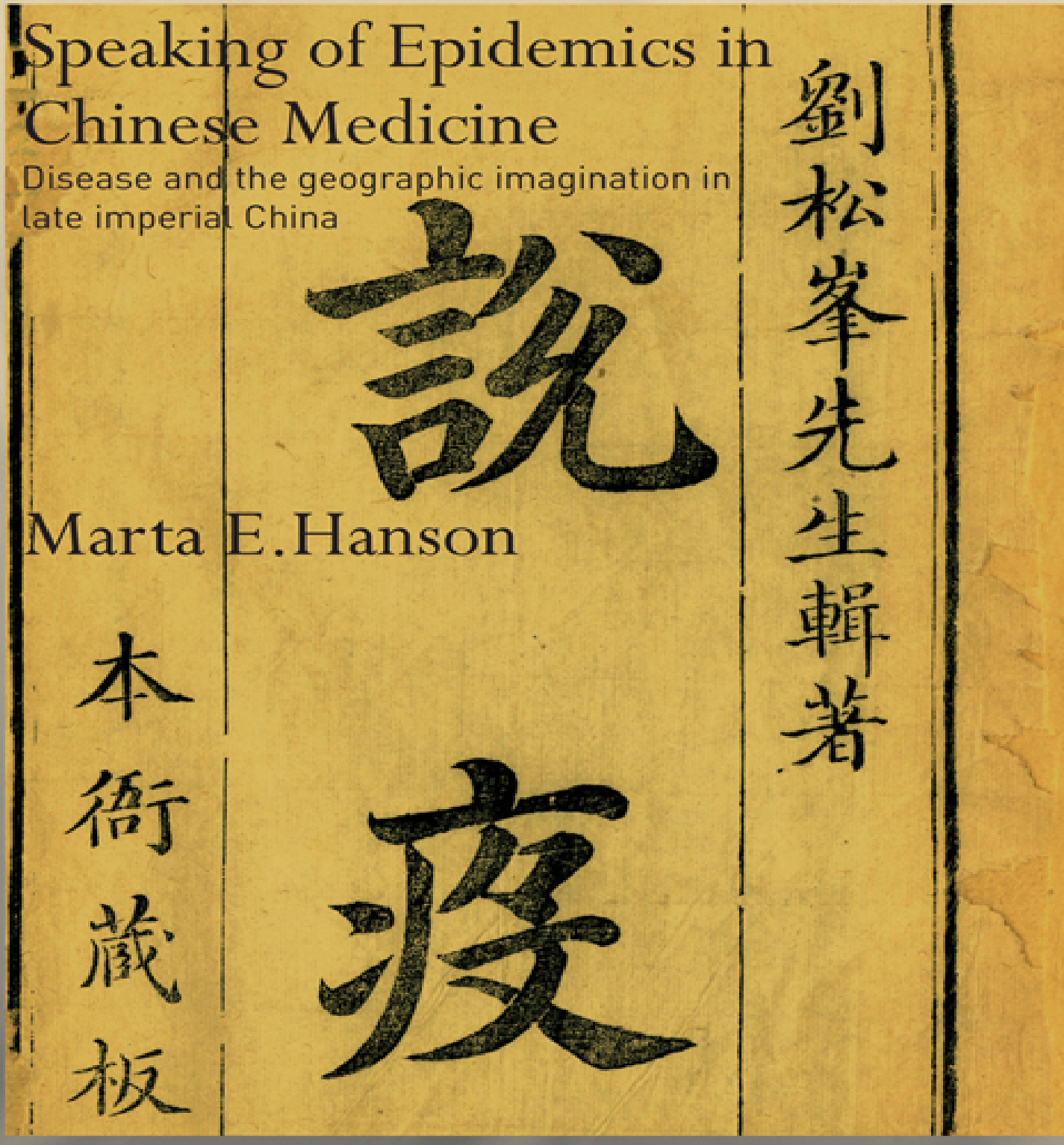
Speaking of Epidemics in Chinese Medicine

Disease and the geographic imagination in late imperial China



Marta E. Hanson

ROUTLEDGE

Speaking of Epidemics in Chinese Medicine

This book traces the history of the Chinese concept of “Warm diseases” *(wenbing)* from antiquity to the SARS epidemic. Following *wenbing* from its birth to maturity and even life in modern times Marta Hanson approaches the history of Chinese medicine from a new angle. She explores the possibility of replacing older narratives that stress progress and linear development with accounts that pay attention to geographic, intellectual, and cultural diversity. By doing so her book integrates the history of Chinese medicine into broader historical studies in a way that has not so far been attempted, and addresses the concerns of a readership much wider than that of Chinese medicine specialists.

The persistence of *wenbing* and other Chinese disease concepts in the present can be interpreted as resistance to the narrowing of meaning in modern biomedical nosology. Attention to conceptions of disease and space reveal a previously unexamined discourse the author calls the Chinese geographic imagination. Tracing the changing meanings of “Warm diseases” over two thousand years allows for the exploration of pre-modern understandings of the nature of epidemics, their intersection with this geographic imagination, and how conceptions of geography shaped the sociology of medical practice and knowledge in late imperial China.

Speaking of Epidemics in Chinese Medicine opens a new window on interpretive themes in Chinese cultural history as well as on contemporary studies of the history of science and medicine beyond East Asia.

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For my parents,
Gail and Stuart Hanson,
and my late grandmother
Frances Elenore Hanson
(1911–2010)

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  - Yuan (1279–1368)
- Ming (1368–1644)
- Qing (1644–1911)

List of Bibliographic Abbreviations

AM	*Asian Medicine: Tradition and Modernity*
BHM	*Bulletin of the History of Medicine*
EASTM	*East Asian Science, Technology, Medicine*
ECCP	*Eminent Chinese of the Ch'ing Period* (Hummel, ed., 1943)
GJTSJC	*Gujin tushu jicheng*(Chen Menglei, ed., 1725)
GJTSJC, YBQL	*Gujin tushu jicheng, Yibu quanlu* (Repr. Renmen weisheng chubanshe, 2000).
GJXCS	*Zhongyi guji xiaocongshu* (Wang Xinhua, ed., 1985)
HDNJ	*Huangdi neijing zhangju suoyin* (Ren Yingqiu, 1986)
HJAS	*Harvard Journal of Asiatic Studies*
JAS	*Journal of Asian Studies*
JHMAS	*Journal of the History of Medicine and Allied Sciences*
LHML	*Quanguo zhongyi tushu lianhe mulu* (Xue Qinglu, ed., 1991)
LIC	*Late Imperial China*
QDZJCK	*Qingdai zhuanji congkan* (Zhou Junfu, ed., 1985)
QSG	*Qingshi gao* (Zhao Erxun, et al., eds., 1928)
SKQSZM	*Siku quanshu zongmu* (Ji Yun, et al., eds., 1795)
WBXQS	*Wenbingxue quanshu* (Li Shunbao, ed., 2002)
WYLPZ	*Wenyi lun ping zhu* (Wu Youxing, a.p. 1642; critical edn., 1985)
YGW	*Yiguwen* (Duan Yishan, ed., 1986)
YJK	*Zhongguo yijikao* (Tamba no Mototane, pr. 1819, repr. 1983)
YSZZ	*Zhonghua yishi zazhi* (The Chinese Journal of Medical History)

YXDC	*Zhongguo yixue dacheng* (Cao Bingzhang, ed., 1936, repr. 1990)
YXDCSB	*Zhongguo yixue dacheng sanbian* (Qiu Peiran, et al., eds., 1994)
YZJJ	*Yizong jinjian* (Wu Qian, et al., eds., 1742, repr. 1990)
ZGYJTK	*Zhongguoyiji tongkao* (Yan Shiyun, ed., 1990–93)

List of Library Abbreviations

(TCM = Traditional Chinese Medicine)

GJL	National Library of the PRC	Guojia tushuguan
CATCM	China Academy of TCM	Zhongguo zhongyi yanjiuyuan
CAS	China Academy of Sciences	Zhongguo kexueyuan
NJTCM	Nanjing College of TCM	Nanjing zhongyi xueyuan
PUMC	Peking Union Medical College	Xiehe yiyuan
SZL	Suzhou Library, Ancient Books	Suzhou shi tushuguan guji bu
SZM	Suzhou Museum Library	Suzhou bowuguan

Note on citation style for original editions of medical texts

In the bibliography, all of the original editions consulted are identified according to the *Quanguo zhongyi tushu lianhe mulu*, abbreviated below as LHML. Each title has a unique number in the LHML and the different editions of the title are organized chronologically, whenever their publication date could be determined. The edition of a particular text is indicated in the bibliography according to its reference number on this list. For example, “LHML #10065.32” refers to the 32nd edition listed under title #10065. Following this reference number, the publication year and the publisher of the specific edition are specified, whenever this information can be determined from the title page, prefaces, foreword, or postface of the original edition. The library where the edition was located is indictated, according to the abbreviations above, in parentheses at the end of each citation.

List of Editorial Abbreviations

a.p.	author's preface dated
attrib.	attributed to
cent.	century
comp.	compiled
compl.	date completed
c.p.	compiler's preface dated
ed.	edited by
edn.	edition
eds.	editors
e.f.	editor's foreword dated
e.p.	editor's preface dated
pr.	date printed
pref.	preface
r.	reign years
repr.	reprinted

Acknowledgements

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I have often joked that it took me twenty years between the first dissertation proposal and a book contract to find a title that a publisher

would accept and with which I could live. During that time, my family has been my bedrock. Friends since we were four, Sheila Davis remains a true friend through thick and thin. My best friend since childhood, Alice O'Hara, has been with me no matter where we have been in the world. Margaret Wong, who first taught Chinese to me in high school, remains my venerable *laoshi*. Since we met at Brown University my senior year, Norman Owens has always been on my side of the court no matter how we played or changed the game. My brother Peter has always stood beside me with unwavering support, love, and good humor. My grandmother Frances Hanson lived long enough to hear me say I sent it off, much to the great relief of us both, and then graciously waited until I could see her off. My parents, Gail and Stuart Hanson, have lived through it with great stoicism, quiet faith, and constant love. My partner Kelly Burke has been through the crucible several times over the years, bringing us both back to center each time with a heart that always leaves me in awe.

Introduction

In tracing the centuries-old history of "Warm diseases" (*wenbing* 溫病) in China, this book applies the idea of "disease biography" to a nosology that bioscience does not recognize, but that opens a window on interpretive themes in Chinese medical and cultural history as well as on contemporary cultural studies of the history of science.[1] Focusing on the changing meanings of "Warm diseases" over two thousand years is a means through which a biography of a unique Chinese disease concept can explore pre-modern understandings of the nature of epidemics, their intersection with the geographic imagination, and how conceptions of geography shaped the sociology of medical practice and knowledge in Chinese medicine.

What I refer to as the geographic imagination is also the metageography of traditional China. In this book, it means the fundamental spatial dichotomies such as northwest–southeast and north–south that informed how people organized their world. It also includes the major natural boundaries of mountain ranges and rivers, and even man-made ones, such as the Great Wall. Culturally defined regions also fall under metageography – such as the names of the states of antiquity, the schematic five regions and eight winds of the classical period, or the later provinces and bureaucratic regions of imperial China. This metageography structured how Chinese understood the space they lived in, influenced how physicians treated their patients, and had a history as unique to it as does each disease concept.[2]

Although the biography of Warm diseases intersected with the history of both metageography and "febrile epidemics" (*wenyi* 瘟疫) in China,[3] it had little significance outside classical Chinese medicine. The *wenyi* disease concept, by contrast, was extensively interpreted from various religious perspectives – Daoist, Buddhist, and popular religious cults. These perspectives would require a different approach from what I have taken here.[4] In this sense, the biography of *wenbing* is a heuristic device that

limits the field of inquiry not only to mostly medical rather than religious responses to epidemics, but also to those important to *wenbing's* story, which is certainly a part of the larger history of febrile epidemics in Chinese medicine, but by no means exhausts it. Similarly, the focus on the geographic imagination as another central thread of Chinese medicine weaving through the biography of *wenbing* has brought out certain aspects of its history while neglecting other aspects that clinicians, and those familiar with the more standard narrative, may find wanting in my account of *wenbing's* place in Chinese medical history.[5]

This analysis focuses on conceptions of space in medical thought, complementing the better-known analysis of medical cosmology in terms of time. It relates this spatial imagination to the changing boundaries and internal divisions of empire as well as to the local social and clinical environments within which doctors practiced. "Warm diseases" acquired their association with the geographical south by at least the twelfth century.[6] They came to the fore again in the mid-seventeenth century when the devastating late Ming epidemics challenged at least one physician to re-examine conventional medicine. During the second half of the seventeenth and through the nineteenth century, the disease concepts Warm diseases and febrile epidemics became a fulcrum around which a new discourse on epidemics developed and a distinct current of medical learning formed. The revisionist indigenous epidemiology that gradually developed out of this led to several emergent traditions of the nineteenth century, and became the foundation for twentieth-century Traditional Chinese Medicine's (TCM) nosologies. These linked "Warm diseases" with both acute infections and the regional disorders of the Far South. In this way, this book relates the Chinese geographic imagination to both an evolving older traditional epidemiology and the processes of resistance to and accommodation with modern science in the twentieth century. Although the old discourse on disease and the geographic imagination could still be seen at play in TCM responses to SARS in mainland China, from the last quarter of the nineteenth century on a new countervailing discourse developed in Western medical reports that both quantified diseases according to Western nosology and mapped their geographic distribution across China. The first 1877 *Diseases of China* by the Scottish physician John Dudgeon (1837–1901), for example, described the range of diseases according to Western nosology that he observed in China, but did not yet have reliable vital statistics on

mortality or morbidity. Dudgeon was also largely sympathetic toward Chinese dietary, if not sanitary, habits. By the 1910 publication of Jefferys and Maxwell's *Diseases of China, including Formosa and Korea*, however, meterological tables, nosological reports, percentages, maps, photographs of representative patients, and images of causative microorganisms (in the now ubiquitous Petri dishes of the modern laboratory) thereafter came to dominate the Western discourse on China's medical geography.

The book is based on the full range of primary sources, medical and non-medical, and integrates contemporary theories from the history of science and science studies that see medicine as part of culture. It aims to bring Chinese medicine into the conversations hitherto dominated by specialists on the history of pre-modern medicine in the West. Given that the meanings of any disease concept cannot be separated from the social and cultural circumstances of which it is a part, the idea that a disease has a biography casts valuable light on the foundations of medical knowledge. In terms of the linked themes of climates, constitutions, and contagions that pervade this book, it will help historians of Western medicine to recognize connections between ways of thinking about disease origins and processes in Chinese medical history and their own.

It also aims to show the relevance of medicine to cultural and social historians of China by relating medicine to late imperial movements of cosmological criticism, evidential learning, and the social understandings of human variation based on regional rather than ethnic identity. It contributes new insights into the intersections between communities of practitioners and textual traditions. The conclusion brings the story down to the present, showing how the continuing dialectic between local and universal involved "Warm diseases" in both Traditional Chinese Medicine's response to germ theory in the twentieth century and a southern disease pattern that the world came to know as SARS, the first newly emergent disease of the twenty-first century.

Part I

Foundations and Inheritances

> In 217 CE, pestilential *qi* circulated. Every household suffered deaths; in every house [people] wailed and wept in grief. In some cases, [they] closed their doors and died; in other cases, an entire lineage perished and mourned. Some believed that the epidemic was due to demons and spirits (*guishen kou zuo* 鬼神口作).[1] Those who suffered from it, [however], were children of the destitute who dressed poorly and ate coarse food, people who lived in thatched dwellings and woven shacks. Those families who lived in palatial houses and ate from precious vessels, households with piles of furs and layers of quilts, rarely suffered so terribly. It is because yin and yang lost their proper orientations, and cold and summer-heat [climatic factors] were unseasonable, that the epidemic occurred. Nonetheless, ignorant people [still] hung up talismans to expel them. That is laughable.[2]

The author of this account of a raging epidemic in the final years of the Eastern Han dynasty, Cao Zhi 曹植 (192–232), the son of a dynastic founder and the brother of an emperor, was a famous literary figure in his own right. He was also a younger contemporary of the famous Han physician Zhang Ji 張機 (150–219).[3] In fact, Zhang may well have been treating patients as he grieved the loss of his own relatives during the same epidemic, most likely in the Eastern Han capital Luoyang. Whether or not they were both were in Luoyang during the epidemic or even knew each other – although Zhang would have known about Cao – they shared

comparable views about the cause of epidemics. The cosmic imbalance of yin and yang and their climatic correlates (Cold and Summer-Heat), rather than supernatural forces, added to the widespread assault of the epidemic disease on all sectors of society. Cao also brought attention to social and economic factors – differences in wealth, housing, food, clothing, and bedding – that made the destitute and poor suffer most.

In the preface to his most influential medical treatise, the *Treatise on Cold Damage and Miscellaneous Disorders* (*Shanghan zabing lun* 傷寒雜病論), Zhang attributed his motivation for writing what amounts to the first Chinese disease monograph to the devastating effects of the epidemics on his own relatives: "My ancestral lineage used to be large, two hundred or so [members]. Since the Jian'an reign (196–220), in less than ten years, two thirds have died, seven out of ten from Cold Damage."[4] Zhang focused not on Summer-Heat, but on other climatic factors that he thought had caused these deadly epidemics, namely Cold and Wind. In contrast to Cao Zhi, Dr. Zhang did not mention contributing social or economic factors but rather focused on the range of clinical patterns of epidemics, their transformations over the course of illness, and the appropriate combination of drugs in formulas to treat each permutation.

Just three years after Cao Zhi's epidemic, however, the Eastern Han dynasty collapsed and Zhang Ji died, perhaps himself a victim of the epidemics that accompanied the political chaos of that final year. The fate of his medical writings, however, is better understood. One of the palace physicians of the Wei dynasty (220–265), Wang Xi 王熙 (210–285),[5] collected whatever fragments remained of his manuscripts, probably reorganized them, and considerably revised and expanded upon them. Although this early edition would become a considerable source of controversy during the late Ming and Qing dynasties between those who sought to separate the authentic text by Zhang Ji's hand from Wang's and later editors' amendments, it had no major impact on medicine during the Six Dynasties (220–589), Sui (581–618), or Tang (618–907) periods. In fact, it practically went out of circulation. It was not until physicians in the Northern Song imperial medical bureau rediscovered Zhang Ji's writings and republished them as three separate imperially sanctioned treatises in the mid-eleventh century that physicians outside of the imperial bureaucracy began to take notice of these writings.[6] Although physicians and scholars

alike began to comment on their geographic limitations and narrow focus on Cold Damage nearly as soon as they began to circulate again, nonetheless from then on Zhang Ji's treatises came to represent one of the most important textual foundations and intellectual inheritances from the Han dynasty of classical Chinese medicine.

In Part I of this book, the first chapter clarifies my positions on three themes related to the literary and medical practice of "speaking of epidemics" (*shuoyi* 說疫) that Cao Zhi and Zhang Ji initiated – Chinese traditional epidemiology, conceptions of disease and the geographic imagination, and the place of "Warm diseases" in the Cold Damage narrative. The second chapter then provides a deep history of the Chinese geographic imagination from the mythological origins of a northwest–southeast dichotomy and the medical discourse on the five directions, eight winds, and northwest–southeast axis in the *Inner Canon* (both predating Zhang Ji). It then turns to the critical responses to Zhang Ji's treatises, and by extension Song medicine, based on skepticism of their universal efficacy and regional relevance that continued through the Jin (1115–1234) and Yuan (1278–1368) dynasties.

1 Medical History in Three Themes

Chinese Epidemiology, the Geographic Imagination, and a Biography of *Wenbing* "Warm Diseases"

Before the nineteenth century, not one inhabitant of China suffered from plague, cholera, typhoid fever, tuberculosis, or malaria. Millions died, however, from yin deficiency (*yinxu* 陰虛), foot *qi* (*jiaoqi* 腳氣), Cold Damage (*shanghan* 傷寒), and Warm diseases. Before the late-nineteenth-century transformations in laboratory medicine, physicians neither in China nor in Europe thought in terms of malaria's *Plasmodium* protozoa, the tuberculosis bacilli, the comma bacilli of cholera, or plague's *pasteurella pestis*. Modern biomedical categories of disease based on laboratory evidence of parasites, bacteria, and viruses do not apply to the pre-modern Chinese experience with illness, disease, and epidemics. Passage through the Petri dishes of the modern laboratory fundamentally changed the definition of all disease concepts shown to involve microorganisms.[1] These microorganisms would sound as strange to the traditional Chinese physician as deviant *qi* (*liqi* 戾氣), pathogenic heat (*rexie* 熱邪), malignant wind-intrusion (*efeng* 惡風), magical *gu* poisoning (*gudu* 蠱毒), and even smoky miasmas (*yanzhang* 煙瘴) sound to the modern ear. Yet, Western and Chinese historians continue to extend the laboratory-based model of germ theory, bacteriology, and virology spatially into non-Western countries and temporally into the pre-laboratory past.[2] Imposing biomedical conceptions of disease onto the past – and even onto unfamiliar cultural contexts of the present – precludes understanding the historical and culturally shaped

individual experience of disease as well as contemporary medical responses to them.

Somatic disease involves pathological processes. The *pasteurella pestis* marks its plague victims with scarring mortal lesions and the tuberculosis bacilli irreparably damage the lungs. Nevertheless, defining a disease remains a social act within a given cultural frame that involves both the patient and the practitioner. The biological aspects and epidemiology of somatic diseases may not change significantly from one context to another or from human to human, but their social, political, and cultural meanings do – and with them the possibilities of therapy. These meanings reveal the many roles diseases play in framing social thought, institutional responses, cultural values, and individual identity. This point is not new to the historian of medicine who begins with the premise that diseases in any society encompass a spectrum from the biological and personal to the cultural, social, and political. A given disease is the sum of these dimensions. As the historian of medicine Charles Rosenberg wrote, "A disease does not exist as a social phenomenon until we agree that it does – until it is named."[3]

In other words, when medical historians examine diseases as social and cultural phenomena, they pay attention to who named them, when and why; and how the names for, meanings of, and responses to diseases changed over time. Naming a disease creates a disease concept, and like any concept, medical ones are always social products. And because they are necessarily human interpretations, disease concepts have their own unique histories. They also share basic components: the type of suffering or symptoms, who suffers or the patient, what it is called or the diagnosis, its outcome or prognosis, its cause, and how best to prevent or treat it.[4] The confusion arises when physicians and historians alike mistake the disease concept for a disease entity and treat disease concepts as if they were biological beings in Nature instead of the human constructs they always are and have always been. Even "biological" and "Nature" are concepts humans have deployed to make sense of the observed world. Their meanings have changed considerably over the centuries of their recorded use in European languages. When positivist historians give disease concepts a transhistorical status, confusing them with the phenomena they describe, the result is impoverished understanding.[5]

Retrospective diagnosis – the projection of modern disease concepts onto past disease experiences – remains a common practice despite its anachronism and methodological pitfalls. It justifies ignorance of changes in meanings of diseases over time. By contrast, this book's approach to the history of disease concepts starts from the premise that diseases are historically situated, socially defined, and culturally meaningful. Not only does the meaning of a disease concept evolve, the disease is inseparable from its definition and interpretation. These two opposing approaches to the history of disease can be summarized according to what Adrian Wilson, borrowing from Ludwig Fleck, called two "thought styles." The common practice of retrospective diagnosis exemplifies what Wilson calls the naturalist-realist approach. This approach assumes that the modern disease concept mirrors "natural reality" and thereby excludes it from serious historical investigation. Scholarship that takes disease concepts themselves as objects of historical analysis, by contrast, represents the historicalist-conceptualist approach.[6] From this perspective, the histories of the more obviously somatic modern disease concepts such as plague, cholera, tuberculosis, malaria, leprosy, and syphilis are as varied, variable, and unstable over time as those disease concepts considered to be more psychosomatic – neurasthenia, chronic-fatigue syndrome, allergies, and even asthma – or more obviously socially constructed ones such as hysteria, homosexuality, cholorosis, and most recently, attention-deficit hyperactivity disorder.

The naturalist-realist approach also assumes that scientific and medical knowledge exists somewhere outside society. In this view, the only relevant past meanings of a disease concept are those that fit into a clear trajectory progressing toward its present definition. The naturalist-realist essentially uses teleology to ignore not only past meanings that do not support the present consensus, but also the consensus-building process that stabilized the current disease concept in the first place. The historicalist-conceptualist approach, by contrast, starts from the premise that all knowledge (medical as well as scientific and humanistic) is socially constituted, socially maintained, and changes over time. Even the most stable somatic disease concepts today have complex cultural histories, require strategies that generate and enforce agreement on their current meanings, and change with new medical knowledge, technologies, and consensuses.[7]

Biographies of Disease Concepts

Historically contingent and culturally inflected methods resonate best with my own approach to Chinese disease concepts on their own terms, within their own framework, and as changing their meanings over time.[8] Several medical historians have written "biographies" of specific diseases in Western and global history.[9] Because concepts about disease entities have specific traits, even characters, they also have a chronology in and through human history; in other words, they have a distinct biography.[10] One of the central strengths of the biographical approach is not only attention to changes in a disease concept, but its attention to patients as sufferers and practitioners as mediators attempting to alleviate this suffering to the best of their ability and knowledge in their time. The method merges a patient's subjective experience, namely their illness, and the physician's classification of their signs and symptoms, within an accepted nosology, as a certain disease.[11] Disease concepts both structured patients' narratives of illness and led physicians to decide what part of what they said was objectively pertinent. A historian examines the dialectic between the patient's symptoms and signs and the physician's concepts and categories.

Scholars have yet to write historical biographies of diseases outside of western Europe and East Asia. When they do, they will undoubtedly center on nosologies different from those of modern bioscience. In the mean time, there have been a few studies of change in individual Chinese disease concepts.[12] Catherine Despeux and Frédéric Obringer paid particular attention to these issues in their monograph on conceptions of the cough (*ke* 咳, *sou* 嗽) in ancient and medieval Chinese medicine.[13] Bridie Andrews complicated the story of germ theory's assimilation in China by examining several attempts from the 1850s to 1930s to translate the Western understanding of tuberculosis (*fei jiehe* 肺結核 "lung tubercule") in Chinese terms (*laobing* 勞病, lit. "exhaustion disorder" or "consumption").[14] Carol Benedict also studied analytical questions in her book *Bubonic Plague in Nineteenth-Century China*. She cautioned against equating any traditional Chinese disease categories such as febrile epidemics (*wenyi*) or pestilence (*li* 癘) with modern-day bubonic plague. Nonetheless, her narrative focuses on the epidemiology of what, using a wide range of historical evidence, she determined was bubonic plague and

attempts to control it in the nineteenth century.[15] Hilary Smith explicitly used the biography of a disease as a model and investigated shifts in meanings of the disease concept *jiaoqi* 腳氣 (foot *qi*) over more than two thousand years. Although *jiaoqi* covered a range of ailments in medieval China, clinicians now equate it with biomedicine's beriberi and laymen use the word for athlete's foot. Smith reveals how much is hidden beneath the ahistorical and ontological equation of *jiaoqi* with beriberi.[16] In *Leprosy in China: A History*, Angela Leung analysed the nosology of *li*, *lai* 癘 (skin afflictions)[17] and *mafeng* 痲風 (lit. numbing wind), which covered a wide range of skin afflictions, including some resembling leprosy, and transformations in these terms' meanings over centuries following both a historicalistconceptualist and a biography-of-disease approach.[18] As the modern disease concept bubonic plague became equated with the late-nineteenth-century neologism *shuyi* 鼠疫 (lit. rat epidemics)[19] and beriberi with *jiaoqi*, modern leprosy also found Chinese equivalents in *li*, *lai* and *mafeng*. These studies of the history of disease in China have greatly informed my own research on and approach to the history of disease and epidemics in China.

What follows in this book is a biography of *wenbing*, an indigenous Chinese disease concept that encompassed a range of illnesses from the common cold and respiratory illness to high fevers and epidemic diseases. Today TCM physicians also use *wenbing* for many acute infectious diseases. Sudden Acute Respiratory Syndrome (SARS) or in Chinese *feidianxing feiyan* 非典型肺炎 ("atypical pneumonia"), for example, is a type of *wenbing* – but *wenbing* did not mean SARS until the late twentieth century, nor does the term mean nothing but acute infectious diseases. Recent TCM textbooks have taught a one-to-one correspondence between many indigenous Chinese names for disorders, especially potentially epidemic ones, and their modern biomedical diseases. For instance, *nüe* 虐 (intermittent fever) is malaria, *shanghan* 傷寒 (Cold Damage) refers to typhoid fever, and *huoluan* 霍亂 (sudden turmoil) means cholera. Unlike these examples, *wenbing* has managed to remain a clinical category in TCM without becoming a single biomedical disease.

In writing this biography, I came across an exceptionally complicated life course over the past two thousand and more years. Several advantages of choosing *wenbing* became obvious: *wenbing* was important throughout the

history of Chinese medicine; all the early medical canons discussed it; all leading medical authors thereafter mentioned it; it became a new focus in response to the epidemics of the 1640s; a related but new discourse on febrile epidemics spread among physicians through the end of the eighteenth century; a new current of medical learning developed around it during the nineteenth century; and TCM physicians in the PRC today continue to diagnose their patients' suffering as due to several types of *wenbing*. The term continues to cover a wide range of common febrile and epidemic diseases.

Taking such a long-term approach to the shifts in meaning of one indigenous Chinese disease name also allowed a widening of view outwards from the medical definitions themselves to other key matters in the cultural manifold of Chinese society, politics, and culture, which informed thought about them.[20] Cognitive dimensions of a disease concept cannot be divorced from its social dimensions; in fact, a biography of a disease concept lends itself well to the sociology of medical knowledge in which factors such as practices of healing, social networks, patronage patterns, intellectual allegiances, and even the realm of culturally inflected imagination play central roles.

Spatio-Temporal Frames for Disease in Classical Chinese Medicine

I had to consider not only when but also where *wenbing* was endemic, or rather where physicians thought patients most often suffered from it. That then led me to consider the role of geographic imagination in classical Chinese medicine. Since Chinese antiquity, physicians applied a spatio-temporal logic to nosography and epidemiology that differed from how medieval and early modern Europeans classified and understood the relationship between disease and geography.[21]

The closest analogy to the geographic imagination in Chinese medicine is Francis Zimmerman's study of the jungle in Sanskrit medical texts. He argued that the ecological contrast between the drylands and marshy regions of South Asia structured the Ayurvedic classification of therapeutic substances and cosmic processes.[22] Chinese conceptions of climatic patterns, corporeal variation, and therapeutic multiplicity were comparable. The

contrast between the dry, cold climate of the northern regions and the hotter, more humid, climate of the south, for example, structured Chinese medical classifications not only of differences in cosmic processes and therapy, but also of regionally characteristic culture, bodies, and disease. Geography, lineage, and native place all influenced therapeutic emphases in Chinese medical practice. Chinese physicians tended to give regional, historical, and physiological explanations for significant variations in medical practice.

Chinese practitioners have continually added to their medical traditions as they evaluated the canons of antiquity in light of their clinical experience. The history of medical discourse on the epidemics and fevers named *wenbing* from the second century BCE to the present reveals that medical thinkers continually refashioned the medical canon to adapt to local conditions, suit changing therapeutic preferences, and integrate accumulating medical knowledge. One of the central issues of the emergence of *wenbing* as a disease concept often debated during the Qing dynasty, for instance, is how physicians either assimilated or resisted change in the scholarly medical tradition. The mature centuries of *wenbing's* biography thus reveal a major epistemological divide in the medical field over what and who to trust: present empirical experience or past canonical authorities.

Three classical medical books compiled from the first century BCE to about 200 CE had laid a foundation for all later developments. No literate physician, even in the late imperial period, would consider ignoring them. The *Huangdi neijing* 黃帝內經 (*Inner Canon of the Yellow Emperor*) was anonymously compiled some time during the first century BCE. Its two parts came eventually to be called *Suwen* 素問 (*Basic Questions*) and *Lingshu* 靈樞 (*Divine Pivot*).[23] The *Shanghan zabing lun* 傷寒雜病論 (*Treatise on Cold Damage and Miscellaneous Disorders*), which I will refer to as the *Cold Damage Treatise*, was completed between 196 CE and 219 CE. After the imperial physician Wang Xi's third-century version of this treatise went out of circulation, during the tenth century (968–975) and under Northern Song patronage physicians edited and republished the version stored in the imperial library. The same occurred again nearly a century later (1064–65) when imperial compilers finally divided it into three separate books. Since 1064–65 the *Shanghan zabing lun* text has been published as the *Shanghan lun* (*Cold Damage Treatise*), the *Jinkui yuhan jing* 金匱玉函經 (*Canon of the Golden Casket and Jade Cases*), and the

Jinkui yaolüe fanglun 金匱要略方論 (*Essentials and Discussions of Formulas in the Gold Casket*). The second and third books were often referred to together as the *Jinkui* (*Golden Casket*) texts.[24] Traditionally, the Chinese have considered the *Inner Canon* the founding canon of Chinese medicine passed down from the legendary Yellow Emperor since unrecorded antiquity.[25] Incisive scholars now concur that the three extant recensions of the *Inner Canon* were from the beginning a collection of interrelated short essays from different lineages at different times, compiled most likely from sources written no more than a century before the first century BCE when it was made into a two-part book.[26]

In contrast to the *Inner Canon* and other medical books from antiquity, no one ever ascribed the *Treatise on Cold Damage and Miscellaneous Diseases* to an archaic ruler. Zhang Ji (150–219), an official from Changsha, Hunan province, and contemporary of the Greek physician Galen (129–199/217) practicing in Rome, wrote it after a series of epidemics during the 210s, the last decade of the Eastern Han dynasty (25–220 CE). Motivated by the deaths of family members, he searched ancient medical texts and collected formulas. He integrated descriptions of changing syndromes with recommendations for specific drug formulas. In his emphasis on the progress of acute diseases, changes of symptoms over time, and temporality, Zhang Ji's treatise differed significantly from the *Inner Canon*, which gave greater emphasis on synchronicity, cosmological resonance, and even spatiality. The *Inner Canon* offered yin-yang and Five Phases doctrines, macro-microcosm models, and a type of correlative thought that related multiple registers of experience in a system of correspondences. Zhang Ji's *Cold Damage Treatise* is non-theoretical by comparison and deeply clinical in focus. Zhang Ji described symptoms during the courses of disease, gave their underlying physiological and temporal patterns, and listed formulas useful as disease patterns changed.[27]

Chinese physicians have traditionally considered the *Basic Questions* to be the foundation of medical theory, the *Divine Pivot* to be the basis for Chinese acupuncture and moxibustion therapy, and the *Treatise on Cold Damage and Miscellaneous Disorders* to set the standards for drug therapy. All three were the basis for clinical diagnosis. Although it is difficult to discern to what extent pre-Song herbal medicine was actually based on the two parts of the *Inner Canon* and Zhang Ji's treatises, by the late imperial

period most elite physicians claimed that their medical practices were founded on these and a few other treatises of the first and second century CE. Most Ming-Qing physicians, in fact, presented later innovations as supplements to them.[28]

In these early writings, many diseases were related to time, especially to the changes in the seasons and unseasonable weather. The *Inner Canon* also recognized regional variation. Conceptions of space are central to how people identify themselves and their place in the world. States also make geography by forming and altering boundaries. Space is simultaneously a social product and a shaping force in social life.[29] It is equally an element in the formation of cultural and ethnic identity. The Han dynasty's mapping of its empire and a simplification of imperial geography to integrate the old notion of five directions (*wufang* 五方) were the context for the geographic spatialization of disease as recorded in the *Inner Canon*.

The classical Chinese medical discourse on disease also expressed cultural notions about spatial norms and temporal cycles. It reveals conceptions of what I see as two contrasting but interacting spatio-temporal regimes.[30] When explaining how Chinese framed their conceptions of disease, I call these the agrarian regime of the traditional Chinese polity and the non-agrarian spaces both within Chinese society and along its unstable frontiers. Diseases due to specific seasonal or ecological configurations of the environment fit into one or the other. Seasonal diseases, for example, were mapped on the agrarian calendar that symbolically structured governmental as well as agricultural practices.[31] Non-seasonal diseases that did not follow the calendar were due to local environments or poisonous creatures; both of which were linked to non-agrarian spaces – waterways, mountains, forests, and marshes. They were more spatialized, temporally unpredictable, attributed to non-agrarian spaces, and representative of the abnormal. The imagination of the weather and the geographic imagination were culturally unique and historically particular;[32] offering access to the socially constructed boundaries between normal and aberrant, cyclical and atypical, and central and peripheral.

Chinese conceptions of certain diseases reinforced native-place identity within China, and those of others fed fears and stereotypes of non-Han people at the frontiers. Cold Damage and Warm diseases were understood within the traditional system of cyclical change at the basis of the Chinese

agrarian calendar. Many other disease concepts, such as illness due to miasmic *qi* (overlaps with modern-day malaria), numbing wind (overlaps with modern-day leprosy), Cantonese sores (overlaps with modern-day syphilis), and magical *gu* poisoning, on the other hand, fell outside of this agrarian calendar. By the early sixteenth century, physicians spatially linked all these disease concepts instead with the semitropical environment and non-Chinese peoples of the Far South. Over time the disease concepts Cold Damage, Warm diseases, and other seasonal illnesses, on one side, and miasmas, *gu* poisoning, leprosy-like skin afflictions, venereal diseases, and epidemics, on the other, came to typify the normal seasonal and the aberrant diseases in classical nosology.

Other diseases within the agrarian spatial regime had regional variations, usually falling under northern and southern versions. Still others were considered more dominant in one region than in others because of the climate. Eventually, some diseases even obtained regional associations, such as the Lingnan 嶺南 ("South of the Ling Ranges") miasmas of the Tang (618– 905), the Jiangnan fevers (江南熱) of the Southern Song (1127–1278), and even the "Within the Great Wall" (*sainei* 塞內) poxes (biomedical smallpox) of the seventeenth century, a Manchu designation for a disease to which they had no immunity.

A tension can be discerned between these agrarian and non-agrarian spatio-temporal regimes that sometimes expressed social dread in the face of uncontrollable epidemics, and at other times expressed Chinese anxieties about minority cultures of frontier regions. In the case of smallpox, Manchus were anxious about moving south into the Chinese agrarian regime they had conquered. This division of regimes is also perceptible in medical writings. Whenever seasonal disorders that corresponded to changes in the climate within the agrarian society contrasted with epidemic diseases, the physicians represented the pathogenic agents of the latter as Winds coming from outside its domain, as miasmas (considered endemic to the semitropical regions), or even as poisons from the ethnic margins.

The cosmological thinking that informed medical doctrines domesticated regional diversity and human variation by systematizing it into a few basic concepts: yin-yang, four seasons, Five Phases, five directions, five body types, and six configurations of *qi*. People's experienced world, however, never matched the idealized map of it in Chinese cosmology, but it was flexible enough to accommodate whatever threatened the conceptual order

of the natural world and the body.[33] Yin-yang explained a dynamic cosmos that varied continuously in complicated ways. Five phases too systematized change and transformation that otherwise would be too multifarious to guide clinical action. Five directions simplified a complex Chinese polity and diverse geography into recognizable parts upon which doctors could base therapy.

What I call the "geographic imagination" classified regional variations and assimilated local exceptions into systematic doctrines. The physician could then work out a response that he, and sometimes his colleagues, could follow. What is most interesting, however, is when he could not match the variation or the exception with accepted doctrines. As these exceptions become increasingly problematic for physicians in the late imperial era, medical skepticism and cosmological criticism were the result. Its history too pervades traditional Chinese epidemiology and the geographic imagination.

Seeing Epidemics and the Geographic Imagination Through a Biography of *Wenbing*

One may well ask how I became interested in disease and the geographic imagination as a core theme in Chinese medicine, and how I came to see its importance throughout the history of imperial China. I began by looking at how physicians responded to epidemics. In their review article, "New Topics for Qing History," Susan Naquin and Evelyn Rawski asked the following question: "When epidemic diseases struck, what were the responses of the state and of communities to the crisis?" In addition to wanting to answer this question, I found inspiration in words of Owsei Temkin when he compared the approach of a biographer to that of an historian of medicine:

> As the meaning of individual disease is to be found in the person's biography, so the meaning of epidemics is to be found in history. The biographer will distinguish between the significance attached to illness by the subject of his biography and that attached to it by himself. The historian will distinguish between the meaning given to the epidemic by contemporaries (for the black death of 1348, see the introduction to Boccacio's *Decameron*) and the significance he attaches to it (for

instance, the Black Death as an upheaval in the economic and cultural life of the Middle Ages).[34]

I wrote a paper for Charles Rosenberg on the historiography of epidemics in the West as a way to approach a dissertation topic on the history of epidemics in China. Motivated by this initial review, I found that several scholars had discussed epidemics and febrile disorders called *wenbing* in China. Helen Dunstan's 1975 article on epidemics raised questions about the social setting of seventeenth-century *wenbing* writings, but did not explore the literature sufficiently to provide answers. I found *wenbing* mentioned as a nosological category relevant to bubonic plague in Carol Benedict's work on the history of that disease in nineteenth-century China. She wrote a fine analysis contrasting Cold Damage and Warm diseases approaches to plague and contrasting both to European plague prevention measures of the same period.

Late-twentieth-century Chinese historians often argued that although there was a scattered history of writings on *wenbing* going back to the *Inner Canon*, the core works of *wenbing* studies began with a treatise on epidemics written in 1641–42, during a period of epidemics, and continued in the hybrid "Traditional Chinese Medicine" (TCM) in mainland China today. During two years of research in China, I noticed that *wenbing* was one of the four classical disciplines (*ke* 科) written on signs indicating the main research offices of the many TCM colleges and hospitals I visited. The other three were the *Inner Canon*, *Cold Damage*, and the *Golden Casket*, all based on Han medical sources. The newly formed Warm disease discipline (*wenbing ke* 溫病科) had no canonical Han medical classic to call its own. A *Handbook of the Eight Great Classics of Chinese Medicine* published in 1996 added two *wenbing* texts from 1756 and 1798.[35] It was not until the 1640s epidemics that *wenbing* became a topic of special medical attention. From the 1680s on a related discourse on epidemics and fevers appeared, and over the nineteenth century a new *wenbing* medical discipline with its own representative physicians, founding texts, diagnostic methods, and treatments evolved. *Wenbing's* trajectory from mere mentions in the Han medical canons to a central place in the new mid-twentieth-century TCM curricula thus became the narrative arc of its biography.

The term "*wenbing*" was born in the *Basic Questions*: "When in winter one is injured by Cold, in the spring there is certain to be a Warm

disorder."[36] Another *Basic Questions'* chapter differentiates the type of *wenbing* according to symptoms. The Yellow Emperor asked:

> "When someone is ill with a Warm disease, and [the patient] sweats but has regular hot sensations, the pulse is restless and hurried and is not diminished by the sweating, [the patient] talks wildly and is unable to eat, what is the disorder called?" Qibo replied: "It is named yin-yang interchange (*yiyangjiao* 陰陽交), and those in which interchange has occurred die."[37]

Although the *Inner Canon* discussed qualities of epidemics and fevers in several chapters, not one essay focused on epidemics. The common Han-era character for epidemics (*yi*) used in other contemporary sources, also cannot be found there.[38] Although *wenbing* was associated with the term for calamity or pestilence (*li* 癘), this happened only in the later interpolated chapters from the seventh century.[39] In the *Inner Canon* chapters representative of first-century medical thinking, epidemic-like diseases appear in essays about seasonal diseases (*shibing* 時病), the one hundred diseases (*baibing* 百病), malevolent winds (*efeng* 惡風), people's diseases (*minbing* 民病), and especially what was then called "Hot diseases" (*rebing* 熱病). In contrast to the definition above placing *wenbing* under Cold Damage, *wenbing* was here defined as one type of Hot disease. The two concepts here designated febrile disorders in different seasons but not necessarily due to cold in winter.

There were clearly competing theories on the meaning of *wenbing* in the *Inner Canon*. *Basic Questions* also gave two key definitions of "Hot diseases," which carried different meanings with respect to their cause: The first was a range of acute-onset febrile disorders caused by external pathogenic *qi*, which could be any one of the climatic configurations of *qi*; the second was a specific type of Cold Damage acquired in the winter whose *qi* became dormant or latent (*fuqi* 伏氣) until it caused high fevers and internal yin-impairing dryness in the spring and summer. In the second definition, the Hot diseases due to latent Cold *qi* from the winter manifested in the spring as a Warm disease and, in the summer, as a kind of Heat stroke. In his *Treatise on Cold Damage and Miscellaneous Disorders*, Zhang Ji made a decision in favor of the latter rather than the former

definition. He defined Warm and Hot diseases not as separate types of Hot diseases due to pathogenic Heat but as subclasses of the broader category of diseases originally due to pathogenic Cold in the winter, even though both were febrile and occurred in the spring and summer.[40]

The *Treatise on Cold Damage and Miscellaneous Disorders*, and not the *Inner Canon*, eventually became the main source upon which later interpretations of *wenbing* branched in new directions yet remained under the Cold Damage umbrella. In the eleventh century, the Northern Song (960–1126) government widely circulated Zhang Ji's work for the first time.[41] But almost as soon as it became canonical, physicians and scholars alike criticized it for being regionally parochial and clinically inadequate. During the twelfth century through the early fifteenth century, physicians newly emphasized Fire over Wind and Cold as a pathogenic factor and developed a related focus on Hot diseases distinct from Cold Damage.[42]

It was not until 1642, however, that *wenbing* emerged as a disease category worthy of separate analysis from the dominant Cold Damage tradition.[43] In response to the severity of the late Ming epidemics and inadequacy of traditional formulas to control them, Wu Youxing 吳有性 (*c.* 1582–1652) argued that a specific pestilential or deviant *qi* rather than the usual unseasonable *qi* caused "Warm epidemics" (*wenyi* 溫疫). His *Treatise on Warm Epidemics* (*Wenyi lun* 溫疫論, 1642), gave *wenbing* a contagionist tenor; the *Wenyi lun* also tied water-radical *wen* significantly to epidemics *yi* in a book title. Publishers of later editions or revisions nearly always used the disease-radical (rather than water-radical) *wen* in the title, as in the *Treatise on Febrile Epidemics* (*Wenyi lun* 瘟疫論). As a result of Wu Youxing's critique of his configurationist predecessors, I argue, from the late seventeenth through the eighteenth century, *wenyi* 瘟疫 "febrile epidemics," defined as the most severe form of *wenbing*, became a new topic of medical analysis.

Then one day I had a "eureka" moment that added another level of complexity to the story. I was reading an 1878 compilation of three *wenbing* writings by local Suzhou physicians titled the *Discriminate Examination of Southern Diseases* (*Nanbing biejian* 南病別鑒). The editor Song Zhaoqi 宋兆淇 (fl. 1878), expressed in his preface not only an imagined geography of contrasting northern and southern types of soil, dominant climatic factors, and local diseases, but also argued that these differences interacted to

fashion a special southern constitution requiring its own medical therapies.[44] Song believed that the environment, climate, human constitutions, and disease were inseparable. His views of the natural world informed his conclusions about regional divisions in the medical realm. Furthermore, the publication of *Southern Diseases* manifested a local genealogy based both on his family lineage and in the regional social networks of the Suzhou medical community who followed the works of fellow native Ye Gui 葉桂 (1667–1746) and of which he was a member.[45]

In trying to learn how *wenbing* was elevated to a medical tradition on the same level of canonical authority as the *Inner Canon*, *Cold Damage*, and *Golden Casket* in modern China, I had come upon an unexpected geographic turn. Geography turned out to be a major theme in Chinese medicine. Song's contrast between northern Cold Damage and southern Damp and Hot diseases (which he considered the two main types of *wenbing* in Suzhou) became the pivot around which both the history of Chinese epidemiology and the geographic imagination revolved. Physicians like Song Zhaoqi turned *wenbing* into a separate category of disorders along with hot disorders and "damp-hot" disorders (*shire bing* 溼熱病) with their own system of diagnoses and treatments, and a new canon.

Wenbing developed from a nineteenth-century regional current of learning based on local medical networks to a twentieth-century centerpiece of TCM medical specialization theory and practice, one of the four basic specialties of TCM practiced today. In the PRC, in fact, it also offered an indigenous framework for the biomedical category of acute infectious disease. This framework became evident to the world in the course of the 2003 SARS epidemic. The late-nineteenth-century regionalist perspectives on *wenbing* survived in TCM discourse during that epidemic, as TCM doctors continued to assume northern and southern differences in the causes of the outbreak and called for regionally appropriate treatments for SARS patients.[46]

Even as the term *wenbing* changed its meaning over the two thousand years since it first appeared, Chinese authors had linked it to epidemics. In European history, physicians and patients alike have relied on three modes of explanation to understand epidemic diseases: configurationist, contagionist, and predispositionist. In the configurationist view "an epidemic was the consequence of a unique configuration of circumstances, a disturbance in a 'normal' – health-maintaining and health-constituting –

arrangement of climate, environment, and communal life."[47] This view tended to dominate medical thought in the West before physicians began to understand the role of microorganisms and other agents of infectious disease. In contrast to the configurationist perspective, the contagionist view understood epidemics to be caused by human-to-human transmission via some kind of pathogen. Whereas the configurationist mode of explanation based its holism on ideas of interdependence and balance, the contagionist approach reductively sought to find a single cause.

The third mode of explanation based on an individual's predisposition offered reasons why some became sick and others did not. Predispositionist thinking was inseparable from the other two approaches because it helped explain why some individuals were immune to an epidemic when multitudes died from it, whatever the ostensible cause. Although these explanations appear mutually exclusive – holistic, reductionistic, and individualistic – they have often coexisted peacefully in European medical thought.[48] In Chinese epidemiological thinking seen through writings on *wenbing*, these same three modes of reasoning also distinguished possible causes.

Summarizing the biography of *wenbing* in broad strokes, its configurationist character dominated the early to mature years (Han to end of Ming), the contagionist turn occurred during its later life (end of Ming through Qing), and the predispositionist trait remained a constant throughout: depletion was the necessary precondition for any source of illness. Internally a depleted state could be related to excess of emotion or immoderate lifestyle behavior, which would then make the person vulnerable to contract something externally from the environment. Still *wenbing's* basic seasonal character within the agrarian disease model continued after the late Ming contagionist turn that linked their extreme forms to febrile epidemics. The seasonal types of *wenbing* associated with spring and summer came increasingly in the nineteenth century to be linked to the generally warmer and damper climate of Jiangnan. This regional inflection of *wenbing* continued alongside the other interpretations of *wenyi*, which were increasingly seen as due more to local contamination than the regional climatic configurations that continued to explain other varieties of *wenbing*. Predisposition remained a constant for both disease concepts in that for *wenbing* the Jiangnan constitution was more susceptible to pathogenic configurations of *qi*, and for *wenyi* only the initially depleted

were vulnerable to attacks from the yet unknown poisonous, filthy, disease-causing types of external *qi* that caused epidemics.

To sum up, as a historical "biography" of an indigenous Chinese disease concept, this account of *wenbing* exhibits three faces that are part of the same narrative: as a window into a Chinese tradition of epidemiology; as an ancient regionally inflected approach to clinical medicine that resonated with Chinese ways of understanding human variation; and as a social-intellectual history of physicians in late imperial China and their new current of learning focused on epidemics and Warm diseases.

