung mentioned the latest research in the Western world to investigate food's important role in studying disease, body, and environmental history. Taking an exotic drug *Awei* as an example, a thesis titled "The itinerary of Hing/Awei/Asafetida across Eurasia, 400-1800," co-authored by Angela Ki Che Leung and Chen Ming (陈明), demonstrates how to excavate historical materials from a long-term and global perspective. It is impressive how many languages and diverse historical sources are included in this paper. Only on this basis is it possible to complete the historical narrative of "*Awei*," passed down globally for 1,500 years. Liu Yan's (刘焱) reflection on the concept of "poison" is a remarkable example of reinterpreting the traditional topic. He sorted out the evolution of "toxic" and "non-toxic" ideas. The distinction between a herb being classified as "medicine" or "poison" can be blurry and dependent on the physical effects caused by the substance. Political and social attitudes can also play a significant role in this determination in history. Scholars studying the history of *materia medica* have observed that traditional Chinese medicinal herbs have had their pronunciation, names, and writing patterns translated across various cultures, regions, and periods. Furthermore, there has been a historical phenomenon of "name" and "thing" mismatch in medicinal herbs, which requires researchers to reorganize and provide reasonable explanations.

Physicians and scientists from the West have shown great interest in the medical knowledge presented in *Lei Jing Tu Yi* (《类经图翼》 *Pictorial Appendices to "The Classified Classic")*, which has been influenced by Japanese scholars since the late Qing dynasty and continued to be studied today. This text is an essential resource for understanding the fundamental principles of TCM. While Chinese scholars may not fully agree with Marta Hanson's text interpretation, her perspective and conclusions offer a fresh take. The insights gained from the methods, approaches, and viewpoints of scholars from other countries can significantly enhance our understanding of the history of Chinese medicine.

5 How difficult is it to break conventional cognition (habits)?

This series of lectures took place in the Darkest Hour of the pandemic when all of humanity was working together to fight against COVID-19; Diego Armus's speech on "Uncertainties of Diseases" was a sobering reminder to readers of the fact that society is incapable of coping with the epidemic. He believed that as a historical, cultural phenomenon, epidemics seemed to be a drama that kept reenacting itself. He emphasized that the "world" of epidemics is diverse and complex. A disease defined as a pandemic is ultimately a political decision on a relative basis, thereby exacerbating the uncertainty of the disease. Breaking scientific conventional thinking may be more complex than eradicating a global epidemic virus. This is the message conveyed by Kuriyama Shigehisa's speech. He stated: "We tend to return to our usual and existing habits. Human beings are creatures of habit. Why has this history been neglected until now? My call for a history of habits is for another kind of history, a history more mindful of the wild unevenness of human interests and attention." Kuriyama found that texts from different times manifested different habits, which could vary from our habitual understanding. He asked why the history was often ignored. Unfortunately, his wise and enlightening speeches did not resonate with Chinese audiences, even to the extent that Chinese media worried that readers would not understand his articles because of the obscurity of his research.

To challenge traditional thinking, two steps are required: breaking the old ways (破) and establishing new ones (立). Chinese scholars must first recognize

the need for change, namely "breaking," and then possess the knowledge to implement that change, namely "establishing." Without both of these elements, any plans for change will remain theoretical and ineffective. For Chinese scholars, breaking away from conventional cognition is a difficult journey with a long way to go.

Named after "Special Issue for Research on the History of Chinese Medicine from Global Perspectives," the special issue of the Journal of *Chinese Medicine and Culture* is a phased achievement of the National Social Science Key Project "Research on the Western Spread of Traditional Chinese Medicine by European Scientists and Sinologists." The objective is to facilitate a dialogue between Chinese and Western scholars. This will be accomplished by sharing the findings of Western scholars' research on the history of Chinese medicine, including their methodology and consciousness of problems. The ultimate aim is to promote mutual understanding and collaboration in the academic sphere.

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Feature article

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OPEN

Nashville Qi? Chinese Medicine in an American Heartland

Ruth Rogaski[1,✉]

Abstract

This article shares preliminary results from current research on Chinese medicine in Nashville, Tennessee, a city in the American South known both as "Music City, USA" and "The Buckle of the Bible Belt." The author has interviewed dozens of patients and practitioners in Nashville to understand how Chinese medicine came to the city, what styles of practice are present, and whether or not new understandings of Chinese medicine's fundamental concept of qi might emerge from the unique cultural setting of the American South. While Chinese medicine is flourishing in the city, because of complexities at the intersection of religion, science, and the experience of healing, the clinical encounter between patients and practitioners is not typically characterized by a mutual embrace of a language of qi.

Keywords: Chinese medicine; Nashville; Qi; United States

1 Introduction

This article shares preliminary results from my current research on Chinese medicine in the United States. My research is focused on the flourishing community of acupuncturists in a place called Nashville, Tennessee: a mid-sized city in the US South.

Several anthropologists have probed how Chinese medicine is shaped by local environments in the United States. Sonya Pritzker has explored the "living translations" that take place as Americans learn Chinese medicine in a TCM school located in southern California.[1] Emily Wu has highlighted Chinese medicine as a spiritual quest in the Bay Area.[2] Victor Kumar studied practitioners and patients in the Washington, DC area.[3] Linda Barnes has explored manifestations of Chinese medicine in Boston.[4] Mei Zhan has examined the way Chinese medicine is transformed as practitioners move between Shanghai and San Francisco.[5]

Most of these studies have focused on major cosmopolitan coastal cities with large Chinese immigrant and Asian-American communities. In this project, I ask: what happens when we look at manifestations of Chinese medicine in a place that is very far removed from China? What is the practice of Chinese medicine like in a small city with very few Chinese, a place that prides itself has having strong links to conservative American values—an "American heartland?"

To guide my inquiry, I take inspiration from Mei Zhan's important work on how Chinese medicine is "worlded," or manifested in specific sites through ever-changing relationships among multiple societies, environments, and histories. In her pioneering book *Other-Worldly,* Zhan demonstrates that global Chinese medicine is not a singular thing but is constantly being transformed by its new environments in ways she calls "inchoate, unruly, and extraordinary." In spite of these surprising local transformations, Zhan nevertheless believes that ideas from and about China are still central to the way TCM is practiced outside of China. As Zhan puts it, even for practitioners and patients in the United States, understandings of China "are part and parcel of everyday practice."[5]

This article probes how Chinese medicine came to Nashville, who practices it, and, most importantly, how Nashvillians understand Chinese medicine. I am particularly interested in how Nashvillians interpret the traditional concepts of Chinese medicine—ideas like yin and yang, Five Phases, meridians, and *qi*. Even though many scientific explanations for acupuncture are available, these traditional concepts still form the basis for training in Chinese medicine in the United States. The following discussion is based on dozens of interviews with acupuncturists in Nashville conducted between 2020 and 2023. Through an analysis of the responses of my informants, I seek to understand what sorts of "inchoate, unruly, and extraordinary"

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reshapings of Chinese medicine are taking place in the American South. How might ideas from Chinese medicine interact with the area's rural roots and strong evangelical Christian culture? As Chinese medicine practice grows in the city, might we even see the emergence of a "Nashville *qi*?" As an "American heartland," Nashville demonstrates how Chinese medicine has become "worlded" in a world where we might not expect it.

2 Introduction to Nashville as an "American Heartland"

Nashville is an unusual but instructive place to study Chinese medicine in America. Some may say that Nashville is quintessentially American—it is, after all, known as "Music City, USA," the home of traditional American country music. It is also known as the "Buckle of the Bible Belt," a national center for American evangelical Christianity.

It may be surprising, but this city of traditional American music and American religion is also home to Chinese medicine. I will use two images near my house to illustrate this strange juxtaposition.

Just a 3-minute drive from my house, there is a small Nashville neighborhood called Berry Hill. Berry Hill's modest cottages hold the greatest concentration of independent recording studios in the city. Even though the houses look like shacks, some of country music's biggest stars have recorded here. Here we can find a mural painted on a rickety wooden fence depicting the queen of traditional country music: Loretta Lynn (Fig. 1). Loretta Lynn, known as the "Coal-Miner's Daughter," came from the poor village of Butcher Hollow, Kentucky to become the most famous country singer in America during the 1970s. This primitive but deeply respectful painting of "Miss Loretta" is symbolic of Nashville's deep connections to its rural roots and its identity as a center of American folk culture.

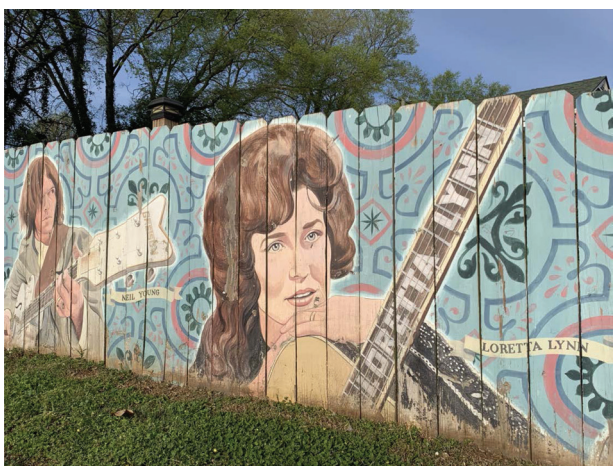

Figure 1 Mural of country music legend Loretta Lynn (source from: photo by the author).

Just a few meters away from this mural, we find another image that signals a very different presence in the neighborhood. A small wooden sign decorated with a faded circle of red, blue, green, silver, and yellow announces a small acupuncture clinic called Five Elements Healthcare (Fig. 2). The white American woman who runs the clinic has been practicing acupuncture in Nashville since the 1990s: indeed, she is one of the "mothers" of acupuncture in the state who pushed for legislation to make acupuncture legal in Tennessee in the early 2000s.

This is not the only spot in Berry Hill where Chinese medicine is practiced. Across the street from the Five Elements clinic is another venerable Nashville clinic run by an Israeli acupuncturist from Tel Aviv. Down the street there was until recently another clinic run by a woman from Shanghai who learned Chinese medicine as a barefoot doctor during the 1960s to 1970s. Two Chinese brothers have a flourishing practice at one end of the neighborhood, while at the other end, a white Canadian woman with a PhD in Oriental Medicine from an American school has just opened up a practice. This surprising juxtaposition of country music and acupuncture clinics indicates that Chinese medicine has already been planted in the soil of an American heartland.

Nashville might be called an "American Heartland" for several reasons. The first is its location. Nashville

Figure 2 Local Nashville acupuncture clinic (source from: photo by the author).

is the capital of the state of Tennessee. Tennessee is state located in a meeting-point of different regions. It is located in the southeastern United States, wedged between Kentucky, Mississippi, and Alabama, but it is also quite far inland—directly south of Illinois and Indiana. Tennessee is a long state. Its easternmost regions touch the Appalachian Mountain range, while its western border is on the Mississippi River. Tennessee's forests and rivers were home to legends of American culture like Daniel Boone, Davy Crockett, Tom Sawyer, and Huckleberry Finn.

The population of Nashville today is approximately 700,000. Nashville is the largest city in the state of Tennessee, but it is only the 21st largest city in the United States. Its modest skyline suggests a place with a small city, low urban density feel (Fig. 3). In terms of demographics, Nashville has traditionally been a city in black and white (Table 1).[6] In 1970, 80% of the population were European-descended Whites, while 20% of the city's population were descended from formerly enslaved people of African descent.[7] Over the past 20 years, the city has become much more diverse. Today, Nashville has the fastest growing immigrant population of any city in the United States, and is home to bourgeoning communities of Kurds, Guatemalans, Egyptians, Somalis, and Burmese.[8] In spite of these rapid changes, people of East Asian descent are still a very small minority of the population.

Nashville is relatively famous in the United States for a few reasons. For more than 100 years, Nashville has been called the "Athens of the South" because of its large number of colleges, including top-ranked Vanderbilt University. Today, Nashville has become a center for IT development, medical research, and related health-care industries. But in American popular culture, Nashville is best known as Music City, USA: the home of American country music. Nashville is host to numerous record labels and recording studios and has spawned a global industry of country music stars.[9,10] Nashville's reputation as Music City has driven a multi-billion-dollar tourism industry. Over sixteen million tourists a year flock to Nashville to listen to music in the city's many "honky tonks." In recent years, Nashville has also become the number one destination for bachelorette parties in the United States.[11] For these tourists, Nashville is a center of American-style fun—manifest in country songs about trucks, cheating, fighting, and above all, drinking.

Table 1 **Nashville demographic change, 1970–2020 (numbers do not add up to 100%: small number of "other" categories not included in table) (source from: https://en.wikipedia.org/w/index.php?title=Nashville,_Tennessee&oldid=1164318813#Demographics)**

Population by race	1970	1980	1990	2010	2020
White	79.5%	75.2%	73.2%	56.3%	56.3%
Black	19.6%	23.3%	24.3%	28.2%	27.4%
Hispanic	0.6%	0.8%	0.9%	10.0%	10.4%
Asian	0.1%	0.5%	1.4%	3.1%	4.0%

Given its identity as a place to party, it is ironic that Nashville Tennessee is also known as the "Buckle of the Bible Belt."[12] It is an important center of evangelical Protestantism in the American South. Nashville holds the headquarters of three major denominations: the United Methodist Church, the Southern Baptist Church, and the African Methodist Episcopalian Church. Nashville is also a center of Christian publishing and communications in the United States, with many corporate campuses, buildings, and retail outlets related to Christian media. The majority of the population identifies as Protestant Christian, and unlike many cities on the coasts, attendance in church on Sunday morning in Nashville is robust. Indeed, Nashville has more megachurches per capita than any other city in the United States.[13]

This is the paradoxical Nashville environment in which Chinese medicine now flourishes. Nashville is a sort of *yin-yang* place of unexpected yet complimentary phenomena: it is both homogeneous and diversifying, a place with a high concentration of both bars and churches, a city that parties hard and prays hard. How, then, does Chinese medicine manifest in Nashville? Who are the practitioners of Chinese medicine in this city, and how did they get there? To understand this, we must investigate the licensed acupuncturists in the region, since in the United States, Chinese medicine manifests primarily as acupuncture.

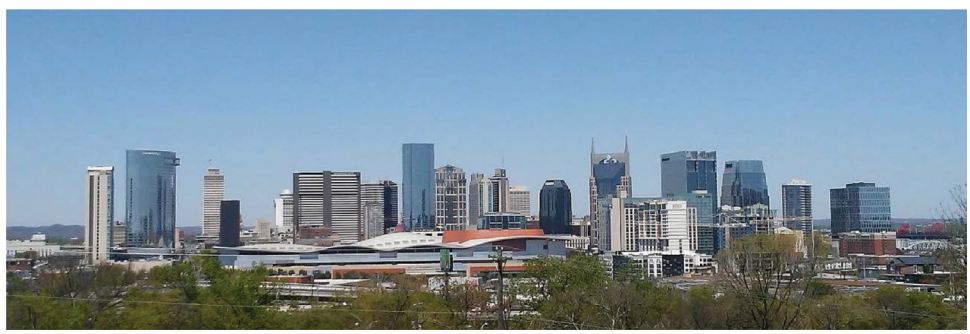

Figure 3 Nashville skyline (source from: Wikipedia Commons).

3 Nashville's practitioners of Chinese Medicine

According to the Tennessee State Committee on Acupuncture, there are approximately 200 active licensed acupuncturists in the state[14]—this is out of approximately 38,000 acupuncturists in the entire United States (Fig. 2).[15] It is not surprising that there are far more acupuncturists in places like California and New York, and it is not just because those states have larger populations. California has about 30 practitioners per 100,000, while the state of Tennessee has only about 3 per 100,000. In spite of their small numbers, Nashville's community of acupuncturists is thriving and growing.

Who practices Chinese medicine in today's Nashville? To date, I have been able to identify approximately 50 individuals with active acupuncture practices in the Nashville area. They can be categorized in several ways (Fig. 5-7). There are almost equal numbers of men and women, with slightly more men. Approximately two-thirds of the practitioners are of non-Asian descent, primarily white Americans who were born and raised in the United States and who studied acupuncture in the United States. One third of the practitioners were born and studied Chinese medicine in China. A small number of individuals hail from other East Asian countries like South Korea but received training primarily in the United States. Degrees vary a great deal. Some are MDs (achieved in the United States or in China), some have doctorates (PhD), the majority were trained in the United States and received masters in acupuncture and are licensed acupuncturists (L.Ac.). Only a few who trained in the United States have the "Oriental Medicine" degree which combines knowledge of acupuncture and herbal medicine.

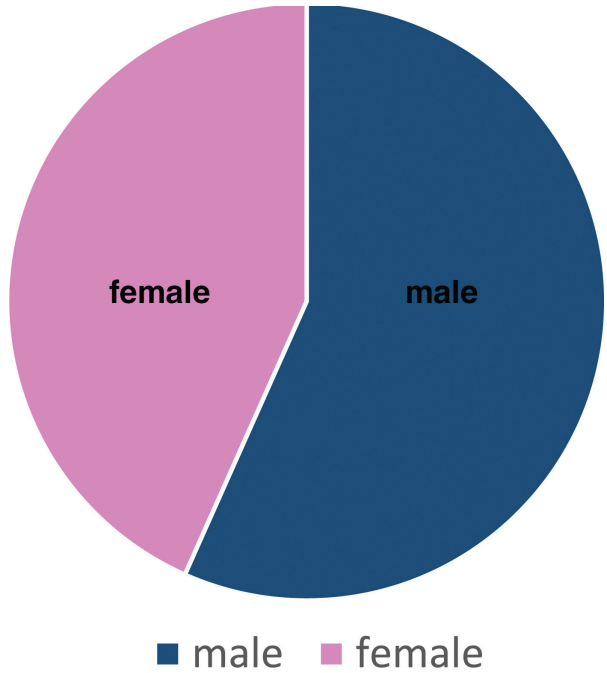

Figure 5 Analysis of Nashville acupuncturists by sex (source from: the author).

Most practitioners I interviewed came to Tennessee through interesting and convoluted journeys. Only one of the twenty-five practitioners I have met is native to Nashville. Others came from places around the world, including Baltimore, Seattle, New York City, Tel Aviv, Taibei, Chengdu, and Shanghai. Whether from China or the United States, few moved to Nashville with the intention of practicing Chinese medicine. Instead, most arrived more or less by accident through chance connections to

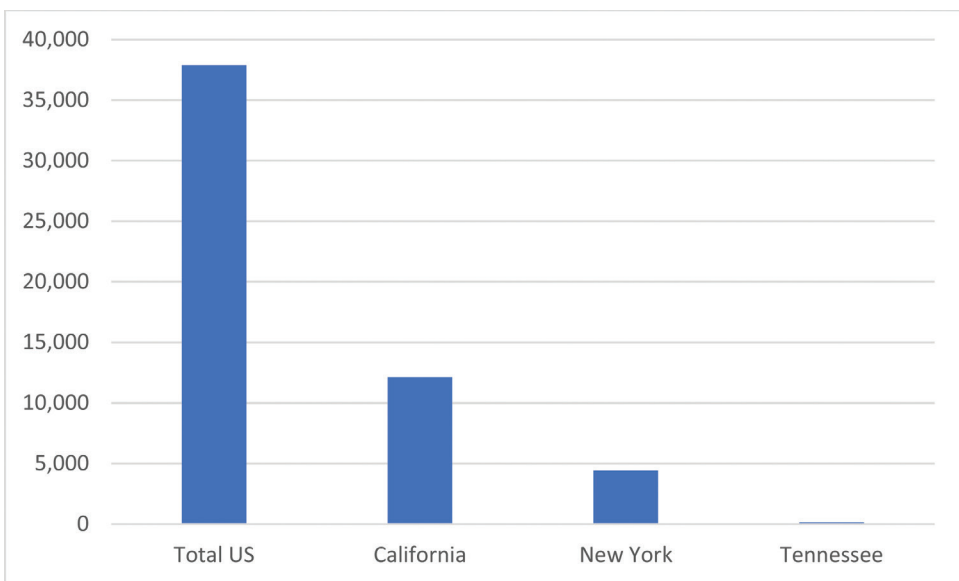

Figure 4 Number of acupuncturists in US, comparing CA, NY, and TN (source from: Tennessee State Committee on Acupuncture).

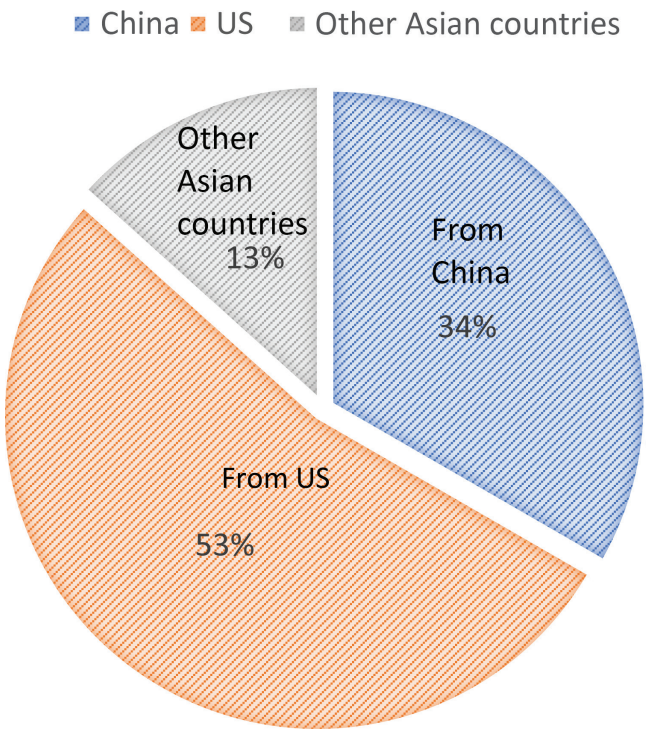

Figure 6 Analysis of Nashville acupuncturists by national origin (source from: the author).

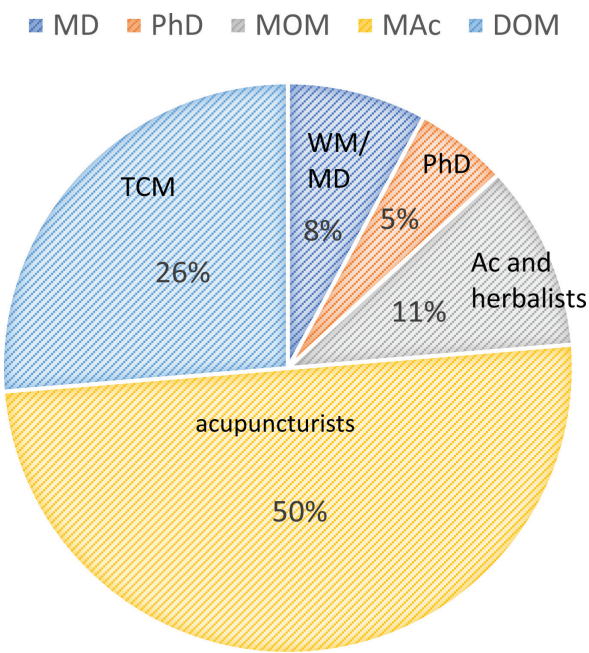

Figure 7 Analysis of Nashville acupuncturists by training (source from: the author).

other industries and through far flung networks. Many moved to Nashville because they or their spouses happened to find jobs with Nashville's numerous universities or through the corporate offices of Nashville's many Christian institutions. Some moved to Nashville because of connections with Nashville's thriving entertainment industry. The US military has also helped seed Chinese medicine in the area through its promotion of acupuncture in its Veterans Administration medical system.[16] Interestingly, most of the practitioners from China initially came to Nashville because of scientific connections with Vanderbilt University—either the practitioner or the practitioner's spouse worked in the university's biomedical science laboratories on scientific research *not* related to TCM.

All practitioners interviewed had remarkable stories of how they became practitioners of Chinese medicine. In her pioneering work on practitioners of Chinese medicine in the United States, Linda Barnes has theorized the decision-making processes that led practitioners to choose Chinese medicine as a language of *Xin* (心), a form of agency that is "simultaneously cognitive, affective, embodied, and cosmic."[17] My Nashville informants similarly spoke of a multi-layered process that combined emotion and what they deemed as rational choice, but for the most part, their descriptions leaned decidedly more toward the "cosmic." Among the practitioners who were trained in the United States, almost all characterized their decision to become an acupuncturist as being inspired or even dictated by a mysterious force they described as "an inner voice" or a literal "calling." A small number of individuals had prior interest in "Oriental culture," including meditation, yoga, and martial arts. But the specific prompting toward Chinese medicine was sparked by uncanny experiences. Some came to acupuncture after deep emotional trauma. Some recounted having reoccurring dreams that inspired them to study TCM. Others literally heard clear voices in their heads telling them to "go study herbs." Most identified these voices as "inner voices" coming from the individual's own intuition, but one practitioner who self-identifies as a devout Christian attributed this voice to God. For the most part, those who studied Chinese medicine in the United States characterized their career path as being relatively devoid of rational choice, motivated by an outside force that was nevertheless highly personal: something of a mystery, inexplicable but powerful, indeed, "other-worldly."

The journeys to Chinese medicine for those who came from China were quite different. Some from China began as barefoot doctors in the countryside and were then sent to schools of traditional Chinese medicine; others had hoped to become doctors of Western medicine when they were young, but their test scores weren't high enough to get into medical school, so they had to go to colleges of Chinese medicine. These tales manifest the structures of Mao-era history and socialist education and show the power of state structures to determine life paths: as one interviewee from China put it: "none of this was my choice." But their journeys to America, in their telling, seemed full of serendipitous events and uncanny connections,

chance occurrences that resulted in a relocation from huge metropolitan areas in China to Nashville, Tennessee—a place that most of them had never heard of before. Looking back and reminiscing about their journeys from China, many informants attributed their arrival in the American South to the workings of fate (命), a force as mysterious as the "inner voices" heard by American-born practitioners, located not within the heart but in the inexplicable outer workings of an impersonal universe.

4 Diverse styles of practice in the "needling" marketplace

Once they achieved their "calling" and the workings of fate led them to Tennessee, how did these individuals practice Chinese medicine? Almost all describe their practice as consisting primarily of treating musculo-skeletal pain, chronic headaches, and mental health problems such as anxiety and depression, although several practitioners also specialize in OB/GYN/infertility treatments. The vast majority treat disorders with acupuncture alone—I have encountered only a few who also regularly give oral medicines/herbal medicines. Indeed, if we were to try to come up with one term that describes this profession, it would *not* be "Chinese medicine" but rather "acupuncture." Indeed, when queried, many non-Chinese practitioners expressly denied that what they were doing was "Traditional Chinese Medicine." Many American-trained practitioners spoke of TCM as a very distinct style of practice that relied on a mechanistic system of differential diagnosis and used acupuncture needles with deep insertions and harsh manipulations. Several practitioners were more attracted to a "Japanese style" of acupuncture (KMS—Kiiko Matsumoto Style) involving extremely thin needles with very shallow insertions or no insertion at all. Several practitioners called this a more "elegant" and "gentle" way to practice and appreciated how the points were found through manual palpation of the patient's body, not through mechanistic application of patterns and meridians. Others proclaimed that they were practicing *Classical* Chinese medicine, a medicine more attuned to emotions, less mechanical, more spiritual and intuitive—thus echoing trends from California to China identified by Pritzker, Zhan and others.[18] Many others mentioned specific styles almost as "brands" they acquired after attending continuing education seminars or webinars: these included Dr. Zhu's Scalp Acupuncture, Master Tung Acupuncture, and Dr. Tan's Balance Method. Some practitioners also employed methods far outside of the realm of Chinese medicine that are specifically branded as trademarks, including Life Fertility Biotherapy, ATP Resonance Biotherapy, and Ozone Reboot Therapy.

As soon as I started studying manifestations of Chinese medicine in Nashville, I quickly realized that the term "Chinese medicine" was a misnomer. Indeed, as noted by Wang Tianfang (王天芳), Yemeng Chen (陈业孟), and others, acupuncture in the United States has undergone a remarkably diverse development.[19] This diversity could also be reflective of the essential diversity of practice that has typified Chinese medicine for millennia.[20–22] In the end, I found that it was difficult to find something that held all these practices together other than the use of needles: an issue that leads to complications.

Indeed, many of my interviewees see themselves as competing within a healing marketplace that is saturated with needles, and they were struggling to establish boundaries between themselves and the many purveyors of needle-based therapies. Specifically, practitioners frequently spoke of competition from acu-detox specialists (ADS) and those who practice dry needling (DN).

"Acu-detox" is a non-diagnostic auricular acupuncture protocol consisting of five standard points in the ear, done to treat PTSD, stress, and addiction.[23] Originally developed by a French physician, refined in China,[24] and standardized for addiction treatment by public health physicians and Black and Puerto Rican activists in the United States,[25] ear acupuncture requires relatively little training and is given in communal settings for very little money or for free. It is also widely practiced in Nashville as a treatment for addiction, since Tennessee is one of the states hardest hit by America's current opioid crisis—the state ranks fourth in the nation in drug overdose deaths per capita[26] and third in the nation for prescription drug abuse.[27]

Licensed acupuncturists typically voiced admiration for ADS's work among the city's poor but reserved stronger criticism for the emerging popularity of "dry needling" in the city. The term dry needling comes from the fact that unlike the typical needle encountered in biomedicine—the "wet" hypodermic needles—the needles used in dry needling are not attached to a vial containing liquid to be injected. These needles are inserted in specific trigger points, based on the location of pain, and moved in and out quickly. Explanations for the effect of dry needling are explicitly based in terms related to biomedical anatomy such as myofascial tissue.[28] While decades of scientific research have clearly linked Chinese medicine's acupuncture to biomedical structures and mechanisms, education in acupuncture is typically based on learning diagnostic techniques and treatment protocols based in traditional theories such as *qi* and meridians. As a result, those who practice dry needling sometimes (erroneously) try to distinguish their technique as uniquely "evidence based" in contrast with what they castigate as more exotic "energy"-based "Eastern" medicine.[29]

Nashville acupuncturists' frustration with dry needling has economic, sociological, and epistemological components. Their complaints echo frustrations that have been voiced by acupuncturists in America at a

national level.[30] My informants complained that health-care technicians such as physical therapists, sports trainers, and occupational therapists could become certified to perform dry needling after as little as 27 hours of training ("just a $1500 weekend course") while as licensed acupuncturists, they had spent several years and upwards of $70,000 to train for their profession. They lamented that American consumers often did not understand the difference between the acupuncture that is based on extensive training in the theories of "Oriental Medicine" and the simple dry needling that is deployed by lower-level biomedical health-care personnel. Some spoke of the competition with dry needling in terms of market share. As one practitioner put it, Nashville's professional football team, the Tennessee Titans, in the past had employed local licensed acupuncturists to treat their players, but new management came in and got rid of acupuncturists and brought in dry needling done by lesser-paid physical therapists. The lack of access to professional athletes took away the extreme "top of the market." At the other end, "the acudetox people," with their free clinics, "took the bottom" of the market, leaving acupuncturists to compete for middle-class patients who are often hesitant to pay out-of-pocket for the multiple treatments needed to see results. This fear of losing market share voiced the inability of acupuncturists to distinguish themselves as the more qualified wielders of the needle—qualifications that are based on long clinical hours demanded by their training, but also on their grasp of theories of meridian channels, pulse and tongue examinations, yin-yang thinking, pattern diagnosis, and a fundamental understanding of *qi*.

5 The possibility of a Nashville *qi*?

One might think that practitioners would emphasize their understanding of traditional Chinese concepts such as *qi* to help patients distinguish acupuncturists from other "needlers." However, the majority of the practitioners I've interviewed to date do not see it this way. Whether trained in China or United States, most say they explicitly *do not* explain ideas such as yin, yang, *qi,* or meridians to their Nashville patients. Indeed, I was shocked by how readily they dismissed the idea of doing so. Several American-trained practitioners said that any talk about traditional East Asian theories is "best avoided" because it is "not a satisfying discussion." They insisted that talk about *qi* and other Chinese medicine terminology "makes things difficult." Talking about *qi* would be "a bridge too far" for most Nashvillians. It was either "not accessible" or "too mysterious." Several had a very clear stand that the conceptual underpinnings of Chinese medicine were in fact *not* what draws patients to them. As one practitioner put it, "what I'm selling is not the medicine: what I'm selling is me." Some practitioners even stated that mention of any Chinese cultural underpinnings would be a detriment to their ability to market themselves. It is important to note that there *are* a few practitioners in Nashville who explicitly educate their patients about things like *qi* and do so with great enthusiasm.[31] But for the most part, practitioners rely on efficacy and not knowledge to distinguish their craft: as put by one informant, they prefer to "let the needles do the talking."

But even as they described their patients' limited potential for understanding traditional Chinese medicine's concepts, many US-trained practitioners themselves often voiced a skepticism or a bewilderment about how acupuncture actually operated. All had been exposed to biomedical explanations for the mechanics of acupuncture. At the same time, they had all been trained to work within a world defined by yin-yang, *qi,* Five Phases, and other fundamental concepts of Chinese medicine. Yet when pressed to discuss the functioning of their medicine, they often resort to quotes such as "I really don't know how it works," "it's magic" or "it's a mystery." These statements are clearly designed to express humility and a sense of wonderment about what acupuncture can achieve. Several practitioners see "mystery" as a plus—they hold that one of Chinese medicine's best qualities is that it is comfortable with ambiguity and uncertainty. At the same time, for many, this talk of "magic" or "mystery" belied a sense of ambivalence and disconnection. When things worked out with treatment, they were grateful to the medicine and their training, but they would still be confused or frustrated when the same treatments would not work for others (as one practitioner put it in a very American baseball idiom, with each patient he "swings for the fences, but doesn't always hit a home run"). The workings were a mystery, but when pressed, few attributed the mysterious functioning of Chinese medicine to *qi*. Remarkably, there was even one practitioner who stated that concepts like *qi* would have to be eliminated if their profession had any chance of surviving in the United States. This opinion was an outlier, but even those who had come to Chinese medicine because of an attraction to "Oriental" cultural underpinnings had a pessimistic view about the continued survival of the profession—a sense that it would get swallowed up by biomedical practitioners and dry needlers, and the career they had worked so hard to achieve would become irrelevant, obsolete.

6 Discussion and conclusion

What could explain this reluctance to talk about Chinese medicine's most fundamental concepts? Why is there seemingly little discussion of China, "real or imagined or anticipated" in Nashville's acupuncture? Where is "Nashville *qi*?"

Perhaps it has something to do with Nashville's position as the buckle of the Bible belt. Certain Protestant denominations explicitly counsel believers to avoid medical treatments that are based on forms of "energy" that are

not recognized by science and thus might compete with ideas of a spiritual God.[32] This problem was experienced by older acupuncturists in Nashville, who clearly remember receiving pushback from some local church-goers when they first started seeing patients. They sometimes received notes slipped under the door accusing them of practicing Voodoo or had patients who said their pastor warned them that acupuncture was the "devil's work." But even those patients who were worried about the devil's work would come back if the treatments made them feel better. Such stories remind us that for all its religious conservatism, the American South has had a long history of generating and accepting "unorthodox" medicines, from Thompsonianism to chiropractic.[33,34] Nevertheless, we can't rule out the role of religion as part of what makes it difficult for concepts from Chinese medicine to gain traction in Nashvillian's everyday experience. Today, many Americans readily accept the role of inexplicable mysteries in their lives: indeed, much of American "therapeutic culture" revels in the idea that there are workings in the universe far beyond what can be explained by science. But such mysteries frequently belong under the purview of God, Jesus, or the Holy Spirit (if we use the language of the church), or a "Higher Power" (if we use the language of 12-step recovery). Given these monopolies, there is little room to encompass the mysteries of healing under the language of *qi*.

Perhaps we should not think of Chinese medicine in the United States as a project of knowledge-creation at all. In his 2019 study of Chinese medicine in the DC suburbs, Kumar found a similar disinclination to talk about Chinese medical theories among practitioners and patients. Instead of lamenting this as a "lack," he shifted his focus from "knowledge-production" to "not-knowing" as an object of analysis. This not-knowing was "not a form of ignorance, but a way of emphasizing those aspects of acupuncture therapy that are *not beholden to knowledge*."[5] Instead of *theories* about *qi* and yin and yang, practitioners and patients spoke about the importance of therapeutic *relationships*: medicine as an embodied but ineffable knowledge that is created through the intimate encounter between the sufferer and the practitioner. Kumar also suggests that the prevalence of "not-knowing" in acupuncture is a way of grasping the "nonspecific," or not-yet-explained aspects of Chinese medicine's efficacy—something that also exists in biomedicine but is seldom acknowledged.

Perhaps the lack of a Nashville *qi* reflects the border-making struggles that lie at the very heart of the condition of Chinese medicine in the modern world. As the historian of medicine Sean Hsiang-lin Lei has put it, Chinese medicine since the early twentieth century has existed as "neither donkey nor horse"—a mongrelized entity at once "scientized" and yet resisting total "scientification."[35] Lei argues that this mongrel form is perfectly reflective of the contemporary condition, which in the words of Latour has "never been modern." But this mongrel exists in a biomedically dominated world that is constantly attempting to erect borders, constantly striving to distinguish itself from "the other" through evidence. If we think back to the "dry needling" *vs.* "acupuncture" debate, we find that dry needling is sometimes perceived by some as being based on evidence while Chinese medicine is characterized as being based on "energy"—the most common English-language translation for *qi*. In spite of the large amount of scientific research pointing to possible biomechanical explanations for acupuncture's effects, "energy" is indeed the most commonly encountered word used to describe the mechanism of Chinese medicine in the United States, whether in popular media, government documents, or in the clinics of Nashville, Tennessee. In the minds of many, this energy is subjectively *felt* but not objectively *proven,* and is therefore less-than-real: as the NIH's Center for Complementary and Integrative Health once defined it, acupuncture is a form of "energy medicine," but that energy is "putative," or "not veritable": in other words, not real (Note 1).

The seemingly innocuous use of the term "putative energy" represents the fierce boundary-making struggles between biomedicine and what are termed complementary and alternative medicines (CAM). As discussed by Colleen Derkatch's 2016 study *Bounding Biomedicine,* scientific research into CAM in the West is a profound boundary-negotiating discursive activity, with lines drawn again and again through an idealization of evidence, research, and efficacy.[36] Biomedicine has attempted to maintain its position of privilege and prestige throughout this process, claiming the power to "position CAM variously within and beyond biomedical boundaries." This activity is not only discursive, but political as well, powerfully manifested in economics, education, and legislation that shape the terrain of practice. It is clear from my research that this boundary-making struggle puts many individual practitioners in Nashville—people who were simply trying to follow their inner voice and alleviate some suffering in the word—in a difficult position. They recognize the power of their medicine but are groping for ways to claim authority in the face of forces beyond their control. Under such circumstances, for most practitioners, talk about things like *qi* has limited utility. Because of ongoing complexities at the intersection of religion, science, and the experience of healing, in this particular "American heartland," it is difficult to employ "real or imagined or anticipated imaginaries" of China in the practice of Chinese medicine.

Notes

1.These definitions are from an older iteration of what is now the NIH's Center for Complementary and Integrative Health (NCCIH) but was then the National Center for Complementary and Alternative Medicine (NCCAM). "What is Complementary and Alternative Medicine?" http://nccam.nih.gov/health/whatiscam (first accessed April 29, 2014, link no longer functioning).

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Ethical approval

This study does not contain any studies with human or animal subjects performed by the author.

Author contributions

Ruth Rogaski drafted and reviewed the manuscript.

Conflicts of interest

The author declares no financial or other conflicts of interest.

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Grasping Heaven and Earth (*Qian Kun Zai Wo*): The Body-as-Technology in Classical Chinese Medicine

Marta Hanson[1,✉]

Abstract

Shifting focus from the patient's body to the healer's body, this essay focuses on how Chinese physicians instrumentalized their bodies to heal (ie, body-as-technology) and their hands to think with (ie, hand-memory techniques or simply, hand mnemonics). When physicians used their hands to memorize concepts related to clinical practice, calculate with time variables, and carry out ritual gestures intended to reduce risk, improve fortune, and even cure, their hands became extensions of their minds. This essay has three parts that follow the discovery process of the author's research on hand-memory techniques found in Chinese medical texts. The first part "Divination and Revelation" explains the significance of how the author first learned about Chinese divination practices that used hand mnemonics. The second part "Original Frame" introduces the scholarship on arts of memory in Europe that informed interpretations of the earliest hand mnemonics found in Chinese medical texts. The third part "Expanded Frame" deploys some concepts from cognitive science to help situate Chinese medical hand mnemonics more broadly as an example of extended cognition. The essay concludes with an important distinction: sometimes Chinese healers' hands were used separately from their bodies to think through things and sometimes hand and body had to be integrated in order for the healer's body-as-technology to act as a therapeutically effective instrument.

Keywords: Arts of memory; Body-as-technology; Extended cognition; Hand mnemonics

1 Introduction

This essay introduces research that builds upon the central insight that Chinese healers instrumentalized their bodies, especially their hands, in complex ways that augmented their cognitive capacities. These mind-hand techniques sharply contrast with modern society's increasing deputizing of cognitive functions to software on phones and computers that structure our minds as much as dominate our daily lives. The title of this essay, "Grasping Heaven and Earth," refers to the way in which Chinese doctors understood the natural-medical world both bodily, using hand-memory techniques (ie, palm mnemonics), and conceptually, with their minds. Heaven (*Qian* 乾) and Earth (*Kun* 坤) refer to two of the eight trigrams as well as two of the 64 hexagrams that make up the *Zhou Yi (*《周易》*The Book of Changes)*, arguably the most influential divination manual in Chinese culture. Together *Qian Kun* (Heaven-Earth) metaphorically refers to everything and all transformations in the world.

In particular, this essay focuses on *Zhang Jue* (掌诀) in Chinese medical texts and their broader significance in mind-body connections. In English, *Zhang Jue* (掌诀) has two parts: first, *Zhang* has the straight-forward meaning "palm"; the second term *Jue* is more multivalent as it refers to various types of technical knowledge and, depending on context, could be translated as "tricks," "methods," "instructions," "rhymes," and "mnemonics." Because in Chinese medical texts, *Zhang Jue* refers to using the hand variously from memorizing and recalling to calculating and carrying out exorcisms, the chosen translation in this essay is "palm mnemonics."

In Latin, the term "dactylomancy," meaning "finger divination," conveys what palm mnemonics were often, although not exclusively, deployed to do. Thus, the English translation "palm mnemonics" captures their memorizing and mnemonic functions, while the Latin translation captures their predictive and divinatory functions. Evidence of Chinese healers using their hands to memorize, think with, divine, and perform exorcisms occurred at least by the 7th century in Buddhist healing rituals and the writings of Sun Simiao (孙思邈).[1]

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By the late 11th century, hand mnemonics had appeared in medical texts for doctrines related to the 60-year cycle, seasonal transformations, and predicting epidemics.[2]

1.1 Body-as-technology

The subtitle of this essay, "The Body-as-technology in Classical Chinese Medicine," is inspired by Projit Mukharji's *Doctoring Traditions* about traditional South Asian medicine. In his book, Mukharji discusses how Indian medical practitioners from the 1870s to 1930s adopted small technologies – the pocket watch, organotherapy, the thermometer, and microscope – from Western medicine and integrated them into their native medical traditions. The final chapter of *Doctoring Traditions* focuses on a fifth technology – namely, how the Ayurvedic physicians viewed their bodies as integral to the healing process.

They conceived of the healer's body as a 2-wheeled chariot with one wheel being their mind of knowledge and the other wheel being their body for practice. For their body-chariot to function effectively, their mind had to be one with their body. Thus, their notion of a physician's "ritual purity" was integral to healing for an impure healer's body was considered to be a blunt healing instrument.

> "…we will argue that the inseparability of the sociocultural and the therapeutic was engendered by the simple fact that the body of the Ayurvedic physician functioned as a technology in and of itself. To this end we will focus on a single one of Gopalchandra's injunctions, the one about the evacuation of the physician's bowels. The reason Gopalchandra was concerned with the physician's bowl was not simply in order to enforce a social more, but because he and others like him felt that a constipated physician was a blunt instrument that was therapeutically inefficient."[3]

This quotation illustrates the practical dimension of the body-as-technology concept. Originally, effective physicians had to be pure in thought as well as in body. Thus, in order to be therapeutically effective in their healing encounter, the Ayurvedic physician needed to evacuate their bowls before seeing a patient. They also had to dress properly and carry themselves in a dignified manner with appropriate comportment.

The Tang-period physician, Sun Simiao, wrote the first essay devoted to medical ethics that expressed comparable ideas. His emphasis, however, was on the physician's consciousness and moral purification as necessary for effective cures, not bodily purification.

> "When a patient suffers from wounds or running bowels so foul that people cannot stand to look at him and he has become an object of disdain, resolve to treat him with regret, pity, and concern. [The great physician] should not hesitate at all; that is my resolve. The great doctor, in embodying [the Way], aspires to purify his consciousness and look inward. Seen from afar, he appears severe, but he is deeply tolerant. He is neither dazzling nor indistinct. In diagnosis, his attitude is deeply serious; in close examination of the physical signs, he does not ignore the least detail."[4]

The ideal physician in this summary is thus someone who has compassion and a clear conscience. Someone who is introspective, serious, and detail oriented. But also this ideal physician is someone who is "neither dazzling nor indistinct" which suggests the same concern for dressing properly required of the Ayurvedic physician.

1.2 Time keeping with sound and pulse

Another illustration of the "body-as-technology" concept relates to how healers used their bodies as time-keeping devices. Before adopting the pocket watch to time their patients' pulses, for example, Indian healers tracked time orally by reciting rhymes. In short, they chanted to demarcate time just as in English some long words are used as placeholders to count seconds: one 100, two 100; or one Mississippi, two Mississippi; or even one potato, two potato, three potato, four.[5]

Similarly, Chinese doctors used their own breath when taking a patient's pulse. This is described, for example, in a passage from the 1742 medical publication, *Yu Zuan Yi Zong Jin Jian* (《御纂医宗金鉴》 *Imperially Commissioned Golden Mirror of the Medical Tradition*).[6] Before taking the patient's pulse, the healer is instructed to first "balance one's qi" (*Tiao Ting Zi Qi* 调停自气). Then, within one breath, the healer can measure whether the patient has a normal pulse (4–5 beats), slow pulse (3 or less), or fast pulse (6 or more).

> "Balance one's *qi*; [one] inhale and [one] exhale determines a breath. Four to five
> pulse beats [within one's own breath], is a healthy case. Three or less pulse beats
> [within one's own breath], is a slow case that indicates coldness. Six or more
> pulse beats [within one's own breath], is rapid, and indicates a hot syndrome."[7]

Here, the concept of the healer's body-as-technology usefully focuses one's attention on how healers used their own pace of breathing to count time and their hand to feel when reading a patient's pulse.

This essay has three sections. First, it provides an example of a divination technique that directly led to a revelation about an original research topic in Chinese medical history. This revelation added a completely new dimension to the previous research interests. Then, the essay introduces the original frame within which the author worked out how to analyze the original research topic according to this new dimension. Finally, it explains an expanded frame beyond the original one and why it became important for better understanding the primary medical sources the author was working with before being introduced to Chinese divination practices.

2 Part I divination and revelation

2.1 Preparing a paper for a conference

In July 2001, the author was preparing for an academic conference to be held in Paris in September. The conference was titled "From Image to Action: The Dynamics of Visual Representation in Chinese Intellectual and Religious Culture" (Collège de France, September 3–5, 2001). The organizers of this conference eventually published an important book on the relation between graphics and text in Chinese technical knowledge.[8] At the time, the research focus was on illustrations in traditional Chinese medical texts. In the introduction to the resulting book, Francesca Bray argued that *Tu* (图) – variously "diagrams," "illustrations," "images," "maps," or "tables" – functioned as both didactic and as visual templates for action. I decided to focus on *Tu* that were used to summarize knowledge considered predictive of epidemics in 60-year cycles. These *Tu* were used to illustrate a medical doctrine called the "five cyclical phases and six climatic configurations of *qi*" (*Wu Yun Liu Qi* 五运六气). The short-hand expression "phase energetics"[9] succinctly captures the relationship between what the Chinese understood as the five cyclical phases of Heaven and the six energetics of climatic *qi* on Earth.

This research focused on the following three books because they had the most illustrations related to this doctrine. *Gu Jin Yi Tong Da Quan* (《古今医统大全》 *The Complete Compendium of Ancient and Modern Medical Works*), edited by a former imperial physician Xu Chunfu (徐春甫 fl. 1557), contains 33 relevant diagrams. The literati physician Zhang Jiebin (张介宾 1563–1640) published an even larger number of related diagrams in his *Lei Jing Tu Yi* (《类经图翼》 *Pictorial Appendices to "The Classified Classic,"* 1624). Nearly doubling Xu's 33 diagrams, Zhang's 64 diagrams illustrate the full range of how "phase energetics" was applied in both Chinese epidemiology and clinical practice. This was especially the case in pulse reading to determine normal and aberrant pulses depending on "phase energetics." Finally, the imperially commissioned *Yi Zong Jin Jian* (《医宗金鉴》 *Golden Mirror of the Medical Tradition*, 1742) edited by imperial physician Wu Qian (吴谦) reprinted 23 related diagrams. Many of the circle diagrams used in the 1742 *Golden Mirror* were taken directly from either Xu Chunfu's 1557 compendium or Zhang Jiebin's 1624 compilation. The research question focused on how medical authors used diagrams (*Tu* 图) as well as mnemonic verse (*Ge Yue* 歌曰) to explain the *Wu Yun Liu Qi* (五运六气) doctrines. These doctrines connected cosmological transformations with both society-wide epidemics and individual cases of illness in some currents of classical Chinese medicine since at least the eighth century when it likely first appeared in the edition of *Su Wen* (《素问》 *Basic Questions*), the first part of *Huang Di Nei Jing* (《黄帝内经》 *The Yellow Emperor's Inner Classic*, ca. 1st century BCE), that included commentary by Wang Bing (ca 710–805) and was presented to the emperor in 762.[10] These doctrines ended up comprising seven chapters (66–71 and 74) of Wang's eighth-century edition of the *Basic Questions* that by the eleventh-century scholars already started to question their classical authenticity and suggested Wang may have interpolated them himself. Phase-energetics doctrines none-the-less became more well-known by the end of the eleventh century and early twelfth century when they were republished in new Song-era medical texts (Note 1).

The main question for the author initially was about how these doctrines became the basis for Chinese epidemiology thereafter and how they were promulgated in Ming and Qing medical texts on epidemics. The "phase-energetics" diagrams and mnemonics were, in fact, effective ways to understand how these complex doctrines worked. Furthermore, each of these three publications addressed their intended audience differently through diagrams, textual explanations, and mnemonic rhymes. But all three medical books used these visual, literary, and versified techniques to make the varied medical applications of "phase-energetics" doctrines more accessible to a broader audience.

Gu Jin Yi Tong Da Quan, *Lei Jing Tu Yi*, and *Yi Zong Jin Jian*, each emphasized different forms of visual, textual, and mnemonic methods to explain classical medical doctrines to a wider audience well beyond Ming-literati physicians. In some medical circles, Han-era medical doctrines had gone out of favor in preference for more recent texts by later medical innovators from the Jin-Yuan period (12–14th centuries). These printed medical diagrams and mnemonic rhymes were key publishing strategies during the late 16th- to mid-18th centuries for some literati physicians to reframe the classical medical texts from Han antiquity in new ways as part of a broader effort after 1600 to "recover antiquity" (*Fu Gu* 复古).[11]

These were the original working questions: What Chinese medical texts had the most images and diagrams? When were they published, why, and for whom? What work did images do that differed from texts? How did they visually summarize Chinese epidemiology? How did the diagrams relate to clinical actions? Why did "phase energetics" doctrine require so much illustration?

In sum, at that time I was using the three most well-illustrated medical texts over a 200-year period (1557–1742) to understand how diagrams illustrated key doctrines in late imperial Chinese epidemiology. What I had not noticed, however, was that some of these diagrams included those of hands with characters written on them. Without the distinction of "hand diagrams" as something different from circular, tabular, and square diagrams, I did not see them. The next section explains when I was first introduced to hand-divination techniques, how that introduction allowed me to see hand diagrams for the first time in two of the

three medical texts I was reading at that time, and why this encounter changed my research trajectory from then on.

2.2 Learning divination from a colleague

Then, in just one day in August, everything changed. It was August 12, 2001. I was supposed to pick up a Chinese colleague at the arrival area by 10:30 AM at Newark airport in New Jersey. I was driving to the airport, when I noticed a strange sound coming from the back of the car. The mechanic at the auto repair shop told me that my damaged tailpipe would fall off in route. It was clear that I had to leave the car with him. This was back in the days before cell phones and text messages; I did not even have a way to communicate by email. I could only hope my colleague would eventually figure out I was stuck, maybe after waiting in vain at baggage claim for an hour. Fortunately, she called me on the phone in my apartment just ten minutes after her scheduled arrival at the Gate at Newark airport. She was able to make the next airport shuttle to Princeton.

The next day in the East Asian Library at Princeton University, I looked over at her across the reading table. Suddenly, I wondered to myself, "Why had she called me so soon upon her arrival?" I would have gone to baggage first and then waited outside on the curb at the arrivals' pickup location for some time. I would have waited at least an hour, before realizing it was time to call anyone. But she must have called me shortly after exiting the plane. When I asked her about this, she said that indeed she had called me from the gate. When she saw my quizzical look, she proceeded to explain: "I calculated on my fingers, landed on *Dàān*, and so I knew that you had not had an accident. But I also knew that you likely had some kind of trouble. So, I called you."

Utterly mystified, I asked her to explain what she had done again, which she did. Slowly coming out of the fog of incomprehension, I asked her to draw a sketch of what she had just explained, once again, to me (Fig. 1).

She said that there are six possible outcomes – three on the negative side and three on the positive side on a spectrum from bad to good (Table 1). And there are three possible variables related to the lunar calendar – the month, the day, and the hour of the day when she has a question to ask. She had landed on the least good of the three possible positive outcomes (#A *Dàān*). This basically advised her to "stay put." Although it was not the worst possible outcome, it also was not the best of possibilities either. At that indecisive moment, this simple calculation helped clear her mind enough to call me. She felt she needed to find out what was going on at that moment for me. Since there was a necessary change in our original plan, she adjusted accordingly.

Essentially, what my colleague did is a form of horary astrology (Table 1). Namely, the person attempts to answer a question based on the time (ie, the "hora" or "hour") in the **present** when they asked the question. Natal astrology, by contrast, uses the time in the **past** when a person is born (ie, natal). Electional astrology, however, seeks to find a period of time in the **future** that will result in the preferable outcome for an event being planned in advance.

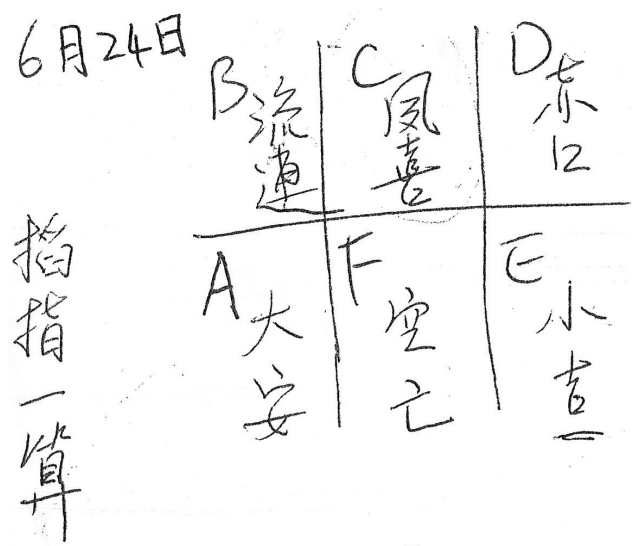

Figure 1 The Post-It Sketch from August 13, 2001 (source from: the author).

Table 1 The six possible prognostications, English translation of Figure 1 by the author

Hand-divination technique		
Index finger	Middle finger	Ring finger
Liúlián 流连 B "Linger" (Patience) The Least Bad	Sùxǐ 夙喜 C "Prompt Joy" (Certain Success) The Best	Chìkoǔ 赤口 D "Crimson Mouth" (Bad Luck) Worse (but not The Worst)
Dàān 大安 A "Great Peace" in (Stay put) The Least Good	Kōngwáng 空亡 F "Loss & Death" (Futility in all matters) The Worst	Xiǎojì 小吉 E "Small Fortune" (Good Luck) Better (but not The Best)

Hemerology (from the Greek hēmérā, meaning "day"), for instance, is a form of electional astrology that determines inauspicious and auspicious days according to calendrical parameters, often well into the future. Illustrating remarkable continuity with the daybooks of Chinese antiquity,[12] modern-day Chinese almanacs contain sections within them that are also hemerological. These sections classify the days, even hours of each day, according to predetermined auspicious or inauspicious periods of time.

Horary astrology, however, differs from both natal and electional types of astrology in that it is temporally situated in the present. Rather than working with past or future time, the temporal variables used are situated at the hour within which the question has been asked or when it has been understood. The version of horary astrology my colleague used was based on the numerology of the Chinese lunar calendar.

The temporal regime for western horary astrology, however, is based on planets, constellations, and the solar calendar. In western horary astrology, the astrologer would therefore construct a horoscope related to planetary positions and houses based on the exact time or hour (thus horary) when the astrologer received and understood the question. For natal astrology, they do the same for the time when someone is born. Houses are determined differently based on the specific question asked or the specific time born.

In Chinese horary astrology, the person selects specific numbers related to the lunar calendar that correlate with the exact time he or she formulated the question.[13] Although the specific methods for western and Chinese horary astrology differ, they share the common result of placing in a larger temporal frame the person asking the question (that is the querent) and the thing they are asking about (that is the quesited).

2.3 How the hand-divination technique works

My colleague used a calculating method in which there are a total of six possibilities. Three numbers are necessary to determine which one of the six possibilities is relevant for that moment: the lunar month, the day of the month, and the hour of the Chinese twelve-hour day. The third variable is supposed to be one of the twelve Chinese hours (of two hours each) that divide each 24-hour day. But my colleague said that she tailored the divination method to her individual situation by using the number of the strokes in the first Chinese character that came to her mind when she asks the question. She even showed me the pocket calendar she carried with her back then so that she always knows the lunar equivalents to the solar calendar for the first two numbers. Today one can easily download a solar-lunar conversion calendar application on your phone. Or one can access online a Gregorian-Lunar Calendar Conversion Table for any year.[14]

She further explained to me that she uses the divisions between the joints of the three central fingers of her right hand as placeholders where she projects in her mind's eye these six possible outcomes. The two lower divisions of her index, middle, and ring fingers are assigned one of the six potential predictions. She used her thumb like a game piece that moves clockwise through the designated positions on her hand based on the three most appropriate numbers for the moment.

Furthermore, the three relatively positive outcomes form a peak; conversely, the three relatively negative outcomes form a valley. The least bad and least good are to the left; the worse and the better are to the right; and the best and the worst form a pair in the center.

After having drawn the diagram of the finger-calculation method (*Qia Zhi Yi Suan* 掐指一算) on a yellow post-it, my colleague went to request some medical texts from the Gest library's annex. I decided to see if any of the three medical texts I was reading that summer contained something comparable to what she had just introduced to me.

2.4 Discovery and revelation

Within an hour, I found three diagrams of hands with characters written on the finger phalanges in different patterns. Not only had I just found two medical hand mnemonics in the *Classified Canon* of 1624 and one in the *Golden Mirror* of 1742 but also what was written on the fingers and palms in these three medical hand mnemonics were the very same "phase energetics" doctrines that I was originally working on in the other diagrams that were in the form of squares and circles. Without the distinction of the "finger-divination" (*Qia Zhi Suan Fa* 掐指算法) method my colleague had just explained to me, or even "palm mnemonics" (*Zhang Jue*), which the medical texts titled them, it seems that I could not see them. In other words, my colleague's explanation to me of a Chinese finger-divination method led me to see "hand diagrams" for the first time in the medical texts I had been reading in Princeton's Gest library that same summer.

Upon further reflection, I realized that these medical hand mnemonics were the critical link between "phase energetics" doctrines and clinical practice. Why else create these medical hand mnemonics than to have the doctrines they summarized readily at hand? A physician's hand is like an "image" related to specific "actions" in medical practices. One hand mnemonic in the *Lei Jing Tu Yi* was for working with the 60-year cycle. It was intended to help physicians situate their patients' symptoms into the specific temporal frame of "phase energetics"(see Fig. 2).

The second hand mnemonic in the *Lei Jing Tu Yi* was used to help the physician situate their patient's pulse pattern into the year's seasonal cycle and so thereby determine whether it was aberrant or normal for that time of year (see Fig. 3).

The third hand mnemonic, found in the 1742 *Yi Zong Jin Jian*, developed further upon the first one in the *Lei Jing Tu Yi* by writing more explanatory text on to the palm of the left hand (see Fig. 4).

Similar hand mnemonics were also used earlier in Chinese medicine for prescribing drugs in the Cold Damage tradition[15] as well as for working out point locations in chrono-acupuncture.[16] Zhang Jiebin included an essay explaining hand mnemonics and wrote that they came from yin-yang specialists who used them for divination.[17] Clearly, there was a much broader cultural practice of hand-memory techniques in China.

The title of this essay is inspired by a phrase from Zhang Jiebin's essay that explains the first-hand mnemonic (Fig. 2) from his *Lei Jing Tu Yi*. The phrase *Liao Ran Zai Wo* (燎然在握) uses the same idiom as in English that combines physical "grasping"(*Wo* 握) of something

Figure 2 "Illustration of Pointing to the Palm for Govern-Heaven and In-the-Source [Doctrines]," from *Lei Jing Tu Yi* (*Pictorial Appendices to "The Classified Classic*,"1624) (source from: Harvard Medical Library. Online edition https://iiif.lib.harvard.edu/manifests/view/drs:430542884$31i).

Figure 3 "Illustration of Pointing to the Palm for Southern-Northern Governance," from *Lei Jing Tu Yi* (*Pictorial Appendices to "The Classified Classic*,"1624) (source from: Harvard Medical Library. Online edition https://iiif.lib.harvard.edu/manifests/view/drs:430542884$47i).

in one's hands with "mental comprehension"(*Liao Ran* 燎然) within one's mind. In *Metaphors We Live By* (1980), the metaphor "understanding is grasping" is classified with the metaphors that place **the known** as down, such as "the matter is settled" or "that observation is well-grounded." The opposite metaphors place **the unknown** up, such as "that's up in the air" or "that's a high-in-the-sky idea."[18] The experiential basis of knowing as being down and unknowing as being up is coherent with the physical or bodily basis of "understanding is grasping," as in the expression "I can grasp that explanation."

Comparable "hand metaphors" related to the metaphor of "understanding is grasping" are also in Chinese medical titles.[19] For example, the two-character phrase *Zhi Nan* (指南 pointing to the south), which came from the use of the southern-pointing compass (*Zhi Nan Zhen* 指南针) by at least 1044 in the Song dynasty, was first metaphorically used in medical text titles to mean a "guidebook" in the first half of the 13th century.[20] The phrase *Zhi Zhang* (指掌 pointing to the palm), from Zhang Jiebin's *Lei Jing Tu Yi*, refers literally to the role of one's finger to use the hand-memory technique. Metaphorically, some medical titles used it to mean "mastery," as in Zhu Zhenheng's (朱震亨) *Mai Jue Zhi Zhang Shu* (《脉诀指掌书》 *Pointing-to-the-Palm* [ie, *Mastering*] *Writings on Pulse Rhymes*) first published in the mid-13th century.[21]

In fact, such hand metaphors in Chinese medical texts titles are an interesting topic in terms of the global history of the "handbook" as a distinct genre.[22] This is precisely because Chinese medical authors used many metaphors other than the hand to express the idea of a "handy" (ie, portable in the hand) and condensed "handbook," as one might think about the Do-It-Yourself (D.I.Y.) book today. From at least the 4th up through the 14th century, titles of Chinese medical handbooks contain evidence of a wide range of metaphors Chinese authors used to convey portability, conciseness, and accessibility that were similar to the European notion of "handbooks." These Chinese sources, however, used hand metaphors differently than was the case in Europe to convey both guidebooks, as in "pointing south" (*Zhi Nan*), and mastery of knowledge, as in "pointing to the palm" (*Zhi Zhang*). By the mid-13th century, these "pointing-finger" and not "whole-hand" metaphors became useful terms to more finely differentiate types of medical genres probably

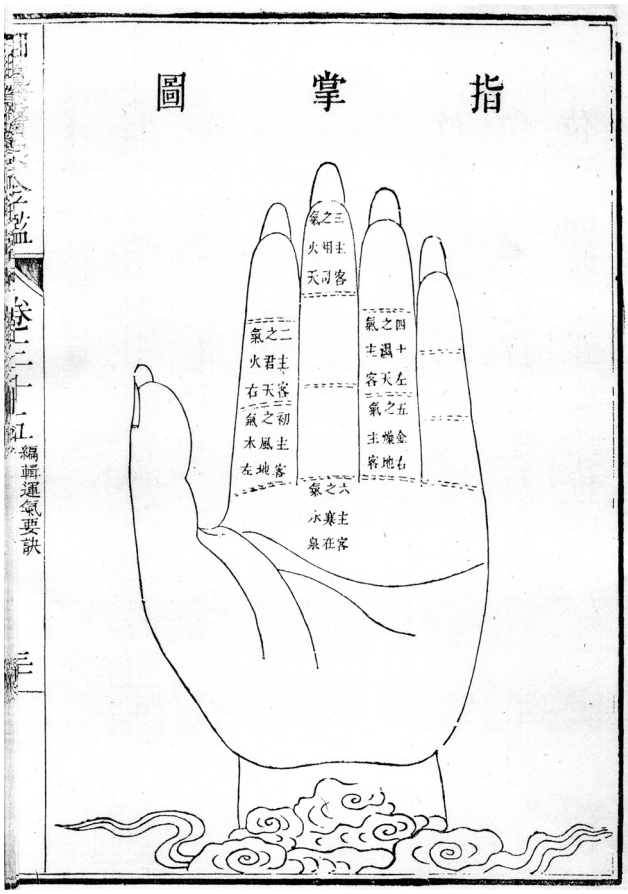

Figure 4 *Golden Mirror of the Medical Tradition* (*Yi Zong Jin Jian*, 1742) (source from: Oxford University Library).

because they also resonated with how people were actually using their fingers in hand mnemonics at that time.[23]

3 Part II original frame

Back in 2001, however, the original frame for understanding the Chinese phenomenon of "palm mnemonics" (*Zhang Jue*) was only within the field of "arts of memory." This topic was well developed in European history from Greco-Roman antiquity to the early modern period.[24] The European emphasis on visual-architectural mnemonics even influenced what the Italian Jesuit Matteo Ricci (1552–1610) chose to translate in his *Xi Guo Ji Fa* (《西国记法》 *Western Methods of Memory Techniques*).[25] The Chinese, however, found these "western methods of memory techniques" far more complicated than the simple Chinese characters that Ricci had used to illustrate them, and so his book was not successful.[26]

The European literature on "arts of memory" has mostly focused on visual, oral, and auditory forms of mnemonics,[27] including literary[28] and iconographic images.[29] But Chinese "palm mnemonics" exemplify a broader phenomenon of bodily arts of memory. For example, a modern-day example of a hand mnemonic would be how people use the knuckles on their fists to remember how many days there are in each month of a year.[30] Like the above Xu Chunfu example (see Fig. 1) of mnemonic verse beside images, the knuckle-memory technique is also accompanied by mnemonic verse, thus combining auditory with visual memory.[31] There are even hand mnemonics for modern physics. The nineteenth-century English physicist, John Ambrose Fleming, created a left-hand rule for left-handed mechanics and another right hand for electric generators.[32]

One's hand can also be imagined as a telephone keypad by using the three longest middle fingers to tap out numbers physically, such as people's phone numbers or even airline flight and gate numbers. By using the telephone-keypad hand mnemonic one may even no longer need to check a printed-out boarding pass or the airline app on one's phone because the act of touching locations on one's "handy keypad" thereby reinforces memory corporeally, spatially, and visually.

Medieval and early modern European history also has ample evidence of people using their hands to help them memorize, meditate, and calculate. A catalog titled *Writing on Hands*, from an exhibition held at the Folgers Shakespeare Library in Washington DC in 2000, includes many European examples. These range from 12th-century musical notation for church choirs and 15th-century Catholic religious lessons to 17th-century Jesuit meditation practices.[33]

Early modern European print culture also preserves images of the entire human body being enumerated in a specific order to help memorize any range of things, as seen in one late 16th-century woodcut from the *Treasure of Wisdom* (*Plutosofia*, 1592).[33] One of the most compelling examples in European history of using the entire body to organize the order of things is the Zodiac Man an insight I owe to European medieval historian Stephano Rapisarda.[34] From head to toe, the order of the western zodiac is clearly drawn on, for example, a 15th-century Welsh manuscript.[35] The conventional explanation of European Zodiac Man charts is that they represent the idea in European medical astrology that the 12 zodiac signs rule over each body part. For example, such books advised that surgeons should not cauterize, do cupping, or do bloodletting on the body part when the moon is in the body part's zodiac sign. This is because the celestial forces will draw out more blood than the surgeon intends, creating a worse humoral imbalance.[36]

However, they also appear to have functioned mnemonically. That is, people may have used the 12 positions on the human body to help remember the zodiac-sign order, as in an image called the "man of the Signs" (*Homo Signorum*).[37] In fact, it is much easier to learn the order of the 12 zodiac signs by using the late medieval "Zodiac Man" as a bodily mnemonic technique.[38]

Please indulge the writer of this article for a moment and stand up and carry out the following instructions. Touch the top of your head where Aries the ram lies. Then go to your ears where the horns of the bull Taurus

replicate your own ears. Then stretch out your arms like as if the Gemini twins rested along your own arms. Then put your hands on the top of your ribs where the Cancer Crab's claws replicate your ribcage. Then place your hand on your heart where Leo the lion resides. Move it to your belly below, where for women the uterus is located and where Virgo the Virgin is drawn. Whereas the balance for Libra replicates the hip bones, the long tail of the Scorpion's tale for Scorpio stands in for male genitalia. The great Archer-Centaur Sagittarius secures his hooves along each of one's thighs. The Goat of Capricorn below spreads across one's kneecaps. Finally, the shape of one's calves resembles the Greco-Roman amphora vessels turned upside down and the Pisces Fish rest on each foot.

Later images clarify this water-vessel reference by placing a small man with an amphora on his shoulders between the Zodiac Man's legs; other versions have the Zodiac Man standing on the Pisces fish and some have the man pouring water out of an amphora onto two Pisces fish next to the Zodiac Man's feet. Now try to go through this same order from Head-Aries to Feet-Pisces without reading this text to test what you have retained.

There are also comparable examples in Chinese history of the entire human body used mnemonically but, of course, with varying content for different ends. In Chinese antiquity, for example, some excavated manuscripts of Qin-Han daybooks from the Shuihudi site preserve evidence of human-body "Birth charts" on which the 12 branches (*Di Zhi* 地支) and four seasons were written as a means to predict auspicious and inauspicious fortunes for a newborn.[39,40] An excavated manuscript from the Mawangdui site called *Tai Chan Shu* (《胎产书》*Book of the Generation of the Fetus*) contains two similar human-body charts around which the 12 branches are written and used as means for a comparable divinatory end.[41] Another example of a whole-body mnemonic in ancient China projects the eight trigrams from the *Book of Changes* onto different parts of the body.[42] Today the trigrams are projected on to the hands as an eight-trigram hand mnemonic (*Ba Gua Zhi Zhang* 八卦指掌).[43]

There are many examples of different types of hand mnemonics in Chinese culture, from religious rituals[44] to understanding Chinese tonal notation[45] and doing basic divination techniques and mathematical procedures.[46] In *Chinese Mathematical Astrology*, historian of Chinese science Ho Peng Yoke described hand mnemonics that were used to make calculations for the purpose of divining using the three cosmic boards.[47] Initially, therefore this research on Chinese medical hand mnemonics was framed within the existing scholarship on "arts of memory." It both emphasized a bodily dimension to the well-studied visual, oral, and auditory dimensions of European arts of memory and charted new territory on "arts of memory" in Chinese history.

4 Part III expanded frame

Now I would like to transition to the third part of this essay on how I expanded my frame for understanding the phenomenon of hand mnemonics in Chinese medicine, and more broadly in Chinese, European, and other cultures up to the present, by reading the writings of some cognitive scientists who developed new ways of conceptualizing cognition operating outside the narrow confines of the physical human brain.

4.1 The extended-mind hypothesis

In 1998, two cognitive scientists Andy Clark and David Chalmers published an influential article on their hypothesis of "the extended mind."[48] They made the case that cognitive functions do not reside solely within our mind. Rather many cognitive functions occur externally to our mind. To explain this, they used a hypothetical case of a man named Otto, who has Alzheimer's disease, and of a woman named Olga, who does not. Both hypothetical people wanted to go to the museum. Olga either reads how to go there or remembers how to go there from having been there before. She does not need to write it down. Otto cannot remember how to get there, even if he had been there before. He uses his notebook to write down instructions to help him get there. They both get to the museum. The point is that Otto's use of the notebook to arrive successfully at the museum exemplifies "the extended mind" hypothesis that Clark and Chalmers put forth in their 1998 article.

Furthermore, in *Supersizing the Mind*, Andy Clark argued that gestures are also a means for thinking and reasoning. They are a form of embodied cognition in that they are bodily expressions of thought and reasoning but also an example of the extended mind, not in a notebook but in terms of how people use their bodies to communicate.[49] Both hands are often combined with facial expressions to communicate very different kinds of thoughts, experiences, and emotions.[50] The whole body can function similarly to even stand in for verbal expressions, such as "this one" or greeting someone "hello" or a sense of doubt "hmm" or even to encourage someone to "calm down" or state the affirmative "yes" or disappointment "Oh no" or even joy "Woo hoo" and despair "God, please."[51]

In the same 2008 book, Andy Clark considered the significance of the difference between the "incorporation" of a tool or device and the "use" of a tool or device. He studied examples where the brain recalibrated so as "to automatically take account of new bodily and sensory opportunities…"[50] For example, a monkey is "incorporating" the stick he is using to extract insects through his fingers to his mind. Similarly, one can consider the brush in the art of Chinese calligraphy, the needle in Chinese acupuncture, and the moxa stick in Chinese moxibustion therapy as examples of Clark's way of understanding bodily incorporation of instruments.

Figure 5 A diviner rests his right hand on the desk while using his left had to calculate (source from: Oxford University, Bodleian Library, Sinica 119).

4.2 The mind in hand

In light of the "extended mind" hypothesis and bodily incorporation in modern cognitive science, Chinese hand mnemonics start to contain even broader implications. In an illustration of a 1662 edition of the Chinese encyclopedia *Miao Jin Wan Bao Quan Shu* (《妙锦万宝全书》 *Myriad Treasures*), a diviner sits at his desk flanked by his assistant to the left and a client to his right[52] (see Fig. 5).

With his right hand on the table beside what looks like counting rods to the left, he uses his left hand to "touch fingers to count" (*Qia Zhi Yi Suan*). A similar situation of a diviner seated at a table is depicted in a Republican-period copy of a mid-19th-century printed almanac *Yu Xia Ji* (《玉匣记》 *Jade-Casket Records*), which included two hand mnemonics with explanations of how prospective diviners should use the two finger-divination methods.[53]

Using Andy Clark's analysis of "thinking with the body" and recognition of how our body is our brain's partner in cognition, one can argue that what the diviner is doing in this image with his left hand exemplifies the "extended mind" hypothesis. The diviner uses his hand in a way similar to how Otto, the hypothetical Alzheimer's patient, used his notebook. His hands, like Otto's pen, are incorporated with his mind. Both actions extend the mind by facilitating thinking via pen or hands.

In the history of the science field, two noted historians of science, Ann Blair and Lorraine Daston, have written about note-taking as not only an art of transmission of knowledge in the early modern period (as much as today)[54] but also as an essential means for "taking note" and so an integral part of the process of knowing not just memorization.[55]

In sum, what Chinese do when they carry out *Liu Ren* (六壬 finger divination) is to seek one response out of six possibilities to a question they have asked in a moment of indecision. This calculating hand ritual helps them decide in their mind what, at that moment, they should do next for the best outcome for their or their client's immediate future. The ritual itself provided time for reflection; the result facilitated that reflection to move from inaction to action.

This divination process is analogous to what Chinese physicians do when they take the pulse of a patient and, based on a fixed set of possibilities, determine what, at that moment, ails the patient. Pulse-taking methods were sometimes also linked to the temporal variables of the lunar calendar in a comparable move to place the individual within a larger temporal-cosmological frame (see Figs. 3–5). Based on the outcome from a limited set of possibilities, the healer can then evaluate what is, at that moment, the best therapeutic response. In divination as in medicine, the fundamental goal is to reduce the realm of infinite possibilities to a finite set of options and then, based on the outcome of the inquiry at that moment, decide what to do next.

4.3 Hand mnemonics as analogous to scientific instruments

Hand-divination methods in Chinese culture[56] as well as the many hand mnemonics that exist in Chinese sources for other ends, are arguably analogous to scientific instruments in one essential way. The telescope[57] and microscope[58] extended the possible scope of visual experience. The stethoscope,[59] and later hearing aids and cochlear implants, extend the possibility of hearing.[60] Similarly, divination technologies, such as the simple hand-divination method described above, extend the mind's possibility of cognitive reasoning. In all cases, these instruments – the telescope, microscope, and stethoscope – are constitutive of the optical and auditory input that they facilitate, augment, and extend. Analogously, when used as mnemonic aid, calculating device, or divining tool, the hand can also facilitate, augment, and extend cognitive processes

When one uses one's hand to work through the variables of a hand-divination method, one's mind must be engaged first in trying to learn the system. Once the

outcomes and their locations are memorized and the variables determined, the hand-divination method then becomes a bodily means to help the mind find a path to greater clarity. When the healer or diviner uses a hand mnemonic, their hand becomes one with their mind in that it facilitates processing some kind of algorithm. What matters in the divination method may not in fact be the remainder, or the result itself, but rather whatever that result inspires in the querent's mind. The new thought stimulated by the ritual then informs the decision for the next step.

More broadly, divination methods like this one can be understood as rituals that are integral to a larger decision-making process. A quotation from Nathan Sivin's work on diviners in Khublai Khan's court sheds light on how court diviners themselves could be understood as extending the mind of their rulers. They did so with their divining techniques by both broadening and focusing their discussion with the Great Khan.

> "When we study the uses of divination, it becomes obvious that the point was not which kind always came true. Competing forecasts could not dictate decisions to the Great Khan, but provided a diverse set of options to discuss, and ritual for both broadening and focusing discussion. One might indeed say that prognosticators divined the intentions of their masters, not future events."[61]

More than a millennium before we moderns increasingly deputized many cognitive functions to the myriad technologies that structure our minds as well as dominate our daily lives – such as the simple wristwatch, the hand-held calculator, the old palm pilots and newer androids and iPhones, and, of course, our computers – Chinese healers instrumentalized their bodies in complex ways that fundamentally augmented their cognitive capacities as well. Originally, I framed my understanding of the widespread phenomena of hand mnemonics in Chinese culture within the comparative history of arts of memory. Now I have expanded this frame to encompass cognitive science arguments related to the extended-mind hypothesis and embodied cognition because the evidence in Chinese sources demonstrates that hand mnemonics facilitated cognitive processing well beyond just memorization.

4.4 The body-as-technology in healing rituals

Now this essay returns full circle back to its beginning. Projit Mukharji's concept of the body-as-technology from his final chapter in *Doctoring Traditions* on how Ayurvedic physicians viewed the role of their own bodies as healing instruments helps elucidate one more dimension of some hand mnemonics used in Chinese healing rituals. When the practitioner's (singular) entire body is enrolled along with their hands in the healing process their using their body-as-technology. When healers purified themselves to safeguard that their healing interventions would be effective, their bodies performed as healing instruments.

In a Buddhist text attributed as well to the 7th century, for example, not only are the healer's hands integral to the healing ritual, but also their own mental attitude toward talismans was inseparable from their efficacy.[1] There are also palm mnemonics used in healing rituals recorded in the early 12th-century *Zheng He Sheng Ji Zong Lu* (《政和圣济总录》 *Encyclopedia of Sagely Benefaction of the Zhenghe Reign*). Similarly, the concept body-as-technology helps clarify why the text informs the ritualist that to ensure an efficacious healing ritual, they must ritually purify themselves, manifest disciplined conduct, and embody virtue.[62] (see right side of Fig. 6).

But other times the body of the practitioner is completely irrelevant to their use of medical hand mnemonics. The earliest known evidence of hand mnemonics in literate Chinese medicine, for example, were used for the doctrines that make up "phase energetics" (*Wu Yun Liu Qi*). These two hand mnemonics were included at the beginning of *Su Wen Ru Shi Yun Qi Lun Ao* (《素问入式运气论奥》 *On the Arcana of the Patterns of Phase Energetics in Basic Questions [of the Yellow Emperor's Inner Classic]*), a medical text presented to the northern Song emperor in 1099 by the author, Liu Wenshu (刘温舒, late-11th century).[2] In contrast with the previous illustrations of the body-as-technology concept from a Tang Buddhist text and a Song imperial medical text, Liu did not specify anywhere in *Su Wen Ru Shi Yun Qi Lun Ao* that physicians needed to carry out purifying rituals, conduct themselves in a disciplined way, or even, for that matter, embody virtue.

Rather we return to the earliest example of how Chinese physicians used their hands to extend their minds for "grasping Heaven and Earth." Both of the Song medical hand mnemonics used the temporal concepts of the ten heavenly stems and the twelve earthly branches. In fact, these two Song-era medical hand mnemonics from *On the Arcana* are the earliest versions of the hand mnemonics Zhang Jiebin included in his 1624 *Lei Jing Tu Yi* that this essay introduced in the beginning (see Figs. 2 and 3).

5 Conclusion

To be a superlative physician, however, one had to not only memorize heavenly-earthly transformations but also train one's ability to see, to listen, to inquire, and to examine. A passage from the 1742 *Golden Mirror* illustrates well how the analytical concept of the body-as-technology is useful to think about instructions in medical books toward what is required of healers distinct from what they need to know about their patients. What did it take to be a good physician in classical Chinese medicine? It required the healer to use their full range of senses and instrumentalize their own bodies in myriad ways.

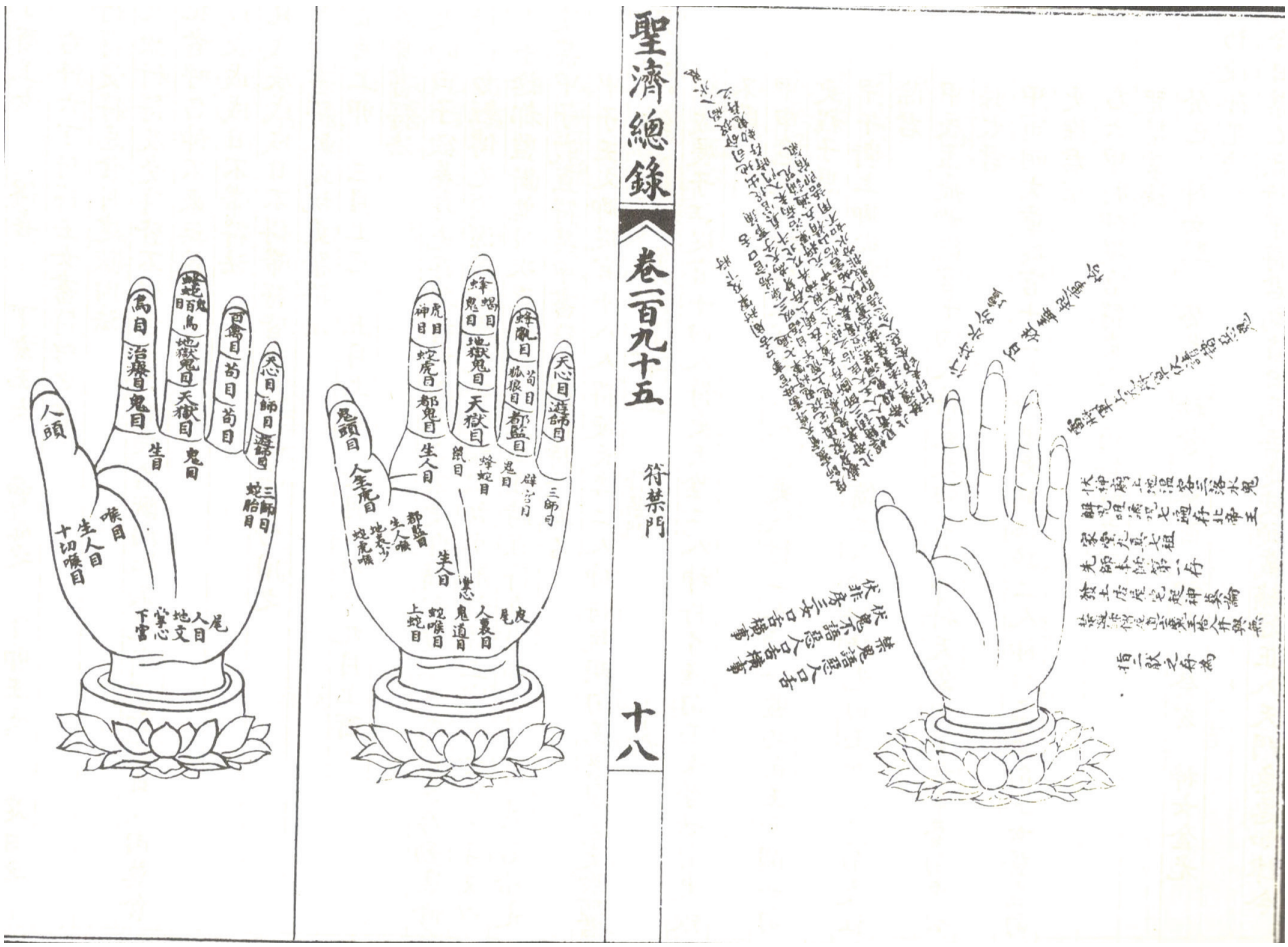

Figure 6 Palm mnemonics used in *Zheng He Sheng Ji Zong Lu* (*Encyclopedia of Sagely Benefaction of the Zhenghe Reign*, ca 1111–1117), Vol. 195, 18ab (source from: Reprint Taibei: Shin Wen Feng Print Co.; 1998.).

> "Looking uses the **eyes** to examine; listening uses the **ears** to divine; speaking uses **words** to inquire; palpitating uses **fingers** to examine. Clarify these diagnostic ways; understand illnesses' origins; enable combining hues & pulses; and thereby [make one] sure-fire." Commentary: "This [passage] clarifies that the essentials of knowing illness by looking, listening, asking, and palpitating, is the way. To understand by looking is called of the **spirit,** that is using the eyes to examine the five colors. To understand by listening is called [the diagnostic technique] of the **sage,** that is using the ears to understand the five sounds. To understand by asking is called [the diagnostic technique] of the **laborer,** that is to use speech to examine the five illnesses. To understand by palpitating is called [the diagnostic technique] of the **artisan,** that is to use the fingers to differentiated the five pulses. The [diagnostic techniques of] the **spirit,** the **sage,** the **laborer,** and **artisan,** are therefore the essential ways of examining illness. Physicians understand this and therefore are able to combine them in examinations in order to understand the myriad illnesses' roots and origins in order to treat them. In all cases [then one] will be all capable."[63]

This passage presents a clear hierarchy of the sensory organs with first the eyes as equal to the spirit and then the ears as analogous to the sage. Next in this hierarchy is speaking or inquiring, which is compared to laborers. Finally, feeling via pulse taking is made analogous to artisans. But mastery of medicine required physicians master all four faculties of sight, hearing, inquiring, and palpitating.

Finally, this essay concludes with some examples of the healer's body-as-technology in the 1742 *Yi Zong Jin Jian*. These technologies range from the hand mnemonic already introduced (Fig. 5) to the "relative inch" (*Cun* 寸) of the use of the healer's middle finger to measure distances along acupuncture channels on the patient's body.[64] They also vary from how to hold a needle for variolation against smallpox[65] to making things for the injured[66] and adjusting physician-made apparatuses intended to reposition their patients' dislocated bones.[67] In order to help straighten out someone suffering from being hunched over due to injury to their midriff, one image even shows a patient who stands on stacked bricks and grabs hold of two ropes attached to a horizontal pole while a physician adroitly supports him from behind with two hands.[68] (see Fig. 7).

In contrast to prolific illustrations of patients and their illnesses in Chinese medical texts, healers are

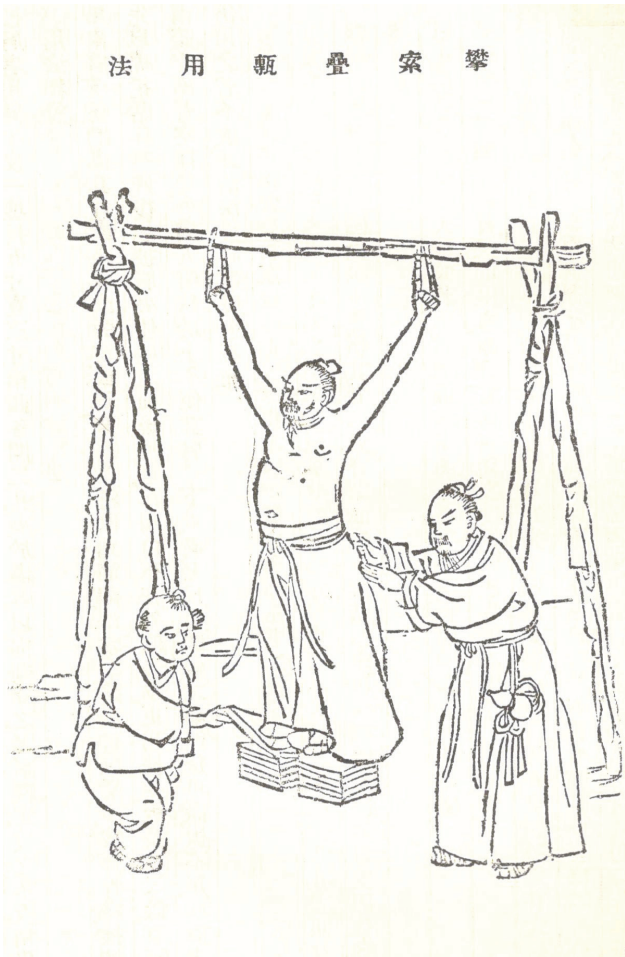

Figure 7 "Illustration of how to use the method of reach ropes and stacked bricks" from *Yu Zuan Yi Zong Jin Jian* (*Imperially Commissioned Golden Mirror of the Medical Tradition*) Vol. 87, 9a (source from: *Yi Zong Jin Jian*, Beijing: People's Medical Publishing House; 1990).

rarely depicted.[69] Yet, despite rare visual depictions of doctors in the process of healing (as seen above), premodern Chinese medical texts preserve rich textual discussions focused not only on how physicians could use their hands "to grasp Heaven and Earth" as well as to intervene in the healing process but also how to use their entire body as an effective therapeutic instrument.

Paying closer attention to these kinds of textualization of hand mnemonics, hand-centered therapeutic skills, and the healer's body-as-technology in the history of Chinese medicine has, in fact, turned out to be the most significant gift my Chinese colleague gave me when she taught me over 20 years ago a simple hand-divination technique for helping one cope with the immediate future.

Notes

1. For example, "phase energetics" were prominently featured in *Zheng He Sheng Ji Zong Lu* (《政和圣济总录》 *Encyclopedia of Sagely Benefaction of the ZhengheReign*, ca 1111–1117).

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Ethical approval

This study does not contain any studies with human or animal subjects performed by the author.

Author contributions

Marta Hanson drafted and reviewed the manuscript.

Conflicts of interest

The author declares no financial or other conflicts of interest.

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Diabetes: A Transcultural History of a Disease Concept in the Late Qing and Republican China

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Abstract

In the past few years, the medical knowledge transfer in a West-East direction has attracted increased scholarly attention from European and American historians, whereas studies on such "knowledge travels" conducted in the East Asian context focus mainly on political and socio-cultural concepts. To provide an alternative perspective on the travel of Western medicine to Chinese soil, a case study on "diabetes" is conducted, under the theoretical framework of "transcultural conceptual history." This article systematically analyzes the standardization, popularization, politicization, and derivatization of "diabetes," calling for further attention to transcultural histories of medical concepts in modern China.

Keywords: Diabetes; Conceptual history; Modern China; Translation; *Xiao*

1 Introduction

In recent decades, the global exchange of medical knowledge has been happening, with increasing scholarly attention paid to the medical beliefs, ideas, and traditions in non-Western cultures.[1] Since the publication of *Zhong Guo Yi Xue Shi* (《中国医学史》 *The Chinese Medical History*) by Chen Bangxian (陈邦贤) and *Zhong Guo Yi Shi* (《中国医史》 *History of Chinese Medicine*) by Wong Chi-ming (王吉民) and Wu Lian-the (伍连德), the earliest chronicles of Chinese medicine written, respectively, in Chinese and English, the interest of Chinese and global academia in the history of medicine in China has never waned. In the past two decades, Chinese medical history has been extensively studied from a socio-cultural perspective. The themes of such research range from the modernity of healthcare, the view on gender and body, the histories of diseases, the doctor-patient interaction, the material and cultural history of medicine, the medical institutions, to the transference of medical knowledge.[2] The study on the history of medical knowledge transmission from the West to China has now become a trend of historical research of medicine in China conducted by European (especially German) and American scholars.[3] The discussion on knowledge transference between cultures is not viable without careful inspection on the translation of specific terms with which such knowledge travels, whereas the attention paid to the translingual practices of specific medical concepts, in form of detailed case studies of travels of terms and concepts in the medical field from Western civilization to Chinese soil, is still insufficient.