Medical Historiography

Whereas the structure of a biography is an evolutionary narrative that moves forward in time, history is constructed from chronological layers moving backward. In dealing with the history of Chinese epidemiology, skepticism, and the geographic imagination through this biography of *wenbing*, I have analyzed three different layers of historiography: twentieth-century historical perspectives; nineteenth-century retrospective syntheses; and a long-term approach focusing on the original writings of physicians at the center of this story, sometimes going back to the classics, which provided all of them with a common point of departure.

Most twentieth-century historians in mainland China wanted to understand medical thinking by, on the one hand, using biomedical categories (namely equating *wenbing* with acute infectious fevers) and, on the other, by creating a national synthesis of their traditions that supports current training needs in the TCM universities established since 1954. Both types of nationalist medical histories suffered from the problem of retrospective diagnosis in disease history as well as the tendency toward retrospective syntheses in medical history. Although helpful in both their overviews and descriptions of historical figures, they have written teleological histories of the *wenbing* current of learning within a linear trajectory of progress dominated by only a few important physicians. By focusing on the main *wenbing* texts and figures as part of a fixed tradition, they neglected to consider the process by which it came to be or to ask why so many of the principal physicians involved did not consider themselves at the time to be part of a shared tradition.

Medical historians have been debating the place of the *wenbing* current of learning as well. In the 1930s, for example, the medical historian Xie Guan 謝觀 (1885–1950) argued that Cold Damage, Warm and Hot diseases, and Warm epidemics were all just different names for infectious diseases (*tianxing zhi bing* 天行之病), and that writings on Warm and Hot diseases since the late twelfth century were expansions upon the classical model in the *Cold Damage Treatise*.[49] In the early 1960s, the historian Fan Xingzhun 範行準 recognized that "Warm diseases learning" diverged from the Cold Damage tradition after the mid-seventeenth century, and like Xie Guan, he considered Cold Damage and Warm diseases to be names given to acute infectious diseases in different periods.[50] In the 1970s, some histories treated the *wenbing* tradition as the most important source of theoretical innovation from the fourteenth century on, especially for clinical medicine.[51] By the 1990s, some *wenbing* textbooks presented this transformation as if *wenbing* physicians were, like their Western contemporaries, on a comparable path toward biomedicine. Others looked for a coherent, uniquely Chinese medical tradition that, as an indigenous path to modernity, could support the TCM curriculum and TCM clinical practice.[52]

The writings of the influential practitioner and historian of Chinese medicine, Ren Yingqiu 任應秋 (1914–84), represent a second type of historiography. He first coined the phrase "Warm disease current of learning" (*wenbing xuepai* 溫病學派) in his historical synthesis *Doctrines of Each Lineage of Learning in Chinese Medicine* (*Zhongyi ge jia xueshuo* 中醫各家學說, 1968). He was also the first to remark that it was one of the new developments in southern China (by which he meant the Yangzi River valley). His account of the "Warm diseases current of learning" described physicians from the thirteenth century and after, who either descended directly (*zhengpai* 正派), from the common ancestor (*zu* 族) or branched out (*zhipai* 支派), diverging from the orthodox lineage (*zong* 宗) of the Cold Damage medical tradition. In sum, Ren created a retrospective genealogy based on assumed affinities between texts of the previous seven hundred years, conventionally organizing these into currents of learning (*liupai* 流派). Even though he did not accept the modern equation of *wenbing* with infectious disease, his work supported the PRC government's

standardization of the TCM curriculum, which made *wenbing* one of the four major specialties.

Ren Yingqiu was not the first to create after the fact a genealogy of *wenbing*. He did not elaborate upon either what those involved said they were doing, or the strong southern identity of some of the contributors.[53] Explorations like his of the twentieth– and nineteenth-century genealogies of *wenbing* left unexamined the question of the role of the earlier medical writings at the time and in their authors' own words. What I found in the writing of late imperial physicians was a multiplicity of genealogies and a sense of geographical location. Both provided the strongest bonds of affinity that today's historians reconstructed instead on the basis of abstract *wenbing* doctrines. I saw the emergence of *wenbing* traditions that nineteenth-century Jiangnan physicians created as attempts to raise the status of their writings to equality with the canonical Cold Damage tradition, and in some cases, even to assert a regional identity in a disintegrating empire. In the compilers' prefaces to the major *wenbing* books of the nineteenth century, I found genealogical narratives that integrate this new knowledge into what could be called a modernist vision of an ever-expanding medical tradition, rather than a classicist vision of past medical canons as the trans-historical origin of the scholarly medical tradition. Supplementing what was incomplete in the canon, making new discoveries (*faming* 發明, lit. producing clarity or clarification), exposing previous limitations, and asserting regionalism, rhetorically bolstered the relevance of the new *wenbing* medical tradition that these authors were forming.[54] The imagined geographies that physicians used to understand the natural world around them were as central in the prefaces' historical narratives as the constructed lineages of medical knowledge these same physicians believed geography determined, but which were actually based largely in regional, local, and familial networks of social relations.

The cohesion of a group usually requires that its members share a professional, disciplinary, or other identity that distinguishes them from others.[55] When such professional institutions did not exist, as was the case in imperial China, there are no formal institutional archives remaining for the historian to mine, only genealogies, and of these, there are only two kinds. One records the networks linking practitioners through identification with the medicine of specific local lineages or networks of teachers and

students. The other is textual genealogies constructed from earlier texts that, according to the compilers, offered a coherent approach to a common topic.

This led me to a third approach to *wenbing's* historiography. Early Chinese physicians' own explanations of changing doctrines had little to do with improving the fit between recorded medical knowledge and an objective biological Nature, and nothing to do with abstract theory distinct from practice. Their explanations had a great deal to do with clinical and even doctrinal challenges they understood in terms of individual, climatic, and local variability of their own time and place.[56] Since I do not share with twentieth-century nationalist syntheses a concern for the origin of the *wenbing* tradition in classical canons (*Basic Questions*, *Canon of Problems*, and the *Cold Damage Treatise*) to legitimate its position as one of the four "canons" in the modern TCM curriculm, I consider my attention to other facets of its pre-nineteenth-century formation to be a "reverse genealogy."[57] By "reverse genealogy," I mean that I did not find one ancestral *wenbing* from which all later permutations sprung, but rather a long history of concern with regional variation that broadens out toward its beginnings, intersecting with the problem of epidemics, and more generally with concepts of geography, space, and disease. Instead of the genealogical tree narrowing down a trunk to a single point of origin, the further back one goes the further it branches out. Along these branches lie the sources that reveal a deeper history of geographical thinking and convergence of that thinking on the types of diseases that did not fit normative patterns and could not be easily controlled – for example, the diseases associated with the non-agrarian, undomesticated, or frontier spaces already described. These tended to be epidemics, perhaps the ancestors of today's influenzas, obscure killers unknown to modern medicine, as well as semitropical diseases on the southern margins of the empire. The primary sources also directed me to medical skepticism and to the geographic imagination in the history of Chinese epidemiology.

I integrated the long textual tradition of medical skepticism by classically oriented scholar physicians who, beginning in the twelfth century, sought to reconcile their regional perspectives with a classical canon, balancing the conventions of textual commentary with their own clinical experience. We will see this tension between past canon and present experience, universalism and localism, old formulas and new diseases through debates over Warm diseases and Cold Damage, the two most important types of

febrile epidemics. Underlying this debate was a challenge toward the post-eleventh-century canonical status of the Cold Damage tradition and the related social prestige of those who defended it most defiantly starting in the mid-eighteenth century (Chapter 6) and continuing into the present.[58]

Structure of Three Themes

How does the history of *wenbing* link with the other two themes of this book, the geographical imagination and epidemiology in late imperial China? These are not obvious connections. The thread that weaves these three themes into the fabric of this narrative is a deeply historical one, based on the connections that patients and practitioners themselves made in pre-modern writings. The completed tapestry woven from these themes is ultimately a work of historical synthesis and imagination. Whereas the Chinese geographic imagination dominantly reflected cultural conceptions of space, Chinese epidemiology grew largely out of a cosmological mapping of time. Both pursuits inherited concepts from antiquity. The former reveals a way of conceiving space not found on maps of China, but integral to traditional nosology and conceptions of contagion. The latter excavates the Chinese imagination of winds and weather, cyclical time and climatic pathogens that informed China's unique epidemiology but plays no part in modern epidemiology. The biography of *wenbing* is fundamentally a heuristic device that gives the changing meanings of space and time in the history of Chinese medicine a narrative structure.

The following three chapters, two through four, first enter the world of the Chinese geographical imagination through three access points in the medical literature. In Part I on Foundations and inheritances, Chapter 2 summarizes "A deep history of the Chinese geographic imagination" from a long-term perspective that starts with the geographic imagination in the Han medical classics and concludes with reflections on north–south differences from the major medical reformers of the thirteenth through fourteenth centuries. In Part II on New Ming medical boundaries, Chapters 3, "The geographic imagination in Ming medicine," and 4, "Ming medical frontiers," examine two sides of the geographic imagination in medicine from roughly 1400 to the mid-seventeenth century. On one side, there was the invention of a north– south dichotomy as a new geographic axis based on the two major river valleys – the Yellow River in North China and the

Yangzi River in Central China – and as a new medical distinction for environments, climates, diseases, and bodies within China proper. On the other side, there were anomalous diseases that did not fit into traditional cosmological categories or classical climatology, which some sixteenth-century and mid-seventeenth-century physicians identified with the far southern frontiers of the Ming Empire. Contemporary discourse on southern frontier diseases articulated clearer conceptions of contagion and criticisms of classical climatology. It expressed a broader philosophical trend in cosmological criticism that also informed the period's most important critique of traditional epidemiology.

By focusing on one physician's response to the 1640s epidemics, Chapter 5, "Ming medical skepticism," continues the narrative on anomalous disorders that do not fit traditional cosmological categories. Instead of being explained by climatic pathogens out of season (Chapter 2), by northern or southern climates (Chapter 3), or by the pathogenic environment (and people) of the Far South (Chapter 4), Wu Youxing attributed the epidemics then raging further north to pathogenic local *qi*. This chapter on a medical instance of cosmological criticism that emphasized locality concludes this section on Ming medicine.

These three chapters in Part II on the Ming geographic imagination, medical frontiers, and medical skepticism show how important meaning making is in creating boundaries. The focus on Ming sources reveals changes in medical boundary making related to space and time specific to the sixteenth through the mid-seventeenth century. The dichotomies northwest– southeast, north–south, center–Lingnan, seasonal–anomalous, climatic–toxic, normal–aberrant, local–universal, and cyclical–epidemic in Ming medicine were all put to work as physicians changed and expanded *wenbing*'s meaning afterward.

The three chapters in Part III bring together the Chinese geographic imagination and epidemiology in their focus on early modern and modern transformations in the meaning of *wenbing*. Chapter 6, "Matters of place," opens with the new Qing dynasty and Manchu fears of smallpox and then follows the trail of the 1642 *Treatise on Febrile Epidemics* as it moved south to Canton, and north to Shandong province. In the eighteenth century, it also entered imperial publications, and finally, returned to its native place in the first compilation on Suzhou medical writings of 1792. Physicians separated febrile epidemics (*wenyi*) from Warm diseases (*wenbing*); both

became important categories, distinct from the previously dominant classes of Cold Damage disorders and seasonal epidemics.

As we move toward the transformation of *wenbing* from a discourse to a tradition in Chapter 7, “Emergence of traditions,” we see how a greater emphasis upon locality reminded physicians of the great vastness and physical diversity of the empire. It offered an alternative to grand cosmological universals, opened points of departure for criticisms of the classical canon, addressed questions of human variation, accommodated medical anomaly, and suited authors’ local lineages, native places, and community-based forms of vocational organization. The inventors of the *wenbing* tradition drew upon the rich resources of the classical corpus to associate it with both epidemics and geographical locality. All the pieces had come together by the 1870s. During the same decade, some Western physicians were also writing about disease and geography in China in ways still comparable to their Chinese contemporaries. Others concurrently were shifting the field toward Western nosology, collection of vital statistics (even if limited largely to the coastal cities), and the geographic distribution of diseases across China.

In the twentieth century, *wenbing* interacted with both Western medicine and attempts to create a national Chinese medicine. During this time, it shed its southern character and entered the national medicine movement as an indigenous response to Western medical dominance. In the PRC period, Ren Yingqiu’s historical analysis transformed it once again into a “current of learning” (*xuepai* 學派) of the Ming-Qing period. Today *wenbing* disorders are both universal and regionally inflected depending on the situation. As a category overlapping acute infectious diseases, they occur in many local environments, but as disorders of the warm, semitropical south, they belong to a particular region. Here the geographical imagination of the local perhaps resonates with the concern for points of origin – such as disease reservoirs or “the patient zero” (the first patient indicating an epidemic outbreak) as origins of epidemics – that continue to challenge modern epidemiology. The Conclusion “New and old nosologies in modern China – From imagining to mapping the geography of diseases in China (and back again)” returns to the persistence in China since the 1990s of traditional ideas of climates, constitutions, and contagions that inform encounters with diseases of the Far South and newly emergent diseases. *Wenbing* domesticated the miasmas of the ancient Far South, becoming the

frame within which TCM physicians defined, understood, and responded to SARS in mainland China.

2 A Deep History of the Chines Geographic Imagination

The Five Directions, Northwest–Southeast Dichotomy, and Southern Shift

> As for methods of using drugs, what [we] value is understanding [how a disorder] varies (*bian* 變). For instance, in the convergence of winds, there are differences between ancient and present [times]; in the *qi* of the land, between north and south; in the seasons if heaven, between cold and hot; in inborn endowment [of vitality], between generous and scant; in exposure to disorders, between those of old and new; in age, between young and old; in nutrition and habitation, between high and low social position.[1]

The Chinese geographic imagination and related conceptions of human variation took many forms and changed over time. This chapter summarizes the building blocks of this geographic imagination drawn from classical sources and broadly traces the emergence of new forms of regionalist skepticism toward the classical medical tradition that emerged in the Song-Yuan period. The consolidation of empire from the late tenth century on under the Song (960–1127) was broken by the early-twelfth-century invasion of the Jurchen people from the far northeast who established the Jin dynasty (1115–1234) in the north. The Song court fled to the Yangzi Delta, setting up a new dynasty in Hangzhou, Zhejiang province, now called the Southern Song (1127–1278). Medical systematization and innovation in the Northern Song consolidated the textual canon, but the move south fostered regional awareness among physicians. The original conception of

"Three Masters" (*sanjia* 三家) in the north revised the Song imperial medical synthesis. After the reunification in 1368 under Han Chinese rule, the centers of medical authority permanently shifted south to Jiangnan, and diverse regional lineages of medical learning adapted the teachings of the "Four Masters" (四家) for their own purposes.[2] This chapter concludes by documenting this southern shift in medical authority that preceded the regionalism in late imperial medical thought and practice that the following chapters examine.

The Chinese Geographic Imagination in Medicine

Literate physicians from the late tenth century onward increasingly explained human variation by differences in regional environments, social status, and bodily attributes. Whether the climate was predominantly cold or hot, dry or damp, fiery or windy mattered clinically because the interior of the human body was a microclimate. Whether the external region was high (mountainous) or low (near sea level), in the northwest or the southeast, north of the Yangzi River or south of it, determined the main climatic factors for that region. Gender, age, wealth, status, and native place predisposed patients to be a yin or yang type, that is, robust or weak in constitution, fleshy or thin in physique, high or low in vitality. From the late fourteenth century on, physicians' geographic conceptions explained divergences in medical doctrines, diagnostic practices, and therapeutic preferences, according to northern and southern medical styles of practice.

This discourse on northern and southern medical constitutions and therapeutic practices, however, did not exist before the Southern Song dynasty.[3] Earlier textual traditions relevant to the geographic imagination in medicine relied on two dominant ideas. One was the Chinese myth of the titanic Gong Gong, who destroyed one of the pillars of Heaven in the northwest corner of the world, causing the Earth to tilt down toward the southeast. This myth explained why the stars moved counterclockwise toward the northwest and why the rivers flowed southeast.[4]

The second medical-geographic idea, most fully stated in *Basic Questions*, divided China into five directions (*wufang* 五方) – the center and four cardinal directions. Each region had its own dominant climatic factor, type of land, foods, diseases, and appropriate therapies of local origin. In

contrast to the northwest–southeast axis of difference, the five directions concept also aligned the five climatic factors, four seasons,[5] and patterns of ailments and cures with regional cosmological correspondences. When physicians of the Song and later periods looked for classical precedents for their regional perspectives, they turned to these two canonical sources.

Mythological Origins: Gong Gong Butts Mount Buzhou

The northwest–southeast polarity originates in a story about the titan Gong Gong recorded in the "Heavenly Questions" (*Tian wen* 天文), part of the *Songs of the South*(*Chu ci* 楚辭).[6] The passage from the "Heavenly Questions" reads: "[When] Kang Hui [i.e. Gong Gong] was enraged, why did the land lean southeast?"[7] The *Book of Master Lie*(*Liezi* 列子, *c*. 300 CE) preserves the earliest response to this question.[8] It attributes the imbalance of yin-yang in the world to a fight between Gong Gong and a ruler, Zhuan Xu.[9] It follows that Heaven and Earth are:

> things [themselves], and like the things [of Heaven and Earth], things have imperfections. That is why in ancient times Nuwa melted stones of all the five colors to patch up the flaws, and cut off the feet of the turtle to support the four corners. Afterwards, when Gong Gong was fighting Zhuan Xu for the empire, he knocked against Mount Buzhou in his rage,breaking one of the eight pillars of Heaven, snapping one of the threads that support the Earth. For this reason Heaven leans northwest; and the sun, moon, and stars move in that direction; the Earth does not fill the southeast, so the rivers and the rain floods find their home there [see Table 2.1].[10]

Table 2.1 The eight earthly pillars that hold up heaven

Southeast pillar	South pillar	Southwest pillar
East pillar		West pillar
Northeast pillar	North pillar	Northwest pillar = Mount Buzhou

John Major succinctly explained this story in cosmological terms as a myth to account for the fact that the ecliptic (the path of the sun and, approximately, of the moon and planets, around the Earth) does not coincide with the celestial equator (the Earth's equator defined by the rotation of the fixed stars).[11] In sum, the eight pillars in this myth not only explained why the cosmos was askew, but also why the celestial pole of the sky's rotation was not directly overhead, and why the major rivers of China flowed toward the east.[12]

The *Inner Canon of the Yellow Emperor*

During the last four centuries before the Common Era, natural philosophers tried out many ways of thinking about the natural and social worlds. From the formation and consolidation of the Han Empire (206 – *c*. 80 BCE) onward, cosmology and natural philosophy became inseparable from political philosophy and state ideology. The authors of geographic, political, and also medical books from about 300 BCE consciously correlated the cosmos, state, and individual.[13] They legitimated the newly unified Qin-Han state by arguing that its imperial rituals and bureaucratic procedures were based on processes in nature. They linked the cosmos to the state and body as microcosmic realms. The *Inner Canon*, a product of this political and social philosophy like other writings of the time, is a series of dialogues between the legendary Yellow Emperor and various state ministers who answer his questions or solicit replies from him.[14]

The minister Qibo answers the questions in 60 of 68 sections in *Basic Questions*. In one important exchange, he associated the ministries of the civil service with the systems of somatic functions that the viscera govern. He used twelve posts in the Han state bureaucracy as a metaphor to explain the functions and interdependence of the visceral bureaucracy: "The cardiac system is the office of the monarch; consciousness issues from it. The pulmonary system is the office of the minister-mentors; oversight and supervision issue from it. The hepatic system is the office of the general; planning issues from it."[15] At the center, the heart and its consciousness needed to assure communication among and coordination of the remaining eleven viscera just as the monarch needed to govern through his ministries. This essay on the state-body bureaucracy echoed the ideal of the newly

formed empire in which all officials served one central bureaucracy and the ruler regulated everything.[16]

Medical cosmology also connected this bureaucratized body to the external universe. The macrocosm-microcosm relationship between cosmos and body proved here to be a powerful rhetorical strategy. Among the most important concepts for medicine were *qi*, yin-yang, the Five Phases (*wuxing* 五行), the five climatic *qi*(*wuyin* 五淫), and the five directions (*wufang* 五方). As part of Han cosmology, these concepts were a self-evident structure physicians used to explain the phenomena of illness. Integrated into an over-arching doctrine of cosmological processes and correspondences, these foundations of medicine in the *Inner Canon* emphasized universals of macrocosm and microcosm, and cycles of change and seasonality. Geographical influence on health and disease was part of this overarching scheme of things. To see the geographical imagination at work in the classics, we have to situate it within the schematic universalism that pervades the *Inner Canon*.

In Chinese cosmology, the polarity of yin-yang represented a division of the world into complementary types of *qi*. *Qi* is simultaneously matter and vitality. It is so multifarious that the character is untranslatable into languages that draw their metaphysics from Western traditions. Depending on the context, it can mean "stuff that makes things happen" or "stuff in which things happen," and "what makes things happen in stuff."[17] *Qi* is what is most vital to our well-being – what keeps us alive, and vitality itself. It is also harmful vitality: turbid, filthy, or pestiliential *qi* that causes diseases. The first division of undifferentiated *qi* was into its yin *qi* and yang *qi* aspects. These dynamic yin-yang aspects structured all experience into such dualities as female–male, night–day, cold–hot, receptive–active, below–above, north– south, and receiving–giving. Etymologically the shady (*yin* 陰) and sunny (*yang* 陽) sides of a hill or stream, yin-yang divided all phenomena, linear or cyclical, into complementary aspects.

Although yin and yang are opposite in quality, they are always complementary in action. They structure sequences of change within a systematic framework and define the framework itself.[18] Two models of change were embedded in yin-yang theory: a cosmogonic sequence from undifferentiated unity to worldly multiplicity and a medical sequence from undifferentiated *qi* to the myriad yin-yang transformations of human

experience. Both models represented the division of the inchoate cosmic whole into all the manifestations of the world we experience – the multiplicity of *qi* – by first splitting into pure yin and yang *qi* aspects.

Between duality and multiplicity lay organizing principles based on groups of four, five, and six, of which the Five Phases became the most important.Thinkers over the last three centuries BCE systematized this conception to identify complementary aspects and sequential processes of change. It was precisely like yin-yang, which they also adapted, but enabled a more complex analysis when that was desirable. The Five Phases of imperial China represent processes, not elements or the materials after which they were named. For instance, Wood was not material wood, but rather certain transformations associated with it, such as growth and flexibility.[19]

Scholars of the tenth century CE elaborated the original five seasonal manifestations of *qi* in the *Inner Canon* – Wind (*feng* 風), Cold (*han* 寒), Dampness (*shi* 濕), Dryness (*zao* 澡), and Fire (*huo* 火), adding Summer-Heat (*shu* 暑) to encompass six climatic configurations (*liuqi* 六氣).[20] In this context Fire could also be called Heat (*re* 熱), a concept not strictly seasonal.[21] The Fire configuration of *qi* could also include both Warm (*wen* 溫) and Hot pathogenic *qi*. When one of the six configurations acted out of the regular temporal sequence or manifested excessively, they became one of the six excessive climatic configurations of *qi* (*liu yin* 六淫), that is external climatic pathogens. These six pathogenic climatic *qi* were included in the major causes of illnesses (*bingyin* 病因) as external heteropathies (*waixie* 外邪). The last term conveys best the traditional conception that any external *qi* is likely to cause a dysfunction if it invades a depleted body.[22]

Illness was thus one outcome of the struggle between heteropathic *qi* (*xie qi* 邪氣) entering the body from the outside and orthopathic *qi* (*zheng qi* 正氣) defending the body from within. Heteropathy (*xie* 邪) referred to *qi* other than that of the body, which disrupted its balance. The term derived from the popular conception of possession by malevolent spirits, but most classical physicians rejected this original sense. Orthopathy (*zheng* 正) referred to the body's inborn *qi*, or that of food, drink, or air that it had metabolized (that is, transformed into its own *qi*), those that were integral to it and therefore contributed to its normal functioning. "Both the vital

resources of the body's internal order and the agents of disorder opposed to them are *qi*, dynamic agents of change."[23]

Based on this idea of a struggle between heteropathic and orthopathic *qi*, the etiology of the six excesses correlated seasonal change with disease constructs. In the spring, Wind disorders were dominant; in the summer, Hot disorders increased; during the peak of summer, Summer-Heat damage occurred; during the transition in late summer to autumn, Damp disorders became prevalent; during the autumn, people were most likely to contract Dry disorders; in the winter, people either became sick with Cold Damage or contracted Cold that manifested as Warm, Hot, or Summer-Heat disorders in later seasons.[24] These configurations of excessive *qi* individually caused disorders. They could invade the body in concert, causing painful joints or headaches. The human body was thus a microcosm of macroclimatic transformations.

The Five Directions and the Five Phases

In the foregoing, temporal rhythms – seasonal and calendrical and not geographical and spatial particulars – best explained health and disease. Geographical factors came into play in the cosmology of the Five Phases. In medical thought this set of concepts was applicable to many registers of perception – climatic and seasonal, visual and visceral, emotional and dietary. They involved sequences of transformations beginning in each cardinal direction. For example, the direction east belongs to the phase of Wood, the color green, the spring season, the liver viscera, the quality of sourness, the feeling of anger, and the energies of growth and acceleration. The analogous associations of the other directions and phases have similar correspondences that wove the classical Chinese triad (sancai 三才) Heaven, Man, and Earth together in a spatio-temporal order that included multiple levels of human experience (see Table 2.2).

Table 2.2 The Five Phases system of correspondences

Phase	*Wood*	*Fire*	*Earth*	*Metal*	*Water*
Climatic qi	Wind	Summer-Heat	Damp	Dry	Cold
Direction	East	South	Center	West	North
Season	Spring	Summer	Mid-Summer	Autumn	Winter
Color	Green	Red	Yellow	White	Black
Sapors	Sour	Bitter	Sweet	Pungent	Salty
Viscera	Liver	Heart	Spleen	Lungs	Kidneys
Emotions	Anger	Joy	Worry	Sorrow	Fear

The concept of five directions thus added spatial dimension to the temporal, seasonal, and corporeal realms of the Five Phases system of correspondences. One dialogue in *Basic Questions* titled "On different methods being appropriate [for different] directions" (*Yi fa fang yi lun* 異法方宜論) focused on this spatial dimension of medical cosmology. "The Yellow Emperor asked Qibo: 'When doctors treat medical disorders, they use different methods but their patients all recover. Why is this?' Qibo responded: 'This is due to the Earth's physical features (*dishi* 地勢).'" The different qualities of land and climate in the five directions accounted for differences in not only eating habits, local customs, and diseases, but in responses to appropriate therapy.[25]

Table 2.3 summarizes how, in this classic essay, the "five directions" spatial associations became part of the Five Phases system of correspondences central to *Inner Canon* medicine.

Table 2.3 'On different methods being appropriate [for different] directions'

	East	*West*	*North*	*South*	*Center*
Phases	Wood	Metal	Water	Fire	Earth
Seasons	Spring	Autumn	Winter	Summer	Late summer
Seasonal nodes	Vernal equinox	Autumnal equinox	Winter solstice	Summer solstice	
Land Type	Borders ocean and is origin of all things	Sands, rocky, gold, jade	High land, cold, live in caves	Low-lying land, thin soil, vaporous, and misty	Level-lying land, damp, produces all things
Foods	Fish and salty foods	Rich foods and meats	Milk	Sour and fermented foods	A variety of foods
Diseases	*Yong* boils, *chang* swellings	Internal disorders	Full disorders due to cold in the viscera	*Luan* spasms, *bi* numbness	*Weijue*, chills, fevers, and paralysis
Therapy	Stone *bian* probes	Toxic drugs	Moxibustion and cautery	Fine needles	*Daiyin* exercise, *anqiao* manipulations

a This table is a summary of the main differences in the five regions in "*Yi fa fang yi lun*," HDNJ 1986, *Suwen* 12, *jie* 1–5, pp. 39–40.

Although this essay on the five directions in the *Basic Questions* was one of the earliest sources for the geographic imagination in medicine thereafter, it did not turn out to be the most influential; late imperial physicians, in particular, did not feel compelled to follow its five directional schema to the letter or even the content of the essay, using the same title for ruminations on other geographic conceptions more relevant to them than the five directions model of antiquity (see Chapter 3). Nonetheless, since it is the most complete statement on disease and the geographic imagination in Han medicine, and was also referred back to in some late imperial medical writings, I translate it in full here.

> The east is where Heaven and Earth were born. It is the land of fish and salt and it borders the ocean. The local people eat fish and like salt. They live securely and enjoy their foods. Fish causes people to accumulate

heat within them and salty foods create a preponderance of Blood (yin *qi*). Therefore the people have dark complexions and porous skin (*shuli* 疎理). The [common] illnesses there are boils (*yong* 癰) and swellings (*yang* 瘍). The most appropriate treatment for [these problems] is stone probes (*bianshi* 砭石); therefore stone probes came from the east.

The west is the land of metals and jades,[26] a place of deserts and stones, and where Heaven and Earth's harvests are gathered. The people live in caves and there is a great deal of wind. The environment [lit. water and soil] is hard and compelling. The people do not wear conventional clothes, but instead wear wool and (other) woven fibers. The people eat rich foods and [tend to be] fat; heteropathic *qi* cannot damage their bodies. Their illnesses arise from within. The most appropriate treatment is toxic drugs (*duyao* 毒藥);[27] therefore toxic drugs came from the west.

The north is where [things of] Heaven and Earth shut down and hibernate. The altitude is high, so that the people live in caves. The wind is cold and [water] freezes. The people like to live outdoors, and eat foods made of milk. [Their] viscera become cold (*zang han* 藏寒), causing disorders that involve sensations of fullness (manbing 滿病). The most appropriate treatments are moxibustion and cauterization; therefore moxibustion (*jiu* 灸) and cautery (*ruo* 焫) came from the north.

The south is where Heaven and Earth grow and nourish [things]. It is the place of mature yang. Its land is low-lying, water and earth are weak, and fog and mists accumulate there. The people like sourness and ripe, smelly foods. Therefore, they have tight pores (*zhili* 緻理) and red complexions. The [common] illnesses there are spasms (*luan* 攣)and numbness (*bi* 痹).[28] The most appropriate treatment is fine needles (*weizhen* 微鍼); therefore the nine types of needles came from the south.

The center is where the land is level and damp. It is where the myriad things Heaven and Earth produces are plentiful. The people eat diverse foods and are not exhausted [by producing them]. The common illnesses there are flaccidity (*wei* 痿), atrophy (*jue* 厥), and alternating fevers (*hanre* 寒熱). The most appropriate treatments are guiding (*daoyin* 導引) [exercises] and manipulations (*anqiao* 按蹻); therefore *daoyin* and manipulations came from the center.

> The sage [physicians] brought all these various [therapies] together in order to treat each disorder appropriately. Therefore, although the treatments may differ, the illnesses are always cured. This is because they mastered the true character of each disorder, and understood the great principles of therapy.[29]

When readers peruse this summary of the five directions and their associated eating habits, illnesses, and therapeutic strategies, they may well recognize a rough sketch of the early empire's geography. The capital was in the northwest (Xian in today's Shaanxi province). China's horizons stretched from the eastern ocean to the western deserts, and the productive fields of its agricultural center were flanked by high plateaus and mountains in the cold north and low-lying plains and river valleys in the damp south.

In addition to this five-direction schema, the *Inner Canon* uses two other ways of thinking about disease and geography: the enumeration of eight pathogenic winds and a northwest–southeast dichotomy. Two chapters in the *Divine Pivot*, for example, elaborate on the potential ills that blow in with the winds of the eight directions. The wind that comes from the south, for instance, is called the "great weak wind" (*daruo feng* 大弱風). It can harm people by affecting their hearts or through their circulation vessels (*mai* 脈). The seven other directions from which winds blow have names and ills of their own.[30] This concept of the eight directional winds also explained why during epidemics so many people came down with the same sickness at the same time. It articulated one of the *Inner Canon*'s interpretations of what would now likely be called infectious diseases.[31] Although two of the eight winds came from the northwest and southeast, and their qualities were contrasting, the eight-wind concept did not yet make them a dialectic pair.

Two chapters in *Basic Questions* borrowed from the ancient account of Gong Gong, the mythical geography of an Earth that tilts upwards toward the northwest and downward toward the southeast.[32] One deploys the northwest–southeast duality to explain right-hand and right-foot dominance and left-ear and left-eye dominance.[33] The Yellow Emperor asks Qibo this question:

> Heaven is insufficient in the northwest, thus the northwest is yin and human ears and eyes on the right are not as good as those on the left. Earth is incomplete in the southeast, thus the southeast is yang and

human hands and feet on the left are not as strong as on the right. Why is this so?[34]

Qibo's response applied the yin-yang polarity of the Earth's contours – the high mountainous northwest, where Earth (yin) was dominant, and the low-lying watery southeast, where Heaven (yang) was ascendant – to the sides of the human body: northwest-yin-right side and southeast-yang-left side. A person's head points north, the left side is east, the right side is west, and the feet are south. The right ear and eye, in the northwest quadrant of the body, do not receive sufficient yang *qi* to see and hear well. The left hand and foot, in the southeast quadrant of the body, do not receive sufficient yin *qi* to support their structure, so they are weaker than the right hand and foot.

The second example of a northwest–southeast dualism was added to the *Basic Questions*, almost certainly by the best-known commentary, Wang Bing 王冰 (8th cent.) – but physicians before modern times accepted it as authentic.[35] This fabricated chapter projected the dualism onto geography as well as the human body, and used it to assert important contrasts in climate, longevity, and illnesses.[36] This interpolated dialogue distinguished the qualities of northwest and southeast in terms of yin and yang, Heaven and Earth.

The pertinent section begins with the emperor asking, "Heaven is insufficient in the northwest, the left is cold and the right is cool; Earth is incomplete in the southeast, the right is hot and the left is warm. What is the reason for this?" How do left and right explain differences between cold and cool on the one hand hot and warm on the other? By about 600 BCE, left was linked with east and right with west.[37] This was because the Zhou kings faced south during state rituals. Their left side was toward the eastern rising of the sun (yang); and their right side was toward to the western setting of the sun (yin). The south was in front of the king, and north behind him. The nobles who attended stood in concentric squares around the ritual space, with barbarian peoples outside the gates. For those who stood on the north–south axis, north was the superior position; east was superior for those on the east-west axis.[38] The cardinal and climatic correlations of this ritual positioning were: for the upper northwest corner, the king's upper extremity (namely his head), is associated with the north and the quality of cold, and his upper right side is the west and coolness; similarly, for the lower

southeast corner, his lower left side is the east and warmth, and lower extremities are the south and heat.

Although this analogy of ancient state ritual clarifies these correspondences, they remain clinically opaque. Qibo's response clarifies what "insufficient Heaven" and "incomplete Earth" mean in medical practice by asserting cosmological polarities of yin and yang (see Table 2.4).

Table 2.4 The northwest–southeast axis in clinical practice

Direction	*Yin/Yang*	*Heaven/Earth*	*Height*	*Direction of* qi *movement*	*Climatic* qi	*Illness*
Northwest	Yin	Earth	High	Upward *qi*	Coolness and cold	Swellings
Southeast	Yang	Heaven	Low	Downward *qi*	Warmth and heat	Ulcers

"Heaven is insufficient in the northwest" thus means that the yin qualities of Earth dominate over the yang qualities of Heaven in northwestern regions. "Earth is incomplete in the southeast" means that the reverse is true in southeastern regions, where the yang qualities of Heaven dominate. The emperor then asked Qibo how this yin-yang difference affected longevity, and how it might affect therapy. Qibo's answer reveals another inequality in this geographic polarity: where yin essence ascends in the northwest, people live long, but where yang essence descends in the southeast, people die prematurely.[39] Treatments also differ for the same illness because of comparable differences in regional climates. The different climatic pathogens characteristic of each region require variations in treatment. In the northwest, they "soak the patient in [hot] liquids" to treat the disorders due to the cold and cool climatic *qi*; in the southeast, they "strengthen the patient's inner defenses" to treat the illnesses caused by the warm and hot climatic *qi*.[40]

These two dialogues apply the ancient concept, "Heaven is insufficient in the northwest; Earth is incomplete in the southeast" in two different ways. The one original to the *Inner Canon* of the first century BCE explained the dominance of the right hand and foot, and the chapter interpolated in the eighth century elucidated regional differences in climate and constitutions. Both relied on the macrocosm-microcosm model to correlate celestial-

terrestrial structures with the human body and used the yin-yang principle to systematize and simplify geographic and human variation.

In these spatial concepts from the *Inner Canon* – the five directions, eight directional winds, and the northwest–southeast duality – medical experts of later dynasties found canonical authority for their own conception of ecological resonance based on differences in local *qi*. The spatial and temporal quality of local *qi* accounted for regional, cultural, and somatic difference. These ideas united traditional conceptions of the environment, climate, and disease with a notion of self deeply rooted in native place. This later articulation of regional consciousness and the geographic imagination developed gradually as a reaction against the codification and systematization of a medical canon that medical thinkers of the fourteenth century on identified with imperial orthodoxy and centralized empire. In it the five directions and eight winds would recede to the background and the northwest–southeast duality would come to the fore; furthermore, a new northern–southern medical axis would become relevant for interpreting a changed political world.

Song Systematization of Medicine, Establishment of Medical Canons

After reunifying China in 960, two early Northern Song emperors began an ambitious program of state building by reducing the military's power, expanding the civil service examinations, and promoting Confucian orthodoxy. As part of this civilizing mission, they supported education by collecting manuscripts throughout the empire, editing the most important, printing them, and distributing their standardized texts. This policy included not only orthodox classics but those of medicine, mathematics, and other fields. Printing before that time had hardly been used for secular writings.

The new set of printed medical classics was circulated to the provincial government offices, where the individual books were widely available for copying. The palace supplemented these classics with medical encyclopedias, works on materia medica, and formularies. In the cities, the government kept the prices of drugs within reason by opening publicly funded pharmacies. These and other measures involved the Song state more closely in medicine than ever before. Its medical and other publications became the basis of curricula for centuries.

Two further issues informed state medical policy from the eleventh century on. One was a drive to spread Han civilization to the south. Its boundaries now extended far beyond the wealthy and populous lower Yangzi Delta region to Lingnan (present-day Guangdong and Guangxi provinces). The second issue was epidemics. Outbreaks were increasingly reported as large in scale and deadly.[41]

The motivation to produce a new ideological orthodoxy based on Confucian classics also propagated canonical medical practices as a way to cope with these epidemic crises. Among the most important of the restored medical classics for this purpose was Zhang Ji's *Treatise on Cold Damage and Miscellaneous Disorders* (*Shanghan zabing lun*, 2nd cent. CE). It was the first medical book to provide a method for treating the gamut of febrile disorders, of which Warm diseases were a subcategory.[42]

The text's terse descriptions move from disease category to primary symptoms to explanation to formula: "Cold Damage: pulse floating and slippery. Heat is in the exterior; cold is in the interior. White Tiger Decoction controls it." This pattern is of the "yang brightness dryness-heat" type of Cold Damage, characterized by excessive heat, thirst, sweating, and a surging and large pulse (or one that is floating and slippery as in the translation that begins this paragraph). But if the patient also showed signs of aversion to wind, a dry tongue, increased desire to drink water, an agitated heart, and a slight aversion to cold in the back, than ginseng was added to the original White Tiger Decoction.[43]

Medical practice based on the *Cold Damage Treatise* matched the most appropriate canonical formula (*jingfang* 經方) to the transformation of symptoms, though this was not always as straightforward as the above example suggests.[44] It was only after the Jin-Yuan era critiques of these newly orthodox Cold Damage formulas of the Northern Song formularies that physicans began to develop variations called "contemporary formulas" (*shifang* 時方) in contrast to the "canonical formulas" of the Cold Damage tradition.[45]

A seamless web of correspondence linked yin-yang dualities to concrete clinical practice. Central to this account of disease patterns was the nosology of Cold Damage disorders due to an excess of pathogenic Cold. When the Cold *qi* becomes dormant or latent in the body, it can manifest in the spring as a Warm disease or in the summer as a Hot disease. This is an

example of how a yin aspect of *qi* (i.e. Cold *qi*) can give rise to an effect associated with its yang aspects (i.e. the fevers and hot sensations specific to a Warm disease). Generally, Cold Damage would be treated with warming and Warm diseases with cooling prescriptions. In practice, a physician would choose from a range of therapeutic strategies over the course of a single illness as it progressed. What organized his responses was a diagnostic method now called Six Warps (*liu jing* 六經), drawing from a common textile metaphor of the warp and weft of a loom. It distinguished six stages or patterns of a Cold Damage illness as it courses from relatively exterior and superficial to relatively interior and increasingly dangerous. This analytic method tied cosmic yin-yang cycles to pathological processes.

Practitioners understood both Cold Damage and Warm disease within an agrarian cycle of seasonal change. In classic Cold Damage discourse, temporal extremes – summer and winter – and unseasonable weather at any time dominated explanatory frameworks. In what became the Song medical orthodoxy, geographic variation became less important than temporal fluctuation. Warm diseases – integrated in this now nearly canonical model of disease – continued to be a subcategory of Cold Damage with textual roots back to the early classics.[46]

Zhang Ji's medical works were rare until after 1065, when the Northern Song government published them. Song physicians thereafter generally accepted Cold Damage doctrine on seasonality and illness as the orthodox therapeutic strategy for critical clinical challenges. Phase energetics, a new path of inquiry halfway between numerology and astrology, also emphasized temporality. It identified seasonal and calendrical variations responsible for disease outbreaks according to an elaborate catalogue of "Five cyclical phases and six energetic configurations" (*wuyun liuqi* 五運六氣).[47] This approach to the explanation of fevers was detailed exclusively in Wang Bing's eighth-century interpolated chapters and circulated widely for the first time in the imperial Song edition of *Basic Questions*. Another path, explored below, paid more attention to space, introducing new regional perspectives into the discussion of Cold Damage.

Regionalism and Skepticism in Song Medicine

Before the Song, even learned medical practice had not been centralized. Local lineages provided it, transmitting their skills within the family or by

apprenticeship. Initiation often involved secret manuscripts and great clinical diversity was the norm.[48] Once the state had codified the medical classics and made them public, scholarly physicians began to recognize their spatial and temporal limitations. Early on, authors complained about drug formulas unsuited to local conditions. The Northern Song scholar Zhang Shunmin 張舜民 (*c*. 11th cent.) expressed his doubts about the accuracy and comprehensiveness of the earliest Chinese materia medica, the *Divine Husbandman's Canon of Materia Medica* (*Shennong bencao jing* 神農本草經, 1st or 2nd cent. CE). He charged that the first annotator of the text, Tao Hongjing 陶弘景 (452–536) – the famous Shangqing Taoist alchemist and imperial client of two dynasties – made many errors because he was not familiar with drugs from the north: "Tao Hongjing, because he did not thoroughly know northern drugs, sometimes made mistakes. People in the Tang detected many of them. Anyone is certain to be ignorant of something, but this is not worth fussing about."[49]

Even the great Southern Song philosopher Zhu Xi 朱熹 (1130–1200) weighed in on Tao's version of the *Canon*:

> When Tao annotated the materia medica, he could not identify [all] the substances. Later commentators claimed that he made many errors. Because he was a southerner, and at that time there was no contact between south and north, he did not know about northern products.[50]

Northern and Southern Song scholars thought that the *Divine Husbandman's Canon* was written by an archaic sage, but some believed that as it came down to them it was neither pharmaceutically accurate nor geographically comprehensive.

Zhu Gong 朱肱 (*jinshi* 1088) was an early skeptic about the ancient Cold Damage formulas. In his *Categorized and Verified Life-saving Treatise*(*Leizheng huo ren shu* 類證活人書, pr. 1108), Zhu mentioned north–south differences when he discussed two classes of epidemic disorders that occurred only during the winter: Winter-Warm (*dongwen* 冬溫) epidemics caused by anomalous Warm *qi*, and Cold epidemics (*hanyi* 寒疫) caused by extreme Cold *qi*. He also temporally circumscribed Warm diseases: a fever, abnormal sensitivity to cold, headaches, body pain, and a floating tight pulse occurring before the summer solstice indicate a Warm

disease. Minor injury due to Cold *qi* in the winter produces these symptoms once the Warm *qi* of the spring activates the process that transforms the initial yin cause (Cold *qi*) to a yang manifestation (Warm disease). Although Warm diseases of this type are not as severe as Cold Damage in the winter or Hot diseases in the summer, Zhu argued that because of northwestern and southern climatic contrasts, physicians could no longer rely on the dosages in the original Cold Damage formulas:

> The Great Gray[51] Dragon formula with Ephedra and Cassia is only effective all year round in the two regions north and west; in no cases has it proven ineffective. However, the Jiang-Huai region (i.e. between the Huai River to the north and Yangzi River in the south) tends to be warmer so only during the winter months and the beginning of spring can the orthodox formulas be used. From the end of spring to the summer solstice, the Great Gray Dragon formula with Ephedra and Cassia is best adjusted accordingly.[52]

Zhu Gong's statement is skeptical about the universal applicability of Cold Damage formulas. Although he still considered "Warm diseases" a sub-category of Cold Damage, in the Jiang-Huai region the canonical formulas needed to be seasonally adjusted for it. Despite the lack of extant textual evidence, it is possible that Zhu Gong articulated earlier skepticism toward the writings of Zhang Ji, explaining in part why his texts did not widely circulate before their imperial patronage in the eleventh century.[53]

By the mid-thirteenth century, a few Southern Song scholars explicitly set limits on the value of the *Cold Damage Treatise* as a standard applicable to therapy in their time and place. For example, the official Zhao Xibian 趙希弁 (d. after 1250) wrote:

> Someone skilled in medicine once remarked that "the *Cold Damage Treatise* of Zhang Ji is truly a classic that needs no correction. However, it includes the illnesses of adults, but not the sufferings of children; it includes northern drugs, but not southern treatments. These are its shortcomings." It would seem that south of Chen 陳 and Cai 蔡, Bupleurum Root and White Tiger decoctions for Cold Damage are not used. The words [of this judgement] make extremely good sense.[54]

Zhao agreed that the classic ignored childhood illnesses. He also situated Zhang and his medical knowledge in the north, where Zhao thought diseases caused by Cold *qi* were more predominant. Here we find evidence that some of the canonical formulas were not even being used south of Henan province. This would include Hangzhou, the capital of the Southern Song, where Zhao Xibian likely lived as an official.

Song Medicine Revised – the Northern Masters of the Jin and Yuan

Regional perspectives had been sharpened when the fall of the Northern Song in 1127 split the empire. Medical experts living in the north under two foreign dynasties – the Jurchen Jin and the Mongol Yuan – launched sweeping criticisms of the Song state's medical orthodoxy. While the Southern Song dynasty continued to promote Song state medicine – albeit sluggishly – innovation passed to the North and into the hands of private physicians not subject to the Song government. Of the physicians later identified as the "Four Masters of the Jin and Yuan," three (Liu Wansu, Li Gao, and Zhang Congzheng) were northerners little known in the South for the century and a half until China was reunited in 1368. Li Gao's teacher, Zhang Yuansu 張元素 (late 12th–early 13th cent., Hebei), according to his biographer, articulated their common approach. Zhang introduced a distinction between diseases of antiquity and "new diseases" (*xinbing* 新病). His biography in the *Standard History of the Jin*(*Jin shi* 金史, 1344) concluded on this point:

> Ordinarily, Zhang did not use the ancient formulas to treat diseases. He claimed that "Phase energetics are not uniform, the past and the present run on different tracks, and ancient formulas are ineffective for new diseases." This became the approach of his lineage (*jiafa* 家法).[55]

Zhang Yuansu's direct disciple, Li Gao, and his southern admirer, Zhu Zhenheng 朱震亨 (1281–1358, who became the fourth of the Four Masters), followed this maxim in their medical practices and writings. Perhaps shaken by the epidemics and warfare of their turbulent times, the Jin-Yuan masters were medical skeptics broadly critical of the conventional formularies that the Song state had promoted. Relying on orthodox

precedent could not reliably solve present problems; new diseases demanded new therapies. They directed their skepticism not only at the government-issued formularies – such as the Song encyclopedic pharmacopoeia, the *Formulary of the Pharmacy Service for Benefiting the People Under the Era of Great Peace* (*Taiping huimin hejiju fang* 太平惠民和濟局方, 1107–10)[56] – but other Song publications, including the by now classic *Cold Damage Treatise*.

The practices of Liu Wansu, Li Gao, and Zhang Yuansu were broader than the style that their successors associated with them. The hallmark of that style was an approach to pharmacy that modified Cold Damage formulas. Liu, for example, argued that the classic formulas neglected the influence of Fire. This particularly baleful phase of the six climatic excesses caused epidemics that required strongly cooling and chilling formulas. Li, who had lived through the decisive Mongol campaign against the Jin in 1232, recommended formulas that strengthened the spleen and stomach, on the grounds that sound nutrition and digestion confers resistance to disease, and metaphorically, at least, shored up defenses against further invasions.

They and fellow northerner Zhang Congzheng 張從正 (1156–1228, Hebei) emphasized the changing quality of *qi* over time and exhibited what Angela Leung has described as a heightened sensitivity to specific environmental factors.[57] Only Zhang Congzheng made the geographical issue of regional variation a centerpiece of his own writings and founded what came to be considered a specifically northern current of medical learning. He agreed that place matters in treating Cold Damage, and that his own therapies oriented toward purgatives were more suitable for northerners. Midway through a chapter on guidelines for prohibitions in his famous *Confucians Serve Their Parents* (*Rumen shiqin* 儒門事親, 1228), Zhang warned that before treating Cold Damage epidemics due to seasonal *qi*, physicians should learn whether their patients are from the north or south:

> Because the southern frontiers (*nanchui* 南陲) are hotter, it is [more] appropriate to use bitter and cooling prescriptions to treat [Cold Damage epidemics]. The northern region (*shuofang* 朔方) is colder, so it is appropriate to use bitter and warming prescriptions to resolve [them].[58]

Because of regional differences, Zhang warned his colleagues not to favor one class of formulas over another. Physicians who did this failed to understand the principle of transformation. Rather, before writing a prescription, they should consider the following six yin-yang polarities of difference: (1) northern and southern regions; (2) cold and hot seasons; (3) weak and strong constitutions; (4) floating and sinking pulses; (5) warming and cooling formulas; and (6) larger and smaller doses of drugs. These pairs proceed from macrocosm to microcosm to therapy, classifying first the geographical and seasonal qualities of the environment, then the constitution and pulse of the patient, and finally, the quality and quantity of the prescription.[59]

During the Jin dynasty, the regional diversity of drugs attracted enough attention that Zhang fitted them into the *Inner Canon*'s five directions model. The opening essay of *Confucians Serve Their Parents* summarized the major differences in life styles, eating habits, and illnesses originally outlined in the *Inner Canon*. After discussing different senses of the character "*fang*" 方 in "technical arts" (*fangshu* 方術) and "medicinal formulas" (*yaofang* 藥方), Zhang turned to its use for "geographical region," as in the five directions. The regional disorders he associated with the four cardinal directions, for instance, were in some cases the same as those in the *Inner Canon* – boils and swellings in the east and fullness disorders due to cold viscera in the north – and in other cases they were different, such as hernias (*shan* 疝) as well as numbness (*bi* 痹) in the south and many goiters (*ying* 癭) in the west.[60] Ancient records on goiters, a millennium before Zhang, had associated them with mountainous regions and their poor quality of soil and water. Although it was not until 1860 that lack of iodine in the soil and water was linked to goiters, early sources also recommmended seaweed and thyroid glands to treat them.[61]

Of the five directions, Zhang associated only the "central states" (*zhongzhou* 中州) with one of the Five Phases. He reasoned that disorders of the spleen and stomach (the two visceral systems associated with Earth) occurred there most frequently.[62] The correspondence between phases and visceral systems of function in this new view was an innovation of Zhang's time.[63] His idea that the central regions encompass the foods, living conditions, temperaments, and longevity patterns of all four regions revised the *Inner Canon*'s regional dominance of flaccidity, atrophy, and alternating

fevers in the center. Along with the varied food, people in the central region suffered from a wider range of illnesses.[64] Zhang thus acknowledges a confluence of regional cultures and illnesses despite the concurrent northern–southern separation that later physicians would emphasize when writing about Zhang's northern style of practice.

Furthermore, instead of the five therapeutic strategies of the *Inner Canon*, Zhang discussed the preferred pharmaceutics for each region. He concluded that in the central region, because of its varied diet, people there suffered more than elsewhere from food-related illnesses of the spleen and stomach and thus they also needed drugs from all four directions.[65]

> The central region is the counterpart (*xiang* 象) of the Earth [phase], so spleen and stomach illnesses are most prevalent. There the eating habits, styles of life, emotional lives, and life expectancy share those of the other four directions. As for their use of drugs, they use varied formulas to treat patients. For instance, the seaweed (*zao dai* 藻帶) of the east, clove (*ding* 丁) and peony (*mu* 木) of the south, ginger (*jiang* 薑) and aconite (*fu* 府) of the west, ginseng (*shen* 參) and China-root (*ling* 苓) of the north, and ephedra (*mahuang* 麻黃) and milkwort (*yuanzhi* 遠志) of the center, are combined for greater efficacy.[66]

These two examples from Zhang Congzheng's *Confucians Serve Their Parents*, the first on north–south climatic differences and the second on medicines of the five directions, suggest that Jin-Yuan revisionists not only modified canonical formulas to suit changing circumstances, but recognized regional differences in disease patterns and drug products. Like the five directions, Zhang's reinterpretation of the five regions elaborated on the Five Phases, but singled out the center as the region of various stomach-spleen illnesses common in all four regions and requiring a comparable range of drugs from all corners of the empire. His aim was not to establish a rigid medical regionalism or therapeutic protocol. He simply expressed his conviction that formulas should vary according to circumstances – including place – and that physicians should adapt them accordingly when writing prescriptions for individual patients.[67]

If Zhang Congzheng came to stand for a specifically northern style of pharmacy, based on methods of emesis, purging, and sweating, where and

when did southern medicine enter the picture? In the early fourteenth century, the teachings of the earlier northern revisionists reached Luo Zhiti 羅知悌 (1243?–1327), a middle-level eunuch in the Hangzhou imperial palace. He transmitted the northern studies to Zhu Zhenheng, also from Zhejiang province.[68] By the early sixteenth century, Zhu became the last of the "Four Great Masters," and the only southerner.

Zhu was a synthesizer of the new trends, not a therapeutic innovator of a specifically southern medicine. In the fifteenth and sixteenth centuries, his current of medical learning gathered a large following. Although his medical case records indicate a far broader range of therapies,[69] his followers associated him with one style – "nourish yin and bring down Fire" (*yangyin xiahuo* 養陰下火) and treating "damp heat" (*shire* 溼熱) and "yin-depletion heat" (*yinxu re* 陰虛熱) – that they considered particularly suitable for southern bodies.[70] This approach was perhaps due to his wealthy clientele in the capital, for he intended to release *qi* that had become stagnant in their sedentary bodies.[71] This thread can be traced through the extensive biography of Zhu Zhenheng by his younger contemporary and acquaintance Dai Liang 戴良 (1317–83). Dai, a sinicized Mongol who served as an official in the South, observed the introduction of northern revisionist doctrine there through Zhu's teachings. Dai referred to the regional bias of Zhu's therapeutic style in terms of the same northwest–southeast duality:

> Heaven is insufficient in the northwest; Earth is incomplete in the southeast. Heaven is yang and Earth is yin. Among the northwesterners yang *qi* easily descends, while among southeasterners yin Fire (*yinhuo* 陰火) easily rises. If, not knowing this, one holds to old methods, one may correct descending *qi*, but if one uses the same method for ascending *qi*, I fear the result will be making the disorder worse.[72]

Dai referred to "Liu, Zhang, and Li," whose works Luo passed on to Zhu, as those of the "Three Masters" (*sanjia* 三家).[73] Song Lian 宋濂 (1310–81) referred to the same "Three Masters" in a preface to Zhu's most famous work, *Supplementary Discussions for Perfecting Knowledge through the Investigation of Things* (*Gewu zhizhi yulun* 格物致知余論, comp. 1347).[74] Although no one named Zhu the Fourth Master until the sixteenth century,

contemporaries recognized him as the southern recipient and transmitter of the works of these three northern predecessors.

A friend of both Dai and Song, Wang Hui 王禕 (1323–74),[75] who shared their view, added Zhang Yuansu to the other three. His "four men" (*siren* 四人) were all temporally subjects of the Jin dynasty, spatially in the central plain, and cultural transmitters: "When the Jin dynasty possessed the central plain (*zhongyuan* 中原), four men – Zhang Jiegu, Liu Shouzhen, Zhang Zihe, and Li Mingzhi – became prominent. The result was the restoration (*zhongxing* 中興) of the way of medicine."[76] Wang did not mention Zhu, but he shared with Dai and Song the conviction that these four northern physicians transmitted a new way of medicine distinct from that in the early classics.

The Southern Shift

From the thirteenth century onward, scholars increasingly grounded doctrines, debates, and arguments in what I call social geographies of medicine: loose networks of physicians based on master-disciple relationships, family relations, local connections, textual genealogies, and self-conscious identification with famous physicians of history, as first articulated in the "Three Masters" narrative about Zhu Zhenheng's medical heritage.[77] Not only were these informal social networks based in different regions, but the regional core for medical learning shifted. The northern scholarly currents were identified with Jin-Yuan revisionism – associated with Hejian 河間 (Liu Wansu's native place in Hebei), Yishui 易水 (Zhang Yuansu's native place, also in Hebei), *gongxia* 攻下 ("attack and purge," Zhang Congzheng's characteristic strategies), and *piwei* 脾胃 ("spleen and stomach," Li Gao's approach based on these body functions). Now a broad network of learned practitioners based in the South, in Jiangnan, overtook them and the medical authority of elites and their publications shifted from the north to the south.

Local gazetteers from the Ming and Qing dynasties recorded the titles, authors, and dynasties of what their compilers considered the most important medical texts from each county or district, prefecture, and province. The medical historian Guo Aichun has made this material accessible to scholars through his exhaustive *Study of Medical Books by*

Province in China(*Zhongguo fensheng yiji kao* 中國分省醫籍考).[78] Gleaned from more than 5,100 gazetteers, this compilation lists over 7,200 separate medical titles attributed to authors from the Zhou dynasty through the publishing boom of the Ming and Qing dynasties. One scholar has used the local origins of physicians as well as some of this data to argue that a southern shift occurred during the Yuan dynasty.[79] Tabulating all of the medical titles listed in Ming-Qing gazetteers, however, shows that the center of medical learning shifted earlier, during the Song, Northern Jin, and Liao dynasties. This shift can be seen from the northern provinces (Shandong, Henan, Hebei, Shanxi, and Shaanxi) to the core of the Jiangnan region (Jiangsu, Jiangxi, Zhejiang, Anhui) and including Hunan to the west and Fujian to the southeast (see Table 2.5 and Figure 2.1).

Table 2.5 Medical texts listed in gazetteers by northern and southern provinces

	Dynasties										
Provinces	*Pre-Qin Han*	*Qin Han*	*Six Dynasties*	*Sui Tang Wudai*	*Song*	*Liao Jin*	*Yuan*	*Ming*	*Qing*	*No date*	*Province totals*
North											
Shandong	9	4	38	7	13	4	7	64	450		596
Henan	1	9	9	37	26	9	15	50	232		388
Sichuan		4	5	7	16			19	270	3	324
Hebei			2	14	11	26	15	20	171	2	261
Shanxi	5		3	7	10	2	4	25	105		161
Shaanxi		1		43	3			22	88		157
Northern totals	15	18	57	115	79	41	41	200	1316	5	
South											
Jiangsu			46	6	26		21	332	1201		1632
Zhejiang	1	1	4	7	44		42	400	827		1326
Jiangxi		1		8	32		19	72	409		541
Anhui		8	2		2		4	130	370	1	517
Hunan					5		1	17	272		295
Hubei					11		1	75	175	13	275
Fujian					28		1	50	179		258
Southern totals	1	10	52	21	148		89	1076	3433	15	5225
North/South	N15 S1	N18 S10	N57 S52	N115 S21	N79 S148	N41 S0	N41 S89	N200 S1076	N1316 S3433	N5 S15	
Dynasty totals	16	28	107	136	227	41	130	1276	5149	20	

Based on Guo Aichun, *Zhongguo fensheng yijikao*,1987.

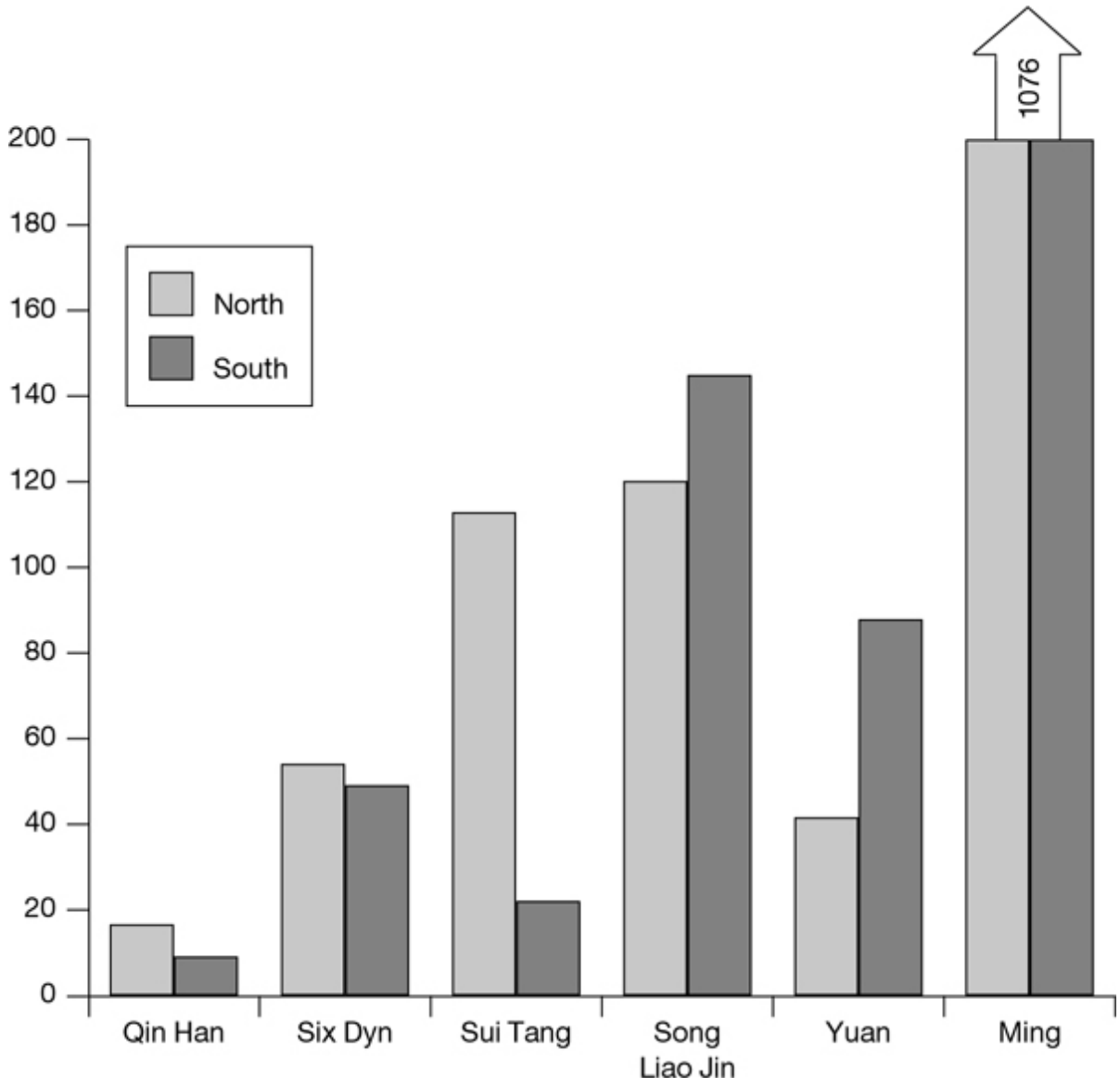


Figure 2.1 Southern shift of medical texts listed in gazetteers

This shift began during the Song when more separate medical titles were listed in southern than in northern provinces (148 to 79) even when the titles from the northern Jin and Liao dynasties were added. The shift south became more pronounced during the Yuan, where the difference doubled (89 to 41).By the end of the Ming, there were five times more medical titles produced in the south than in the north (1076 to 200) (see Table 2.5).

These Ming medical authors of southern Jiangnan were by no means all self-consciously regional in their perspectives. The *Cold Damage Treatise*, not to mention the two parts of the *Inner Canon*, remained canonical guides

to universal medical principles. But the social networks of physicians were usually grounded in local geography and local disease patterns, and a specifically southern regional perspective gradually emerged among Jiangnan followers of Zhu Zhenheng and others. The subject of the following chapter is the Ming expression of this geographic imagination in medicine.

Part II

New Ming Medical Boundaries

> Examination issue: Thus in order to treat diseases, one must understand the way of Heaven and the principles of Earth.
>
> Response: What is the reason for Heaven being incomplete in the northwest – such that the north (lit. left) is cold and the west (lit. right) is cool – and Earth is insufficient in the southeast – such that the south (lit. left) is hot and the east (lit. right) is warm?
>
> Qibo says that this is because of the *qi* of yin-yang, the principle of high-low, and the difference of major-minor. The southeast is yang; since its essential *qi* descends, south is hot and east is warm. The northwest is yin; since its essential *qi* rises, north is cold and west is cool. This is because there are high and low [places] on Earth; and there are warm and cool [types] of *qi*. The *qi* of high places is cold and the *qi* of low places is hot.[1]

After a few more model examination essays, the textbook returns to the same northwest–southeast dichotomy and relates it to a rationale for therapy:

> Examination issue: As for the *qi* in the northwest, disperse and cool it; as for the *qi* in the southeast, gather and warm it.
>
> Response: The *qi* of human constitutions differs according to differences in local environments. Since local environments differ,

> whenever using medicines physicians ought to understand that therapeutic methods also differ. In all cases, this is due to the [different] directions.[2]

So began two model essays published by the Imperial Medical Bureau in 1279 on climatic differences and appropriate therapeutic responses in the northwest and southeast. Intended to help students prepare for the imperial medical exam, they are comparable to modern-day study guides. They also represent the basic contours of the geographic imagination in the last quarter of the thirteenth century.

As Chapter 3 demonstrates, during the same century a new northern–southern distinction came to influence Chinese physicians and take a more central position in Ming medical writings. The northwest–southeast geographic axis certainly continued to influence medicine, and other disciplines, but other boundaries came to matter more. Furthermore, as Chapter 4 argues, the diseases at the frontiers of empire – Lingnan's *zhang*, *gu* poisoning, and *li* skin afflictions – that previously concerned scholars and physicians threatened with the possibility of having to live there in the medieval period now came to be associated more with specific minority peoples and a heightened sense of the possibility of contaminating and even spreading to Han visitors via human-human contagion. In the last decades of the Ming, writings on diseases newly characteristic of the Far South – Summer-Heat damage and the new rotting sores of venereal disease – challenged conventional medicine. Chapter 5 then returns to the biography of *wenbing* and the history of febrile epidemics in Central China when, during the end-of-Ming epidemics, a comparable concern about contagion and communicable diseases contributed to a critique of traditional epidemiology. No longer only drawing on the geographic imagination of north–south, center–frontier, or even seasonal–unseasonable, the new Ming medical boundaries relevant for understanding *wenbing* and *wenyi* became normal–anomalous, universal–local, and configuration–contagion.

3 The Geographic Imagination in Ming Medicine

Northern Purgatives, Southern Restoratives, and Conceptions of North and South

> … after the Song and Jin dynasties, the most propulsive medical currents of learning that had the greatest influence in the medical world were in the north and the south; each [region] had two major medical currents of learning. The Cold Damage and the Warm and Hot medical currents of learning were southern and began in the Ming dynasty. The Hejian and Yishui medical currents of learning were northern, and had already begun to develop during the Song and Jin periods.[1]

After the Ming reunification of 1368, a regional shift in dominant medical lineages from north to south reflected a demographic and political shift south, and a related southern dominance in medical publications. This southern shift also engendered a new medical geography. It emphasized north–south differences based on the watersheds of the Yellow River in the north and the Yangzi Delta in the south. The writings of the time were more aware than before of north–south tensions based on cultural and economic differences. The physicians who discussed the medical consequences of these regional tensions presented themselves as impartial arbiters whose publications were merely adapting universal traditions to local conditions. They followed their Song official predecessors in asserting a medical universalism that unified their medical community and legitimated their new syntheses as relevant and valid everywhere.

In thinking about local issues, medical writers had to confront their environments and the classical formulations rooted in Chinese mythology and the *Inner Canon*, i.e. the northwestern–southeastern geographic axis and the five directions. They used these formulations to interpret ecological and human diversity within the reunited Ming Empire, making room for a new emphasis on north versus south. They also appealed to their own imagination of the contemporary ecological or political order, so the localism found in their practical medical writings is quite different from the formalism of the five directions and northwest–southeast axis still found in popular encyclopedias and calendars of the time. They deployed their panoply of geographical distinctions to explain doctrinal and therapeutic divergences with new meanings, interpretations, and concepts.

The north–south split in medicine emerged in the southern province of Zhejiang in the mid-fourteenth century, as Zhu Yuanzhang, the future Ming emperor, was challenging Mongol rule. Before this time, in north China, Zhu Zhenheng's numerous followers gave the new northern currents of medical thought some southern adjustments and circulated them for the first time throughout the wealthy urbanized Jiangnan – then, the "south," but today's Central China.[2] Three physicians, Wang Lun 王綸 (fl. 1484–1521), Xue Ji 薛己 (1487–1559), and Li Zhongzi 李中梓 (1588–1655), who lived from the middle to the end of the Ming dynasty, exemplify how the geographic imagination informed medical thinking in the period. All three were authors of influential primers that communicated orthodox medical principles to laypeople and students. All discussed regional differences in climates, constitutions, diseases, and treatments. They reassessed inherited medical knowledge through their own regional lenses. They encountered doctrinal conflict and therapeutic diversity rather than a unified medical orthodoxy like that propagated by the Northern Song state.[3]

First, I examine the origins and values associated with the northwest–southeast and later north–south geographic dichotomies. Then I will explain the sinicized Mongol Dai Liang's perception of northern and southern medical practices and his understanding of Zhu Zhenheng as a southern synthesizer of northern knowledge. The three physicians Wang Lun, Xue Ji, and Li Zhongzi, who considered themselves followers of Zhu, continue the analysis of north–south medical differences. Finally, I argue that discussions of regional diseases and practices can also be read as a form of social diagnoses of what ailed both patients and the medical profession.

Geographic Asymmetries

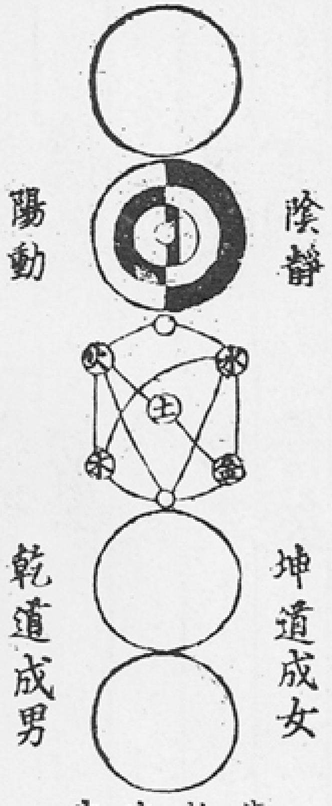
In discussions about geographical dualities, one pole was always given higher value than the other. The yin-yang dichotomy related to medical regionalism respected north over south, admired strong over weak, and favored frugality over indulgence. Similar reasoning valued northwest over southeast. The Ming dynasty's northwest–southeast opposition in medicine looked like this: northwest-north-dry-cold-highlands-frugality-robust bodies and southeast-south-damp-hot-lowlands-indulgence-weak bodies.[4]

By 1500, the canonical northwest–southeast axis and the more contemporary north–south distinction became the most important regional divisions physicians discussed. Debates on regional variation established a range of issues, concepts, and practices that physicians from the mid-seventeenth century drew upon for their own purposes. Ming encyclopedias and calendars frequently quoted and illustrated the maxim from the *Huainanzi*, "Heaven tilts in the northwest"[5] and "Earth is incomplete in the southeast." In the fourteenth to sixteenth centuries, three types of visual images of this geographic concept circulated: geographic – relating to the imagined form of Heaven and Earth, numerological – relating to the hexagrams of the *Book of Changes*,[6] and medical – relating to the macrocosm-microcosm model.[7] The earliest example is in a new edition of the encyclopedia *Broad-Ranging Record of Many Matters* (*Shilin guangji* 事林廣記, pr. Zhishun r.1330–33). It illustrates the geographic imagination of the time (see Figure 3.1). Titled the "Diagram of the two models and two luminaries" (*Liangyi liangyao zhi tu* 兩儀兩曜之圖), this image appeared in the *Record of Many Matters* on the folio after the cosmological "Diagram of the Great Unity" (*Taiji tu* 太極圖) of the famous philosopher Zhou Dunyi 周敦頤 (1017–73).[8]

天文類

太極圖

太極—天文



【太極圖說】未有天地之時混沌如雞子溟涬始牙濛鴻滋萌 三五曆紀 太極元氣函三爲一極中也元始也 前漢律曆志 太極謂天地未分之前元氣混而爲一是太初太一也老子道生一即此太極也 易係辭 太極極盡之稱 紀纂傳 易有太極是生兩儀兩儀生四象四象生八卦八卦定吉凶吉凶生大業 易係 道在太極之先而不爲高在太極之下而不爲深先天地生而不爲久長於上古而不爲老 莊子 無極而太極太極動而生陽動極而靜靜而生陰靜極復動一動一靜互爲其根分陰分陽兩儀立焉陽變陰合而生水火木金土五氣順布四時行焉五行一陰陽也陰陽一太極也太極本無極也五行之生也各一其性無極之眞二五之精妙合而凝乾道成男坤道成女二氣交感化生萬物萬物生生而變化無窮焉 周子通書 太極只是天地萬物之理在天地則天地有太極在萬物則萬物中各有太極太極只是箇極好至善底道理人人有一太極物物有一太極太極便是性動靜陰陽是心金木水火土是仁義禮智信化生萬物是萬事 文公語錄

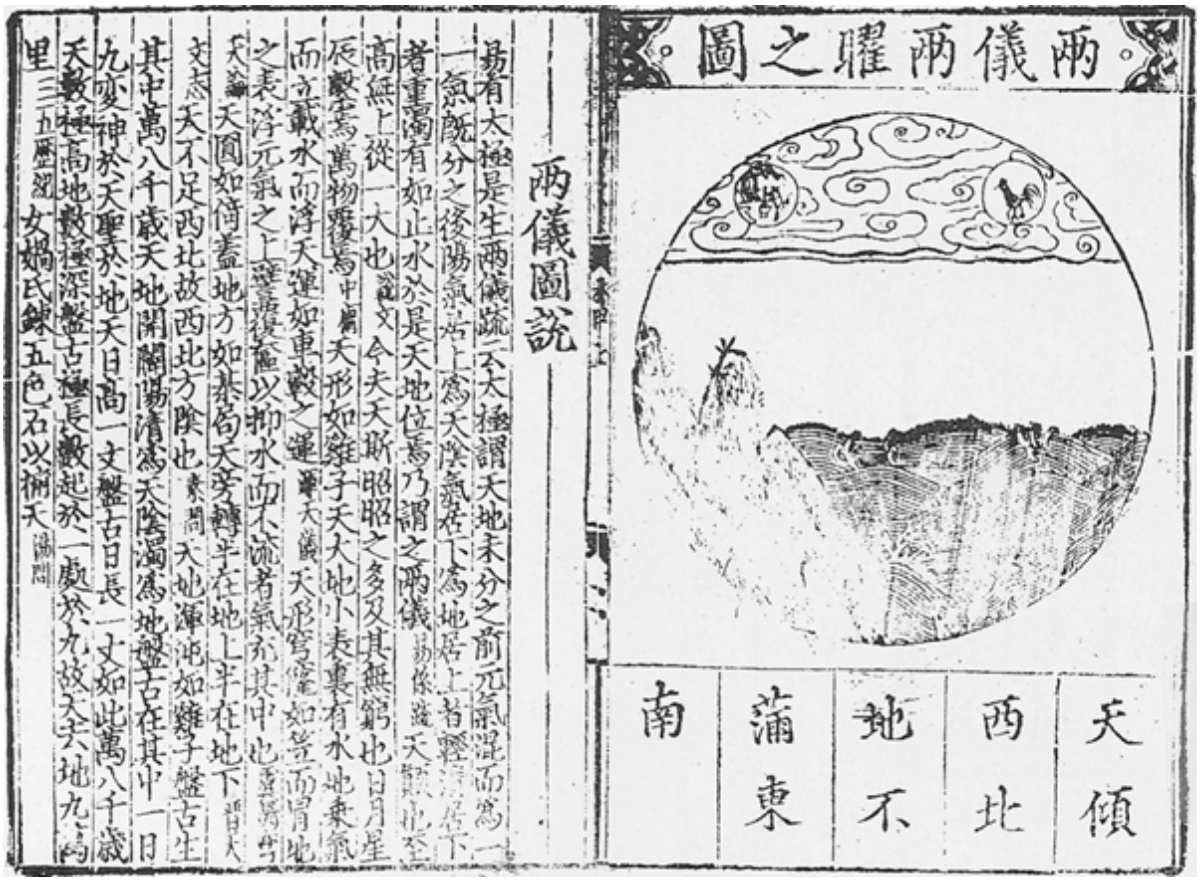


Figure 3.1 Diagram of the two models and the two luminaries [*Zuantu zengxin qunshu leiyao*] *Shilin guangji*, Yuan, Zhishun reign ed. (r.1330–33)

Zhou Dunyi's diagram is standard fare in any American university's Chinese civilization or philosophy course, but textbooks have ignored the picture of Heaven and Earth that follows it. It depicts the dominant geographic vision of Earth as clearly as Zhou Dunyi's diagram summarized the cosmological understanding of Heaven. The editor, Chen Yuanjing 陳元靚 (1137–81) had good reason to illustrate both in the first pages of his encyclopedia.

Read from top to bottom, the "Diagram of Great Unity" illustrated the metamorphosis from undifferentiated unity to first the division of yin-yang (in the text, correlated to the human heart), then to the differentiation of the Five Phases (in the text, analogous to the Neo-Confucian virtues of humaneness, righteousness, ritual decorum, wisdom, and trustworthiness),

and, finally, to the transformations into the world's myriad things and possibilities of human activity.[9]

In contrast to these universal processes in the cosmos and within the human microcosm, the "two models and two luminaries" image captured the imbalance of the yin-yang contours of the world. The juxtaposition of these two images thus portrays a core tension between universal processes and regional variation.[10] Mountains associated with Earth fill much of the upper left side where "Heaven tilts in the northwest;" ocean waters fill the lower right side where "Earth is incomplete in the southeast." The result is an Earth that slants up toward the northwest, taking space where Heaven should be, and then slides down toward the southeast, where water takes the place of Earth.[11] The "Explanation of the diagram of the two luminaries" (*liangyao tu shuo* 兩曜圖說) elaborated on the yin-yang relationship between the sun and the moon, describing the archaic mythology of the three-legged bird in the sun and the rabbit on the moon.[12] The placement of this image directly after Zhou Dunyi's "Diagram of Great Unity" gave it comparable status as a representation of yin-yang forces in the world. The Ming edition of the *Broad-Ranging Record on Many Matters* of the Hongzhi reign (r.1488–1505) contained an even larger version of the same image, showing that it had become foundational (see Figure 3.2).[13]

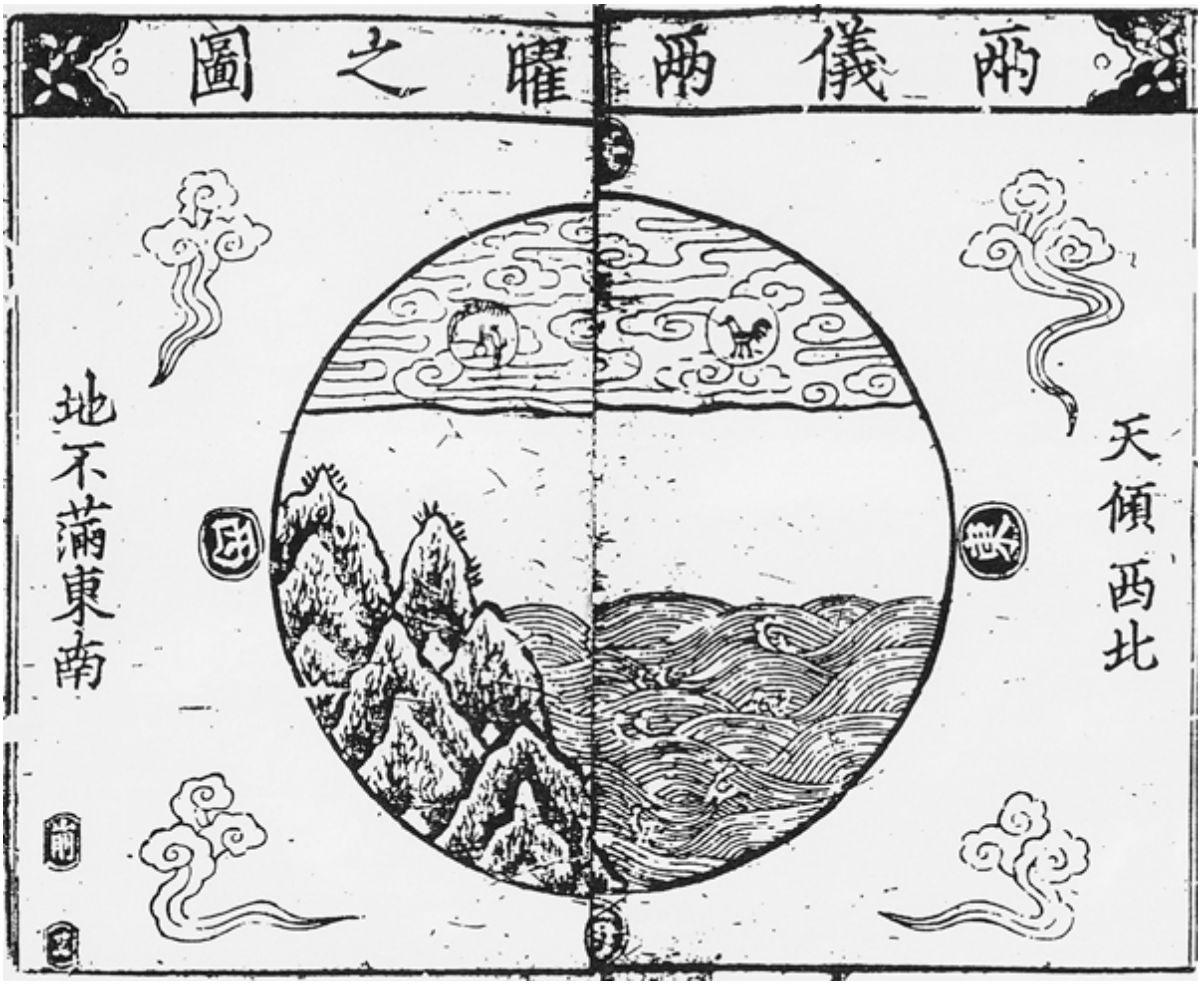


Figure 3.2 Diagram of the two appearances and the two luminaries [*Zuantu zengxin leiju*] *Shilin guangji*, Ming, Hongzhi reign ed. (r. 1488–1505)

Now covering two complete folios, the image has seal-like circles that indicate the compass points around a circular depiction of Heaven and Earth. Four decorative clouds in the space outside the circle indicate the flow of *qi* through the cosmos. The phrases “Heaven tilts in the northwest” and “Earth is incomplete in the southeast” flank the circle like a pair of couplets for the New Year on two sides of a moon gate. Images such as this depicting the northwest–southeast pair can be found in other Ming publications. They illustrate the many levels of meaning of this ancient concept in Chinese culture. The medical current of learning surrounding Zhu Zhenheng south of the Yangzi integrated these classical formulations of

northwest–southeast difference with their own interpretations of northern and southern medicines.

Dai Liang on Northern and Southern Medicine

Northern and southern medicine, climates, and bodies became important themes in Ming medical literature. It resonated with social, cultural, and economic divisions between the north and south that were a legacy of the disunion of the Song and Yuan periods.

By the fourteenth century, medical writings from the north circulated in the south. The circles around Zhu Zhenheng began to discuss north–south duality. Two biographies of physicians in the collected writings of Dai Liang, Zhu Zhenheng's friend and disciple, offer the richest introduction to a broad conception of north–south differences in medicine.[14] Dai used the terms "*beiyi*" 北醫 (northern physician or medicine) and "*nanyi*" 南醫 (southern physician or medicine) first in a biography of the southern physician Xiang Xin 項欣 (*c*.14th cent.).[15] Near the end of this biography, Dai mentioned a conflict between northern and southern physicians:

> In recent times, those who trace their lineages to the three masters frequently vilify each other.[16] They maintain that northern and southern medicine differ. They are adamantly against using cooling medicines in the south or acrid and heating medicines in the north. How can they be so rigid about this? When the *Canon* says that doctors are to inquire how the patient lives, it certainly refers to differences between regions. However, when treating cold with hot, hot with cold, and going contrary to the slight, or going with the flow of the extreme, what matters is effective treatment according to momentary circumstances, responding to changes in the clinical situation. Surely one cannot limit one's principles to the north–south dichotomy and an absolute distinction between chilling and heating drugs![17]

In another essay, Dai Liang recounted a conversation he had with the Suzhou doctor, Zhu Bishan 朱碧山 (*c*.14th cent.).[18] Dai asked Zhu why physicians in the southeast, unlike those in the north, did not use purgatives to expel the heteropathy. In response, Zhu contrasted the north and south in appropriate therapies, climate, body types, eating habits, and pleasures:

> One day I was talking with the Wu physician Zhu Bishan about this when Bishan changed expression and said: “You, sir, are truly a northern scholar; you understand nothing but northern medicine.” Medicine does not differ between north and south. Those who practice its teachings merely have ways to vary it [in different circumstances]. Northern customs and habits (*fengqi* 風氣) are simple and honest, constitutions are robust, and, with their simple and frugal diet and desires, no one ruins their health or loses their vitality. As soon as someone falls sick, [a physician] uses a bitter, chilling formula to clear [the heteropathy] and free up [the blockage], quickly restoring the patient’s good health and spirits. As for southerners, [their] constitutions are soft and weak, their pores are loose and shallow. Unlike northerners, they over-indulge in food and drink, and their desires are excessive. Using the method [usual in the north] to treat them hardly differs from stabbing someone to death. My point is that in northern therapy, the priority is attacking the heteropathy; southern therapy is best based on formulas that protect and nourish the inner *qi*.[19]

This passage expressed what became typical views,[20] including an underlying concern about the ill effects of a southern gentry habit of over-indulgence in food and sex.[21] As an ethnic Mongol, Dai contrasted the ideal of the stronger northern patient, with whom he identified, with the stereotype of a more delicate southern patient. But when sick while on duty in Jiangnan, he found that the purgative therapies of his home were not effective. Zhu Bishan’s main point is that these geographic differences do not imply a failure of the basic principles of medicine. Doctors simply have to accept them among the many variations from case to case that sound reasoning can overcome. A biographical passage gives an example of the requisite thinking:

> When I was serving in the Jiangzhe Secretariat,[22] Bishan was an imperial physician for the province, and we were in touch. Whenever I became ill, I was sure to seek Bishan out. Every time, he used protecting and nourishing formulas successfully. Although I was born in the north (*beichan* 北產), I had lived in the south for a long time, and so it was no longer appropriate to use attack strategies. This gave me something to think about.

> I had a blood disorder (*wangxue bing* 亡血病) for which I had taken drugs for years. Bishan examined me and said: “This is a yin depletion syndrome. If you take restoratives for some time, you will recover, but if you stop suddenly a major setback will follow.” I used his method for less than two months and was cured.[23]

This is the first case known to me in which a northerner said that living in the south had changed his constitution. Dai believed that living in the south could change a northerner’s robust constitution into a more delicate southern one. Although he was used to the attack therapy of northern purgatives, he admitted that replenishing was a regionally appropriate therapy. Dai is a transitional figure. He wrote biographies of the physicians Zhu Zhenheng, Xiang Xin, and Zhu Bishan before the Chinese rebel Zhu Yuanzhang defeated the Mongols and established the Ming in 1368. Here Dai identified with a region, the north, and not with his Mongol ethnicity. He presented himself as culturally Chinese and a northern scholar, not as a Mongol official. Dai Liang’s writings brought to the fore a tension between northern and southern physicians and their therapeutic preferences that shaped rival currents of medical learning in the sixteenth through mid-seventeenth centuries.

The *Enlightened Physicians*’ Challenge to Regionalism

Two “enlightened physicians” offer a useful entry point into mid-Ming debates on medical regionalism. One was the scholar-official Wang Lun. His *Miscellaneous Writings by Enlightened Physicians* (*Mingyi zazhu* 明醫雜著, 1502), which included seventy-five essays, was one of the earliest printed medical primers. The other was the palace physician Xue Ji 薛己 (1481–1559), who, thirty years after Wang Lun’s death, republished *Miscellaneous Writings* in 1551 with his own commentary.

Wang Lun was from Cixi county in Zhejiang province. He received the *jinshi* degree in 1484, joining the bureaucracy as a secretary in the Ministry of Works. He rose to the post of Right Vice-Censor-in-Chief, and Grand Coordinator of Huguang.[24] He was a member of the highest elite, but instead of writing poetry, prose, or history, as many men of his status did, he became famous for a book on medicine.[25]

Xue Ji was born into a family of hereditary physicians in Wu prefecture of Jiangsu province, now modern-day Suzhou city.[26] His father, Xue Kai 薛鎧, a contemporary of Wang Lun, became head of the imperial medical bureau during the Hongzhi reign (r. 1488–1505) and was known for his work in pediatrics.[27] Upon his death in 1508, Xue Ji took his father's place as a physician in the bureau. He worked there until 1512, when an injury from a vehicle accident compelled him to return to Suzhou to recuperate. Promoted to the middling sixth rank in the imperial medical bureau in 1519, he was again a palace physician.[28]

By writing a preface in 1549, the official Shi Qianwei 石錢薇 (*c*. 1549–51) endorsed Xue Ji's edition of *Enlightened Physicians*. He expressed an awareness of medical currents (*yipai* 醫派) of regional learning, praising the role of Suzhou (*Gu Su* 姑蘇) physicians in transmitting the northern medical learning of Liu Wansu and Zhang Congzheng to the south. Shi Qianwei wrote of a "Suzhou current of learning" (*supai* 蘇派), in which he placed both Wang Lun and Xue Ji.[29] Although Wang and Xue may have never met, their contemporaries considered them part of the same regional group of physicians.

Two of the essays in *Enlightened Physicians* provide direct evidence on what Wang Lun thought about northern and southern differences and where he learned his views on medical regionalism. The title of the first echoed the *Inner Canon*'s locus classicus "On the regional appropriateness of different methods" (*Yifa fang yi lun*). It took the classical northwest–southeast dichotomy as its point of departure rather than the five directions model in *Basic Questions*. The second essay, "Questions about the therapeutic methods of Li Gao and Zhu Zhenheng" (*Huowen Dongyuan Danxi zhibing zhi fa* 或問東垣丹溪治病之法), discussed his southern colleagues and the regional medicine of followers of Zhu Zhenheng.[30]

In the first essay, Wang relied on the northwest–southeast axis as illustrated in the encyclopaedia *Broad-Ranging Record on Many Matters*. Here he employed the terms "southeast" and "northwest" to refer to regional characteristics: different qualities of climatic *qi*, levels of land, relative dryness or dampness, regional use of pepper and ginger, and a preference for chilling or heating drugs. Citing the *Inner Canon*'s "On the regional appropriateness of different methods," he used the northwest–southeast duality to discuss distinct southern tastes for heating and acrid foods that

conflicted with uses of those ingredients as drugs in classical medicine. He framed the issue as a hypothetical conundrum followed by an answer:

> Someone asked: “People say that the *qi* of the southeast is hot, so it is appropriate to prescribe chilling medicines; the *qi* of the northwest is cold, so patients take warming medicines. However, why is it that these days southeasterners often eat black pepper, ginger, and cassia bark, yet they are not sickened. Why do northwesterners avoid consuming acrid and heating substances such as black pepper and ginger?
>
> Although it is hot in the southeast, the land is low-lying and damp; acrid and heating foods and drugs can also expel dampness. Although it is cold in the northwest, the land is mountainous and dryer; acrid and heating foods and drugs can conversely exacerbate the dryness. Those who use drugs to treat illnesses must understand the meaning of this.[31]

Wang Lun focused on consuming acrid, heating spices in hot climates and avoiding them in cold climates precisely because these practices challenged the classical maxim “treat cold with hot, hot with cold” (*hanzhe re zhi; rezhe han zhi* 寒者熱之；熱者寒之).[32] He resolved the apparent contradiction by arguing that the dryness of the climate in the northwest and the dampness of the climate in the southeast complicated the cold-hot distinction. Because acrid substances disperse and move *qi*, the black pepper, ginger, and cassia bark in some southeastern cooking dries out the dampness that people living there contract. The same spices counter the cold of the northwest, but their acrid quality also worsens the internal dryness of those who lived there. Wang inspired novice readers to reason with greater subtlety and consider factors beyond just hot and cold.

Although Wang Lun did not express a value judgment about the regional duality – namely, the northwest-cold-dry taboo on acrid, heating spices versus the southeast-hot-damp preference for them – his later commentator, Xue Ji, did. In his preface to the second edition of *Enlightened Physicians*, Xue emphasized Wang’s concern for the people’s welfare during epidemics and the efficacy of his fever remedies. In his commentary on the passage just cited, Xue argued that differences in the consumption of acrid, heating spices, which Wang Lun used as an illustration of simplistic reasoning, were in fact due to regional differences in bodily constitutions. It was not the climatic differences in hot or cold, damp or dry that explained the regional

preference for or against such substances, but rather the repletion or depletion of the yang *qi* within the people of each region:

> The southeastern regions are low-lying, damp, and hot; the pores of the people there are loose and open (*couli shutong* 腠理疏通), so their sweat and fluids (*ye* 液) drain out and their yang *qi* is depleted within. Thus, it is appropriate for them to eat black pepper, ginger, and such acrid and heating things in order to boost their yang *qi*. The northwestern regions are high, mountainous, windy, and cold; the pores of the people there are tight and closed (*couli zhimi* 腠理致密), so that their sweat and other fluids are secure within, and their yang *qi* is complete and full. It is not appropriate for them to eat black pepper, ginger, and such acrid and heating things that would contrarily boost their yang *qi*.[33]

Xue Ji gave an historical example from the eleventh century to support his position. The famous Song official, Su Shi 蘇軾 (1036–1101), had been serving in Huangzhou, a prefectural city located just east of today's Wuhan on the Yangzi River. During an epidemic sweeping through the region in 1089, he founded and endowed a government hospital to treat the sick and take care of the dead.[34] At that time, Su Shi endorsed the "Sage's powder formula" (*Shengsanzi* 聖散子) to treat patients suffering from the disease, and (due to his reputation as a litterateur) it became popular for treating epidemics.[35] Xue Ji wrote that it was highly effective in the south because the acrid and warming qualities of the drugs in the Sage's powder formula addressed the depletion of yang *qi* and countered the resulting cold pathogenic *qi* in southeastern patients. Xue asserted, however, that when people used this same formula to treat epidemics in the northwest, it only led to countless deaths. This was because the acrid-hot qualities of the same formula exacerbated the constitutional dryness and already full yang *qi* of northern patients.[36]

Although the Sage's powder formula effectively treated fevers in the southeast, Xue argued, in the northwest it would only cause greater suffering from the same kind of epidemic fevers. Although he considered yang *qi* better when replete than when depleted, accepting the conventional

preference for the northwest over the southeast, excessive yang *qi* nevertheless could kill patients.

Wang's essays and Xue's commentary on it reveal how a single example of regional culinary practices – in this case the northwestern avoidance of acrid, heating substances and the southeastern preference for them – could serve multiple rhetorical ends. Wang Lun used the example to provide novices with an exception to the rule that they should treat "hot with cold and cold with hot." He also alerted them to consider dampness and dryness as pathogenic factors. Xue Ji developed the same example in a way that affirmed constitutional differences between northwestern and southeastern people and regionally appropriate therapeutic interventions. Neither one of these two points had been implicit in Wang Lun's original example. Xue Ji's use of medical regionalism here, by contrast, expressed anxiety that even the famous Sage's powder formula was not effective for treating all epidemics throughout the empire. The elementary discussions of regional variations reveals what physicians perceived at the time as limitations, biases, and shortcomings in medical practice as well as in transmitted medical knowledge.

The *Inner Canon*, however, shared neither geographic concepts nor therapeutic recommendations with Wang Lun's essay on acrid and heating foods.[37] Although in *Basic Questions* the northwest–southeast axis appears twice, and in the *Divine Pivot* the terms designate directions of winds as well, the most important geographical scheme was the five directions to which "On the regional appropriateness of different methods" was devoted.

Although they used the title of the original essay in *Basic Questions*, still neither Wang Lun nor Xue Ji mentioned its "five directions" anywhere in their interpretations.[38] The rhetorical reference to the *Inner Canon* as the canonical authority did not mean that authors had to adhere strictly to or quote the original, although they freely borrowed its concepts and idioms. The most important dichotomy in the landscape that later physicians drew upon was between the high plateaus of the north and the low-lying regions of the south. For the climate, the cold and winds of the north contrasted with the fogs, mists, and dews of the south. For constitutions, the dichotomy between loosely and tightly dispersed pores continued as relevant to human variation despite its irrelevance to eastern and southern constitutions. When Xue Ji responded to Wang Lun's essay, for example, he contrasted the loose pores of southeasterners with the tight pores of northwesterners. Xue's

dichotomy only maintained the correlation between eastern constitutions and loose pores, but contradicted the correlation between southern constitutions and tight pores in the *Inner Canon*. The connections he made in the relation between a preference for salty foods in the east and sour foods in the south also bears no relation to the original associations – east with sour, west with pungent, north with salty, south with bitter, and central with sweet – in *Basic Questions*.[39]

Wang Lun and Xue Ji were not the first medical scholars to cite the *Basic Questions* essay "On the regional appropriateness of different methods" but largely ignore its ideas. In at least five medical texts published before *Enlightened Physicians*, medical authors cited the same title to give a patina of ancient authority to their criticisms of clinical problems, which they thought arose from regional variations in the environment, climate, and constitutions. The *Inner Canon* essay was a useful resource when discussing tensions, fissures, and diversity. They rarely quoted it verbatim, because the five directions model no longer corresponded with the social or political reality they experienced. The formal spatial concepts of antiquity – when Jiangnan did not even figure in geographic thought – no longer matched the current metageography of their time or their experience.

In a second essay, "Questions about the methods for treating diseases of Li Gao and Zhu Zhenheng," Wang Lun further developed Dai Liang's north–south dichotomy in medicine by differentiating the particular climatic *qi* of southern regions (*nanfang* 南方) and northern regions (*beifang* 北方), as well as southern illnesses (*nanbing* 南病) and southern physicians (*nanyi* 南醫) from northern illnesses (*beibing* 北病) and northern physicians (*beiyi* 北醫). He further divided the empire into four regions – Shaanxi province in the northwest, Jiangzhe in Central China centered in Hangzhou along the lower reaches of the Yangzi River, Jianghu (including Jiangxi and Hunan) along the middle reaches of the Yangzi River, and Lingnan in the Far South. His essay represents the geographic imagination and range of regional terminology of literate physicians at the very beginning of the sixteenth century.

In this essay, Wang directly addressed the contemporary north and south as a latter-day follower of the current of medical learning associated with Zhu Zhenheng. In Wang's day, approximately a hundred years after the master's death, Zhu's successors were increasingly identifying him as the originator of a southern medicine. Wang began by asking why some people

thought that Li Gao's methods were suited only to the north and Zhu's only to the south:

> Someone asked: "Nowadays some say that Li's methods are appropriate for use in the north and those of Zhu are usable in the south. Why is this?"
>
> This is because Li was a northern physician, but Luo Zhiti transmitted his methods so that they were known in Jiangzhe [region of southeast China]. Zhu was a southern physician, but Liu Chun 劉純 passed on his teachings and made them well known in Shaanxi [northwest China]. [The view in question] is exactly as if someone said that the [*Divine Husbandman's Canon of*] *Materia Medica* and the *Inner Canon* [*of the Yellow Emperor*], as teachings of the Divine Husbandman, Yellow Emperor, and Qibo, are applicable only in the north.[40]

Just because the ancients lived in what Ming authors thought of as the north that did not make the *Inner Canon* a northern book. Similarly, although Li Gao was a physician from the north and Zhu Zhenheng practised in the south, their medical ideas were not limited to those regions. Their disciples, in fact, successfully transmitted their medical works beyond their native locales.[41] Wang concluded with what he knew his readers would see as an absurd analogy; they agreed that the teachings of the divine sovereigns who wrote the classics were universally valid.[42] Anyone who accepts the analogy can hardly deny that the therapies of Li and Zhu were also universal.

In challenging a simplistic regional determinism, Wang Lun actually appealed to the authority of the *Inner Canon*. This time he cited the five directions model, which he had not mentioned (as one might have expected) in his first essay on the regional appropriateness of acrid, heating substances.[43] To complicate the simplistic north–south division of the opening sentence, Wang added Shaanxi and Jiangzhe when he mentioned the disciples Luo Tianyi and Liu Chun, and Jianghu and Lingnan when he discussed dominant climatic factors:

> As for the appropriateness of different treatments for the different illnesses that arise in the five directions, the *Inner Canon*'s "On the regional appropriateness for different methods" and the "Great treatise

> on the five regularities of governance" discuss this in detail. For example, it is colder in the north, hotter in the south, damper in Jianghu, and more miasmic in Lingnan. Wherever these types of *qi* (i.e. Cold, Hot, Damp, and Miasmic) are prevalent, there will also be more of that kind of disorder. However, this does not mean that none of the northern disorders are due to Heat, or none of the southern disorders to Cold. As for treating Cold disorders with heating medicines and Hot disorders with chilling ones, this principle is the same for all five directions, so how could it differ in the north and south?[44]

Although the provinces and regions named here did not fit the ancient model of five directions, they did coincide with Ming conceptions of geography. Hot and cold pathogenic factors, as well as the fevers and chills they caused, produced regional patterns of morbidity, but transcended the north–south divide. The key point physicians needed to know was when to make an exception for the individual patient. By arguing for more subtle diagnostic skills among physicians, Wang Lun portrayed himself as the impartial model to follow.