Studies on travels of socio-cultural concepts from Western cultures to China, on the other hand, have been abundant after the "spatial turn"[4] of humanities and social sciences, which was triggered by Said's theorization of "traveling theories."[5] In the past decade, the "knowledge travels"[6] of a spate of political, social, and cultural concepts, including *Feng Jian* (封建, feudalism),[7] *Min Zu* (民族, nation),[8] and *She Hui* (社会, society),[9] in the East-Asian context, have been inspected, analyzed, and explained, in the hope of furthering the understanding of "a Chinese modernity." In *The Making of Modern Chinese Medicine, 1850-1960*, Andrews asserts that medicine, as "a metaphor for the social and political health" of China, is the best topic through which "the creation of a Chinese modernity" can be explored.[10] Thus, we argue that medical concepts should not be excluded from research on Chinese conceptual history, the analytical framework and theoretical paradigm of which may shed light upon further investigation into the emergence, translation, transformation, and reception of medical concepts in the eastward dissemination of Western medicine (西医东渐). In his discussion on China's turn of conceptual history research, Sun Jiang proposes four standards for studying modern Chinese concepts, namely standardization, popularization, politicization, and derivatization,[6] and the current article, using "diabetes" as an example, will demonstrate that these standards also apply to the research on the

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promotion of medical concepts in a West-East direction since the 19th century.

"Diabetes" was labeled "a mysterious illness" by Aretaeus of Cappadocia nearly two centuries ago.[11] Today, mysteries surrounding its cure remain, although years of efforts have been made to discover effective methods for its prevention. During the past decades, extensive research, under the title of "history of diabetes," has been conducted to summarize such efforts. Hans Schadewaldt[11] provides a systematic account of existing research regarding history of diabetes from the early 20th century to 1970s. In his account, several ways to divide history of diabetes are introduced. For instance, F.M. Allen divides it into the period of clinical description of cases, diagnostic period, period of empirical treatment, and experimental period. Based on observation of such research, Schadewaldt categorizes the evolution of modern diabetes research into three branches, clinical work, pathology, and biochemistry, the research on which did not converge until the 1890s.[11] Different from traditional, chronological account of diabetes history, Polonsky's observation of the past 200 years in diabetes focuses on five themes regarding the scientific basis of current treatment approaches, its pathogenesis, its prevention and treatment, its prevalence, and future challenges.[12] Dods records the history of diabetes within a much longer period, covering key figures and milestones since 3400 B.C.[13] Moini's introduction to its history is succinct, covering topics including the disease's origins, signs and symptoms, pathophysiology, diagnosis, prevalence in the United States, and treatment.[14]

As an aged concept drawing global attention, "diabetes" traveled to Chinese soil from the Western world during the eastward dissemination of Western medicine to China. It is selected to be studied in the current research for the following four reasons. First and foremost, the understanding of this concept by the Chinese public in the age when it was introduced was neither epistemologically nor methodologically possible. The earliest appearance of the term "diabetes" could be observed in English-Chinese dictionaries in the mid-19th century, whereas the early attempts made by medical practitioners in China to transfer the systematic knowledge of this disease concept were not visible until the early 20th century. What is worth attention is that the "diabetes" in English-Chinese dictionaries before 1900, judging by its Chinese equivalents, unexceptionally referred to "diabetes insipidus," while the knowledge transference of diabetes that began in the early 1900s was mainly that of "diabetes mellitus," an inconsistency reflecting a lack of basic knowledge on chemical compounds, such as sugar, and on medical indicators, such as glucose in urine and blood sugar, the values of which can only be observed through medical tests, and leaving much room for standardization of the term for this newly-introduced polysemous concept.

Second, the disease concept was popularized right after its systematic introduction. A new concept as it was, the relevant symptoms of diabetes were recorded in a series of Chinese medical classics, and the umbrella term for such similar diseases was *Xiao* (消). The traditional theories facilitated the reception process of diabetes by the Chinese locals, and the localized description, which related the newly introduced concept to the medical traditions, was the handiest way for the medical practitioners to popularize the traveling concept and its relevant knowledge.

Third, diabetes was coated with a political tint, when its introduction to the Chinese people was accelerated by the news reports on some political figures suffering from this disease.

Fourth, the semantic relations of diabetes in Chinese, after its reception, were enriched, and its meaning deviation can be observed from a comparative perspective.

As such, the translingual practice of diabetes is to be studied, so as to present a conceptual history of a medical notion from a transcultural perspective, as well as to propose a new possible direction of research on Chinese medical history.

2 Existing research on "Diabetes" in traditional Chinese medicine and its Chinese translation

The relation between "diabetes," as a Western medical concept, and the theories of traditional Chinese medicine (TCM), has been extensively studied and discussed, whereas the influence of such relationships on the translation of "diabetes" into the Chinese language has not received sufficient attention. Early in the 1910s, the similarity between "diabetes" and several TCM concepts, such as *Xiao Zheng* (消症), *Xiao Ke* (消渴), and *Xiao Ke Zheng* (消渴症), was discussed by local Chinese medical practitioners, and the theories of "diabetes" being equivalent to or a type of *Xiao* developed between 1920 and 1940. Echoing with such discussions on the diabetes-*Xiao* relation, in the past two decades, increased scholarly attention has been paid to the use of TCM in the treatment of diabetes. Covington outlines the key concepts and therapies of TCM, including acupuncture and moxibustion, herbal medicine, diet therapy, *Qi Gong* (气功), and *Tui Na* (推拿), which have played a role in treating diabetic patients.[15] Pi observes and discusses the treatment of diabetes before the Tang Dynasty, when it was perceived as *Xiao Ke Bing* (消渴病).[16] Zhang et al. present the long history of TCM treating diabetes by introducing the nomenclature, understanding, treatment, and prevention of diabetes by TCM practitioners.[17]

As the value of TCM theories in the treatment of diabetes is studied worldwide, the English-Chinese translation of diabetes terminology has also been observed.

In their discussion on the key factors affecting the TCM nomenclature in international standards, Ye et al. use the equivalence between "diabetes" and *Xiao Ke* as an example to illustrate inconsistent nomenclature caused by different translation strategies, and explain the difference between the two terms by explaining the corresponding relationship between *Xiao Ke* and a group of Western medical concepts, including "diabetes mellitus," "diabetes insipidus," and "psychogenic polydipsia."[18] Zhang et al. summarize 25 causes and 15 names of *Xiao Ke* in *Huang Di Nei Jing* (《黄帝内经》 *The Yellow Emperor's Inner Classic*), and provide a panoramic view on the local understanding of the disease by dividing the 2000-year history of *Xiao Ke* (wasting and thirsting), from 9th century A.D., when the earliest account of the disease was made by Zhang Zhongjing (张仲景) (*c.* 150 A.D–219 A.D), to 1949, around which time the history on the integration of *Xiao Ke* and diabetes was researched, into four periods.[17] A detailed account as it is, the fourth period (from 1368 to 1949) could be further divided, when the influence of the introduction of "diabetes" to China, amid that of a series of medical concepts in the eastward dissemination of Western medicine since 1805, on the lexicalization of the concept is considered.

The current article will analyze the translingual practice of "diabetes" in modern China within the framework of transcultural conceptual history.

3 The standardized "Diabetes": from dictionary entry to official translation

Diabetes, in English, is a disease term that may cause confusion to non-medical professionals, denoting possibly two different diseases, namely diabetes mellitus and diabetes insipidus. As is clarified by *Oxford English Dictionary*, the term diabetes, in the medical field, basically denotes "a disease characterized by the immoderate discharge of urine containing glucose," which is, in some cases, referred to as "diabetes mellitus," whereas the disease characterized by the immoderate discharge of urine without "saccharine matter" is called "diabetes insipidus." The example in 1952 offered by *Oxford English Dictionary*, "[…] Diabetes, that is when a man maketh water oft and much," indicates the possible referential connection between diabetes and diabetes insipidus in history, and the semantic change of the term along with the development of medical science. Today, the *Oxford English Dictionary* definition of diabetes agrees with the definitions of the term offered by other modern dictionaries; for instance, according to *Longman Dictionary of Contemporary English Online*, diabetes denotes "a serious disease in which there is too much sugar in your blood," and in *Oxford Advanced Learner's Dictionary*, it is defined as "a medical condition in which the body cannot produce enough insulin to control the amount of sugar in the blood," both explaining diabetes as diabetes mellitus.

The early records of the term "diabetes" in China can be found in the English-Chinese dictionaries published before the mid-19th century. In *English and Chinese Dictionary*, diabetes is translated into *Niao Lin* (尿痲),[19] and in *An English and Chinese Vocabulary, in the Court Dialect*, diabetes is translated into *Fa Niao Lin* (发尿淋),[20] both of which can be regarded as equivalents to diabetes insipidus (Fig. 1). The meaning of diabetes mellitus appears in the translations of the term diabetes, coexisting with the meaning of diabetes insipidus, in the dictionary definitions in the second half of the 19th century. For example, in *A Medical Vocabulary in English and Chinese*, diabetes means *Ni Tai Duo Wei Bian Tian* (溺太多味变甜),[21] which literally means "an excessive amount of sweet-smelling urine ." The first three characters stand for diabetes insipidus, and the latter three characters for diabetes mellitus. In *English and Chinese Dictionary with the Punti and Mandarin Pronunciation*, the phrase diabetes mellitus, *Lin Tian Niao Zheng* (淋甜尿症), is specially listed under the entry of diabetes, *Niao Lin Zheng*(尿淋症) (Fig. 2).[22]

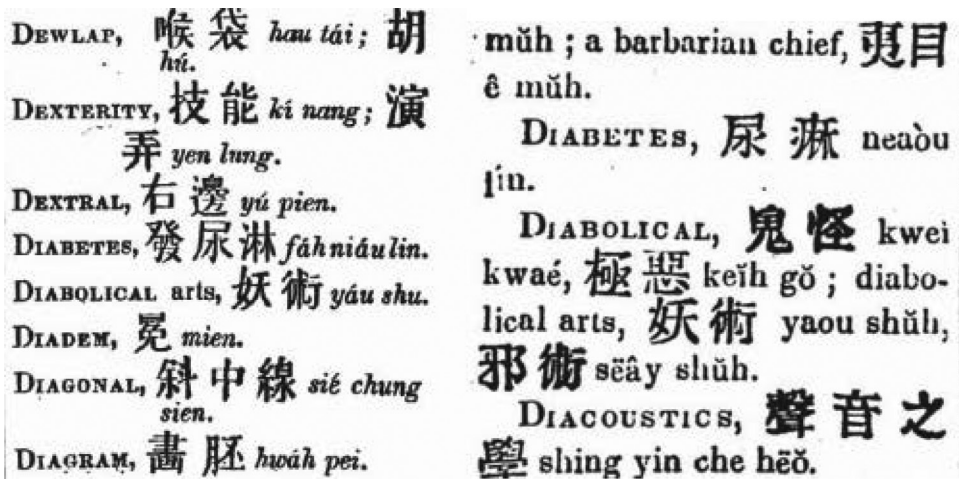
DEWLAP, 喉袋 *hau tái*; 胡 *hú*.
DEXTERITY, 技能 *ki nang*; 演弄 *yen lung*.
DEXTRAL, 右邊 *yú pien*.
DIABETES, 發尿淋 *fáh niáu lin*.
DIABOLICAL arts, 妖術 *yáu shu*.
DIADEM, 冕 *mien*.
DIAGONAL, 斜中線 *sié chung sien*.
DIAGRAM, 畫胚 *hwáh pei*.
mŭh; a barbarian chief, 夷目 ê mŭh.
DIABETES, 尿痲 neaòu lin.
DIABOLICAL, 鬼怪 kwei kwaé, 極惡 keĭh gŏ; diabolical arts, 妖術 yaou shŭh, 邪術 sëay shŭh.
DIACOUSTICS, 聲音之學 shing yin che hëŏ.

Figure 1 "Diabetes" in English-Chinese dictionaries before 1850 (source from: https://mhdb.mh.sinica.edu.tw/dictionary/image.php?book=1844&page=68; https://mhdb.mh.sinica.edu.tw/dictionary/image.php?book=1847&page=406).

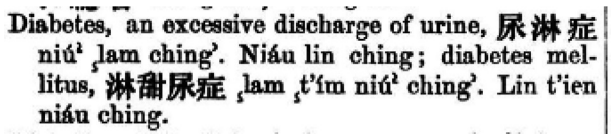
Diabetes, an excessive discharge of urine, 尿淋症 niú² ¸lam ching'. Niáu lin ching; diabetes mellitus, 淋甜尿症 ¸lam ¸t'ím niú² ching'. Lin t'ien niáu ching.

Figure 2 "Diabetes" in Lobscheid's dictionary (source from: https://mhdb.mh.sinica.edu.tw/dictionary/image.php?book=1866&page=611).

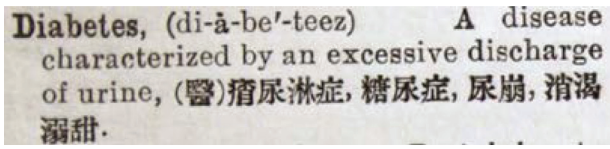
Diabetes, (di-à-be'-teez) A disease characterized by an excessive discharge of urine, (醫)消尿淋症, 糖尿症, 尿崩, 消渴溺甜.

Figure 3 "Diabetes" in Yen Wei-Ching's dictionary (source from: https://mhdb.mh.sinica.edu.tw/dictionary/image.php?book=1908&page=603).

In the early 20th century, the dictionary explanations of diabetes were still inconsistent. *An English and Chinese Standard Dictionary* explains diabetes as "a disease characterized by an excessive discharge of urine," offering an English definition of diabetes insipidus, while translating it into a series of terms –*Xiao Niao Lin Zheng* (消尿淋症), *Tang Niao Zheng* (糖尿症), *Niao Beng* (尿崩), and *Xiao Ke Ni Tian* (消渴溺甜),[23] the first (a combination of a traditional disease and one of its previous translations) and the third denoting diabetes insipidus, the second denoting diabetes mellitus, and the fourth covering the meanings of both (Fig. 3). *Deutsch-Englisch-Chinesisches Fachwörterbuch* translates diabetes into diabetes mellitus, *Tang Niao Zheng*,[24] excluding the meaning of diabetes insipidus, whereas *English and Chinese Pronouncing Condensed Dictionary* translates it into *Niao Lin Zheng*,[25] excluding that of diabetes mellitus. The definition of the term became more organized in *English-Chinese Dictionary of the Standard Chinese Spoken Language and Handbook for Translators*, where its entry is divided into two segments: insipidus, *Niao Guo Duo Zheng* (尿过多症) and *Shui Niao Zheng* (水尿症), and mellitus, *Tang Niao Zheng* and *Xiao* (消).[26]

The merge of diabetes and diabetes mellitus, with an awareness of the possibility of the former to denote two diseases, could be observed since the mid-1910s. In *Ci Yuan* (《辞源》 *Chinese Etymology*), the entry of "*Tang Niao Bing* (糖尿病)" is included, with its English equivalent "diabetes" given, and its meaning as "a disease featured by the excretion of sugar from the body through urine" provided.[27] The merge of diabetes and diabetes mellitus could also be observed in the attempt made by the General Committee for Scientific Terminology to review and unify the medical terms introduced to China around 1920. In 1921, the committee issued its sixth report, and included two separate entries, "diabetes insipidue" (a misspelling of "insipidus") and "diabetes mellitus," of which the determined names are respectively *Niao Beng Bing* (尿崩病) and *Tang Niao Bing*. One year later, the committee issued *Terms in Special Pathology*, and a new entry "diabetes" was added, whose determined name *Tang Niao Bing* was the same as that of "diabetes mellitus," whereas "diabetes insipidus" was translated into *Niao Beng Bing*. Such a unified and standardized translation of "diabetes" could then be observed in a series of dictionaries after 1930, such as *A Modern English-Chinese Dictionary*, *An English-Chinese Dictionary for Junior Middle Schools*, and *A New Anglo-Chinese Dictionary*.

The translation process of the disease term was not one where different translations denoting the same concept competed to survive, and one single winner finally became the determined term; instead, different translations were adopted by different lexicons to denote different entities, from diabetes insipidus, to both diabetes insipidus and diabetes mellitus in a vague sense, to both with a clearer division, and eventually to diabetes mellitus, a process of semantic change from widening to narrowing on the part of the denoted disease. Such a process shows that the standardized "diabetes" is the clarified "diabetes"; the standardization of its translation was a result of organized effort. Being official does not necessarily mean being flawless. One of the most manifest weaknesses of naming diabetes "*Tang Niao Bing*" is the close connection between "sugary urine" and the disease indicated literally by this translation, which accounts for the emphasis on urine, rather than blood, in early newspaper discussions on this disease in modern China.

4 The popularized "Diabetes": explaining the disease to the Chinese public

The popularization of diabetes knowledge synchronized with the process during which the translation for the term "diabetes" was gradually standardized. As such, in the early 20th century, when such knowledge progressively spread among the Chinese public, diabetes mellitus was occasionally and mistakenly denoted by the terms for diabetes insipidus, such as *Niao Lin Zheng*, as is shown in the following excerpt from *Lun Jie Shi* (《论节食》 *On Fasting*), a 1917 article on starvation as a therapy for diabetes in *Fu Nyu Za Zhi* (《妇女杂志》 *Women's Journal*):

> "他如尿淋症，医士每视为不治之疾……患此症者，禁食三日后，则此症所含之糖质，排泄罄尽。[28]
> (English translation: For example, Niao Lin Zheng is a disease always regarded as incurable by doctors […] Patients of it excrete completely the sugar of the disease after three days of starvation.)"

Such mistakes became rare after 1920. The popularization of diabetes knowledge was also a process which can be observed in two aspects: the introduction of the disease's diagnosis, treatment, and causes, and the explanation of the disease by other disease concepts that

had long been existing in the traditional local medical theories.

4.1 Knowledge spread on diagnosis, treatment, and causes of diabetes

Tang Niao Zhi Jian Cha (《糖尿之检查》 *Examination of Glycosuria*), a 1908 article published in *Yi Yao Xue Bao* (《医药学报》 *Journal of Medicine*), was among the earliest efforts made by Chinese medical practitioners to promote diabetes knowledge. In this article, Dai Diling (戴棣龄) introduces the close connection between human urine and diseases, and explains eleven methods to examine urine sugar.[29] The diagnosis of diabetes through urine test continued to be a major part of discussion on the disease in the following decade. For instance, in *Di Ba Hao Zhen Duan Shu* (《第八号诊断书》 *No. 8 Diagnosis*), Ding Fubao (丁福保) records the features of a diabetes patient's urine (being large in amount, transparent, not turbid, moderate pale yellow with a greenish tinge, and neutral).[30] It was also during the 1910s that a connection between diabetes and *Xiao*, a class of disease in TCM, was constructed.

The 1920s witnessed the most significant development in diabetes treatment, the discovery of insulin in Canada,[14] and an obvious increase in the amount of discussion on diabetes, especially on its treatment, could thus be observed in China. Banting, one of the discoverers of the method to use insulin to treat diabetes, was introduced to Chinese readers in a 1920 article in *Hua An* (《华安》), and insulin, the new drug for diabetes, was introduced to the Chinese public by means of a spate of transliterations during 1923 and 1924, when the articles published in *Shi Bao* (《时报》) recorded no less than three, namely *Ying Su Lin* (英苏林), *Ying Suo Lin* (应索林), and *Yin Su Ling* (阴素灵). *Ying Sha Lin* (英沙林) and *Yin Su Lin* (因苏林) were also transliterations used for insulin during that period by other journals. The standardized translation of insulin, *Yi Dao Su* (胰岛素), appeared in journal articles after 1925, along with a deeper understanding of its function, as is reflected in the following excerpt from "*Tang Niao Bing*," a 1928 article published in *Qi Lu Yi Kan* (《齐鲁医刊》 *Qilu Medical Journal*):

> "胰岛素不能治愈糖尿病，不过在用人工注射发以代替胰腺之天然分泌物……[31]
> (English translation: Yi Dao Su (insulin) does not cure diabetes; it is injected into human body only to take the place of natural secretion of the pancreas […].)"

The deepened understanding of insulin also accounts for more discussion on the causes of diabetes. Also, in the 1928 article cited above, the dysfunction of the pancreas is explained as the cause for "*Xue Tang Guo Duo*" (血糖过多 hyperglycemia) and "*Tang Niao*" (糖尿 glycosuria). In *Tang Niao Bing*, another 1930 article published in *Da Gong Bao* (《大公报》), the cause for the disease is explained in a more detailed manner:

> "糖尿病是一种新陈代谢机能失常的病，主要的缘故是因为胰腺内所生的胰岛素不足用了。因为若是没有胰岛素，则炭水化合物不能正常的气化，所以血液内的糖质必积增，形成血糖过多的现象。[32]
> (English translation: Diabetes is a disease of metabolic dysfunction, whose major cause is a lack of insulin generated by the pancreas. The lack of insulin causes carbohydrates' failure of *qi* transformation, which leads to the accumulation of sugar in the blood, and causes the phenomenon of hyperglycemia.)"

The explanation in this article was still coated with a local tint, reflected by the typical TCM term "*qi* transformation." During 1925 and the turn of 1930s, the diagnosis of diabetes still largely depended on urine test. For example, in Ding Mingquan's (丁名全) 1927 article *Tang Niao Bing* (《糖尿病》 *Diabetes Mellitus*), he mentions that the doctors "have to test the patient's urine" for the purpose of diagnosing diabetes[33]; in Shen Zhonggui's (沈仲圭) 1932 article *Tang Niao Bing Qian Shuo* (《糖尿病浅说》 *Notes on Diabetes*), he suggests that the major symptoms of diabetes include glycosuria and polyuria.[34]

After 1930, with a clearer understanding of the disease's cause, more knowledge on its prevention was promoted, such as "to control and limit the intake of carbohydrates," which was proposed by Brentano and presented in the translated article *Jin Dai Tang Niao Bing Zhi Yan Jiu* (《近代糖尿病之研究》 *Modern Research on Diabetes*).[35] At the same time, more knowledge on its categories was introduced. For example, a 1933 article titled *Tang Niao Bing Zhi Zhong Lei* (《糖尿病之种类》 *Types of Diabetes*) in *She Hui Yi Bao* (《社会医报》 *The Public Health and Medical Journal*) differentiates between "renal diabetes," "extra-pancreatogenic and extra-insular diabetes," and "diabetes mellitus."[36] It was around 1935 that systematic knowledge of the symptoms, causes, diagnosis, and treatment of diabetes was introduced to China through publication of monographs and translated works on the disease. Such works include *Tang Niao Bing Liao Yang Fa* (《糖尿病疗养法》 *The Treatment of Diabetes*) by Mou Hongyi (牟鸿彝), *Diabetes* by F. Bertram, and *Diabetes* by J.R. Scott.

Along with the systematicity of diabetes knowledge transmission, an updated view on its diagnosis could also be observed after 1935, around which time the medical technique of blood test was introduced to China. In *Zhong Hua Bai Ke Ci Dian* (《中华百科词典》 *Chinese Encyclopaedia*) chief-edited by Shu Xincheng (舒新城), "two to three times of urine test" is suggested for the sake of preventing diabetes,[37] echoing with the method of its diagnosis in the previous decades, whereas in Bertram's and Scott's introduction to the disease, the diagnosis of diabetes by blood sugar is stressed. Bertram's *Diabetes* explains the disease from four aspects – the occurrence and treatment of diabetes, children's diabetes, and the prediction of

diabetes, and in the first chapter about the occurrence of the disease, the author includes a part explaining the concept of blood sugar, where the relation between urine sugar, blood sugar, and diabetes is illustrated as follows:

> "曩昔尿内含糖为糖尿病的主要症象。今吾人已深知炭水化物中间新陈代谢的常态亦能有糖尿现象。血糖常期的增加(血糖分过多)乃糖尿病的特征……[38]
> (English translation: In the past, urine containing sugar was regarded as a main symptom of diabetes. At present, we know very well that sugar in urine is normally produced by the metabolism of carbohydrates. The long-term increase of blood sugar (the excessive amount of blood sugar) is a feature of diabetes.)"

Following that, the author introduces two methods of blood test, namely "Ivar Bang's method," which "enables us to have an accurate understanding of carbohydrate metabolism," and "Hagedorn-Jensen method," a "commonly adopted method today," which requires "complicated equipment and techniques." Scott's *Diabetes*, which was published 4 years later, offers a more comprehensive introduction to the disease in twelve chapters, elaborating respectively on its background, definition, causes, symptoms, diagnosis, metabolism of normal people, metabolism of diabetic patients, diet, insulin, education, complications, and prevention. In the chapter about the symptoms of diabetes, the author introduces three tests, the Blood-Sugar Test, Glucose Tolerance Test, and Benedict Test, the first two for diagnosis of diabetes, and the third for identifying the type of sugar in the urine.[39]

Synchronically, urine sugar and blood sugar became both used as indicators in diabetes cases, which could be observed in medical records on ordinary people. For example, the following excerpt from a record of a 9-year-old diabetes patient in 1937 includes statistics of sugar contained in the patient's urine and blood:

> "九岁男孩，主诉为贪食，口渴及多尿，有三个月之久。入院时，每百公撮禁食血内，含糖190公丝，而每日尿内，含糖45公分。[40]
> (English translation: The chief complaints of the nine-year-old boy were gluttony, thirst, and polyuria. On admission to hospital, every 100 milliliters of his blood before meal contained 0.19 grams of sugar, while his urine contained 45 grams of sugar every day.)"

The knowledge spread on the diagnosis, treatment, and causes of diabetes in the first half of the 20th century in Chinese newspapers, journals, and medical books served as a pre-condition for the popularization of diabetes knowledge, offering the basics of the disease for the reception of the concept by the Chinese public, and preparing the ground for localized explanations on the disease by relating it to long-existing disease concepts of TCM, a method used by Chinese intellectuals in that age to facilitate Chinese people's cognition of scientific concepts introduced from the West.

4.2 Connection built between diabetes and *Xiao*

The first medical technique introduced from the West to China since the early 19th century was vaccination against the smallpox. The technique was explained and thus popularized in a localized manner, as the effectiveness of it was illustrated by local medical practitioners with the help of the *Tai Du* (胎毒 fetal toxin) concept, a cause for diseases in TCM theories familiar to the Chinese. In line with Said's theorization that the traveling idea, after its full or partial accommodation in the new context, is to be transformed, the newly introduced medical concepts were re-categorized and then explained within the framework of Chinese medical traditions. In the current case, a connection between diseases with a categorical term "*Xiao*" and diabetes was built in the 1910s.

Disease names such as *San Xiao* (三消), *Xiao Zheng*, and *Xiao Ke* appeared recurrently in the medical cases recorded by renowned TCM doctors in the Qing Dynasty, such as Ye Tianshi (叶天士) (*c.* 1666–1745),Wang Jiufeng (王九峰) (*c.* 1753–1815), and Wang Xugao (王旭高) (1798–1862). For example, the following excerpt from Wang Jiufeng's medical cases records and explains the symptoms of *San Xiao*, offering an example which illustrates TCM practitioners' understanding of the disease before the introduction of relevant Western theories to China:

> "善渴为上消，属肺；善饥为中消，属胃。饥渴交加，肺胃俱病。肺主上焦，胃主中焦，胃火上炎，上燥肺金，金失清肃，津液为之枯槁，欲得饮水相救，故大渴欲饮。阳明主肌肉，多食而瘦削日加，乃水谷精华，不归正化，故善食而瘦，乃消证也。[41]
> (English translation: A person prone to thirst suffers from *Shang Xiao*, wasting of the upper jiao, which is closely associated with the lung, while a person prone to hunger suffers from *Zhong Xiao*, wasting of the middle jiao, which is closely associated with the stomach. Combined hunger and thirst involve with both the lung and stomach. The lung is located in the upper jiao and the stomach in the middle jiao. When stomach fire ascends to dry the lung, the lung fails to cleanse and distributes the water, leading to excessive thirst. The spleen and stomach dominate muscles, while increased weight loss despite sufficient intake of food occurs when the nutrients from water and food fail to be properly absorbed by the body. Thus, weight loss with an increased food intake is a sign of *Xiao Zheng*.)"

As is explained in *Zhong Guo Bing Shi Xin Yi* (《中国病史新义》*A New History of Diseases in China*), the concept of diabetes was denoted by two groups of terms in ancient China, *Dan* (瘅) and *Dan Bing* (瘅病) named after its cause, and *Xiao* (消), *Ke* (渴), and *Xiao Ke* named after its symptoms.[42] Variations of the latter, such as *Xiao* (痟), *Xiao Zheng*, *Xiao Ke Zheng*, and *San Xiao*, were used by different schools of medical

practitioners in China in their efforts to introduce the new disease concept to the Chinese public since the early 20th century. In *Tang Niao Bing Ji Ya Lun Shi Xin Zhi Fa* (《糖尿病及亚伦氏新治法》 *Diabetes Mellitus and Allen's Treatment*), a 1917 article published in *Zhong Hua Yi Xue Za Zhi* (《中华医学杂志》 *National Medical Journal of China*), Zhou Kui (周逵) points out that diabetes, an oldest disease discovered in the earliest ages, was, in the ancient Chinese medical classics, named "*Xiao Zheng*," which can be further divided into three types, *Xiao Ke*, *Xiao Zhong* (消中), and *Shen Xiao* (肾消). The first type of *Xiao Zheng* is featured by polyuria, which is caused by partaking of an excessive amount of water due to thirst, the second featured by polyuria and gradual emaciation, and the third featured by excessive water consumption, gradual loss of leg muscle, and urine containing fat. These three types give *Xiao Zheng* another name, *San Xiao*, literally meaning three *Xiao*.[43]

Obviously, the meaning of *Xiao Zheng* is broader than that of diabetes mellitus. Judging by Zhou's description of *Xiao Ke*, it is more likely an equivalent of diabetes insipidus, rather than diabetes mellitus. Therefore, *Xiao Zheng*, in the 1910s, was more likely an equivalent of diabetes in a broader sense. In the late 1920s, a new view on the relationship between diabetes and *Xiao* appeared that the former was one of the three types of the latter. For instance, in a 1928 article published in *Zhong Yi Xin Kan* (《中医新刊》 *A New Journal on TCM*), Zhang Baichuan (张百川) explains that diabetes is "a Western medical practitioners' discovery by use of test equipment"; as such, it has never been mentioned in TCM, and the concept has been discussed under the name of *Xiao Ke Zheng*. Unlike Zhou Kui's categorization, Zhang divides *Xiao Ke* into three types, *Shang Xiao* (上消), *Zhong Xiao* (中消), and *Xia Xiao* (下消) (literally meaning wasting of the upper jiao, middle jiao, and lower jiao), and defines diabetes as the third type, *Xia Xiao* (Fig. 4 and Fig. 5).[44] Nonetheless, not all TCM practitioners at that time differentiated the three types of *Xiao Ke* in their discussion on diabetes and *Xiao*. For example, at the beginning of *Tang Niao Bing Yan Fang* (《糖尿病验方》 *Diabetes Prescription*), a 1930 article published in *Tong Wen Bao* (《通问报》 *The Chinese Christian Intelligencer*), Zhao Yucun (赵雨村) explains that "diabetes is *Xiao Ke Zheng* in the words of the ancient medicine of our country."[45]

The view that the disease was one of the three types of *Xiao Ke*, or *Xia Xiao*, continued to exist in the 1930s. Zheng Yingpu (郑英圃), in his 1939 article *Tang Niao Zhi Yuan* (《糖尿之源》 *Causes for Diabetes*), introduces diabetes as a term in Western medicine, as well as "one of the symptoms of *Xiao Ke Zheng* in TCM."[46] Yu Shenchu[47] (俞慎初) and Zhu Zhiqiu[48] (朱志秋) both matched diabetes up with the TCM term *Xia Xiao* respectively in their 1936 and 1937 articles published in *Yi Duo* (《医铎》 *Medical Bell*) and *Xin Yi Yao Za Zhi* (《新医药杂志》 *New Medicine*). Meanwhile, the other group of TCM practitioners who refused to regard the newly introduced concept as a type of *Xiao Ke* developed their argument. Sun Songqiao (孙崧樵), in his 1938 article *Tang Niao Bing Zhi Yan Jiu* (《糖尿病之研究》 *Research on Diabetes*), argues that diabetes is *Xiao Ke*, as *Shang Xiao*, *Zhong Xiao*, and *Xia Xiao* are all symptoms of the disease; in other words, the three *Xiao* should be regarded as three stages of diabetes, rather than three types.[49] After 1940, as the knowledge on diabetes became more systematic in China, the strategy to localize the concept by relating it to long-existing local traditions became less necessary than it had been when the concept was introduced to the Chinese public as a new concept in the past decades.

Indeed, in the early 1930s, for the Chinese public, diabetes was no longer an alien medical concept. The popularization of the concept was not merely promoted by medical professionals; the concept became familiar to the Chinese people also through its politicization.

5 The politicized "Diabetes": the suffering politicians

In 1912, Meiji, emperor of Japan from 1867 to 1912, passed away. The news on his death soon spread in China through news reports in mainstream newspapers at that time, such as *Shen Bao* (《申报》), *Shi Bao*, and *Xin Wen Bao* (《新闻报》). When informing Chinese people of Meiji's death, some reports mentioned the disease from which the emperor suffered. A report in *Shi Bao* on July 21, 1912 introduces Meiji's disease in the following way: "the emperor (of Japan) once suffered from *Niao Lin Zheng* in 1904"; a report published a day later in the same newspaper mentions his disease in a different way: "the disease of the emperor (of Japan) is *Tang Niao Zheng*." Today, it is widely known that Meiji suffered from diabetes (and died of uremia), and the different terms in these news reports denote the same concept, which is in accordance with our account on the translation of the notion, whereas it could be confusing to the readers at that time. In other words, the changing terms of the same disease in the news reports formed a barrier to the understanding of the concept by the Chinese locals, and a standardized name for diabetes became necessary.

Though the Chinese name of diabetes in the 1910s was not fixed, the influence of the notion on the Chinese readers achieved through news reports on the political figure should not be overlooked. Originally, an alien concept most frequently mentioned in medical journals before 1910, diabetes entered non-professional, daily newspapers and became a possible topic in Chinese people's daily discourse, which can be considered an important step in its course of popularization. The 1930s, compared with the years when a pile of terms shared the single concept of diabetes, were likely to be a better period for the spread of diabetes knowledge, as *Tang Niao Bing* was selected as the official translation of the concept. Again,


中華醫學雜誌

糖尿症及亞倫氏新治法 Diabetes Mellitus and Allen's Treatment

周達 仲衡

緒言

糖尿之爲症也最古其發見也亦最早我國古醫書中皆名之曰消症而區別其種類爲三一曰消渴即渴而多飲多飲而便溏因以煩數者是也二曰消中即飲食多而不甚飢便溏多而漸形瘦弱者是也三曰腎消即飲水不絕腿肉日減而小便含有脂液者是也合而言之厥名三消在昔黃帝之時早經發見內經脈要精微論曰癉成爲消中善食而瘦又奇病論曰肥者令人內熱甘者令人中滿故其氣上溢轉而爲消渴至劉河間作三消論益詳細以說明之劉氏謂消渴一症乃腸胃之外燥熱痞閉其滲泄之道路水雖入腸胃之內不能滲泄於外故小便數出而復渴迄乎今日中醫對於此症卒未嘗有所發明而西人則名之曰打野百諦斯墨力特斯其語爲尿多如蜜之意古之希臘有醫士曰阿里諦耳斯Aretaeus the Cappadocian者已解明其病狀如下阿氏曰此乃慢性症患者壽必不永一至病深之日肌肉銳減即距死期不遠病時奇渴雖屢飲亦復無濟小便多而且數既無術以止其渴又無術以止其小便蓋不治之症也至第十七世紀英國醫士多木實魏力斯氏 Thomas Willis 始察得尿中甜味

糖尿症及亞倫氏新治法 二十三

Figure 4 Zhou Kui's article on diabetes in the early 20th century (source from: https://www.cnbksy.com/literature/browsePiece?eid=null&bcId=null&pieceId=b6677d7c518672cf12f191803362acf5&ltid=7&activeId=646ecd6d7fa00c499c5eea9c&downloadSource=GENERALSEARCH).


中醫之下消即糖尿病說

張百川

糖尿一症。西醫以機械測驗之發明者也。謂人體內含糖分。因消化機能阻滯。不能消化糖分。則血液不潔。積糖甚多。遂由尿內排洩。尿中原質。確有可驗。名之曰糖尿證。向無治法。而吾國醫學未始無糖尿之學說。固寓言於消渴證內耳。夫消渴之病。有上中下三種之別。糖尿症，消渴病中之下消也。醫牘載閻參政王懋德病消渴。忽瘦甚。鬚髮皆枯。一醫謂人曰。王公此病。曾嘗其尿否。病此病。尿甚甜。難治之證也。王後聞之。嘗之果然。古方驗錄論。有消渴欲飲水多。小便數。脂似麩片甜者。消渴病也。又唐祠部李郎中論消渴者腎虛所致。每發小便甜。日夜小便二十餘次。清白且長。味甘凝結如脂。此三者皆糖尿之明徵

Figure 5 Zhang Baichuan's article on diabetes in the early 20th century (source from: https://www.cnbksy.com/literature/browsePiece?eid=null&bcId=null&pieceId=aafeed05b80afd0c91620caeddf769e5&ltid=7&activeId=646ecd9ff74f7f6d3a2f0681&downloadSource=GENERALSEARCH).

the disease became familiar to the Chinese public through recurrent mentioning of it in news reports on a political figure, Wang Ching-wei (汪精卫).

The abundant reports on Wang Ching-wei's suffering from diabetes in a plethora of newspapers drew the public's attention to the disease. Such a connection between its popularization and politicization is explained in "*Tang Niao Bing*," a 1946 article in *Xi Nan Yi Xue Za Zhi* (《西南医学杂志》 *South-West Medical Journal*), where the author Yan Junwei (阎君薇) states, in the first sentence, that since Wang Ching-wei suffered from this disease, diabetes has received gradual attention from the Chinese people.[50]

Such attention was aroused by detailed reports on the development of Wang's diabetes in the 1930s (Fig. 6). On November 22, 1931, a report in *Xin Bao* (《新报》) introduces Wang's situation – "[he] becomes ill again with diabetes, a physiological condition which causes great danger when it lasts for a period." During 1931 and 1932, a deterioration of his condition was reported. For instance, a 1932 report in *Shang Hai Shang Bao* (《上海商报》 *The Shanghai Mercantile Press*) mentions that Wang suffers a relapse of diabetes and has to prolong his rest in Shanghai. In 1934, a report on June 26 in *Shen Bao* notes that Wang's diabetes becomes slightly milder. In 1935, a report on December 16 in *Xin Wen Bao* indicates that he has not recovered from diabetes, and is still receiving medical treatment. All these reports in non-professional, daily newspapers strengthened the impression of the disease on the Chinese readers, promoting the discussion on it as well as preparing the readers for the reception of further knowledge on the disease. The familiarity of the Chinese people with the politician facilitated the spread of knowledge on the unfamiliar concept.

6 The derivatized "Diabetes": the reconstruction of its semantic field

When a concept becomes a basic historical one after its processes of standardization, popularization, and politicization, it gives birth to relevant sub-concepts (in the form of hyponyms) that reflect its polysemic nature and even replace it and become basic local concepts.[6] It is a process of "derivatization" where the semantic relations of the traveling concept become re-constructed, which agrees with Said's "traveling theory," that the idea, after its travel, becomes "transformed by its new uses, its new position in a new time and place."[5] In the case of diabetes's travel to China, the derivatization of the concept is slightly different from that of the notions in Sun Jiang's theorization. A hypernym, rather than a hyponym, was derived, rendering the semantic relations of diabetes different from those of it in the source language.

It is manifested by history that diseases were not always conceptualized in the same way by different cultures,[51] and neither was people's cognition of the causes for


汪院長
因糖尿症暫不施行手術
◆脈搏呼吸恢復常態
◆已能離牀稍稍行動
汪精衛昨已可起坐
▼膽病現已減輕
▼糖尿病仍未愈
汪精衛赴杭
糖尿病加劇
電中央續假

Figure 6 News reports on Wang Ching-wei in the 1930s (source from: Index of National News Papers and Journals).

different diseases. In the case of diabetes's travel to China, the affluence of physical materials (especially food) is considered a major cause for the disease, and the categorization of it as "a disease of affluence" (*Fu Gui Bing* 富贵病) reflects such a transcultural feature of disease concepts. Before 1940, the description of the causes for diabetes by medical practitioners in China was mainly in form of translation, which rarely conveyed understandings with local tints. As diabetes became a rooted concept of disease in the Chinese language in the late-20th century, the term *Fu Gui Bing*, as its hypernym, became in common use in both professional and non-professional contexts.

The term *Fu Gui Bing* is not a coinage of the late-20th century. It can be seen in newspaper articles since the 1910s, such as "*Fu Gui Bing*" in *Xiao Shuo Xin Bao* (《小说新报》 *New Journal on Novels*) in 1918, "*Zhong Guo Ren Zhi Fu Gui Bing*" (中国人之富贵病 *Chinese People's Disease of Affluence*) in *Xian Shi*(《现实》 *Reality*) in 1934, and a series of articles titled "*Fu Gui Bing*" in *Li Bao* (《力报》) in 1944, where the term might refer to either a disease which the poor cannot afford to treat, or the indulgence in the pursuit to be rich officials. The semantic relation between *Fu Gui Bing* and *Tang Niao Bing* was established in the 1980s, when the patients of diabetes, owing to the limited level of economic and social development of China, were mainly corporate executives and government officials.[52] In the 21st century, the belief that *Tang Niao Bing* is a type of *Fu Gui Bing* can even be observed in academic articles. For example, in "Health Hierarchy: the Study on the Cause of 'Diseases of Affluence' in the Context of Ubiquitous Obesity," a 2014 research article published in *China Soft Science*, a CSSCI (Chinese Social Sciences Citation Index) journal, the authors describe hypertension and diabetes as *Fu Gui Bing*.[53]

In English, the traditional term that connects a disease with affluence of life is "rich man's disease" (or "disease of the rich"), and it denotes gout, rather than diabetes. The reference to gout as a "rich man's disease" is considered a "historic perception," whereas the relation between the disease and this cause is being questioned by empirical studies.[54] In the Chinese context, both gout and diabetes, along with cardiovascular diseases and cancers, are referred to as *Fu Gui Bing*, and the semantic relations of *Tang Niao Bing* are thus more complicated than that of "diabetes." In English, "disease of affluence" is another equivalent of *Fu Gui Bing*, and the earliest example of the phrase in Corpus of Contemporary American English (COCA) is in 1990, in an article titled "China's Blockbuster Diet Study" in *Saturday Evening Post*, where the author indicates that the Chinese "who eat the most protein […] also have the highest rates of such 'diseases of affluence' as heart disease, cancer, and diabetes." As the relation of equivalence between "diseases of affluence" and *Fu Gui Bing* becomes more settled, the traces of derivatization of the diabetes concept after its travel to China becomes less manifest.

7 Conclusion

As can be observed in the transcultural history of diabetes, the standardization, that is, the translation of diabetes into a pile of terms, popularization, that is, the explanation of diabetes through local concepts, and politicization, that is, the publicization of diabetes through a series of news reports on politician patients, of the disease concept were synchronous processes followed by its derivatization, that is, the reconstruction of its semantic relations with other disease concepts. Meticulous research on these processes requires linguistic, socio-cultural, and historical analyses of various types of texts, including dictionaries, newspaper articles, and medical works, and the writing of such a conceptual history is not possible without the

integration of the linguistic, sociological, and historical perspectives.

The medical discourse of the Republican China can be considered heteroglossic in nature, and different groups of commentators (medical practitioners, governors, intellectuals, etc.) conveyed medical knowledge with different purposes. My discussion on the translingual practice of diabetes does not specify the differences between these groups, or provide detailed information on the commentators (eg, the educational background, occupation, and location), as the standardization, popularization, politicization, and derivatization of diabetes and the spread of relevant knowledge on the disease are considered a result of joint effort made by all these commentators who made significant contributions to the development of modern medicine in modern China.

The transcultural history of diabetes in the late Qing and Republican China recorded by this article presents an example concerning how modern medical knowledge was translated and circulated in modern Chinese society. The standardization of key terms, such as "diabetes" and "insulin," enabled relevant knowledge from outside China to flow in and interact with local traditions. The popularization of such knowledge, as a process reciprocal to the standardization of the terms, promoted the reception of the disease concept. The process of its reception was also accelerated by the politicization of the concept. The standardization-popularization-politicization process enabled diabetes to be understood by modern Chinese people, and to be rooted in modern Chinese society. After its accommodation, diabetes became derivatized, and thus became a basic medical concept in the Chinese medical field.

The current research hopes to serve as a preliminary attempt to produce a medical conceptual history from a transcultural perspective. It enlarges the research scope of traditional study of conceptual history, calling for further attention to scientific concepts, extends the research methods of traditional study of translation history, viewing the translingual practice of medical concepts as both linguistic and socio-cultural, and explores a new perspective of traditional research on medical history, focusing on the translation, circulation, and meaning shift of a disease concept. The paradigm of transcultural travels of medical concepts is unlikely to be comprehensively exploited in one single study on one single example; therefore, further research on other concepts within the medical field since late Qing China is expected, in pursuit of deepened understanding on translation and circulation of modern medical knowledge in modern China.

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Ethical approval

This study does not contain any studies with human or animal subjects performed by the author.

Author contributions

MIAO Peng wrote and reviewed the article.

Conflicts of Interest

The author declares no financial or other conflicts of interest.

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Research article

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From Medicine to Popular Beverage: The Spread of *Singlo* Tea in Europe From the Seventeenth to the Nineteenth Century

QIAN Yibing[1,✉]

Abstract

Singlo tea was not only highly sought after in China but also gained substantial popularity in Europe during the eighteenth and early nineteenth centuries. From European primary sources spanning the eighteenth and nineteenth centuries, the popularity of *Singlo* tea in Europe may have been attributed to the fascination with exotic fashions and products, as well as its medicinal properties. As a result of its popularity, *Singlo* became known as standard green tea. This kind of tea was eventually replaced by green and black teas of other varieties. Based on the case study of *Singlo*, this essay indicated that Europeans showed more interest in green tea than in black tea in the early period of Sino-European tea trade. However, *Singlo* was eventually replaced by other kinds of green and black tea. Its decline in European markets also marked the beginning of black tea's gradual dominance in the Sino-European tea trade. The spread history of *Singlo* tea in Europe showed how medicine and commerce interacted. It provided an opportunity to learn about Chinese medicine and culture from a foreign perspective.