In this essay's concluding section, Wang returned to the common misconception that Zhu's formulas were most appropriate for southerners and Li's for northerners. Having placed himself in the textual lineage of Zhu Zhenheng by structuring his *Enlightened Physicians* largely around Zhu's doctrines, he credited his predecessor for penetrating the mysteries of the *Inner Canon* and revealing the bias of the *Song Imperial Formulary* against illnesses due to damp and hot pathogens.

> However, in the human viscera, Fire [*qi*] resides in two places; of the six climatic *qi* of Heaven, Hot resides in three, or half of them. Thus of all the illnesses under heaven, Hot is more and Cold less [a significant factor]. … Furthermore, it is even more common that Damp and Hot [*qi*] combine with Fire [*qi*] to cause illnesses. The loss of Wang Bing's commentary [on the *Inner Canon*] led to the bias in the *Song Imperial Formulary* (*jufang*)[45] toward using Damp and Hot medicines. Danxi uncovered and penetrated the meaning of the *Inner Canon*, refuted the bias in the *Formulary* toward Damp and Hot illnesses combined with Fire, and thereby filled in what his predecessors had left blank. Those who followed did not understand his point. Seeing that he often used

> China-root (*fuling* 茯苓), Lotus (*lian* 蓮), Gardenia (*zhi* 梔), and Phellodendron (*huangbai* 黃栢), types of bitter and chilling drugs, they [thought] that this was because they were better suited in the south. How superficial![46]

Zhu's frequent use of bitter and cold medicines in his formulas was not because he practiced in the south, but rather because he understood better than did his predecessors the use of these drugs. By aligning himself with Zhu's teaching, Wang presented himself as the inheritor of the most comprehensive medical knowledge to date. Rhetorically, he employed the facile regional conception of Li's northern formulas for northerners and Zhu's southern formulas for southerners to assert the opposite: the universal validity of *Enlightened Physicians*.

Required Readings and Late Ming Medical Regionalism

Medical regionalism was a lens through which Ming physicians showed what they thought was askew in human society and problematic in medical practice. Li Zhongzi 李中梓 (1588–1655), author of the influential medical primer *Required Readings for Physicians of the Orthodox Lineage* (*Yizong bidu* 醫宗必鎮, 1637), offered a particularly revealing review of these issues. Among the Ming authors discussed so far, he wrote most extensively on medical regionalism. In *Required Readings*, an essay on "Four Masters" and another asserting that "Treatments of the Wealthy and the Poor are not the same" connected contemporary north–south differences with social class. A more advanced book he published seven years later, *On the Subtleties of Nourishing Life, Revised and Supplemented* (*[Shan bu] Yisheng weilun* [刪補] 頤生薇論, 1642), reinterpreted the *Inner Canon* geography of the five directions to realign it with Ming dynasty realities.

Li Zhongzi came from an elite family of officials who lived in Yunjian, modern Jiangsu province, southwest of Shanghai. He was the son of Li Shanggun 李尚袞 (*jinshi* 1590), a secretary in the Ministry of War in 1593, but Li Zhongzi only passed the lowest examination to become a government student. He never held a civil service post. This was a time when it was becoming markedly harder to pass the examinations and find a place in officialdom. But he did earn a literary reputation. According to his own

account, because he fell ill himself, he began to study the Han medical canons and the works of the famous Jin-Yuan physicians.

In the essay "On the Four Masters" (*Sidajia lun* 四大家t論),[47] he explained the diversity of doctrines and practices for which the Han physician Zhang Ji and the three Jin-Yuan revisionists – Liu Wansu, Li Gao, and Zhu Zhenheng – were known. Their fame, he asserted, was the result of supplementing and improving upon the work of their predecessors. Here he followed Wang Lun's view of incremental change in medical history.[48] Li argued, however, that such differences in medical doctrines were also due to marked contrasts in the economic status, eating habits, and dwellings of the patients treated. His new emphasis on constitutional contrasts between the wealthy and highly placed, on one side, and the poor and lowly, on the other, contrasts with Xue Ji's earlier geographic and climatic explanations of northern and southern constitutions. Over the roughly seventy-five years that separated Xue Ji and Li Zhongzi, Ming China experienced an economic and commercial transformation that markedly increased the distance between the rich and poor.[49] Li Zhongzi's deployment of economic status as a marker of corporeal well being resonated well with the changes in society and the economy that his readers would have experienced.

The essay "On treatments for the wealthy and highly placed and for the poor and lowly not being the same" (*Fugui pinjian zhi bing you bie lun* 邑貴貧賤治病有別論) set up a contrast between constitutional types analogous to the earlier one between northerner and southerner.[50] To illustrate his point, Li used the example of two physicians who, like Li Gao and Zhu Zhenheng in Wang Lun's essay, represented northern and southern regional styles of medicine. Li compared the northern physician Zhang Congzheng and the southern doctor Xue Ji. Zhang, considered the founder of the "attack and purge" current of learning (*gongxia pai* 攻下派), used formulas better suited to poor patients, while Xue, representative of the southern-oriented "warming and restoring" current of learning (*wenbu pai* 溫補派), prescribed formulas suitable for prosperous ones:

> Having read Zhang Congzheng's *Confucians Serve Their Parents*, I know that the drugs he used exclusively attacked (*dagong* 大攻) and strongly purged (*dafa* 大發) heteropathies, [yet] in [treating] disease all of it was divine. Having read Xue Ji's *Sixteen Kinds*, I am aware that he

> exclusively used greatly warming (*dawen* 大溫) and greatly restorative (*dabu* 大補) drugs, [yet] in treating diseases all of it was also divine. How could these two gentlemen's use of drugs be opposite but equally effective?[51]

Li quoted from the *Basic Questions* essay "On Evidence of the Four Lapses" (*Wei si shi lun* 微四失論) about differences between the rich and poor, the highly placed and lowly:

> [If the physician] does not suit [formulas] according to [where] the wealthy and highly placed and the poor and lowly dwell, the thickness of their sitting mats, whether their bodies are hot or cold, and [if the physician] does not adjust what is appropriate for them to drink and eat, cannot tell the difference between brave and meek, and does not know enough to categorize them, [he] knows enough to completely confuse himself but not enough to be enlightened.[52]

Li's predecessors had noted northern–southern differences but did not relate them to class disparities. Relating these distinctions of class and status to corporeal ones, Li added a new interpretation:

> Generally, the wealthy and noble labor with their minds; the poor and lowly labor with their bodies. The wealthy and noble feed themselves rich foods and grains; the poor and lowly fill their bellies with sprouts and beans. The wealthy and noble have elaborate buildings with broad hallways; the poor and lowly have thatched huts in poor alleyways.
>
> Those who labor with their minds have a depleted center, weak sinews, and brittle bones. Those who labor with their bodies have full centers, strong bones, and powerful sinews. Those who feed themselves on rich fare have delicate visceral systems. Those who fill themselves on sprouts and beans have strong visceral systems. Those who live in elaborate buildings with broad hallways have loose pores, so that the six pathogenic climatic factors can easily occupy [their bodies]. Those who live in thatched huts in alleyways have tight pores so that the external pathogenic factors have difficulty causing trouble. Thus, the maladies of the wealthy and noble are well suited to [prescriptions] that restore the

> body's own [depleted] *qi*, and the maladies of the poor and lowly benefit from [medicines] that attack heteropathies (*xie* 邪).[53]

Li argued that Zhang Congzheng emphasized purgative drug therapy because he was treating commoners who labored with their hands. Their firm visceral systems and tight pores closed their bodies to external attack. Because they rarely weakened from within, when they fell ill it was most often due to external factors such as pathogenic Wind and Cold that had overwhelmed their bodily defenses. Strong purgatives that attacked the heteropathies were the best way to expel these climatic pathogens from the bodies of his poor northern patients. By contrast, Li explained, Xue Ji favored drugs with a warming and replenishing effect because his southern patients were wealthier and their cosseted lives had weakened and softened their bodies. Their pores were loose, their bodies vulnerable to external attack, and their inner defenses in need of strengthening. For these reasons, they required the restorative prescriptions Xue Ji prescribed. Unlike their northern counterparts, their bodies could not withstand drastic purgatives. Li related the contrast in therapeutic strategies to the differences in economic status and quality of life of the patients Zhang and Li most frequently saw in their medical practices:

> The patients Zhang Congzheng treated were poor and lowly, so they could withstand his drastic purgatives. The patients Xue Ji treated were mainly the wealthy and noble, well suited to his restoratives. How in Zhang Congzheng's entire life could not a single restorative prescription have been effective? How in Xue Ji's entire life could it be the case that not one purgative prescription was effective? It is just that when they wrote books and established their perspectives, they simply did not mention these cases.
>
> There are those who say that [because] Zhang was northern, it was proper for him to act as he did, and since Xue was southern, it was proper for him to act in the way he did. This is a biased view. Even though there were poor and lowly families for whom it was best to use restoratives, for Zhang more cases required purgatives and few required restoratives. Even though there were wealthy and noble families for whom it was best to use purgatives, for Xue fewer cases required purgatives and more required restoratives.

> In such cases, it is proper to build one's argument on what is appropriate to the region, to make distinctions according to the natural endowment of the person, to take age as a scale, and condition of the body's *qi* as a measure. A physician cannot keep to the single path of recuperation (*juyang* 居養) and determine treatment only on those two bases.[54]

Li's main conclusion was not that economic and climatic circumstances determined a patient's illness, but rather that they were stereotypical and could well lead the physician astray. Like Wang Lun earlier, Li Zhongzi used medical regionalism to criticize oversimplified medical principles and biased approaches to medical care. He corrected what he thought was the misconception that Zhang's and Xue's writings were appropriate only for one particular region of the empire. He argued that the two physicians were not regionally biased, but rather had finely adapted their treatments to their patients' needs one at a time. Li too constructed the persona of an unbiased physician offering a universally relevant textbook, and refuting accusations by competitors that those he considered his predecessors were regionally partial.

In his second book, *On the Subtleties of Nourishing Life*, Li devoted a long essay "On Locality" (*Fangtu lun* 方土論) to regional issues that again drew upon the broader geographic imagination of his time. In contrast to most of his predecessors, Li closely followed the presentation of the five directions in *Basic Questions*.[55] He integrated the Five Phases in the opening passages for each direction. He also represented the ancient five directions by provincial and regional names of his era: the east now became Southern Zhili (i.e. Jiangsu, centered around Nanjing, the former capital of the Ming), Zhejiang, Shandong, and Fujian; the west comprised Shaanxi and Sichuan; the north was now Shanxi and Northern Zhi (i.e. Hebei, centred around Beijing, the capital of the Ming); the south included Jiangxi, Guangdong, Yunnan, and Guizhou; and finally, the central region encompassed Henan and Hunan. By translating the abstract five directions into familiar administrative boundaries, he realigned the ancient symbolic system with the current body politic. Li's version incorporated the Five Phases doctrine, not included in the original essay, and mapped the current Ming Empire onto it.

Using the structure of the *Inner Canon* essay, Li Zhongzi described the dominant foods people ate in each region and basic differences in their styles of life. A look at his revisions reveals several significant asymmetries. In his section on bodily constitutions for each region, for instance, Li added the longest commentary on the southern and eastern directions.[56] The *Inner Canon* essay said nothing about the bodily constitution of northerners, nor did Li Zhongzi have anything to add. The replete yang *qi* and resistance to pathogenic invasion that Song authors associated with northern constitutions were attributed to western constitutions in the *Basic Questions'* essay and again in Li's revision. Li added only that illnesses dominant in the north were due to extreme cold. The length of commentary on the south and east, however, suggests that he focused his clinical priorities there where he lived and practised medicine.

In his comments on regional illnesses and his new rationale for herbal formulas for each region, Li returned to the Five Phases. In the east, the physician should prescribe formulas that double Earth's foundation to control pathogenic Wind; in the west, strong attacking formulas were appropriate even though they could be deadly; in the north, since most illnesses were caused by cold, it was appropriate to promote Fire to counter concealed yin (i.e. pathogenic cold); in the south, it was best to support Water to control excess yang *qi* (i.e. pathogenic heat); and in the center, formulas should assist the Wood in order to control pathogenic Earth in the patient's body. Instead of expressing anxiety about a more indulgent southern lifestyle in contrast to a more frugal, restrained northern one, he blamed excessive emotions, rich foods, and sexual indulgence for the illnesses those who lived in the west suffered. Neither here nor elsewhere did Li indicate why he held such a negative view of westerners. The drastic purgatives previously associated with the therapeutic style of the northern physician Zhang Congzheng became the regionally appropriate therapy for those who lived in the west, where *Basic Questions* first recorded that potent drugs originated.

In brief, Li Zhongzi's revision of the *Inner Canon*'s essay on regionalism not only interpolated the Five Phases into the Han original, it offered strategies for locally appropriate herbal formulas that did not exist when the classic was compiled.[57] Integrating herbal medicines into the ancient five directions model appears to have begun with the same Zhang Congzheng,

whose drastic purgatives Li Zhongzi defended as appropriate for Zhang's poorer northern patients.[58]

By the late Ming dynasty, the considerable pharmaceutical literature including formularies (*fangshu* 方書) and books on materia medica had become the main therapeutic resources for literate physicians such as Li's readers. Zhang Congzheng's comments on the drugs of the five directions influenced Li Zhongzi most clearly in his remarks on the need to control "Earth" (which corresponded to spleen and stomach illnesses) in the central region. Instead of Zhang's specific medicinals, however, Li listed regionally appropriate therapeutic strategies for using drugs. Li did not elaborate at all on the other four therapeutic methods in the original *Inner Canon* essay – the stone needles of the east, the moxibustion and cauterization of the north, the nine needles of the south, or the *daoyin* and massage practices of the center. This omission suggests that these therapeutic techniques were of solely antiquarian interest for an elite physician like himself whose practice consisted mainly of writing prescriptions.[59] He concluded his revision with a quotation from Zhu Zhenheng, who had said that "The winds and soils of the four regions are not the same." By quoting Zhu on the "four regions," Li related the ancient five directions model to the northwest–southeast polarity with which most his potential readers would already have been familiar. This northwest–southeast polarity not only mirrored geographic and social reality for physicians, it was a medical fact that guided their choice of therapies and structured their assessments of a skewed physical and human geography.

Regional Diseases, Social Diagnoses

The Ming medical discourse on regional diseases revealed three types of social diagnosis: (1) conflicts over diverse medical practices, (2) concerns about universal validity versus regional biases, and (3) anxieties about the health consequences of the increasingly indulgent lifestyles in the wealthy regions to the southeast. We can trace the value placed on associations with the northwest and the north to their status as the old political and cultural centers of China. These geographic divisions were also more important in Chinese medical discourse than the urban–rural divide that dominated European medical discourse because of China's political history, which

went back to the north–south division of the Northern Jin and Southern Song dynasties.[60]

These geographic divisions also reveal regionally based social fissures in the medical sphere. The commercial transformation of Chinese society between the time of Xue Ji in the 1550s and Li Zhongzi in the 1620s may have increased the chasm between the rich and poor to such an extent that economic status remade even corporeal difference. Li's updating of the essay on the five directions in *Basic Questions* added the Five Phases doctrine and herbal medicine strategies that had been integrated into Chinese formularies since the innovations in drug therapy of the Jin-Yuan period.[61] Sympathetic with Wang Lun's arguments for impartiality, Li Zhongzi also cautioned physicians against regional determinism. The ideal persona of an unbiased and impartial elite physician emerged from this medical debate on northern purgatives and southern restoratives as a compelling (though not new) social identity for Ming literati physicians, and a persuasive marketing strategy for their books. Although this debate expressed nostalgia for the frugality, restraint, and hardiness associated with the northwest, their portrayal of the more leisurely, self-indulgent, and delicate southern patient conversely affirmed southern cultural distinctiveness. These southern medical authors presented their own syntheses of medical knowledge as balanced, comprehensive, and universal.

A wide range of fourteenth- to sixteenth-century sources used the north–south and northwest–southeast axes in multiple ways. The northern scholar-official Dai Liang made the north–south conflict between the Song and Yuan dynasties visible in his biography of the Jiangnan physician Xiang Xin and in his preface for the Suzhou physician Zhu Bishan. Just over a century later, Wang Lun, by contrast, challenged critics who sought to diminish Zhu Zhenheng's work as merely southern. He also warned his novice readership to avoid simplistic environmental determinism in favor of a more discerning practice. During the mid-sixteenth century Xue Ji, on the other hand, emphasized corporeal differences and expressed concern about the regional limits of drug therapies for epidemics. Xue's emphasis on regional constitutionalism contrasted markedly with Wang's critique of regional essentialism. Near the end of the Ming dynasty in the 1620s, by contrast, Li Zhongzi explained Zhang Congzheng's use of northern purgatives and Xue Ji's own bias toward southern restoratives as rooted in the economic

differences between the north (along the Yellow River watershed) and the south (still no further south than the Yangzi River delta).

The illustrations in the Yuan and Ming editions of the *Broad-Ranging Record on Many Matters* encyclopaedia also depicted the world as askew since the time Gong Gong knocked down Mount Buzhou, the northwestern pillar holding up Heaven. Ming physicians used the northwest–southeast polarity in their writings on medical diversity as well because this widely accepted social fact corresponded not only with their sense of political history, but also with their social and medical experience. Just as Francis Zimmerman defined the specific Hindu reality of the jāngala or jungle as a total social fact in the Durkheimian sense, the specific Chinese reality of "Heaven tilts in the northwest; Earth is incomplete in the southeast" should be similarly understood in late imperial China.[62]

The Ming medical debate over northern purgatives and southern restoratives and northwestern–southeastern differences occurred within this symbolic system. From the perspective of the sociology of knowledge, it was also about southern physicians – such as Wang Lun, Xue Ji, and Li Zhongzi – strategically carving out a new social niche for themselves as impartial medical authorities for all subjects of the Ming empire in all their diversity, north and south, high and low.

4 Ming Medical Frontiers

Diseases of the Far South, New Conceptions of Contagion

To understand what *wenbing* was in its early life and what it became as it matured, it is worth sketching some other disease concepts that inhabited the same world and were part of the broader nosological system. This biography of *wenbing* now moves from the Chinese center to its southern periphery where many more diseases that were clearly not *wenbing* raged, and where the seeds of the contagion concept that would later inform *wenbing's* identity took root.

When referring to diseases within China proper subject to classical cosmology, Ming physicians embraced the dualities of north–south and northwest–southeast over the antiquated five directions model from *Basic Questions*. When confronted with the boundaries between sickness and health beyond their normal clinical world, however, they expressed a different geographic sensibility. These same physicians wrote quite differently about diseases at the edges of the empire and among peoples along the frontiers of Han culture. Instead of potential threats from the north, northwest, or west, their writings focused on the the environment, diseases, and people associated with the southeast coast and the Far South. By the mid-sixteenth century, the Chinese medical encounter with southern diseases led to a new consciousness of contagion based on previous conceptions of toxicity and magical poisoning as well as analogies to "spreading dyes" (*chuanran* 傳染), "growing molds" (*mei* 霉), and "worms and insects" (*chong* 蟲).[1]

The *Zhang* Miasmas of Lingnan

Typical of his generation and men of his status, the official Han Yu 韓愈 (768–824), the greatest prose stylist and philosopher of his time, wrote a memorial when exiled in Chaozhou prefecture on the southeast coast sometime after 819 that epitomized northern disdain for the southern frontier:

> The districts in the south are near the frontier, [where] the swelling (*zhang* 瘴) ocean meets the sky and toxic fogs and miasmatic mists appear day and night. I was often ill when young [in the north]. Now I am just fifty, but my hair is white, my teeth are falling out, and it is obvious that I will not last much longer. On top of that, because my crime was very serious,[2] the place where I now live is remote and unpleasant. I fear I will die shortly. All alone as one with no relations or allies at court, I live in a land of barbarians (*Man Yi* 蠻夷), where my [only] companions are man-eating demons. Unless Your Majesty thinks of me with pity, who would be willing to say a word on my behalf?[3]

Han was one of many Tang scholar-officials who expressed their fears of the southern frontiers, its miasmatic mists, and the non-Chinese people who lived there. In a guide intended for northern visitors to the Far South, another Tang bureaucrat wrote: “The mountains and rivers of Lingnan are twisted and overgrown; the stagnant vapors are not easily dispersed or diffused. Therefore there is a great amount of mist and fog that cause pestilence.”[4]

“Lingnan” 嶺南 (“south of the Ling ranges”), since at least the Period of Disunion (220–589), referred to the subtropical region encompassed by most of the modern-day provinces Guangdong and Guangxi. Some authors used instead “Lingbiao” 嶺表 (“beyond the Ling ranges”) or “Lingwai” 領タ卜 (“outside the Ling ranges”). The region was formed by the drainage basins of three major rivers flowing into the South China Sea, and was bordered to the north by mountains and high plateaus.[5] Authors sometimes grouped the term “Min” for the neighboring southeast coastal region of modern Fujian province with Lingnan, Lingbiao, and Lingwai. Northerners also feared Guizhou and Yunnan provinces to the southwest for their *zhang*

瘴. These regions at the southern frontier were settled by aborigines of various cultures that the dominant Han found difficult to control and could not even understand, for officials were not prepared to learn non-Chinese languages.[6]

In Chinese writings on these regions, the Far South did not have distinct seasons and its debilitating, even deadly, local *qi* were always situated in subtropical mountains, marshlands, and waterways. Although z*hang* miasmas also existed in the mountainous and marshy regions of the north, doctors considered the "agues" or "intermittent fevers" (*nüe* 瘧)they caused more debilitating in the south, due to the toxic vapors in the Lingnan mountains.[7] Lingnan *zhang* could also cause virulent epidemics.[8] Its hostile mountains and waterways belonged to a subtropical spatio-temporal regime in which miasmic *qi* accumulated and spread through fogs, mists, and other poisoned media. Hot and damp year round, this region defied the normative agrarian regime further north.

Other scholars have analyzed the range of meanings, perceptions, and fears projected onto *zhang* from its earliest appearance in the second century through its current association with biomedical malaria.[9] I focus here on what *zhang* meant to Ming physicians, and how they related it to other disease concepts they associated with their unruly far southern frontiers. By the mid-sixteenth century, physicians associated *zhang* miasmas, *mafeng* (lit. numbing wind, biomedical leprosy), *gu* poisoning, and the new *Guangchuang* 廣瘡 (lit. Cantonese sores, likely various venereal diseases and syphilis) with the Far South.

The Five Phases and phase energetics could not explain why these diseases occurred, nor could the related concept of climatic *qi* pathogens accommodate them. Instead of the seasonal irregularity and erratic weather patterns that explained Cold Damage, Warm diseases, and even seasonal epidemics, poisoned places was the theme of writing on southern diseases. In these exotic lands, conceptions based both on knowledge of poisons and beliefs in poisoning by magical means were more appropriate than conventional meteorology for thinking about tropical climates, flora and fauna, and diseases.[10] Related to this conflation of poison, place, and pathology in the Far South was contagion. The old obsession with the weather and consciousness of the climate began to shift among laymen toward what one scholar has called "contagion-consciousness."[11] They

identified the former with the agrarian regime of China's core; encounters with the subtropical spatio-temporal regime of Lingnan more fully articulated the latter.

An essay on serpents in the imperially published *General Record of the Imperial Benefaction* (*Shengji zonglu* 聖濟總錄) of 1122 epitomizes the early roots of this conflation. Since serpents and snakes were the hottest animals, they were associated with the Fire phase. Because of the heat and humidity of the tropics, literati thought that most reptiles lived there, and were the source of its miasmic *zhangqi*. During the mid-summer fourth and fifth lunar months, the snakes vomited their poison, venom, and toxic *qi*, which vaporized as mists. The *Imperial Benefaction* thus explained these viper-poisoned miasmas to be the underlying cause of virulent intermittent fevers.[12] Chinese awareness of contagiousness was rooted in not only centuries of experience ordinary Chinese people had with epidemics,[13] but also what were considered to be extraordinary encounters of literati (who did travel) with the animals, plants, places, diseases, and peoples along the far southern frontiers.

There are no records of *zhang* in the excavated silk and bamboo medical texts or the *Inner Canon* of the last two centuries BCE. The biography of the General Ma Yuan 馬援 (d. 49 CE) may be the earliest source that mentioned *zhang* as miasmas, identifed them as epidemic, and placed them in the south.[14] In 42, Emperor Guangwu (r. 25–55) sent Ma on a campaign to secure the far southern borders. After the army defeated the Yue people in 43, many soldiers died after returning to the capital, allegedly from a "miasmic epidemic" (*zhangyi* 瘴疫)that they had brought back with them. Although this episode later became the origin story of smallpox, the original accounts attributed this epidemic to miasmas of the Far South.

In the third century, the character *zhang* 障 with a "mound" radical on the left side meant "obstacle" or "a barrier" as a noun, and "to hinder" or "to obstruct" as a verb. By extension, it referred to southern diseases, a deadly "barrier" that set limits for military garrisons and Han settlements.[15] In the early fourth century, the dilettante physician Ge Hong 葛洪 (281–341) attributed the origin of a disease he called the "enemies' sores" (*luchuang* 虜瘡)to the same expansionist campaign of General Ma into Vietnam.[16]

During the Sui dynasty (590–618) the first Chinese medical treatise devoted to disease etiology, the *Treatise on the Origins and Symptoms of*

Various Diseases (*Zhubing yuan hou lun* 諸病源候論, 610), included the first medical essays on *zhang* 瘴 (with an added illness radical) as a disease category. The author, Chao Yuanfang 果兀方 (550?—630?), placed *zhang* in Lingnan, moving its origin from the far fringes to the frontier periphery.[17] His account of *zhang* contains views that span the spectrum from climate-consciousness to contagion-consciousness. In fact, his treatise provides the earliest synthesis of current concepts of contagion.[18] He argued that the treatments developed in the north were not effective for the miasmic diseases in the Far South, distinguishing clearly an early convergence of place, poison, and pathology.

From the seventh to the tenth century, comments on the dangers of miasmatic Lingnan appeared in collected writings of scholars as well as in a treatise titled *Records of the Strange in Lingbiao* (*Lingbiao luyi* 嶺表錄異).[19] From the early twelfth century on, physicians began to write about *zhang* in treatises for officials, scholars, and soldiers who had to travel to Lingnan. One preface emphasized that the damper climate, mountains, and streams of Lingnan made it so different from the central states (*zhongzhou* 中州) that the usual therapies rarely succeeded there.[20]

The notion of resonant local *qi* explained *zhang*-type miasmas as a specific manifestation of the hostile *qi* of the subtropics, where poisonous vapors, malignant mists, and threatening rains constantly assaulted the well-being of northern visitors. Miasmic diseases were to Lingnan as Cold Damage and Warm diseases were to the central regions.[21] Official discourse blamed the government's difficulty in gaining control over these regions on the deadly effect of these malignant types of far southern *qi*. The mists and vapors of the tropics were considered not only noxious, but the main barrier to Han conquest and colonization.[22]

The political history of exile to this region clarifies the fears projected onto it. The central government often banished to the frontiers of the empire civil and military officials who committed infractions or crimes: the greater the offence, the farther the banishment from the center. In his study of views of the Far South during the Tang dynasty, Edward Schafer best summarized this system as one in which the "degree of the disgrace" was proportional to the distance exiled from the capital. The court sometimes carried out banishment in stages that moved the disgraced official down the bureaucratic ladder while moving him farther out to Lingnan, Hainan, and

Annam.[23] Northern Song law officially made service in the south a punishment.[24] In the Ming legal code, exile to areas of "smoky miasmas" (*yanzhang* 煙瘴)became a formal penalty.[25] In the Qing, of the five categories in the Regulations of the Ministry of War, the fifth and most punitive category was exile to the misty miasmal tropics.[26] In this calculus of punishment, exile to the Far South combined geographical distance and cultural isolation with a mortal threat to health.

Miasmic disorders varied ethnically as well as according to location. In several cases, scholars named miasmic *qi* after the Man people, a general appellation for the aborigines of Vietnam and their people.[27] The character for Man referred to the region as well as the Chinese label for the main minority groups that lived there.[28] The eminent litterateur-official Ouyang Xiu 歐陽修 (1007–72) used the character "Man" in a description that hints at the contrast in spatio-temporal regimes. "The Man region differs in seasons and customs; its scenery differs in *qi* and appearance."[29] Several four-character phrases from other Song sources related miasmic *qi* with the Man people: "Miasmic rain and Man mists" (*Zhangyu Manyan* 瘴雨蠻煙), "Man winds and miasmic rains" (*Manfeng zhangyu* 蠻風瘴雨), "Man clouds and miasmic rains" (*Manyun zhangyu* 蠻雲瘴雨), "Man mists and miasmic rain" (*Manyan zhangyu* 蠻煙瘴雨), "Man mists and miasmic fog" (*Manyan zhangwu* 蠻煙瘴霧), and even the "miasmatic Man" (*Zhang Man* 瘴蠻).[30] The peoples Chinese called Man had settled along the southernmost border of the Chinese empire from at least the third century BCE. The Chinese imagination gradually conflated them with the climate and land of the region itself.

In the early Ming, the proliferation of specialized treatises on *douzhen* 痘疹 (mainly smallpox) reused the ancient story of Ma Yuan's soldiers bringing a miasmic epidemic, or "enemies' sores," back to the capital.[31] The Eastern Han troops' encounter with southern miasmic epidemics accounted for the origin story of *douzhen*.[32] Shortly after the failed attempt during the Yongle reign (1405–27) to recapture the border region of northern Vietnam, physicians linked these "miasmic epidemic disorders" and "enemies' sores" to the cases of *douzhen* of the early Ming. In that political context, some physicians began to associate the fetal poison they believed produced

eruptions of smallpox in their children with the miasmic *qi* of the Man region.

Lingnan Diseases for the General Ming Reader

In his medical primer *Enlightened Physicians*, however, Wang Lun did not associate the miasmas of Lingnan with any particular ethnic group. In the opening of an essay on "Treatments resembling those for various diseases of Lingnan" (Si *zhi Lingnan zhu bing* 以、治嶺南諸病), he assumes that none of his readers have lived, or will ever live, there. His emphasis instead is on illnesses they might encounter in the two major river valleys of Central China. Symptoms may resemble those of Lingnan's *zhang*, but the diseases are not as virulent. Here such diseases are not fearsomely exotic, but variations of normal patterns. Consequences of contact with miasmic fogs in mountains anywhere are comparable to those that predominate in Lingnan:

> During the spring and autumn months, people who come in contact with the *qi* of the miasmas and fogs of mountains become chilled and feverish, their chests constrict, and they lose their appetites. This type of toxic *qi* enters through the nose and mouth. To treat it one must clear the upper *jiao* 焦 (i.e. lungs, heart), resolve the internal toxins, move the *qi* and reduce the phlegm; it is not appropriate to cause sweating.[33]

Wang lists many herbs physicians should include in their prescriptions. However, if despite the treatment the patient does not improve, continues to have chills and a fever, sweats to the point of undressing, and develops a headache, it is likely to be a type of Cold Damage disorder. Wang then contrasts the climatic and constitutional differences of the north with those characteristic of the southern frontier region:

> However, Lingnan's *qi* is warm and likely to cause sweating, so there are many kinds of *nüe;* the serious cases are when the chills and fever do not abate; the light cases are called *nüe*. Because the southern *qi* rises, the people of Lingnan who contract this disease have the feeling of constricted chests, blocked phlegm, and lost appetite. This is different from the northern cases of Cold Damage that only damage the exterior [of the body], so that the interior resolves on its own.[34]

Xue Ji's later commentary on Wang Lun's passages also discussed the Lingnan climate without referring to any ethnic group. Wang, assuming his readers would not have to treat the disease *in situ*, made no corporeal distinctions. Xue described the constitutions of those who lived there and explained that the peculiarities were due to the extreme climate:

> It has low-lying land and thin soil, so the [hot] *yang qi* frequently drains off and the [damp] *yin qi* frequently is stronger. In all four seasons flowers are in bloom; there is no snow or frost in the winter. Half the year is scorching hot (*shu* 暑)and the other half is [just] hot … the *qi* of the inhabitants often ascends and stagnates, causing them to sweat copiously. Since their pores are not tight, the *yang qi* does not stay rooted, and instead produces fevers.[35]

The passage from Wang's *Enlightened Physicians* and Xue's commentary on it refer to Lingnan's scorching hot and miasmic climate in contrast to the familiar dichotomy of the cold-dry north and the hot-damp south of Central China. The etiological reasoning of both physicians remains within the configurationist model of classical medicine. This focus on climatic pathogens changed for Xue Ji, however, when he wrote on the puzzling skin diseases of the Far South.

Zhang and Leprosy

Xue Ji took up Lingnan once again in a treatise on skin diseases titled the *Liyang ji yao* 癘瘍機要 (*Essentials of Li Disorders*, 1528–29). Here he wrote that because of the damp heat and ministerial fire "more suffer from [this affliction] in Huaiyang, Lingnan, and the Min region."[36] In *Leprosy in China*, Angela Leung identified this as the first monograph on *li* 癘, leprosy-like skin ailments.[37] She highlighted two aspects of Xue's treatise relevant to southern medical frontiers and new conceptions of contagion in the Ming: Xue associated *li* for the first time with the far southern miasmic regions; he also asserted a new idea that a pathogenic local *qi* characteristic of the region caused them. By the early sixteenth century, the medical consensus was that the miasmic region of southern China nurtured a particularly noxious local *qi* that caused *li*.[38]

Ming physicians also linked *li* to two other disease concepts: *dafeng* 大風 (great Wind) and *mafeng* (numbing Wind). All three covered symptoms many of which were later included in, but not exclusive to, biomedical leprosy.[39] They were originally classified as diseases due to Wind intrusion, arguably one of the most important pathogenic climatic factors in antiquity,[40] but by 1500 physicians were beginning to consider further non-climatic pathogens and other forms of transmission. *Li*, *dafeng*, and *mafeng* corrupted bones, collapsed noses, and disintegrated flesh, symptoms that before roughly 1400 belonged to external medicine (*waike* 外科), a field from which elite physicians had even earlier distanced themselves. Xue Ji was among the few of his peers who even discussed such dramatic damage to the flesh. His emphasis on anesthesia of the limbs as the primary symptom gave weight to the "numbing" meaning of *mafeng*, which eventually became the biomedical term for leprosy. Descriptions of *li* and *mafeng* from the time of Xue's work are similar to early nineteenth-century Western observations of leprosy.[41]

Southern miasmas and noxious local *qi*, however, play no part in the modern etiology of leprosy. For Xue Ji, *li* occurred only in Min and in Lingnan. People suffered from particularly bad cases of open sores there because of the harsh environment. The heat and dampness debilitated their inner stores of *qi* and blood; the excessive internal heat then became a toxin that consumed its victims from within. Although Xue accepted the configura-tionist explanation of disease, he suggested that there was some kind of local, particularly noxious *qi* at the root of these far southern skin afflictions.

Shen Zhiwen 沈之問 (fl. 1550), in his monograph on skin diseases, *A Gathering Place of Sources of Relief* (*Jie wei yuansou* 解圍元藪, pref. 1550), pushed the envelope further toward contagion. A contemporary of Xue Ji, Shen was unknown except for this book, which was not published until the nineteenth century, and did not become widely known until the twentieth. Leung argues that his lower social status made him more open to etiological interpretations of *li* outside the classical cosmology based on seasonal cycles and climatic pathogens.[42] Like Xue, he placed *li* and *mafeng* geographically in the Far South, but he added the distinctly non-cosmological concepts of magical *gu* poisoning, toxic worms and insects,

and person-to-person transmission, all of which begin to resemble concepts of contagion:

> In Min (Fujian) and Guang[dong], the poisons involving viperous *gu* (*she gu* 蛇蟲), talismanic water (*fushui* 符水), and smoky miasmas (*yanzhang* 煙瘴)[43] are the most harmful to people. When someone has just died of a malignant ailment (*eji* 惡疾), poisonous worms and insects (*chong* 蟲) emerge from the seven orifices of the cadaver and fly toward any living human passing by, hiding within to do harm later on.[44]

Leung notes that Shen articulated two modes of transmission: within the family, which closely resembled earlier beliefs regarding the collective responsibility for sickness expressed in Daoist ritual traditions from the Song; and outside it, which he called "infection by filthy *qi* and possession due to *gu.*" He based the latter mode on a model of poisoning that relates back to an ancient idea of "pouring of an ailment onto a succession of victims" (*zhulian* 注聯)and associated with collective responsibility.[45] In Shen's analysis transmission is more like pouring a poison from one person to another intentionally by magical means or through "creeping worms" as transmitters. If already depleted people inhale this filthy *qi*, it travels to one or more of their viscera. The foul *qi* from someone's waste in an open latrine can also invade and poison a vulnerable person. Corpses, even old tombs and cemeteries, could be sources of contagion. *Chong* acted as agents transmitting the filthy *qi* through the process of "pouring" or "dwelling" *zhu* 注 transmission and initiating demonic possession.[46]

Shen Zhiwen also articulated, apparently for the first time, the idea that women, never called *chong* but described analogically, could transmit *li* or *mafeng* to men through sexual intercourse and to their own offspring. Shen thought that because of their menses they were able to expel most of the toxins while asymptomatically retaining some of them. This initial idea of sexual transmission of *li* and *mafeng* from a contagious female body to her male partner became associated in later writings with non-Han women of the Far South, usually virgins who passed the disease on to men as they lost their virginity, often to northerners.[47] This new interpretation of a sexually transmitted *li* and *mafeng* may have gained wide acceptance in the treatises of elite physicians by the sixteenth century because of encounters with what

by all accounts appears to have been syphilis. In fact, what moderns consider two distinct diseases, leprosy and syphilis, were for some doctors merely different regional variations of the same affliction. As Shen Zhiwen put it, “North of the Yangzi River in the Yan [region], they say *li* causes blister sores (*paochuang* 疱瘡)；southerners, based on this name, call *them yangmei chuang* 楊梅瘡 (Myrica berry sores) or *Guangdong chuang* 廣東瘡 (Cantonese sores).”[48] Despite this range of nomenclature, the earliest comments on “Cantonese sores” set a precedent by seeing it as a new disease that originated in the Far South.

Zhang and Syphilis

Although syphilis probably entered China at the end of the fifteenth century, a physician named Yu Bian 俞弁 (fl. 1522) first mentioned “Cantonese sores” in his “Sequel to On Medicine’” (*Xu Yi shuo* 續醫說, pref. 1522). Yu Bian mentioned the name in an entry for a type of yam he thought was milder and therefore better suited to treat these sores than the crude calomel (*qingfen* 青分) physicians were using. In his short remark, he noted that it was a new disease, specified that it first appeared sometime during the Hongzhi reign (r. 1488–1505) in Guangdong. The “People of Suzhou did not know of it, so they called the disease ‘Cantonese sores’.”[49] Its alternate name “Myrica berry sores” (*yangmei chuang* 楊梅瘡)was due to the sores resembling their color and shape.[50] Yu represented a Suzhou perspective on what was recognized there as a new disease from faraway Lingnan.

The direct connection of “Cantonese sores” with the old disease concept *zhang* and Lingnan (in which Canton is located) occurred over half a century later in the most famous synthesis of Chinese materia medica, *Bencao gangmu* 本草ま岡目 (*Systematic Materia Medica*).[51] The third-generation physician Li Shizhen李時珍 (1518–93) compiled this large work from 1579 to 1593, after which his sons and grandsons saw it through publication in 1596. The short entry that mentions Cantonese sores is relevant to new conceptions of space, diseases, and contagion through sexual transmission discussed in this chapter. Li noted that these sores had not been recorded previously, and that as far as he knew people did not suffer from them in the past (indicating that he had not noticed Yu Bian’s comment about their origin). He argued that it began recently in Lingnan

and moved north, where it spread everywhere. He gave three reasons for its origin in Lingbao: in that low-lying and warm region, miasmatic vapors from the mountains "steam under the heat," the people eat hot and spicy food, and they engage in lascivious and immoral behavior.

Li concluded with three important points related to the new meanings attached to the indigenous disease concept *zhang* and the refining of a new awareness of contagion. First, he thought the damp and hot climatic configurations of *qi* particular to the region joined to form a pathogenic *qi* that caused these sores. Second, he argued that once someone has developed these sores the affliction is "contagious" (*huxiang chuanran* 互ネ目傳染), thus explaining how it spread from the south to the north and then throughout China. Finally, he blamed "lascivious" behavior, thus linking the disorder to Shen Zhiwen's argument that *li* could also be sexually transmitted.[52]

The conviction that sexual intercourse could be deadly was not new. A military official's account *Record of a Mission to Burma* (*Shi Mian lu* 使緬錄, 1407) warned soldiers not to have sex with the local Mian women, or face certain death. He called these women "human miasmas" (*ren zhang* 人瘴).[53] This book projected the conflation of poison, place, and pathology expressed in the *zhang* concept on to the bodies of the women who lived across the southwestern frontier.

Zhang and Frontier Peoples

Unlike the officer Zhang Hong, who had been to Burma, none of the five representative sixteenth-century physicians – Wang Lun, Xue Ji, Shen Zhiwen, Yu Bian, or Li Shizhen – left records of travel to the southern frontiers, discussed Lingnan's ethnic minorities, or even provided guidance for trav-eiers there. For an extended account of medical frontiers, we have to examine a more encyclopedic source. *The Orthodox Tradition of Medicine, Past and Present* (*Gujin yitong daquan* 古今醫統大全, 1556) reveals a richly textured understanding of Lingnan as medically exotic. Its author, Xu Chunfu 徐春甫 (fl. 1556), served in the imperial medical bureau for some time.[54] This experience gave him access to a wide range of medical literature and a broad view of the nosological terrain across the empire, both of which his compendium reflects. Xu's several essays on the

miasmic *qi* of Lingnan were attentive to cultural as well as climatic difference.[55] He included only one essay (which he attributed to Zhu Zhenheng) on the four regions of Central China, but was eloquent about the dangers of contact with the miasmic *qi* of the southeastern Min and southern Lingnan regions. He explicitly addressed advice to northerners (*beiren* ：北人) and southeasterners (*dongnan zhi ren* 東南之人)who had to travel or live in Lingnan.

Xu's essays on "miasmic *qi"* are a medical travelogue of exotic customs and regional dangers. People in Lingnan habitually chewed betel nut (*binlang* 檳郎)to counter the effects of excessive heat and sweating.[56] Betel nut was the premier southern drug, which contrasted with northern-identified ginseng but compared favorably to tobacco for similar heating qualities.[57] The betel nut chewing habit was comparable to northerners consuming junket (*laosu* 酪溯)[58] because it helped tighten their pores and prevent them from catching epidemic diseases.[59] Still it perplexed northern physicians that locals used the betel nut, which was heating, to avoid illnesses they associated with the scorching heat and miasmas of Lingnan. This countered the logic of heating drugs for cold afflictions and chilling drugs for hot ones. They argued that southerners' constitutions were so depleted from the habit of chewing betel nut that the chilling drugs northern patients normally used for "hot miasmas" (*rezhang* 熱瘴)conversely further depleted far southern sufferers.

Sojourning northerners were particularly susceptible to this miasmic *qi;* but locals' bodies adjusted to their diet and climate. Only two to three out of ten were sickened by the *qi* instead of the eight or nine out of ten northerners passing through. Chinese physicians explained this resistance as the result of regular and moderate daily lives in contrast to the disruptions of travel – rugged mountain paths, few people, dirty water, foul smells, irregular meals – that leave the voyager exhausted, famished, and vulnerable to *zhang* invasion.[60] This explanation, had nothing to do with the biomedical notion of acquired resistance.

Physicians recognized that the difficult conditions for the northern traveler passing through these regions were even worse among their servants, who usually ate irregularly due to their work schedules, were unprotected against the scorching heat, slept on the floor, and could not escape anxiety. Xu admonished travelers to Lingnan to pay attention to their

servants' stress and save their lives. Moderation and regular behavior on their own parts, and consideration for their servants, were advisable to protect the entire household against attack by local miasmas.

Sometimes even the most disciplined, well-fed, and well-rested northern visitors could not avoid the poisonous plants and animals of Lingnan. The problem was that the local pigs ate promiscuously, and affluent northerners loved to eat pork. Xu advised visitors not to eat the local cattle, horses, sheep, and other livestock for the same reason. Not only did one have to lead a moderate and proper life, the guide warned, one had to raise one's own livestock or risk poisoning from the flora-infused local meat.[61] Few travelers would have found such advice practical.

Medical writing on Lingnan tacitly undermined the imperium's political goal of controling frontier regions through the demographic power of Han migration. Frontier diseases were potent threats to full assimilation and control. Medical essays on Lingnan's *zhang* also reveal a conceptual shift from climate-consciousness to a poison-consciousness that informed later ideas of contagion.

The most striking contrast between the north and Lingnan that concerned physicians in Xu Chunfu's time and earlier may not have been the toxic climate, plants, and meats but rather the local people's lack of respect for northern physicians. Since the Northern Song, Chinese officials in large numbers were offended by the locals' faith in mediums and offerings to the spirits.[62] From Xu's perspective there was little administrators could do to change the minds of people in Lingnan, where physicians and good medicines that northerners recognized were very rare. Xu concluded it was no wonder that the local people believed instead in mediums, the only therapists available.[63] He thus admitted the limits of both the Chinese state and his own medical culture.

Another medical book of guidance for northern visitors to Lingnan was *Formulas for Preserving Life in Lingnan* (*Lingnan weisheng fang* 嶺南衛生方), published by two high-ranking Southern Song officials in 1264.[64] A new edition of 1587, just three decades after Xu's *Compendium*,[65] gave Ming visitors to Lingnan formulas and drugs to fortify their constitutions against the onslaught of southern miasmic *qi* or miasmic ague. Lingnan dwellers were treated with dispersing formulas (*fasan yao* 發散藥)to clear the excess heat, but this was prohibited for those from the north and west.[66]

The old English term “malaria” has to do with the perceived cause, *mal aria* or bad air, and refers to the results of defilement from miasmas.[67] By contrast, Chinese *nüe* has to do with the correspondence between alternating symptoms (i.e. fevers and chills) and simultaneous climatic conditions (i.e. hot yang *qi* and damp yin *qi*, or the combined damp-heat *qi* of the subtropical climate). *Zhang*, on the other hand, brought together the idea of barriers – spatial frontiers, non-agrarian mountainous spaces, and spatio-temporal regimes of climatic extremes – with that of miasmatic poisons that are part of the environment. Other sections of the same publication warned Chinese officials, soldiers, and merchants not to eat the local foods and to fortify themselves against the toxic southern *zhang*-type miasmas. It did not address whether they could indeed avoid local foods. Nevertheless, three hundred years after its publication, *Formulas for Preserving Life in Lingnan* continued to find a ready audience of visitors to the region.

But after several centuries of Han settlement, there was a shift in thinking. One official, Xie Zhaozhe 謝肇淛 (1567–1624), in the “Earth” section of his famous *Fivefold Miscellany* (*Wu zazu* 五雜組) wrote favorably about the agricultural potential of Lingnan, which he believed lacked the droughts of the north and the floods of the south:

> It is possible to accumulate a surplus by farming only in Fujian and the Guang [provinces]. Recently, though, the soil in Fujian has also become badly degraded. Lingnan alone has abundant resources, few people, plentiful fields, and cheap rice. Were it not for the suffering due to miasmas and *gu*, it would truly be a happy land.[68]

Xie acutely observed the relationship between humans and their environment. He wrote a great deal about northern and southern differences in agricultural practices, water use, and building styles. In one telling passage, the geographic imagination influenced his perspective:

> In bitterly cold frontier passes (*biaosai* 表賽), if one spits, it freezes upon exiting one’s mouth. In the sweltering heat of the Five Ranges, if in winter one does not dry one’s clothing in the sunshine and the wind, it goes moldy with dampness. This is because the climatic *qi* of Heaven and Earth are not uniform. It is better for southerners to go north than for northerners to come south. If the latter do not get intermittent fevers,

> they will suffer from incessant diarrhea. The cold is bearable, but not the heat. When I was in the north, I did not suffer from the cold but from the dust. In the south, I do not suffer from the heat but from the humidity. Dust makes things filthy, turning white garments black. When humidity hits people, powerful bodies become rheumatic.[69]

These conceptions of Lingnan's *zhang*-miasmic and malaria-like *nue* diseases distilled Chinese fears of the Far South, and provided a language for talking about the antipodes of Chinese civilization.[70]

Gu Poisoning, Lingnan, and the Miao

References to *gu* poisoning from *c*. 1500 on associate another disease with an unassimilated ethnic group on the southern frontier. Unlike the strong association of *zhang* with Lingnan since the Six Dynasties, *gu* poisoning had no geographic home through the medieval period. But during the mid to late Ming, some physicians and scholars associated the concept with Lingnan and the Miao, an ethnic label that early modern Chinese imposed on what we see today as an assortment of peoples settled in the region.[71]

Gu, a complex term for a range of ideas and practices from food poisoning to nefarious magic, is (like the concept *qi*) untranslatable. Although the current form of the *gu* character – three worms or insects (*chong*) above a vessel (*min* 皿) – conveys a visual metaphor of a human body (the vessel) possessed by spirits (the worms), the oldest senses of *gu* did not relate to insects or vessels. In Daoism, there is a comparable concept of "three *chong*" (*sanchong* 三蟲) that feed off the human body and, wishing their human host to die early, report transgressions to the celestial authorities at specified times of the year. But this concept is not necessarily related, and portrayals of the three *chong* do not look like worms.[72] Needham and Lu in their classic essay on Chinese diseases also had difficulty pinpointing the early meanings of *gu* in their nosological profile of ancient China.[73] They quoted an anecdote from the third century, and concluded:

> Physician Ho diagnosed the illness of the Prince of Chin as *gu*, by which he did not mean the artificial poison nor, so far as we can see,

> schistosomiasis, but rather some kind of physical exhaustion and melancholia arising from excessive commerce with the women of his inner apartments.[74]

In the Prince of Chin's case, excessive sexual indulgence caused him to lose his strength, his virility, and the seminal *qi* that fortified his body.

In medicine, *gu* poisoning came to indicate sources of danger: sexual indulgence, sorcery, non-Han peoples, and native poisons.[75] In the early seventh century, physicians begin to associate *gu* poisoning not with sexual exhaustion but with the magic of minority cultures. In his *Treatise on the Origin and Symptoms of Various Disorders*, Chao Yuanfang attributed one type of *gu* poisoning (gu *du* 蠱毒) to the Di and Qiang tribes of the western regions. Yet, he considered another poisonous creature associated with *gu* poisoning common in Jiangnan.[76] By at least 1175, the Min region along the southeast coast was the feared source of the cultivation and use of *gu* poisoning.[77] In 1608, one author traced *gu* to Guizhou and the women living there.[78] Those who seduced men through magical means came to be thought of as poisoning with *gu* the lovers who abandoned them.[79]

Xu Chunfu's *Compendium* again reveals anxieties about the climate, culture, foods, and people of Lingnan, now linked to magical *gu* poisoning. The section on "struck by gu" (*zhong gu* 中蠱) directly follows essays on miasmic *qi*, associating the two disease concepts with the geographic imagination of the Far South. "*Gu* poisoning comes out of Min and Guang," states the title of the opening essay, which begins "The central lands (*zhongtu* 中土) rarely see *gu* poisoning."[80] An earlier statement by Gong Tingxian directly inspired this essay: "The poison of *gu* is rare in the central lands. There are more than a hundred people who transmit the practice, most of whom are from the deep mountains of Min and Lingnan."[81] The contrast of a normative central lands with the perverse regions of Min-Guang-Lingnan structures the entire exposition.[82]

Xu warned northerners that they would encounter a wide range of dangers there. Perhaps the most frightening is his first example of intentional poisoning that leads to being consumed from the inside out. People who live deep in the mountains of Min and Guang make a poison by gathering three types of *chong* during the day of the Dragon Boat Festival (the fifth day of the fifth lunar month).[83] They put them in a jar to fight off each other; the

one that survives is made into the *gu* poison. When they wish to harm someone, they hide this *gu* in the victim's food. When someone is "struck by *gu*," his heart and abdomen swell and ache because the poison gnaws him from within. The victim's vomit is like soft (or rotten) cotton. If it is not treated in time, the *gu* will consume the victim's viscera until he expires, sometimes killing him in ten days. Slow cases carry the toxin for several months, during which the *gu* exhausts *qi* and Blood. They die when the *gu* has completely consumed their viscera. Such cases of *gu* poisioning vividly expressed Chinese fears of depletion.[84] Cadavers of those killed by *gu* transmitted a type of heat exhaustion that kills others, which was called *gu* exhaustion.[85] Heat exhaustion referred to severe internal heat that occurs during extremely hot summers when people (usually children) cannot release it through perspiration. The excessive internal heat causes prolonged fevers, resulting in loss of appetite and weight. *Gu* exhaustion was similar to heat exhaustion as a type of depletion but due to poisoning instead of internal burning.

In Lingnan, poisoning need not be intentional. A certain plant found in the mountain ravines of Guangdong and Guangxi could kill anyone who unknowingly ate it. They called this plant *Hu man cao* 胡蔓草 (lit. the trailing herb of the Hu), or "the herb that splits intestines" (*duanchang cao* 斷腸草).[86] If people ate it quickly, they died quickly; if they swallowed it slowly with water, they died slowly. Xu compared it with another toxin found in Jing and Chu[87] called "Rat grass" (*shu mangcao* 鼠芒草).[88] Since the illness both drugs caused was untreatable and deadly, Xu suggested that the two herbs were the same. When compared to known poisons closer to China's core, the flora of the Far South was not so foreign after all. Nevertheless, when northerners travel in Guangdong or Guangxi, Xu remarked, because they are unfamiliar with the local land and water, food and drink, they sometimes unwittingly poisoned themselves.

For the naïve northern male, malice lurked beneath the surface of Lingnan. Xu detailed another way that Lingnan people allegedly made *gu* poison. They killed a poisonous snake, mixed it with some herbs, and sprinkled it with water. After a few days, when the meat became moldy, they harvested and powdered it, and mixed it with wine. When first tasting the wine one felt nothing, but after drinking more of it, the poison took effect. If not treated, the victim died.[89]

Xu especially warned northern men about the “licentious women” (*yinfu* 陰婦) who willingly consorted with them in Lingnan. Xu recounted a strange story of seduction and entrapment called the “fixed-time-of-year *gu* poisoning” (*dingnian gu* 定年蠱). After several days of love, the woman is not willing to end the relationship or let her lover return home. She puts poison in his food or drink and says to him: “You are leaving: when will you return?” If he returned at the promised time, she would give him an antidote; but if not he would die. Xu assured his northern male readers that there were antidotes they could take without having to return to their Lingnan lovers. As soon as they felt discomfort in their limbs after eating food they suspected their lover had poisoned, they should treat themselves with a *gu* antidote. Xu detailed fifteen formulas, each specifying a kind of *gu* poisoning.[90]

This anecdote was built on male fantasy and fear of intimate relations with Lingnan women. The tension between the couple revolves around his desire to return northward and her reluctance to be abandoned. This type of *gu* poisoning took place outside the normal marriage framework – an alliance between two families – and at the frontiers of the Chinese polity. Xu did not identify it with any particular ethnic minority.

Just fifty years after Xu Chunfu’s book, an essay of 1608 on “Various tribes” (*Zhu xiong* 諸㺄), containing a subsection on the Miao (*Miaoren* 苗人), linked *gu* poisoning with the ethnic label “Miao” of Lingnan.[91] From this time onward, citations in various sources – historical, literary, and medical – connected Miao with *gu* poisoning. This association happened when Chinese travelers began to write first-hand accounts of people they called Miao and depicted their customs and dress in albums for a Chinese reading public.[92] Women identified ethnically as Dong were also linked with *gu* poisoning in late imperial sources. This writing on *gu* dealt in socially resonant dichotomies of male–female, Han ethnic Chinese–Miao or Dong ethnic minorities, civilized–uncivilized, center–periphery, north–south, and Central China–Far South.[93] Chinese sources of the period portrayed Miao and Dong women creating *gu* poisoning on the fifth day of the fifth month, a particularly significant day in the Han religious calendar. This day at the beginning of summer was set aside for community rituals to appease the epidemic gods, preventing pestilence.[94] Male scholars imagined these exotic women stealing some of the gods’ epidemic *qi* for their own

nefarious ends, subverting the intention of the ritual. The timing of their alleged *gu* preparations was not arbitrary. It reveals a central tension between Chinese civilizing rituals and local minority resistance.

The association between southern women, labeled as Miao, and the *gu* poisoning of Han men became articulated more clearly a century later in the 1730s. Han expansion south, meeting with considerable Miao resistance, generated new fantasies of *gu* poisoning. They became a way to comprehend failed military attempts to subdue Miao regions as the Qing empire expanded.[95]

By the sixteenth century, literati considered *zhang*, *gu* poisoning, and *mafeng* leprosy endemic to the tropics. They associated *zhang* with the Man people, *gu* poisoning with Miao and Dong women, and *mafeng* with Fujian and Guangdong women of no particular ethnic identity.[96]

Late in the same century, physicians also recognized a new venereal disease they called rotting sores, some symptoms of which resembled those of biomedical syphilis. They argued that the Far South was its geographic origin and, like *mafeng*, it was transmitted through sexual intercourse with infected people. These four disease concepts illustrate how poison had become a model for understanding the cause of certain illnesses. Some physicians now thought that the *mafeng* and *meichuang* poisons passed from one person to another. The changing meanings of these terms reveal clearer ideas of contagion by the end of the sixteenth century.

Southern Diseases and Cosmological Criticism in Medicine

When Ming elite observers saw the diseases of the Far South as alien, they opened the door to explanations that conflicted with classical medical cosmology. Witchcraft naturalized as poison, *zhang* miasmas of the tropics, new diseases that passed directly from person to person: all of these undermined confidence in the configurationist doctrines based on calendrical seasonality that had sustained the classic explanations of Cold Damage and Warm diseases. Medical skepticism itself was not new: the Four Masters of the Jin-Yuan periods had critiqued both the Han medical classics and Song imperial formularies. But late Ming medical skepticism was allied to what John Henderson has called “the decline of correlative cosmology,” and its impact on views of nature and society.[97] During the dramatic transition from the insular culture of the early sixteenth century to

the more cosmopolitan one of the seventeenth century,[98] some classicists questioned the historical authenticity of the Confucian canon, which the state continued to impose and most literati willingly embraced.[99] Some physicians during the last decades of the Ming responded to a changing sociopolitical climate, as well as what appeared to them to be a different epidemiological environment.[100] Aware of severe epidemics across China, first in the 1580s and then again in the 1630s to 1640s,[101] they placed more confidence in their own clinical experience and that of their colleagues, and less in the formulas of antiquity. As late Ming epidemics challenged the traditional view of a predictable system of correspondence between the macrocosm of nature and the human body,[102] they concluded that the texts of their predecessors, from antiquity to the mid-seventeenth century, no longer adequately described the world around them or accounted for the suffering of their patients.[103]

In the writings of two learned physicians, monographs on anomalous diseases of the Far South pointed to the weaknesses of orthodox medical doctrine. While Zhang Heteng 張鶴騰 (d. 1635) focused on the disorder Summer-Heat damage from classical medicine, Chen Sicheng 陳司成 (*c.* 1552)[104] wrote about the Cantonese sores considered new in the sixteenth century. The views of these two physicians illustrate trends in late Ming medicine that supported a broader philosophical skepticism toward classical texts and cosmology.

In his *Complete Treatise on Summer-Heat Damage* (*Shangshu quanshu* 傷暑全書, 1623), Zhang Heteng wrote on a disease he found endemic in the tropics but that the classics overlooked. He refined the seasonal configurationist perspective – previously universal – to include a locally dominant disorder. Chen Sicheng also wrote the *Secret Account of Rotting Sores* (*Meichuang milu* 黴瘡祕錄, 1632) to address deficiencies in the canon and in the treatments on which his predecessors relied. His topic was a new venereal disease that he thought originated in the Far South but was no longer confined to it.[105] Just over a century after Yu Bian first wrote about “Cantonese sores” in 1522, the affliction had become so prevalent that Chen devoted his monograph to it. Combining configurationist and contagionist perspectives, he proposed that venereal disorders were caused by the mold-producing dampness of the southern tropics and were transmitted through intercourse, bodily contact, and the formation of the

fetus in the womb. Whereas climate-consciousness still dominated Zhang's discussion of the Summer-Heat damage of the Far South, Chen's monograph on "Cantonese sores" a decade later, however, was more representative of contagion-consciousness.

On the Great Climatic Divide: Cold Damage and Summer-Heat Damage

The author of the Complete Treatise on Summer-Heat Damage, Zhang Heteng, was from Yingzhou County in northwest Anhui province. He received his jinshi degree in 1595.[106] His elder brother, Zhang Heming 張雀鳥鳴 (1551–1635), became Minister of War during the Tianqi reign (r.1621–27).[107] According to Zhang Heming's preface to his younger brother's medical book, Zhang Heteng was an official for just over ten years when he retired in 1608 for a time because of partial blindness. He thereafter devoted his energies to medicine.[108] Zhang Heteng first drafted a book called *Differentiating Cold Damage and Summer-Heat Damage* (*Shanghan shangshu bian* 傷寒傷暑辨), which circulated in manuscript in the first decade of the century, and completed it after he retired in 1623. Both brothers died in 1635 during a rebellion that passed through their native city.

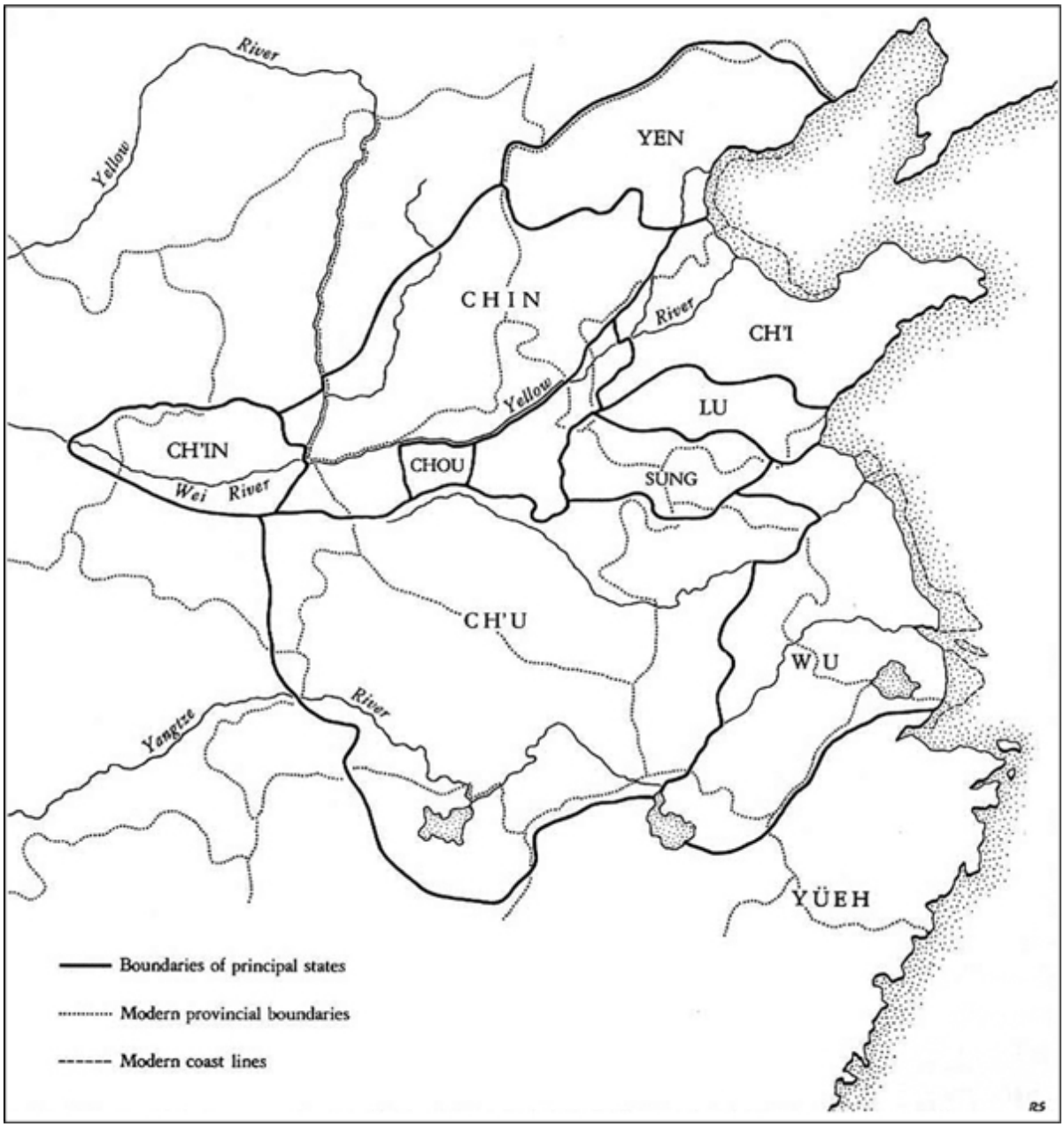
Zhang Heteng wrote in his own preface that his experience with Summer-Heat damage when he was young made him realize that physicians were clueless about it. Although both *Basic Questions* and the *Cold Damage Treatise* discussed the disorder, later medical books largely neglected it. When physicians encountered a case, they treated it as Cold Damage with diaphoretics, thus harming patients further.[109]

In a chapter on local *qi*, Zhang made it clear that he wrote this monograph in response to the dominance of Summer-Heat damage in Guangdong and Guangxi. He challenged the dominance of the Cold Damage tradition, not that of configurationist etiology. He wrote that the climate (lit. "the winds and *qi*") in each of the four directions varied along the climatic spectrum from cold to hot, dry to damp:

> In Qin [Shaanxi] and Jin [Shanxi, i.e. in the north], the local *qi* is Cold. Therefore, Cold disorders are more frequent than Summer-Heat disorders. In Wu [southern Jiangsu and northern Zhejiang], Yue [eastern Zhejiang], Dian [Yunnan], Qian [Guizhou], and Yue [Guangdong and

Guangxi], the local *qi* is Warm. Therefore, Cold disorders are ordinary in frequency and only Summer-Heat disorders are severe.[110]

His use of ancient names of states rather than current names of provinces relied on a widely shared awareness of regional character that made up the geographic imagination. This appeal to Warring States and Han designations reinforced his emphasis on dominant local *qi* and locally tailored therapies (see Map 4.1).



Map 4.1 China in the sixth cent. BCE, with names of regions.
From Fairbank, *East Asia*, 2nd edn. Copyright 1989 Wadsworth. Reproduced by permission: Cengage Learning, Inc.

Zhang warned practitioners against unthinkingly using Cold Damage therapies, since the dominant Warm *qi* in the southern provinces caused far more Summer-Heat damage than Cold Damage. The preface by a Junior Vice-Censor-in-Chief in Guangxi province, Yang Fang 楊芳 (fl. 1606), further supported Zhang's observation of the prevalence in the southern tropics of Summer-Heat disorders:

> When Zhang stayed in Guangxi in the ninth month, he still felt the heat and steam. He learned that here there were more Hot diseases, and feared that physicians mistakenly used sweating formulas. In order to benefit the people of Yue, he listed the cause, symptoms, circulation tracts, and pulse pattern of the disorder as well as treatment methods and principal formulas. For Summer-Heat disease, he advised doctors to use therapies proper for it, not heating [formulas] that increase the heat. Is not what Zhang meant similar to [the ancient story of] Bian Que adapting to local customs?[111]

Yang concluded his preface by linking the health of the people in the southern provinces with that of the empire:

> At another time, someone will extend what has benefited Guangdong and Guangxi to save everyone from chronic disorders and enhance the benevolence and long life of a whole generation. [Renewing] the primal *qi* of the whole country, not just one locality, depends on this [spreading of knowledge].[112]

This last line alluded to restoration of the dynastic mandate at a time when it seemed to most people deeply troubled.

Zhang's call to physicians to adapt to local circumstances and Yang's emphasis on the relevance of local knowledge for the good of the country also appealed to the seventeenth-century philosopher Fang Yizhi 方以智 (d. 1671?) who cited *Summer-Heat Damage* to support his point that physicians have to adjust their therapies to the local contingencies. He mentioned Zhang's work in an argument when chastising physicians who stubbornly

depend on conventional methods instead of developing a broad knowledge of medicine and of local environments, climes, and customs:

> Zhang Heteng realized that the subject of Summer-Heat Damage was as important as Cold Damage, and could make up for what Qibo, the Yellow Emperor, and Zhang Ji [i.e. putative authors of the *Inner Canon* and *Cold Damage Treatise*] failed to expound. Early authors mostly lived in the north, and had never traveled south to examine its environment.
>
> People in Guangdong and Guangxi commonly take betel nut [to prevent the disease]. If this illness develops, one cannot only use *Qi*-augmenting Rhubarb Decoction to purge it, for sometimes a single purging cannot save the patient.[113] The *Chronicles of Guangdong and Guangxi* record formulas that include Bear Liver. One therefore need not remain stuck in the conventional methods of one's predecessors.[114]

Fang Yizhi's comments on lessons learned from Zhang's *Complete Treatise on Summer-Heat Damage* indicate that skepticism toward the medical orthodoxy of the ancient formulas and greater attention to local conditions and individual variation caught the attention of at least some late Ming literati.[115]

Cantones Rotting Sores and Contagion-Consciousness

Chen Sicheng, in his *Secret Account of Rotting Sores*, coined a significant new term for "Cantonese sores." He exchanged the original *mei* 梅 (wood radical) in *meichuang*, meaning the Myrica berry *yangmei* 楊梅 that rotting sores resemble, for the homonym *mei* 霉 (cloud radical) meaning "damp and moldy, or mildewed." At the time, *meitian* 霉天 (lit., "moldy days") referred to the rainy season in the tropics. Chen's choice reinforced the idea that pathogenic dampness caused this disease. Later publications wrote the title with one of two homonyms: *mei* 梅 for myrica berry or *mei* 黴 (mountain and black characters) meaning "moldy and black, dirty," and by extension, "rotten." These two final forms – *meichuang* 梅瘡 "myrica sores" and *meichuang* 黴瘡 "rotting sores" – became standard for biomedical syphilis. The latter *mei* meaning "moldy and black, dirty, and rotting" became the preferred *mei* homonym in the modern Chinese

equivalent for syphilis. The "rotting" *mei* 黴 also became one of two characters that formed the early twentieth-century Chinese neologism *meijun* 黴菌 for fungus. *Jun*, primarily meaning mushrooms and fungi, designated mold and mildew and became the Chinese translation for germs. The term for bacteria, *xijun* 細菌 ("tiny fungus" or "tiny germ") was a new late-nineteenth-century concept that entered from Japan.[116] *Jun* carried the idea of pathogenic dampness, the underlying cause of mold and mildew in classical medicine, thus linking Chinese climatology with Western bacteriology.

Chen Sicheng's writings from the 1630s on venereal diseases echoed Zhang Heteng's doubts about the received medical canon. In his preface, Chen said he spent two decades studying medicine, paying particular attention to venereal diseases, and found the available literature inadequate:

> Twenty years have passed and now not one of [my] medicines is ineffective. Moreover, I have seen young men of wealthy families who, once they contract this poison, eventually develop disabling illnesses. The formularies [generally] do not discuss this disease. Those that do are not thorough. I was profoundly concerned about this, so I studied the pertinent phase energetics [see p. 37], seasonal factors, etiologies, contagion, and the habits of patients. I added dialogues, effective formulas, and treatment methods, and arranged them to make this volume titled the *Secret Account of Rotting Sores*. I do not venture to present myself as a master who has established my own doctrines. I have merely amused myself by filling in what my predecessors did not discover.[117]

In his explanation of venereal diseases, Chen wove together configurationist, contagionist, and predispositionist explanations. First, the diseases originated in the southern tropics where the land is low-lying and the climate damp and hot. The local configuration of *qi* in the tropics caused rotting venereal sores: "The damp toxins combine with miasmic *qi* and steam. Whenever things are affected by this, they become moldy and easily decay; whenever humans are affected by this, they get sores and wounds that easily suppurate."[118]

In response to a hypothetical question on why people call these disorders "Cantonese sores" (*Guangchuang*), Chen continued along a configurationist

explanation that, not existing in antiquity, they resulted from filthy *qi* that had moved north from the Far South:

> Cantonese sores are similar to smallpox. In antiquity, no one died from smallpox. It began in the north and its *qi* went from the north to south. In the Han, smallpox was called Hu ["northern barbarian"] pox.[119] … There were also no Cantonese sores in antiquity. It started from the south and its *qi* went north. [This is why] now they are called Cantonese sores. The subjected got it from heaven. No matter what one's age or intelligence, whoever has a weak constitution will contract this as soon as they come in contact with filthy *qi*. The Hu barbarian pox and Cantonese sores are named after their regions [of origin].[120]

In further hypothetical questions regarding differential susceptibility, Chen used both contagionist and predispositionist explanations. Old and young alike can contract the disease. Even if they do not come close to prostitutes, they can contract it from steaming *qi* in the environment or inherit it from their parents. Some people live with patients but never catch the disease, because their constitutions are too strong for the pathogenic *qi* to enter their bodies. This predispositionist argument explained why some men who have intercourse with prostitutes for half their lives never contract the disease.[121] If the same man were depleted, however, intercourse could well poison him.

Zhang Heteng and Chen Sicheng both addressed deficiencies in the medical canon and explicitly criticized the dominance of the Cold Damage tradition. By focusing on Summer-Heat Damage, Zhang righted what he perceived to be an imbalanced emphasis on Cold Damage. He made room in the traditional configurationist account of seasonal illnesses to encompass regional disorders due to differences in local *qi*. Chen's etiological explanations for "rotting sores" were more multidimensional, combining predispositionist and contagionist explanations with a hint of climate-consciousness. Because venereal sores originated in the local configuration of *zhangqi* in the southern tropics, the classical model of six configurations of seasonal *qi* could not explain their occurrence. Instead, the mold-like contagious *qi* could be passed from mother to child during gestation or transmitted from one person to another through bodily contact. Constitution

determined whether or not the pathogenic *qi* of the mold entered someone's body. Chen provided therapies missing from previous texts.

Just a decade later, in 1642, an otherwise unknown Suzhou physician, Wu Youxing (1582–1652), wrote the first monograph on epidemics since Zhang Ji's classic on Cold Damage nearly 1500 years earlier. Wu followed up on Zhang Heteng's critique of the Cold Damage tradition in his *Summer-Heat Damage*, and Chen Sicheng's skepticism about existing works and emphasis on clinical experience in his *Secret Account*. Wu built a new epidemiology on the concepts of noxious local *qi* hinted at in writings of Zhu Zhenheng, and fully worked out in the writings on southern diseases of the sixteenth – and early-seventeenth-century physicians we have surveyed. The result challenged the configurationist orthodoxy promoted since the Northern Song. Although earlier authors had challenged Cold Damage climate-conscious-ness,[122] in Wu's time the combination of cosmological criticism, awareness of environmental poisons, and frustration during the late Ming epidemics gave the critique much more weight.

Wu Youxing's *Treatise on Febrile Epidemics* (*Wenyi lun* 瘟疫論, 1642) articulated even more clearly the themes of poison, pathogenic local *qi*, and person-to-person transmission developed in earlier writings on southern diseases – the misty *zhang* miasmas, magical *gu* poisoning, the numbing wind of *mafeng*, and the rotting sores of *meichuang*. He applied them to the epidemics that in 1641 were then ravaging North and Central China and passing through his own village on the southern shores of Lake Tai near Suzhou.

5 Ming Medical Scepticism

Epidemiological Crisis, Cosmological Criticism

In the autumn of 1642, Wu Youxing sat down at his desk in his modest home in Dongting village to draft the preface to his first and only book. He wrote that a serious epidemic the previous year had swept through Shandong, Zhejiang, Hebei, and Northern and Southern Zhili (i.e. Beijing and Nanjing regions, respectively). He substantiated other observers' accounts of the same year that the epidemic had spread throughout the country, north and south.[1] It worsened during June and July of 1641, until "[everyone in] entire households infected each other."[2]

Wu did not speculate about moral or cosmological, political or economic causes; he sought a natural cause, a specific pathogen, in the environment. He did not look back to the 1580s and 1630s epidemics across China that likely contributed to the crisis about which he was writing. Instead he criticized conventional treatments:

> During the initial onset, fashionable practitioners erroneously used Cold Damage methods to treat the disorder. I never saw a case of theirs that did not get worse. Some patients and their families mistakenly heeded the claims that by the seventh or fourteenth day it would heal itself. Because of this they were not treated. Some died from not being treated in time, or not taking the medicine in time. Others wrongly took drastic formulas, and by not following the normal sequence for attacking and then replenishing, died.

If some doctors were too aggressive, Wu thought others were too timid, using mild slow-working drugs for acute symptoms, prolonging the

suffering.[3] These inadequacies prompted him to attack the classical climatology that dominated epidemiology. In this crisis, he challenged traditional confidence in a predictable system of correspondence between the natural world and the human body.[4]

Like his medical contemporaries Zhang Heteng and Chen Sicheng, Wu addressed failings of the medical canons, and challenged conventional physicians' reliance on the configurationist and universalistic assumptions of the Cold Damage tradition. He too responded with a monograph, but where Zhang and Chen focused on disorders of the Far South, Wu wrote about "Warm diseases" from the perspective of Jiangnan.

In a long essay on febrile epidemics published five years before Wu drafted the *Treatise on Febrile Epidemics*, Zhang Jiebin in a leading handbook also offered an opening for a non-configurationist explanation of epidemics and a rationale for modifying Cold Damage doctrine. Regarding Cold Damage and febrile epidemics, Zhang observed that people who suffered hardship and hunger were unable to maintain enough essential *qi* during the winter, so their depleted bodies were vulnerable to entry by heteropathic *qi*. That, he reasoned, is why major epidemics followed in the wake of great famines. "Once this kind of epidemic *qi* flourishes, it is bound to spread. It is in the depleted constitutions of those who first received it, so it gradually spreads everywhere. Such cases of [epidemic] disease do not depend on winter cold."[5] Suggestions like this one from a leading authority paved the way for Wu to reconsider the relationship between Cold Damage doctrine, epidemic disease, and contagion.

Epidemiological Crisis and the Discourse on Anomalies

The changing understanding of Warm diseases, an important chapter in the history of epidemics, intersects the epidemiological crisis of the early seventeenth century and the language of anomalies that became that of epidemics. Wu Youxing wrote his *Treatise on Febrile Epidemics*, which later generations regarded as an origin of modern Warm disease doctrine, in these circumstances. He redefined Warm diseases as anomalous with respect to space and time. That widened the category to include the epidemics of 1641. The Chinese term for anomalies (*yi* 異) refers to the strange, the other, the unexpected, and the peripheral. Anomaly is a

category that normalizes unusual events, things, observations, and phenomena by relating them to the conventional order. Authors recorded them in sections on anomalies, or under “miscellaneous” or “unclassified” (*za* 雜), tucking them into the margins of the usual. Writing on anomalies associated with the diseases, environments, and contagions of the Far South drew on the dualities of center-periphery, civilized-uncivilized, and salubrious-poisonous in ways that accepted the dominant civilizing ideology of the state.

References to anomaly in which official and literary sources discussed, classified, and recorded epidemics tended to reveal failures of the state, implying the need for governmental action. In a different vein, the *Treatise on Febrile Epidemics* used epidemics to display failures in logic that challenged the prevalent knowledge system. As anomalies revealed fractures in cosmology, and the limits of the conventional wisdom, they became useful tools with which to think. Precisely because anomalies can butt up against the boundaries of knowledge, they can become, as one scholar aptly wrote, a kind of “grist for a culture’s mill.”[6] Wu’s *Treatise on Febrile Epidemics* used the notion of anomaly to analyze the epidemiological crisis of his time, yielding a new trend in cosmological criticism.

Medical and non-medical accounts of epidemics understood them as anomalous events. Ordinary people of Wu’s time thought the gods of pestilence and sometimes even demons brought epidemics into their villages. Classical physicians usually attributed them temporally to unseasonal *qi* or spatially to a poisonous local *qi*. Non-medical sources also tended to group epidemics with anomalies. The dynastic histories mentioned some epidemics in annals of emperors, but mostly in chapters devoted to ominous phenomena. The treatise on the Five Phases in *The Standard History of the Ming* (*Mingshi* 明史), for instance, listed major epidemics among a wide range of portentous events related to the Water phase.[7] Local gazetteers grouped them with droughts, floods, famines, and plagues of locusts in chapters titled “Disasters and Anomalies” (*zai yi* 災異) or “Portents and Anomalies” (*xiang yi* 象異).[8] Wu Youxing’s medical response to the end-of-Ming epidemics is best understood in the context of the broader background of epidemics in the official reports and other contemporary writings preserved in Ming local gazetteers.

With respect to the biography of Warm diseases, Wu aligned the Chinese character meaning warm *wen* 溫 (water radical) with the character for febrile epidemics *wen* 瘟 (illness radical) that had occurred mainly in the two-character word for febrile epidemics (*wenyi*).[9] He argued that the two characters did not refer to distinct diseases. Rather they were the two ends of a spectrum of diseases caused by anomalous local *qi*, not by unseasonable climatic *qi*. Since he was dealing with an etiologically uniform group of disorders, he used the two characters interchangeably.

Wu thus abolished the distinction between Warm diseases (*wenbing*) and Warm epidemics (*wenyi*), explaining their cause as a kind of *qi* that followed neither the seasonal cycles nor the sixty-year cycles of phase energetics. He described four other new types of *qi*: First, heterogeneous *qi* (*zaqi* 雜氣) was a general category for still unclassified varieties of *qi* in the environment. Anomalous *qi* (*yiqi* 異氣), deviant *qi* (*liqi* 戾氣), and pestilential *qi* (*liqi* 癘氣) were all heterogeneous.[10] Anomalous *qi* was a new term that emphasized their irregularity, unpredictability, and strangeness, and linked them to anomalies that epidemics already fit into. Both deviant and pestilential *qi*, rooted in the demonic origin of epidemics, were already fixtures in medical writings on epidemic diseases, emphasizing their malignant and pathogenic qualities.

Wu's criticism of traditional epidemiology drew upon a thread of medical skepticism toward the *Cold Damage Treatise* visible since the Northern Song (Chapter 2); he more clearly articulated the concepts of local *qi* and regional diseases (Chapter 3); and he was influenced by the Ming discourse on anomalous southern diseases, miasmas, and poisons (Chapter 4). Wu's critique of traditional medical cosmology was founded on earlier discussions of anomalies as well as cosmological criticism since the mid-sixteenth century.[11]

One Physician's Response to the End-of-Ming Epidemics

Although Wu's criticism of traditional epidemiology influenced later generations of physicians, we know very little about who he was.[12] He did not pass any government examination, nor is there a substantive biography of him.[13] Although Wu completed the *Treatise on Febrile Epidemics* in 1642, there was no known edition before 1691, and he wrote no other

book.[14] His name, however, is listed at the end of a stele commemorating the establishment in 1644 of a small religious institution called the Temple of Pure Resolve (*Jing zhi an* 淨志庵). The temple is in his hometown of Dongting near East Mountain on Lake Tai. An unofficial title as head of clan (*zuzhang* 族長) follows his name, indicating that he represented the Wu family as a patron of the new temple and member of the local elite.[15] The Wu family home was a short walk along a dirt road and narrow alleyway to the temple and less than a kilometer away from the southeast shore of Lake Tai.[16]

Wu divided the eighty-six brief, unnumbered sections of his *Treatise* into two chapters (*juan* 卷).[17] The first three sections of chapter one summarized Wu's critique of the conventional etiology of febrile epidemics. The opening three of chapter two explained his new doctrine of heterogenous *qi* (*zaqi*).[18] The concluding three sections of chapter two focused on definitions and criticisms of predecessors. I will analyze Wu's nine polemical essays from four angles. First, the initial and final sentences of the text summarize the configurationist theory of epidemics he fought against and the account of anomalous local *qi* he offered in its place. Second, his new conception of a specific disease connected it with previous concepts of Lingnan's miasmas and of toxicity. Third, his interpretations bear on whether he saw epidemics as infectious, contagious, or both. Finally, a key element of the biography of Warm diseases is that he redefined their identity.

Entry and Exit

The beginning and end of a book can reveal the most problematic aspects of its relationship to the author's immediate world.[19] The opening and close of Wu's *Treatise on Febrile Epidemics* expose central tensions between the world in which he lived and his own thought. He began with a preface on the 1641 epidemics in the Suzhou region and closed with a critique of his predecessors' epidemiology. In the first sentence of the preface, Wu moved from the traditional seasonal configurationist view of a system of correspondence between the cycle of seasons and human illness to his view of a specific kind of anomalous deviant *qi*:

> The pathology of Warm epidemics is not that of Wind, Cold, Summer-Heat, or Damp [*qi*]. Rather it is stimulated by a type of anomalous *qi* in Nature (lit. Heaven and Earth, *tiandi* 天地). There are nine stages of transmission; these are the critical junctures for treating epidemic disorders. Why is it that, from antiquity to the present, no one has ever discovered (*faming*) this?

Wu, like his contemporary Zhang Heteng, addressed his fellow physicians' uncritical acceptance of Cold Damage doctrine. He focused on the clinical errors that he believed blind adherence to Zhang Ji's legacy caused.

In Zhang Ji's *Cold Damage Treatise* … because [his method was] based on exogenous Wind and Cold *qi* factors, his account of transmission was entirely different from that of Warm epidemics. Dozens of his successors discussed [his work], always using the terminology of Cold Damage. They paid little attention to symptoms of Warm epidemics. Because of this, the volumes that the physicians studied and memorized were all on Cold Damage. In their clinical practices, however, what they saw was [almost] entirely Warm diseases. They found genuine Cold in no more than one or two out of a hundred. They did not realize they had mastered butchering dragons, a useless art; they could not avoid calling a deer a horse.[20]

"Butchering dragons" is proverbial for a useless skill. "Calling a deer a horse" goes back to the story of courtiers who an overbearing prime minister bullied into an obvious, humiliating lie. It suggests that Wu's fellow doctors were overawed by the authority of the *Treatise*.[21] Their misdiagnoses led them to base their treatments on Cold Damage, an illness he argued was much rarer than the Common Cold (*ganmao* 感冒) and Warm diseases:

> At first, I accepted [the opinions of] the authorities that Warm diseases always occur during the spring, summer, and autumn, and that Cold Damage always occurs during the winter. However, after several years of comparison, [I found that] Warm epidemics occur in every season. … Cold Damage and Common Colds are both associated with Wind and Cold factors, differing in severity. Actually, Common Colds are frequent and Cold Damage rare. How different is what we learn from experience about Cold Damage and Warm epidemics! They are as different as

> Heaven and Earth. Now that we have distinguished the deer from the horse, it is even clearer how rarely we encounter Cold Damage.[22]

Some of Wu's critique of *Cold Damage* doctrines focused on flaws in the chain of textual transmission. Agreeing with the evidential scholarship of his day that questioned the authenticity of Zhang's extant writings, Wu asserted that the third-century editor, Wang Xi, had interpolated many of his own ideas into the original.[23] But Wu saved his detailed criticisms for commentators who followed Wang. In the conclusion, Wu evoked the northwest– southeast dualism when criticizing the configurationist definition of Warm diseases.[24] He found fault with commentaries on the *Cold Damage Treatise* by the physicians Zhu Gong 朱肱 (*jinshi* 1088),[25] and Tao Hua 陶華 (*c*. 1424–35).[26] Wu accepted their assumption that Damp-type illnesses were more frequent in the southeast than in the northwest.[27] Rather than challenge this conventional judgment, he rejected the implied correlation of seasons with types of Warm diseases. Tao, for example, argued that "Autumn Warm diseases" were due to latent damp *qi* in a patient who contacted unseasonably hot weather in the fall. For Wu, however, just as it could rain for a long time in any season, Damp-type illnesses could occur at any time. He also rejected Zhu Gong's correlation of seasonal and unseasonable *qi* with visceral systems. In both cases, his target was Cold Damage configurationism.

The final point of his book recapitulated the preface: "The pathology of Warm epidemics is not that of Wind, Cold, Summer-Heat, or Damp [*qi*]."[28] Challenged to let go of the two old doctrines that unseasonable *qi* caused Warm diseases and that each season had its visceral correlate, he encouraged readers to ask themselves whether they would, like Zhu Gong, stubbornly "play the zither with glued pegs" and "blame innocents," or accept Wu's epidemiology and target the true culprits?

This interpretation of the *Treatise* reveals the boundaries against which Wu pushed. The popular understanding and some unconventional medical writings employed concepts of possession, pollution, poison, and person-to-person transmission, but still climate-consciousness and cosmological correspondences remained dominant in elite medical writings on epidemics in the early seventeenth century.

There are two reasons for this, one conceptual and the other sociological. First, most physicians considered climatic *qi* that were out of alignment with the normal course of the seasons pathogenic and communicable. That helped explain the widespread nature of epidemics without having to appeal to non-climatic and random contagion. Conversely, explaining epidemics as signs of cosmic disruption rather than consequences of something unknown or unknowable suited the persona of physicians, steeped as they were in general patterns and universal principles.[29] Given the elite medical emphasis on climate over contagion, Wu's first tactic was to challenge the logic of Cold Damage seasonal configurationism by claiming that non-climatic pathogenic *qi* corresponded to specific disease entities.

Specific Disease Entities: Lingnan's Miasmas, Heterogeneous Qi, and Epidemics

In his critique of Wang Xi's third-century version of the *Cold Damage Treatise* and of later commentators, Wu challenged accepted explanations of what types of *qi* transmitted febrile epidemics: (1) latent *qi* that hides and waits inside the body for an opportune time to attack it; (2) seasonable *qi* that had become unseasonable (*feishi de shiqi* 非時的時氣) by misalignment with cosmic cycles; and (3) seasonal *qi* that is in excess of the norm for that season.[30]

The Cold Damage tradition emphasized latent *qi*, i.e. Cold *qi* that enters the body during the winter (when the person's orthopathic *qi* is most likely to be depleted) and hides below the surface of the skin until the heat of the spring or summer rouses it to action. Latency refers to the asymptomatic stage of a Warm disease. Depending on when the heteropathic Cold *qi* manifests, it causes a Warm (spring) or Hot (summer) disorder. When seasonal *qi* was excessive, a fever would become more severe with the rising heat of summer.

Wu rejected the conception of latent *qi* on the ground that there is no place for Cold *qi* to hide near the surface of the skin until a change of season. As for unseasonable and excessive *qi*, Wu rejected the macrocosm-microcosm model that aligned the human body with climatic fluctuations. Epidemics resulted from a specific pathogen. The severity of the resulting fever corresponded neither with the season in which it manifested, nor did it

change with the climate. It simply depended on the quantity or quality of heteropathic *qi* that had stimulated the patient.[31]

In the essay "On heterogeneous *qi*," Wu developed this concept of a oneto-one correspondence between *qi* and disease. He used the concept of heterogeneous *qi* for all exogenous pathogens that did not fit configurationist or miasmatic models of disease causation.[32] He also drew a resonant contrast with the miasmic mists of Lingnan:

> Sun, moon, stars, and planets: these counterparts [of mundane phenomena] are visible in the heavens. Water, fire, soil, and stone: on Earth we find their forms. Vermin, worms, plants, and woody things: among flora and fauna we can see these things. Cold, Hot, Warm, Cool: we can feel the coming and going of seasonal *qi*. The miasmic mists of the mountains and the toxic fogs of Lingnan: both derive from the turbid *qi* of the place.[33]

The ancient model of poisons elaborated in the sixteenth century through confrontation with southern diseases suited Wu's new concept of toxic heterogeneous *qi*. But what differentiated heterogeneous *qi* from both seasonal *qi* and Lingnan's miasmic *qi* was not something like late-nineteenth-century microorganisms, but rather an imperceptible and unpredictable kind of toxic local stuff.[34] Its intangibility set heterogeneous *qi* apart from both the perceptible miasmic mists of mountains and toxic fogs of Lingnan as well as other poisons:

> Now as for the heterogeneous *qi* of Nature, manifold in kind, they are like [the poisonous] gelsemium and the croton bean among plants; [the ominous] Rahu, Ketu, and Mars among the stars;[35] poisonous snakes and fierce animals among vermin; and toxic realgar, sulfur, sal ammoniac, and white arsenic among soils and minerals. The myriad things all vary between good and noxious. Thus, we know that the toxicity of heterogeneous *qi* is analogous. But [unlike the substances just mentioned], we cannot find the physical form of [heterogeneous] *qi*, nor see its form, nor even hear or smell it. How can people perceive it? How can people know of it? Its onset has no [set] time, its arrival no [set] direction. When a large number of people encounter [it], they develop one disease or another, depending on the *qi*.[36]

Wu then listed diseases that belonged to the class of febrile epidemics caused by these *qi*. He commented that "The diseases [that heterogeneous *qi*] produce are so various that there are too many to count."[37] In his correlations between symptoms and vernacular names for the epidemics, he listed nearly all of the terms contemporary local gazetteers used to record them (Table 5.1).[38]

Table 5.1 Summary of symptoms and names of epidemic diseases in 'On heterogeneous *qi* ' in the *Treatise on Febrile Epidemics*, 1642

Symptoms and their vernacular names	*Translation*
1 *Fayi* 發頤	Suppurative inflammation of cheeks
2 *Toumian fuzhong* 頭面浮腫	Swollen head and face
3 *Datou wen* 大頭瘟	Big Head febrile-epidemic (vernacular name for 1 and 2)
4 *Yantong* 咽痛	Sore throat
5 *Yanya* 咽啞	Laryngitis
6 *Hama wen* 蝦蟆瘟	Frog-like febrile-epidemic (vernacular name for 4 and 5)
7 *Nüe Li* 瘧痢	Intermittent fever and diarrhea
8 *Biqi* 痹氣	Obstructed flow of *qi* or blood (which causes painful localized symptoms
9 *Dou chuang* 痘瘡	Smallpox sores
10 *Ban zhen* 斑疹	Rashes (both terms refer to reddish and purple hemorrhages: *Ban* are those under the surface of the skin that can be seen but not felt; *Zhen* can be seen and felt on the skin

Symptoms and their vernacular names	*Translation*
11 *Chuangjie dingzhong* 瘡疥疔腫	Swellings including scaly sores and boils
12 *Muchi zhongtong* 目赤腫痛	Swollen and sore red eyes
13 *Ou xue baowang* 嘔血暴亡	Vomiting blood, sudden death
14 *Guarang wen* 瓜瓤瘟	Melon-flesh febrile-epidemic (vernacular name for 7–13)
15 *Tantou wen* 探頭瘟	Crane-Your-Neck febrile-epidemic (vernacular name for 7–13)
16 *Yingjie* 癭疰	Swollen neck with intermittent fever
17 *Geda wen* 疙瘩瘟	Pimple-Boils febrile-epidemic (vernacular name for 16)

This multiplicity of diseases was also evidence that unseasonable seasonal *qi* could not be their cause:

> Generally speaking, when a disease travels throughout a place, spreading from one household to the next, everyone is afflicted. This is always a *qi* that is currently spreading (*shixing* 時行). Heterogeneous *qi* is causing the disease. The multiplicity of disorders shows that [the cause is] not a single *qi*. It would seem that at such times a certain *qi* enters certain visceral systems or circulation tracts and produces a certain disease.[39] Thus when many people come down with the same disease, it is not a matter of manifestations [characteristic of] a visceral system or a circulation tract. Because it is not limited to a certain year or a season, phase energetics cannot determine it. Thus, we know that there is no set time for the onset of [heterogeneous] *qi*. Sometimes [an epidemic] breaks out in a city, or a village, while other places do not experience it at all. Thus, we know that there is no set locality for the arrival of the [heterogeneous] *qi*.[40]

Wu also argued that the various ailments caused by heterogeneous *qi* included many common non-epidemic disorders mistakenly explained by the six climatic configurations of *qi*:

> When suppurative inflammations on cheeks, sore throats, reddened eyes, and rashes appear in a village at a given time, only one or two people may suffer from them. Although in this they differ from the majority, if we investigate the manifestations they will correspond perfectly to what large numbers of people suffered in a given time and locality. The therapy will not differ. The heterogeneous *qi* is the same as in that year, but because its concentration is lower, sufferers are rare. Just because large numbers of people did not catch it, one cannot deny that such disorders are due to heterogeneous *qi*. The heterogeneous *qi* gives rise to the majority of disorders, although the conventional wisdom mistakenly attributes them to the six climatic configurations of *qi*.[41]

Wu dismissed the three most important pathogenic configurations of *qi* – Wind, Fire, and Summer-Heat – as the causes of the major diseases attributed to them. Great numbing wind (*dama feng* 大痲風, i.e. leprosy-like skin afflictions), painful wind (*tong feng* 痛風), and pestilential wind (*lifeng* 癘風) were not caused by wind intrusion. Climatic qualities in the environment associated with the Fire phase did not cause eruptions of smallpox (*douzhen* 痘疹). Extreme Summer-Heat was not the origin of sudden turmoil (*huoluan* 霍亂), intermittent fever (*nüe* 瘧), or bloody diarrhea (*li* 痢).[42] None of these common categories of disease were due to climatic pathogens: "As for the heterogeneous syndromes that arise with no known cause, they are all due to heterogeneous *qi*."[43]

Wu was not thinking of anything like a microorganism. Nor did he emphasize person-to-person transmission of toxic *qi*. As he put it, "contact with the heteropathy is sometimes via the environment (*you tianshou* 有天收) and sometimes via contagion. Those who are affected by each means differ, but the disease is the same."[44]

Contagious or Infectious?

This distinction between infectious and contagious diseases is central in medical history. Diseases passed by contagion require direct contact such as by touching or indirect contact with a victim's clothing or food, or even contact with a corpse. The Latin term "*contagio*" or "*contagium*" referred to external contact with or proximity to someone with a disease, or its spread by touch. What passed from person to person was "an emanation, an effluxion, a breath, a poison, a putrid effusion, excrement, or a miasma."[45] Infectious diseases were airborne or waterborne, and involved a contaminating agent. This distinction was well established in Renaissance Europe with the term "*inficere*," derived from the dying process for cloth, which provided the word for infection. Chinese recognition of epidemics as infectious occurred, however, only after the Manchurian plague at the beginning of the twentieth century.[46] The modern understanding of infectious disease differs fundamentally from that of 1700 in Europe or China. It is inseparable from germ theory and identification of an infecting agent.

Wu Youxing's concept of pestilential *qi* allowed for both airborne infection and contagion because the agent of transmission, heterogeneous *qi*, was the same. For Cold Damage and Summer-Heat Damage, Wu did not rule out the seasonal configurationist explanation of diseases. Pestilential *qi*, on the other hand, sickened nearly all who encountered it, entered through the nose and mouth (not the pores), and lodged between inner (visceral systems) and outer tracts (*jingluo* 經絡) of the body, where conventional drugs could not get at it:

> The heteropathy [i.e. pestilential *qi*] enters through the nose and mouth. Where it lodges is neither the visceral systems of the inner aspect of the body nor the tracts of the outer aspect. It resides alongside the spine. This space is not far from the [body's] outer aspect and is next to the stomach system. It is on the boundary between the inner and outer aspects, half outer and half inner. It is precisely what the acupuncture canons call what traverses the membrane area (*henglian moyuan* 橫連膜原).[47]

The *Moyuan* 膜原 ("membrane area") was a midsection between the outer and inner aspect of the body. Once pestilential *qi* lodged there, it transformed into excess heat that overflowed into one of the circulation

tracts and manifested as one of the three Yang syndromes of the *Cold Damage Treatise*. Pestilential *qi*, no matter whether it came from the atmosphere or via personal contact, could enter only a compromised constitution:

> Contact with the heteropathy is sometimes via the environment and sometimes contagious. Although the stimulus differs in this respect, the disease is the same. The *qi* in the mouth and nose is continuous with that of the environment (lit. Heavenly *qi*, *tianqi* 天氣). When a person's constitutional *qi* (*benqi* 本氣)[48] is replete, it is not easy for the heteropathy to enter. Once constitutional *qi* is depleted, the external heteropathy takes advantage and, as the person breathes, occupies [the body].[49]

People encountered the pathogen in the atmosphere but could pass it on to others (*chuanran* 傳染). This idea parallels Zhang Jiebin's explanation that once epidemic *qi* reached a certain level, it transmitted quickly and widely between people.