Keywords: Common green tea; Medicine; *Singlo* tea; Sino-European tea trade; Standard-Grade green tea

1 Introduction

Tea has a rich and well documented history as the beverage originating in Asia, which made its way to Europe where it became an exotic, sought-after product at the beginning of the seventeenth century. Over the next two centuries, tea's psychoactive properties seduced European society, where tea became popular in both castles and cottages. The East India Company imported tea in increasing amounts throughout the eighteenth century. The interaction of tea in the western world involved both commercial and cultural exchanges. A delicate flavor profile and hot preparation of tea inspired poets, artists, and satirists when European scientists were exploring its natural history and medicinal properties. The British poet George Gordon Byron (1788–1824) expressed how deeply the tea affected his spirit: "Here I must leave him, for I grow pathetic, moved by the Chinese nymph of tears, green tea! Than whom Cassandra was not more prophetic."[1]

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Byron's poetry prompts two inquiries: what kind of green tea was he referring to, and why was tea so significant to his writing? These inquiries concern tea's development as a medicine in Europe. When Chinese tea arrived in Europe, it was used as a medicine. In elite society, tea was viewed as a means of improving health. European physicians started noticing tea's health advantages in the seventeenth and eighteenth centuries. Due to tea's prominence in Europe, medical professionals began studying it. This is the reason why Byron used tea as his inspiration-inducing potion.

Firstly, tea enjoyed medicinal standing within the Chinese tradition, thus exerting a discernible impact on Europeans' perception regarding its utility. There is also the issue of economic reasons that need to be taken into consideration. The fact that tea as a medicine has helped tea become more popular in Europe. It is very likely that the tea Byron was transported in was *Singlo* (松萝) tea, a well-known Chinese tea originally from Huizhou (徽州). It was said that *Singlo* tea created during the Long Qing (隆庆) period of the Ming dynasty (1566–1572), which named by Chinese according to the *Singlo* mountain where it came from.

As the Hui Merchants (徽商) traded *Singlo* tea throughout the country during the Ming and Qing dynasties, it enjoyed high sales volumes. Except as a popular beverage, *Singlo* was also taken as medicine by the Chinese according to the Chinese medical tradition. Xin'an (新安) medical practitioners used *Singlo* tea as medicine to cure *Li* disease (痢), *Shang Han* disease (伤寒), and *Wen* disease (瘟), which appeared in many prescription books and works of Chinese *materia medica*. And the Xin'an

intellectuals spoke highly about the effects of *Singlo* tea in their poems and writings.[2]

Singlo tea became widely popular in China during the period when Chinese tea spread throughout Europe. It has been known by many names in the diaries of Western travelers and tea trade recordings, including "*Thee Soumlo*," "*Sunglo* tea," "*Singlo* tea," "*Singloe* tea," etc. This essay chose "*Singlo* tea" to represent its consistent usage in the English-speaking world, where "*Singlo*" was most prevalent in Sino-European tea trade.

A significant quantity of *Singlo* was exported to Europe as green tea according to records of the tea trade. From the travel diaries and trade records, it may be inferred that *Singlo* was regarded by Europeans as the first green tea to be introduced to Europe. It was first consumed as the standard-grade green tea before being used as the common green tea. *Singlo* tea and *Bohea* tea were two of the main kinds of tea known to Westerners in the seventeenth century. *Singlo* was regarded as medicine when it first appeared in western records. With time passing, more attention was paid to *Singlo* tea's commercial value. Due to *Singlo* tea's extreme popularity in the seventeenth century, a lot of low-quality *Singlo* tea made its way into Europe. Consequently, there were a great number of tea publications that provided a thorough introduction to *Singlo* tea. Even after developing a thorough understanding of Chinese tea, Europeans' interest in *Singlo* tea persisted into the nineteenth century.

The *Singlo* tea was always cited by researchers conducting Sino-Western tea exchange studies. Like in *All About Tea*[3] by William Ukers, *The True History of Tea*[4] by Victor H. Mair and Erling Hoh, *Tea Empire: Asian Leaves Conquer the World*[5] by Ellis Markman, Richard Coulton, and Matthew Mauger, and other works[6] about tea that originally entered Europe and the global tea trade. Mostly, these studies considered *Singlo* to be a kind of green tea important to Europe in the whole context of the tea trade, its unique characters were rarely noticed. To understand the importance of this kind of green tea, in particular its status in trade and its influence on the exchange of tea cultures between the Chinese and the West, it is necessary to trace its history in the Sino-West tea trade.

Based on the case study of *Singlo* tea, this essay examines how Europeans accepted Chinese green tea in the seventeenth and nineteenth centuries. *Singlo* tea was a sought-after product with significant medical benefits in Europe, and its medicinal properties contributed to its popularity. By using records of European exploration of China and statistics of the tea trade, this study also analyzes the role that medical and commercial factors played in the acceptance of Chinese green tea in Europe. *Singlo* tea was imported into Europe from China and became the standard for green teas until other kinds of green tea replaced it. As this study indicates, Europeans were more interested in green tea during the early Sino-European tea trade era. In addition to green tea, Europeans imported and consumed *Bohea* tea, which was regarded as black tea, in increasing quantities since the green tea trend. Thus, the decline of *Singlo* tea in European markets also marked the beginning of green tea being gradually surpassed by black tea in the Sino-European tea trade.

2 The medicine and popular commodity: European's *Singlo* tea investigation

It is believed that the Dutch brought Chinese and Japanese tea to Europe at the beginning of the seventeenth century.[7] The early records of tea in European works were created primarily by travelers and missionaries. The *Singlo* tea was recorded as the most famous tea in China in these early records. In a letter to the Secretary of State, De Filippo, the French Jesuit missionary Louis Le Comte (1655–1728) noted that herbs were primarily used by the Chinese When introducing Chinese remedies. Out of all the herbs Chinese used, he chose tea and ginseng to make an illustration, believed tea may be the reason the Chinese are not susceptible to gout, sciatica, stones, or many other distempers. He pointed out that because of tea's therapeutic characteristics, the Emperors of Qing dynasty used tea-horse trade to control the surrounding nomads: "Tartars that feed on raw flesh become ill and suffer from constant indigestion as soon as they succumb to it. And in order to have plenty of it, they agree to supply the emperor with nearly all of the horses used to remount his cavalry. When anyone suffers from vertigo that over-charges the brain, he finds himself extremely relieved to sleep as he grows accustomed to *Thee* (Fig. 1)."[8]

Louis Le Comte also mentioned how French were drawn to tea's medicinal benefits, "In French there are abundance people that find it good for the Gravel, Crudities, Headaches; and there are who pretend to have been cured of the Gout by it, almost miraculously; so quick and sensible has been its effect. All this proves that *Thee* is no Chimera, and conceit."[8] He selected two kinds of tea: *Singlo* tea (*Thee soumlo*) and *Bohea* tea (*Thee Voüī*) to introduce. He recorded the external form, flavor and the effect of *Singlo* tea: "The first is called *Thee soumlo*; It is the name of the place where it is gathered; the leaves are somewhat long, the infusion clear and green when it is fresh, the taste pleasant; it smells, as they say in France, a little of Violets, but this taste is not natural, and the Chinese have often assured me, that to be good, it ought to have no taste at all, this is that they commonly present at visits; but it is exceedingly corrosive; perhaps the sugar they mix with it here corrects its Acrimony; but in China, where it is drunk pure, too great a use of it would be apt to spoil the stomach."[9]

The commercial value of *Singlo* tea gained more attention as time went on. In 1699, Louis Le Comte's

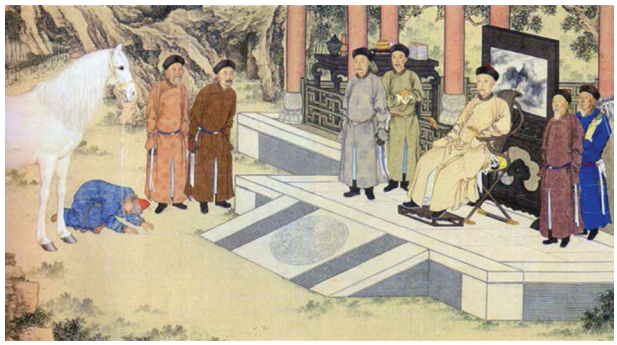


Figure 1 China: Kirghiz presenting tribute horses to the Qianlong Emperor for the tea-horse trade by Giuseppe Castiglione (1688–1766, Qing court painter. He had a Chinese name called Lang Shining 郎世宁) (source from: https://www.bridgemaneducation.com/en/asset/1168246/summary?context=%7B%22route%22%3A%22assets_search%22%2C%22routeParameters%22%3A%7B%22_format%22%3A%22html%22%2C%22_locale%22%3A%22en%22%2C%22filter_text%22%3A%22China%3A+Kirghiz+presenting+tribute+horses+to+the+Qianlong+Emperor+by+Lang+Shining%22%7D%7D).

"Thee Soumlo" was written into *Singlo* tea by British priest John Ovington (1653–1731) in his book *An Essay upon the Nature and Qualities of Tea*. John Ovington was hired as a chaplain by the East India Company and traveled Asia for years. John Ovington introduced the standards and preservation methods of *Singlo* tea:

> "The second sort is *Singlo*, or *soumlo*, with the Chinese; of which there are several kinds, according to the place of Growth, the manner of preparing it, and the nature of the Tea, But that which is imported hither is of two sorts, both equally good, one of them is a narrow and long leaf, the other smaller, and of a blewish green Colour, which tastes very crisp when it is chaw'd, and afterwards looks green upon the Hand, and infuses a pale Green, less into the water, The Flavor of it is fresh and fine, lively and pleasant, Tis strong, and will endure the change of water three or four times, this Tea is brought over in round Totaneg (Totaneg is a sort of mesa brought from China, a canister contains) Canisters pasted over with Paper."[10]

John Ovington's book is not about a high-level academic study. It is a simple and popular book. A comprehensive understanding of seventeenth century European society can be found in this text. John Ovington provided a detailed introduction to the identification of *Singlo* tea quality because there was a large market for low-quality *Singlo* tea in Europe during the seventeenth century.

European attention for *Singlo* tea continued into the nineteenth century when Europeans already had a comprehensive understanding of Chinese tea. Samuel Ball (1781–1874) worked as a tea inspector for the East India Company from 1804 to 1826. His tea investigation was used to direct his inspection work. Samuel Ball published a book recording what he knew about Chinese tea called *An Account of the Cultivation and Manufacture of Tea in China*. The book explored the history of Chinese tea trees, the environment required for tea trees to grow, the origin of black tea, the tea culture described by missionaries, and how black tea differs from green tea. A majority of the contents of this book were based on Chinese dictation and European missionary reports. For example, he quoted Du Hald's research.[11] Samuel Ball described *Singlo* tea in particular: "The green tea known to foreigners may be classed under two kinds, *Hyson* and *Singlo*; all other kinds are made from these shrubs, and there is much reason to think that even the *Hyson* is merely the *Singlo* shrub improved by soil and cultivation."[12]

Singlo's significant influence on modern culture was evident by the fact that *Hyson* and *Singlo* have the same ancestry. In this book, Same Ball introduced the *Singlo* tea producing facility and the types of tea that could be referred to as *Singlo*, "The green tea exported to foreign markets is grown in the southern part of the province of *Kiang Nan*, in the district of *Whey-chew-fu*. The *Hyson* tea is chiefly, if not entirely, brought from the country in the immediate neighborhood of the two towns of *Hieu Ning* and *Moo Yuen*; the former situated in lat.29°56′, long, 118°15′, and the latter in lat.29°12′, long.118°E. A coarse kind of *Singlo* is also brought from the Hien, or town of Tay Ping, situated in lat.30°15′, which is said to be the utmost northern limit where the tea sold to foreigners is procured."[12]

The confusion between *Singlo* tea and *Hyson* tea was also explained, he pointed out that *Singlo* hill was the first place where green tea was discovered:

> "It is universally admitted by the Chinese that the term *Hyson* arose out of an accidental circumstance connected with their intercourse with foreigners, which shall be hereafter explained, it is also generally admitted by the Chinese that the *Singlo* tea grows in every part of *Kiang Nan*; but some people assert that the tea produced on the hills in the immediate neighborhood of the two towns of *Hieu Ning* and *Moo Yuen* differs from the *Singlo* tea; though this cannot be said to apply to all tea grown in this neighborhood, for the *Singlo* hill or mountain, where, agreeably to Chinese authors, the green tea was first discovered, and whence it derived its name, is seated in one of these districts, *Hieu Ning*."[12]

Samuel Ball cited Du Halde's research to describe the origin of *Singlo* tea, "there are only two kinds of tea, the *Singlo*, which takes its name from a mountain in *Kiang Nan*, and the black tea, produced in the mountains of *Vu Ye,* In *Fokien*."[13] In these descriptions, *Singlo* mountain is the place where green tea was first discovered and is the origin of *Singlo* tea. Samuel ball also quoted a large number of Chinese literature. He used some Chinese statistical works about the districts of *Hieu Ning* and *Moo Yuen*. He translated the legend about *Singlo* tea's origin and how it obtained a reputation in China from Chinese statistical works of the districts: "The hill or mountain where tea is produced is called *Singlo* Mountain. A Bonze of the sect of *Fo* taught a *Kiang Nan* man, named *Ko Ty*, the art of making tea, and thus, it was called *Singlo* tea. The tea got speedily into great repute, so that the Bonze became rich, and abandoned the profession of priest. The man is gone, and only the name remains.

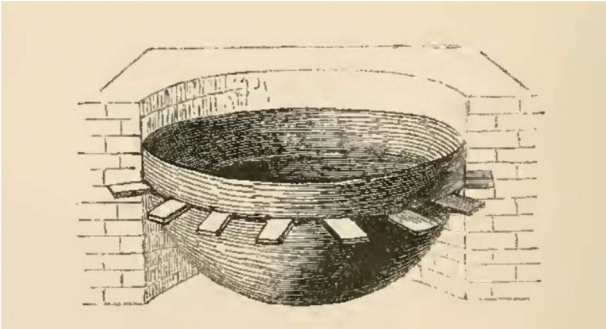


Figure 2 The Hyson Kuo (锅) used to made green tea (source from: *Ball S. An Account of the Cultivation and Manufacture of Tea in China: Derived from Personal Observation During an Official Residence in that Country from 1804 To 1826*. London: Green Brown & Longmans; 1848. p. 214.).

Ye men of learning, and travelers who seek *Singlo* tea, may now search in vain, which is sold in the markets is a mere counterfeit (Fig. 2).[14]

The length of the text Samuel Ball spent introducing *Singlo* tea was attributed to the fact that: There are many common teas available; the *Singlo* tea, however, is of excellent quality, which is why it requires a suitable soil, a lot of work, and it is not easy to produce.[14] As a result, it would seem that the *Singlo* tea was not only the only tea mentioned but also clearly valued by these writers as the best representation of tea produced in the *Hyson* areas at the time. For it would have been a strange omission in persons professing to make statistical reports of a country, and especially one of so small an extent, they had neglected to speak of a tea which differed essentially from *Singlo* tea, and more especially if it was superior to it.[14] As Samuel Ball demonstrated in his work, Europeans valued *Singlo* tea highly. By understanding how *Singlo* tea was popular in China at that time, his investigation would be easier to comprehend.

With the popularity of *Singlo* tea in the West, some fake *Singlo* tea appeared. Therefore, in some tea books published in the West, the method of judging the authenticity of *Singlo* tea was also introduced: "Sunglo-Famous in China at one time as the district where Green teas were first produced, and which were for centuries the finest grown in that country. Latterly, however, it has greatly declined as a tea-producing district, the quality also degenerating at the same time. Much of that now sold as "true *sunglow*" being only so in name."[15]

The famous plant hunter Robert Fortune (1812–1880), came to China to collect tea trees and tea seeds after the opium war. One of Fortune's destinations was *Singlo* Mountain which is the origin of *Singlo* tea, and the Chinese guide hired by Fortune, also came from *Singlo* Mountain. Fortune made a detailed investigation and record of *Singlo* Mountain. He was full of expectations for *Singlo* Mountain: "We reached our destination a little before dark, and I had the first view of the far-famed Sung-lo-shan, the hill where green tea is said to have been first discovered (Fig. 3)."[16]

3 From standard-grade green tea to common green tea: *Singlo* in Sino-European tea trade

The fascination with *Singlo* tea among Europeans for medical and commercial reasons raises the very important question of how the tea ended up on European market shelves. Many trade records still exist today that prove *Singlo* tea was a popular tea in Europe at the time that inspired Byron to create his poem. The East India Company played a significant role in importing tea from China. At first, the Dutch East India Company dominated this commerce, but the British East India Company eventually overtook it. In the seventeenth century, *Singlo* was the primary tea type the East India Company marketed; *Bohea* was not as common at that time. A shipment of premium tea from Amoy had to be imported by the British in 1698. It is known that the British East India Company exported 23,000 pounds of *Singlo* and 1100 pounds of *Bohea*.[5]

The Dutch East India Company and the British East India Company's rivalry at the start of the eighteenth century fueled tea trade with China. Unprecedented quantities of Chinese tea had reached the London market; among the imported teas was *Singlo* tea, which was regarded as the standard-grade green tea.[17]

Singlo tea was also known as common green tea, in addition to being considered the standard-grade green tea. In a 1702 tea trade involving the British and Chinese, it said, "The EEIC's tea cargo from China was made up of two-thirds *Singlo*, common green tea; and one-sixth Imperial, another kind of green tea also known as Gunpowder."[4] The Kent's supercargoes were specifically directed in 1704 to obtain a massive cargo of tea, the largest one yet requested, and convey it to London. The managers of the United Trade recognized that "there is not a certainly of meeting with so huge a quantity of Tea" in Canton due to the requirement that they load approximately 90,000 pounds of *Singlo*, 12,000 pounds of imperial, and 24,000 pounds of *Bohea*.[18]

It could be observed that *Singlo* tea remained the most popular tea type in Europe in the eighteenth century. In a letter to his patron, British doctor, naturist, and well-known collector Hans Sloane (1660–1753), James Cuninghame, a ship doctor who twice traveled to China, described the difference between *Singlo* tea and other teas in the same period:

> "The 3 Sorts of Tea commonly carryd to England are all from the same plant, only the Season of the Year &the Soil makes the difference. The *Bohe* (or *Voüi*, so called of [the *Wuyi*] Mountains in the Province of *Fokien*, where it is chiefly made) is the very first bud gathered in the beginning of March, & dryd in the shade, The *Bing* Tea is the second growth in April: & Singlô the last in May &June, both dryd a little in Tatches or Pans over the fire."[19]

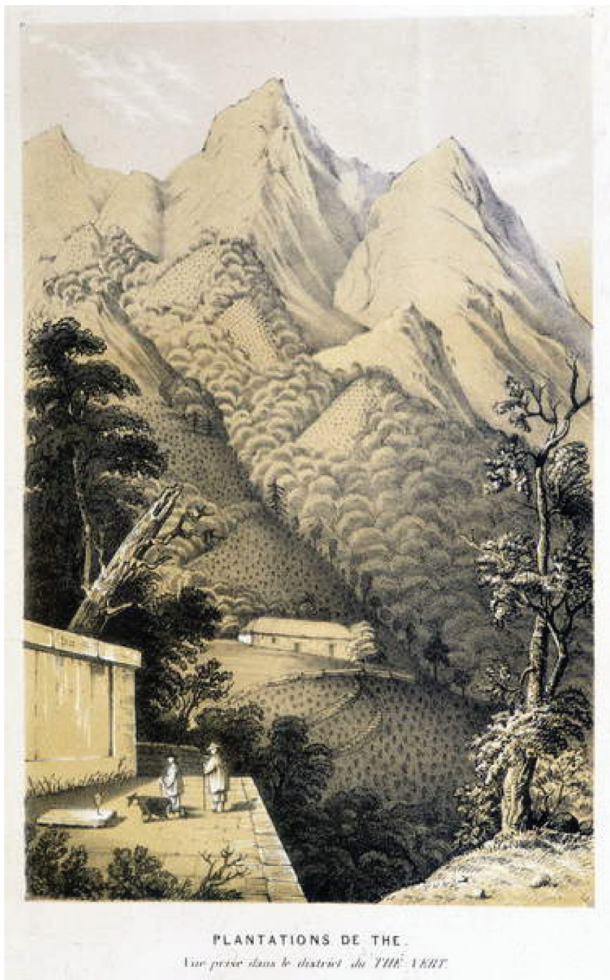


Figure 3 Tea plantation in China: view taken in the green tea district, Fortune's trip to China (source from: Fortune R. *A Journey to the Tea Countries of China Including Sung-Lo and the Bohea Hills; with a Short Notice of the East India Company's Tea Plantations in the Himalaya Mountains*. London: John Murray; 1852. p. 85.).

4 The decline of *Singlo* tea: green tea lost the dominant position in tea trade

Green tea was earlier known in Europe than black tea. The first edition of *Encyclopaedia Britannica*, published in 1771, defined the botanical features of tea and classified the three types of tea that entered Europe: ordinary green tea, finer green tea, and *Bohea* (Fig. 4).[20] As it pointed out:

> "The common green tea has somewhat small and crumpled leaves, much convoluted, and closely folded together in the drying. Its colour is a dusky-green, its taste sub-astringent, and its smell agreeable. It gives the water a strong yellowish green colour. The fine green has larger leaves, less rumpled and convoluted in the drying, and more lax in their folds; It is of a paler colour, approaching to the blue-green, of an extremely pleasant smell, and has a more astringent, of an extremely pleasant smell, and has a more astringent, yet more agreeable taste than the former. It gives a pale-green colour to water. To this kind are to be referred all the higher priced green teas, the *Hyson*, imperial, etc. The green teas have all somewhat of the violet flavour; The *Bohea* has naturally somewhat of rose-smell."[20]

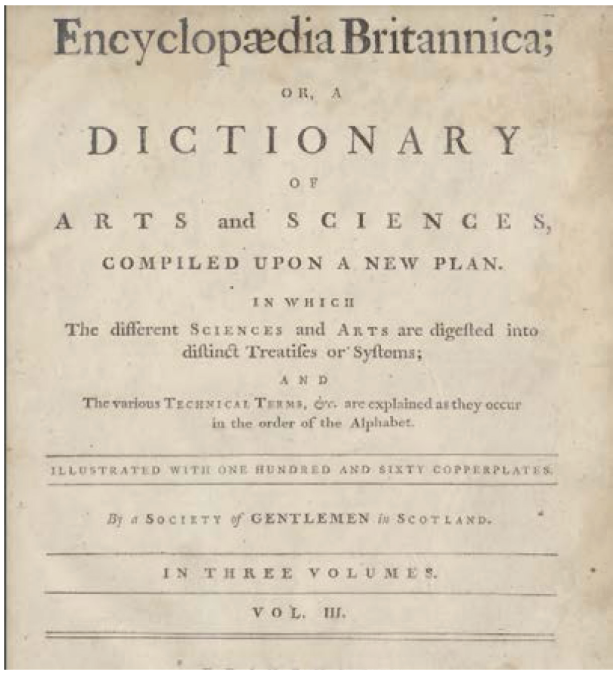
Green tea has a violet flavor, which was *Singlo*'s description in the *Nouveau mémoire sur l'état présent de la Chine* by Louis Le Comte. The *Hyson* and *Imperial* were also green tea varieties produced in the southern part of *Kiang Nan*, and used the same tea-making method as *Singlo* tea. In this sense, *Hyson* and Imperial tea can be considered newly created teas based on *Singlo* tea. This was in response to the decline in the quality of *Singlo* tea that resulted from an oversupply of *Singlo* tea. From this, we can conclude that *Singlo* tea was the main green tea that reached Europe early. It was stated in the *Encyclopedia Britannica* (1771) that there arre three types of tea: Ordinary Green Tea, Finer Green Tea, and *Bohea*, which does not include black tea. Did Europe not import black tea during the late eighteenth century? Obviously, the answer is negative.

In *Chronicles of East India Company trading to China, 1635 to 1835,* Hosea Ballou Morse pointed out that Europe had tea bought at a standard price for a variety of categories. *Bohea*, *Congo, Congo Compoi,* and *Souchong* were all included in black tea. As for *Singlo*, *Twankay, Hyson* Skins, and *Hyson*, they were all green tea.[21] Morse's classification of *Bohea*, Congo, as black tea suggested there wasn't a noticeable difference between the two types of tea at the time in Europe. This may help explain why black tea was missing from the *Encyclopedia Britannica* (1771). Europeans were still unable to distinguish black tea from *Bohea* tea even after it was transported into Europe in the late eighteenth century. Comparatively, Europeans were able to tell the difference between regular and low-quality green tea. The Europeans should have known about green tea earlier than they did black tea, based on this evidence. Commercial tea advertisements often refer to *Singlo* tea as green tea, or green tea generally. The *Singlo* Mountain was introduced in 1834 by Samuel Wells Williams (1812–1844), who published *The Chinese Commercial Guide*, written by John Robert Morrison (1814–1843). This book has been published in several editions. Green tea was introduced with the following statement:

> "Green Teas are collectively called *Luh-cha* 绿茶，and also *sung-lo cha* from the range of hills. There are three classes, called *Wuyue* 武园, *Pingshui* 平水, and *Twanki* 屯溪, from the names of three sections of country; teas from these districts are all of superior quality. "[22]

The popularity of black tea has been increasing in Europe, along with the emergence of other types of green tea. As a result of its low price, *Twanki* Tea gradually replaced *Singlo* tea as the standard green tea in European countries.[23]

The Chinese scholar *Chen Chuan* (陈椽) pointed out that tea production in *Anhui* province increased



Encyclopædia Britannica;

OR, A

DICTIONARY

OF

ARTS and SCIENCES,

COMPILED UPON A NEW PLAN.

IN WHICH

The different SCIENCES and ARTS are digested into distinct Treatises or Systems;

AND

The various TECHNICAL TERMS, &c. are explained as they occur in the order of the Alphabet.

ILLUSTRATED WITH ONE HUNDRED AND SIXTY COPPERPLATES.

By a SOCIETY of GENTLEMEN in SCOTLAND.

IN THREE VOLUMES.

VOL. III.

Figure 4 The title page of *Encyclopaedia Britannica* published in 1771 (source from: Society of Gentlemen in Scotland. *Encyclopedia Britannica: or a Dictionary of Arts and Sciences Compiled Upon a New Plan*. Vol. 3. Edinburgh: Printed for John Donaldson; 1771. p. 890.).

dramatically during the Qing dynasty when *Twanki* became the most sought-after tea for export. *Twanki* tea was estimated to be sold for 100,000 to 60,000 *yin* (引) per year between 1821 and 1850 (120 kg per old scale *yin*).[24]

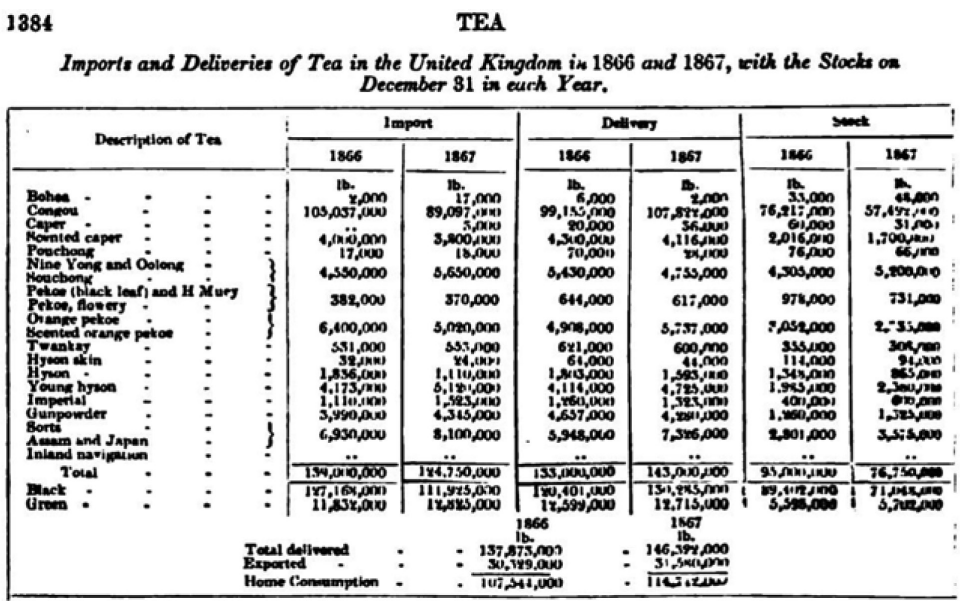
Singlo tea was replaced by *Twanki* tea, however, records from the West indicated that Europe's favorite tea was still *Singlo* tea at the end of the seventeenth century. In "The introduction of tea into Europe and its name in Europe," Chinese scholar Huang Shijian (黄时鉴) stated that the following channels were used to spread *Singlo* tea throughout Europe: "During the eighteenth century, it was one of the most popular varieties of tea exported from Canton, and was popular at the same time as *Twanki* tea. Since the nineteenth century, it has been replaced by *Hyson*, and even disappeared."[25]

In the middle of the eighteenth century, as *Twanki* tea became increasingly popular, *Singlo* tea slowly faded away from the market. Eventually, *Twanki*, as well as other varieties of green tea, began to replace *Singlo*. It is shown in the statistical table below in the trade dictionary that the types and quantities of Chinese tea imported from China throughout the years of 1866 and 1867. It shows that *Singlo* tea was no longer included in the list of imported teas, other green teas like *Twanki* and *Hyson* took its place (Fig. 5).

According to the statistics on imported black tea and green tea, black tea imports were substantially greater than green tea imports. Compared to previous data, which indicated that tea imports had increased, this table indicated that tea imports had decreased. Black tea was now the most popular type of tea in the industry, surpassing green tea in terms of popularity. The demise of *Singlo* tea on the European market marked the beginning of the gradual shift from green tea to black tea in the contemporary Sino-European tea trade.

5 Conclusion

When *Singlo* tea was introduced in the seventeenth century as a product with significant health benefits, it became a sought-after product in Europe. There is no doubt that this tea's medicinal components contributed to its popularity in Europe. From the time period, *Singlo*



1384 TEA

Imports and Deliveries of Tea in the United Kingdom in 1866 and 1867, with the Stocks on December 31 in each Year.

Description of Tea	Import 1866	Import 1867	Delivery 1866	Delivery 1867	Stock 1866	Stock 1867
	lb.	lb.	lb.	lb.	lb.	lb.
Bohea	2,000	17,000	6,000	2,000	33,000	48,000
Congou	105,037,000	89,097,000	99,155,000	107,832,000	76,817,000	57,497,000
Caper	..	5,000	20,000	56,000	61,000	31,000
Scented caper	4,000,000	3,800,000	4,340,000	4,116,000	2,016,000	1,700,000
Pouchong	17,000	18,000	70,000	24,000	76,000	66,000
Nine Yong and Oolong	4,550,000	5,650,000	5,430,000	4,755,000	4,305,000	5,200,000
Souchong						
Pekoe (black leaf) and H Mury	382,000	370,000	644,000	617,000	978,000	731,000
Pekoe, flowery						
Orange pekoe	6,400,000	5,020,000	4,908,000	5,737,000	7,052,000	2,335,000
Scented orange pekoe						
Twankay	531,000	553,000	621,000	600,000	355,000	308,000
Hyson skin	32,000	24,000	64,000	44,000	114,000	94,000
Hyson	1,836,000	1,110,000	1,803,000	1,593,000	1,348,000	865,000
Young hyson	4,173,000	5,121,000	4,114,000	4,725,000	1,945,000	2,341,000
Imperial	1,110,000	1,523,000	1,260,000	1,323,000	401,000	610,000
Gunpowder	3,990,000	4,345,000	4,657,000	4,281,000	1,280,000	1,345,000
Sorts	6,930,000	8,100,000	5,948,000	7,326,000	2,801,000	3,575,000
Assam and Japan						
Inland navigation	..	..	..	..	..	..
Total	134,080,000	124,750,000	133,000,000	143,000,000	93,000,000	76,750,000
Black	127,168,000	111,925,000	120,401,000	131,285,000	89,402,000	71,045,000
Green	11,832,000	12,825,000	12,599,000	12,715,000	5,598,000	5,702,000

	1866 lb.	1867 lb.
Total delivered	137,873,000	146,392,000
Exported	30,329,000	31,[illegible]
Home Consumption	107,544,000	114,[illegible]

Figure 5 Statistics of the types and quantities of Chinese imported Chinese tea from 1866 to 1867 (source from: McCulloch JR. *A Dictionary of Commerce and Commercial Navigation*. London: Longmans; 1877. p. 1384.).

tea was imported into Europe from China, which established the standard for green teas and common teas. Other varieties of black tea and green tea took *Singlo*'s place as time went on. The fact that black tea became the most popular type in the tea trade concealed the importance of green tea in the early years of the tea trade. This study reveals that Europeans were more interested in green tea than in black tea during the early years of Sino-European tea trade. European consumption of *Bohea* tea has increased during the period when green tea consumption decreased in European markets. As a result, when *Singlo* tea sales declined in European markets, it also signaled the start of black tea gradually replacing green tea in the Sino-European tea trade. A picture of medicine's interaction with commerce was depicted in the study of *Singlo* tea's spread in Europe. It gives a fresh insight into Chinese medicine and culture in foreign lands.

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This study does not contain any studies with human or animal subject performed by the author.

Author contributions

QIAN Yibing drafted and revised the article.

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Review

CHINESE 中医药文化(英文)
MEDICINE AND CULTURE

OPEN

Food and Drug: A New Direction in the History of Medicine in China

Angela Ki Che Leung[1,✉]

1 Objects and their histories: unraveling the "black box"

The history of object is a burgeoning field in contemporary historical studies. An object, like a "black box," contains rich information that holds the secret code for knowledge construction. Object is a multifaceted being, consisting of aspects like technology, institution, human–object relationship, and human–nature interaction. Medicine and food inform sophisticated questions about society and ideology. The perplexing meanings endowed in objects can only been uncovered by careful examination. Therefore, I use the metaphor of "black box" to describe the idiosyncrasy of objects and their potential to inform deep historical inquiries. Two years ago, Dorothy Ko, Dagmar Schäfer and I jointly taught a course on the history of objects and material culture in Peking University. The main aim of the course is to teach students to contemplate the deep meanings of objects in history.

I shift my research focus into the study of "food and drug" for several reasons. First, the concept of "dietary therapy" has already existed in traditional Chinese food and medicine. Second, there is a growing trend in overseas China studies to pay more attention to the role of food and drug in Chinese medicine. Several decades ago, medical historians from the West mainly focused on the medical ideas, and concepts of the body. Recently, material culture accounts for a new turn of academic development in the history of medicine in China. Third, "food" stands out as a significant topic that transcends the domain of medicine. It provides a vintage point to investigate many historical changes in China, including but not limited to medical, environmental, social, and political histories.

How should researchers examine the relationship between human and society, human and technology, human and the environment through the lens of object? Before answering this question, I will first elaborate on a more fundamental question: what is an object?

First, an object is a technological system. Its formation requires technical intervention. To understand the history of an object, one needs to know the technology through which it is made. Why is a certain technology used in the making of an object? Does the technology change in history? Dorothy Ko's new monograph *The Social Life of Inkstones: Artisans and Scholars in Early Qing China* is an exemplary work in the history of objects (Fig. 1). It investigates the technological process through which a stone turned into an inkstone, as well as the emergence and transformation of relevant technology.[1]

Second, an object is more than a technological system. It has a social dimension. Together, it forms a sociotechnical system. The work of Wiebe Bijker, a Dutch historian of technology, can well demonstrate this point. In his study on the technological transformation, he discovers a series of changes in the technical structure of bicycles in European history.[2,3] These changes are mainly driven by social factors rather than pure technical considerations. After the invention of bicycles in the 19th century, cyclers gradually expanded from adult men to women, children, and elderlies. The needs of different users had been taken into account of bicycle design. Therefore, the technological changes in the design of bicycle were a result of social change—in this case, the changing group of users.

Food and drug add another dimension in the history of objects. The formation of an object is also a result of the interplay between sociotechnical system and cosmology. Food and drug are different from the case of bicycle, relating not only to technology and society, but also to environment, the body, and cosmology. All these factors can in turn influence the application of food and drug. Sidney Mintz's *Sweetness and Power* is a classic in food study. It tells the historical trajectory that the development of

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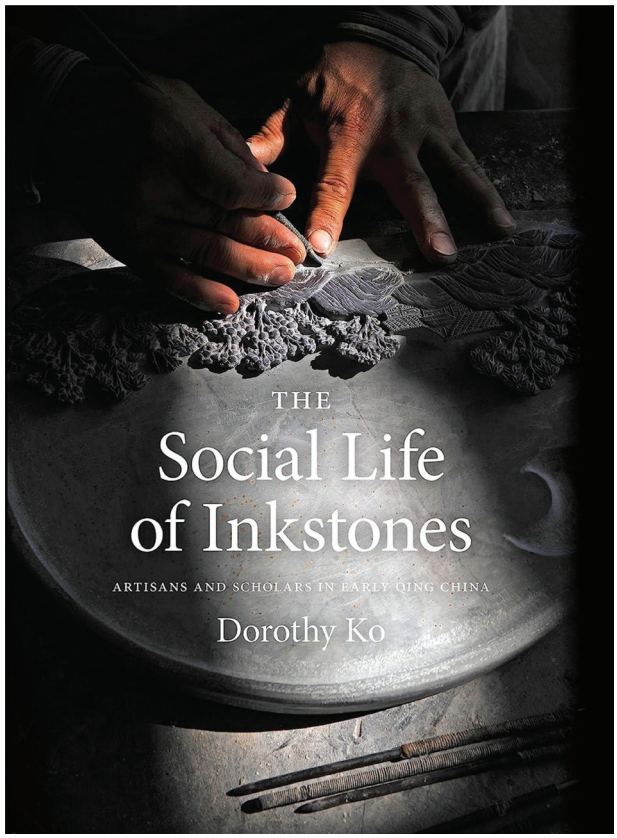

Figure 1 Front cover of *The Social Life of Inkstones: Artisans and Scholars in Early Qing China,* authored by Dorothy Ko (University of Washington Press, 2017) (source from: https://www.amazon.com/Social-Life-Inkstones-Weatherhead-University/dp/0295999187).

imperialism in the 19th century transformed sugar from a food of the noble to a food of the working class. By centering on a common food, the book simultaneously speaks to three important disciplines: history of technology, political history, and sociocultural history.

The renowned Chinese historian Chen Yinke (陈寅恪) once claimed, "Any explanation of a Chinese character informs the writing of a cultural history." Here, I would like to slightly adjust this aphorism, "Any explanation of an object informs the writing of a cultural history."

2 Dietary therapy: the entanglement of food and drug in Chinese history

An article on food and medicine in traditional China by the British historian Vivienne Lo emphasizes the subtle relationship between food and medicine in traditional Chinese medicine.[4] As early as Tang dynasty, Sun Simiao's (孙思邈, ca. 541–682) *Qian Jin Fang* (《千金方》 *Important Formulas Worth a Thousand Gold Pieces*) already had a volume dedicated to "dietary therapy" (*Shi Zhi* 食治), the therapeutic skills of healing with foods. It said,

> "A physician must have a clear idea on the origin of a disease. Having found out the place where the disease attacks, he first tries to cure it by food. When food therapy fails, he then prescribes drugs. The nature of drugs is potent and violent. Prescribing drugs is similar to commanding an army. Soldiers are fierce and impetuous. How could anyone dare to deploy them recklessly? If they are deployed inappropriately, harm and destruction will result everywhere. Similarly, an excessive use of drugs can also cause unnecessary damage to the patient's body."

This assertion articulates the problems induced by abuse of drugs. Food, according to Sun Simiao, should be the first method to deploy when treating a disease. Here we can clearly detect the overlapping boundary between food and drug.

Ma Jixing's (马继兴) study offers us many clues in the study of dietary therapy in Chinese medicine.[5] His early work on medical philology identifies two key periods in the development of dietary therapy in Chinese history: The Tang and the Ming dynasties. The idea of dietary therapy first emerged in Tang dynasty. The first monography on this topic is *Shi Liao Ben Cao* (《食疗本草》 *Materia Medica for Dietary Therapy*) authored by Meng Shen (孟诜, 621–713), an apprentice of Sun Simiao. Even though the original book is lost, many of its content have been preserved in successive *bencao* works. Another important *Ben Cao* work from the Song dynasty quoted the remarks of goji in *Shi Liao Ben Cao*. It reads, "Goji (with a cold nature) is nontoxic. Both its leaves and berries can strengthen the sinew, rejuvenate the old, expel the (pathogenic) wind, tonify the sinew and bones, benefit the human body, and eliminate consumptive symptoms." This record shows that goji, a foodstuff, also has its therapeutic value.

Dietary therapy was a popular genre in the book market during the late Ming period. Lu He's (卢和) *Shi Wu Ben Cao* (《食物本草》 *Food as Materia Medica*) laid out eight categories of foodstuff, including water, grain, vegetable, fruit, poultry, beast, fish, and condiment. Gao Lian's (高濂) famous monograph, *Zun Sheng Ba Jian* (《遵生八笺》 *Eight Discourses on the Art of Living*), valued the choice of food as a significant aspect in the practice of nourishing life (*Yang Sheng* 养生). The idea and practice of nourishing life had developed into an unprecedented state in Ming dynasty, further contributing to the popularization of dietary therapy in society. Physicians in the Tang dynasty suggested that food should be deployed first when treating disease. In the Ming, savory food becomes a crucial aspect in the practice of nourishing life.

Ben Cao Gang Mu (《本草纲目》 *The Grand Compendium of Materia Medica*) published during the late 16th century also contains a variety of foodstuffs. Vivienne Lo considers Li Shizhen (李时珍, 1518–1593) as a gourmet physician, and *Ben Cao Gang Mu* as a recipe book. Take soy sauce as an example. It provided detailed account for making fermented soybeans,

which could be further used to produce soy sauce. It writes, "Fermented soybeans (*Chi*豉) are made from all kinds of soybeans. The one made from black soybeans can be used as medicine. There are two kinds of fermented soybeans, the unsalted and the salted. Only the unsalted and the core of the salted can be used in curing diseases." It also documented the method for making soy sauce:

> "The best time for making soy sauce is the tenth month to the first month of the next year. Use 3 decaliter good-quality fermented soybeans. Simmer some clear sesame oils until it stops smoking. Mix the sesame oils with fermented soybeans and steam the mixture. Spread the fermented soybeans on a plate until they cool down. Dry them in the sun. Mix the beans with sesame oils and steam again. After repeating this procedure for three times, add one decaliter pure salt. Boil the beans with soup made of shredded citrus peel until the volume shrinks by one third. Storage the final products in a waterproofing container. It is extremely delectable."

Other than used as medicine, Li Shizhen also mentioned here that soy sauce was a savory food.

Vivienne Lo is now working on a research project investigating the idea of "nutrition" in Chinese medical history. After the 19th century, the concept of "nutrition" was introduced into China from the West. It is a notion heavily loaded with western biochemical agents like vitamin and protein. The Chinese tradition of dietary therapy, however, has its unique system of evaluating foods, which can hardly be translated directly into the western concept of nutrition. Why does Vivienne Lo translate the Chinese notion of dietary therapy into "nutrition?" I am really interested in this question and look forward to the publication of her work.

3 The material turn in the cultural history of medicine in China

Recently, the history of medicine in China has taken a material turn within the western academia. In this section, I will introduce several representative works in this field. All of them shift the attention from concepts of the body to material culture.

Liu Yan, assistant professor in the State University of New York at Buffalo publishes his new monography *Healing with Poisons* in 2021.[6] By focusing on the concept of "*Du*" (毒) from the Han to the Tang dynasties, he presents a rich history of how the potency of drugs in Chinese medicine was constructed by multiple historical actors. The "*Du*" in medieval medical texts cannot be simply translated as poison, but denotes a systematic property of drugs, which Liu Yan renders as "potency." A drug with *Du* usually has a hot nature and possesses a potent efficacy in therapeutics. *Du*-possessing drugs can cure some intractable diseases, but doctors need to take special precaution to avoid causing harm to patients. In all the 575 drugs discussed in *Ben Cao Jing Ji Zhu* (《本草经集注》 *Collective Commentaries on the Classic of Materia Medica*, ca. 500), about one-fifth of the items are defined as possessing *Du*. (Note 1) The work categorizes these drugs into the bottom group, indicating they are unfavorable choices in doctor's practice. It also reflects a cosmology of drug usage in traditional healing practice: doctors need to take special caution when prescribing drugs.

In 1997, a French sinologist Frédéric Obringer has already published a monograph on poisonous drugs in Chinese history.[7] It intensively uses the discourses from Chao Yuanfang's (巢元方) *Zhu Bing Yuan Hou Lun* (《诸病源候论》 *Treatise on the Origins and Manifestations of Various Diseases*) and focuses on the case of aconite. Comparably, Liu Yan's work takes a broader perspective in examining the formation of "*Du*" concept in Chinese medical tradition.

Liu Yan also explores the social aspects in discussing the potent medicines in medieval China. First, nearly all the medical practitioners well-versed in the knowledge of *Du*-possessing drugs have either Daoist or aristocratic background. They gain a deep understanding of *Du* in medicine through the Daoist alchemical practice. Second, besides the imperial interest in regulating and gathering medicines and medicinal knowledge, Liu also pays special attention to the local adaptations of pharmaceutical knowledge in the northwestern part of Tang Empire. Third, the potent nature of drugs is constructed through their usage in enhancing the body and achieving transcendence. To sum up, Liu Yan provides a comprehensive explanation of the *Du* concept as well as the social and historical contexts that make it a prominent issue in Chinese medical history.

The second book I would like to introduce is *Know Your Remedies* authored by Bian He, associate professor of history in Princeton University (Fig. 2).[8] The book explores the epistemological transformation in early modern China through the lens of pharmaceutical knowledge. It examines a crucial change in the medical realm of early modern China: the division of labor between physicians and pharmacists. In the Ming-Qing period, even though physicians still dominated the expertise of healing, they gradually lost the control over pharmaceutical knowledge. Drugs turned into commodities in the medical marketplaces. Merchants possessed the knowledge on the producing area and economic value of medical commodities, making them—especially those with literati background—another significant group of actors in the construction of *materia medica* and pharmaceutical knowledge.