Wu never advised sexual abstinence, keeping a distance from sufferers or corpses, avoiding clothing or food touched by the sick, or seclusion, all of which other physicians recommended by that time for other communicable diseases. Epidemic pestilential *qi* affected people differently because of their different predispositions; the strength of an individual's constitution could still ward off invasion by epidemic *qi*. Although predisposition influenced susceptibility, it did not explain the severity of a particular case. How much the pestilential *qi* stimulated the body determined the intensity of illness and the duration of fever. In keeping with the conception that everything in the world is a manifestation of *qi*, Wu's contagion is a type *qi* that can transmit a specific disease entity.[50]

Local Qi and Epidemiology

Heterogeneous *qi* (of which pestilential, anomalous, and deviant *qi* were all kinds) explained the multiplicity of diseases. Wu also explained the heterogeneity of epidemic diseases through their origin in local configurations of *qi*: "Although heterogeneous *qi* is known as Nature's *qi* (*tiandi zhi qi* 天地之氣), it is in fact local *qi* (*fangtu zhi qi* 方土之氣). This

qi rises up from Earth. To have a certain *qi* results in a certain disease. This is similar to "the myriad things to which Nature gives birth (*tiandi sheng wanwu* 天地生萬物), but which in fact are the products of a locality (*fangtu zhi chan* 方土之產)."[51]

Despite this emphasis on locality and specific disease identities, Wu did not elaborate further upon specific forms of heterogeneous *qi* and particular places. Although he cited the northwest–southeast pair a couple of times, he neither challenged its simplicity nor discussed its relation to the geographic distribution of diseases. He similarly referred to Lingnan's miasmatic *qi*, but as a contrast to the imperceptibility and unpredictability of his heterogeneous *qi*. In his popular formula "Reach the Membrane Drink" (*Da yuan yin* 達原飲), the first and primary ingredient was betel nut, a substance most people associated with customs of the Far South and with the miasmatic diseases of Lingnan. Wu's gloss justified his unusual use of betel nut for epidemics outside of Lingnan by its ability to expel Lingnan's miasmic *qi*: "Betel nut is able to eliminate, wear out, and get rid of the latent heteropathic *qi*; it is a type of clearing and disinhibiting drug; it also gets rid of Lingnan's miasmatic *qi*."[52] The other two drugs in the formula had complementary functions but were required in smaller amounts.[53] Both had effects on the heteropathy that complemented those of betel nut:

> The magnolia breaks up the coagulated deviant *qi* and the cardamom checks the strength of the strong *qi*, expelling the latent heteropathy from where it waits.[54] The three drugs join forces to reach its lair, routing the heteropathic *qi* so that it quickly leaves the Membrane. That is what I mean by 'Reach the Membrane drink'.[55]

Li used betel nut because it overcame the latent *qi*, not because pestilential *qi* had a regional association comparable to that of miasmatic *qi* and Lingnan. Nevertheless, Wu's linkage of febrile epidemics and diseases to locality set an example for later medical observers to further elaborate the meanings of local experience and disease incidence.

Local Epidemiology Over Universal Cosmology

The widespread deaths due to epidemics in the early 1640s led Wu to question the universal applicability of the Cold Damage tradition. He brought that issue into the realm of discussion and argument. Two centuries before Western science and medicine compelled Chinese physicians to reevaluate their medical tradition, he gave impetus to a trend of medical skepticism.[56]

The chaos of the mid-seventeenth-century Manchu conquest motivated the intellectual elite to become skeptical about a regular and comprehensible universe.[57] Comparable to the astronomers of the same period, many of whom had read Western astronomical works that had challenged their Chinese training, Wu also thought there were fundamental imponderables and irregularities in the world that were not simply due to the limitation of knowledge, even though he had no exposure to Western science or medicine.[58] If the boundaries between the seasons could not contain the activity of pestilential *qi*, then such phenomena were temporally and spatially contingent. The order of the universe, according to Wu, was varied and unpredictable. Epidemics exposed the weakness of correspondence based on seasonal configuration, and opened up other ways of explaining epidemics. Hence forth, for those who accepted the new arguments, the identity of Warm diseases became tied to that of epidemics and separated from Cold Damage. Still many continued to identify themselves with the Cold Damage tradition and the "canonical formula current" (*jingfang pai* 經方派) associated with it. They understood Warm diseases as merely one of several possible seasonal transformations of an underlying Cold Damage disorder.

Wu's conceptions of heterogeneous, pestilential, anomalous, and deviant *qi*, as well as his thought on the limitations of medical knowledge, occurred during a period of profound skepticism. He found the medical canon as inadequate as other contemporary scholars found the Confucian classics that still legitimated state ideology. Wu's critique of medical cosmology, because it exposed the limitations of cosmological assumptions and introduced a new way of defining diseases, profoundly affected later physicians.

Part III

Early Modern Medical Transformations

> Each region has different land and water. Growing mulberry trees is only suited to Jiangsu and Zhejiang. The climate is too cold in the north for raising silkworms. The same is true for people's lack of familiarity with the land and the water. Southerners cannot live beyond the passes, just as those who live beyond the passes cannot live in the south. The principle is the same for both because of what is called the close resemblance of traits [i.e. between the land and the people].[1]

The Kangxi Emperor (r. 1662–1772) frequently used the terms "beyond the passes" (*saiwai* 塞外) and "north of the passes" (*saibei* 塞北). "The passes" were the boundary between the lands south of the Great Wall, where the climate was bad for his health, and the healthful environment to the north, where he regained his strength.[2] He made these observations in a 1717 edict about a trip to Mongolia:

> When I was young, my endowment from heaven was very strong and I never knew illness. Now when the spring begins I get dizzy spells and I feel that I am losing weight. When the autumn months arrive, I go beyond the passes making a circle through the Mongolian region where the land and water are superlative. My spirit strengthens daily and I

> become healthier. Everyday I practice riding and archery. This is why I do not feel tired after returning to the capital.[3]

Hesitant as he was about living south of the Great Wall, he was even less eager to travel south of the Yangzi River. In a lecture to his sons, the emperor not only cautioned them about eating southern foods, he stressed differences between the bodies of northerners and southerners. Eating southern cuisine, Kangxi warned, would soften and weaken his sons' bodies:

> I have been on southern tours several times and have seen that the water and soil is very soft in the region south of the great river. The people are also weak. All of the food and drink that I saw was fresh, strange, and different; none of it had restorative or beneficial qualities for the people. Since the water and soil are good north of the great river, the people are also strong and robust. All of the food and drink is therefore always beneficial for the people. This [northern–southern distinction] is a definite pattern regarding the water and soil in the celestial-terrestrial realm. Nowadays, there are northerners whose intention it is to follow the example of the south in food and drink; this absolutely must be avoided. Not only does the water and soil differ in each place, but also the intestines and stomach of the people differ. How could there be any benefits from endeavoring to imitate them and gradually bringing on a softening and weakening of the body?[4]

We can see how this Manchu ruler understood human variation within the new territory of the Qing dynasty. The significant boundaries were the Great Wall and the Yangzi River; northern was always superior to southern; the environment directly affected the body; local food and drink formed body types. Northern foods produced robust physiques; southern eating habits nourished weaker ones. Crossing the climatic-geographical boundary from south to north of the passes contributed to the good health of Manchus, and passing the alimentary-geographical boundary from north to south of the Yangzi River harmed them. From two hundred years of hindsight, we learn as much from what Kangxi did not state as from what he did: he remained silent on the issue of ethnicity.

The two chapters that make up Part III deal with transformations in conceptions of disease, epidemics, and the geographic imagination that mattered most to physicians from the mid-seventeenth to the early twentieth century. In Chapter 6, the boundary of the passes explains why smallpox was rare and epidemic among Manchus and other ethnic groups, although common and endemic among Han Chinese.

Meanwhile, physicians, largely of the Yangzi Delta, were extending the range of diseases in their region by expanding upon Wu Youxing's *Treatise on Febrile Epidemics*, and spreading its critique of configurationism to the Far South and the north. In Chapter 7, the Yangzi River as a boundary entered this new discourse on epidemics and Warm diseases as a tension between universally applicable and regionally tailored medicine. By the 1870s, the geographic imaginations of Chinese and Western physicians converged with respect to regional differences in constitutions and disease among the Chinese, as well as contrasts between Chinese and European bodies. From 1871 on, systematic data on the geographic distribution of disease in China began to reach physicians elsewhere.

6 Matters of Place

Epistemological Divisions, Genealogical Divergence

In the fifty years between the publication of the *Treatise on Febrile Epidemics* in 1642 and its first annotated editions in the 1690s, the Chinese political, intellectual, and medical landscape changed dramatically. The Ming dynasty no longer existed. On June 6th, 1644, the Manchus – a Tungusic people of northeastern China – entered Beijing and established their Qing dynasty as the rightful successor to the Mandate of Heaven. On June 14th, they established a Manchu garrison quarter that forced many of the existing Chinese residents to the southern suburbs outside the city gates. Yet large numbers of Chinese still lived in the city.[1] The Manchu forces expelled those with smallpox cases from the city with little or no provisions for their welfare. Whereas smallpox had been a childhood disease among Han Chinese for a millennium and a half, Manchus had no immunity to it. As a threat to their control of the empire, it remained the primary public health concern for a century.

In the intellectual realm, among Chinese scholars of the Yangzi Delta region, evidential research (*kaozheng* 考證), a philological approach to the classics, dominated philosophical and historical studies from its origins in the late Ming to the present day.[2] The central tenets of evidential research were directly applicable to the textual study of the medical classics. Philological methods to detect corruptions and late interpolations were most useful in reconstructing the medical classics.[3] This enhanced concern for textual inquiry situated physicians' responses to the *Treatise* within the broader intellectual currents of the Qing.

Not all scholar-physicians took up evidential research, not even in the Yangzi Delta where it originated. The physicians who formulated new skeptical doctrines on epidemics and Warm diseases were closer in many ways to the opponents of evidential research than to its practitioners. Furthermore, the geographic imagination colored the Manchus' public health policies, reinforcing the Great Wall as a crucial boundary. For the new studies in Jiangnan of epidemics and Warm diseases, the geographic imagination of scholars supported greater skepticism toward the limitations of the classics, and a shift from them to case records as sources of clinical authority.

The first two parts of this chapter therefore contrast the new rulers' concern with smallpox and the new approach to epidemics and Warm diseases developing in Jiangnan. The third part traces changes in the understanding of smallpox, epidemics, and Warm diseases in the three most important government medical books of the eighteenth century. Although evidential research methods and Han learning influenced their editors, they also used modernist approaches. By way of conclusion, I read the eighteenth-century debate over the "Four Masters" among Jiangnan physicians as crystallizing both a genealogical division and an epistemological divergence.

The Geographic Imagination and Smallpox Among Manchus

Because of the low population density in Manchuria, which made smallpox and its antibodies rare, the Manchus understandably feared the disease. One Chinese source remarked that smallpox was rare in the northern deserts (*shuomo* 朔漠), and noted that it only entered the far northwest of Shaanxi province in 1550.[4] Yet, during the seventeenth century, no other disease had as much impact on Manchu politics, diplomacy, and military organization.[5] None brought to the surface as many issues in negotiating interactions between the rulers and their Han subjects: the new geographic-climatic boundary, the Great Wall; the distinction between "raw bodies" (*shengshen* 生身), free of blemish but susceptible to smallpox, and "cooked bodies" (*shoushen* 熟身), bearing the facial pockmarks of survivors but no longer susceptible; the spectrum from contagion to configuration; and the cultural distance between Manchu and Chinese.

Twenty years before the invasion, in the 1620s and 1630s, fears of smallpox had influenced decisions about the deployment of Manchu military officers and princes. Princes who were at risk were ordered back from the Korean front, and officers who were smallpox survivors were sent to attack weak spots along the Great Wall.[6] In 1634, when the Jurchen prince Balam died of smallpox at age 24, his father and others did not attend the funeral to avoid exposure to people with smallpox.[7]

Hong Taiji's ninth son became the emperor Shunzhi (r. 1644–61) at age five. Before the Manchu victory, the child was isolated for long periods in a "shelter for keeping smallpox at bay" (*bidousuo* 避痘所) to protect him from contact with the disease.[8] That is one reason the Manchu court did not move from its base in Mukden to Beijing until more than four months after the conquest, and why the child ruler did not set foot in the imperial palace until just a fortnight before he was enthroned.[9]

It was not contact with individuals that the rulers most feared – Manchus had been trading, interacting, and even living with Chinese for centuries – but contact with the high population density in the Han capital. Some late-sixteenth and mid-seventeenth-century Han authors attributed the lesser occurrence of smallpox among Manchus to their simple diet[10] or because they did not put salt or vinegar in their food.[11] The Manchus understood better the contagiousness of smallpox and had a strong sense of its regional distribution. An early Qing account wrote:

> When Manchu soldiers entered the pass, they feared smallpox. Those who caught it always died. Residents of the capital who had smallpox [in their family] were ordered to leave their homes and exit the city to avoid its contagious spread (*chuanran* 傳染). Some were so afraid of the authorities along the roads that they abandoned their children.[12]

Although the focus was on expelling the sick from the capital – the climate and soil of the capital itself was not considered contaminated – Manchu troops still passed through the walled city's gates with trepidation. The account of the former Ming official Tan Qian 談遷 (1593–1657) even more clearly expressed the Manchu-Han Chinese distinction vis-à-vis smallpox and the fears associated with entering another former Chinese capital: "Manchus used not to catch smallpox. [Only] when they entered

Chang'an, did many of them start to get smallpox and die. This is the origin of the saying that the 'Han people spread it' (*Hanren ran zhi* 漢人染之)."[13]

When the Manchus finally took over Beijing they also brought with them a policy of ethnic segregation that they had previously instituted to reduce ethnic tensions when the Latter Jin state expanded into Liaodong province in the 1620s and attempted to assimilate more Chinese troops into their Banner system.[14] But in the context of the former Chinese capital in which Manchus expected greater exposure to smallpox, this version of "Manchu apartheid" must also be considered the new Qing government's first official public health policy.[15] Tan Qian also described how these "smallpox families" (*doujia* 痘家) responded. They were forced to move 40 *li* (about 22 kilometers) outside the city, causing them not only great hardship but life-altering decisions: some abandoned their children on the side of the road; others, loath to leave their homes, killed their children; one merchant, attempting to ameliorate this suffering, contributed 300,000 *qian* (30,000 ounces of silver) to help support refugees.[16] The first report, in February 1645, indicated that the segregation policy was failing. Families without smallpox were being evicted; the poor could not afford to leave; and sick children were being abandoned in the streets.[17] The interdiction was ineffective. After five years, members of the imperial family were still dying of smallpox.[18] More stringent exclusion had still not solved the problem.

With Emperor Kangxi (r. 1662–1722) smallpox policy in the Qing court shifted from isolation to prevention *c*. 1709, using Chinese variolation. His most obvious reason was personal. Two of his sons contracted smallpox in 1675 and 1678, leaving him for a while unable to attend to official matters.[19] In late 1678, he had two experts in smallpox variolation brought from Jiangnan to Beijing to serve the imperial family. The two, Zhu Chungu 朱純嘏 (1634–1718?) and Chen Tianxiang 陳添祥 (fl. 1678), carried out variolation on members of the imperial family.[20] Kangxi soon mandated variolation more widely. Because those living "beyond the passes" most needed protection, he first spread variolation among both his Bannermen and the Khalkha (a Mongol people) living along the Outer-Mongolian frontiers.[21]

The adoption of variolation for the royal family and others was the most important public health policy of Kangxi's sixty-year reign.[22] With this

unprecedented patronage, in the eighteenth century large numbers of Chinese physicians learned and practiced variolation, which earlier had not been a prestigious therapy. The *Golden Mirror of Medical Orthodoxy* (*Yizong jinjian* 醫宗金鑑, 1742), the only Qing imperial medical book distributed empire-wide, even included a chapter on it.[23]

Southern Physicians Respond to the *Treatise on Febrile Epidemics*

During the first forty years of Qing rule when the Manchu court was intent on controlling the spread of smallpox, there was no response from officials or other northerners to Wu Youxing's *Treatise on Febrile Epidemics*. His critique of traditional epidemiology also attracted little attention from physicians in and around his native Suzhou. Some historians attribute this thin trail of early response to the trauma of the Ming-Qing transition. During its political and social upheavals, the woodblocks of Wu's *Treatise* were destroyed, and surviving copies of the work were extremely rare.[24]

The *Treatise* drew only three responses in the fifty years after it was written. The earliest and most influential response came from Yu Chang 喻昌 (1585–1664), a contemporary who never met Wu, and whose knowledge of his ideas we can only infer. Yu Chang is best known for being one of the earliest scholar-physicians to apply evidential methods to medical learning. His *Essays on Communing with the Past* (*Shang lun pian* 尚論篇, 1648), for example, applied philological techniques to separate the original text of Zhang Ji from the interpolated commentary of his first editor, Wang Xi,[25] whom Yu harshly criticized.[26]

Though evidential research inspired Yu's reconstruction of the *Cold Damage Treatise*, he (and other doctors) did not share the conviction of some *kaozheng* classicists that restoring the canons of antiquity could solve the problems of their own time.[27] In an earlier publication, for instance, Yu published his own case records rather than further commentary on a medical canon.[28] Medicine in this among other ways differed from the evidential movement in classical and historical studies of the era.

Yu Chang presented Wu's new conception of epidemics as if it were his own innovation, and modified it to make it respectable for adherents of the

Cold Damage tradition. He did not embrace Wu's conception of heterogeneous and anomalous forms of *qi* as the source of epidemics, but pointed to the defiling *qi* of filth, illness, and corpses as contributing factors. He agreed with Wu that such *qi* entered the body through the nose and mouth. He advised determining the location of the Warm epidemic *qi* and choosing appropriate treatment by following the ancient Triple *jiao* (*sanjiao* 三焦) model of the *Inner Canon* rather than the Six Warps of the *Cold Damage Treatise*:

> In the upper *jiao*, it's like mist; use elevating formulas to eject it and resolve the poison. In the medial *jiao*, it's like froth; use clearing formulas to eject it and resolve the poison. In the lower *jiao*, it's like a [stopped-up] ditch; use dredging formulas to eject it and resolve the poison.[29]

In this Triple *jiao* schema of the body, as the poison descends from the lungs to the stomach and intestines, it gains weight. If caught early, it is still suspended as mist; later it floats like froth; in the final stages, it becomes solid, like muck in a ditch. Formulas drawing from a range of diaphoretics, emetics, diuretics, and purgatives guide the harmful mist up, the froth-like poison across, and the toxic sediment down.[30] Yu's breakdown of the course of epidemic diseases was simpler than previous models, drawing on everyday metaphors from the weather, cooking, and agriculture to designate detoxifying formulas at each level of penetration.

With respect to the idea of contagion, Yu also asserted that the "disease *qi*" (*bingqi* 病氣) of one person could fill a room or be passed from bed to bed through shared covers as well as from house to house and even via corpse worms (*shichong* 尸蟲) from bodies left rotting beside roads could be transmitted to passersby. Yu argued, as did Wu and many others, that pestilential *qi* were more prevalent in times of famine and war.[31] He largely domesticated Wu's cosmological criticism by keeping climatic factors, but added some new ideas. He used "Warm" as it came to be applied later, as not simply a symptom, but as *qi*, a pathogen.[32] He also reintegrated the ancient northwest–southeast dichotomy, arguing that in the northwest genuine Cold Damage was common but Warm epidemics and smallpox were rare; the opposite was true in the southeast, consistent with the

Manchus' awareness that smallpox was a disease of China proper.[33] Later compilers and publishers reprinted Yu's essay on Warm epidemics as an appendix to Wu's book, and to other new monographs on epidemics as an important statement on the subject.[34]

The scholarly physician Guo Zhisui 郭志邃 (fl. 1670s) from Shaoxing, Zhejiang province, for example, produced in 1675 a monograph on an epidemic disease he called "granular sand-like rashes and swellings" (*sha zhang* 痧脹).[35] He said he had encountered these outbreaks while traveling through Jiangsu and Anhui provinces.[36] Inspired by Wu, Guo attributed this disease to pestilential *qi* in the environment and recommended that remedies be tailored to local climates and constitutions.[37] He also commented on "sheep's wool" epidemics as an example of a northern-type of epidemic. He had not seen any cases but heard about them from a northern physician visiting the south, and considered northern treatments worth noting. Following Wu Youxing's attention to the local causes of epidemics, Guo situated anomalous epidemics geographically.

Finally, in 1679, just a year after the Emperor Kangxi mandated variolation, the Suzhou physician Zhou Yangjun 周揚俊 (fl. 1671–87) published a new synthesis of diseases and epidemics inadequately discussed in the canon. He also integrated representative case records of previous physicians. The *Complete Book on Warm, Hot, Summer-Heat and Epidemic Diseases* (*Wen re shu yi quanshu* 溫熱暑疫全書) linked his synthesis with the legacies of Wu Youxing, Yu Chang, and a physician named Lin Qilong 林起龍 (fl. 1667–79) whom Zhou considered his mentor.[38] Related to this new discussion of epidemics, Lin Qilong authored a preface to Yu Chang's essay on "Warm epidemics" and appended both his preface and Yu's essay to his 1675 reprint of the Zhang Heteng's *Complete Treatise on Summer-Heat Damage* of 1623.[39] Zhou Yangjun wrote another essay on epidemics and included the earlier essays on febrile epidemics by Yu and Lin as appendices to his new treatise. He thus created the beginnings of a textual genealogy for Wu Youxing. Eventually scholars accepted it as a new "current of learning" (*liupai* 流派) on epidemics from the Suzhou region.[40] I now turn to the eighteenth-century development of this textual genealogy, the role case records played in supporting it, and the outcome of conflict over its new doctrines and diagnostic methods.

The New Discourse on Epidemics and Warm Diseases Under the Qing

Responses to the *Treatise on Febrile Epidemics* accelerated in the early 1690s, when new editions made the book generally available. Some publishers reissued the original text, adding prefaces and forewords; others added commentaries, revisions, and chapters; still others reorganized and expanded the original. This publishing history illustrates the accumulation of new medical knowledge and practices. Instead of the conventional emphasis on exegesis and commentary, or the philology in eighteenth-century evidential scholarship, physicians responded to Wu's *Treatise* by revising it, applying it to new epidemiological situations, and adding their own case records, formulas, and diagnostic techniques.[41]

An expanding network of physicians, officials, and scholars, no longer willing to believe that the medical canons were complete repositories of truthful knowledge, turned their attention toward regional medicine and local clinical experience. Four Jiangnan physicians, for example, edited the earliest surviving editions of the *Treatise on Febrile Epidemics* between 1691 and 1710. They were Shi Kai 石楷 (1691) of Nanjing, Zhang Yizeng 張以增 (1694) of Hangzhou, Liu Chang 劉敞 (1709) of Yangzhou, and Zheng Chongguang 鄭重光 (1710) of She county in Anhui province – all wealthy Jiangnan cities. Two, Zhang and Zheng, added their own commentaries.[42] Other publishers in Nanjing and Hangzhou soon reprinted their versions. In 1695 another physician, Dai Tianzhang 戴天章 (fl. 1675–95) of Shangyuan (a city north of Nanjing), published a reorganized and revised version, the *Expanded Treatise on Febrile Epidemics* (*Guang wenyi lun* 廣瘟疫論). Finally, the provincial governor of Guangdong, Nian Xiyao 年希堯 (d. 1738)[43] published the first government editions in 1724 and 1725.[44] Both of Nian's editions aimed to change what he considered superstitious southern beliefs in ghosts and ritual healing by distributing Wu's new intrepration of epidemics due to local deviant *qi*.[45] During the thirty years from the 1690s to the mid-1720s, then, the *Treatise on Febrile Epidemics* transcended its local origin in Suzhou and was significantly changed in form, content, and function.

As an illustration of the issues at stake in these many new editions, Zhang Yizeng's formal commentary presented Wu's treatise as equal in

value to the *Cold Damage Treatise*, filling in (*bu* 補) what his predecessors had not yet understood. Although the symptoms of Cold Damage and Warm epidemics looked alike, they differed in cause, entry, and treatment. By emphasizing that Warm epidemics occurred more often than Cold Damage, Zhang implied that Wu's work was even more valuable than the classic it challenged.[46]

Perhaps inspired by these editions newly circulating in the Jiangnan book markets, Dai Tianzhang in 1675 issued an *Expanded Treatise on Febrile Epidemics*, altered from Wu Youxing's original to meet clinical needs.[47] He agreed with Wu that epidemics were caused by heterogeneous *qi*, not unseasonable climatic *qi*, and thus required special diagnosis and therapy. He began with the diagnostic criteria for distinguishing febrile epidemics from Cold Damage (the quality of *qi*, complexion, tongue, disposition, and pulse), listing fifteen types of febrile epidemics. The second section focused on external medicine, the third on internal medicine, the fourth on treatment methods, and the fifth concluded with over eighty formulas, some of which he credited to Wu Youxing.[48] Dai's *Expanded Treatise*, which systematically restructured Wu's book, was its first major revision, and the first clinical reference work on epidemics.

Dai offered an open-ended approach to medical change. His new insights, diagnostic methods, and formulas were intended to contribute to a more comprehensive understanding of epidemics and more effective medical practice. Although by 1800 "evidential scholarship had dramatically proven itself to be a developing and cumulative field of discourse," this expansionist attitude in the study of epidemics and Warm diseases contrasted strongly with the philological fashions in the classical and historical studies of the same era.[49] Starting from Dai's example, physicians who wrote on febrile epidemics and diseases revised the *Treatise* on the basis of experience, wrote new syntheses, and adapted it to their region.

The 1709 edition by the Yangzhou physician Liu Chang was incomplete and inaccurate, but since it was of cheaper quality, it ended up being the most widely distributed of the early editions.[50] Possibly inspired by this more popular edition, the Anhui physician Zheng Chongguang 鄭重光 (1638–1716) published a second commentary in the following year.[51] The two prefaces for the 1709 edition by Liu Chang and his friend, the Nanjing

scholar Xian Zhu 先著 (fl. 1709), asserted that physicians trained in the Cold Damage tradition were trapped by it.[52]

In 1724, Nian Xiyao, the governor of Guangdong province, reprinted the *Treatise on Febrile Epidemics* to overcome ignorance of elite medicine among doctors there. With this yamen edition, Wu's *Treatise* entered the realm of national politics and the civilizing mission of the imperium along its far southern frontiers. In 1724, Nian's office published *Four Treatises on Experience* (*Jingyan sizhong* 經驗四種), which included a book on eye disease, one on smallpox, a formulary, and the *Treatise on Febrile Epidemics*.[53] In 1725, he reissued the *Treatise* separately, asserting that although epidemic diseases were frequent in Guangdong, no physicians in the region knew how to treat them.[54] Official patronage for the 1724 and 1725 publications show that Wu's critique of conventional Cold Damage epidemiology had reached members of the elite and officials beyond the medical sphere.

In his preface to the 1725 edition, Nian revealed a personal reason for publishing it. "The Emperor ordered me to govern Guangdong. [Upon arrival], I suddenly became ill with an epidemic disorder. My northern [body] had been [adversely] affected by the epidemic *qi* of the south."[55] Although Governor Nian could have echoed the usual laments of officials assigned to the periphery of the empire, he took up the idiom of a north–south corporeal boundary, like the one Dai Liang had used in his fourteenth-century writings, Xu Chunfu applied in his sixteenth-century descriptions of the diseases of Lingnan, and Emperor Kangxi expressed in a lecture to his sons in the seventeenth century. In this early-eighteenth-century iteration, Nian reaffirmed the function of his *Treatise on Febrile Epidemics* as part of the Qing's overall civilizing mission in the Far South. Nian blamed southern *qi* for his sickness and criticized southern doctors for being ignorant of medicine. Place clearly mattered to him in the politics of public health and in his self-identification as a northerner exposed to the exotic climate of the frontier.

Let us look back over the first seventy-five years of responses to Wu Youxing's challenge to physicians to think differently about Warm diseases and febrile epidemics. We can draw several conclusions. People did not treat the *Treatise* as an unalterable canon. They added, revised, and reorganized as they saw fit. They also responded in ways that illustrate the

possibilities for expanding the scope of medical writing at the time: by differentiating febrile epidemics from Cold Damage within a conventional commentary on the *Cold Damage Treatise* (Yu Chang), publishing a new monograph on an epidemic disease similarly neglected in the medical classics (Guo Zhisui), summarizing a personal perspective on epidemics (Lin Qilong, Zhou Yangjun), selecting representative medical case records (Zhou Yangjun), republishing the *Treatise* with prefaces supporting Wu's criticism of the Cold Damage tradition (Liu Chang and Xian Zhu), writing commentaries (Zhang Yizeng, Zheng Chongguang), reorganizing and expanding the original (Dai Tianzhang), and republishing the original for a readership of local physicians as to replace ritual healing practices (Nian Xiyao).

Many of the contributions to the new writing on epidemics also expressed regional perspectives. Yu Chang thought that genuine Cold Damage was dominant in the northwest and febrile epidemics and smallpox prevalent in the southeast. Guo Zhisui was inspired to write a new monograph on acute outbreaks of epidemic distention because of encounters with the disease while traveling in Jiangnan. Nian Xiyao felt vulnerably northern when faced with governing under the threat of far southern epidemic *qi*. Zhou Yangjun's 1679 preface began defining a medical current of learning on Warm diseases and epidemics rooted in the revisions of the Jin-Yuan physicians (Liu Hejian, Zhang Yuansu, and Li Gao, see p. 43) on hot diseases, epidemics, and such, but with new developments coming out of the Suzhou region in the seventeenth-century writings of Wu Youxing, Yu Chang, and, of course, Zhou himself.[56]

Medical Case Records of Southern Physicians on Epidemics and Warm Diseases

In the second half of the eighteenth century, two collections of medical case records provide more data on the emergence of Warm diseases as a new current of learning. The first, *Medical Case Records as a Compass for Clinical Practice* (*Linzheng zhinan yian* 臨證指南醫案, preface 1764), gathered the cases of a famous Suzhou physician, Ye Gui (1667–1746). The compilers attached essays to nearly every cluster of Ye Gui's cases, explicating them as guides to diagnosis and as arguments for revising aspects of the Cold Damage legacy.[57] The second compilation, *Supplement*

to Classified Case Records by Famous Physicians (*Xu mingyi lei an* 續名醫類案, 1770), assembled cases from a wide range of physicians over several centuries. Based on the standard *Medical Cases of Famous Physicians* (comp. 1549, pr. 1591), this sequel added new disease categories and new cases from the seventeenth and eighteenth centuries. The editor, Wei Zhixiu 魏之琇 (1722–72), did not weigh in on the Cold Damage-Warm diseases debate, nor did he even write a preface, but he updated the section on epidemics with cases by Wu Youxing, Yu Chang, and Ye Gui, that exemplified their new approaches. He also added a new section titled *Wenbing* endorsing the emergence of this disease as an independent category.[58]

These books show that during the late eighteenth century case records were emerging as a genre that carried its own doctrinal weight.[59] Ye Gui wrote no medical treatises or commentaries himself, but a preface to his collection pointed to his legacy of case records as evidence for a "Ye current" (*Yepai* 葉 派) of medical learning. The collection's contents and the story of its compilation bear out this judgment.[60]

Two decades after his death, physicians claiming to be his disciples compiled Ye's casebook, based on previously scattered case records collected from former patients and others. Most of those involved were not Suzhou natives like Ye, but came from nearby Wuxi. The lead compiler and editor, Hua Xiuyun 華岫雲 (1697–1773),[61] defended the universal value of Ye's case records against those who doubted that cases involving "weak southerners" could have more than limited value.[62] Hua countered this regionalist criticism by arguing that although northerners and southerners differed in constitution, the causes of their diseases were the same. In addition, he spoke of general patterns underlying the case narratives:

> The myriad things do not fall outside the general patterns (*li* 理) [that define regular cosmological and somatic processes]. Ye's critical discussion of syndromes in the case records and his deliberations on medicinals in formulas always accord with the general patterns. If one applies [his methods] according to general patterns, they are bound to be appropriate.[63]

In essays appended to the cases of Cold disorders, another Wuxi physician portrayed Ye as using and improving upon the innovations of the Jin-Yuan masters, just as the latter had bettered Zhang Ji.[64] An essay appended to the cases of epidemic diseases suggested that a lineage had developed when it compared Ye's insights to those of Zhang Jiebin, Yu Chang, and Wu Youxing, and exhorted doctors to flexibly interpret these pioneers in their own clinical practice.[65]

The influence of the new epidemiology is also visible in Ye's case records. The five cases of epidemic diseases followed Wu Youxing in stating that their cause was a type of epidemic pestilential *qi* or poison – not unseasonable weather – and four of them specified that it entered through the nose, mouth, or both. Instead of using Wu's "Nine stages of transmission" schema for epidemics (see p. 94), Ye adopted Liu Wansu's simpler Triple *jiao* division of the body. The compilers meant these cases to support the notion that via the nose and mouth "the pestilential heteropathic [*qi*] entered the center of the chest and seeped into the pericardium." In one case, for example, a Mr. Zhu breathed in the "epidemic-pestilential-filthy heteropathy" (*yi li hui xie* 疫癘穢邪) through his nose and mouth. It then spread via the Triple *jiao* throughout the center of his chest, causing a sore throat, cinnabar-colored papules, vermilion tongue, and confused spirit [biomedicine's mental confusion].[66] This pattern of diffusion distinguished it from either pathogenic Wind or Cold, both of which coursed through the body according to the Six Warps schema of Cold Damage disorders. The remaining cases illustrated progressively worse cases of the penetration of epidemic *qi* from the mouth and throat to the lungs and pericardium in the chest to the deepest *xue* 血 or Blood (i.e. yin *qi)* sector.[67] In these cases, Ye Gui shifted from the "Triple *jiao*" model to a new Four Sectors (*sifen* 四分) diagnostic scheme of his own creation. It broke down the course of the epidemic disease according to four levels of penetration into the body: Defensive *qi* (*wei* 衛), Constructive *qi* (*ying* 應), yang *qi* (*qi* 氣), and yin *qi* (*xue* 血).[68] These sectors represented the stages of a worsening acute illness, the early, middle, climax, and terminal phases.[69] Although the two schemata, Triple *jiao* and Four Sectors, were conceptually distinct, in practice Ye sometimes used them interchangeably. His applications of them in his case records reflect more complicated clinical situations than any summary can convey.[70] Still an essay on "Warm Syndromes" (*wenzheng* 溫

證) posthumously attributed to Ye Gui and published in 1792 systematized the Four Sectors model.[71] It showed that the medical cases in which this system was rooted reflected a fundamental shift away from the diagnostic precedents set by the *Cold Damage Treatise*.

A final theme implicit in Ye's case records but made explicit by his disciples was regionalism and the distinctive climate of Jiangnan. In the essay concluding Summer-Heat disorders, for example, the commentator (in this case the editor Hua Xiuyun) emphasized their regional prevalence.[72] Drawing on a distinction he attributed to Zhu Zhenheng that Genuine Wind-stroke (*zhen zhongfeng* 真中風) occurred in the northwest and Categorical Wind-stroke (*lei zhongfeng* 類中風) more often in the southeast, he commented "Because of the stronger and harsher winds in the north and the milder and temperate winds in the south, Genuine Wind-stroke disorders occurred less frequently in the south and more often in the north."[73] Ye Gui's contemporary, Xu Dachun 徐大椿 (1693–1771), also noted in his commentary that the type of wind-stroke that damaged the liver (*ganfeng* 肝風) was more common in the south.[74] Ye's disciples also recognized regional differences in the treatment of smallpox: physicians in Suzhou, Songjiang, and the capital followed different protocols. When variolators harvested smallpox inoculum also differed because of north–south differences in climate.[75] Although Hua Xiuyun and his colleagues maintained that Ye's cases were not limited to southerners, they acknowledged regional variations in diseases, constitutions, and practices revealed in his legacy.

The combined effect of Ye's case records, his disciples' explanatory essays, and Xu Dachun's later commentary made the *Compass to Clinical Practice* exemplify the ability of medical case records to establish what was true and to challenge physicians to think and practice in new ways.[76] Collections of case records are useful to assess how such documents on Warm diseases and febrile epidemics affected and changed clinical practice. The 1549 original of the second major book, *Supplement to Classified Case Records by Famous Physicians*, had subsections for "Febrile Epidemics," "Heat-stroke," and "Hot and Warm." *Wenbing* only became a separate category in the 1770 sequel. Its sub sections on diseases due to external climatic pathogens outnumber those in the original compilation.

The supplement provided new cases for Warm diseases. There were others on Dampness, Hot diseases, Dryness, and even Miasmas.[77] These categories suggest a new importance for such pathogens, including heat, dryness, and the dampness associated with Central China, and the miasmas identified with the toxic humidity and heat of the Far South. The 1770 compilation used *wenbing* and *rebing* as categories distinct from Cold Damage, no longer as the spring and summer manifestations of a dormant Cold pathology contracted in the winter.[78] The revised entry on "epidemics" now included several cases from Wu Youxing, Yu Chang, and Ye Gui, all by that time recognized as experts on local Warm and Hot disorders.

One entry, for example, recirculated Wu Youxing's most famous record of treating a 45-year-old man named Zhu Haichou 朱海畴 (n.d.) who suffered from a case of epidemic disease requiring immediate purging. Wu treated Mr. Zhu for another two months with a combination of purging and supplementing formulas until he fully recovered. Shorn of Wu's doctrinal innovations, this case came to represent his style of practice, which emphasized drastic purgatives based on rhubarb root for serious epidemic disease. Wu, however, recorded the case because it was exceptional. The case illustrating Ye Gui's approach to epidemics was more generic in content, providing a list of formulas to use depending on changing symptoms and the penetration of the epidemic poison. Its novelty lay in how he applied the Four Sectors and Triple *jiao* models of the body.

In the last quarter of the eighteenth century, other kinds of publications also reflected interest in Wu Youxing, epidemics, and Warm diseases. Increasingly, more monographs on individual types of epidemic diseases appeared, such as two on *li* 痢 (dysentery-like diarrheas) in the early 1770s.[79] In 1777, the Jiangxi physician Xiong Lipin 熊立品 (1707–80?) republished Wu's *Treatise* along with Yu Chang's essay in a larger compilation devoted to epidemic diseases.[80] Northern physicians also responded, as seen in the *Expansion of and Commentary on the Treatise on Febrile Epidemics* (*Buzhu wenyi lun* 補注瘟疫論, 1784) by the Tianjin scholar-physician Hong Tianxi 洪天錫 (fl. 1784), the *Systematic Analysis of Cold Damage and Febrile Epidemics* (*Shanghan wenyi tiaobian* 傷寒瘟疫條辨, 1784) by the Henan physician Yang Xuan 楊璿 (1706–95), and the northern adaptation of the *Treatise on Febrile Epidemics* of 1785 by Liu

Kui of Shandong.[81] Liu's *Speaking of Epidemics* (*Songfeng Shuoyi* 松峰說疫, 1786), in particular, criticized but considerably expanded upon Wu's *Treatise*, listing over seventy types of epidemic diseases, and integrating religious and other ritual healing practices. Liu contrasted the long and detailed commentarial tradition on Cold Damage with the scant attention given febrile epidemics until Wu Youxing's monograph.[82] Also in 1786, the physician Miao Zunyi 繆遵義 (1710–93) wrote a new monograph on Warm-Hot diseases[83] back in Suzhou, where a debate continued over whether they were separate from or still a subcategory of Cold Damage. One exceptional publication, in particular, collected essays by Suzhou physicians that covered this debate.

Suzhou Physicians on Wu Youxing, Febrile Epidemics, and Warm Diseases

This *Collected Expositions by Suzhou Physicians* (*Wuyi hui jiang* 吳醫彙講, 1792) was the first collection of essays by physicians from a single region.[84] The editor, Tang Dalie 唐大烈 (d. 1801), was a physician from Changzhou, a prefectural capital about 90 kilometers northeast of Suzhou,[85] and a regional stronghold of the evidential research movement in the eighteenth century.[86] As the principal of the prefectural medical school in Suzhou, Tang asked local physicians to submit essays on medical topics and then asked other contributors to evaluate critically some of the drafts. The resulting compilation looks like – but was not – a journal, assembling ninety-four essays by forty-one authors under eleven headings.[87] Several of the articles summed up the innovations in medicine coming out of Suzhou and articulated the debates swirling around the Cold Damage legacy.

Suzhou Physicians reveals diverse opinions and an unprecedented range of medical practices among the elite physicians of a single metropolis. It offers readers an overview of debates over the authority of antiquity, the status of Zhang Ji as a medical sage, and the contributions of the Jin-Yuan masters – all of which bore on the legacy of the Cold Damage current of learning.

The compilation's editor, Tang Dalie, revealed himself as a medical modernist in his own essay entitled "Eight Great Masters." He argued that the genealogy of the Four Masters should be extended to add four Ming

masters. Tang wrote that these four novel Ming masters – Xue Ji, Zhang Heteng, Wu Youxing, and Yu Chang – had each opened up a new aspect which "filled in deficiencies" in the works of the original Four Masters.[88] Tang viewed post-Han innovations not as challenges to the authority of the Han canon but as new initiatives heading in directions not previously explored.

An essay by Zhou Sizhe 周思哲 (n.d.) on febrile epidemics, for example, summarized both Wu Youxing's conception of pestilential *qi* and Yu Chang's Triple *jiao* metaphor.[89] Inspired by the new work on epidemics, Zhou contributed his own perspective.[90] He concluded that epidemics of severe diarrhea (*liyi* 痢疫) were caused by "toxic-heat" (*dure* 毒熱), a pathogenic *qi* that polluted the water people drank. Frustrated with the inefficacy of common treatments for it, the author recommended bitter and chilling formulas as the effective antidote for toxic-heat. Tang included an essay by Gu Zugeng 顧祖庚 (n.d.) that similarly responded to four authors on epidemics, analyzing the drugs in their formulas. Gu singled out Yu Chang's Triple *jiao* model as the only effective approach.[91]

The collection introduced other innovations coming out of the new discourse on Warm diseases. It prominently featured Ye Gui's posthumous essay, "On Treatments for Warm Syndromes" (*Wenzheng lunzhi* 溫證論治),[92] the opening of which laid out his Four Sectors diagnostic model for Warm diseases. It previously had been implicit, scattered through his case records, but now Ye clearly distinguished it from Cold Damage pathology and methods:

> Warm heteropathy is received in the upper part of the body, where it first invades the lung system, then reverses course and moves into the Cardiac Envelope Junction circulation tract (*xinbao[luo]* 心包絡).[93] The lungs, governing *qi*, belong to the defensive [*qi* sector]. The heart, governing yin *qi*, belongs to the constructive [*qi* sector]. Although the involvement of the constructive, defensive, yang *qi*, and yin *qi* sectors resembles Cold Damage, when we consider treatment methods, they completely differ from those for it. The Cold Damage heteropathy clings to the outer aspect of the body and only later changes into hot *qi* when it enters [deeper] into the body. That is how Warm heteropathy transforms into hot *qi*.[94]

The rest of the essay explained how to interpret symptoms and apply the Four Sectors and Triple *jiao* schemata to the stages of Warm-type syndromes. In the same essay, Ye singled out his Suzhou clientele: "Moreover, people in our Wu region suffer most from damp heteropathy; if they're pale, one must strengthen their yang *qi*, because dampness is dominant and yang [*qi*] is weak."[95] Many of Ye's case records deal with the pathogenic potential of Warmth and Dampness in the Suzhou region where he practiced medicine. That said, he never rejected the Cold Damage tradition, but continued to rely in his practice on the theory as well as the formulas associated with the *Cold Damage Treatise*.[96]

Suzhou Physicians also included essays that attacked medical innovators like Wu Youxing and Ye Gui in defense of the Cold Damage tradition. The physician Guan Ding 管鼎 (fl. 1792) represents this reactionary position in Suzhou medicine and, more broadly, the Han learning side of the modern versus ancient controversy. He attacked Ye for his Four Sectors heresy, and argued against Wu Youxing that the *Cold Damage Treatise* "encompasses disorders caused by heterogeneous *qi*."[97] Guan charged physicians who analyzed illness in terms of a single type of heteropathic *qi* or one type of syndrome with reductionism. In his view, the new therapeutic emphases from the Song dynasty onwards – Liu Wansu's emphasis on the ascent of Fire, Li Gao's focus on spleen-stomach problems, and Wu Youxing's concept of heterogeneous *qi* – were merely partial views of patterns already set in the *Cold Damage Treatise* and related works. Tang Dalie's juxtaposition of Ye Gui's novel essay and Guan Ding's conservative one exemplifies how the ancient versus modern dispute within the evidential research movement influenced the debates in Suzhou medicine.

In addition to representing a spectrum of contemporary medical positions, the editor selected medical writings of three generations of a Suzhou literati family – Xue Xue 薛雪 (1681–1770), his son Xue Jingfu 薛景福 (n.d.), and his grandson Xue Chengji 薛承基 (n.d.). By way of introduction, Tang wrote that "Xue Shengbai was as famous as Ye Gui. Although something can be learned from both men and neither is inferior to the other, Xue did not like to think of himself as a physician. He had not written a book when he died at the age of eighty-nine."[98] The entire fifth section of *Suzhou Physicians* was devoted to his son Xue Jingfu's smallpox essays and his grandson Xue Chengji's comments on Cold Damage. His

great-grandson Xue Qiqian 薛啟潛 (n.d.) submitted for publication his distinguished ancestor's medical jottings.[99] Taken together, however, the Xue family medical writings show neither doctrinal nor thematic unity. Although Xue Xue and his grandson both figured in the later nineteenth-century textual syntheses on Warm diseases, that could not have been predicted from their writings.[100] The editor apparently selected them because of Xue Xue's fame as a literatus-physician and the cultural authority of the four generations of hereditary physicians who also belonged to the local elite.[101]

To sum up, the contributors to *Suzhou Physicians* were chosen for their medical renown in the Suzhou region, not because they were cohesive in doctrine or clinical orientation. The range of opinions in the collection shows the tension between adherents of the Cold Damage orthodoxy and those who based their practices on the new doctrines of Warm diseases and epidemics. This division corresponds to an epistemological divergence between the "antiquarians" who revered Han medical texts as sources of universal wisdom and the "moderns" who aligned themselves with the Jin-Yuan revisionists and their posterity.

Imperial Perspectives on Smallpox, Epidemics, and Warm Diseases

I now move back to the capital to examine three eighteenth-century imperial publishing projects that cast more light on the Manchu court's obsession with smallpox in the north, and on Jiangnan physicians' growing interest in Wu Youxing and their resulting participation in the innovative studies of epidemics and Warm diseases. Three threads weave through these government compilations: continued emphasis on smallpox in the Qing court; the marginalization, dismissal, and eventually recognition of the new writing on epidemics and Warm diseases; and how the geographic imagination intersected with both trends.

The three projects, completed between 1728 and 1782, reveal responses of two powerful emperors to smallpox and to current discussions of epidemics and Warm diseases. These projects were an imperial encyclopedia, the *Imperially Approved Synthesis of Books and Illustrations, Past and Present* (*Qinding Gujin tushu jicheng* 欽定古今圖書集成),

commissioned by Kangxi near the end of his long life and presented to his successor in 1725;[102] the *Imperially Commissioned Golden Mirror of Medical Orthodoxy* (*Yuzuan yizong jinjian* 御纂醫宗金鑑 1742), which Qianlong emperor (r. 1736–96) commissioned within the first five years of his rule to establish a medical standard for the empire;[103] and the section on medicine of the *Annotated Catalogue of the Complete Collection in Four Treasuries* (*Siku quanshu zongmu tiyao* 四庫全書總目提要, 1782),[104] a descriptive and critical catalogue of the manuscript library collected at the peak of the Qianlong reign.[105] Its rare and exceptional editions chosen from the imperial library and private collections throughout the empire included 197 medical titles.

The *Imperial Encyclopedia* cast its net most widely, covering all aspects of medicine ranging from history to biography, elite to popular medicine, the medical canon and clinical specialties.[106] In fact, the medical section contained more chapters (*juan*) than any other in the encyclopedia. The two most important groups in it were the *Inner Canon of the Yellow Emperor*: *Basic Questions*, with commentaries on it up to the seventeenth century, and selections from smallpox treatises from the eleventh century on.[107] The importance given to smallpox is due not only to the ubiquity and seriousness of the disease within China proper, but also to the continued Chinese attempts to control it and Manchu fear of contracting it.[108]

Although the editors included many historical texts that stressed the importance of regional differences in climate and occurrence of epidemics, they did not accept Wu Youxing's concept of local heterogeneous *qi*. Their authority on febrile epidemics was instead the orthodox work of Wu's contemporary Zhang Jiebin. The editors had certainly read Wu Youxing's work, for they reprinted some of it under "Epidemics and disasters" (*yi zai bu* 疫災部) in the encyclopedia's section on "Portents" (*shuzheng* 數政).[109] They quoted in full the three sections in Wu's first chapter that most clearly expressed his localist alternative to the traditional model.[110] Placement of these key doctrinal essays here implied that they threw light on anomalous epidemics, not ordinary ones. His biography was also not among the Ming physicians.[111] This editorial marginalization diminished the import of his *Treatise* for general medicine and muted his challenge to medical orthodoxy. In hindsight, Wu exposed the weakness of configurationist thinking and the system of correspondences, but he did not persuade the

official editors to reevaluate or discard either. The bureaucrats who edited the encyclopedia had no reason to be concerned about recent innovations.

They copied sources with varying perspectives without attempting to impose consistency. The essays on epidemics were indeed encyclopedic in range. They embody the history of modifications of the *Inner Canon* and *Cold Damage* explanations of epidemic disorders, cosmological skepticism, and increasing awareness of regional variations. Within this diversity one sees the roots of the tension between canonical Cold Damage methods and new approaches to epidemics that *Suzhou Physicians* two generations later expressed more clearly.

The heterogeneity of the *Imperial Encyclopedia* contrasted sharply with the integration of the *Golden Mirror*. The latter was first intended as a textbook for the Imperial Medical Bureau but became what officials hoped would be the standard guide to clinical practice for the empire.[112] In contrast to the emphasis on locality, contingency, and heterogeneity in Wu's *Treatise on Febrile Epidemics* and the writings of his many followers, the imperial editors from Anhui and Zhejiang provinces imposed their regard for canonical precedent and the *Cold Damage Treatise* as the gold standard for clinicians.[113] They ignored Wu Youxing's new doctrines on Warm diseases and epidemics, keeping both types of disorders under the Cold Damage umbrella.[114]

On the other hand, the Qing court's continued concern about smallpox can be seen in the *Golden Mirror*. All the major methods of variolation then practiced were for the first time clearly described in one text and given the imperial imprimatur.[115] The opening essay to the "Essential Methods of Smallpox Variolation in Pediatrics" recounted the myth of the origins of variolation during the Northern Song, and asserted that the practice originated south of the Yangzi River and then moved north to the capital.[116]

Because the government harshly punished anything that might be taken as disrespect for Manchus and other non-Han peoples, the *Golden Mirror* did not use the terms "enemies' sores" (*luchuang* 虜瘡) or "northern enemies" (*beilu* 北虜) from earlier accounts of the origin of smallpox (see p. 71). The geographic imagination of northern and southern differences nevertheless persisted. For smallpox, it incorporated the new Great Wall boundary inherited from the Manchu conquest:

> The pathogen does not come out north of the Great Wall, because [there] cold and cool *qi* are greater than pernicious yang blazing fire *qi* that upon contact releases the toxin. [Fetal toxin] thus remains dormant within, and does not come out. It is bound to come out among the people of the central lands because of their preponderant warm and hot *qi* that upon contact with pernicious-yang-blazing fire *qi* causes the toxin to be released and come out. Every physician must know this.[117]

Here the editors of the *Golden Mirror* elided previous accounts of the origin of smallpox in battles against frontier enemies in the south and west.[118] The ancient northwest–southeast dichotomy also no longer applied. In the new official version, the Great Wall became the normative boundary marking the protective colder climate of the north from the pernicious warmer climate of the central lands to its south.

In sum, both the *Imperial Encyclopedia* and the *Golden Mirror* gave significant attention to smallpox, though they shifted geographic boundaries from the conventional northwest–southeast and northern–southern duality to the Great Wall of the Manchu regime. The *Golden Mirror* also affirmed the promotion of variolation that began with the Kangxi emperor's concern for his family and northern allies, but that the government now advocated for all within the empire.