Know Your Remedies also discusses the rise of urban pharmacies in Qing China, another key factor revealing the commercialization of medicinal trade. The 18th century witnessed the establishment of several famous pharmacies like *Tong Ren Tang* (同仁堂) and an increasing emphasis on the idea of *daodi* (道地), which Bian He translates as place-based authenticity, in evaluating

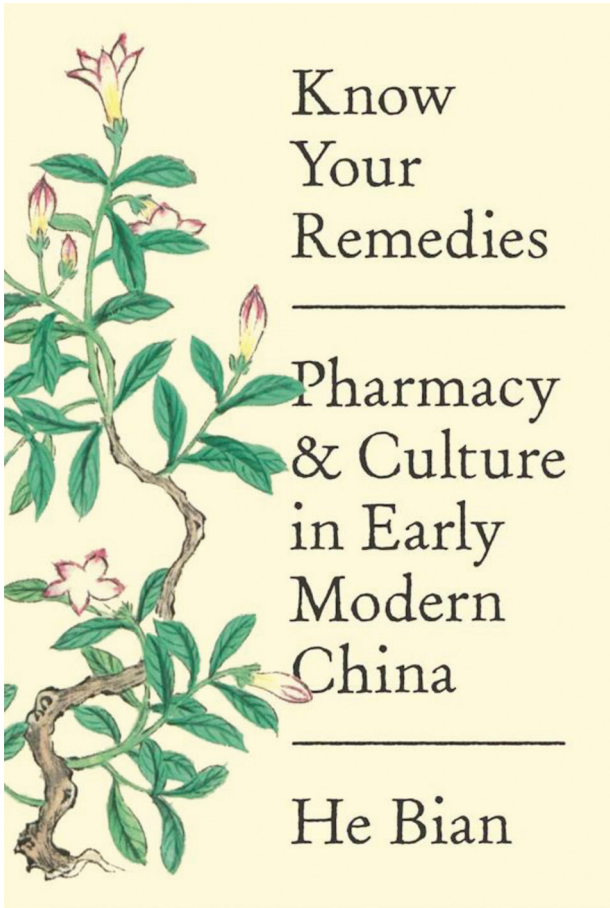

Figure 2 Front cover of *Know Your Remedies* authored by Bian He (Princeton University Press, 2020) (source from: https://press.princeton.edu/books/hardcover/9780691179049/know-your-remedies).

medicines. This accentuation of *daodi* is a new development in the Ming-Qing period. With the advent of an enlarged and integrated market system in medicinal trade, the origins of medicines greatly diversified. Buyers and users started to value medicines from highly prestigious places of production as well as the wild-grown species. Cultivated herbs were considered inferior in therapeutic quality, and thus becoming unfavorable in the market.

The pursuit of *daodi* medicines also has it root in the local knowledge. Since the publication of *Ben Cao Gang Mu*, many works on *bencao* (*materia medica*) in the Ming-Qing period recorded considerable information about local production of medicines. *Know Your Remedies* dedicates a whole chapter discussing the local and vernacular production of pharmaceutical knowledge exemplified in Zhao Xuemin's (赵学敏 ca. 1719–1805) *Ben Cao Gang Mu Shi Yi* (《本草纲目拾遗》 *Supplement to "The Grand Compendium of Materia Medica"*). Let me once again take soy sauce as an example. Zhao Xuemin provided a method for making soy sauce: "Blend soybeans with wheat flour, cover the blend until the color turns yellow. Soak it with salt water. Those made in the hot days of summer have a thick flavor, while those made in the autumn have a lighter flavor. It can be used as medicine after years of aging." The latter variation made in the autumn is a local product in the Jiangnan Region. Zhao also recorded the therapeutic nature of the local product: "soy sauce possesses a salty taste and cooling nature. It detoxifies all kinds of fishes, meats, vegetables, and fungi. Applied externally, it can also relieve burns and scalds. Take too much of it can induce cough and thirsty." It is a case in point that shows Zhao Xuemin consciously collects local knowledge on medicinal substances. More examples can be found. During the period of Ming-Qing transition, a Ming loyalist traveled to Nanhai district in Foshan, Guangdong province, and collected local medicines in the fields. He later published a book on the dietary and medicinal usage of local herbs based on his field research. Several similar works on local herbs appeared during the Qing period, indicating a decentering trend of pharmaceutical knowledge.

The third case is my own article "The itinerary of hing/*awei*/asafetida across Eurasia, 400-1800" co-authored with Chen Ming.[9] The latin name of *awei* (阿魏) is *asafetida*, meaning a drug with fetid smell. It is the dried latex exuded from the rhizome or tap roots of a perennial herb native to west Asia. Europeans used to value this herb but were not aware of its origin. In the 17th century, a German physician Engelbert Kaempfer (1651–1716) traveled to Persian Gulf to witness the harvesting of the latex. He later published the observations during his journey in 1712, with 17 pages devoted to asafetida, including detailed drawings of the plants and an illustration showing a scene of its harvest.

Asafetida was introduced to China as early as Tang dynasty. It was considered as an effective vermifuge, useful in relieving digestive problems, dissipating evil *qi* and protecting patients against ghosts and bad spirits. While Europeans got to know the plant through the work of Engelbert Kaempfer, Chinese was never able to observe the original plant directly in the premodern period. One of the earliest pictures of asafetida in China appeared during the Song dynasty. The draftsman clearly did not know what the original plant looked like. He only depicted a tree of his own imagination, with mark of emphasis at roots.

Chinese started to use asafetida in healing practice albeit unaware of its original plant. In his *Qian Jin Yi Fang* (《千金翼方》 *Supplement to "Important Formulas Worth a Thousand Gold Pieces"*), Sun Simiao described asafetida as follows: "Favor: pungent; nature: warm; nontoxic. It can kill all kinds of vermin, expel fetid smell, dissolve lumps and masses inside the abdomen, dissipating evil *qi* and protecting patients against ghosts and bad spirits. It is produced from Tibet and South Asia." This evaluation of its therapeutic nature lasted until the Ming dynasty. Li Shizhen made another note: "Foreigners in the West use it as foodstuff." The use of asafetida as food

possibly comes from Buddhist scriptures, which can be further dated back to the Tang dynasty.

Since the Song period, asafetida mainly imported into China through the maritime trade in Canton, thus known as "Cantonese *A Wei*." Zhao Rukuo (赵汝适, 1170–1231), a Song scholar-official, recorded a legendary tale about the drug in his *Zhu Fan Zhi* (《诸蕃志》 *Descriptions of Foreign Lands*): "Asafetida comes from Makran of the Arabian Empire… Some people say that the resin is highly toxic. No one dares to approach it. When collecting the resin, one must tie a goat to the tree, then keep his distance from the tree and shot the goat with an arrow. After the goat dies, the toxin penetrates the goat's flesh. The carrion of the goat is known as asafetida."

Now that we know the story is nothing but a false rumor, but this rumor spread over the market since the Song dynasty. The illustration of asafetida in the 1885 edition of *Ben Cao Gang Mu* showed a man shotting goat under a tree, clearly a reiteration of the rumor. This piece of information, evaluating asafetida as poisonous drug, forms a sheer contrast with the records in mainstream *materia medica* from the Tang to the Ming, which claim asafetida was nontoxic. This particular case makes it clear that physicians are not the sole authority on drugs. Merchants are also crucial arbiters of drugs' property. Nowadays one can hardly buy asafetida in China. Considering it as a poisonous drug, Chinese pharmacies are not allowed to sell asafetida to common consumers. In India, however, asafetida remains a very common and indispensable ingredient in making curry. Because of its fetid smell, asafetida also known as the devil's dung in Europe.

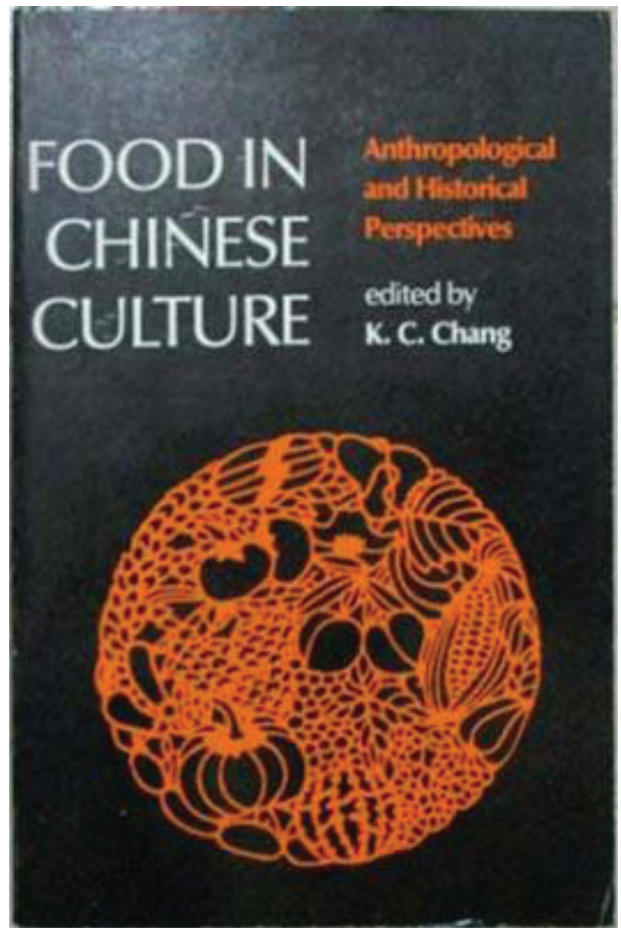

Figure 3 Front cover of *Food in Chinese Culture: Anthropological and Historical Perspectives* edited by Chang Kwang-chih (New Haven, 1977) (source from: https://www.whitelotusbooks.com/books/food-in-chinese-culture).

4 Food studies in modern China

The studies on Chinese food history appeared as early as the 1970s. Chang Kwang-chih published an edited volume entitled *Food in Chinese Culture: Anthropological and Historical Perspectives*, collecting essays on Chinese food and culture authored by several eminent scholars in the field of China studies (Fig. 3).[10] The book covers a long durée from ancient China to the Republican period, with each chapter focusing on one or two dynasties in Chinese history. The essays in this volume use both received texts and archeological evidence to explore a wide range of topics in Chinese food and culture in history, including the culinary apparatus, food rituals, foodways, food in religion and ancestral sacrifices. It evidently shows food as a significant aspect in understanding Chinese culture. The relationship between food and health, however, is largely omitted in this edited volume. About a decade later, E. N. Anderson publishes his monograph *The Food of China*.[11] In the last chapter "food in society," he mentions the medicinal properties of foods, including taste, nature, and therapeutic efficacies. In Chinese culture, food is also used as medicine.

Many works on food and health appear in the recent years. Fu Jia-chen's *The Other Milk* investigates the relationship between food and national health in modern China through the case of soymilk.[12] With the introduction of western nutrition science, especially the concept of protein, soymilk became a significant food in modern China. In the early 20th century, westerners mainly acquired protein from animal-based foods, which only occupied a small share in Chinese diet. Sun Yat-sen (孙中山, 1866–1925) advocated soy-based foods as an alternative source of protein for Chinese. He argued the development of animal husbandry was too costly to be an economic choice for China. Soybeans were a common and affordable choice in traditional Chinese diet because it contained high-quality protein to strengthen the body. In this regard, not only soymilk but also other kinds of soy-based foods like tofu were enthusiastically promoted by reformists and revolutionists in Republican China as food that could save and rejuvenating the precarious nation.

Moral Foods, a book I recently co-edit with an American anthropologist Melissa L. Caldwell, investigates the (re)construction of nutrition and health in Modern Asia (Fig. 4).[13] Five articles in this volume

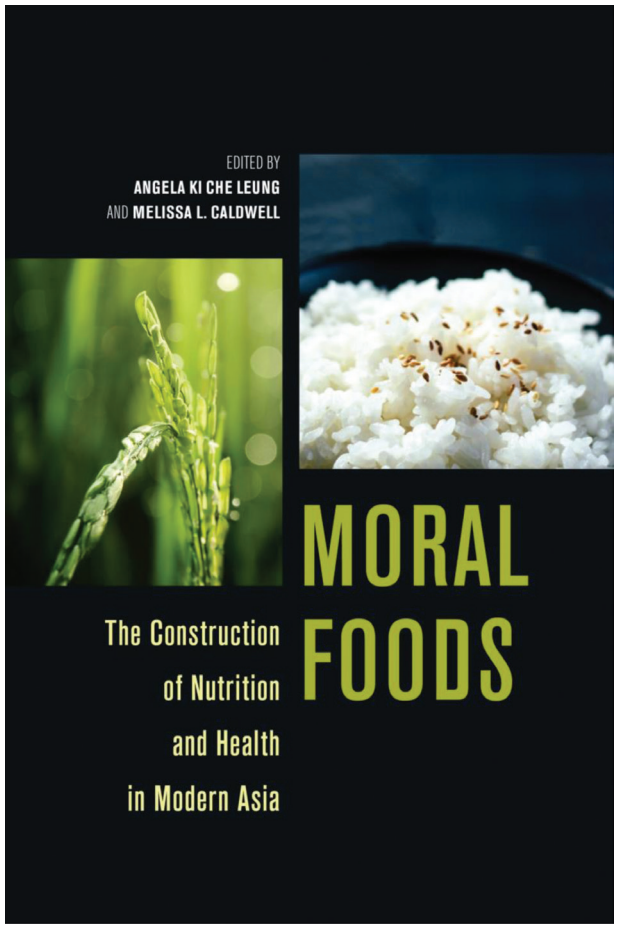

Figure 4 Front cover of *Moral Foods: The Construction of Nutrition and Health in Modern Asia*, co-edited by Angela Ki Che Leung and Melissa L. Caldwell (University of Hawaii Press, 2020) (source from: https://uhpress.hawaii.edu/title/moral-foods-the-construction-of-nutrition-and-health-in-modern-asia/).

focus on food and health in China. Michael Shiyung Liu examines how the Chinese government in the late 1930s and early 1940s worked to come up with new nutritional plans to feed the military during wartime. Lawrence Zhang tells the changing perceptions of tea in modern China, from being understood as a toxic substance in the 19th century to a popular beverage for its mood-lifting qualities in the 20th century. My chapter on vegetarianism shows how food and health became a critical issue in building China's modernity. Volker Scheid discusses the transhistorical and transnational nature of medical dietetics in China. By comparing a 19th-century text used by Chinese physicians and a contemporary text authored by German experts, he demonstrates the philosophical inclination of dietetic therapy and the influences on life nourishment by Confucian, Daoist, and Buddhist traditions. Hilary Smith's chapter on lactose intolerant tackles with the paradoxical situation in which milk drinking is positive, but the experience of milk drinking requires remaking Chinese bodies into defective bodies. To sum up. *Moral foods* explores the transformation of Chinese dietary culture after the introduction of western concepts of nutrition and health.

Another volume I co-edit with Izumi Nakayama consists of several articles on food and health.[14] Sean Hsiang-lin Lei recounts the career of Chuang Shu Chih (庄淑旂, 1920–2015), an eminent female practitioner of traditional medicine in Taiwan, China. Chuang drew on the traditional knowledge of dietary therapy to create a popular idea of life nourishment. She did not only formulate a modern regimen by promoting practical knowledge of food-making and everyday exercise for nurturing life, but also reconfigured the role of housewives as kitchen pharmacists for the family.

The volume also includes my article on beriberi/*jiaoqi* in modern China. At the turn of the twentieth century, western physicians discovered a new disease called "beriberi" in Asia, which was later translated as "*jiaoqi bing* (脚气病)" in Chinese. The term *jiaoqi*, literally leg *qi*, already exists in classical Chinese medical works since the Tang dynasty. Even though they share a same name in modern Chinese, they are actually two distinct set of disease concepts respectively developed in traditional Chinese culture and modern biomedicine. By studying this "new disease," European doctors asserted that beriberi specifically happened among Asians, who took rice as a staple food in daily life. They deduced that the lack of vitamin B1 in polished rice was the main cause of beriberi. In this regard, European doctors prescribed thiamin-rich foods for beriberi patients, including soy-based food and meat. Injection of thiamin was later developed as the main treatment for the disease. Doctors of Chinese medicine, however, did not consider *jiaoqi* as food-related disease but an illness deeply related to the local climate, specifically the damp weather of south China, and prescribed different therapies accordingly. Zeng Chaoran (曾超然), a Cantonese doctor working in the British Hong Kong, used betel nuts (*Bing Lang* 槟榔) to cure *jiaoqi* patients. As a local medicinal product from the south, betel nuts were considered an effective cure for this climate-related disease. Some Hong Kong translators also introduced this therapy to western doctors. The case of beriberi/*jiaoqi* explicitly demonstrates the influences of Western nutrition science on traditional Chinese medical knowledge. Hilary Smith's monograph *Forgotten Disease* holds a similar idea. By studying the case of *jiaoqi*, she argues that the traditional concept of disease in Asia was distorted by modern western idea of vitamin.[15] This distortion even had a notable impact on Joseph Needham (1900–1995). In a 1951 article about *jiaoqi* by Needham and Lu Gwei-Djen (鲁桂珍, 1904–1991), they totally (mis)led by the idea from western nutrition science, considering the *jiaoqi* as a proof of "the antiquity of human knowledge of beri-beri as a deficiency disease."[16] This, according to Hilary Smith, is a misinterpretation of traditional Chinese concept of *jiaoqi*.

Judith Farquhar's *Appetites: Food and Sex in Post-Socialist China* discusses the relationship between food, sex, and health in post-socialist China from an anthropological perspective.[17] She conducts her field work in the 1990s, when the economy of China underwent a rapid growth. The main group of people who values the dietary nourishment was the male nouveau-riche, who were eager to tonify their body as well as strengthening their social status. Is this specific interpretation of life nourishment sustainable? Will a new concept of life nourishment emerge in the age of promoting common prosperity? We will just have to wait and see.

Notes

Note 1: Tao Hongjing's *Collective Commentaries on the Classic of Materia Medica* documented a total of 730 drug names. But 155 drugs were not used anymore in Tao's time. He only categorized and discussed the remaining 575 drugs in this work.

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This study does not contain any studies with human or animal subjects performed by the author.

Author contributions

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Conflicts of interest

The author declares no financial or other conflicts of interest.

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Review

CHINESE 中医药文化(英文)
MEDICINE AND CULTURE

OPEN

Jean-Pierre Abel-Rémusat: Doctor and Sinologist

Frédéric Obringer[1,✉]

1 Introduction

Throughout his life, Jean-Pierre Abel-Rémusat (1788–1832) (Fig. 1) was in contact with the medical art, through his family, through his studies, through a few moments of practice, through his various interests and in many of his written.

Abel-Rémusat was born into a family which provided him with an important intellectual and social network and which naturally oriented him toward medicine. His father, Jean-Henri Rémusat (1730–1805), was indeed one of the king's six privileged surgeons. Generally speaking, in the words of Landresse, Abel-Rémusat's executor, "the name of Rémusat is honorably known in this part of province; several members of this family traded with the Levant, and one of them, who was established in Constantinople, had the opportunity to render some services to Michel Fourmont, during the latter's trip to Greece." Michel Fourmont was the brother of Étienne Fourmont (1683–1745), the famous orientalist, author, among other works, of the first catalog of oriental manuscripts in the Royal Library.

Jean-Pierre Abel-Rémusat showed from his youth, troubled by a serious accident, a curious, passionate mind and inclined to naturalistic observation. He thus constituted a herbarium arranged according to a classification system that he himself had developed. I will not insist here on this fine example of "serendipity" which is the encounter with the famous Chinese herbarium held by the great collector Charles-Philippe Campion, abbot of Tersan, who would be at the origin of Abel-Rémusat's career as a sinologist and would have been in some way the catalyst. From now on, a taste for science and a passion for learning about China will be the two engines of his intellectual life.

2 Abel-Rémusat: medical student and doctor

Certain circumstances pushed Abel-Rémusat, on the death of his father in 1805, to choose a medical career, even if it was without enthusiasm, as Landresse notes: "he sacrificed his vocation and all his tastes, to follow the wish of the one he had just lost." From then on, Abel-Rémusat carried out his research related to China for several years [from 1811 to 1814, he published, said Silvestre de Sacy, son *Mémoire sur l'étude des langues étrangères chez les Chinois*, son *Uranographie mongole* (*Memories of China people learning foreign languages*), sa *Dissertation sur la nature monosyllabique de la langue chinoise* (*On the monosyllabic nature of Chinese*),et le plan d'un *Dictionnaire chinois* (*Chinese dictionary*)] and, in suffering, his medical studies, as he wrote on January 27, 1813, to his friend François-Philoclès Jeandet (1788–1860): "I have my medical examinations to pass, which is of all my business the one I abhor most."

Notwithstanding these psychological difficulties, our author defended on August 25, 1813, at the Faculty of Medicine of Paris his thesis devoted to diagnosis by examination of the tongue, entitled *Dissertatio de glossosemeioticesive de signismorborum quae e lingua sumuntur, praesertimapud Sinenses* (*On the Symbolic Meaning of Chinese as a Universal Language*). Before returning to the content of this work, where the candidate succeeded in combining China and medicine, it is useful to make a quick reminder about medicine and its teaching in Paris in 1813.

3 Medicine in Paris in 1813

The Paris School of Medicine held a prominent place in the European medical community in the early years of the 19th century; Foreign doctors and students flocked to the French capital, where hospital medicine became essential compared to that exercised in libraries and at the bedside of the sick. It was indeed at this time that the Parisian anatomo-clinical school developed, under the impetus of Bayle (1799–1858) and Laennec

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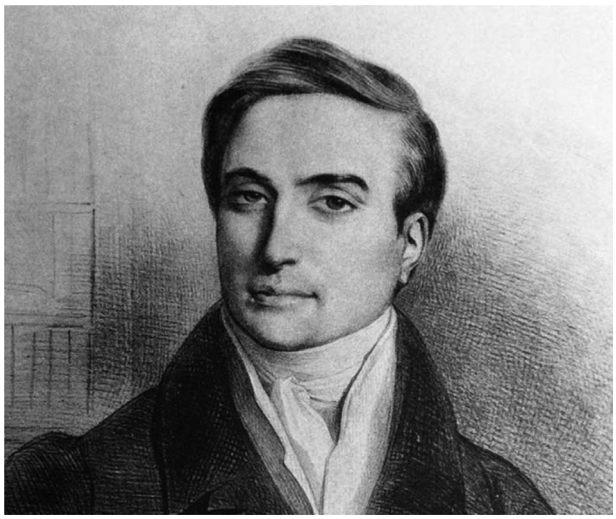


Figure 1 Portrait of Jean-Pierre Abel-Rémusat (source from: https://img1.liveinternet.ru/images/attach/d/1/131/324/131324057_JeanPierre_AbelR_233musat.jpg).

(1781–1826): the local lesion became the essence of the disease, and pathological anatomy was booming under the impulse of Dupuytren (1777–1835) and Cruveilhier (1791–1874), with a continuous practice of dissection. Napoleon's physician, Corvisart (1755–1821), developed a systematic analysis of hospitalized patients based on observable vital manifestations.

The Faculty of Medicine of Paris also symbolized the domination of the Parisian school. The buildings of the faculty were on either side of the rue des Cordeliers, separated by the place of the School of Medicine; they included amphitheatres, a library, a museum, dissecting pavilions, a botanical garden, etc. Clinical teaching was divided into three chairs, the internal clinic (Corvisart, Leroux), the external clinic (Pelletan, Boyer), and the advanced clinic (Dubois, Petit-Radel). The faculty also had a dual role as a government adviser and a center for scientific research. In 1813, 2334 students were enrolled for all 4 years of study.

This very intense moment of birth of a "hospital medicine" had its actors, several of whom were part of Abel-Rémusat's thesis jury. The dean of the faculty since 1810 was Jean-Jacques Leroux des Tillets, born in 1749 and died of cholera in 1832—like Abel-Rémusat; he was co-editor with Boyer and Corvisart of the Journal de Médecine, Chirurgie et Pharmacie.

The composition of Jean-Pierre Abel-Rémusat's thesis jury, as announced on the second page of the version published by Didot, was as follows:

> "André Marie Lallement (1750-1830); chief surgeon of the Salpêtrière: examiner
> Alphonse Leroy (1742-1816); surgeon, obstetrician: examiner
> Philippe Jean Pelletan (1747-1829), chief surgeon of the Hôtel-Dieu: examiner
> Pierre François Percy (1754-1825), who was chief surgeon of the Grande Armée: president of the jury
> Philippe Pinel (1745-1826), famous for having introduced the "moral treatment" of diseases of the mind, was also a renowned clinician, chief physician of the Salpêtrière under the Revolution, the Empire and the Restoration: examiner
> Guillaume Dupuytren (1777-1835), assistant surgeon to Pelletan at the Hôtel-Dieu then chief surgeon (1815): examiner."

4 Jean-Pierre Abel-Rémusat's medical thesis

In reality, the composition of the jury on the day of the defense was not exactly as announced, as our author reports to his friend Jeandet:

> "At 8 a.m., I also had news about my thesis. I corrected the proof in the evening; (…) payment of 220 F for examination and diploma fees and on Wednesday finally reception ceremony. Instead of the examiners marked on the printed sheet, I had Pinel, Chaussier [François Chaussier (1746-1828)], Lallement and Leroy. Pelletan was absent and Dupuytren was present only during sometimes."

In the same letter, after specifying that he had spoken Latin for an hour and that he had explained the aphorisms as Laporte du Theil would have done, Abel-Rémusat continues:

> "Finally, with the exception of Leroy, who in his argument also sinned against language and common sense, and who revolted all those of the listeners who heard him, everything happened wonderfully. I had a prodigious number of listeners, at least 150, nevertheless the Theses are, from what I saw yesterday, very little followed at the moment."

Written in Latin, Abel-Rémusat's thesis includes a four-page introduction, a 12-page dissertation and a page of quotations in Greek taken from the Hippocratic corpus. Its ambition is to compare diagnostic practices based on tongue examination in Europe since Hippocrates and in China. For the Chinese part, Abel-Rémusat seems to have based himself, without his saying so explicitly, on the *De indiciismorborum ex linguae coloribus & affectionibus cum figurisaeneis & ligneis*, sixth part of the *Specimen medicinae sinicaesive, Opuscula medica admentem sinensium* published in Frankfurt in 1682, edited by Andreas Cleyer and probably due to Michel-Pierre Boym, Polish Jesuit born in Lwow in 1612, died on the border of Vietnam and Guangxi in 1659.

In Chinese medicine, this diagnostic technique, called *She Jian* (舌鉴), *Cha She* (察舌), or *She Zhen* (舌诊), really developed between the Song dynasty (960–1279) and the Yuan (1279–1368). The first synthesis work exposing the examination based on the aspect of the tongue (color, coating, shape) appeared in 1341 under the title *Ao Shi Shang Han Jin Jing Lu* (《敖氏伤寒金镜录》 *The Golden Mirror of Attacks by Cold*), in 1 juan, transmitted and increased by Du Ben (杜本 1276–1350),

a doctor of the Yuan period, where we find the description of 36 tables of aspect of the language (Fig. 3). In the early Qing (1644–1911), Zhang Deng (张登) considered in his *Shang Han She Jian* （《伤寒舌鉴》*Examination of the tongue in cases of cold injury*, 1668) that the diagnosis based on the observation of the tongue was superior to that based on taking pulses, which shows the importance of this technique in the arsenal of doctors.

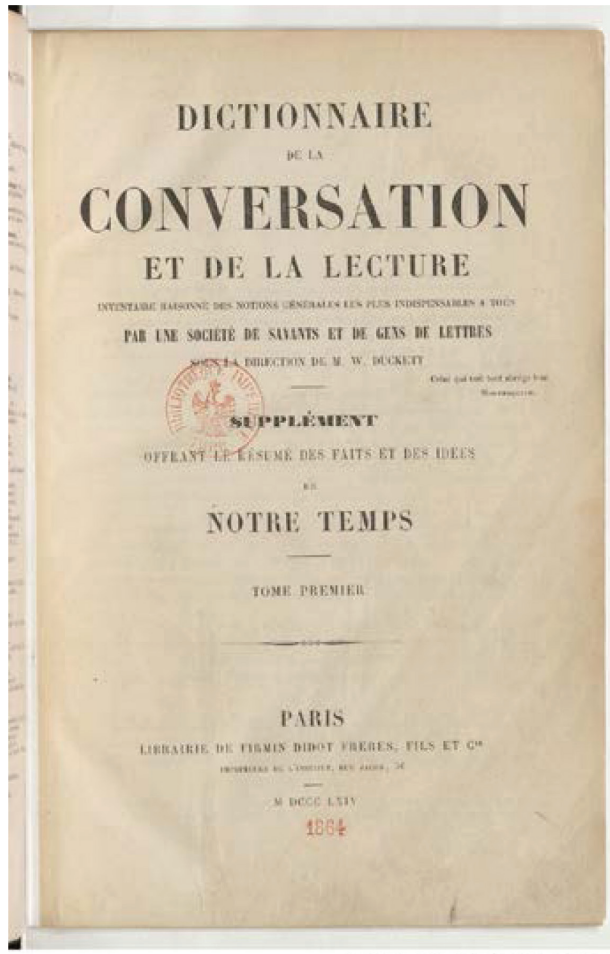
In his introduction (*Proœmiumexcusatorium*, p. v–viii), Abel-Rémusat underlines that many Chinese writings concerning the natural sciences would deserve Europeans to take a serious interest in them. The same goes for medicine, despite the abstruse style adopted by Chinese doctors. After having, as will become a commonplace in his wake, accused Cleyer of having stolen and published under his name the writings of Boym, our author explains that he chose, for lack of space, to study only the examination of the language. The thesis then has 12 paragraphs, a conclusion and, as we have seen, a page of quotations from the Hippocratic corpus.

Abel-Rémusat makes, in the first paragraph, a reminder of the links established between the state of the tongue and the disorders of the viscera. Hippocrates brings together, due to the theory of humors, language and urine. Other much more recent authors, such as Bordeu and Pinel, have also taken an interest in it. Chinese doctors have also written on the question, most often in agreement, says Abel-Rémusat, with the Hippocratic proposals. The second paragraph gives an anatomical description of the language (Galien, Morgagni). Sections 3, 4, and 5 address the four aspects of language (volume, color, consistency, movement). Paragraph 6 reports the Chinese considerations on Lingua merèrubra, the "purely red language": it is a paraphrase of the text found in Cleyer's *De indiciismorborum ex linguae coloribus et affectionibus* (p. 8).

Paragraph 7 describes white tongue with yellow tip, while paragraph 8 focuses on yellowish tongue. Paragraphs 9 and 10 deal with the black tongue, a sign considered very fatal both by Chinese doctors and by Hippocrates. Paragraph 11 focuses on the dry, rough (scabrida), contracted, rough tongue, called phrenetica by Hippocrates; the issue of canker sores is also addressed. Paragraph 12 and last passes quickly on the movements (tremors, etc.) of the tongue. In conclusion, Abel-Rémusat considers that he has shown the great convergence between European and Chinese observations. It ends with the need to rely not on the second-hand works of Du Halde, Jartoux, Osbeck, Buchoz, and others, but on the Chinese texts themselves, without giving further details.

5 Abel-Remusat as doctor

In 1838 appeared in volume 46 of the *Dictionnaire de la conversation et de la lecture* an extremely critical, not to say malicious, biographical note written by a certain


DICTIONNAIRE

DE LA

CONVERSATION

ET DE LA LECTURE

PAR UNE SOCIÉTÉ DE SAVANTS ET DE GENS DE LETTRES

SOUS LA DIRECTION DE M. W. DUCKETT

SUPPLÉMENT

OFFRANT LE RÉSUMÉ DES FAITS ET DES IDÉES

DE

NOTRE TEMPS

TOME PREMIER

PARIS

LIBRAIRIE DE FIRMIN DIDOT FRÈRES, FILS ET Cie

M DCCC LXIV

1864

Figure 2 The inner cover of the book *Dictionnaire de la conversation et de la lecture* published in Paris in 1864 (source from: https://catalogue-erouge.com/uploads/media/catalogue_cover/0001/26/dffb17f509b-d704309a3a0a5e61915357e6b3418.jpeg).

Pierre Hyacin the Audiffret (1773–1841), polygraph specialist among other subjects of Alain-René Lesage (or Le Sage, 1668–1747), whose complete works he published (Fig. 2). Audiffret, who concluded his note by emphasizing that "an easy elocution and above all a constant pusillanimity concealed his hateful and vindictive character and his habitual malevolence. All in all, Rémusat gained more by being read than known (…)," thus evoked Abel-Rémusat's short career as a practitioner:

To combine practice with theory, he frequented hospitals, and circumstances soon made it his duty. Sleazy in one eye and the only son of a widow, he had been able in 1808 to escape the rigors of conscription: but the general invasion of our frontiers, the inevitable consequence of our memorable reverses, having necessitated, in 1813, a recall of the freed conscripts of the last six years, Rémusat had no hope of being exempted. It was then that the interest he had inspired in M. Silvestre de Sacy earned him the active benevolence of this learned Orientalist, and consequently the protection of Clarke, Minister of War. Appointed assistant-major surgeon to the new branches of the military

hospitals of Paris, and some time later deputy to the chief physician of the Montaigu hospital, he rendered to France and to humanity services honorably recorded in the Biographie des Vivants, and in that of the contemporaries. Will we believe that in the so-called Portable Biography of Rabbe, he did not blush to disavow the facts and to repudiate the praises, for fear that the government of the Bourbons would withdraw its favors from a man who had nursed the soldiers of Napoleon! It is indeed from the time of the restoration that dates the literary fortune of Abel Rémusat, who ceased to exercise a profession where courage is no less necessary than talent. Two new chairs of oriental languages having been created at the College de France, in November 1814, on the proposal of M. de Sacy, that of Chinese language and literature was given to Rémusat, who was also charged with making the catalog of all Chinese books in the Royal Library.

Abel-Rémusat would therefore have practiced in the military hospital of Montaigu, which was a few steps from the Collège de France, at 26 rue des Sept-Voies (today rue Valette). The note on Rémusat published in the Biographie des hommes vivants, mentioned above, mentions: "(...) and he later showed that this title was not for him a vain formality, by the care he gave, in 1814, at the slaughterhouses of Paris." He was then placed, in all probability, under the direction of the chief surgeon of the armies during the Revolution and the Empire, Pierre-François Percy (who had been, let us recall, president of his thesis jury); which Percy distinguished himself after March 30, 1814, during the occupation of Paris by Allied troops against Napoleon, by a "humanitarian" devotion that transcended his political past:

After the entry of the allies into Paris in 1814, encouraged by M. de Chabrol, he dared to put himself at the head of the service of the sick and wounded Russians, Prussians, etc., of whom twelve thousand were without asylum, without linen, without bread, without surgeons. In 36 hours, he collected them in the slaughterhouses, and we know the favor and the praises obtained by this administrative coup. The Emperor Alexander gave him thanks and decorated him with the diamond cross of St. Anne, second class.

The exact chronology of the medical exercise of Rémusat in the military hospitals is hardly documented, just as we do not know who he treated at this time, soldiers of the Empire or wounded Russians... we see to what extent individual history depended more than ever, in these troubled times when everything was going so fast, on the political and military conditions of the moment. On the other hand, Audiffret's acidic remark on the political opportunism of Abel-Rémusat—appointed to the College de France by the Restoration—is perhaps based on the notice devoted to our author in the Biographie universelle and portable of contemporaries:

> "At twenty-five, he received a doctorate from the faculty of Paris; but satisfied to have obtained this title, he soon ceased to practice medicine, and it is wrong that the Biographies Michaud and Arnault did him the honor of having given care to the wounded soldiers who had been brought together in the slaughterhouses of Paris."

Abel-Rémusat therefore only practiced medicine for a very short period, and under very specific conditions, as assistant surgeon to the branches of the military hospitals in Paris or as assistant to the chief physician of the Montaigu hospital in 1813–1814. Forced by family contingencies to pursue medical studies, his relationship with medicine, whether it was the most contemporary of Parisian hospitals or that mentioned in some Chinese documents, very quickly became purely theoretical, while remaining marked by a great curiosity.

6 Abel-Rémusat's view of Chinese medicine as sinologist

On August 31, 1813, 6 days after Abel-Rémusat's defense, a medical thesis entitled *Historical Research* on *Chinese Medicine*, the work of 103 pages was published the same year by Didot Jeune, in Paris. It was a rather skilful synthesis of the information given on the question by the writings of the missionaries, the exchanges between Amiot and Bertin, as well as the observations of Cossigny or Macartney, for example. And it was again the same year that Abel-Rémusat published a review of the work of Lepage, a man he had met personally, as he reports in a letter of September 1813 to his friend Jeandet:

> "Mr. Lepage, author of the thesis on Chinese Medicine, came to visit me. He is a very modest man and has good reason to be so. I have alternately caressed it with kindness, and crushed it by the splendor of my erudition. He testified to me a synceral repentance [sic] of his fault, and told me that he would not have taken such a subject, if he had known that a person like me existed (compliment very well turned as you see). I forgave him his temerity: I had witnessed his act, and I had judged him from then on."

In his review of Lepage's thesis, Abel-Rémusat began by treacherously pointing out that Lepage had chosen the quickest route to the study of Chinese medicine: not learning the language but relying on secondary sources. Yet the rest of the review was on the whole quite laudatory. We find in the following passage one of his favorite themes, namely that the very probable obscurity and ridiculousness of the Chinese conceptions are amplified by the lack of talent of the translators, and that a more precise knowledge of the technical Chinese language is needed. to better judge things:

> "Emboldened by these judicious reflections and by the extreme accuracy with which he analyzed the works, not the best, but the least bad, that we have on this subject, Mr. Lepage makes known the physiological bases

on which the medical system rests. Chinese people; and from this statement, one should conclude that these are either very bad doctors, if they behave according to their principles, or very bad reasoners, if, starting from such principles, they never succeed in heal their sick. In truth, in the sciences of observation, experience and theory are not so intimately linked that the progress of one is always in proportion to the perfection of the other, and Chinese doctors would not be the only ones who supported a reasonable practice of absurd reasonings and ridiculous explanations. But granting that Chinese physiology is very obscure, I believe that one can doubt that it is so to the point that Boym, and according to him, M. Lepage suggests. In China, as in Europe, science has a technical language, expressions and tricks, of which a knowledge, even extensive, of the general language does not give a perfect understanding. Boym, a stranger to the art of healing, has followed, in translating medical books, the literal meaning of words, regardless of what doctors restrict them to; that is to say, he most often translated without hearing, and I ask which one of our theoretical works would not run the risk of being disfigured by passing through the hands of such an interpreter."

It should also be noted, for those who have studied the history of forensic medicine (or forensic knowledge) in China, that both Lepage and Abel-Rémusat mention the existence of the *Xi Yuan Lu* (《洗冤录》 *Records for Vindication*):

"Finally, the treatise on forensic medicine entitled Si youan and analyzed in the Memoirs on the Chinese (T. V), provides Mr. Lepage with the means of proving succinctly that this important application of medical knowledge to the search for crimes and to the solution questions of jurisprudence, is not in China as imperfect as one would have reason to suppose."

6.1 The king's library

Abel-Rémusat constantly proclaimed the need to use original Chinese texts and not translations. But what Chinese medical books did he have access to? In his Memoir on the Chinese books of the king's library, Abel-Rémusat rectifies certain entries in the Catalog of Étienne Fourmont published in 1742. The entry CCCXVIII thus concerns the *Wai Ke Shu Yao* (《外科枢要》 *The Core of External Medicine*, a 1571 work by Xue Ji (薛己) on skin conditions); Abel-Rémusat rightly notes that waike means "external medicine" or "surgery." The following entry relates to a *Wan Bing* (万病) that our author completes as *Wan Bing Hui Chun* [万病回春, a treatise on general medicine by Gong Tingxian (龚庭贤) published in 1587]; he takes the opportunity to remark that "in these sorts of works, the indication of the curative means immediately follows the description of the symptoms, and Chinese medicine is still too little advanced for us to separate therapy from nosography." Moving on to the CCCXXI notice, Abel-Rémusat misleads himself by asserting, about the *Shang Han Zhang Tu* (《伤寒掌图》 *Pictorial Handbook on Cold Damage*): "It is neither a question of wounds nor of tyranny, and the words where the author thought he saw this idea, simply mean peripneumonia, chest fluxion." The term "peripneumonia," coming directly from Hippocrates and still used regularly in the time of Rémusat, designated the "inflammation of the pulmonary parenchyma." The nosological category *Shang Han* (伤寒, Cold damage) is in fact much broader and more complex, and refers to a set of often feverish conditions whose origin is the action of harmful cold. Abel-Rémusat's assertion can only be based on a hasty reading of the text, in the light of medical knowledge which, in this case, becomes anachronistic and too quickly summoned.

"Médecine et chirurgie. Matière médicale
261. W. tenRhynedissertatio de arthritide; mantissaschematica: de acupunctura, et orationestres de chymia, de physiognomia, de monstris. *Londini*, *Chiswell*, 1682
268. Mémoires sur l'électropuncture considérée comme moyen nouveau de traiter la goutte, les rhumatismes et les affections nerveuses, et sur l'emploi du moxa japonais en France, suivis d'un Traité de l'acupuncture et du moxa, principaux moyens curatifs chez les peuples de la Chine, de la Corée et du Japon, par le chev. Sarlandière. *Paris, l'auteur,* 1825. – Traité de l'acupuncture ou zin-king des Chinois et des Japonais, par James Morss Churchill, trad. de l'angl. par R. Charbonnier. *Paris, Crevot,* 1825. – Note sur les phénomènes électro-magnétiques qui se manifestent dans l'acupuncture, par M. Pouillet.
269. Secrets de la médecine des Chinois, consistant en la parfaite connoissance du pouls, envoyés de la Chine par un François. *Grenoble, Charvys,* 1671
270. Quaestiomedica, an infirmis a morboviribusrepar and is *GinSeng?* proponebat Lucas-Aug. Folliot de Saint-Vast. *Paris,* 1736. – Dissertatio de glossosemeiotice, sive de signismorborumquae e lingua sumuntur, praesertimapudSinenses, auctore Abel-Rémusat. *Paris*, 1813
271. Specimen medicinaesinicae, siveOpusculamedicaadmentemSinensium, cum figurisaeneis et ligneis, edidit And. Cleyer. *Francof. Zubrodt,* 1682. 30 figures anatomiques très curieuses; avec la transcription des mots chinois en caractères originaux, de la main de M. A.-Rémusat.

Botanique
296. Flora sinensis, fructus floresquehumillimeporrigensser. et pot. principiac dom. Leopoldo Ignatio Hung. regi… emissa in publicum a P. Mich. Boym, Soc. J. *Viennae-Austriae, Rictius*, 1656
297. Flora cochinchinensis; Joa de Loureiro, 1790
298. Idem, mais trad. en allemand, 1793
299. Mémoire sur le ginseng et le Canada, Lafitau, 1718.
Ouvrages chinois
1601. *Pen thsaokang mou.* Traité général d'Histoire naturelle, par Li-chi-tchin. Édit. de 1637
1602. Le même ouvrage, édition de 1765. 13 cahiers. Ces treize cahiers ne forment que le quart de l'ouvrage environ.
1603. Chinese treatise of the vaccine, originally printed at Canton in 1805, now lithographied in *London*, in 1828 (en chinois)
1604. *Kwaye* Traité de botanique en japonais, avec fig., 5 cahiers in-4, cartonnés à la japonaise, dans un portefeuille."

Among this collection of works, one will notice a complete edition of *Ben Cao Gang Mu* (《本草纲目》 *The Grand Compendium of Materia Medica*), which could have been used for the unfinished project of Abel-Rémusat to study natural substances in China; note also the presence of Cleyer's treatise, which he drew heavily on for the writing of his medical thesis, as we have seen previously.

6.2 Acupuncture

As Jean-Jacques Ampère (1800–1864) pointed out in his "De la Chine et des travaux de M. Abel Rémusat," Abel-Rémusat showed only mediocre interest in Chinese medicine. The passing fashion of acupuncture in Paris for a few years nevertheless caught his attention:

Although he was a medical doctor, Mr. Rémusat did little to elucidate Chinese medicine; no doubt she had put him off by the bizarre and superstitious practices which she mixes with her recipes. That much vaunted science of the pulse, by means of which the Chinese physicians believe they can discern thousands of variations in its movement, and, by this help alone, recognize the state of the organs; all this subtle and probably chimerical diagnostic apparatus, although it seduced Bordeu, had not found favor in the face of M. Rémusat's skepticism: so he said wittily, in connection with a presentation of the physiological bases of Chinese medicine, that one should conclude that the Chinese are either bad doctors, if they behave according to their principles, or very bad reasoners, if, starting from such principles, they manage to cure their patients. The vogue for acupuncture provided him with the opportunity to give some details on this process, used in China and Japan, and perhaps too quickly abandoned among us.

In fact, the use of needles to puncture certain points on the surface of the body experienced a few years of glory in France (and in some European countries), roughly speaking between 1815 and 1825. Acupuncture and moxibustion had been described, at from observations made mainly in Japan, by Wilhelm Ten Rhijne in 1683 in his Dissertatio de arthritide or Engelbert Kaempfer in his Histoire naturelle (published in 1729 in French translation); but it was not until the beginning of the 19th century that a few audacious people attempted to put into practice, in a rather curious way, the information available in Europe at that time. This is how Louis Berlioz (1776–1848), doctor—and father of the composer Hector Berlioz—published in 1816 his Memoirs on chronic diseases, blood evacuations and acupuncture in which he recounted his trials. Having to treat a young woman suffering from "nervous fever," rebellious to all the therapies offered, Berlioz recalled his readings: "I thought of acupuncture. I proposed it, it was tried. The patient used a sewing needle coated with Spanish wax towards her eye; she introduced it herself perpendicular at first, and then parallel to the abdominal walls, to avoid pain. From the first bite, the accidents ceased as if by magic, and the calm was complete.

Other authors, from the famous surgeon Jules Cloquet (1790–1883) to the anatomist friend of Magendie (1783–1755) Jean-Baptiste Sarlandière (1787–1838), who proposed electro-acupuncture, or even to the doctor Pierre Pelletan (1782–1845), who attributed the action of the needles to "electrical energy," became enamored for some time with what they called acupuncture. The latter even became a fashionable topic in vaudeville, as evidenced by this excerpt from Eugène Scribe's Charlatanism:

> "Delmar:
> This will encourage others! and then, I think of it, there is a vacant place at the Paris Academy of Medicine.
> Circle:
> Why don't you line up?
> Remy:
> Me! and titles?
> Delmar:
> Titles! to the academy! it is luxury. Have you adopted any innovation, any system? why don't you take Acupuncture?
> Circle:
> Oh yes! the needle system?
> AIR from Fanchon's vaudeville
> To cure you are pricked,
> Economic system,
> Who, since that moment,
> Spreads
> Joy in our families;
> Because we have in stores
> More good needles
> What good doctors."