The *Four Treasuries* gave Wu Youxing's *Treatise on Febrile Epidemics* higher status than the two earlier imperial projects had done. It was one of the ninety-seven medical books worthy to be copied into the imperial collection. A change in thinking about the problem of orthodoxy versus diversity in medicine may explain this shift. Although the ascent of Han learning in medicine exemplified in the *Golden Mirror* continued in other fields included in the *Four Treasuries*, in contrast to the Cold Damage orthodoxy of the former, the *Four Treasuries* editors acknowledged diverse medical opinions. The critical abstracts (*tiyao* 提要) of each text summarized contents and characteristics, and evaluated strengths and weaknesses. They were biased toward Han learning, but acknowledged conflicts within medicine.[119] The contrast between the therapeutic preferences of the northerner Liu Wansu and the southerner Zhang Jiebin, for instance, dominated one critical abstract. The abstracts also reflected their editors' training in evidential scholarship and their effort to preserve

rare editions of important medical treatises since antiquity. Patronage and regional pride also played obvious roles in selection.[120]

In addition to Wu Youxing's *Treatise on Febrile Epidemics*,[121] the editors included Yu Chang's *Essays on Communing with the Past*, and Ye Gui's *Compass to Clinical Medicine*.[122] They did not identify them, however, as belonging to the same Suzhou-based medical lineage or as participants in a larger trend of innovative studies.[123] They did praise Yu Chang's *Essays on Communing with the Past* for restoring the original *Cold Damage Treatise*,[124] and Wu for his challenge to the Cold Damage orthodoxy.[125] Despite their Han learning bias, the editors were open to revisions of the medical canons based on new clinical experience.[126]

The three publications represented distinct stages in the process of imperial documentation, from collection to selection to representation. They contributed to Qing authority by systematically organizing knowledge about Chinese culture. Evidential methods had proved an effective tool for the Qing court to construct the Manchu heritage and to claim their position as standard-bearers of Chinese civilization.[127] Although Han learning and evidential scholarship reached fruition in the *Four Treasuries*, and influenced the choices for the *Golden Mirror*, the editors of the medical section, at least, recognized that diverse doctrines, practices, and conflicts within medicine were not politically dangerous. They saw analogies between the emergence of different lineages *menhu* 門戶 (lit. "gates and doorways") in classical scholarship and in medicine, but concluded that:

> although orthodox Confucian learning (*ru* 儒) has fixed principles, there are no fixed methods in medicine. Since the circumstances of illness change in myriad ways, it is hardly possible to maintain a single [doctrinal] lineage. That is why what we have now copied here brings together many doctrines.[128]

This medical pluralism arguably paralleled the ideology of Manchu rule that represented the emperor as a judicious and gracious ruler over a diverse populace.[129] It also called attention to a crucial difference between medicine and orthodox Confucian learning: the lineages of medicine diverged later and regularly disagreed, it had no fixed methods and, faced

with the innumerable symptoms and endless change in the course of disease, no medical lineage could permanently overcome its rivals.

The Four Great Masters Debate and Opposing Genealogies of Medicine

In the introduction to the medical section, the *Four Treasuries* editors captured the central conflict within elite medicine between the defenders of the Cold Damage tradition who aligned themselves with the broader Han learning movement and those who viewed medicine as a confluence of multiple lineages of equal status. One modern scholar has aptly used the metaphor of water currents (*liupai* 流派) to make the distinction between competing perspectives on the Four Masters narrative of Chinese medical history: positioning Zhang Ji as a sagely ancestor at the source of the stream encourages a conception of "a single current from which separate branches diverge," but placing him on the same level as the Jin-Yuan innovators implies "a complex of more or less equal competing traditions and scholarly currents."[130] The first interpretation is hierarchical, and the second equalizing. The first posits a progenitor begetting descendents who, as they reproduce, never venture beyond the original intellectual patrimony. The second envisions many innovators who contribute to an open-ended and expanding store of knowledge. The first approach integrated change as elaboration of one founder's vision; the second assimilated change as innovation (*faming* 發明), within a branching genealogy of multiple lineages. Medical authors drew on both tropes.

The author of the first 1764 preface to the *Compass to Clinical Practice*, for example, accepted Zhang Ji as one of the "Four Great Famous Masters" (*sida mingjia* 四大名家) but whose works were no longer well understood, required commentary, and were open to later interpretations.[131] Ye Gui was not only a worthy successor of equal status to Zhang Ji and his other predecessors, but one who had penetrated the ancient learning more deeply and clearly.[132] In keeping with editor Tang Dalie's all-inclusive approach, *Suzhou Physicians* published a "Refutation of the Four Great Masters," arguing that Zhang Ji was a medical sage who should not be denigrated by association with the later three physicians. This countered Tang's own "Eight Great Masters" essay in which Zhang Ji was named the first of the

Four Great Masters.[133] Although two distinctly different approaches to Chinese medical historiography, both the "single lineage" (*yizong* 一宗) and "branching lineages" (*zhipai* 支派) models were fundamental genealogies through which physicians articulated both their affiliations with colleagues in the present and their allegiances to medical legacies from the past.

The "Four Masters" trope in Chinese medical historiography reemerged during the mid-eighteenth century as a means to express opinions about innovation and to assign physicians to one side or the other of the epistemological divide between ancients and moderns.[134] It was oriented on the status of Zhang Ji and the authority of his *Cold Damage Treatise*.[135] Those who followed the innovators of the Jin-Yuan period and accepted the new views of epidemics and Warm diseases challenged it. In the late imperial period, physicians who favored the new positions on epidemics aligned themselves with the multiple lineages stemming out from the Jin-Yuan masters.

The next chapter, on the genealogy and geography of Warm diseases, combines the threads of the creation of ancestors and the geographic imagination to analyze the transformation of the eighteenth-century writings on Warm diseases and epidemics, over the course of the nineteenth century, into a new tradition of medical learning with its own genealogies, corpus of texts, and geographic significance.

7 Emergence of Traditions

The Nineteenth-Century Genealogy and Geography of Warm Diseases

Just a year after *Suzhou Physicians* elevated Wu Youxing into the pantheon of "Eight Great Masters," his legacy in the capital began to sink. In 1793, Beijing was in the grip of another terrible epidemic. Ji Yun 紀昀 (1724–1805), one of the main editors of the *Four Treasuries*, reflected on what happened that spring and summer.[1] He wrote that the methods for treating epidemics that Zhang Jiebin promoted cured only ten to twenty percent of the victims, and those associated with Wu Youxing were no more effective. Some considered one medicine, however, to be highly effective. The physician Yu Lin 余霖 (fl. 1794) cured the concubine of a high-ranking official by administering a decoction of gypsum powder that saved her life.[2] Yu Lin's uncanonical use of gypsum so surprised Ji Yun that he summarized what he found out about it in written sources, remaining unconvinced that gypsum would be effective for all types of epidemic diseases.[3] The following year Yu Lin published a book on his experience treating the 1793 epidemic in the capital with gypsum-based formulas, criticizing the approaches of Wu Youxing and other predecessors.[4]

Wu Tang 吳瑭 (1758–1836), another physician-scholar based in the capital, also claimed success treating his friends that summer, using, however, Wu Youxing's rhubarb-based purgative formula.[5] This experience inspired him to write the *Systematic Analysis of Warm Diseases* (*Wenbing tiaobian* 溫病條辨) by assembling scattered earlier references to *wenbing* throughout history and appending his own commentary, which amplified

knowledge of this group of disorders. When Wu Tang succeeded in having this book published nearly twenty years later in 1812, Warm diseases had found their first biographer.

In the last chapter, we have seen how eighteenth-century physicians justified conceptual innovation and integrated their studies of epidemics and Warm diseases into a vision of expanding medical knowledge. Over the course of the nineteenth century, their successors further developed the textual understanding of "Warm diseases" out of the accumulated records and their own experience, systematizing this information into new compilations.

This chapter examines the work of four physicians – Wu Tang, Zhang Nan 章楠 (fl. 1824), Wang Shixiong 王士雄 (1808–64), and Song Zhaoqi 宋兆淇 (fl. 1878) – to trace the emergence of "Warm diseases" as an independent textual tradition with its own genealogical narratives. The four were not linked by lineage or master-disciple networks, or even by common fealty to Wu Youxing as founder. They all reprinted selections from a variety of earlier texts, along with their own supplementary materials and commentary. Using citation and commentary in an open-ended fashion, the authors highlighted the work most important to their own understanding of "Warm diseases," and paid homage to predecessors even earlier than Ye Gui and Wu Youxing. These forms of writing also allowed for innovation based on personal experience and reflection. Medical case histories (from which the author had learned or which he had written up) were also an important rhetorical element in their new compilations. In sum, their works were informed by the habit of thinking of medical knowledge production in terms of overlapping textual genealogies with the capacity to reflect flexibly on circumstance while keeping a common purpose in view. An important part of the creation of any textual genealogy was using prefaces, old and new, in which authors, associates, clients, and patrons created a context for a book in the stream of past and current knowledge and present practice. Gradually over the course of the nineteenth century, "Warm diseases" became recognizable as a current of medical learning as it accumulated multiple genealogies. As the textual corpus expanded, it defined "Warm disease" ever more diversely as a spectrum of disorders associated with heat, dryness, and even dampness – a spectrum that justified its identity as a major nosological category separate from, yet comparable to, the venerable Cold Damage category.

Currents of Learning and Emergent Traditions

No tradition starts out as a tradition. Traditions do not develop inevitably out of timeworn customs, nor do they spring fully formed from an unchanging base of culture, though the people involved in them tend to believe they do. Traditions serve a vast array of functions ranging from indoctrination into a social ideology – such as the religious beliefs of a church, the political doctrines of a state, or stereotypes of national identity – to resistance against these very same ideologies.[6] More often than not, a tradition comes to mean what people think their predecessors did since time immemorial, and which they emulate as models for behaving and thinking. Through history, ideologists have often interpreted what they call the Confucian tradition, even though historians have shown repeatedly that they constantly refashioned it.[7]

In *Currents of Tradition in Chinese Medicine*, Volker Scheid took tradition as a central concern in his study of one local current of learning over more than three centuries. His analysis of traditions as stories, narratives, arguments, and activities that help individuals understand who they are, what they do, and why, gave new importance to the study of traditions as dynamic processes. His emphasis on traditions in continuous conflict over meaning reasserts the role of the individual in imagining, maintaining, and changing them. This understanding of tradition as dynamic process links the two types of genealogical narratives – hierarchical, derivative, past-oriented versus equalizing, innovative, present-oriented – outlined in the conclusion of the last chapter (pp. 124–25), as forms of self-fashioning that learned physicians deployed to integrate their contributions into either an orthodox tradition or new currents of learning.

The tensions such choices imply came to the fore in the nineteenth-century debates about the relative status of the main-line Cold Damage tradition versus the newly emergent current or branching tradition of Warm diseases and epidemics. The analysis that follows of the stories, narratives, and arguments used to legitimate the major compilations of writings on Warm diseases over the course of the nineteenth century illuminates how physicians gradually assembled this new medical tradition on their own terms.

Chapter 6 has shown that by the end of the eighteenth century there was a new body of learning on epidemics and Warm diseases. Still, there was no

systematic collection of writings on them. As this movement gathered momentum over the course of the nineteenth century, the four physician-scholars discussed below represent a nascent current of learning. Their lives and works reveal different approaches to tradition. I ask in each case how the tug between medical perspectives rooted in geographical locality and the medical universalism identified with "all under heaven" played out in their new syntheses.

In this light, two of the four author-compilers were universalists who used genealogy to place Warm diseases in canonical antiquity. Wu Tang's *Systematic Analysis of Warm Diseases* (*Wenbing tiaobian*, pref. 1798, pr. 1812) emphasized *wenbing*'s novelty, yet directed readers to Zhang Ji for the foundation and larger picture. Wang Shixiong's *Warp and Weft of Warm and Hot Disorders* (*Wen re jingwei* 溫熱經緯, pref. 1852) integrated writings on Warm diseases and epidemics selected from the *Inner Canon* and *Cold Damage Treatise* with the new work of Ye Gui, Xue Xue, and others into a universally valid tapestry of knowledge. Zhang Nan's *A Stick to Awaken Physicians* (*Yimen banghe* 醫門棒喝, 1829) emphasized local medical knowledge and the social ties of its practitioners to Suzhou.[8] Song Zhaoqi's *Discriminate Examination of Southern Diseases* (*Nanbing biejian* 南病別鑒, 1878) relied even more forcefully on the bonds of his Suzhou family lineage and sentiments of southern identity. Furthermore, it was the universalists – Wu Tang and Wang Shixiong – who most directly confronted the medical challenges of epidemics in their writings on toxic Heat; by contrast, the Jiangnan regionalists emphasized the importance of local climates and constitutions in their etiology of southern Warm diseases and Damp-Heat disorders.

In these publications a tension persisted between those who augmented their conventional authority by accommodating the Cold Damage legacy (*Wenbing tiaobian* of 1812 and *Wen re jingwei* of 1852), and those who sought authority by emphasizing local knowledge and stressing their differences from the classical tradition (*Yimen banghe* and *Nanbing biejian*). There were other syntheses during the nineteenth century, some universalist, some regionalist. These four examples sufficiently characterize the emergence of a southern current on Warm diseases as a dynamic process fraught with internal conflict.

The medical section of the *Draft History of the Qing Dynasty* (*Qingshi gao* 清史稿, 1928) summarized from a post-imperial perspective the main

currents of medical learning before 1912. It included entries on all of the main Warm disease experts of the seventeenth and eighteenth centuries as well as three of their nineteenth-century compilers, Wu, Zhang, and Wang.

An important change in documentation came in the 1870s, when new medical perspectives from Western sources began to appear in China. After the Opium War (1839–42), Western publications began to publish reports on medical work and health conditions in China.[9] The Imperial Customs, now run by foreigners to confiscate war reparations, played an important part. Starting in 1871, its Inspector General published in the *Customs Gazette* semi-annual *Medical Reports* from European surgeons stationed in treaty ports.[10] In these substantial reports, the geographic imagination gave way to European standards for the geographic distribution of disease in China. They used Western nosology, but it was still far from that of modern biomedicine. Dudgeon's 1877 *Diseases of China, Their Causes, Conditions and Prevalence, Contrasted with those of Europe* illustrates that the views on climates, constitutions, and geography of Western physicians still resembled more than differed from those of their Chinese contemporaries.

Table 7.1 Nineteenth-century genealogies of the Warm-diseases medical current

Compiler, book, year published	*Seventeenth- to eighteenth-century Warm diseases experts featured in genealogies in prefaces and in the* Qing Draft History *as the major representatives of the new Warm Diseases medical current*			
Wu Tang *Wenbing tiaobian* 1812	Wu Youxing	Ye Gui		
Zhang Nan *Yimen banghe* 1829	(Wu Youxing)	Ye Gui	Xue Xue	
Wang Shixiong, *Wen re jingwei* 1852	(Wu Youxing)	Ye Gui	Xue Xue	
Song Zhaoqi *Nanbing biejian* 1878		Ye Gui	Xue Xue	Xue Chengji
Zhao Erxun, ed. *Qingshi gao* 1928	Wu Youxing Wu Tang	Ye Gui Zhang Nan	Xue Xue Wang Shixiong	

First Biographer of Warm Diseases

"As for establishing virtue, merit, and teachings, these are matters for sages and worthies. Who is this Wu Tang who dares to appoint himself [one of them]?" So began Wu's autobiographical preface to the *Systematic Analysis of Warm Diseases*. It recounted his early hardships as the orphaned son of an obscure scholar and teacher in Huaiyin, Jiangsu, and his decision *c*. 1780 to abandon classical scholarship and seek his fortune in Beijing. Like many civil-service examination dropouts, he managed to find clerical work, joining the *Four Treasuries* project as a proofreader and copyist. Although he had no formal training in medicine, his father's early death and death of a nephew from a type of Warm disease spurred him to begin reading medical texts on his own.[11] Working on the project in the imperial library gave him access to a far broader range of texts than otherwise would have been available to him. This brought him to read Wu Youxing's *Treatise on Febrile Epidemics*, try out his formulas during the 1793 epidemic, and even admire Wu's doctrines as innovative.

For ten years, he dared not treat people with Wu's methods until the 1793 epidemic in the capital. Inspired by his initial success, he continued to study Warm diseases. Dissatisfied with the disorganization of Wu's work and encouraged by a patron, in 1812 and then again in 1813 he published a compilation of the best scholarship on Warm diseases, adding his own ideas.[12] He and his patron intended this book to better prepare the public for the next outbreak of febrile pestilence (*wenli* 瘟癘).[13]

A Genealogy and Geography of Warm Diseases

Wu Tang's preface recounted how his biography came to intersect with that of Warm diseases. His patron and friend Wang Tingzhen 汪廷珍 (1757–1827) provided a narrative of intellectual lineage.[14] Wang grouped Wu Youxing and Ye Gui with his colleague Wu Tang as experts on Warm diseases. For a founder he looked not to Zhang Ji among the ancients but to Liu Wansu of the twelfth century, the first of the Jin-Yuan Four Masters, singling out his innovative special study of Hot diseases. Among contemporary physicians, Wang credited Ye Gui as the first to clarify the pathology of and therapy for Warm and Hot disorders. He claimed that Wu Tang's editorial acumen and intellectual commitment enabled him to organize the writings of Ye Gui and to create a new synthesis.[15] Neither Wang nor Wu related this new anthology to regional medicine. Both asserted that by providing a synthesis of new approaches to Warm diseases, inadequately discussed in the *Cold Damage Treatise*, the anthology became universally relevant.

In his definition of Warm diseases, Wu Tang followed Wu Youxing's doctrine that the pathogenic *qi* entered through the nose and mouth and not the pores as in Cold Damage. Impressed by Ye Gui's Four Sectors analysis of the stages of Warm diseases, he combined it with the Triple *jiao* model for Hot diseases and febrile epidemics to propose a new method for diagnosing and treating Warm diseases that he claimed was universally valid.

Wu's geographical imagination took the vantage point of the imperial center, where he had carved out his career. Ignoring his own roots in Jiangsu, Wu downplayed the southern identity, lineage affiliations, and locally oriented therapeutic style posthumously attributed to Ye Gui. While praising Ye Gui's case histories as masterful expositions of "Warm

diseases," he was critical of Ye's self-styled disciples who interpret them without understanding the classics that underpinned their reasoning.[16]

Wu still invoked the classical geography of the five directions. Aligning Cold Damage with northern Water and Warm disease with southern Fire, he placed humanity at the center of a spatio-temporal cosmos that normally followed a clockwise pattern from east to south to west to north. Disease, according to this old configurationist trope, occurred when "there is something unbalanced (*pian* 偏) in the yin-yang qualities of Heaven-Earth-Man." He asserted that "the origin of Cold diseases is in Water and the origin of Warm diseases is in Fire."[17] Through the geographic implications of associating North-Water-Cold Damage and South-Fire-Warm disease, he rhetorically tied his redefinition of Warm diseases to the Five Phases doctrine of the *Inner Canon*, disassociating it from its identity as a type of Cold Damage in Zhang Ji's *Cold Damage Treatise*. Wu's anthology is thus a view from the center of the empire, using a strategy of compilation learned in his work on the *Four Treasuries* project.

A Shaoxing Physician and his *A Stick to Awaken Physicians*

Deep in the cultural heartland of the lower Yangzi Delta, another doctor offered a new perspective on *wenbing*, shaped by the southern backgrounds of leading adherents. Zhang Nan, a native of Guiji county (modern Zhejiang), brought together the writings of Ye Gui and Xue Xue, two of the most famous physicians of eighteenth-century Suzhou. Xue's *wenbing* essay, "Systematic Analysis of Damp-Heat Disorders" (*Shire tiaobian* 濕熱條辨), was first appended to the anonymous *Medical Master's Secret Bookbag* (*Yishi miji* 醫師密笈, 1777).[18] In *A Stick to Awaken Physicians*, Zhang republished Xue's essay on "Damp-Heat Disorders" along with "On Treatments for Warm Syndromes," an essay by Ye first published in *Suzhou Physicians* (1792).[19] For the first time someone had published the writings on Warm diseases and Damp-Heat disorders of these famous Suzhou doctors together. Zhang's origin in Shaoxing,[20] a sister city connected to Suzhou by the Grand Canal, had something to do with bringing these local physicians together.

Unlike Wu Tang, Zhang clearly articulated the thread of medical localism based on north–south differences inherited from the Song–Yuan division.

He explained that medical treatments differed according to time and place because doctors favor formulas for the manifestations common in their own surroundings. Li Zhongzi (1588–1655; see pp. 61–66) had explained that the therapeutic preferences of the northerner Zhang Congzheng and the southerner Xue Ji differed because their patients came from different social classes.[21] Zhang Nan returned to the geographical argument that "the movements and transformations of qi mutation are irregular and the endowments of people in the South and North differ."[22]

Zhang contended that because so many physicians had developed their own doctrines, it had become difficult for students to select what was best from their predecessors' works. "We suffer not from lack of books, but from having too many!" he exclaimed.[23] Zhang sought to provide his readers with the best selection of writings on medical topics. He featured the essays by Ye and Xue because they focused on local illnesses. Like Wu Tang, Zhang Nan praised Ye's *Compass to Clinical Practice* (1766), though he did not lament its misuse as Wu Tang had. Ye's cases offered the best practices of the day. He "devised measures according to the disease," "revealed its pattern," and "acted appropriately to the season."[24] Zhang hoped physicians in the region would be as flexible and perspicuous.

Zhang also strategically legitimated the two essays by giving them equal genealogical standing to the *Cold Damage Treatise*. He included both in his *Original Meaning of the Cold Damage Treatise* (*Shanghan lun benzhi* 傷寒論本質), another title for *A Stick to Awaken Physicians*, as examples of what he meant by its "original meaning." In his preface he played with the metaphor of treating corporeal deficiency with supplementing drugs:

> Zhang Ji discussed Warm and Hot disorders due to latent *qi*, but did not adequately discuss external afflictions. Ye Gui's essay successfully supplemented Zhang's omissions (*canque* 殘缺), revealing a bridge and ford for later students. As for the [disorders due to] Summer-Heat heteropathy combining with Fire and Dampness and lodging in the Membrane region, Ye did not adequately discuss them. But then Xue's doctrine successfully supplemented what Ye's writing lacked.[25]

This way of describing the innovations of Ye Gui and Xue Xue incorporated doctrinal change into a corpus originally to meet current needs.

In the 2000 years since Zhang Ji, Zhang Nan argued, no one else equaled Ye for understanding and treating Warm diseases."[26]

Here Zhang was rejecting the view prevalent among physicians of the Han-learning and Cold Damage currents that only Zhang Ji was a medical sage. Disregarding intermediate figures in Zhang Ji's lineage, Zhang Nan designated Ye Gui the medical sage of his time.[27] He integrated geographical and genealogical strategies to "awaken physicians" to the cutting-edge doctrines coming from Suzhou.

Three Medical Masters of Suzhou

Physicians in Suzhou heard Zhang's clarion call and began to publish their own compilations of Suzhou medical writings. To take just one example, in 1831 Wu Jinshou 吳金壽 (n.d.) published the medical cases of Ye Gui, Xue Xue, and their contemporary Miao Zunyi 繆遵義 (n.d.) together. He appended another treatise on *wenbing*, *Superfluous Words on Warm and Hot* (*Wen re zhuiyan* 溫熱贅言, 1824), and titled the compilation *Medical Cases of the Three Masters* (*Sanjia yian* 三家醫案, 1831).[28] Ye Gui, already a medical sage, and his two contemporaries became the "Three Masters" of Suzhou.[29]

The essays in *Superfluous Words* provided doctrines to undergird the Suzhou doctors' medical cases.[30] Wu Ziyin reaffirmed this relationship in his foreword to the cases. Although medical cases as a genre were not as well organized as the more established "medical essays" (*yilun* 醫論) genre, as clinical examples they better taught physicians about the changes that occurred over the course of illness, how to match syndrome with protocol, and how to adapt the old formulas to new clinical situations.[31] Case records, in other words, cast light on local clinical practices, and on what kinds of patients physicians could expect to treat in the Suzhou region.

Both *A Stick to Awaken Physicians* and the *Medical Cases of Three Masters* relied on regionalism to attract readers. The former stressed the local origin of the essays on Warm and Damp-Heat diseases, and the latter emphasized the origin of the cases in Suzhou. Geography did not completely trump genealogy, however, since the editors of both compilations spoke for the branch-line genealogy of the "modernists." They

challenged the assertion of the “ancients” that Zhang Ji, the high ancestor of their main-line genealogy, was the only physician worthy of the title sage.

First Anthologist of Warm Diseases

In 1852, the prolific Hangzhou physician Wang Shixiong drafted the third major synthesis of Warm disease writings. He relied on a metaphor often used in the commentary tradition when he called his work the *Warp and Weft of Warm and Hot Disorders* (*Wen re jingwei*, pref. 1852). As in weaving cloth, canons formed the warp (*jing* 經) like the vertical threads on a loom, and commentaries were the weft (*wei* 緯) like the horizontal threads woven into the cloth.[32] Wang portrayed his role as combining the canonical writings on Warm and Hot diseases in the *Inner Canon* and *Cold Damage Treatise* as warp, and writings by Ye Gui, Xue Xue, and others as commentarial weft. Through this and other strategies he reinforced claims for the parity of Warm diseases with Cold Damage, and for the authority of recent medical innovators associated with *wenbing*.

In the emerging *wenbing* current of learning, Wang Shixiong occupied a respected place in the developing genealogy. He was the descendent of four generations of Hangzhou practitioners who had found the writings of Wu Youxing valuable for their clinical understanding and linked Warm diseases with epidemics. Wang’s medical writings drew upon and reprinted the observations of these forebears on the causes of epidemic outbreaks and methods for curing and preventing them. He found in the *wenbing* authorities of the preceding 150 years a foundation for the doctrinal synthesis in his *Warp and Weft*.

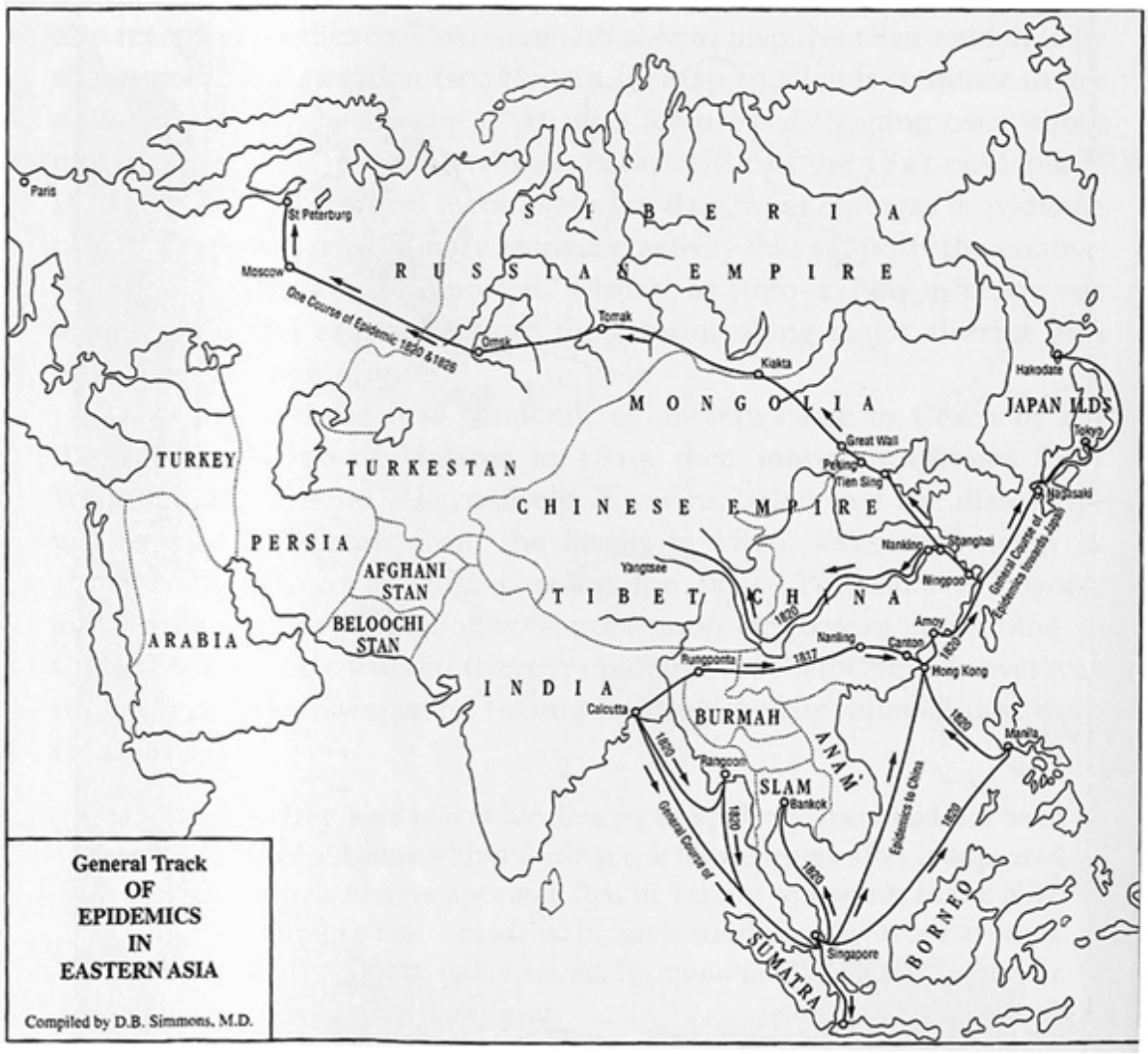
Wang lived through the middle of the nineteenth century, when the Western imperial powers were using wars to establish ports along the coast, and the Taiping rebellion of 1851–64 was producing battles and migrations, with their attendant miserie s. Amidst these upheavals, disease was on the move; epidemiologists today think that cholera first afflicted coastal China either in 1817 or 1819, recurred several times before 1868 (the year Wang died), and in some places became endemic. Wang’s medical career, like that of Wu Youxing, coincided with health crises due to pathogens from the frontiers of empire and to war and famine. For the nineteenth century, however, the surviving records are much richer than for the seventeenth. They fill in the epidemiological and social contexts for Wang’s response to

epidemics just before Western missionary medicine and hospitals began, with military backing, to spread across China.

Wang Shixiong's medical thought connects *wenbing* to early-twentieth-century developments in public health, contagionism, and biomedicine. The emerging *wenbing* doctrines created in Qing genealogies provided him with resources for understanding what was happening, and tactics for responding to the new medical crises.

The Cholera Pandemics

Although the year cholera entered China is disputed, there is no disagreement that from 1820 to 1822 China was dramatically hit by the first pandemic (1816–26) along its coastlines from the far south to the far north, and that it traveled inland along both the Yangzi and Yellow Rivers from 1820 to 1822.[33] This first pandemic began in Bengal, spread throughout India, and reached as far as Russia's Caspian Sea, Thailand, Indonesia, the Philippines, Japan, and China before receding (see Map 7.1).[34] The well-established junk trade between China and India carried it. The British brought it on vessels plying their opium and other trade in Canton.[35]



Map 7.1 Map of the "General Track of Epidemics in Eastern Asia."
From Duane B. Simmons, "Cholera Epidemics in Japan," *Customs Gazette, Medical Reports*, Special Series No. 2, 1879, p. vii.

Cholera is, in modern terms, an infectious gastroenteritis caused by the bacterium *Vibrio cholerae*. Transmission occurs through ingestion of food or drinking water, or contact with contaminated flies. Contact with infected persons or even carriers can cause the disease. It is one of the most rapidly fatal illnesses. The bacterium acts on the epithelial lining of the small intestine, resulting in exhaustive diarrhea. A common pattern is: 4–12 hours from initial liquid stool to shock and, without treatment or rehydration therapy, death between 18 hours and a few days later from circulatory

failure, or acute acidosis with renal failure.[36] Along with plague, cholera was the most dramatic and destructive disease of the nineteenth century.[37]

The Wang Family of Physicians

Wang Shixiong witnessed China's encounter with the second pandemic of cholera (1829–51) in 1837 when he lived in Hangzhou. Inspired by Wu Youxing and his followers, he wrote the first Chinese monograph on it in the same year. He was the fourth and only surviving son of a family of hereditary doctors in Hangzhou. Some time in the late Qianlong period (r. 1736–96), his great-grandfather Wang Xuequan 王學權 (1728–1810) moved to Hangzhou, supporting his family as a physician. There he drafted *Random Jottings on Medical Learning* (*Yixue suibi* 醫學隨筆, pref. 1808). In 1855, Wang Shixiong used the manuscript, never published separately, as the foundation for *Random Jottings of the Chongqing Hall* (*Chongqing tang suibi* 重慶堂隨筆), which added notes by the next three generations of the Wang family. His grandfather Wang Guoxiang 王國祥 (1748–1812) and father Wang Sheng 王升 (1773–1821) appear to have worked as sub-official clerks in the county's salt bureau as well as practicing medicine. From a young age, Wang Shixiong wanted to study medicine, but his father died when he was just 14.[38] Since his family was poor, a friend of his father's helped him get a sub-official position in another salt bureau in Wuzhou (modern Jinhua), near Hangzhou. According to his own account, for the next nine years he worked there by day and assiduously studied medicine by night. In 1824, when he was just 17, he treated his first patient. He recalled later that, at first, he was not taken seriously because of his youth, but the patient's family accepted his reasoning and put the patient in his care. He ended up with a cure.[39] When he married five years later in 1829, he moved to Hangzhou where, judging from his medical cases, he supported himself as a physician.[40]

In the autumn of 1837, he recorded his first encounters in Hangzhou with an epidemic of "sudden turmoil with twisting of the sinews" (*huoluan zhuanjin* 霍亂轉筋).[41] The following summer, he encountered similar cases and published a monograph the next year.[42] His title, *Treatise on Sudden Turmoil* (*Huoluan lun* 霍亂論), borrowed the classical term "sudden [intestinal] turmoil" (*huoluan* 霍亂), which in the *Inner Canon* and the *Cold*

Damage Treatise referred to distinctive clinical cases characterized by their sudden onset and simultaneous vomiting and exhaustive diarrhea. These are symptoms of biomedical cholera. The Chinese concept of "sudden turmoil," however, also included modern acute gastroenteritis, food poisoning, and other gastrointestinal disorders distinct from modern cholera.[43] There was also a dry variety (*gan huoluan* 乾霍亂) without vomiting or diarrhea.[44] Although Wang Shixiong's *Treatise on Sudden Turmoil* covered a wide range of gastrointestinal illnesses, his descriptions suggest that most of the cases he observed during the pandemic would be diagnosed today as cholera; e.g. "The rapidity of its damage to people can be understood by the many cases of people of plump constitutions I have seen who were reduced to skin and bones within half a day of the onset of the illness."[45]

In cases related to the pandemic, Wang was in large part dealing with biomedical cholera. He even discussed the related problem of polluted water and the necessity of securing clean drinking water to control the spread of the disease – a matter that many eminent European MDs at the time stoutly denied. Although he could not have known then of the pandemic's origin in India, or its global circulation through ocean trade routes since 1820, his medical practice obviously intersected with it.[46] In 1863, based on his experience of the third pandemic in Shanghai, he updated and republished his treatise. These encounters with two cholera pandemics marked the start and end of his publishing career.[47]

In the twenty-five years between his two versions of the *Treatise on Sudden Turmoil*, he not only wrote a new synthesis on *wenbing*, he was one of the most prolific mid-century publishers[48] of medical books, by himself and others.[49] Judging from his published medical case records, he was deeply involved in practice from 1839 to 1849. Starting in 1850, as the Taiping rebellion gained momentum throughout South and Central China, he printed the works of a Ming physician from Hangzhou and a gynecological treatise.[50] The following year he wrote prefaces for other physicians, published a third volume of his case records, added commentary to a new edition of the *Supplement to Classified Case Records by Famous Physicians*, and compiled a collection of medical anecdotes. In 1852, he edited his *Random Jottings from the Chongqing Hall* and started drafting the *Warp and Weft*, both of which he saw as related projects.

In late 1855, the Taiping rebellion reached Hangzhou and forced him to move to a village near Haining, in Hangzhou prefecture, where he wrote and published several more books.[51] In 1862, he moved to Shanghai where he lived until his death in 1868. It was during the turbulent Taiping rebellion that he reached the peak of his publishing output.

The Genealogy of the Warp and Weft

His great-grandfather Wang Xuequan stood with Warm disease advocates during the eighteenth-century Cold Damage debate, and his jottings often referred to the new views of Warm diseases and epidemics. The great-grandson's *Warp and Weft* thus had strong filiations with his ancestor's jottings. Wang's own *Random Jottings* expressed a deep sense of family tradition. The front page listed the great-grandfather as author, grandfather as commentator, grandson as collator, and great-grandson Wang Shixiong as publisher.[52] The one to three passages of commentary appended to each jotting followed the same order. Their jottings on epidemics illustrate the connections between the family's *Random Jottings* and Wang Shixiong's *Warp and Weft*.[53] Since all three of the later physicians weighed in on most of the patriarch's jottings, their commentaries shed the light of four generations on the relationship between Warm diseases and epidemics.

Wang Xuequan, for instance, had clearly read Wu Youxing on anomalous *qi*, and even knew about Ji Yun, the *Four Treasuries* editor who had noted his impressions of the 1793 epidemic in the capital. Wang Xuequan did not share Ji's faith that phase energetics could predict epidemics, however. Instead, like Wu Youxing, he looked for poisons in the environment:

> [For] Warm diseases, Hot diseases, Damp-Hot diseases, there are no proven treatments, so they easily result in death, spread without cease, and turn into epidemic pestilence. This is just like not having a method to control thieves so that a gang of bandits will increase until they turn into a roving mob. When Hot *qi*, Disease *qi*, and Corpse *qi* interact, they turn into the toxic pestilential *qi* of epidemics. Surely, in Nature there is no other type of anomalous *qi*.[54]

Wang Xuequan was obviously an intellectual heir of Wu Youxing. But as a resident of urban Hangzhou, his observations differed significantly from

those of Wu Youxing's rural world along the shore of Lake Tai. In addition to the societal ills – famines and wars – associated with epidemics, Wang Xuequan drew new attention to dense urban populations and increased heat in the atmosphere:

> Therefore the spreading of epidemics must occur in cities where human habitation is dense. In remote mountainous areas where the land is spread out and people few, there have never been serious epidemics. If there were a different type of anomalous (*buzheng* 不正) *qi*, how would it choose where to spread? It flourishes in the wake of war and famine, amidst the death that war and famine cause, and where human habitation is dense.[55]

This passage is one of the earliest Chinese assertions of an urban-rural split in the spread of epidemics.[56] Wang Xuequan then quoted the following couplet by the eminent official Ji Yun: "Warm clouds steaming up from the dense habitations of a myriad of families, melt completely the ancient ice of the celestial mountains." Ji's poetic lines on the warming effect of an expanding population inspired the patriarch Wang to wonder about the mystery of smallpox in China: "Why did it not exist in antiquity and begin only in the Han dynasty, but now everyone gets it?" He looked for an answer in Ji's rising heat of human population: "[Because] people become more numerous daily, the Earth's *qi* daily gets hotter. That is why the ancients emphasized Cold Damage and our generation leans toward Warm and Hot [diseases]."[57]

His son Wang Guoxiang wrote a brief commentary on this passage that referred back to Wu Youxing with criticism:

> Even though Warm diseases can turn into epidemic diseases, there is a difference between treating Warm [diseases] and treating epidemics. Wu Youxing treated [the two] as if they were the same, so he could not avoid a certain crudity in his therapy. He also did not realise that Summer-Heat and Hot *qi* can also turn into epidemic diseases.[58]

His grandson Wang Sheng then mentioned precautions people could take in the face of an epidemic. These precautions about behavior and sanitation were new and not focused on in earlier *wenbing* writings. People should

wear clean clothes, eat bland food and drink, have a spacious bedroom, burn as few lamps as possible, and allow fresh air to circulate. Some of these actions would disperse the epidemic *qi*, but he warned: “On the other hand, if the Hot *qi* and Turbid *qi* come together into epidemic *qi* and ‘set up their banner’ [i.e. as if declaring war], then it is best for patients to consult physicians.”[59]

As great-grandson, Wang Shixiong concluded this series of commentaries with a polemic on treatments for epidemics. He endorsed his great-grandfather’s summary of appropriate therapies, and opposed the “warming and supplementing” (*wenbu* 溫補) therapies[60] still administered by physicians and also self-prescribed by laymen. He recalled visiting Wenzhou in far southeastern Zhejiang at a time when Warm syndromes were prevalent. Many of the people there treated themselves by consuming sweet potatoes, a nourishing food that supplemented *qi* in the spleen, as warming and supplementing drugs did. It did not therefore expel the Warm *qi* from which they suffered. People did not die from the anomalous *qi* of epidemics, he argued, but from the anomalous remedies for them. Instead of calling them “seasonal epidemics” (*shi yi* 時疫), he sardonically proposed that they be called “medicinal epidemics” (*yao yi* 藥疫).[61]

Wang Shixiong’s genealogy went back to Wu Youxing’s challenge to configurationism, and primed Wang to respond to the epidemics of his own era. He found within his ancestor’s jottings on Warm diseases and epidemics a vehicle through which he could intervene. The Wang family’s medical heritage found a central place in the textual genealogy his preface to the *Warp and Weft* succinctly presented. After summarizing the contributions of the *Inner Canon*, *Canon of Problems*, and *Cold Damage Treatise* on externally contracted diseases, Wang Shixiong concluded that although the canons provided names for all of the diseases, they had not fully articulated the principles for treating them. Later generations were more confused than not, for example, confusing Warm diseases and Cold Damage. His family’s medical heritage corrected these problems:

> In my great-grandfather’s *Random Jottings*, the first part opened up discussion (*pou lun* 剖論). Now in my ignorance I took the liberty of using the writings of the Yellow Emperor, Qibo, and of Zhang Ji [i.e. the *Inner Canon* and the *Cold Damage Treatise*] as the warp, and the arguments of Ye Gui, Xue Xue, and others as the weft.[62]

This genealogy prompted Wang Shixiong to align the major writers on Warm diseases and epidemics up to his era (including his forebears) on the same level as the classical canons. Just as Wu Tang previously related his personal biography to his unprecedented Warm-disease anthology, Wang Shixiong wove family genealogy into his new synthesis.

The Geographic Imagination in the Warp and Weft

The geographic imagination also played an essential role in the *Warp and Weft*. Wang Shixiong expressed his universalistic orientation by revising the localist tropes that Zhang Nan had affirmed. First, he challenged both the north–south and northwest–southeast dualisms that had been part of the discourse on Warm diseases. Then he temporally and spatially expanded the medical dimensions of Heat.

His commentary on Ye Gui's *wenbing* writings revisited the issue of north– south differences in constitutions, but also the role that differences in patients played in the current medical debates. The first argument centered on the use of Ye's light, bland formulas to treat patients in Suzhou, even when they suffered from Hot disorders, because of their weak constitutions: "Some argued that Wu Youxing should be followed, others thought that Ye's methods are like child's play and cannot be used, but both [views] were like 'sitting in a well theorizing on heaven.'" To this concluding point on narrow perspectives in medicine, Wang Shixiong succinctly reminded readers that, like Ye Gui, "Wu Youxing was also from Suzhou."[63] This debate over the local value of Wu's drastic purgatives or Ye's mild formulas suggests that physicians were not debating abstract points, but had to consider their individual patients' constitutions, compliance, and self-perceptions as southerners.

The disciple of Ye Gui who edited his *Compass to Clinical Practice*, Hua Xiuyun, argued that mild treatments were only appropriate for the delicate constitutions of southerners, and were unsuitable for the strong constitutions of northerners. This line of reasoning can be read as both a means to attract local readers and an expression of how potential patients may have understood themselves as weak southerners.

Wang Shixiong reminded readers that one found strong constitutions in the southeast as well as weaker constitutions in the northwest.[64] What physicians needed to pay more attention to was the type of disease and the

formulas best for treating it.[65] Wang similarly responded to statements that relied on the northwest–southeast dichotomy. To the claim that "more diseases were due to Wind and Cold *qi* in the northwest, and more to Damp and Hot *qi* in the southeast," he tersely replied, "this is not always the case."[66] In sum, Wang's stance toward the geographic imagination of his time followed the universalist orientation of the three Ming physicians, Wang Lun, Xue Ji, and Li Zhongzi.[67] By disassociating his views from the localism that two decades earlier had come out of Suzhou in *A Stick to Awaken Physicians* and *Medical Cases of Three Masters*, he strengthened his anthology as a resource for all physicians.

To assert the universal relevance of Warm diseases, he also expanded the spatio-temporal reach of their identity. Temporally, Warm diseases had become more common since antiquity because of a growing human population, polluted urban environments, and accumulated heat;[68] spatially, they not only displaced Cold Damage in the south but also became dominant in the north.[69] The balance of yin-yang had tipped from Cold to Hot throughout the empire. Not just regions, but the entire world had become skewed toward Liu Wansu's Fire, Zhu Zhenheng's Yang, and Wu Youxing's pestilential epidemic *qi*.

For example, Wang explained that epidemics occurred when people encountered the combination of three kinds of environmental poisons: a mixture of disease, corpse, and impure *qi*, various kinds of filth, and their convergence in steam. Wang echoed Wu Youxing's emphasis on anomalous *qi*, poisons, and local environments: "People in the midst of this [confluence of polluting *qi*] cannot avoid it, so they all get sick. That is why the cases of epidemic diseases are the same."[70] Even the fetal toxin of smallpox erupted in children when this pestilential epidemic *qi* first came in contact with them.[71]

Wang curtly refuted medical regionalism, expanded the definition of *wenbing* in time and space, and analyzed *wenbing* writings in light of his cosmopolitan experience. He was a modernist in putting on an equal basis the genealogical status of the Han medical authorities and Qing physicians (including his family). Nonetheless, as a universalist he did not reject the Cold Damage foundation. Wang concluded his section on "Epidemics in the *Cold Damage Treatise*" by folding innovation on Warm diseases back into the scope of the *Cold Damage Treatise*:

> Liu Wansu wrote on Warm *qi*, Zhang Heteng wrote on Summer-Heat, and Wu Youxing wrote on epidemics. Although their expositions appeared to open up new territory, they all remained within the scope (*fanwei* 範圍) of Zhang Ji's work.[72]

Nonetheless, Wang never embraced the idea that Zhang Ji was the ancestor from whom all others descended. His metaphor here was spatial rather than temporal. Innovation charted out "new territory" within a "scope" established in antiquity. Read in light of the genealogy in his preface, the scope to which he referred was the nosology of the Han medical canons. This work continued as diagnostic methods and therapeutic interventions improved.[73]

Medical Encounters: Sudden Turmoil and Warm Diseases

Wang Shixiong's historical distinction between the naming of diseases in antiquity and the development of better therapeutic methods thereafter explains the changes he made to his final treatise. When in 1862 Wang encountered a cholera epidemic raging in Shanghai, he related the massive urban changes over twenty years in Shanghai to these epidemics. He even cited arguments that the disease category, "granular-sand rash" (*sha* 痧)[74] epidemic, was a variety of *huoluan* that originated in the Qing period, moved south from the north, and was now being called "Manchurian disease" (*Manzhou bing* 滿州病) and "Foreign granular-sand rashes" (*fansha* 番莎).[75] Despite this awareness of causes, he chose to use the classical disease concept *huoluan* "sudden turmoil." He made this choice because he saw it as an ancient disease that had become newly virulent due to a confluence of local conditions. This was consistent with his position that all diseases had been named in antiquity and some metamorphosed over time.[76] His 1862 revision of the original *Treatise on Sudden Turmoil* (1838) reflected his experience with the third cholera pandemic. It integrated new medical case records and more clearly explained the combined roles of polluted water, a dense population, and the chaos of the Taiping rebellion.

His stress on the combination of factors that caused the cholera epidemics was most obvious when he sketched the transformation of Shanghai over the past twenty years from a coastal village to a metropolis. Nearly destroyed during the military conflicts in the 1640s, it had reclaimed

marshlands, steadily increased commerce with foreign countries, established more trade contacts with neighboring provinces, and grown into a large city.

There was a negative side to this dramatic transformation. “Human presence becomes increasingly obvious, the Earth’s *qi* becomes much hotter, houses crowd together, the filthy *qi* becomes predominant, the canals are filled with dirt and pollution, and all of the water becomes unbearably disgusting and filthy.”[77]

Wang Shixiong recognized that more than one disease could occur during the same epidemic. When visiting Shanghai in the summer of 1862 he recalled seeing epidemic diseases, cholera, something called “stench poison” (*choudu* 臭毒), and “foreigner’s granular-sand rash.”[78] He also thought that, like cholera, “poisonous pestilential *qi*” caused stench poison and the rash, which originated in the city’s pollution (lit. filthy pathogens, *huixie* 穢邪).[79] Wang Shixiong’s eleven essays on methods of prevention and treatment are illuminating in light of later public health measures to control epidemics.[80] He admonished readers to make sure they drank pure water, explained how to obtain fresh water from wells and rain, and recommended substances that one could add to purify drinking water.[81]

Nevertheless, even Wang Shixiong’s contemporary John Snow (1813–58), who famously argued that something bad in the water caused cholera, even using a microscope, was unable to identify the contaminant.[82] Despite his concern for hygiene and water quality, Wang did not claim that contaminated water was the exclusive cause of the Shanghai epidemics.

Referring to his great-grandfather, he wrote that the cause of the diseases in Shanghai was indeed that “Earth *qi* daily got hotter, filthy *qi* daily got stronger, and then, in addition, epidemic *qi* and corpse *qi* combined with whatever heteropathy was dormant within people.”[83] He asked why the disease broke out in the spring when classically it was associated with summer and autumn. He answered that when the patient did not come down with the Warm disease during the spring, the dormant pathogen festered within the body, and then in the summer transformed into the even more serious “sudden turmoil.”[84] Thus *huoluan* was an extreme variant of *wenbing*. Although similar to the seasonal model of antiquity against which Wu Youxing argued, Wang’s model is a synthesis of traditional configurationism and recent knowledge of various sources of poison. Multiple factors caused the hot form of *huoluan*. The dormant poison that

accumulated with increasing heat until it forced the body to expel it was only one of them.

Wang maintained a multicausal model, based on multiple possible poisons. This view was more comparable to Wu Youxing's multiple possible pestilential *qi* than to his concept of a single *qi* for each type of epidemic disease.[85] Historical hindsight suggests that Wang's model was closer to multicausal than to monocausal etiology, to a theory of infectious rather than of contagious diseases. His *Revised Treatise on Sudden Turmoil* was, in other words, an extension of his anthology on Warm diseases rather than a break with it. In the second preface to the *Revised Treatise on Sudden Turmoil*, his colleague Chen Heng 陳亨 (fl. 1863) borrowed from the previous century's view of febrile epidemics when he called the book the first monograph on the subject, one that offered proven methods when previously there had been none.[86] Similarly, Wang's own preface to the *Warp and Weft* emphasized that although the canons named all known diseases, their discussions of therapy were inadequate.[87] Both his anthology on Warm and Hot diseases and his monograph on Sudden Turmoil were informed by this conviction that naming was otiose; a physician's contribution lay in the clinical experience that qualified him to refine treatments. That is why in the *Revised Treatise on Sudden Turmoil* he included case records of his predecessors and himself. Both treatises also reflect a "modernist" approach to medical innovation. Zhang Ji was not the apical ancestor in either sense, but an innovator alongside Ye Gui, Xue Xue, and Wang Shixiong. Finally, although the geographic imagination informed both of Wang's treatises, in neither did he use the social form of medical regionalism to appeal to local readers. Instead, he presented his medical writings, and even his case records, as valid for all of China.