Abel-Rémusat followed this movement carefully and published a critical article on the question in 1825, the very year of the first performance of Le Charlatanisme:

A process which, since antiquity, has been one of the main means of curative medicine for the Chinese and the Japanese has been put back into use in Europe for several years, and particularly recommended in France for a few months. As it happens with everything that seems new and singular, this process found enthusiasts and detractors: some saw in it a sort of panacea with a marvelous effect, others an operation which could have the most serious consequences. serious. On both sides, facts have been cited and observations not presenting themselves quickly enough nor in sufficient number, have invoked the experience of the Asians, usually so disdained in matters of science. Independently of academic memoirs and journal articles, a few pamphlets have been printed to throw light on this interesting point of therapy and physiology. Those whose titles we have transcribed at the beginning of this article will be the subject of a short analysis and some reflections. They were published at a time when acupuncture had become the subject of general attention but the enthusiasm had already died down, and perhaps

in a few months it would be replaced by indifference. The works which we are about to report will at least remain, because they contain either ingenious views or well-made experiments, and both can become of some use to practitioners.

Abel-Rémusat is particularly interested in the controversies of physiology to which the hypotheses concerning the mode of action of acupuncture, in connection with the nervous system, give rise:

It is above all in questions relative to the action of the electric fluid on the nervous system that the difficulties arise which separate the vitalists from the physicists, difficulties perhaps insurmountable, but which, at least, are far from having been overcome. so far.

Commenting on Sarlandière's work and his electropuncture process, our author mentions its "occult virtue":

It is therefore necessary to resort to a means of explanation that Hippocrates does not suggest and this is what is done by supposing that electropuncture changes the mode of being of the very nerves which cause pain to be felt, disturbs a vicious mode of action and sensibility; the nerves of the suffering part are modified by sudden and repeated shocks, and the pain is distorted.

After these reflections far from the geographical origin of acupuncture, Abel-Rémusat returns to the need to have recourse to Chinese or Japanese books:

At a time when the hopes which some practitioners had founded on the happy effects of the introduction of needles were still in full force, many people would have liked the books in which the physicians of China and Japan recorded the results of their particular observations should be consulted, and that all that could be appropriate to enlighten on the real advantages of this process should be drawn from them. One should indeed suppose that men who for so long have made such frequent use of acupuncture would have had occasion to observe the efficacy of this curative means, and to distinguish the cases where it can be usefully employed, from those where he would be powerless or even dangerous. M. Sarlandière has worked to satisfy this wish, by publishing the translation of a small Japanese work on this subject, and some observations which relate to the same object, and which chance has brought him within reach of collecting.

Translated by Isaac Titsingh (1745–1812), this small Japanese booklet proposed by Sarlandière, which Rémusat had in his hands after the translator's death, specifies for example that the important thing is the choice of places (367 points) where to insert the needles, or the depth and direction they should follow. The text also reveals the existence of copper figures (mannequins) for learning. This information seems to reassure Abel-Rémusat, even if he is convinced that acupuncture has no scientific basis:

We see that acupuncture is not practiced in Japan without rules and without method, nor abandoned to the whim of the men who practice it. But what can all these precautions mean, when, in profound ignorance where these doctors are of the situation of the organs and their connections, they regulate themselves solely on the principles of a blind routine, or on the still more absurd theory of fantastic physiology!

The fact that in case of syncope it is necessary to prick the upper part of the neck, that in case of kidney pain one must prick the hock, or even that against dry coughs n prick the external part of the arm, does not seem enough for Abel-Rémusat, sure of his medical knowledge, to change his opinion of Chinese doctors. The latter are referred to their archaism and their lack of rigorous method:

M. Sarlandière, considering how far apart all these places are, supposes that physicians seek to act by derivation; it is, in my opinion, doing them a lot of honor to lend them such a clear idea of the phenomenon of revulsion. On this occasion, as on many others, they seem to be acting haphazardly, according to the suggestions of an ignorant and credulous empiricism.

7 Conclusion

If Jean-Pierre Abel-Rémusat, despite a solid medical training received in a very stimulating scientific context, showed little enthusiasm for the profession of doctor, it was because his intellectual passion was entirely focused on the nascent study of Chinese civilization. At the same time, this scientific training could only keep him away from an internal analysis of medical texts from China. The epistemological moment of the early 19th century left no room for an empathetic desire to understand the Chinese explanatory and curative system in the face of disease. The innovative dynamism of the currents of Parisian hospital medicine, full of conceptual noise and conflicting fury, could only take an interest in old notions by engulfing them and reducing them to experimental technical protocols.

On the other hand, the method at work in medical research, a method that Abel-Rémusat knew well, could only encounter and influence the analytical approach that he put into practice as a sinologist. He also continued to take an interest in publications concerning medicine, and regularly published reviews. In a review of François Magendie's (1783–1855) Précis elementaire de physiologie, published in 1825, Abel-Rémusat clarifies what may well be his intellectual credo:

There are a host of things in the phenomena of life that M. Magendie does not explain, and this is what the true friends of science will always have to congratulate him on. In his explanations he is almost never a mechanic, chemist, or vitalist exclusively: he takes from all opinions what seems to him supported by experience; he rejects with severity all that is deprived of this support;

and, in this case, the most famous names do not prevent him from condemning in his notes the most ingenious systems and those which have obtained the most favor; often he does not even enter into any discussion on this subject, and whenever the truth has seemed to him demonstrated on one point, he has deemed it useless to make his readers run through the circle of errors through which one had passed to find it. Such are the advantages which should recommend this Precis to students, who will acquire, in reading it, those habits of criticism and that spirit of investigation so necessary in a science in which one must, as in all the others, henceforth submit oneself without subject to the yoke of observation and experience.

In this sense, if the practice of medicine hardly tempted Jean-Pierre Abel-Rémusat, and if the "old" Chinese medical system only aroused in him a doubtful pout, his curiosity concerning the most recent research within of the Parisian medical community of the early 19th century helped to forge his own intellectual approach. In a way, clinical observation and philological rigor combined in him to develop a historiographical method as demanding as the method developed by the doctors of his time.

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Author contributions

Frederic Obringer drafted and reviewed the manuscript.

Conflicts of interest

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Perspective

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On the Present and the Past of Pandemics

Diego Armus[1,✉]

Abstract

During the COVID-19 pandemic, a multitude of narratives saturated the print, audiovisual, and electronic media. Improvised, uninformed, apocalyptic and voluntarist approaches abounded. These notes – written during the pandemic and delivered in the conference series – address the proliferation of such discourses, emphasizing a series of issues. First, the widespread ignorance about the history of epidemics. Then, the inability to deal with the uncertainties that reign during pandemic times, as well as the announcements that this extraordinary health/sanitary event would produce a profound watershed in all walks of life and in all corners of the world. Finally, and against the general assertion that "one learns from the past to understand the present," these notes seek to point out how the present can illuminate the study of the past – or, more personally, what I think I have learned as a historian in the times of the COVID-19 pandemic.

Keywords: COVID-19; Epidemics; Historiography; History

The history of epidemics has primarily been dominated by biomedical practices and Western medicine, a label often used and misused in historiography. However, it is important to acknowledge that alongside biomedicine, there existed other medical traditions, some of which were much older. It is also worth noting that these practices and knowledge have been in flux, engaged in more or less intense dialog with biomedicine. Regardless, past and present epidemics are marked by uncertainty, especially during new outbreaks.

1 The current COVID pandemic and the history of epidemics

Writing and thinking about an epidemic is much easier than living it, wherever in Buenos Aires, New York, or Wuhan. It is an extraordinary public event of remarkable intensity and drama that reveals the distance between individual and social experience and their narratives. At the end of the second decade of the 21st century, the COVID-19 pandemic is unfolding in real-time, with fear and urgency driving the rapid production and dissemination of print, audiovisual, and digital media.

An epidemic is a nebulous event par excellence, marked by uncertainties that invite many diverse predictions and narratives. And the many uncertainties that reign in it enable those who believe they have something to say to make vaticinations of all kinds. Thus, narratives proliferate. Most of the time, they are sincere and legitimate but inevitably improvised. They try to contribute to the best ways to govern the crisis and the challenges that the post-pandemic will unfold. So, plenty of narratives.

Some epidemics of the past left us stories – impressions – in the manner of personal experience accounts. Uncertainties dominate in these accounts. They are in the well-known *The Decameron* by Giovanni Bocaccio (Fig. 1) and *The Diary of the Year of the Plague* by Daniel Defoe (Fig. 2). Closer in time and less read *Pale Horse, Pale Rider* by Katherine Porter on the influenza pandemic of 1918. And, of course, the stories about the epidemics of polio and HIV-AIDS, both during the second half of the 20th century.

Even with the pandemic halfway through, COVID-19 has produced intense personal narratives and innovative Internet sites where those who have suffered and survived the disease reveal their intimate worlds in a time marked by collective unease and perplexity. These personal narratives lack pontifical claims or prescriptive ambitions.

There are, however, other narratives. Some are cautious. Others are readings mounted on conspiracy theories, irresponsible comments, or reflections that motivate doubts due to their boldness. Prospective diagnoses about the economy, society, culture, daily life after the epidemic, capitalism, and post-capitalism also abound. They displayed premature and suspicious certainties.

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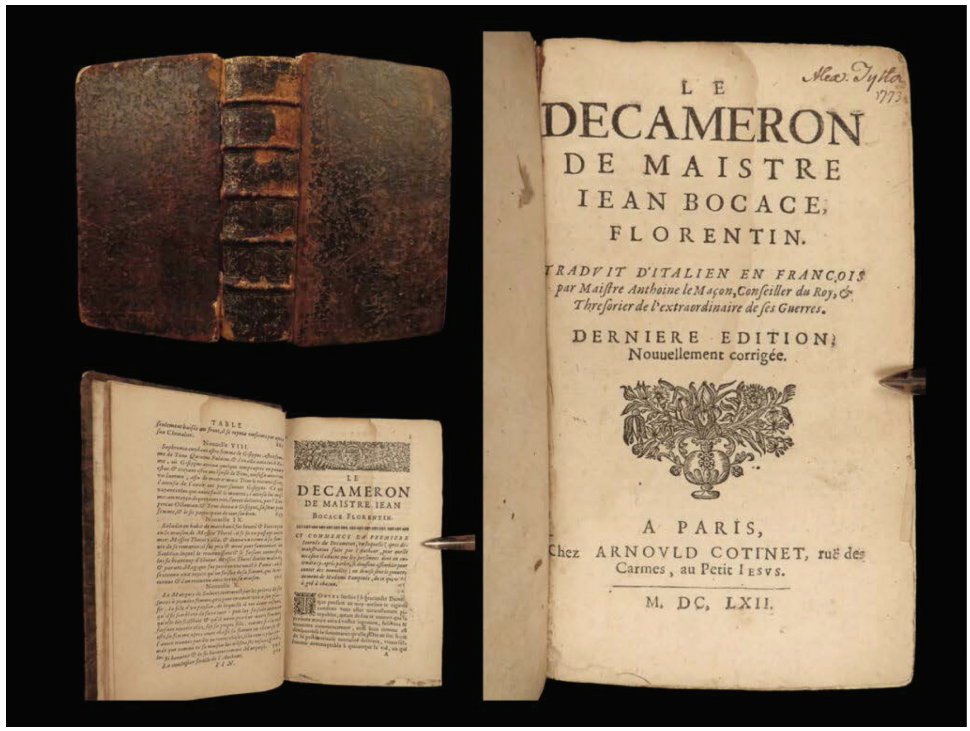

Figure 1 Front cover of the 1662 French version of Le Decameron, by Giovanni Bocaccio, first published in Italian in 1353 (source from: https://www.schilbantiquarian.com/wp-content/uploads/2023/06/Rarebook-DM-2091a-1024x768.jpg).

The urgencies of the pandemic have summoned philosophers, essayists, social scientists, economists, cultural critics, and even psychoanalysts. They discuss, celebrate, or refine these hazardous and in-a-hurry exercises in futurology. In a remarkable variety of tones – dystopian and utopian, apocalyptic and hopeful, improvised or more or less informed – they tend to underline that nothing will be as we knew it. These are examples of a culture of haste – constitutive and inevitable in journalism – that, in times of epidemic, has penetrated hand in hand with digital media in other areas of knowledge where reflections and comments tend to circulate more slowly.

All these voices have editorialized and commented with plenty of boldness. In many cases, even with irresponsibility, going from statements like "it's just a flu" to, a month later, stressing that public health is impotent or inefficient confronting the new disease.

Some themes are recurrent in these narratives: how much control and surveillance are needed to deal with the crisis; the role of the State and the private sector in the prevention and management of public health; the limitations of national responses to global health problems; the social inequalities brought or exacerbated by the epidemic; everyday habits, in public and in private.

Almost all these narratives have in common the discomfort or inability to deal with the uncertainties of an epidemic situation exacerbated by the fact that this is a new epidemic associated with the presence of an unknown virus.

Unlike these narratives, personal stories give the uncertainties associated with an epidemic their due place. The experiences of the sick or those who fear getting sick, those of ordinary people, are saturated with uncertainties. For different reasons, something similar happens with epidemiologists, virologists, and health professionals. They understand that an epidemic – especially a new one – is marked by biomedical and public health uncertainties. For them, the epidemic is all present, but not to glimpse what will come but to identify and use in the mist an arsenal of scarce resources that have yet to prove their effectiveness. There are debates and exchanges among these specialists, and they know that everything they have done will surely be politicized sooner or later. But their focus is clear: to understand the virus and try to display the most effective public health interventions as quickly as possible (Fig. 3).

When one does not look at the past in an anachronistic way - that is, when it comes to avoiding reconstructing and interpreting events of one time with the perspective and sensibilities of another – uncertainties are omnipresent, and narratives abound. Some talk about epidemics in the plural. Talking about outbreaks in the plural standardizes them, making historians not do what they do better, that is, to speak, write, and conjecture considering specific places and times, locating the epidemic, and avoiding trans-historical views. In other words, it is not about talking about epidemics in the plural, it is about talking about the outbreak of cholera, of influenza, of HIV-AIDS, of dengue, of measles, of COVID-19 because each epidemic disease is peculiar, unique, resulting from a particular microorganism and how a society confronts, reacts, and interprets it.

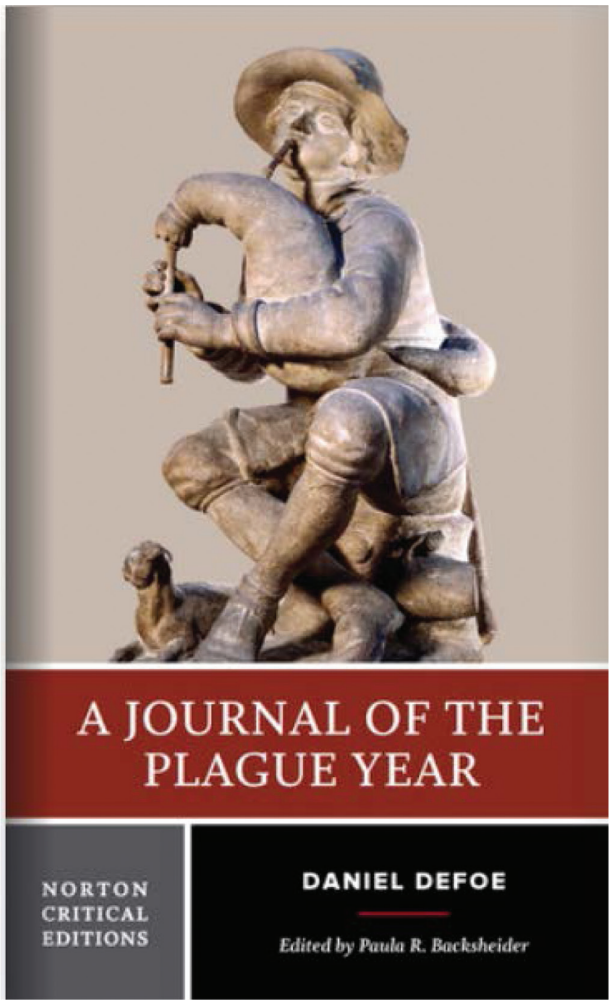

Figure 2 Front cover of *A Journal of the Plague Year* (New York: W. W. Norton & Company, 1992) by Daniel Defoe, first published in 1722 (source from: https://wwnorton.com/books/A-Journal-of-the-Plague-Year).

Diseases and epidemics are part of the human experience. Some epidemics are indeed avoidable, and it is particularly irritating when it is not done what is supposed to be done to avoid them. But other epidemics emerged because of an imbalance where non-human factors – such as genetic mutations, human interventions, or environmental alterations – were intertwined with particular social contexts. The periods marked by large human migrations have intensified epidemic outbreaks, which are not infrequently recurrent, successive, and associated with various microorganisms. There were decades in which the globalization of the world accelerated. In the Americas, it has been a recurrent feature since the European conquest. But they have been particularly conspicuous in the 16th and 17th centuries, between the late 19th and early 20th centuries, and the present.

In this long history, and as social phenomena in an unstable relationship with the environment, epidemics unfold a sort of dramaturgy that, in broad terms, repeats itself. A prologue occurs, in which microorganisms and other species are the protagonists of a strictly biological encounter not apparent to humans. Then, the first act appears when such microorganism jumps from animals to humans, launching an epidemic outbreak in a defined setting. What follows are the efforts to ignore or hide the novelty. When these efforts have proven unsuccessful, and the outbreak has already been recognized and accepted, the epidemic becomes charged with meanings and tensions individually and collectively. Finally, after inflicting havoc and death, the epidemic scourge loses its strength and fades (mostly, not always, because of collective immunity processes not managed by human interventions). The last act is entering into the past when the epidemic walks the complex territory of personal and collective memories of what people choose to remember or forget.

As Charles Rosenberg indicated, a series of topics are recurrent in this dramaturgy of epidemics (Fig. 4). One that is always present is the ways contemporaries seek to understand how contagion from one person to another occurs and where it originated – usually a dirty place. But there are many more topics. For instance, the individual and collective responses to face contagion, including the escape of those who can move from the infected area or the effort to isolate themselves from the outside world. Also, justifications and explanations that try to

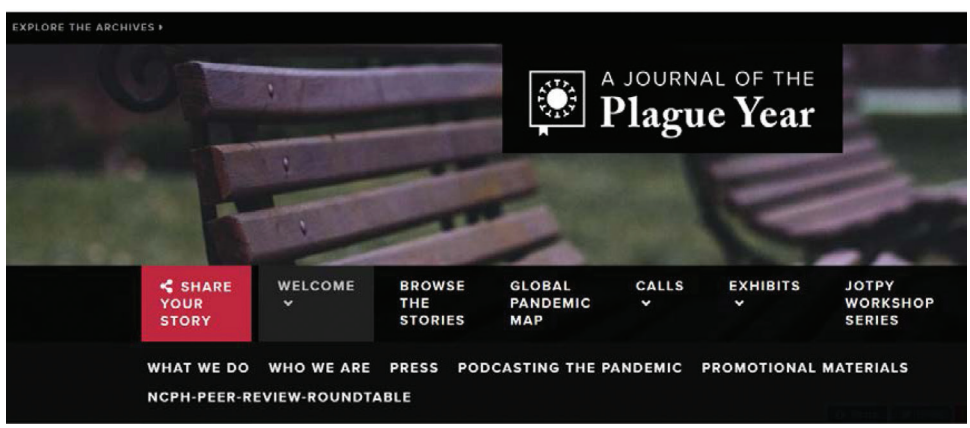

Figure 3 The website of The Journal of the Plague Year, recording stories of COVID-19 (source from: https://covid-19archive.org/s/archive/page/welcome).

Charles E. Rosenberg

What Is an Epidemic? AIDS in Historical Perspective

WE USE THE TERM *epidemic* in a variety of ways—most of them metaphorical, moving it further and further from its emotional roots in specific past events. Even in relation to health, we employ the word in contexts decreasingly related to its historical origins. Medical historians speak of an epidemic of tuberculosis in Europe between 1700 and 1870 and of an epidemic of rheumatic fever in the century and a quarter after 1800. In the mass media every day, we hear of "epidemics" of alcoholism, drug addiction, and automobile accidents.[1] These clichéd usages are disembodied yet at the same time tied to specific rhetorical and policy goals. The intent is clear enough: to clothe certain undesirable yet blandly tolerated social phenomena in the emotional urgency associated with a "real" epidemic.

Defining aspects of that millennia-old reality are, of course, fear and sudden widespread death. It is plague and cholera, yellow fever and typhus that we associate viscerally with the experience of epidemics, not alcohol and automobiles. AIDS has reminded us forcefully of that traditional understanding. But there is another defining component of epidemics that needs emphasis, and this is their episodic quality. A true epidemic is an event, not a trend. It elicits immediate and widespread response. It is highly visible and, unlike some aspects of humankind's biological history, does not

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Figure 4 Charles E. Rosenberg's article "What is an epidemic? AIDS in historical perspective" in *Daedalus*, Vol. 118, No. 2, Living with AIDS (Spring, 1989), page 1–17 (source from: https://edisciplinas.usp.br/pluginfile.php/3785122/mod_resource/content/1/Rosenberg_What%20is%20an%20epidemic.pdf).

make sense of the scourge, identifying those supposedly responsible, stigmatizing alleged carriers of contagion, usually "others" marked by their social condition, race, ethnicity, religion, nationality, gender, age, or whatever is most useful. And, of course, the rituals aimed at exorcising that invisible enemy and the religious practices that can offer believers not only peace and some calm in the face of fear and the incomprehensible but also moralizing interpretations of the scourge.

Even though these and other topics present in the dramaturgy have stimulated – and continue to do so – narratives that seem almost universal and timeless, the truth is that they are loaded with particularities specific to each epidemic. So, there is the identification of the particular agent that triggers the epidemic; how it circulates; the familiarity, novelty, duration, and recurrence of the epidemic event; its more or less extensive geography; the environment and climate that facilitate its spread. And, of course, its socially differentiated impact since the epidemic, even with potential victims in anyone, is far from democratic and always ended and ends up affecting more the most vulnerable sectors of society. An epidemic is a tsunami that affects everyone, but not everyone has the same resources to deal with it.

Epidemic diseases are not, of course, the only humankind experience with sickness. There are plenty of different kinds of diseases: among them, acute as opposed to chronic, traumatic as opposed to nontraumatic, epidemic as opposed to endemic. Each represented a distinct kind of phenomenon, accessible in that distinctiveness to both laypeople and physicians.

Dealing with an epidemic creates fear, anxiety, and an imperative need for understanding and reassurance. Sin, climate, filth, air, water, bacteria, and viruses, among many others, have all played diverse roles in those generation-specific efforts through which people have sought to explain and control outbreaks of infectious diseases. Such explanatory actions reflect a particular set of cultural and intellectual assumptions based on the available and sometimes fashionable interpretative tools.

In the cases of sporadic, endemic, and chronic ills, the origins tended to be seen in longitudinal terms and corresponding to the individual life course. On the other hand, epidemic explanations had to be collective and located in a particular time and place, resulting in causes that would impinge on many individuals at once.

Before physicians knew specific infectious agents, medical explanations of epidemic diseases tended to be holistic and inclusive: an epidemic resulted from a unique configuration of circumstances, a disturbance in a "normal" arrangement of climate, environment, and communal life. Epidemic diseases imply disorder.

In most historical instances, three elements – context, contamination and contagion, and predisposition of some individuals or groups to get sick – were considered while creating culturally appropriate explanatory frameworks about epidemics.

Climatological, geographical, and astrological factors were used widely by contemporaries in explaining the Black Death. Fourteenth-century theories of bubonic plague, for example, illustrated the persistent functional utility of such conceptions. At the same time, fear was rampant toward contagion bearers. And supposed predispositions helped explain the plague's often arbitrary incursions.

Yellow fever elicited a particularly sharp debate on the disease's portability. Physicians who pointed to local origins for yellow fever tended to see the illness as arising out of pathogenic environmental circumstances, ordinarily poor sanitation, and a consequent accumulation of rotting filth that, in its decomposition, produced a disease-inducing atmospheric miasma. That miasma might, of course, be viewed as a contaminant, but it was those disordered environmental circumstances that engendered it. Physicians advocating contagionism emphasized the specificity of the ailment's symptoms and the seeming ability of a particular person or perhaps inanimate object to "inoculate" a larger environment. In

support of this position, they pointed to the "transportability" of yellow fever, which always seemed to flare up after the arrival of ships from fever-infested ports. From either the configuration or the contamination perspective, predisposition explained the selective deaths of those constitutionally at risk: the poor, the "immoral," and the frail.

The seeming transportability of yellow fever remained the most robust empirical basis for contagionists. Yet, it was easy enough for those emphasizing local circumstances to counter that argument – even conceding the necessity of some imported "influence" to trigger the outbreak of yellow fever. The key issue lay elsewhere. Whatever the mysterious influence that might have arrived on the yellow fever-infested ship, they emphasized, it would not infect communities that maintained civic cleanliness. The "morbid material" would remain harmless without appropriately debilitating local conditions.

Similarly, in the debates over cholera, many physicians avoided "simple" versions of either contagionist or anti-contagionist positions. They constructed their etiologies selectively, emphasizing the need for a specific inoculant and an environment where it could reproduce itself.

In the case of typhus, German pathologist Rudolf Virchow articulated in 1848 an eclectic, critical, and holistic explanation. He blamed the Prussian government for tolerating oppressive conditions that bred disease among the workers. For him, "medicine was a social science," and health and disease could be considered indicators reflecting the moral and material character of the society in which they occurred.

But this style of sociological epidemiology was soon to be confronted by the emergence of a new body of data and a new way of thinking about infectious disease. In its modern, laboratory-oriented guise, the germ theory helped swing medical opinion toward contamination, but it did not banish the impulse to pay attention to context. A continuing concern for social medicine and an interest in environmental determinants of health and disease remained in continuous dialog with the new bacteriological etiology.

Even after Robert Koch discovered the cholera organism in 1883, his colleague Pettenkofer contended that the vibrio was a necessary but insufficient cause of the disease. The microorganism had to "mature" in subsoil water for an appropriate time before becoming virulent. His theory illustrates a tenacious desire to retain an older, holistic, environmentally oriented framework while incorporating a role for the specific microorganism (Fig. 5).

So, despite the germ theory's powerful influence, physicians instinctively sought to place these new actors in a traditional narrative that saw epidemic disease as the outcome of various interactive factors.

Perhaps, it is inappropriate to discuss tuberculosis as an epidemic since we now see it as a chronic, endemic

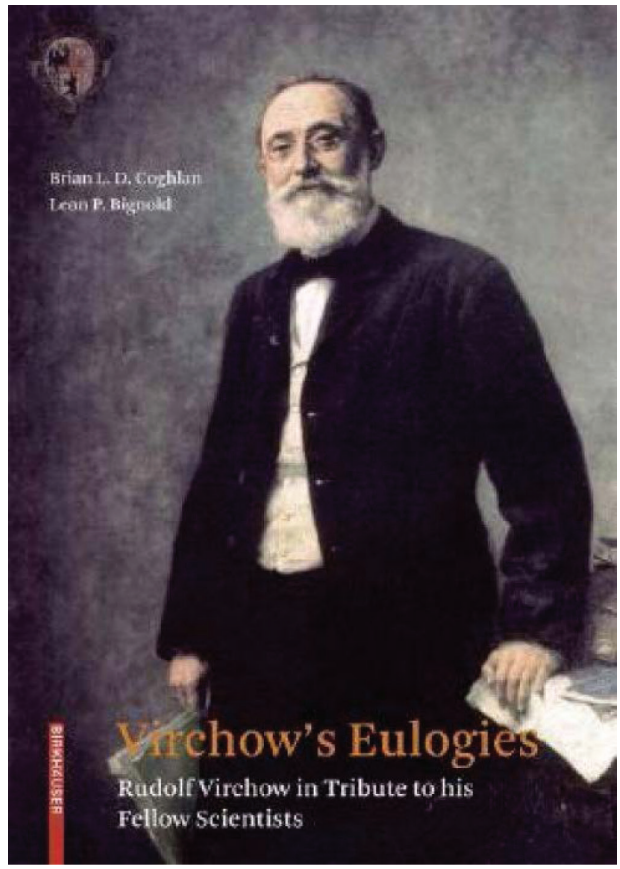


Figure 5 Front cover of *Virchow's Eulogies: Rudolf Virchow in Tribute to his Fellow Scientists* (New York: Springer, 2008) by Brian L. D. Coghlan and Leon P. Bignold (source from: https://link.springer.com/book/10.1007/978-3-7643-8880-5).

ailment. To physicians and public health authorities at the end of the 19th century, however, it was an epidemic but a uniquely omnipresent one. The very universality of tuberculosis argued for its dependence upon interaction with various predisposing factors. More than random contact with Koch's bacillus was needed to explain the development of a full-blown case of the disease. Tuberculosis – like infant mortality – has been a crucial data source in 20th-century policy debate. Both have been used as indicators of social health or malaise, providing evidence for inclusive, holistic, and multicausal approaches to public health.

Since the late 19th century, when observers first noted a decline in tuberculosis mortality, up to the present and most updated historiography, that decline - in the absence of effective therapeutics - has constituted evidence for modern versions of contextual and more holistic approaches in a 20th century increasingly dominated by a narrowly bio-pathological understanding of the infectious disease (Figs. 6 and 7).

Constitutional medicine, psychosomatic medicine, and the related emphasis on stress can all be seen as efforts to counterbalance the weight of bio-pathological explanations. In not a few cases, they bring on class, gender, and race issues in the shaping of disease incidence.

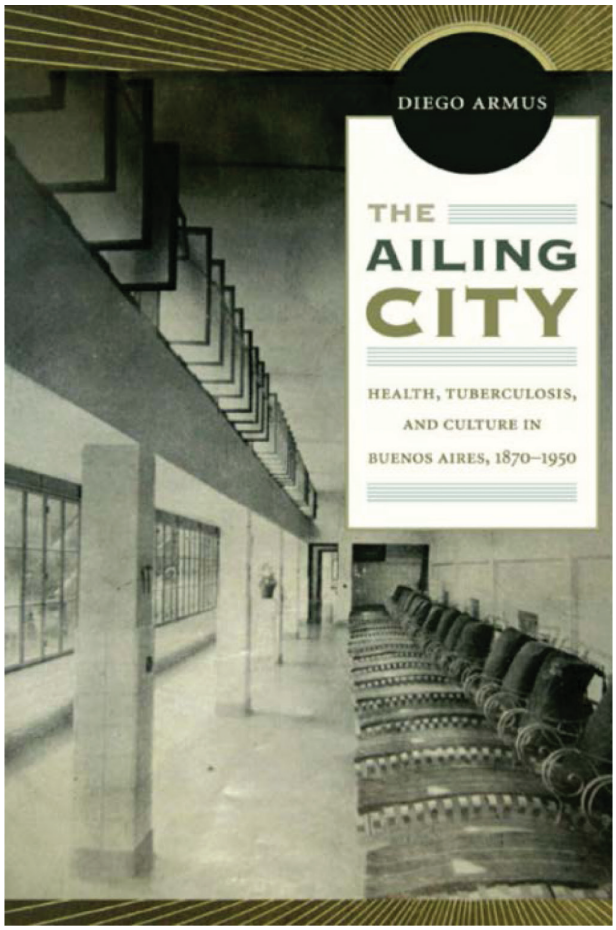
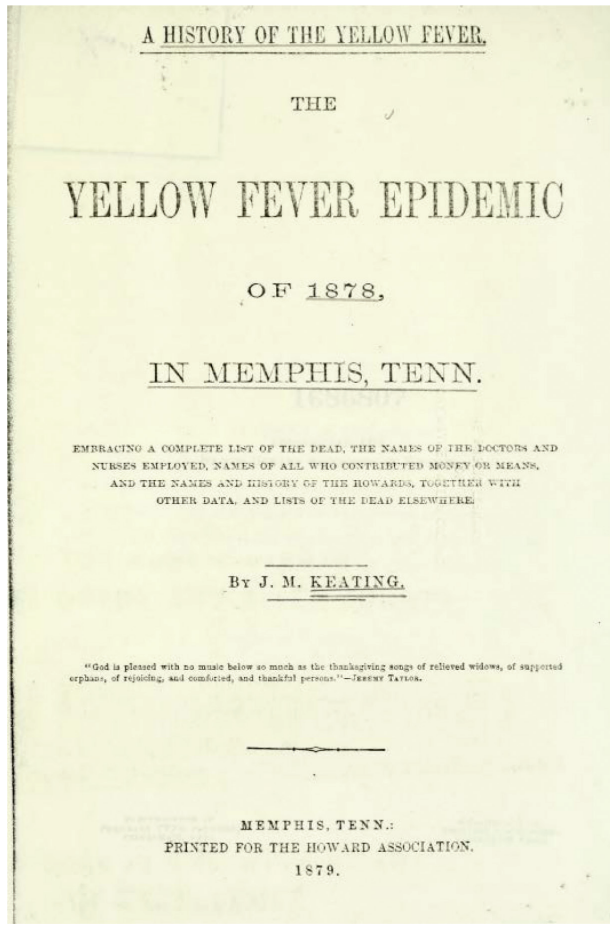


Figure 6 Front cover of *The Ailing City: Health, Tuberculosis, and Culture in Buenos Aires, 1870-1950* (Durham: Duke University Press, 2011) by Diego Armus (source from: https://www.dukeupress.edu/the-ailing-city).


A HISTORY OF THE YELLOW FEVER,

THE

YELLOW FEVER EPIDEMIC

OF 1878,

IN MEMPHIS, TENN.

EMBRACING A COMPLETE LIST OF THE DEAD, THE NAMES OF THE DOCTORS AND NURSES EMPLOYED, NAMES OF ALL WHO CONTRIBUTED MONEY OR MEANS, AND THE NAMES AND HISTORY OF THE HOWARDS, TOGETHER WITH OTHER DATA, AND LISTS OF THE DEAD ELSEWHERE.

BY J. M. KEATING.

"God is pleased with no music below so much as the thanksgiving songs of relieved widows, of supported orphans, of rejoicing, and comforted, and thankful persons."—JEREMY TAYLOR.

MEMPHIS, TENN.:
PRINTED FOR THE HOWARD ASSOCIATION.
1879.

Figure 7 Inner Cover of *A History of the Yellow Fever: the Yellow Fever Epidemic of 1878, in Memphis Tenn* (Memphis, 1879) authored by J. M. Keating (source from: https://ia800205.us.archive.org/19/items/historyofyellowf00keat/historyofyellowf00keat.pdf).

These antireductionist positions have constituted an active minority voice throughout the 20th century dominated by biomedicine.

These different perspectives also speak about how epidemics were fought. And this fight was, and is, specific. The military response to an invisible enemy has been recurrent. But, it has been different depending on whether the enemies are known and for whom measures could be taken more quickly and efficiently, or they are new enemies against whom improvisation, ignorance, and surprise tend to reign. In some cases, it demanded responses designed by biomedicine and sanitary engineering in the last century and a half. In others, short-term or long-lasting changes in people's daily behaviors. And often both.

The term epidemic is often used for a relatively short, contagious, and lethal event. In the last decades, public health specialists have been talking about epidemics of obesity, lung cancer resulting from the habit of smoking tobacco cigarettes, car accidents, or domestic violence. However, people have talked about the tuberculosis epidemic between the late 19th century and the first half of the 20th – that is, for more than eight decades. And HIV-AIDS will soon turn four decades.

The "world" of epidemics has been and continues to be diverse and complex. And the very discretionary use of the qualifier epidemic for certain diseases and not for others is ultimately a political decision.

2 Epidemics and Uncertainties

The particularities of each epidemic refer to the issue of uncertainties. And some of them are biomedical. With the Pasteurian revolution in the last third of the 19th century, many superstitions and beliefs of all kinds that permeated how the elites and the ordinary people lived with the epidemic scourge lost relevance. In the first place, because different instances of the State began to govern the crisis in the name of the emerging "health science," where new technologies, new social prejudices, and new techniques of medical surveillance converged. Then, and because of the consolidation of the knowledge and power of new experts like medical doctors and sanitary engineers, public health actions will be legitimized,

modeling – especially in the cities – many dimensions of public and private life.

Biomedicine set out to identify invisible specific microorganisms that, for a long time, invited us to explain diseases in a mono-causal way: a germ, virus, or bacterium were equivalent to a disease. It was a less resounding triumph than is usually believed since identifying the specific microorganism was only a first step that did not necessarily mean understanding how and at what speed it spread, who was affected, for how long, how much it killed, and how it was caused.

Therefore, biomedical explanations of what was happening during an epidemic were insufficient and did not meet the needs of those suffering from them. These explanations were navigating a sea of very disparate beliefs – traditional, religious, scientific – that competed, influencing the political power that proposed to govern the crisis with uneven weight.

In this context, the war rhetoric appears against an invisible, invading microorganism. In front of it, biomedicine deploys the idea and the resource of the "magic bullet," the supposed punctual and effective solution that should end the epidemic. Vaccines have always been associated with the magic bullet. In truth, the history of disease records very few cases of genuinely magical bullets. Smallpox is one of them, although it took many decades for this vaccine to eradicate the disease. The slow times that mark the discovery of a vaccine and its effectiveness unveil challenges that often fail. Vaccines for seasonal flus have had, over the years, uneven effectiveness. And it is important to remember the absence of a vaccine for certain diseases, for instance, against HIV-AIDS. Also missing is a vaccine for the more recent SARS epidemic.

Biomedical uncertainties far exceed the search for the magic bullet. There is an arsenal of possible interventions – specific or not – aimed at dealing with the disease, among them the therapies and drugs for which the scientific effectiveness protocols are inevitably slow. These are controversial issues in the history of the disease since convincing answers are only sometimes available when evaluating the effectiveness of medical interventions and its role in the development of herd immunities. Among many other reasons this is because other factors such as the material conditions of existence also count in acquiring these immunities. For this reason, the mono-causality encouraged by the Pasteurian revolution in explaining diseases deserves to be critically discussed without forgetting its limitations.

Added to the biomedical uncertainties in times of epidemic are public health uncertainties. Of course, I am thinking about the social policies that deal with already problematized issues, good or bad, and typical of non-epidemic times – issues such as poverty, accessibility to health care services, and unhealthy housing in an unhealthy neighborhood that make people sick. These are issues that count during an epidemic emergency. But along with them, I am thinking of more specific uncertainties related to the governance of the crisis brought on by the epidemic and the urgent measures that must be taken. Rather than illustrate with examples from the past, about other outbreaks, it is only a matter of following the news that, day by day, discover the variety of tactics and initiatives to confront COVID-19: when to define that this epidemic is a priority that must be added to other already existing epidemics; when to limit the arrival of foreigners and from where; what controls to impose in ports and airports; when is the time for the masks and gloves; how much to coordinate with the international community local and national initiatives to control or mitigate the contagion spread; to what extent public health policy in the face of the epidemic manages to overshadow the pettiness and cracks of daily politics; what to prioritize – preventing the spread of contagion, or seeking a cure, or achieving the necessary levels of herd immunity even at high costs; how much and for how long and how strict social distancing and quarantines should be imposed; how to handle public health and economic reasons – in the public and private sectors as well as in the formal and informal labor markets; how centralized the government of the crisis must be.

It is unnecessary to continue illustrating the magnitude, significance, and complexity involved in trying to govern the crisis of an epidemic. Because of the brutal dungeon imposed by the availability of limited resources. Because of the uncertainties about the best approach and strategy that promise the best results. For this reason, and again using the current COVID-19 pandemic as an example, an impressive variety of national strategies have been deployed – Chinese, New Zealand, Swedish, South Korean, Italian, Japanese, German, Argentine. In some cases – such as in the United States – the federal State's responses are questioned by some provincial states.

If the conjuncture of the pandemic forcefully renews the central and decisive role of the State in the government of a crisis that in the first instance is sanitary, very soon it becomes apparent that the crisis also carries severe economic, social, and political consequences. Depending on the countries, the multidimensional crisis brought by an epidemic might intensify authoritarian tendencies or reaffirm the exercise of a legitimate authority strongly supported society. Or something halfway between these two variants. Confronting the health crisis, all these styles of government and governance intervene with actions that can result in relative success or rampant failure.

Public health in times of epidemic also lays bare, almost without mediation, the blurred boundary between the private world of individuals and families and the public sphere. Then, very varied cultures, more or less individualistic and more or less attached to rigid ideas about personal freedoms, can define different levels of conflict

caused by the changes in daily behavior that public health measures imposed on the population to mitigate contagion and govern the epidemic. Accepting social distancing, observing a quarantine, and using a mask when necessary are just examples of a long list. Biomedical and public health uncertainties might facilitate the proliferation of conspiracy or extremely simplistic explanations. There is everything, some naive and absurd, others articulated with the language of biomedicine and public health but unable to be sustained by minimally reliable facts and data. There were them in the past. They have been circulating during the current pandemic. And they will continue to spread in the future as uncertainties mark people's desperate daily lives trying to survive the contagion, disease, and death.

Some societies and cultures have navigated and continue to navigate with patience and resilience in the uncertain times of an epidemic. Others do not because they trust less science, medicine, or their governments or because they have yet to manage to capitalize on previous epidemic experiences and understand that these extraordinary events are largely unavoidable, but they also begin and end.

3 Epidemic Legacies

Forgetfulness is not similar in all epidemics. In the second half of the 19th century, life in big cities was punctuated by epidemic scourges that made it difficult to ignore or forget them. But while controlling certain infectious diseases has steadily advanced at the dawn of the 20th century with urban sanitary infrastructure, these cycles begin to lose strength and recurrence. It is possible that this better equipped urban context made forgetting epidemics easier.

In the West, several generations in the last century and the present – no matter their educational level or social condition – only had the minimum record of the 1918 influenza pandemic once the discussions about COVID-19 surfaced in the media.

Something is known about the 1918/1919 influenza pandemic. The uncertainty in which it developed, the reactions to govern it, and the ways and times with which society, culture, and the economy processed its legacies may perhaps invite, while we live with COVID-19, to glimpse with a little more measure and common sense the post-pandemic times we will confront.

During the 1918/1919 pandemic and in subsequent years, it was possible to understand some of the reasons that explained the epidemic outbreak, its symptoms, the speed with which it was transmitted, and its lethality in each of the waves with which the pandemic hit the world. In the United States and Europe, the pandemic was devastating. But it wreaked havoc in India, Indonesia, Iran, South Africa, Ghana, Soviet Russia, and Japan. Also, in China. Comparatively, in Latin America, it was less brutal. Between 40 and 100 million people, most of them young, died of influenza. Much was spent, and without success, attempting to synthesize a vaccine.

For a time, the pathogen of influenza was a question mark. It was not until 1933 that the virus that caused it was isolated for the first time, discarding the hypothesis that it was a bacterium. A decade later, the first flu vaccines appeared. But there were plenty of unanswered questions: What facilitated the fading of the pandemic? How was the virus' contagiousness reduced? What was the relevance of a few specific medical interventions? How to explain its unequal impact on different parts of the planet? Why it killed certain individuals and not others even belonging to the same age, racial, or class groups?

To these biomedical uncertainties must be added others typical of public health. For decades it was sought to understand whether specific non-pharmacological interventions influenced the governance of the spread of influenza. In recent years, two studies focused on the American case concluded that during the 1918/1919 pandemic, the contagion appears to have lessened in the few places where social distancing, isolation measures, quarantines, school closings, frequent hand washing, and the use of masks have been part of the public health agenda and somewhat accepted by the population. One of those studies also concluded that isolation had not been long enough to avoid subsequent mortality spikes, more brutal than the first.

The 1918/1919 pandemic fell into oblivion, and other pandemics in 1957/1958, 1968, and 2009, did nothing to rescue and reinstalling it in the collective memory. If the passage of many decades could explain why it was ignored until the arrival of COVID-19, it is surprising that no one remembered it just a few years past the influenza pandemic. Influenza killed far more than in World War I, but the war's deaths overshadowed those from the pandemic in newspaper headlines, obituary pages, and collective memory. The flu deaths came on the spur of the moment, had a brutal but short-lived presence, and faded from memory when the outbreak faded. The casualties of the war, on the other hand, managed to establish themselves in American and European public life for much longer and to avoid falling into oblivion. These works of memory are difficult to explain. The war may have been experienced as a tragedy caused by men. The pandemic may have been marked as a lethal, unexpected, and inexplicable phenomenon for which it was better not to give it a place in memories.

The pandemic aggravated the economic hardship brought by the war, but the vibrant and expansive 1920s would help to ignore it with remarkable speed. Scott Fitzgerald, John Dos Passos, and Ernest Hemingway – the great storytellers of 1920s America – did not give the pandemic a relevant space in their narratives. Even the American history textbooks

used during the 20th century ignored it, reinforcing collective disregard in many generations. And everything indicates that in the United States – and some Western European countries – it was the governmental responses to the crisis of 1929 – and not the pandemic of 1918/1919 – that motivated some of the new and more inclusive social policies on healthcare issues of the 1930s and 1940s.

So, it seems that in the West, the legacies of the influenza pandemic – in addition to deaths – appear to have been modest. Nothing of "nothing will be the same" – as many commentators of the current COVID-19 pandemic have underlined. Nothing of "a before and after," a "watershed" brought about by the pandemic. On the contrary, in the Far East, and at least with some issues, the legacies and memory of the 1918/1919 influenza pandemic are less elusive.

The widespread use of masks is illustrative. Throughout the 20th century, masks were thought of as an instrument to mitigate infections. Masks appeared in 1910 when an epidemic outbreak of pneumonia struck Manchuria. Before modern bacteriology, Taoism and traditional Chinese medicine conceptions of noxious air facilitated its massive diffusion and acceptance. Thus, people used them during the 1918/1919 pandemic as well as during Mao Zedong's times. The environmental pollution of the last decades and the pandemics of 2002, 2006, and 2009 reaffirmed the presence of masks as an object of personal health and as evidence of health modernity. And beyond their effectiveness, masks would become a gesture of hygienic and anti-contagious civility. Something similar happened in Japan, particularly after the 1934 epidemic. Also, in Korea. And it is worth noting that this persistent presence occurred under very different political regimes.

Masks were in the West during the 1918/1919 pandemic. But very soon, they disappeared from the scene. Albert Camus mentioned them in his famous book *The Plague*. But it was just a snapshot lost in a pervasive and durable oblivion. This Covid-19 pandemic brought the masks back. In New York's summer or Buenos Aires's winter, masks are part of the urban scene. They appeared in stores, and people made them. Some use them in a disciplined manner. Some have aestheticized them in their design, colors, and materials. And some – from ordinary citizens to powerful politicians – politicize them and resist their use.

In this return of the masks, some commentators in the West predicted the arrival of a new culture of restricted kissing. They should note that people in the Far East have not stopped kissing; they wear masks when feel ill or know they live in epidemic times. So, no abrupt cultural or daily life alterations. Instead, reasonable accommodations for changing situations. Evidence of a very healthy collective and individual sanitary civility.

4 What has the experience of living in pandemic times taught me as a historian?

I am a historian who thinks that history is not a school of the present, does not teach lessons, and cannot define a detailed roadmap to avoid mistakes. History can only offer general guidelines and outline the complexity of individual and social experiences in the past.

So, this pandemic has taught me at least three lessons.

First lesson:

Writing and thinking about an epidemic is much easier than living it. The pandemic has been and continues to be a marathon full of uncertainties, and to presume that the supposed lessons of the past can allow navigating the fog of the present is nonsense. Even more, the current uncertainties of the COVID-19 pandemic must invite to give more room to the numerous uncertainties that saturate interpretations of past epidemics.

Second lesson:

The COVID-19 epidemic has been producing a wealth of historical evidence. Undoubtedly, these sources are much more abundant than those we usually have when we research, for example, epidemics at the end of the 19th century or during much of the 20th century.

In an interview from a few years ago, cultural historian Peter Burke recalled something that the art historian Ernst Gombrich had long ago said: "History is like Swiss cheese; it is full of holes." The lack of evidence produces the holes, but the existence of the holes must be thought of as part of the cheese. And facing those holes, as historians, we do not have the licenses of those who write fiction. It is appropriate and necessary to include those "holes" in the past that we intend to interpret.

Hardly any of the past epidemics have left abundant sources, records, and evidence of all kinds, such as those the COVID-19 pandemic is producing. But as historians, we are used to such a scarcity. We are constantly faced with those holes, and these holes invite us to conjecture about an elusive and uncertain past.

Rereading what was written about epidemics in the past, and I include what I also wrote, I am left with the feeling that we should be more aware of what we have yet to be able to discuss, interpret, or conjecture due to the lack of evidence.

In summary, the density of issues this COVID-19 epidemic uncovers should educate us in humility. Perhaps, we can indicate we have found a tentative answer to some problems. But for many others, we are left with only questions. And sometimes, formulating those questions is more relevant, productive, and accurate than repeating generalizations.

Third and last lesson:

Without being the first pandemic in times of accelerated circulation of people, products, information, and ideas, the COVID-19 pandemic has brought a planetary and multidimensional crisis, perceived in the West as a unique, unprecedented, and incomparable crisis. History only offers perspectives on navigating the present and the future. That is why I want to conclude that if there is something that the past does reveal to us, this is the fact that other epidemics were as or more tragic than the one we are experiencing. This fact, of course, should not serve us as a consolation. But, it can help us to look at the critical and sad times we are living with historical perspective.

Notes

With very few changes, this is the text I delivered at the lecture series. Those familiar with the work of Charles Rosenberg will notice my debt to his insightful and path-breaking contributions to studying disease from a historical perspective.

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Diego Armus drafted the manuscript and reviewed the article.

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Perspective

CHINESE 中医药文化(英文)
MEDICINE AND CULTURE

OPEN

Understanding Poison: Study of a Word *Du* from the Perspective of Comparative History

LIU Yan[1,✉]

Abstract

This article investigates the word *Du* (毒) in premodern Chinese medicine and culture. It highlights the paradoxical meaning of the word that served as a foundation for the therapeutic use of poisons in traditional Chinese medicine. The article then situates the study in a comparative framework. By comparing the Chinese notion of *Du* with the Greek concept of *pharmakon*, it demonstrates significant similarities on the medical use of poisons in the two cultures. It further identifies a striking difference: While the European pharmacy started to separate poisons from medicines in the medieval era, poisons remained an integral part of healing repertoire throughout imperial China. The article ends with offering some cultural explanations for this divergence, and more broadly, a distinct worldview as revealed by the intimate relationship between poisons and medicines in traditional Chinese pharmacy.

Keywords: Aconite; Comparative history; *Du*; Materia Medica; Medicine; Pharmacy; *Pharmakon*; Poison

Let us start with an episode based on my personal experience. Ten years ago, when I was a PhD student at Harvard University, I had the opportunity to visit the Needham Research Institute at Cambridge, UK, to do dissertation research, and browse the archives of Joseph Needham in the institute. I came across an interesting letter, which was written in 1973 by Donald B. Wagner (华道安), a historian of Chinese science who lived in Kyoto, Japan, and sent to Joseph Needham in Cambridge. The letter ended with a reference to a plant called Rauwolfia (萝芙木). This plant did not appear in traditional Chinese materia medica literature, but it was used as a "major tranquillizer and anti-hypertensive" in modern biomedicine. However, according to his friend, who was a Swedish physician, Rauwolfia was not widely used in Western medicine because it could trigger side effects, such as lowering the blood pressure and causing severe depression.

At the end of the letter, Wagner puts forward a point of view that compares traditional Chinese medicine (TCM) with modern Western medicine. He believes that one of the great problems in modern biomedicine is that it often induces unpleasant side effects, while TCM generally does not. One possible reason is that the medicines whose side effects were worse than the diseases they sought to cure had been excluded by the compilers of traditional pharmacopoeias. Needham did some further research on Rauwolfia after reading the letter, and found that although the medicine does not appear in traditional Chinese material medica literature, it was incorporated into local materia medica literature in southern China in the 20th century. He agreed with Wagner's judgment on Rauwolfia, that is, the side effects of the plant are quite obvious, but he also pointed out that if the active ingredient of the medicine can be extracted by modern scientific methods, it could be used safely. Wagner's letter and Needham's response reveal a widespread point of view among scholars and the general public. It puts TCM and modern Western medicine in sharp contrast, holding that Chinese medicine is natural, mild, and without side effects, while Western medicine is artificial, violent, and with harmful side effects.

This viewpoint is problematic. Ancient Chinese literature on materia medica contains a large number of poisonous medicines. For example, *Shen Nong Ben Cao Jing* (《神农本草经》 *Shen Nong's Classic of the Materia Medica*) of the Han dynasty includes *Fu Zi* (附子 Aconitum carmichaelii or aconite), whose tubers, used for healing, are highly toxic. In fact, aconite was one of the most frequently prescribed medicines in traditional Chinese pharmacy. Another example is *Ma Fen* (麻蕡 Cannabis sativa L.), a hallucinogenic substance, which, according to *Shen Nong Ben Cao Jing*, can make one "see demons and run crazily" when ingested in excess.

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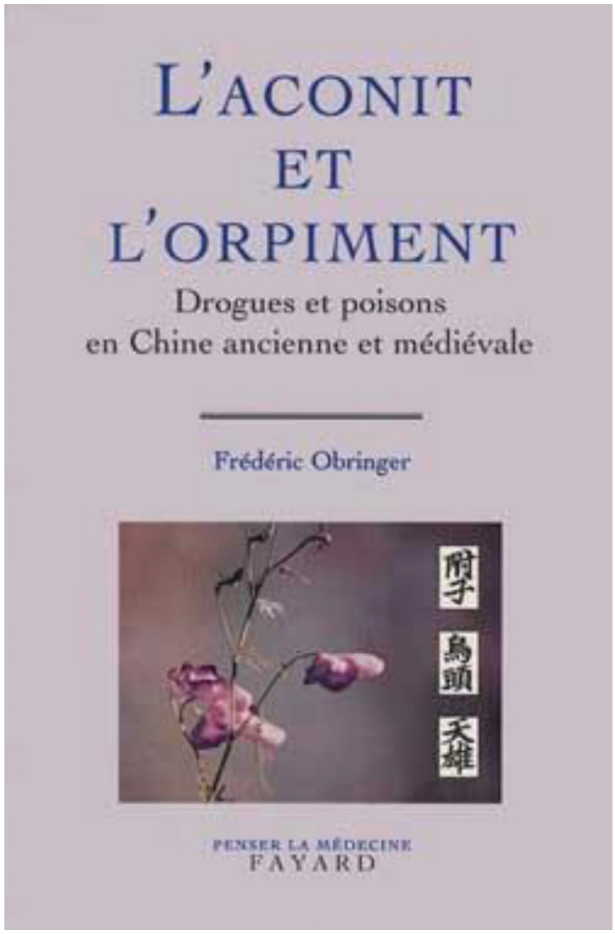

Figure 1 Front cover of *L'aconit et l'orpiment: Drogues et poisons en Chine ancienne et médiévale* (Aconite and orpiment: Drugs and poisons in ancient and medieval China, 1997) authored by Frédéric Obringer (source from: https://www.fayard.fr/sites/default/files/images/livres/couv/9782213598918-G.JPG).

Figure 2 Front cover of 毒薬は口に苦し：中国の文人と不老不死 (Poisonous medicines embitter the mouth: Chinese literati and immortality, 2001) authored by Kawahara Hideki (川原秀城) (source from: https://www.amazon.de/-/en/dp/446923172X).

In addition to plants, there are also mineral poisons, such as cinnabar (*Dan Sha* 丹砂), which is a mercury compound, and realgar (*Xiong Huang* 雄黃), which is an arsenic compound. These substances appear in both Chinese materia medica literature and alchemical texts. Furthermore, there are animal poisons, such as python's gallbladder (*Ran She Dan* 蚺蛇胆), an important tribute item from the south during the Tang period. Therefore, healing in traditional China was inconceivable without poisons.

Given the centrality of poisons in Chinese medicine, there is substantial scholarship in Chinese, Japanese, French, and German that has investigated the topic. The most extensive study of the topic to date is the French scholar Frédéric Obringer's *L'aconit et l'orpiment: Drogues et poisons en Chine ancienne et médiévale* (Aconite and orpiment: Drugs and poisons in ancient and medieval China, 1997) (Fig. 1). The monograph investigates the therapeutic use of poisons in medieval China primarily from a pharmaceutical perspective, which is conducive to my own research. The first study of the topic among modern scholars is Yu Yan (余岩)'s short article titled *Du Yao Bian* (《毒药辨》 *Differentiation of Poisons*, 1928), in which he discusses the meanings of *du* in the pre-Qin period. In addition, the German scholar Paul U. Unschuld wrote an article titled "Zur Bedeutung des Terminus *tu* 毒 in der traditionellen medizinisch-pharmazeutischen Literatur Chinas" (On the meaning of the term *du* 毒 in traditional medical-pharmaceutical literature of China, 1975), in which he scrutinizes the etymology of the word *du* 毒. Li Ling (李零) also notes the duality of medicines and poisons as revealed by some Qin and Han texts in his short article *Yao Du Yi Jia* (《药毒一家》 *Medicines and Poisons are in One Family*, 2000). He also briefly examines several poisonous medicines such as *Wu Shi San* (五石散 Five-Stone Powder) and *Fu Zi*. Finally, in his 毒薬は口に苦し：中国の文人と不老不死 (*Poisonous Medicines Embitter the Mouth: Chinese Literati and Immortality*, 2001), the Japanese scholar Kawahara Hideki (川原秀城) explores a variety of poisons in medieval Chinese pharmacological and literary texts (Fig. 2).

More broadly, the study of the therapeutic use of poisons inevitably intersects with the field of medical history in medieval China (from the Six Dynasties to the Tang). A group of scholars have done seminal research

advancing this emergent field. In particular, Fan Ka-wai (范家伟) based in Hong Kong has produced several books that trace the changing medical culture from the Six Dynasties to the Tang period, investigating religious healing, the role of the state in regulating medicine, medicine portrayed in poetry, among many other topics. Among scholars from Chinese Mainland, Chen Ming (陈明) has explored the dynamic interaction between medieval Chinese medicine and other healing cultures in India, Centra Asia, and West Asia, highlighting the openness of Chinese medicine throughout history. Yu Gengzhe (于赓哲) has also performed in-depth analysis on illness and society in Tang China. Chen Hao (陈昊) has recently produced two monographs that examine the construction of physicians' identity, the production of medical knowledge, and the history of disease in medieval China. Among Taiwanese scholars, Li Jianmin (李建民), in a series of influential essays, has explored a number of key concepts in Chinese medicine and the formation of medical canons in premodern China. Lin Fushi (林富士) has made major contribution to the study of religious healing, especially Daoist medicine from the Six Dynasties to the Tang period. Li Jen-der (李贞德) has done substantial research on gender and medicine in medieval China. Scholars outside the Sinophone world tend to focus on the study of medical manuscripts from the Dunhuang and Turfan collections. The Japanese scholar Iwamoto Atsushi (岩本篤志), for example, has written an important book that analyzes several Dunhuang medical manuscripts from the Tang period. Vivienne Lo and Christopher Cullen, based in the UK, has coedited a book on the study of Dunhuang medical manuscripts. The French scholar Catherine Despeux has also edited a three-volume book that provides a comprehensive introduction, translation, and analysis of the major medical manuscripts from Dunhuang and Turfan.

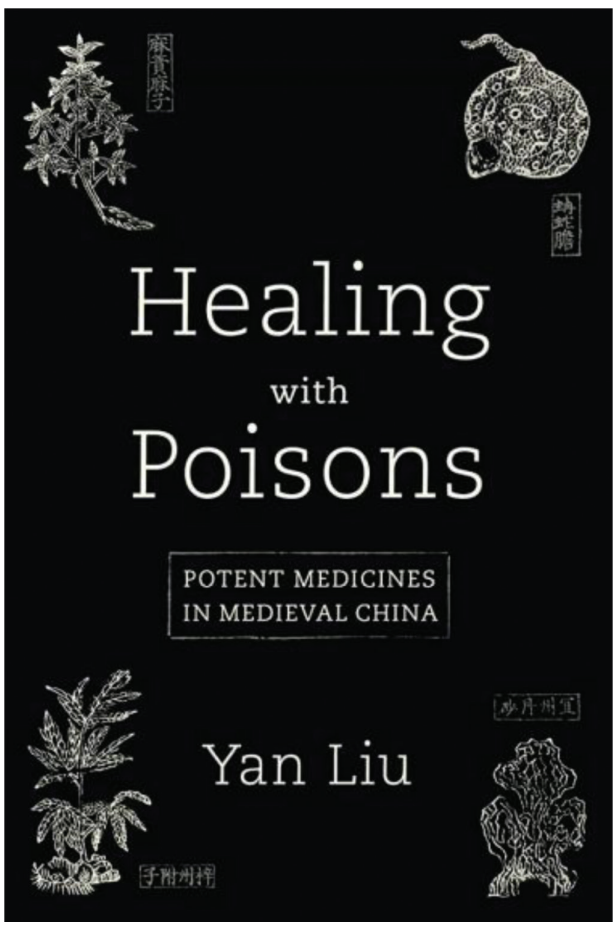

Figure 3 Front cover of *Healing with Poisons: Potent Medicines in Medieval China* by the author (source from: https://uwapress.uw.edu/book/9780295748993/healing-with-poisons/).

Building upon this extensive scholarship on the history of poisons and medical history in medieval China, my new book, *Healing with Poisons: Potent Medicines in Medieval China* (University of Washington Press, 2021), seeks to open new horizons on this topic by investigating the materiality of poisons through the lens of the history of technology, political history, and religious studies (Fig. 3). By exploring the medical history of poisons in its broadest sense, which encompasses both dimensions of curing sickness and prolonging life, the book demonstrates how the making of medical knowledge on poisons was entangled with political agendas, religious aspirations, and social practices. The discoveries of this book, I hope, can not just deepen our understanding of the political and social lives of medieval China but also shed light on our contemporary pharmaceutical practices in both Chinese medicine and Western biomedicine.

At the core of my book is the word *Du* (毒). In the modern context, this word invites association with danger, harm, and intrigue—we frown upon words such as *Du Yao* (毒药 poison) and *Du Pin* (毒品 narcotic drugs). Yet in the premodern context, *Du* carried a variety of different, sometimes opposite meanings. In the dictionary of *Shuo Wen Jie Zi* (《说文解字》 *Elucidations of Script and Explications of Characters*, 100 CE), for example, the basic meaning of *Du* is "thickness" (*Hou* 厚), which refers to the lofty shape of mountains. Thickness implies heaviness, abundance, and intensity; it doesn't carry a negative sense. This meaning of *Du* was preserved in medical texts of the Han period such as *Huang Di Nei Jing* (《黄帝内经》 *The Yellow Emperor's Inner Classic*) and *Shen Nong Ben Cao Jing*, which spoke above all of "potency." A potent substance could harm as a poison, but also cure as a medicine. *Du* is thus not something to be avoided at all costs, but constitutes the very source of therapeutic power. Fully aware of the power of *Du*, Chinese physicians from the Han period on developed a variety of technologies, such as dosage control, drug combination, and drug processing, to transform poisons into medicines. In fact, based on my counting, the proportion of medicines that possess *Du* (*You Du* 有毒) in Chinese materia medica literature remained steady from *Shen Nong Ben Cao Jing* (Han period) to *Ben Cao Gang Mu* (《本草纲目》*The Grand Compendium of Materia Medica*, 1596)—about one fifth of all medicines are

poisonous. Since Chinese pharmacy expanded substantially over this long period of time, the number of poisonous substances also increased correspondingly, from 80 in *Shen Nong Ben Cao Jing* to almost 300 in *Ben Cao Gang Mu*. In other words, the use of poisons constituted a hallmark of Chinese medicine throughout the imperial era.

Now I would like to introduce a comparative perspective into the discussion of *Du* by examining a similar concept in ancient Greek medicine. Methodologically, doing comparative history is a tricky matter. If done without caution, such an analysis can easily fall into the trap of essentializing each culture under study, which is intellectually untenable and politically dangerous. If done with care, paying due attention to the dynamic changes within each culture and a multitude of direct or indirect connections between different cultures, the comparison can generate illuminating insights into not just the unique features of a given culture that might not be recognized by a study of that culture just from within but also the mutual influences between two cultures that are often integral to each one's development. Such, I believe, is the appeal of doing comparative history.

Similar to the dual meanings of *Du* in premodern China, ancient Greek medicine had a word "*pharmakon*" that straddled poison and medicine. This Greek word *pharmakon* is the root for the English words "pharmacology," "pharmacy," and "pharmaceutics." Yet unlike these modern English words, which connote a positive sense of curing illness, the Greek word carried a variety of meanings including poison, remedy, perfume, spell, magical drink, talisman, love potion, pigment, and recreational drug. The multivalence of the word is manifested in ancient Greek philosophical writings. The French philosopher Jacques Derrida (1930–2004), in an influential essay published in 1968 titled "La pharmacie de Platon" (Plato's Pharmacy), has examined the paradoxical meanings of the word in Plato's works with particular attention to the relationship between writing and speech. Writing resembles *pharmakon*: it is a remedy in the sense that it seeks to preserve the truth of a speech that would be otherwise forgotten, yet it also has its dark side, as Derrida emphasizes, because it is highly fluid and unstable, readily sabotaging speech and destroying its integrity. Although *pharmakon* carries both positive and negative meanings with regard to writing, Derrida emphasizes the latter, which is tied to his philosophy of deconstruction (*Jie Gou Zhu Yi* 解构主义).

Figure 4 Dioscorides's *De Materia Medica*, manuscript in Arabic, Spain, in 12th or 13th century (source from: Musée de Cluny - Musée national du Moyen Âge).

Let us now compare the concepts of *Du* and *pharmakon* from the angle of medical history rather than philosophy. For this purpose, I now turn to a monumental work in the history of Western pharmacology—Dioscorides's *De Materia Medica*, composed in the second half of the first century CE (Fig. 4). The treatise contains more than 800 medicines of herbal, animal, and mineral origins, many of which are deemed poisonous. Some of the poisonous herbs included in the book, such as opium poppy, thorn apple, mandrake, and hemlock, do not grow in China, and are not found or appear quite late in Chinese materia medica literature. Hemlock was presumably the deadly poison that Socrates drank for his execution, yet it appears as a *pharmakon* in *De Materia Medica*. On the one hand, Dioscorides recognizes that hemlock "belongs to the plants that are deadly, killing by chilling through and through." On the other hand, he also submits that it is a medicine for external usage, "Having been dried, it is highly useful for restoring health and it does quell shingles and erysipelas [a skin infection] when plastered on." In this foundational text in Western pharmacology, we find the medical uses of some of the most virulent poisons.

Such similarities between *Du* and *pharmakon*, as manifested in the ancient Chinese and Greek pharmacy, are striking, yet we also need to pay attention to their differences. Let us take a step further to compare the poisonous substances in *Shen Nong Ben Cao Jing* and *De Materia Medica*. With respect to the proportion of poisons, the percentage in *Shen Nong Ben Cao Jing* (22%) is more than double of that in *De Materia Medica* (10%). Regarding the absolute poisons, to wit, poisonous substances that possess no therapeutic value whatsoever, such poisons in *De Materia Medica* include yew, meadow saffron, dogbane, and wolfsbane. Dioscorides lists these poisons simply to warn against their use. By sharp contrast, every single poison is assigned with medicinal value in *Shen Nong Ben Cao Jing*; there are no absolute poisons.

No example better illustrates the different views of poisons in Chinese and Greek pharmacy than the distinct fates of *Fu Zi*/aconite in the two medical cultures. In Dioscorides's treatise, the herb, called wolfsbane (Aconitum napellus), is cited only as a poison to kill wolves, without any curative value. Yet in *Shen Nong Ben Cao Jing* and other materia medica texts in the following two millenniums, *Fu Zi* is highly valued for its therapeutic power, to the degree that Tao Hongjing (陶弘景, 456–536) touted it as the "lord of the hundred

medicines" (*Bai Yao Zhang* 百药长). Frédéric Obringer, in his *L'aconit et l'orpiment*, has demonstrated that in the Tang formula book *Wai Tai Mi Yao (*《外台秘要》 *Arcane Essentials from the Imperial Library*), 10% of its over 6,000 formulas employ *Fu Zi* or related aconite products as an ingredient. While the Greek pharmacy started to move absolute poisons away from its healing repertoire, the Chinese pharmacy did just the opposite, moving them toward the center of its therapeutic theater.

This difference became more pronounced in the medieval period. In his *Poison, Medicine, and Disease in Late Medieval and Early Modern Europe* (2016), Frederick Gibbs has demonstrated that European physicians in the 14th century started to conceptualize poison as something ontologically distinct from medicine. That is, they proposed that poison possesses a "specific form" that makes it a unique type of substance injurious to the body. The rise of such a notion is partly due to the Black Death, the unprecedented epidemic that ravaged Europe in the mid-14th century. Many physicians at the time believed that the plague was engendered by the "poison" in the air that, upon penetrating into the human body, could cause devastating consequences. As a result, we see an increasing distinction between poison and medicine in late medieval Europe as buttressed by theoretical explanations, which paved the way for the rise of toxicology in the early modern era.

By contrast, there was no analogous conceptual separation of poison from medicine in medieval China. I do not mean that there was no knowledge of the danger of poisons during this period—we can find profuse discussions of poison detection and treatment in Chinese medical texts. Yet, such toxicological knowledge remained an integral part of pharmacological knowledge. In other words, poisons and medicines were intimately entwined in traditional Chinese pharmacy.

How do we account for these different views of the relationship between poisons and medicines in the two healing traditions? Here I would like to offer some preliminary cultural explanations. In Greek antiquity, although *pharmakon* carries a strong sense of change, underlying the fluidity of substances across categories, Plato is not enthusiastic about the concept in his philosophical writings. Embracing a metaphysical truth that is absolute and unchanging, he objects to the idea of *pharmakon* because in his view its ambiguity jeopardizes rational thinking, confuses true knowledge, and even compromises the integrity of the soul. Derrida aptly captures this negative perception of *pharmakon* in his "Plato's Pharmacy", claiming that "There is no such thing as a harmless remedy. The *pharmakon* can never be simply beneficial." This Platonic view proved influential in later medical writings, particularly in the works of the famous Roman physician Galen (130–210 CE). In his theorization of medicines, Galen proposes the concepts of "total substance" and "specific form" that characterize certain medicines that act in an utterly different manner from regular ones, marking them off the usual spectrum of drug activity. With these ideas, Galen plants the seed for the full development of poison theory in late medieval Europe.

In Chinese antiquity, by contrast, the separation of a metaphysical truth from the phenomenological world is not evident. Particularly in ancient Daoist writings such as *Dao De Jing* (《道德经》 *The Classic of the Dao and of Virtue*) and *Zhuang Zi* (《庄子》 *Master Zhuang*), all substances contain both the *yin* and *yang* forces, which are mutually transformative and in perpetual motion. This cosmology emphasizes the dialectical relationship among all things that denies stable categorization. Since Daoist thoughts had a manifest influence on the formation of early materia medica texts in China, it is not surprising that poison and medicine, in the pattern of the *yin/yang* dynamism, are not fixed and distinct essences in pharmacological writings. They are, in fact, mutually constitutive. One telling example is a sentence from the Han text *Huai Nan Zi* (《淮南子》 *The Huainan Masters*), which has a strong Daoist bent, "For all things under heaven, nothing is more vicious than the poison of aconite. Yet a good doctor packs and stores it, because it is useful." Different from Plato's view of *pharmakon* as something that always possesses a harmful potential, the authors of *Huai Nan Zi* present one of the most dangerous substances in a positive light.

Finally, let me briefly discuss this comparative story of poison in the early modern period. Intriguingly, European pharmacy witnessed a revival of *pharmakon* from the 16th century, when physicians began to discuss in earnest the therapeutic value of poisons. Yet this was not simply a return to the starting point of history, because early modern medical writers paid much more attention to the potential of poisons to harm the body and cause disease. One prominent example is Paracelsus (1493–1541), the iconoclastic Swiss physician and alchemist who challenged Hippocratic-Galenic medicine prevailing in the past two millenniums. He famously proclaimed, "all things are poison, and nothing is without poison: the dosage alone makes a thing not a poison." On the surface, this expression echoes the idea of *pharmakon* in Greek antiquity, blurring the boundary between poison and medicine. Yet, as Frederick Gibbs has pointed out, Paracelsus was not simply recovering the wisdom of Greek medicine. Far from it, he was sending a different message: all things contain the beneficial and harmful components, and the latter must be removed through alchemical purification to allow the former to fully function. The trace of absolute poison is palpable. In this sense, his reputation as the founder of modern toxicology is rather apt. One particular type of activities frequently practiced by physicians and alchemists in early modern Europe is the testing of antidotes to counter poisons. In her recent book *The Poison Trials: Wonder Drugs, Experiment, and the Battle for*

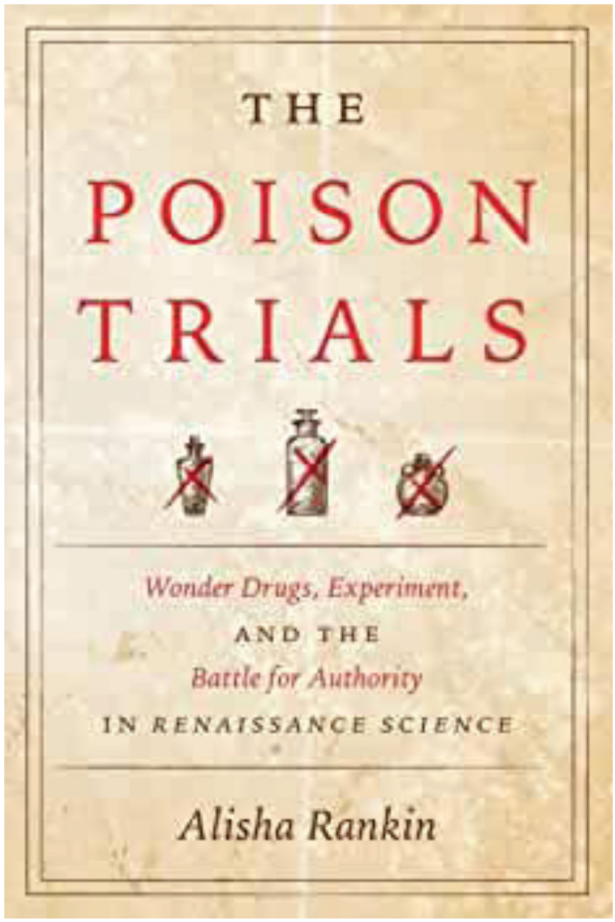

Figure 5 Front cover of *The Poison Trials: Wonder Drugs, Experiment, and the Battle for Authority in Renaissance Science* authored by Alisha Rankin (source from: https://press.uchicago.edu/ucp/books/book/chicago/P/bo68660583.html).

Authority in Renaissance Science (2021), Alisha Rankin explores the topic in detail and demonstrates how such endeavor contributed to the development of toxicology and experimental science (Fig. 5).

New ideas about poisons also emerged in early modern China. Specifically, there were signs of the separation of poison from medicine in some Ming and Qing medical texts. In his article on the etymology of *Du*, Paul Unschuld notices something novel in Li Shizhen's *Ben Cao Gang Mu* (1596). In the entry of *Yuan Hua* (芫花 Genkwa flos), Li specifies a method of processing the poisonous herb, "When being used, boil it with good vinegar for a dozen times. Remove the vinegar and soak it in water overnight. Dry it under the sun and use it. The poison (*Du*) is then annihilated." This notion of "annihilating poison" (*Du Mie* 毒灭) resembles Paracelsus's idea of purification mentioned above. *Du* in this passage does not connote therapeutic power, but something harmful that needs to be removed from the herb. A distinction between poison and medicine is visible here. It is tempting to speculate what may have caused this distinction. The year before Li's *Ben Cao Gang Mu* was published posthumously in Nanjing, the Italian Jesuit Matteo Ricci was heading to the same city on his proselytical mission in China. I am not suggesting that Li and Ricci were connected—there is no evidence for that, but the activities of Jesuits in the 16th and 17th centuries, who introduced European science and medicine to the Chinese audience, might have contributed to the altered perception of poison in China. Alternatively, it is also entirely possible that this new way of thinking about poison was of indigenous origins, which came into being independently of Western influence, similar to the development of natural history in early modern Japan as observed by Federico Marcon.

Regardless of the reasons for the fledgling sign of separating poisons from medicines in early modern China, the notion became more conspicuous in the 19th century when Western toxicology was introduced into China. In his *Toxic Histories: Poison and Pollution in Modern India* (2016), David Arnold makes the following perceptive remarks, "perhaps even among Asian societies, only China, with its ancient use of aconites and orpiment, its Western missionary condemnation of toxic remedies and its recent wholesale descent into industrial pollution, has a comparable tale to tell." The modern chapter of the toxic histories in China has yet been told, a story that interweaves the contentious interplay between Chinese medicine and Western biomedicine with colonial science and environmental history.

This essay starts with an investigation of the word *Du* in traditional Chinese medicine. It then compares *Du* with an analogous concept in Greek medicine, *pharmakon*. The cross-cultural comparison reveals striking similarities, remarkable differences, and hidden connections between the two medical cultures throughout history. Ultimately, I would like to use this study of comparative history to offer a lesson that is not limited to medical history. We might be familiar with the popular saying "to see the essence through the phenomenon" (*Tou Guo Xian Xiang Kan Ben Zhi* 透过现象看本质), which reflects a mindset of identifying the material essence, the "truth," out of our perplexing phenomenological world, be it "specific form," active ingredient, or molecular structure. This reductionist mentality, which constitutes the core of modern biomedicine, can be traced back to Platonism, as discussed in this essay. The distinction between poison and medicine, and between toxicology and pharmacology in Europe, is one salient example of this intellectual propensity. The wisdom from traditional Chinese pharmacy, on the other hand, invites us to adopt a different perspective that sees everything under the heaven not as a fixed entity that can be unambiguously reduced to a material essence, but as fluid materiality that is subject to constant transformations and whose defining characteristic is relational, contingent upon its association with an assembly of matters. Rather than placing things into stable categories such as poison and medicine, this new

perspective considers them to be ever-mutable beings with open disposition. More broadly, this alternative worldview encourages us to appreciate the dual potentials of all things surrounding us: an inner potential of perpetual transformation and an outer potential of interacting with myriad things in the world.

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Opinion

CHINESE 中医药文化(英文)
MEDICINE AND CULTURE

OPEN

The History of Habits: A Critical Unknown in the History of Chinese Medicine

Shigehisa Kuriyama[1,✉]

Abstract

This essay articulates a new conceptual distinction – that between repertories and habits – and urges that the history of habits is the most critical unknown in the study of Chinese medical history.

Keywords: Habits; Repertories; Traditional Chinese medicine; Unsolved problems

1 Introduction

I'd like to try something unusual. Usually, scholars speak about what they know and have discovered. But here, I want to spotlight what I *don't* know and what scholars have yet to discover. Specifically, I want to ask: What are those things about the history of Chinese medicine that are most essential for us to know, but which we presently don't know? I call this the question of the critical unknowns.

I raise this question with two aims. First and most immediately, I want to suggest some new lines of inquiry in the study of Chinese medical history. By pointing out a fundamental, yet unexplored aspect of this history, I hope to inspire other scholars to join me in its exploration. Second, and more generally, I want to illustrate the usefulness of charting the frontiers of ignorance. Surveying the critical unknowns in a given field at a given moment can, I suggest, advance that field not only by focusing attention on unknown matters but also by prompting fresh discussions about what matters matter most.

2 Repertories and habits

What, then, are the most critical unknowns in the history of Chinese medicine?

A survey of scholars in the field would doubtless yield a wide range of responses. But I suspect that my answer is one that no one else will mention. For it turns on a distinction that hasn't figured at all, until now, in analyses of medical history. And that is the distinction between repertories and habits.

By a repertory, I mean a complete set of a person's resources or possibilities. By habits, I refer to the subset of a repertory to which the person regularly turns. Let me elaborate.

We can set the theoretical upper limit of an English speaker's repertory at 171,476 words—which is the number of words listed in the current edition of the *Oxford English Dictionary* (*OED*). The actual repertory of an average American, according to linguists—that is, the total number of English words in her active vocabulary—may be around 20,000. But most of the time, she will express herself using just a minor portion of this 20,000-word repertory. Linguists estimate the habitual, everyday vocabulary of the average American to be only around 800 words, that is, about 4% of her personal repertory, and less than 0.5% of the total English repertory found in the *OED*.

The numbers here are obviously mere approximations, and the exact scale of repertories and habits will naturally vary with the individual. But I suggest that there will always be a significant gap between repertories and habits. The things that we actually do, and think, and feel most of the time—our habitual actions, thoughts, and feelings—will always be but a small fraction of all the things that we can potentially do, or think, or feel. In special circumstances, we may reach deeper into our repertory of adjectives and describe something as "rebarbative," or "recondite," or "iridescent"; but most of the time, we will simply say that it is "irritating," or "hard," or "shiny." On occasion, some whim or necessity may prompt us to take on one of the many alternative routes to drive from home to work; but on most days, we will follow the same sequence of roads. A colleague's recommendation may spur us, from time to time, to try a new restaurant or order a different item

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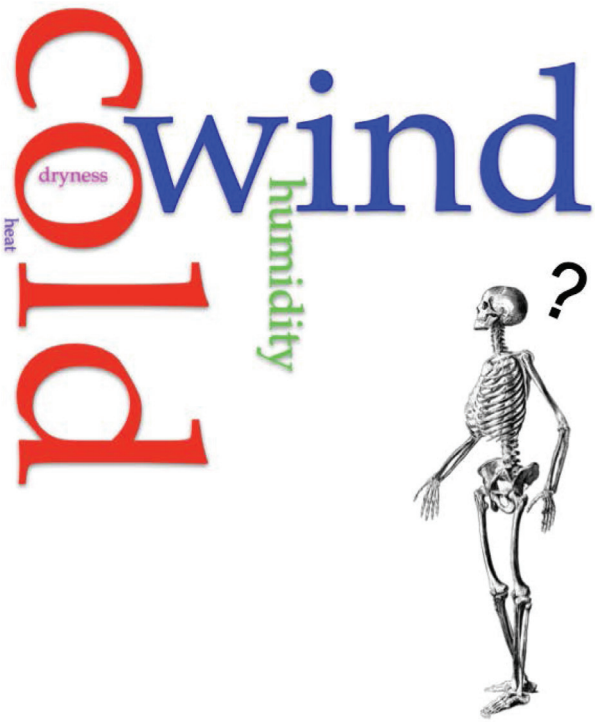

Figure 1 The weather word cloud (source from: designed by the author).

on the menu; but for the most part, we tend to return to our usual circuit of restaurants and choose from a set of favorite dishes. Human beings are creatures of habit (Fig. 1).

It may happen that we see a close friend acting, once, in a cruel or violent manner. But if someone were to say, "She is a cruel and violent person," we would say, "You don't know her at all." For the person that we've observed for years is usually the kindest and gentlest of people. Her cruel or violent behavior in that one instance may have revealed that cruelty and violence are part of her repertory—as they probably are for most of us. But we would still insist that our friend is kind and gentle. We know her, we say. By which we mean: we know how she behaves most of the time, her habitual responses.

Recognizing habits is basic to knowing other people and ourselves. And it is also essential, I want to argue, for understanding medical traditions. Medical traditions typically encompass extensive repertories of ideas and practices that patients and healers can draw from to comprehend and treat diseases. But most of the time, patients and healers will rely on just a small subset of these ideas and practices—what we might call the habitual core of their repertory. To grasp this core is to grasp something essential about medicine in a particular place at a particular time.

I asked at the outset: What must we know about the history of Chinese medicine that we currently don't know? I can now give my answer: We need to know more about its habitual core.

3 Repertories and habits in Chinese medicine

Chinese medicine abounds in repertories. Hua Shou's (滑寿) *Shi Si Jing Fa Hui* (《十四经发挥》 *Elucidation on Fourteen Channels*), for instance, details a repertory of well over 300 sites that an acupuncturist can needle. Li Shizhen's (李时珍) famous treatise of materia medica, *Ben Cao Gang Mu* (《本草纲目》 *The Great Compendium of Materia Medica*), lists a repertory of some 1892 drugs that doctors can combine in their medicinal recipes. Chao Yuanfang's (巢元方) nosological compendium, *Zhu Bing Yuan Hou Lun* (《诸病源候论》 *Treatise on the Origins and Manifestations of Various Diseases*), offers doctors an analytical repertory of 1739 diseases and syndromes from which they can choose to name a patient's ailment.

There are also repertories of repertories: charts of five phase correspondences (五行对照表) lay out both the repertory of categories (phases, viscera, climate, flavors, feelings, etc.) that can be deployed to analyze medicine and the body and the repertory of choices within each repertory (Table 1).

These repertories are all well-known and have been

Table 1 Charts of five phase correspondences

五行 Five phases	木 Wood	火 Fire	土 Earth	金 Metal	水 Water
五脏 Five viscera	肝 Liver	心 Heart	脾 Spleen	肺 Lungs	肾 Kidneys
五气 five Climatic factors	风 Wind	暑 Heat	脾 Humidity	燥 Dryness	寒 Cold
五味 Five flavors	酸 Sour	苦 Bitter	甘 Sweet	辛 Spicy	咸 Salty
五志 Five feelings	怒 Anger	喜 Joy	思 Thought	悲 Sadness	恐 Fear

the subject of many studies. What isn't well-known and has largely gone unstudied is the history of the habitual core within these repertories. Indeed, a chart like the one above tends to obscure the very presence of habits by giving equal weight to each item. What are the climatic factors that can cause disease? Scanning the row of climatic factors, we learn that the repertory of possible responses are wind (风), heat (暑), humidity (湿), dryness(燥), and cold (寒).What are the flavors that affect health? Scanning the row of flavors, we see that the repertory in this case consists of sour (酸), bitter (苦), sweet (甘), spicy (辛), and salty (咸). The chart's presentation makes each of the five possibilities seem just as likely as the others—makes it seem as if doctors worried about the harmfulness of heat, say, just as much as they brooded over the dangers of cold. As if they thought as much about saltiness as they did about bitterness.

Yet anyone who has studied Chinese medical writings to any extent knows that this isn't true. Some elements within a repertory always mattered much more than others. A quick count of the appearance of the characters

for wind, heat, humidity, dryness, and cold in *Huang Di Nei Jing* (《黄帝内经》 *The Yellow Emperor's Inner Classic*), for instance, yields the following: (Table 2)

TABLE 2 Number of references in *Huang Di Nei Jing*

五气 Wu qi	Number of references
风 Wind	534
暑 Heat	87
湿 Humidity	143
燥 Dryness	109
寒 Cold	874

To be sure, these figures give us only a crude overview. The count for the character cold （寒）, for example, includes references to cold within the body as well as to external cold. Still, the unevenness between the different climatic factors is plain. Wind（风）is invoked fully six times more often than heat（暑） and nearly five times more often than dryness; and wind and cold together account for the overwhelming majority of references. They correspond to the habitual core of the imagination of climate in the *Nei Jing*.

A quick glance at some later texts reminds us how emphases can change. Thus, in Zhang Jiebin's (张介宾) 1624 compendium, *Lei Jing Tu Yi* (《类经图翼》 *Pictorial Appendices to "The Classified Classic"*), the dominance of wind and cold over heat and dryness appears even more prominently than in the *Nei Jing*, while in the case histories of the Republican period *Yi Xue Jing Yan Lu* (《医学经验录》*Records of Medical Experiences*) humidity looms surprisingly large (Table 3).

TABLE 3 A comparison between terms in ***Lei Jing Tu Yi*** **(Pictorial Appendices to "*The Classified Classic*") and *Yi Xue Jing Yan Lu* (Records of Medical Experiences)**

五气 Wu qi	Number of references	
	类经图翼 *Lei Jing Tu Yi*	医学经验录 *Yi Xue Jing Yan Lu*
风 Wind	458	67
暑 Heat	27	24
湿 Humidity	78	102
燥 Dryness	37	21
寒 Cold	441	107

In other words, texts from different times manifest different habits, and a study of their differences call reveal much about the evolution of Chinese medicine. Here, however, I want only to underline how *all* texts manifest habits; none adhere to the even distribution of attention implied by lists of five phase correspondences. Although I've focused above on the unevenness within the repertory of climatic factors (五气), we can easily demonstrate similar unevenness within the repertories of flavors (五味) and feelings (五志).

Habitual reliance on subsets within repertories, in fact, is repeated in all aspects of medicine. Consider the discussions of acupuncture in *Lei Jing Tu Yi*. This work contains a total of 256 references to the 27 points of the kidney meridian. But just 4 of these 27 points account for 118 (=46%) of the references. Similarly, we find a total of 279 references in *Lei Jing Tu Yi* to the 20 points of the large intestine meridian. But just 5 of those points account for 192 of these references; the other 15 points are mentioned only a total of 87 times.

My point is simple: repertories list items that mattered; but historically, some items mattered much more than others. The items that mattered more are what I call habits. We know quite a lot about repertories in Chinese medicine, but we still know little about the history of habits. We need to learn more.

4 What we need

We need systematic studies of questions like these:

1. *What* items in repertories mattered more than others? For example, which emotions were most often blamed for sickness? Which of the 1892 drugs listed in the *Ben Cao Gang Mu* recur most often in recipes? Which points and conduits were most often recommended in texts that mention acupuncture treatment?
2. *When* and *where* did these items matter? For example, how did the most often blamed emotions or most often used plants and acupuncture points change with time and place?
3. *Why* did these items matter more? How should we interpret the fact, for example, that cold and wind were feared so much more than heat and humidity, or that certain plants or points were favored over others?

I should note that the questions I am raising here are distinct from queries about practice. Scholars of Chinese medical history often lament the fact that we know much about medical theories, but comparatively little about the actual practice of medicine. The reason for this disparity is plain: for studying theories, we can per use medical treatises, but evidence about actual practice is much harder to find. Case histories offer perhaps the richest source, but they still give only fragmentary and highly curated glimpses into the practices of mostly elite physicians. And so, while the details of medical practice are unquestionably a major unknown in the history of Chinese medicine, the evidence available to us severely limits what we can potentially know.

The history of habits, by contrast, is a subject that can be illuminated by systematic analysis of extant texts. This is another reason why I want to urge scholars to join in its illumination: the history of habits is a critical unknown about which knowledge is well within our grasp.

5 Conclusion: toward a history of uneven habits

Given the importance of the history of habits and the availability of sources to illuminate it, we may wonder: Why has this history been neglected until now?

The simple word counts that I've cited above hint at one reason why a survey of habits appears more obvious to us now. The recent digitization of texts has both made it much easier to find latent patterns in the massive corpus of past writings and made us more aware of the startling insights that these patterns can reveal.

But I want to conclude by highlighting another factor. Historians of Chinese medicine have previously neglected habits, I suggest, because their approach to medical thought has concentrated on the grand systems that link the microcosm of the human body with the greater macrocosm in which it is embedded—the dynamic correspondences of *yin* and *yang* and the five phases, which organize the world into regular rhythms and balanced symmetries. My call for a history of habits is a call for another kind of history, a history more mindful of the wild unevenness of human interests and attention—a history that focuses on how, at any given time at any given place, people habitually pursue only a small part of their complete repertory of possibilities.

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Opinion

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Personal Experience of Chinese Medical History: On the Occasion of My Inaugural Professorial Lecture, March 2022

Vivienne Lo[1,✉]

1 Introduction

The Inaugural Lecture, I imagine, is meant to be a presentation that demonstrates my best work or something summative about my academic career; however, unlike my colleagues who have delivered amazing mid-career lectures on topic, because I started as a very mature student after at least two previous careers, and am now two years from retirement, this presentation is surely some kind of swan song.

It also has to be delivered in terms accessible to those family and friends that are in the audience and do not really know what I do. There were great and celebrated scholars in my Chinese family from the 19th century onward, Qing reformers, nautical engineers and ambassadors who bore the burden of shame for losing the modern Navy to Japan or were representing China at the embassy in Portland Place during the Boxer Rebellion (Fig. 1). Nevertheless, most of the members of the family I knew as a child were sharp-tongued and sharp-witted, and very anti-intellectual; and still do not think I really do an honest day's work at UCL. Because, I sit at a desk all day and dream. Probably they are right. Honesty is overrated.

But first I would like to dedicate my presentation to the one person in my childhood responsible for starting me on the road to being an academic, Uncle Charles, Charles Lo, a professor of classical Chinese at Columbia University (Fig. 2) – Uncle Charles gave me a lesson in classical Chinese once a year from the age of ten. When we were all rebel teenagers in my family, I was sent at 13 by increasingly desperate parents to New York. In ten days, Uncle Charles completely changed my life, not through discipline, but by seeding things which came to fruition over the course of my whole life. I would listen to him chanting as he was just now in the recording I just played, Tang poetry or the Zhuang Zi (庄子) in the local dialect of Fuzhou as he showered in his dingy Upper Broadway apartment. He was the first person to introduce me to my Chinese family in New York, to William Theodore de Bary and other famous sinologists. He took me to the library and showed me Chinese books; and imagined I might read them. He was my friend and mentor, and then in 1992, he ran out of my life and this world with a sudden heart attack on the tennis court in London next to St Thomas' Hospital, but only after beating me soundly 6:0, 6:3, 6:0. He was 82 and would have been happy to see me here today.

The trouble with giving the swan song lecture is that I have difficulty in thinking of my academic career in anything other than community terms, and the many communities who have helped me to be here today. Some are represented in the audience, some by those online on Zoom and Voov, and an increasing number have passed on. There are those who have helped me with child-care over the decades, children and grandchildren who have helped and hindered me, and kept me sane/insane, and those who have inspired, translated, edited, and run with me in various ways. I will celebrate, along the way, some of those communities that have dedicated themselves to interdisciplinary research into Asian medicine: the societies, journals, practitioners, teachers, students, artists and academics that I have been proud to work alongside.

I am going to talk about my research into the communities and networks that have created and disseminated medico-culinary and healing knowledge throughout the ancient and medieval Chinese worlds and beyond along the so-called Silk Routes – and those communities that are still doing so all around us. That is too huge for 40 minutes, but I just want to illustrate it with a few vignettes, that link together loosely around a few themes. As well as community, I am going to talk obliquely about phenomenology, *intersectional identities*, intimacy

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Figure 1 Portrait of Sir Luo Fenglu (罗丰禄, 1850–1901) (source from: the author).

Figure 2 A photo with Uncle Charles (罗孝超) on Upper Broadway, 1970 (source from: the author).

in research, in the historiographical approaches of academic practice.

My work speaks to everyday lives in the early Chinese empires – and includes analysis of the most intimate experiences of individuals who wrote anonymously in the name of culture heroes such as Huang Di (黄帝 the Yellow Emperor) and Shen Nong (神农 the Divine Farmer); and who transmitted the recipes, and techniques of the ancients. Literate men, of course, inevitably, writing about sex, aphrodisiacs, acupuncture, food and drugs; but through whose work we can sense the lives of others less obviously powerful. Why these subjects? Certainly because of my personal history in acupuncture, culinary and martial arts, the medical humanities; and the availability of amazing new archeological sources that speak to these questions.

I read, translate, and analyze these manuscript sources for unique records of sensory perception: the everyday experiences of sickness and health, of food, sex, and medicine. The interdisciplinary approach that I have developed also provides a hermeneutics for the question, *why does Chinese medicine, broadly defined, remain the most popular traditional medicine worldwide*?

How can we imagine that history is objective? History is not equal to the past. We select *and deselect* our topics, sources, and approaches because of who we are, ethnically, socially and politically. After working alongside "participant observers" in anthropology, "I" feel justified in using "I" in my historical narratives without feeling, and being made to feel, I am being self-indulgent. Who the hell is "one" anyway? My own crazy and diverse family have all shaped my academic career and my interests. I research the history of medicine and acupuncture, write about sense, sensuality, synesthesia in food, medicine, sex, and the martial arts; teach about racism against and within the East Asian communities because those are subjects that I cannot avoid, and feel passionate about, precisely because of the environment that I grew up in.

So, with each of my academic topics, I am going to give you some insight into why I chose it, and which communities have helped me develop my arguments.

2 Point 1: legacies of sex, magic, and marginality

Let's start at the beginning…. with the most personal and intimate eureka moment – in SOAS library probably in 1993, just after my third child, Eleanor was born. I was reading Professor Ma Jixing's (马继兴) transcripts

of the Mawangdui medical manuscripts. Mawangdui is a second century tomb-site excavated in 1973 in present day Hunan province. The manuscripts were buried in 168 BCE in tomb number 3 whose occupant was probably the son of the Lord and Lady Dai of Changsha. I was transfixed by one passage which appeared to describe a female orgasm in a sexual cultivation treatise, sexual cultivation being a key element in care of the body. Practical substance in the form of instruction to the male partner was given to what amounted to a technē of the senses common to the literature and culture of the *Fang Zhong Shu* (房中术 the arts of the bedchamber). He, the male partner, must learn to recognize, respond to and codify all the stages of female arousal: her aromas, sounds, breathing and movements, the feeling of being inside her. The qi (in a sensory experience cognate today with orgasm) emanated from the *Zhong Ji* (中极 Middle Extremity). By the second century CE, this term referred to an acupuncture point, but 400 years earlier in the second century BCE it had simply been a lyrical anatomical term for the area in the general vicinity of the uterus. At the moment of the woman's orgasm the male partner absorbed the yin essences of the woman, through a physiological interaction that occurred with the extension of qi throughout the female body, and the concomitant expression of the emotion of love.

In another manuscript placed nearby in the same tomb, there is what I claim to be the earliest extant map of the female genitals to assist the male reader… an image which both attests to close observation of the human body and the pedagogical realities in achieving mastery of sexual technē – a mastery which belonged to the highest domain of gentlemanly pursuits and is simultaneously representational of gendered power relations.

Note the language of qi, yin and yang.

> "The symptoms of the great death [grand finale] are: the nose sweats, lips are white, the hands and feet all move, the buttocks do not touch the mat, rise and withdraw, if it becomes flaccid then there will be weakness. At this point the qi extends from the zhongji (中极 Middle Extremity), the essence and spirit enter the viscera and a brilliance of the spirit is born (from Mawangdui Silk manuscript *He Yin Yang* [168 BCE] [马王堆汉墓帛书 "合阴阳"] [公元前168年])."

It was not just that this passage seemed to be a subjective experience of a female orgasm described by a man c. second century BCE (which is extraordinary in itself), but that the center of this experience appeared to be what I knew at the time as a well-known acupuncture point. Strange. It brought up many fundamental historical and anthropological questions.

A) Can one recognize a sensory experience across 2000 years and 5000 miles?
B) Why was this language of qi, yin and yang so central to a manuscript describing sexual cultivation?
C) Why from an acupuncture point?
D) How does this speak to the sensory architecture of the body?
E) What was the relationship between the male recorder of this information and the female experience?

It quickly became clear that I was laboring under some misleading assumptions. These manuscripts date from an early stage before any system of acupuncture points had evolved and the point 'Middle Extremity or as Donald Harper translates more lyrically, the "Central Bourne" was simply a reference to a place on the body roughly around the uterus. With subsequent research I established that this phenomenological language of the physiology of the inner body was more apparent in the second century BCE self-cultivation texts than it was in medical texts of the time. By self-cultivation I mean the texts recording breath cultivation and meditation, therapeutic exercises, a little like what we know as *Tai Ji* (太极).

Why? These are the practices, I conjectured, that expressed inner aspects of the body: how everyday experiences felt, and enhanced experiences of being (ill, well, hot, cold, comfortable, emotion, sexual arousal, altered states in meditation), rather than the more distanced observations of "other" people's illness such as one would expect in doctors records of medical practice. The language of qi, yin and yang was about how it felt to be alive from the perspective of the person or patient.

Here's a technique for someone recovering from a night of alcohol being instructed to do a steps-like exercise until the qi of the head flows downward, and proper sensory comfort is restored;

> "Ailing from liao瘳 XX [liquor]. The prescription for pulling it: grasp a staff in the right hand, face a wall and do not breathe; with the left foot tread on the wall, resting when tired; likewise with the left hand grasp the staff, with right foot step on the wall, likewise rest when tired. *When the qi of the head flows downwards, the foot will not be immobile* (and numb), the head will not swell, and the nose will not be stuffed up. " (Zhangjiashan tomb, tomb closed 186 BCE)

Arresting, also, was the particular theme of penetration and inter-penetration evident in the self-cultivation texts, and the ability that we might also discover in religious and shamanistic ritual where the rituals stimulate changes in another person's physiology – their qi, yin and yang of other people through styles of exorcism or incantation and prayer. This was the beginning of a trawl through the canonical medical texts to find reflections of shamanic style needling practice in the later and emerging world of classical acupuncture… Let me quote from the medical classics about the way in which a physician would manipulate the qi of someone else through needling the body, another form of penetration:

Huang Di Nei Jing Su Wen (《黄帝内经·素问》 *The Yellow Emperor's Inner Classic: Basic Questions*) 54

(compiled c. 1st century CE) is explicit about the level of concentration required to be sure about the depth and location of a illness in live bodies. The practitioner is instructed to wait:

> "…as if pouring over a deep abyss and not daring to sink down; the hand, as if holding a tiger, desires sturdiness; the spirit, without confusion from a crowd of other things, quietly and with intent observes the patient without looking to left or right. "

and

> "The way to grasp the needle, in hardness be like jade. Hold (it) upright and needle straight. Do not needle to left and right. The spirit is an autumn hair. Fix the intention on the patient. "

The conditions required to nurture such attention are set out in *Ling Shu* (《灵枢》 *Spiritual Pivot*) 9:

> "He (the practitioner) stays in an isolated and quiet place, forcibly holding the coming and going of the spirit; he closes the doors and shut the lattices and the *Hun* and the *Po* souls do not scatter; he concentrates the intention and unifies the spirit and refines the division of qi; he does not hear human voices in order to gather their (the patient's) essence and unify their spirit; he commands the intent into the needle. "

Here we find the acupuncture practitioner using a still-familiar set of techniques to focus her/his own body-mind, intention, into the technique itself. I am going to return to the theme of ritual and magic later, but I want to first acknowledge the academic communities that supported this work in Early China…

I mentioned Professor Ma Jixing, whose transcript of the Medical Literature unearthed from the Mawangdui Han Tombs directly lead to the Eureka moment when I stumbled on what I consider to be the only original thought I had during my PhD years. Back in 2005, Ma Jixing's former student Wang Shumin (王淑民) and I convened a conference in honor of the 80th birthday of the venerable professor in I.M. Pei's iconic Fragrant Hills Hotel in the mountains to the north-west of Beijing (Fig. 3). The conference was a part of a longer-term collaborative project on the visual cultures of medicine sponsored by UCL's former Wellcome Trust Centre for the History of Medicine and the *Zhong Guo Zhong Yi Yan Jiu Yuan* (中国中医研究院, Academy of Chinese Medicine, now the China Academy of Chinese Medical Sciences) who have supported me for a long time. About twelve years later it resulted in a massive tome of a book about the visual dimensions of Chinese medicine *Imagining Chinese Medicine*, edited with the amazing Penelope Barrett without whom I can barely write, now online at Brill thanks to the Wellcome Trust (Fig. 4).

At the time Ma Jixing warned me about the sexual cultivation content of the ancient manuscripts, and

Figure 3 There are too many luminaries in the History and Anthropology of Chinese medicine to list in this caption. For example sitting in the second row alone, from left to right: Wang Shumin, Liao Yuqun, Ma Kanwen, Sakai Shizu, Paul Unschuld, Ma Jixing, Cao Hongxin, Hal Cook, Shigehisa Kuriyama, Cai Jingfeng, Alain Arault, Zhu Jianping and William Shupbach. At the front from left to right, Sumiyo Umekawa, Zhou Xun, Paula Hung, Emma Ford, Xiao Yongzhi, Wan Fang and Zhen Yan. I am in the third row next to Sabine Wilms. In the third row also find Mayanagi Makoto, Yi-Li Wu, Lee Jender and Roberta Bivins. Semi obscured are Ronit Yoeli-Tlalim, Penny Barrett, Wang Jinyu, Volker Scheid, Chen Ming, Shin Dongwon, Huang Longxiang, Judy Farquhar, Roel Sterckx, David Dear and John Moffet. (source from: the author).

cautioned me not to let it fall into the hands of *Liu Mang* (流氓)…hooligans and gangsters, of one kind or another. *I trust you are not gangsters*. But the point is that early Chinese medicine is replete with what nowadays would be called magic and superstition in China, but throughout this presentation I want to make common cause with magic and ritual.

Professor Ma specialized in understanding the ways in which medical knowledge was constructed in the early empires by analyzing the ever-increasing quantities of early and medieval manuscript sources re-discovered often through digging up the countryside as China develops so rapidly….through archeological projects in 20th to 21st century China. Despite the importance of his work it has never achieved the recognition outside of the history of Chinese medicine it should in China on account of the hierarchies of institutions in China where traditional Chinese medicine (TCM) schools do not have the same cachet as the archeological centers of the most prestigious of the universities in China. But given the significant quantity of medical knowledge recorded in those manuscripts, the expertise of the TCM Academies can no longer be ignored.

I'm glad to see the increasing recognition of the historians there such as Liu Changhua and the next generation, particularly Gu Man, who is working with the excavated manuscripts from the Laoguanshan and most recently the Hujia caochang tomb sites from two thousand years ago. Together we are putting together a special issue on the Laoguanshan manuscripts reassessing the origins and development of acupuncture, but with new evidence that might allow us to identify the different regions and communities that contributed to the formation of classical medicine from Shandong to Sichuan along the river networks.

Figure 4 Front cover of *Imagining Chinese Medicine* edited by Vivienne Lo and Penelope Barrett, Sir Henry Wellcome Asian Series, Vol 18 (March 2018) (source from: https://brill.com/display/title/12575?language=en).

I first assumed that the point in the orgasm record transcribed by Professor Ma was an acupuncture point. It was the instinctive teleology of someone trained first in acupuncture – a problem of assumed familiarity.

It was necessary to shed both pre-conceived notions of medicine and the training I had received in Chinese medicine. They were not helpful to understanding the ancient texts. *But the ability to think from the margins of society was certainly instructive*.

And here I would like to acknowledge the community of practitioners of Chinese medicine I worked with for thirty years or so in Waterloo. In the early years of the 1980s that counter-culture community was largely made up of women and gay men, poignantly, during those early years of HIV-AIDs. These were people who shaped my interest in the politics of well-being, self-care and strategies of thinking from the margins.

I learnt key transferable skills from that community, especially when arriving at the Wellcome Trust and UCL as a token historian of China and Chinese medicine. How does one manage when the dominant cultures of both my major interests (history and medicine) were white European, and almost unapologetically Western, whatever that means. Things are changing, but very slowly….

One of the major communities that has supported and sustained me over the years was IASTAM (International Association of Traditional Asian Medicine), sponsored at the time by Wellcome Library. Thanks to the support of Dominik Wujastyk and Waltraud Ernst, I was elected Secretary General for a while and inaugurated the Association's Journal, *Asian Medicine* (Fig. 5). Brill made us the offer that if I could sell 120 subscriptions they would agree to producing the journal. Well, there's only one person that could sell a journal when there was no journal to sell, Emma Ford Whittaker. Thanks to Emma *Asian Medicine* is now in its 18th year and under the competent leadership of Pierce Salguero.

The remit of that Association was to "explore and publish the historical, anthropological, sociological and philological dimensions of Asian medicine as well as practice reports from clinicians of TM based in Asia and in Western countries, translations of relevant texts, and other types of articles." That was a big effort of translation to keep up with that commitment and it delayed my monographs almost terminally. IASTAM' s periodic conferences have been a glorious celebration of interdisciplinarity and hybridity, often cacophonous, but always

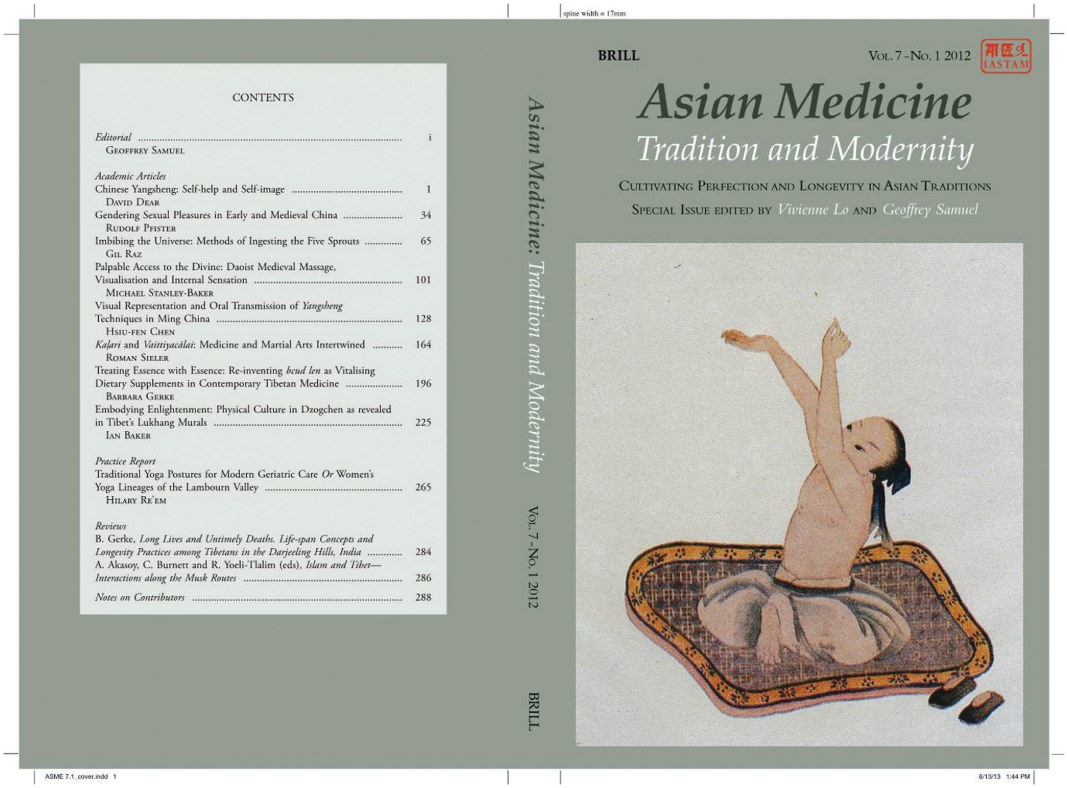

Figure 5 Front cover of the *Journal of Asian Medicine*, Vol. 1-7, 2012 (source from: the author).

engaging. As with all the best families and communities there are many points of conflict between practitioners of traditional medicine: political, ethnic, religious and nationalist. But to have had a dedicated space to explore them over the years has been a luxury. My first slide showed myself and Volker Scheid and a host of friends and colleagues at the 9th meeting of ICTAM in Thimphu Bhutan and the first international conference ever held there and organized by my first PhD student Theresia Hofer, and my secretarial assistant soon to be academic in her own right, Thea Vidnes (Fig. 6).

3 Point 2: food and drugs: cultural memory

Eventually, although centuries after some anonymous scholar recorded the signs of a female orgasm, the ability to control one's inner sensory environment through self-cultivation was matched in cooking and foodways – with a fully classified *materia dietetica*. Foods and medicines, foods as medicine became a dietary science articulated in the same terms of Qi, Yin and Yang that also claimed to adjust the internal environment of the body.

Let's take just one of the examples of foodstuffs also from the Mawangdui tomb to see how medicinal foods were developing over the course of the Han dynasty 2000 years ago. In collaborative research with a former PhD student Lu Di, we analyzed the aromatics that were commonly placed in bags and pillows. They were thought to have medicinal effect as protection against demonic causes of disease. Many of the pillows and spice bags from early imperial China were filled with forms of pepper from W-SW China.

Here is the entry for two types of pepper, *Qin Jiao* (秦椒 pepper from Qin) and *Shu Jiao* (蜀椒 pepper from Shu), as they appear in the earliest extant systematic *materia medica* to detail the action of herbs, drugs and foodstuffs, the *Shen Nong Ben Cao Jing* (《神农本草经》*Classical Pharmacopoeia of the Heavenly Husbandman*) which dates to around second century CE: *Qin Jiao* and *Shu Jiao* (probably Zanthoxylum armatum or Zanthoxylum bungeanum) are similar peppercorns recorded as growing in these two areas: Qin (秦, roughly modern Shaanxi 陕西 and eastern Gansu 甘肃) and Shu (蜀, roughly modern Sichuan 四川), both of which are widely used in contemporary China.

> "*Qin Jiao* is pungent, warming and strongly efficacious. It treats deviant wind and *qi*, warms the centre, gets rid of cold obstructions, strengthens teeth, promotes hair growth and brightens the eyes. After long-term use, it lightens the body and gives a good complexion;[one] bears up to old age, prolongs life and connects with the spirits. It grows in mountains and valleys. "
> "*Shu Jiao* is pungent, warming and strongly efficacious. It treats deviant *qi*, cough and counter flow, warms the centre, it goes to the bone, joints and skin, and necrotic muscle, cold damp and pain from obstruction, and helps people' s Qi descend (refers to breaking wind). After long-term use, the hair will not whiten; it lightens the body, and life will be prolonged. It grows in mountains and valleys). "

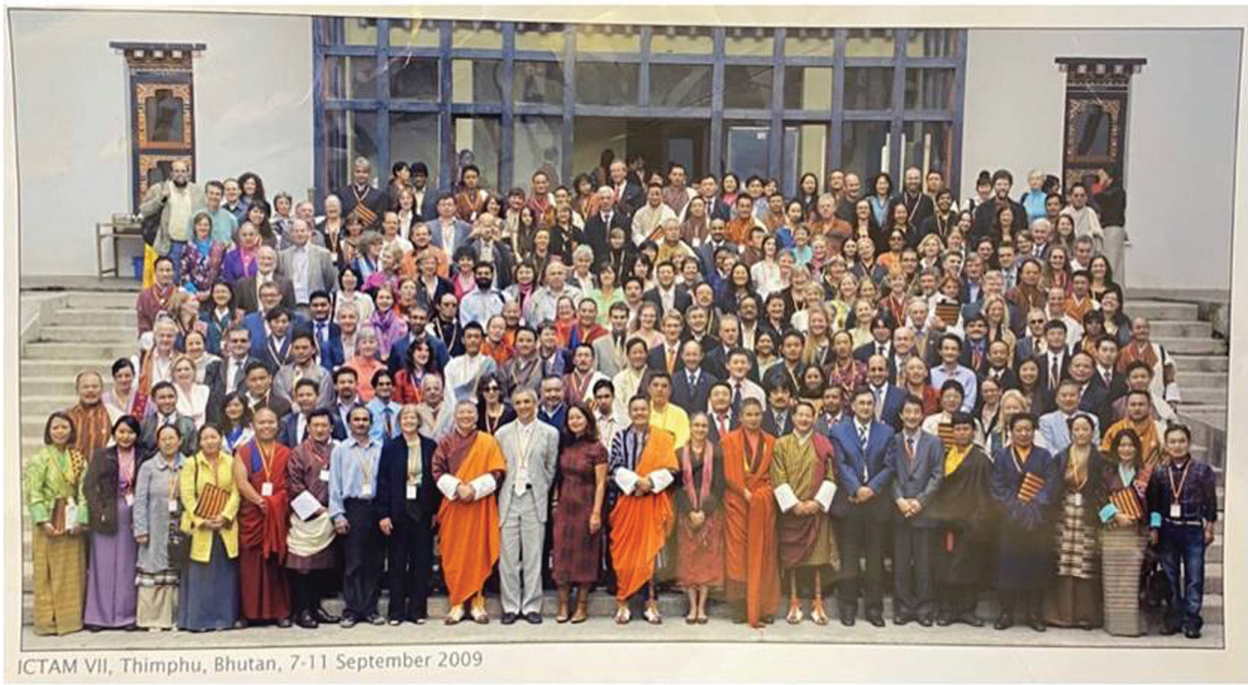

Figure 6 The 9th meeting of ICTAM in Thimphu Bhutan, September 7–11, 2019 (source from: the author).

Shen Nong Ben Cao Jing is the *locus classicus* for the early Chinese nutritional system. In these entries we can see how the spices were not only curative but would cultivate the body. They were attributed the "pungent" flavor, which would be warming, would enhance one's state of being by making one youthful: lightening the body, brightening the eyes and giving a good complexion.

In this medical context, the Five Flavors (sweet, sour, salty, pungent, and bitter) could stimulate certain movements of qi, the essential "stuff of life." The qi of flavors, animated and invigorated the body inducing movements throughout the body. The Five Flavors could affect the organ and channel system and treat specific symptoms of illness. In this way, the right foods would make a person astute, healthy, and effective.

Sweet, for example, was thought slightly yang in nature and promoted an upward and outward movement. It entered the stomach and spleen channels making you feel more stable and earthed. Mildly sweet foods, such as grains, nuts, fruits, and many vegetables, should form the main bulk of any diet. Stronger sweet flavors have a very warming and nourishing effect but should be avoided by people with signs of damp.

Salt moistened the body, while sour gathered and contracted, cleansing the body and moving the blood. Salt entered the kidneys and sour, the liver. Bitter was the most yin of flavors. It caused contraction and made qi descend and move inward reducing fever and calming agitation. It was also drying and therefore good for dampness. Bitter entered the heart clearing heat and calming the spirit.

In practice, these flavors had to be balanced and this was achieved in different ways, but most fundamentally sweet foods related to the agency of Earth were used to achieve that balance and this is attested in many dietary works.

Here are a series of recipe from a collection presented to the Mongolian Yuan court in the 14th century, translated by Paul Buell, which assigns Chinese medical nutritional ideas to foods and culinary ideas which were traveling down the so-called Silk Roads into China,

> "Mallow Leaf Broth 49
> It [Mallow Leaf] accords qi. It treats retained urine that does not pass. *Its nature is cold and one cannot eat a lot.* In the present case we have cooked the mallow leaf with various things [34B] intended to make its nature slightly warming."
> "Mutton (leg; bone and cut up), tsaoko cardamoms (five), lesser galangal (two qian).
> Boil ingredients together into a soup. [Use as stuffing] one set each of cooked sheep's stomach and lungs (cut up), half a jin of *m g [mushrooms] (cut up). Combine five qian of black pepper and one jin of white flour to make "chicken–claw vermicelli." Add to soup. Fry mallow leaf [and add]. Adjust flavors with onions, salt, and vinegar. "
> "Roast Wolf Soup
> [36B] Ancient bencao do not include entries on wolf meat. *At present we state that its nature is heating.* It treats asthenia. I have never heard that it is poisonous for those eating it. In the case of the present recipe we use spices to help its flavor. It warms the five internal organs, and warms the center. "
> "Rhinoceros Meat is sweetish in flavor, warming, and lacks poison. It is good for the poisons of the various

animals, snakes, and noxious creatures. It wards off changqi. If you eat it and enter the mountains you do not lose your way.
Rhinoceros Horn is bitter–salty in flavor, slightly cooling, and lacks poison. It is good for the hundred poisons, gu possession, evil spirits, and changqi. It destroys hook, lip, venom, feather, and serpent poisons. It heals exogenous febrile diseases and pestilence.
There are various kinds of rhinoceroses."
"Honeyed Stuffed Crabs (Recipe #4)
Cook in salted water. When the color begins to change (to red), take out. Break up the crab and extract the meat from claws and legs. Cut this into small pieces and stuff into the shell. Combine egg with a small amount of honey and mix with meat in shell. Spread some fat on the egg. Steam until the egg has just solidified. *Do not overcook*. For eating, it can be dipped into ground orange peel and vinegar. "
"Cooking Wonton
Chop the meat finely. Add riced bamboo shoots or wild–rice shoots, [Chinese] chives, or Basella rubra tips. Use flower pepper and a bit of apricot kernel paste. Wrap. The skins should start out thick and small when cut out. Then flour them and roll them out. (When stuffed) put into fully boiling water. Stir; do not cover. When they float up, take them out, stirring no longer. Do not use Chinese cardamom in the filling, except to warm the qi. "

Chinese dietary lore is not so much a fixed set of beliefs but a mobile set of shared social practices within which ordinary people can claim a certain expertise, and simultaneously consolidate individual and community identities..... it allows people to take control of their health without recourse to any higher authority.

The value of this was made very clear to me while working with the social anthropologist Wang Xingyuan, who had researched a Shanghai community of elderly people whose prodigious use of the internet to exchange recipes was based on a shared knowledge of traditional food prescriptions.

There is a great deal of inter-generational conflict over the value of traditions in China especially the myriad dietary prohibitions. But are these medico-culinary recommendations the stuff of old wives tales, the vestiges of a vanishing and irrational past? To the modern eye, the Chinese dietary and medical traditions might seem over-burdened with a history of ritual, religion, sexual lore, and magic. To me there are many truths to be found within that history. Even if you doubt the scientific validity of traditional nutritional ideas, elderly in Shanghai still find companionship, expertise and self-determination in sharing their recipes on social media. Those who seek precedents for modern science in early Chinese empirical knowledge also have found reason to believe that the traditional Chinese diet included remedies for beri beri, goiter, night blindness, and rickets, linking symptoms, and remedy.

4 Point 3: communities of practice

Obviously, my father' s profession of writing cookery books (40 of them), inspired me to write a couple of my own with my sister Jenny, and to think academically about the history of nutrition. Going through his things after he died, I found his own unfinished history of Chinese food, in drafts that he was clearly unhappy with, and never finished. I guess I have inherited his ambition. Apart from Uncle Charles the only link I had to Chinese culture as a child was eating in restaurants with Southern Chinese restaurant owners and chefs. For my father' s generation, the Chinese restaurants were a link to home, and home was Fuzhou, Shanghai and Beijing, and only then London in that order.

The most fun I had with looking at migration and food was with a small Wellcome grant for public engagement organized by David Dear. From Spring 2005 the Routes and Remedies team came together to record the healing arts of Asia as they survive in the ordinary things people do, every day, to keep body and soul together. We were a small London-based project that began and ended with the people we worked with over a couple of years.

For 400 years, Asian migrants have increasingly contributed to the health, wealth and vitality of life in London. In Europe and North America, the reach of a modern standardized medicine into our day-to-day lives has helped to cut off the transmission of traditional remedies and recipes. In contrast, migrant communities often hold on to everyday habits from their earlier homes. Building a vast network of trade routes and ties of kith and kin that criss-cross the world they bring with them knowledge and practices from overseas that enrich the community.

Whatever the reasons for moving, individual experiences of travel, migration and separation can be full of difficulties and hardship. Not the least of the challenges is sickness and ill health. Our team of Asian historians, artists, cooks, and practitioners discovered the huge potential that lies in understanding the regimens and daily rituals people use to meet these challenges and to keep well. We collected remedies for ill health, nourishing food and home solutions for all the life stages, and treatments and therapy for pain and sickness. Individual or community stories were captured on video, in sound recording, or developed through art installations. Art workshops were run by the amazing Chila Burman, last recipient of the Tate Commission, who many of you will know lit up the darkness of our COVID world with a neon extravaganza of Tigers, Ganeshas' and Ice Cream. We were privileged to have her work with us in primary and secondary schools, which provided a natural venue for bringing parents and children together in the discussion and preparation of Asian food and remedies.

Many of our respondents had not been asked about their personal health care regimes before. The settings that we worked in and the questions we asked aim to

provide positive experiences and allowed them freedom to talk easily about their experiences. For second generation Asians, and those of mixed parentage, the imagination and practice of tradition plays an enormous role in establishing who we are, whether taken as a positive or a negative model. Routes and Remedies was more than a repository of cultural memory, it provided a dynamic and interactive stage where new UK Asian identities could evolve through conscious and creative engagement with food and foodways. The exhibition was at Asia House and voted the best thing going on in London, on the Mayor's website at the time. Here's the brochure designed by Akio Morishima (Fig. 7).

Sadly, I did not find the funding or the time to continue that work seriously, but saw it flourish from the sidelines of the steering committee in the work of Ming'Ai with the amazing projects of Li Chungwen and Jonathan Liu and Rosa Kurowska-Kyffin. They have been recording the lives of Chinese migrants involved in some of the key professions such as the military, restaurant work and Chinese medical shops. In 2015, we had a great exhibition and conference in the corridors of UCL which celebrated the history of Chinese migration through the eyes of Chinese migrants themselves. They, as a community, also taught me of the value of engaging with and acknowledging the impact of my own family history, which I hope is evident in this presentation.

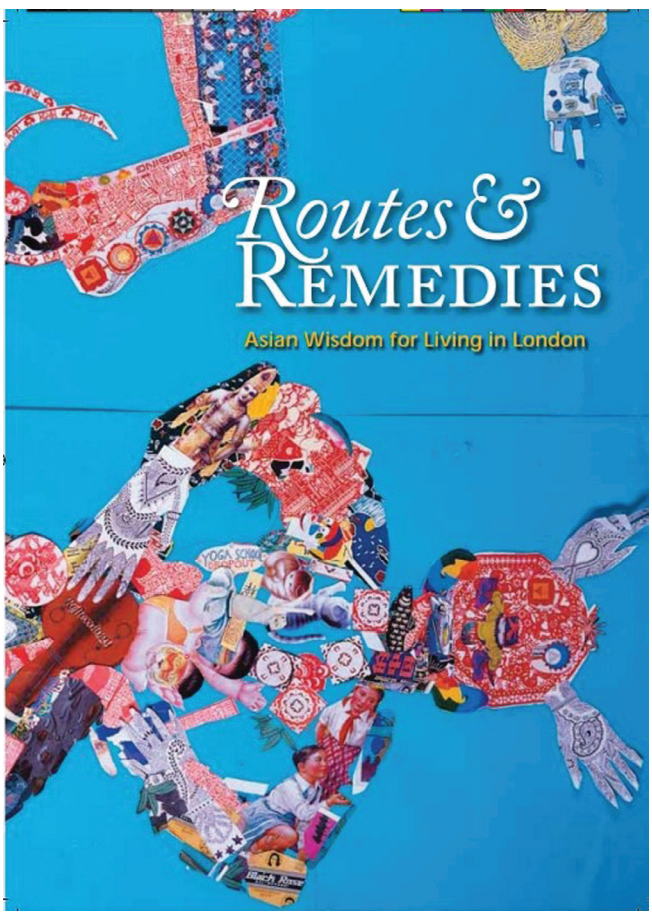

Figure 7 Front cover of the brochure *Routes and Remedies: Asian Wisdom for living in London* (source from: Collages Chila Burman).

5 Point 4: intersectionality: negotiating complex ethnicities

At some point in the early 2000s Ronit Yoeli-Tlalim appeared in my life, with Charles Burnett of the Warburg Institute. They brought with them research interests that connected up with my own, thematically and geographically. They were exploring astromedical practices from Islam to Tibet, where there was mutual admiration for those mathematical astronomy, and calendrical calculations as they related to medicine. And also the themes of traveling medicine.

I have written and edited articles with Ronit on the so-called Silk Roads, on the intersection between Tibetan and Chinese calendars that have shaped the body as a tapestry of mobile spirits traveling around the body.

Charles and Ronit also brought into my life the figure of Rashid-al-Din (d. 1318), first editor of a multicultural history of the world written under the Mongolian rule; a late medieval Jewish physician, convert to Islam, and sponsor of the first book length translation and interpretation of Chinese medicine, into ancient Persian. Among his works we have the earliest extant copies of Chinese medical images. Of the *Tai Ji* diagram, and other illustrations of the inner body that may or may not have influenced the development of anatomy in Europe. Certainly, through the court of Rashid-al-Din, news of Chinese anatomy must have reached the Byzantium world. Given there was very little European anatomical imagery before that time one has to wonder about the possibility that it was that connection that stimulated a new anatomical art in Renaissance Italy.

Rashid-al-Din was not necessarily inclusive in the way in which we imagine inclusivity nowadays…. But maybe that's a failure of our imagination. I marvel at his creativity and innovative sponsorship of "other" people and their histories and medicines, an openness which seemed to come from his own marginal position in the new order of the Mongolian, Islamic world in which he found himself operating.

Fourteen-century Persians seemed to love the astro-medicine that they found in Chinese medical treatises, the innovative use of the pulse and many things Chinese that appealed to their preexisting interests.

But Chinese medicine becomes something else, something other and exotic, when it is identified from afar and practiced at some remove from its roots… What kind of authenticity is there here? Was Rashid-al-Din's *Tansuqnamah* an authentic Chinese medicine? If you ask me in ten years what I have been doing, I hope that it will

be research into the linguistic feats of translation that Rashid-al-Din performed as he adapted and adopted Chinese medicine, as he taught young Persian doctors to chant like my uncle Charles.

Personally, I have never really felt authentically anything in particular, *or the need to be*. So, I was impressed by Rashid-al-Din's negotiation of complex ethnicities in his translation work, and in his life. I have called this section intersectionality, not because I make any claim to being a member of identifiably oppressed or under class – some of my 19–20th century ancestors were incredibly wealthy and influential Chinese, and others on my mother's side were members of the revenue for the Raj. But revolution and decolonization saw the end of that level of family privilege. Then again, as a woman from a cross-cultural, cross-religious, cross-class, of very mixed blood I have always been in an ambivalent position. The concept of intersectionality speaks to me because of the way that people who have no obvious home can make common cause with others who are displaced. The intersectionality of certain expressions of ethnicity, class and gender perpetuates oppression, but also has potential for those suffering from, for example, racism, sexism, and homophobia to work together so that the next generations do not have to face the challenges that we did.

Intersectionality refers most normally to the overlaying of systems of oppression for marginalized groups. As I have said, I do not claim to be particularly oppressed. Unwittingly, I have always signed up to Foucault's ideas about the collaborative creation of new relationships in marginal spaces. I would say that I have empowered myself through being marginal and finding common causes with other marginal groups. There is no doubt that the ever-present issues of race, religion, class, sexual orientation, different abilities and gender identity have determined the nature of my research and the people that I gravitate toward in my life.

Finally, I want to talk about qi and the martial arts, because that has been my passion in personal and academic practice. I grew up with a smart and sassy girl called Anna Bossman. She and I were about ten years old and living in the mostly white, middle-class suburbs in Surrey. I yearned for north London where I had been born and the family had been happy. For sure we were both displaced, but we were also fighting fit. My mother used to foster Anna's Ghanaian family and I shared my bed and my school with her for some years. I have not seen Anna for a decade. At that time, she remembered how formative those days were when we were fighting gangs of little white boys every day on the streets of middle-class Surrey. Racism defined our lives and

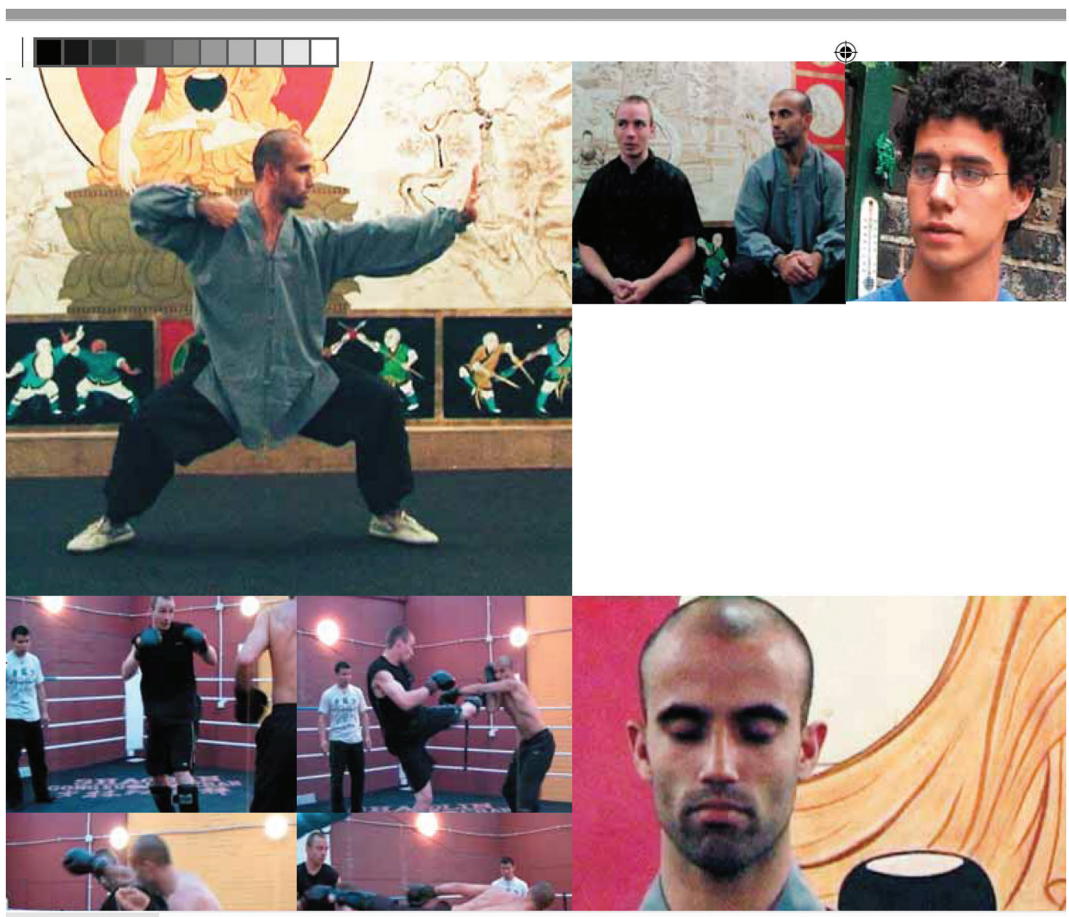

Figure 8 Photos of Kentish Town Shaolin Kungfu Temple (source from: David Dear).

Figure 9 Chila Burman doing a flying kick (source from: permission of Chila Burman).

Figure 10 A joint response from academics, politicians, professionals and organizations representing the East and South East Asian (ESEA) communities in the UK (source from: the authors).

my family's life in those years, and it still does for me. When we last met a decade ago she had become the High Commissioner of Human Rights in Ghana, and a champion of rooting out corruption in the oil business. I have no idea how successfully. From that point in our childhoods onward, I started on a lifetime's practice of the martial arts: Mushindo, Shotokan, GojuRyu Jujitsu, *Tai Ji*, and more *Tai Ji*: Yang, Qingchengshan, and Wu styles….

I evoke Anna and our shared memories because of how street-fighting shaped our futures. Outside the inevitable violence that they can be put to, the martial arts have been a really cohesive cross-cultural force, mostly working against serious violence, and aimed towards empowerment. Here's a young friend at Routes and Remedies telling us that learning Shaolin Kungfu helped him walk tall and remain safe walking in dangerous environments (Fig. 8). And here Chila Burman's studies of herself doing a flying kick (Fig. 9). Lately, I was really excited to see the latest issue of *Asian Medicine* dedicated to African American Contributions to American Acupuncture, featuring interviews with the president of the Black Acupuncture Society, and Yi-Li Wu, the editor's, focus on the intersections between Asian medicines, racial healthcare inequities, and social justice movements. She advocates using Chinese medicine and acupuncture to address the racial health disparities afflicting African Americans. I should love to see a history of black communities in the martial arts, from Bruce Lee and Ip Man films to the kids that find empowerment in the martial arts to walk our streets in safety.

Foucault was talking about the ways people involved in the same-sex relationships lack established behavioral models when he imagined that people could step outside the systems of power relations he saw all around him – I hold to that hope more broadly: everywhere people find themselves in non-normative social positions and have to make up the dynamics of how they interact, that has *the potential* to become some kind of free and creative space for personal and intellectual innovation.

One of the joys of becoming a professor was that people seek you out to join in cool projects. So, when a collective of East Asians largely coordinated by Daniel Fujiwara from LSE and UCL's Lu Gram got in touch, I was very glad to be part of the *Response to the Call for Evidence on Ethnic Disparities and Inequality in the UK*. I cannot say I did much at all, but being part of a young collective who were raising the profile of the disparities, inequalities and racism experienced by the East Asian and South East Asian population in the UK was a great honor (Fig. 10). I learned here also about the damage done by the Model Minority thesis, as if East Asians in the UK do not suffer from discrimination, and are not represented across the whole spectrum of class and wealth. How we are better together.

6 Remaining relevant for the history of Chinese medicine research

To bring my academic points together. There are many reasons that Chinese Medicine remains the most pervasive traditional medicine in the world – and it surely does in terms of its spread, numbers,

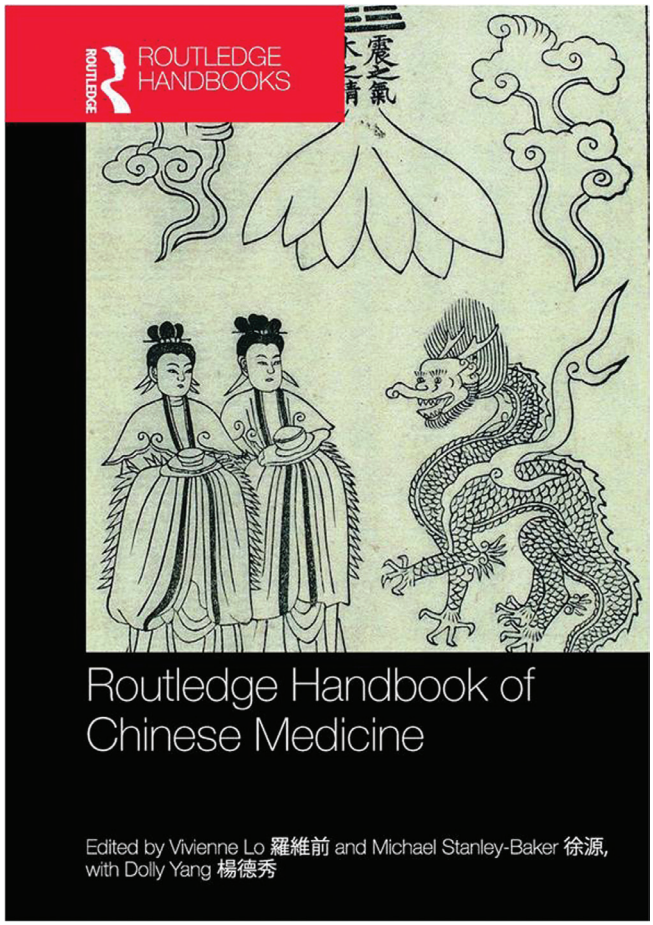

Figure 11 Front cover of *Routledge Handbook of Chinese Medicine*, edited by Vivienne Lo, Michael Stanley-Baker and Dolly Yang (June 2022, Routledge) (source from: https://www.routledge.com/Routledge-Handbook-of-Chinese-Medicine/Lo-Stanley-Baker/p/book/9780415830645).

and its economics. Many groups of migrants tend to embody a sense of homecoming within their practices (Roots and Remedies), so Chinese medicine has traveled globally following those migration patterns; the success of TCM also owes much to Mao Zedong and Zhou Enlai's sponsorship of the modernization of traditional medicine in the 1950s, the result of political campaigns to demonstrate China's cultural genius; but my point is that much of its success is also the result of its ancient history and origin in the self-cultivation techniques that I have spoken about. For its focus on the sensory worlds Chinese medicine embraced the patient-centered and well-being narrative rather than the disease. It therefore has a unique place in the Medical and Health Humanities where individuals experience of illness and health are at the core of the discipline. This should give the Chinese Medical Humanities pride of place.

Latterly, I have been devoted to the Chinese Medical Humanities at UCL (University College London), to collaborative work with Professor Guo Liping (郭莉萍) and Dr. Daniel Vuillermin. Together we have created new pathways for understanding China, particularly through film and visual culture.

The particular flavor of our Health Humanities also owes a lot to responding to UCL's Grand Challenges, and to the priorities of Global Health and to the wonderful people all around the university who have contributed to our Core Course in our MA in Health Humanities. It was not easy coming to UCL with its particular politics of science, and to lay out Chinese medicine with its legacies of ritual and magic in front of Jeremy Bentham. Doesn't he know that all medicine is magic, most of all biomedicine. Discuss!

Whatever one thinks of the theories of Chinese medicine, those old ladies in Shanghai peddling recipes and prohibitions think about and celebrate their food, they eat five a day, and keep moving with a bit of foot massage, acupuncture and the martial arts. Our amazing MA students on the China Health and Humanity progam are studying all kinds of subjects across the university from the role of tradition in promoting drug discovery, integrated public health, to Health Diplomacy; and building the cultural connectivity to do so. And so, the topics of this talk have, after all, as promised, begun in ancient China and taken us along the so-called Silk Roads through Central Asia and into the modern world. The latest community work to demonstrate this range of subjects is the Routledge Handbook of Chinese Medicine, edited by me and two of my former PhD students, Drs Michael Stanley-Baker and Dolly Yang. Thanks to the Wellcome Trust this is available online (Fig. 11).

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Author contributions

Vivienne Lo produced the initial draft and reviewed the article.

Conflicts of interest

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