Southern Diseases and Suzhou networks

In Suzhou, an entirely different compilation of the same medical writings by Ye and Xue sought legitimacy in the opposite direction by emphasizing southern local ties and regional medicine. In 1878, ten years after Wang Shixiong's death, another physician, Song Zhaoqi, selected three previously published eighteenth-century texts by Ye Gui, Xue Xue, and Xue Chengji for an anthology that reasserted the southern regional identity of Warm disease. His book featured a reprint of Ye Gui's "On Treatments for Warm

Syndromes" (*Wenzheng lunzhi*); Xue Xue's "Systematic Determination of Damp and Hot [Disorders]" (*Shi re tiaobian*); and the "The Ancient Style of [Treating] Cold Damage" (*Shanghan gufeng* 傷寒古風) by Xue Chengji 薛承基 (Xue Xue's great-great grandson). To these he added nine short essays of his own.[88] He chose the three authors because he "knew their methods were the best suited for the diseases of Jiangnan people." The title "Discriminate Examination of Southern Diseases" captured Song's conviction that "these diseases are different from northern diseases."[89] This descendent of eighteenth-century Suzhou physicians no doubt also published these texts to preserve a family current of learning in medicine. He was featuring two of his own affinal kinsmen (Xue Chengji, his father-in-law, and Xue Xue, the latter's great-great-grandfather).[90]

Five of the six prefaces to the 1883 third edition of *Southern Diseases* came from earlier versions of the works reprinted or from earlier editions of the book. They were by Suzhou personages, living and dead, who advertised the local social hierarchy (Table 7.2).

Table 7.2 Prefaces to the *Discriminate Examination of Southern Diseases, 1883*

Number	*Date*	*Name*	*Relationship*	*Status*
1	1883	Gu Wenbin 顧文彬	Member of local elite	Official
2	1879	Xu Kang 徐康	Song's acquaintance	Painter
3	1879	Bi Changqing 畢長慶	Song's patient	Local elite
4	1878	Song Zhaoqi	Editor of book	Physician
5	1734	Xue Xue	Author of one of the books	Poet, Physician
6	1829	Li Qingjun 李清俊	Publisher of Xue Xue's book	Physician

The six took as their themes north–south differences that went back to the fourteenth century. Li Qingjun spoke of the prevalence of Damp-Heat or Damp-Warm disorders associated with the terrestrial *qi* of the Yangzi Delta region. Song Zhaoqi reiterated the distinction between robust northerners subject to Cold Damage, and delicate southerners whose frail constitutions did not respond to Cold Damage remedies. Bi Changqing spoke of the

“division between the local *qi* of the north and south, and the difference between hardy and frail human constitutions.”[91]

Gu Wenbin, a provincial official who lent his patronage to the third edition, crafted the most comprehensive analysis with respect to conceptions of space, disease, bodies, and local medicine.[92] His distinctions between northern and southern regions went beyond topographical generalities and corporeal differences to include language, cultural preferences, and tastes. All such differences, he argued, could be attributed to variations in local *qi*. This theory of resonant *qi* supported his argument for indigenous knowledge suited to local conditions. Citing an ancient Confucian classic on artisanship as evidence, he wrote:

> The “Artificer’s Record”[93] said: “[When] despite beautiful materials and ingenious skill an artifact is not excellent, it was made in the wrong season or did not partake of the local *qi* (*diqi* 地氣). The [thin-skinned] tangerine [of the south], when it is planted across the Huai [river], becomes the [thick-skinned] orange. The mynah bird does not cross the river Ji. The He [i.e. a badger-like animal] does not cross the river Wen.” [These examples] clarify the meaning [of the phrase]. “Away from its native place a thing is not excellent.” Again and again [the “Artificer’s Record”] says “this is a matter of the local *qi*.” Too true! If one does not [make one’s products] partake of the local *qi*, one cannot become a fine artisan. If one does not investigate the local *qi*, how can one become a fine physician?[94]

With the aid of further classical allusions, Gu suggested that such regional differences had not changed notably since the Warring States:

> The languages [of the people in] the states of Qi and Chu are not mutually comprehensible; their preferences differ accordingly. The languages [of the people of] Yan [north of Qi] and Yue [south of Chu] are [also] mutually incomprehensible; their preferences differ accordingly. What differs is the Earth, that is, [its] *qi*.[95]

Gu’s genealogy of medicine was the work of a high official, not a doctor. He did not refer to any medical classics or medical masters. With flattery, he implied that the doctrines of these Suzhou physicians resonated with

cultural themes from antiquity. He was a “modernist,” if not an obvious one, in this assessment:

> During the Kangxi period of the current dynasty, many famous physicians emerged from Suzhou. Ye Gui and Xue Xue were the most outstanding. Ye wrote the “On the treatment of Warm Syndromes.” Xue wrote the “Systematic Differentiation of Damp-Warm [Disorders].” Both revealed that for the diseases of southerners, using Cold Damage methods was inappropriate.[96]

Song’s former patient Bi Changqing, stressing medical rather than philosophical classicism, linked Ye Gui and the two Xues to the Han canons, and expressed some dissatisfaction with the textual record of medicine in later centuries. These two literati, Gu and Bi, proposed direct genealogical connections between the Suzhou doctors and classical antiquity. They imagined a single orthodox tradition stripped of significant stages between founding canon and present practitioners.

By contrast, the wealthy painter Xu Kang was a modernist partisan of Ye Gui, praising him and the two Xues as founders of their own current of learning:

> During the Kangxi reign, Ye Gui of Suzhou had the greatest medical reputation of his era. At the same time, Xue Xue was his successor. He was followed by the filial Xue Chengji. They are called the three legs of the tripod [i.e. the foundation of their current].[97]

In Xu’s account, Song Zhaoqi was the successor of the Suzhou current that originated with Ye Gui. Xu was so impressed with a copy of *Southern Diseases* that he had received that he paid for publication of the second edition. Not all were so impressed with its southern boosterism, however, or convinced by its regionalist arguments. Mo Wenquan 莫文泉 (fl. 1856–79) published an essay in his 1879 *Words on Studying the Canon* (*Yan jing yan* 研 經言) arguing that “Zhang Ji’s methods were not northern learning.” The author of an earlier 1871 preface for the same book similarly argued against the belief that there was no Cold Damage in the south.[98]

These prefaces all celebrated Suzhou physicians associated with the Warm-disease doctrine. Their implicit genealogy was based on lineage and

locality. *Southern Diseases* reaffirmed the regional specificity of climates and constitutions. Its vision of *wenbing* reflected a new Jiangnan identity that was expressing itself more forcefully as the Manchu order disintegrated. Local identity was acquiring new meanings, redolent of the north–south divisions of the Mongol era, but complicated by the new Western presence along the seacoast. Even as Suzhou physicians rhetorically tied their professions to this local world of native place, other groups of doctors were migrating to the dynamic growing treaty port of Shanghai, where native-place identity provided solidarity within a setting disruptive of old patterns of life.[99] As Suzhou physicians focused on concepts of human variation based on the interaction of geographically determined bodies, climates and cultures, they were increasingly comparing Chinese bodies with those of foreigners.[100]

Convergences and Divergences

In the latter half of the nineteenth century, Chinese and Western physicians entertained similar ideas about the relationship between geographic location and illness. A New Orleans physician in the mid-1850s, for example, remarked: "As surely as there is a distinction between foreign and American medicine, so surely is there a distinction between Northern and Southern medicine."[101] He used the distinctions between foreign and American, northern and southern medicine, to argue for regional medical education. The southern elite group he belonged to opposed sending their sons to study medicine in Berlin, Paris, London, Edinburgh, Philadelphia, or Boston (where most advances in clinical medicine originated), from where they would return home with no ability to treat the diseases and constitutions unique to the American south.[102] His conception of the natural world reinforced the boundaries of his group, which advocated medical education at home and rejected the idea that the most technically advanced training was universally valid.[103]

On the other side of the world in treaty-port China, just two decades later, a scholar recorded a conception he shared with some Chinese physicians. The Zhejiang native, Ge Yuanxu 葛元煦 (fl. 1876), well known for his reviews of restaurants, also wrote on medicine in the metropolis. In his *Miscellaneous Notes on Travel in Shanghai* (*Huyou zaji* 滬遊雜記, 1876),

Ge projected the north–south corporeal division of post-Song classical medicine onto the Chinese and foreign bodies that were interacting in bustling, cosmopolitan Shanghai:

> Foreign medicines are effective for treating foreigners, but not for Chinese, because of the differences in their constitutions. There is an abundance of books by famous Chinese physicians on therapeutic doctrines. Their gist is that medicines for northerners cannot be given to southerners. This is because of differences in the robustness of their *qi* and constitutions. The constitutions of foreigners are markedly different; without strong medicines one cannot cure their illnesses. Some Chinese use Western methods to treat external disorders; for internal illnesses, they do not dare try them.[104]

In the 1870s China, the British official Robert Hart (1835–1911), then the Inspector General of the Chinese Imperial Maritime Customs Service,[105] decided to take advantage of the newly expanded infrastructure of the Customs Service as a clearing house "to procure information with regard to disease amongst foreigners and natives in China." He assigned Dr. Robert Alexander Jamieson of Shanghai to be in charge of readying the reports for publication.[106]

Through the editorship of Jamieson and these medical reports, Western disease concepts based on the nosology of English physician and statistician William Farr (1807–83) became standard for studying China's medical geography and epidemics.[107] This was the decision of Jamieson, who had no patience for Chinese concepts of disease. Twice, in his *Reports* of 1872, he juxtaposed mortality tables based on Chinese and on Western nosology in order to denigrate the former on the ground that "that the ignorance of Chinese practitioners is only equaled by their conceit and that their nosology is only slightly more absurd than their therapeutics."[108] Translation of disease concepts had long been problematic. An 1826 issue of the *The Lancet* recorded the Scottish missionary, Robert Morrison (1782–1834), famous for translating the bible into Chinese, on how hard it was "[i]n the case of men too remotely situated, and of such a different speech and discordant manners and habits of thinking as Englishmen and Chinese …to understand each other on physical and medical facts and theories."[109] In the 1850s, the greatest challenge for the British physician Benjamin

Hobson (1816–73), who was in charge of translating Western medical books into Chinese for the London Missionary Society, was to create a new technical vocabulary.[110] This was still an issue in 1909. *The Lancet* reported on the difficulties of the new *An English-Chinese Lexicon of Medical Terms* to establish a "uniform terminological standard." Yet they noted efforts were afoot to establish an official Chinese terminology for Western medicine based on Japanese precedents.[111] Still, in 1916, a group of eighteen Chinese doctors, officials and educators had great difficulty agreeing on standardized Chinese translations of Western medical concepts.[112]

But in the 1870s, a few foreign physicians still saw similarities in viewpoints and acknowledged the competence of Chinese doctors. For example, the British physician Dr. Robert Meadows, stationed in the treaty port Ningpo, submitted to the Customs Service a report on local conditions and health. He summarized Chinese conceptions of north–south climatic and corporealdifferences not as antiquated curiosities but rather as facts that Western physicians in China should know:

> With regard to the effect of climate and food on the physique and character of men, the views of the Chinese are in the main as follows: Southern men are thin, spare, delicate, small-boned, white-skinned, with blood of inferior quality; subject to all diseases of an asthenic type. The lands of Southern China are watery, producing chiefly rank vegetation, while fish abounds and forms a staple article of food; with the exception of rice, their diet is comparatively innutritious. Rains are frequent, saturating the earth, rendering vegetables too succulent, so that they fail to supply their eaters with substantial nourishment, hence they become enervated; their old men contracting fevers, and not having sufficient vital power to defy them, die in consequence; their young men fail in the struggle with inward heats, consumptions, and haemorrhages. Northern men are, on the contrary, tall and strong, able-bodied, with red thick skin, and large strong bones, having rich crimson blood. Their lands producing cereals and hardy woods, their food is grain and the flesh of wild beasts and they drink wine; this gives tone and vigour to their systems. Cold winds blowing, and snow and ice abounding, make them bold and hardy. All their diseases are, consequently, of an acute inflammatory asthenic type. The same general principles will apply to foreigners under similar conditions.[113]

The editor concluded this report by adding that "Dr. Meadows considers the general conditions of health in China to be dependent to a great extent upon seasons, climate, local surroundings, and drainage. He is of opinion that, looking to the Chinese themselves, we may deduce from their experiences and opinions, truths which, without their testimony, we might be long and bitterly learning."[114]

During the last decades of the nineteenth century, Chinese and Western physicians still shared greater similitude than difference on the factors relating climates, local produce, constitutions, and disease occurrence.

Another important contributor to the *Medical Reports* in the 1870s was the Scotsman John Dudgeon (1837–1901), who during the last four decades of the nineteenth century lived in Beijing and Tianjin. A year after receiving his MD degree in 1862, he went to China as a medical officer to the Chinese Customs, and as the consulting surgeon to the British Legation in Beijing.[115] In his first *Medical Report* in 1872, he remarked on the filthy streets and the impossibility of gathering accurate vital statistics for Beijing.[116] He approved, however, of Chinese habits of boiling water, avoiding drafts, wearing of layered clothing to respond to changes in temperature, moderate lifestyle, and overall temperance. Europeans were comparatively intemperate, overly stimulated, and underdressed; wealthier perhaps, but no more healthy. As Ruth Rogaski has astutely argued, Dudgeon could praise the healthy habits of Chinese while condemning their "lack of sanitary science" because his model of the multiple origins of disease included cold air, intemperance, and miasmas as well as polluted water (typhoid fever), modernity, and even microorganisms.[117] In Dudgeon's *The Diseases of China*, read in Glasgow in February 1877, he set forth an account, based on his experience in Beijing, of salubrious northern versus deleterious southern climates. It even slightly resembled Kangxi's great northern–southern divide of 150 years earlier.

> The Himalaya mountains may be said to divide Asia into north and south portions totally different from each other. China and North-Eastern Asia generally resemble more the northern part, and from its elevated position, bordering on snowy mountains, and the regions of intense cold, China has a pretty rigorous climate, especially in the northern half. The monsoons of the tropics are felt but slightly, except in the extreme South. On the whole the climate may be said to be

> salubrious, invigorating, and favourable to longevity, without the great rigour of more northern regions and the enervating influences of the more southern.[118]

His ideas about the geographic distribution of disease in China were not based on a disciplined medical geography, but on a European form of geographic imagination. He speculated, for example, on why agues (shaking fits of malaria and other diseases) were dominant in Central and South China but phthisis (various types of tuberculosis) characterized the north: "Where the one prevails the other is either absent or very rare." Agues, Dudgeon wrote, were "prevalent in the center of China along the course of the great river Yangtse, which is, Nile-like, subject to periodical risings and overflowings" and also "very common in the south" but rare in Beijing due to the sandy absorbent soil and damp, marshy ground.[119]

He also suggested a division of abdominal diseases in the south and thoracic ones in the north, reflecting upon the effect of southern heat on immunity from consumption. He similary noted that leprosy, like ague, was more common in central and southern China and "attributed to the exhalations arising from low damp ground." Rheumatism was more common in the north, particularly among the Mongols, because of their practice of sleeping on the ground in tents or on cold *kang*.[120]

Dudgeon summarized differences between Chinese and Western constitutions, in which the former were "anti-phlogistic" (not fiery, impassioned, or suffering from inflammation) and non-phlegmatic. Chinese were this way to the point

> that the order of *phlegmasioe* of Cullen, forming in other places so large a portion of human maladies, might almost be struck out of the nosological catalogue without even an exception in favour of hepatitis, generally considered the peculiar and overwhelming morbid product of the East.[121]

Inflammatory diseases took such a passive form in China that physicians should not even think of bleeding a Chinese. Although "the Mohammedans and Mongols, who live largely upon mutton and meat, generally present more of the inflammatory type, and much more resemble Europeans in their diseases," in China "their diseases are chronic and adynamic."[122]

Dudgeon's conception of disease as a specific entity caused by a particular agent also had parallels among some of his older Chinese contemporaries, like Wang Shixiong, and even earlier contributors to the discourse on Warm diseases and febrile epidemics, such as Wu Youxing. In the opening paragraphs of his 1877 Glasgow lecture, he made the following statement on disease and civilization:

> We are in the habit of speaking of a certain invariableness in the type of disease – like causes producing like effects – that disease retains this type in all forms of civilization, in all climes and all ages. Very few diseases have appeared, very few have disappeared. Some have become graver in certain localities, countries, and civilizations than others, but sporadic cases of any disease assume the same type as the same disease in its epidemic or endemic form.[123]

Dudgeon's views on the invariability of diseases were in line with Jamieson's nosological standard for the *Medical Reports*, for which he wrote in the 1870s, although he had not completely adopted Farr's new nosology in his 1877 book.[124] Although multicausal, they dovetailed with the monocausal and mostly bacteriological model that Jefferys and Maxwell integrated into their *Diseases of China* in 1910. Nevertheless, Jefferys and Maxwell rejected their predecessor's work. Their generation of European authors also dismissed Chinese views of Warm diseases and febrile epidemics, and indeed indigenous medical doctrines in general.

This was still not yet the case in 1881, however, when one of Dudgeon's colleagues reported favorably on Wu's *Treatise on Febrile Epidemics*: "No one can write the medical history of China without reading Dr. Wu on epidemics." He also noted that Wu ascribed them to a specific poison (*liqi* 厲氣), instead of the vicissitudes of the seasons, and also clarified the genesis of epidemics, *wenyi*, from fevers, *wenbing*, which he translated as "abnormal heat disease."[125] This was possibly one of the first times *wenbing* entered foreign writings. The author used the term with some clear comprehension of its original Chinese meaning. This convergence occurred in additional *Medical Reports* when authors included names of other Chinese disease concepts, drugs, or even movement therapy, but only temporarily.[126] It is the next transformation that foreigners wrought on the

nosology, medical geography, and mapping of the diseases of China to which we now turn.

8 Conclusion

New and old Nosologies in Modern China – From Imagining to Mapping the Geography of Diseases in China (and Back Again)

The time has come to look at the health of China from the standpoint of the few Western physicians and the larger – but still negligible – number of Bachelors of Medicine they had trained by the final collapse of the empire in 1911. They had practically no influence within the country, but they were its sole spokespersons to the rest of the world. We will consider the irregular growth of their authority over the course of the century, as well as what became the desperate, but ultimately successful, struggle of indigenous medical practice to survive – inevitably in greatly altered form.

According to the first edition of *Diseases of China, including Formosa and Korea* (1910), in the first decade of the twentieth century not one inhabitant of China, Taiwan, or Korea suffered from yin deficiency, foot *qi*, Cold Damage, or Warm diseases. Millions were dying instead from plague, typhoid fever, cholera, tuberculosis, and malaria, as the book declared they had long done. After the 1880s transformations in bacteriology and the subsequent rise of laboratory medicine, physicians trained in Western medicine all over the world – a small but influential portion of them now outside Europe and America – thought in terms of malaria's plasmodium protozoa, the tuberculosis bacilli, the comma bacilli of cholera, and plague's *pasteurella pestis*.[1]

The Geographic Distribution of *Diseases of China*

Modern biomedical categories of microorganisms based on the new laboratory evidence of causative agents – namely bacteria, protozoal organisms, and metazoal parasites (worms or helminthes) – now explained much of the contemporary Chinese experience with disease and epidemics.[2] Viruses were still little discussed,[3] and the causative agents for such well-known diseases as leprosy, beri-beri, dengue, and typhus remained unidentified. By 1910, researchers agreed on how to use the microscope to confirm diagnoses for most of the known infectious and contagious diseases. Missionary organizations were setting up simple modern laboratories in missionary hospitals across China, with Jefferys and Maxwell's *Diseases of China* encouraging this movement.[4] The outcome eventually changed the understanding of pre-modern Chinese diseases, as scientists related them to specific micro-organisms and redefined them to improve the fit.[5] The concepts of deviant *qi*, pathogenic heat, wind-intrusion, *gu* poisoning, and miasmas, for people trained in modern science, were signs of an inability to cope with the modern world. Jefferys and Maxwell's *Diseases of China* decisively extended the laboratory-based model of germ theory, bacteriology, and parasitology spatially across China[6] and temporally into her pre-laboratory past.[7] They jettisoned Dudgeon's view of disease and the geographic imagination, of which they averred that "the present value is *nil*," for a new geographic distribution of diseases in China based on rudimentary vital statistics, new laboratory evidence, and nearly fifty years of *Medical Reports* from the Imperial Maritime Customs.[8]

They also created ten unprecedented maps of the geographic distribution of plague, cholera, leprosy, beri-beri, malaria, elephantiasis and filariasis, *Schistosomum japonicum*, *Ankylostomum duodenal* and *Necator americanus* (types of intestinal worms), goiter, and vesical calculus (bladder stones).[9] Although the statistics on which they were based were too dependent on guesswork to be reliable, the maps they generated nonetheless created for the first time a visual survey of what were then considered the major diseases of China. There were precedents for this kind of mapping. The *Medical Reports* first published a map, in 1878, of the routes of plague in Yunnan province from 1871 to 1873.[10] Nevertheless, the cholera pandemics of the 1830s and 1860s, and specifically of 1873, in the USA, had been what inspired some of the first global mapping of disease.[11] Just

four years later, the *Medical* Reports published their first map with a broad aerial view of East Asia: it predictably depicted the routes of cholera since 1820 from India, Indonesia, and Thailand to the Philippines, China, Japan, and Russia (see p. 135).[12] Although *Medical Reports* occasionally published maps of the distribution of diseases in China or in Japan over the next thirty years,[13] taken together they still did not amount to the panoptic view the maps provided in the 1910 *Diseases of China*.

Chinese Medicine and *Wenbing* in Republican China

A year after Jefferys and Maxwell's groundbreaking synthesis, imperial China ended. The transition from the Qing period to Republican China in 1911 was even more wrenching than the replacement three centuries earlier of the Chinese Ming by the Manchu Qing dynasty. The upheaval was traumatic for Chinese doctors, whose status was threatened as modernizers tried to outlaw their livelihoods and new kinds of practitioners seriously competed with them. After the May Fourth Movement of 1919, for example, two groups took sides: the cultural iconoclasts who opposed Chinese medicine as an impediment to the birth of a modern nation-state, and the nationalists who wanted to preserve it as part of the "national essence," and meet the needs of health care. In the 1920s, its existence was politically threatened, and new organizations and institutions followed modern examples to protect traditional practice. It was in this period of overt danger that Chinese doctors first organized and lobbied, and the give and take between them and modern physicians first became inimical.[14]

In 1927, the first year of the Nationalist Party's Guomindang government, for example, the biomedically educated leaders in the new Ministry of Health called for the step-by-step elimination of old-style medical practices. In the extreme right wing of the Nationalist party, there were operatives who united with practitioners to frustrate such moves.[15] The establishment of the Institute of National Medicine (*guoyi guan* 國醫館) in 1930 was the institutional[16] result of their joint efforts. From then on, a battle raged between the biomedically oriented Ministry of Health and a variety of open and covert defenders of Chinese medicine. The historical record of the Nationalist period makes sense only in the light of these political tensions.

Wenbing *in* Medical Compilations *and in the* Qing Draft History

During the 1920s and 30s, a shift in the meaning of the *wenbing* current of learning occurred in republications of earlier *wenbing* anthologies that directly responded to the cultural iconoclasts' attacks on Chinese medicine as being against the goals of Chinese nationalism. There remained a tension between regionalism and universalism in the genealogies of this new current of learning. The geographic imagination was used for the first time in some compilations, for example, as arguments against those who identified Chinese medicine as emblematic of "backward" China. The editor of *The Third of March Medical Compilation* (*Sansan yishu* 三三醫書, 1924), Qiu Qingyuan 裘慶元 (1873–1948), wrote the following in his publisher's note for his new edition of Song Zhaoqi's 1878 *Discriminate Examination of Southern Diseases*.

> In order to treat disease one must seek its origin. The climate in the north differs from that in the south. This is why the origins of disease also differ greatly. Those who treat [diseases] without examining [this fact] neglect their origin. This is why the Chinese people are not suited to western medicines. It is due to differences in what is appropriate to the environment. There is no limit to such differences.[17]

His opinion that Western medicines are inappropriate for the Chinese echoes the opinion of Ge Yuanxu about fifty years earlier (see p. 146) and illustrates the continuity of the geographic imagination in efforts to argue for Chinese medicine's legitimacy in a new political context. Qiu was also one of the strongest proponents of "medical revivalism" as a cultural nationalist strategy. He applied this strategy in defense of Chinese medicine against "westernizers" within the Nationalist government who sought to eliminate all that was traditional.[18] In this new political context, he reframed the distinction, by now familiar, between Cold Damage therapies for diseases of the north and *wenbing* therapies for southern diseases, to argue against Western medicine for Chinese people. Both Western and Chinese bodies were geographically situated as manifestations of local *qi*. The Chinese were as much manifestations of the *qi* emanating from their soil as were the variety of diseases that spread across their landscape.

This concept of Chinese and Western bodies differing so much that they required different medicines was one of the justifications Qiu Qingyuan made in the preface to his *Comprehensive Collection of Rare Medical Books* (*Zhenben yishu jicheng* 珍本醫書集成) published just over a decade later in 1936:

> [Chinese advocates of Western medicine] do not know that the constitutions of westerners and the wind and soil of western regions are truly different from those in China. Its people have a strong constitution, their flesh is dense, their hair coarse so that disease comes from within. Thus, when Western doctors discuss disease, they always talk about inflamed lungs, livers, and stomachs, and for all, the appropriate method is to attack the interior. Chinese (lit., *Huaren* 華人) have weak constitutions, loose flesh, and soft hair so that illness arises from the outside. Therefore when Chinese doctors discuss disease, they talk about [pathogenic] Wind, Cold, Summer Heat, Damp, Dry, and Fire. Their method is to release them through the [body's] exterior.[19]

The Jiangnan regional and nearby Shanghai treaty-port publishers who reproduced editions of *wenbing* texts throughout the Republican period all supported traditional Chinese medicine. Physicians such as Qiu Qingyuan, who sought to preserve Chinese medicine in the 1920s and 1930s by issuing large compilations of traditional Chinese medical texts, published writings on w*enbing* as a defense against the spread of Western medicine in urban China. Qiu based his arguments in support of Chinese medicine on the same locally contingent and relativistic epistemology that informed the long history of skepticism toward the canonical authority of China's own universalizing Cold Damage tradition. Even Qiu's contemporary, the medical historian Xie Guan 謝觀, included a final chapter on "local diseases" (*difang bing* 地方病) in his influential 1935 history of Chinese medicine.[20]

Yet there was also a countervailing approach to the preservation of Chinese medicine during the same period that emphasized its overall coherence as a national tradition and underplayed, even ignored, the regional tensions of its past. In 1928, for example, the editors of the medical section of the *Qing Draft History* (*Qingshi gao* 清史稿) provided thirty-

four biographies of eminent physicians, none of which brought attention to regional origins or medical concerns.[21] Among these, they included the four representative doctors discussed in Chapter 7, and associated them with a *wenbing* current of medical learning. The editors recognized two of the Suzhou physicians – Wu Youxing and Ye Gui – as leaders of a distinct *wenbing* current of learning, singled out Xue Xue as a contributor, and identified Wu Tang, Zhang Nan, and Wang Shixiong as the most influential nineteenth-century compilers of and commentators on Warm diseases (see Table 8.1).[22] The physicians in groups I and VI also figure in modern Chinese histories of medicine and clinical handbooks under the Warm diseases current of learning.[23]

Table 8.1 Representative Qing physicians in the *Qing Draft History*, 1928

Group	*Representative and followers*	*Dates*	*Main contributions according to the* Draft History
I	Wu Youxing	1582? –1652	Authored first monograph on febrile epidemic disorders in 1642
I	(3) Dai Tianzhang Yu Lin Liu Kui	18th cent.	These three physicians represent types of responses to Wu Youxing's monograph: Dai expanded it for clinical use; Yu critiqued Wu's formulas as ineffective; and Liu adapted it for northern conditions in Shandong
II	Yu Chang (1) Xu Bin	17th cent.	One of first to apply evidential methods to the earliest extant redaction of the *Cold Damage Treatise*
III	Zhang Lu (2) Gao Doukui Zhou Xuehai	1617–1700	Continued along lines of innovations of the major Jin and Yuan dynasty physicians
IV	Zhang Zhicong (4) Gao Shishi Zhang Xiju Chen Nianzu Huang Yuanyu	1610–74	Representative of the Cold Damage tradition in Hangzhou where he headed a discussion group on medical topics
V	Ke Jin (1)You Yi	b. Wanli (r. 1573–1618)	Continued scholarship on the authenticity of the extant versions of the Cold Damage Treatise represented by Yu Chang
VI	Ye Gui	1667–1746	Along with Xue Xue, who directly follows his entry, was recognized for work and case records on Warm diseases
(VI)	(4) Xue Xue Wu Tang Zhang Nan Wang Shixiong	1681–1770	The physicians who followed Xue were 19th cent. systematizers of the *wenbing* tradition following upon Ye Gui and Xue Xue
VII	Xu Dachun (1)Wang Weide	1693–1771	Fellow native of Suzhou and contemporary of Ye Gui and Xue Xue; representative of evidential scholarship in medicine
VIII	Wu Qian	18th cent.	Editor-in-Chief of the *Golden Mirror on the (Orthodox) Medical Lineage*, 1742, which set the medical orthodoxy under Qianlong (r. 1736–95)
IX	Trauma specialists (3) Chao Erji, Jueluo Yisang, Zhang Chaokui	n.d.	This catogory had no leader but includes three physicians who had become famous for their heroic cures of external injuries, two of whom were Mongolian

	Zhang Chaokui		two of whom were Mongolian.
X	Lu Maoxiu (4) Wang Bing Lü Zhen Zou Shu Fei Boxiong	1818–86	Advocate of the Cold Damage tradition of earlier centuries; he criticized the innovations of the early Qing physicians Wu Youxing (Group I), Yu Chang (Group II), and Ye Gui (Group VI), as well as Wu Tang, Zhang Nan, and Wang Shixiong
XI	Convergence of Chinese and Western medicine (2) Wang Qingren Tang Zonghai	 1768–1831 1862–1918	Wang compared traditional anatomy with his observations of corpses and at executions but had no exposure to Western medicine; Tang sought a synthesis of Chinese and Western medicine; both represented the convergence current

Writing history inevitably involves forgetting and ignoring. Just as the imperial court's *Golden Mirror on the [Orthodox] Medical Lineage* of 1742 ignored Wu Youxing and his followers on febrile epidemics, the editors of the *Draft History* left out Song Zhaoqi and his colleagues on "southern diseases" and *wenbing*. In drafting the first account of Qing medicine in a time of intense nationalism, the editors erased the period's regionalism that even Qiu Qingyuan continued to advocate. The centripetal impulse to compile a representative genealogy of Qing physicians for a new nation conflicted with the centrifugal forces of past localism that threatened to frustrate that work.

In the *Draft History*, the two groups headed by Wu Youxing (I) and Ye Gui (VI) appeared in a field of ten intellectual lineages. The two physicians were neither united by their origin in Suzhou nor subordinated to any other medical leader. They were part of a pluralistic landscape of overlapping and conflicting views. This was intended, after all, to be a dynastic history, the state-sponsored, encyclopedic account of a dynasty claiming to be its legitimate successor. It endorsed recognized leaders of a *wenbing* current as on a par with other major doctrinal groups in the diverse world of learned medicine. This approach was closer to that of the medical section of the *Four Treasuries* than to that of the Cold Damage orthodoxy of the *Golden Mirror* (Chapter 6). It edited out all the regionalist forces beneath the surface to create a new, seamless medical component of a "national heritage" useful in the present.

The arrangement of the history's medical biographies shows that the editors cared greatly about the doctrinal genealogies of their subjects. Each

physician's views on the ancient medical canons were practically all that counted. *Wenbing* had achieved parity with other currents of medical learning. Its own genealogy became a branch off the main line of Cold Damage to which other physicians belonged. But in spite of the fact that two of the most famous Warm disease innovators, Ye Gui and Wang Shixiong, identified themselves with family traditions – and their contemporaries thought of them that way – the *Draft History* minimized family, lineage, and master-disciple modes of transmission as well as regional affiliations and clinical practice.

On the one hand, its focus on doctrine was open-ended, in the sense that future leaders could rearrange, recombine, and add to the body of doctrine in new circumstances. On the other hand, a textual genealogy of *wenbing* formed two generations earlier achieved official authority in the *Draft History*. Late twentieth-century authorities such as Ren Yingqiu accepted these lineages in their medical-school textbooks chronicling the *wenbing* canon. As is regularly the case, at this moment when the history of *wenbing* became official, it was undergoing transformation. The links between epidemic outbreaks, regional diseases, and Warm diseases, as part of this history, were accepted from then on. Nevertheless, the twentieth-century biography of *wenbing* also shifted to reflect the need to accommodate to and resist biomedicine's powerful new paradigms of health and disease. Among the battles of the 1920s, the medical section of the *Draft History*, and the *wenbing* current of learning that it defined, are best read as one of the cultural nationalists' more successful defenses against the cultural iconoclasts' attacks on Chinese medicine.

Regional Medicine, *Wenbing* in Suzhou, and Lingnan's *Wenbing*

Historical scholarship on medicine in the early decades of the People's Republic tended to be national in scope and synthetic in purpose. Ren Yingqiu's highly influential study of the major schools of medical thought offered a synthesis that built on the lineages presented in the *Qing Draft History* and created new schools, or revised their relationships, over the entire course of Chinese history.[24] Since the late 1980s, regional, local, and institutional perspectives have reappeared. Many medical historians have modified the unitary viewpoint of Ren's doctrinal history of currents of

medicine by amplifying local contributions, particularities, and therapeutic preferences.[25]

Regional Histories of Medicine

Another significant trend of the mid-1980s through the mid-1990s in medical history was new series on regional approaches to medical practice. The most important of this genre on the history of medicine was a series of books published from 1987 to 1991 that divided China into five regions: the Beijing, Yellow River, Yangzi River, northern, and southern regions.[26] Once again, physicians re-imagined the five regions of antiquity to better suit the geographic imagination of the present. Prefaces from officials in the central government – the Vice Minister of the Ministry of Health and the Vice Chairman of the All China Association of Science and Technology – also recommended these anthologies on regional medicine.[27] The first preface linked regional trends in medicine to the nation's health, the second to scientific progress, and both placed medicine at the center of nation building. Instead of a single Traditional Chinese Medicine (TCM),[28] this series presented five regional versions. The prefaces by representatives of central government institutions acknowledged the multiplicity of regional medical practices, and simultaneously spread a national umbrella over them. Their purpose differed little from the imperial medical publications of the eighteenth century, or, for that matter, from writings during the Republican era that linked the richly varied regional food culture in Shanghai to a national one.[29]

One of the first regional collections of medical biographies was for Jiangsu province.[30] Preceding the biographical section are five essays on the province's most important physicians and doctrinal currents. In the same year, a similar collection on Suzhou physicians from about 1000 BCE to 1911 appeared.[31] The trend continued in the early 1990s with, for example, publications focused on physicians in Liaoning and Hunan provinces, the Huizhou region in Anhui province, and the Shanghai municipality.[32] By 1992, essays on Suzhou medical history also appeared in general publications on the region's culture and history.[33] Some provincial publishing houses even issued guides to regional medical institutions that summarized their histories.[34]

In 1990, a regional series on medicine reprinted works mostly by physicians from the Huizhou region, Anhui, from *c*. 1650 to 1912.[35] It secured the less lofty patronage of Yu Ying'ao, the Vice-Director of the Medical History and Literature Research Institute of the China Academy of Traditional Chinese Medicine located in Beijing. As a native of Anhui, Yu lent his status as a scholar in the central institute for medical history to support this regional project, linking Anhui medical history to the national endeavor to raise the standards of traditional medicine.[36] By displaying the singularity of Anhui medicine and emphasizing its contributions to Chinese medical history, the officials in the provincial government and the Anhui medical historian in Beijing imply their region's superiority over other provinces.

Cities were also a focus of such anthologies. Medical historians in Shaoxing (southeast of Hangzhou) also published a collection of writings by local physicians, modeled after Tang Dalie's *Collected Expositions by Suzhou Physicians* (see p. 118).[37] Their title made a semantic connection with this highly influential book, and their prefaces claimed for Shaoxing an equal footing in medical history with Suzhou.[38]

Regionally oriented medical anthologies like these on Jiangsu, Liaoning, Hunan, Huizhou, and Shaoxing relate to contemporary inter-regional competition for prestige. They demonstrate that, in the post-Mao era, medical scholars are again promoting local variations in medical practice to bolster their region's national reputation and reinforce local pride. This regionalism is not restricted to medicine. Regional cuisines, for example, have long been a persistent feature of Chinese food culture, and are resurgent in the post-Mao era.[39] Regional stereotypes have remained prevalent in Chinese culture, as can be seen in the twentieth-century writings on *Southerners and Northerners* (*Nanren yu beiren* 南人與北人) collected as much for entertainment as for literary history.[40]

Suzhou's Wenbing Current of Learning

Several anthologies of the works of regional physicians also began to appear in the early 1980s. The Jiangsu Science and Technology Press published one of the first, reprinting fifty essays by Jiangsu physicians.[41] The same press began a more focused series in 1989 on writings by Suzhou

physicians.[42] The first volume reprinted eleven essays at the core of the *wenbing* current in Suzhou, subtitled the "Warm diseases category" (*wenbing lei* 溫病類). By placing writings on *wenbing* ahead of those on the *Inner Canon* or Cold Damage traditions, the editors imply that the *wenbing* movement of the Qing dynasty was the most important development in Suzhou medical history.[43] They claim that Suzhou physicians originated and developed the *wenbing* school of thought. By selecting some texts that were not widely available to Qing practitioners and others that were not even influential thereafter, the editors of this series created yet another *wenbing* genealogy.

Publications from different institutions and sub-specialties also reflected a trend toward multiple histories of Chinese medicine, which two different types of new compilations on Warm diseases and related febrile epidemics illustrate. Medical textbooks of the late 1980s and early 1990s reconstructed the history of the *wenbing* tradition differently, depending on whether the publisher considered classical Chinese or Western medicine to be the best basis for medical education.[44] All of them noted the contributions of physicians from Suzhou and the broader Jiangnan region.

The First History of Lingnan's Wenbing

Chinese medical historians continue to invent new genealogies of local knowledge. This trend has spread to outlying areas of China. Publishing houses in Mongolia, Xinjiang, Qinghai, and Tibet, for example, have published texts since the 1980s on the medical practices and scholarship of their non-Han peoples.[45] These recent publications are part of the resurgence of ethnic identity along the frontiers of the People's Republic. By analogy with regional compilations, these publications integrate ethnic medicine into national medicine while they inspire ethnic pride among minority populations.

A book identified with the Far South brought these new trends on regional and frontier-ethnic medicine together with the history of Warm diseases. In 1991, two traditional Chinese medical institutions in Guangdong province co-edited *Research on and Clinical Applications of Lingnan*'s *Warm Disorders* (*Lingnan wenbing yanjiu yu linchuang* 嶺南溫病研究與臨床).[46] The editors argued that the climate, environment, and constitutions of people in Lingnan differ so much from those in other

regions that local physicians must adjust northern medical knowledge to suit the clinical needs of their patients.[47] Since the nineteenth century, Guangdong physicians have been adapting the dominantly Jiangnan writings on *wenbing* to the diseases of Lingnan. As they assimilate *wenbing* teachings into medical practice, the pestilential miasmas of earlier centuries no longer dominate the Lingnan landscape.

The pairing of *Lingnan* and *wenbing* in the book's title was new. Most medical writing on Lingnan before the twentieth century was concerned with what foods and medicines northern travelers, officials, and business persons should take for protection against the disease-ridden, miasmatic environment. In the eighteenth century, however, physicians in Lingnan began recording a different medical geography. Instead of emphasizing the malignant miasmas of the region, they discussed the clinical manifestations of excessive heat and dampness. Physicians knew these external climatic pathogens well in the North, but considered them even more dangerous in the Far South, causing Lingnan forms of Warm disease.

During the institutionalization and perpetually abortive standardization of Chinese medicine since 1949 in the People's Republic, *wenbing* became a dominant branch of TCM. Medical textbooks also no longer conflate miasmas, the Man people, and Lingnan, as Qing writings did. By the 1990s, TCM physicians in the region subsumed Lingnan's medical geography within the southern *wenbing* current of learning. Lingnan was no longer a place of exile or miasmatic barrier to Han migration, but an important region of modern China.

Although Guangdong and Guangxi authors integrated the region into the *wenbing* discipline of national medicine, they also asserted Lingnan's regional distinctiveness. To paraphrase the foreword, the author emphasized the special influence of the dissimilar environment and climate, and differences in eating and lifestyle habits and peoples' constitutions of the Lingnan region on Warm diseases. Because of these regional distinctions, local Chinese medical clinicians have a unique perspective on the Warm diseases in Lingnan in terms of their cause, pathology, course of illness, prevention, and treatment.[48]

The authors of *Lingnan wenbing* asserted not only Lingnan's regional character but also the distinctiveness of *wenbing* there.[49] Of the six types of Warm diseases – illnesses due to Wind-Warmth, Spring-Warmth, Summer-Heat Warmth, Damp-Warmth, latent Summer-Heat, and Autumn-Dryness –

only Wind, Summer-Heat, and Dampness characterized *wenbing* in Lingnan. These manifest as inflammation of the lungs, as in the atypical pneumonia of SARS, as well as various intestinal disorders, as in biomedical dysentery and encephalitis. The authors contended that the contagious types of *wenbing* that caused the fevers common along the two great rivers – the Yellow River in the north and the Yangzi River in Central China – had rarely been seen in the Far South.[50] Furthermore, the close association between the seasons and Warm diseases in northern and Central China – the ideas that Wind-Spring disorders occur in the beginning of spring and Summer-Heat Warm diseases from the summer to the beginning of fall – was, the editors asserted, irrelevant in Lingnan's sub-tropical climate.[51]

The three most common types of *wenbing* in Lingnan manifest at any time of year without correlation to seasonal changes. The humidity of the region is often a co-factor in cases of Wind-Warm and Summer-Heat *wenbing*.[52] The region's locally grown cooling herbs and teas are ideally suited to treat regional cases of *wenbing*. Lingnan patients have either hot-yang (*reyang* 熱陽) or damp-splenetic (*shi pi* 濕脾) constitutions,[53] and are susceptible to yin deficiency (*yinxu* 陰虛) and phlegmatic-damp (*tanshi* 痰濕) conditions.[54]

The authors of *Lingnan wenbing* also used the modern research techniques of geomorphology, climatology, clinical trials, and patient surveys integral to modern medical geography. They integrated these methods and their concepts of Lingnan's particular geography into a *wenbing* frame of reference.[55] One article in *Lingnan wenbing*, for example, focused on the relationship between Lingnan constitutions and local manifestations of *wenbing* symptoms. The essay titled "The Significance of Theories of the Human Constitution in Relation to Treating the Warm Disorders of Lingnan" began with the following abstract:

> The emphasis placed on differences in human constitutions is an important trait of Chinese medicine, and a key criterion for establishing approaches and choosing formulas in Chinese medical treatments. In ancient times, there was a doctrine of "treating according to the person." Specialists in the study of Warm diseases in Lingnan, through long experience of preventing and treating disease, were aware of this, and

> accumulated rich clinical experience. On this foundation, they systematically developed a set of medical guidelines for using drugs in Lingnan to treat Warm diseases. In order to grasp and develop the special aspects of the Warm disorder current of thought in Lingnan, the author has borrowed research methods for the bodily constitutions of groups of people and united them with the analysis of Warm disorder cases. We did this in order to make an analytic study of pathological changes in the constitutions of Lingnan patients and the therapies in that region. I hope that this will serve as a preliminary investigation toward working out guidelines for the use of drugs for Warm-disorder therapy in Lingnan.[56]

The author, Han Li, marshaled the conventional tools of recent clinical studies – a summary of the patient pool, an example of the patient intake form, and tabulations of the percentage distributions of morbidity among patients – but then he tabulated these figures according to the four seasons and the constitutions of classical Chinese medicine, illustrating the persistence of these older taxonomies. Furthermore, he contrasted the constitutional types of Lingnan patients with results from a comparable study of patients in northwest China (Yan'an in Shaanxi province). Whereas Lingnan patients had dominantly phlegmatic and damp-type illnesses, their Yan'an counterparts suffered from yang deficiency disorders. In contrast to yin deficiency, yang deficiency is primarily a class of illness characterized by the lack of heat. Patients feel chilled, have no energy, and are easily fatigued. They experience problems with digestion, often suffering from diarrhea. In contrast to the reddened tongue that indicates a yin deficiency disorder, the patient with yang deficiency has a pale and nearly white tongue. This contrast between the yin deficiency of Lingnan patients and the yang deficiency of Yan'an patients illustrates the persistence of classical concepts of climates and constitutions in the modern world. More importantly, it represents a novel re-imagining of the Cold-Dry Northwest and Hot-Damp Southeast to make Lingnan, finally, part of China proper.

The environment, climate, and constitutions of Lingnan converged in this treatise to define regional patterns of *wenbing*. The general premise of modern medical geography supports this assertion that place matters in patterns of disease morbidity and mortality.[57] The emphasis on

constitutional differences based on climatic variations, however, is not a tenet of medical geography.

Here we return to the strangeness of the coupling of *Lingnan* with *wenbing* that began this inquiry. Although *zhang* miasmatic disorders, *nüe* intermittent fevers, and *gu* poisoning have disappeared from publications on the medical geography of Lingnan – despite the continued presence of malaria – the region's regional distinctiveness remains strong, redefined through the new prism of *wenbing* and within a newly reconfigured TCM. Despite a century of the universalizing influence of biomedicine, more than fifty years of efforts to standardize Chinese medicine, and nearly two decades of intense globalization, concepts of climates and constitutions still inform medical practice in Guangdong and Guangxi.

This synthesis of classical concepts of climate and constitutions, modern medical geography, and *wenbing* doctrines and therapies came together for the first time in *Lingnan wenbing*. The global circulation of scientific knowledge, meeting medical pluralism and increasing regionalism in mainland China, have converged in a new synthesis of traditional, modern, and regional.

The Geographic Imagination and SARS as *Wenbing*

Just twelve years later, the sponsors of this publication – the provincial government's Office of Traditional Chinese Medicine and Pharmacology, and the College of Traditional Chinese Medicine in Guangdong – became key players in the SARS epidemic. This historical convergence affected how TCM doctors treated the SARS patients who entered their acute infectious disease wards from November 2002 through the summer of 2003. In fact, the Chinese medical response to SARS in the region directly connects to this history of *wenbing* in Lingnan.

According to the TCM doctrines called upon to explain the eruption of SARS, the warm and damp climate in southernmost China, combined with a sudden cold snap in early spring, for instance, made the local population constitutionally more susceptible to the external pathogens that contributed to the outbreak in viral pneumonia. According to some TCM physicians, the alleged sedentary habits and rich diet of Guangdong's modern urbanites increased their susceptibility. TCM doctors did not deny that bacteria and viruses exist; nor did they ignore the role played by the civet cat and

corono-virus once a consensus formed around their causal role in the epidemic. They simply chose not to focus on them. Instead, they argued that the combination of an internal bodily imbalance and an external climatic irregularity led more easily to an infection. Prevent the internal imbalance, and the coronovirus cannot enter the body and wreak havoc in the first place. They did not deny the reality of the infectious disease pathogens identified by germ theory over the past century; they simply pointed to the larger role of climates and constitutions surrounding any outbreak.

SARS as Wenbing

How did TCM physicians define, explain, and treat SARS? An interview published at the peak of the epidemic in China in the *Shanghai Youth Journal* offers an entry into these questions. The journalist Ma Xiaonan interviewed Dr. Shen Qingfa, a senior professor at the Shanghai University of Traditional Chinese Medicine, one of the four TCM colleges first established in 1956.[58] Just a week prior, on April 17th, 2003, Shanghai had established two consultation groups of experts, one of twenty virology specialists and another of ten experts in TCM. Dr. Wu Ying'en, one of Shen's colleagues, was chosen to head the ten-member SARS advisory group of TCM experts.[59] As a member of this group, Dr. Shen became one of the most prominent Shanghai physicians dealing with SARS. He was also Director of the Research Institute of Warm Diseases at the Shanghai University of TCM and co-author of two clinical texts, one on the understanding of acute infectious diseases in Chinese medicine and another entitled *Studies on Warm Diseases*. In contrast to the biomedical definition of SARS as the first newly emergent infectious disease of the twenty-first century, for Dr. Shen and other Chinese physicians thinking within the TCM framework, SARS was a familiar Hot-Wind disorder within the broader *wenbing* category.[60] In mainland China, and to a very limited extent in Hong Kong,[61] the medical response to SARS patients in the hospitals relied on *wenbing* diagnostic methods and treatments for acute infectious diseases. The following translation of the *Shanghai Youth Journal* interview with Dr. Shen on SARS casts light on both the meaning of these terms within a TCM framework and the consensus about SARS in the TCM community of mainland China.

Reporter Ma interviews wenbing *Doctor Shen*

Reporter MA: What is the most important function of the group of TCM experts?

Shen Qingfa: Currently, we are responsible for devising a prevention plan and examining trends in a timely manner. Moreover, we are examining the clinical diagnosis and treatment of SARS from the perspective of TCM. Presently, we have already established most of the plan for preventing SARS in Shanghai.

Reporter: According to TCM doctrine, what is SARS?

Shen Qingfa: It is a type of epidemic warm disease. More precisely, one can place SARS in the group of heat-wind epidemics (*refeng yi* 熱風疫). Heat-wind epidemics occur most often in the spring and manifest symptoms similar to SARS.

Reporter: Everyone says now that TCM drugs are most effective for preventing SARS, but not for treating it. What do you think of this issue?

Shen Qingfa: It is true that prevention is most important; however, from our current perspective, Chinese drugs can also be very effective for treatment and are especially effective during the recovery stage. On April 10th, I went to investigate the situation in Guangdong. At the No. 1 Hospital of the Guangzhou College of TCM, there were thirty-three SARS patients. After receiving a combination of Chinese and Western treatments, the rates of fever dropped and rate of recovery quickened. Soon there were no longer any patients who had used TCM treatments [i.e. left in the hospital wards]. This hospital had more than 800 beds and more than 1000 medical personnel. Because they had paid attention to the appropriate preventative effects of Chinese drugs, there was not one medical personnel infected by SARS. Concurrently, the hospitals in Hong Kong are now already beginning to emphasize using Chinese medicine along with Western treatment methods.

Reporter: Is there any useful outcome of taking *banlangen* 半蘭根 (Isatis root) to treat SARS?[62]

Shen Qingfa: The preference for *banlangen* among Shanghai natives is related to prevention efforts during the Hepatitis A epidemic in 1989. *Banlangen* is known without doubt to clear heat and resolve poison. However, is this appropriate for SARS? Since we have not

> scientifically followed it closely and compared the two [epidemics with each other], it is very difficult to be sure.[63]

The Chinese translation of SARS in the above interview is *feidianxing feiyan* 非典型肺炎, in English "atypical pneumonia." Common Chinese usage shortens this phrase to *feidian* 非典 ("atypical"). Under the system of integrated Chinese and Western medicine, TCM practitioners use biomedical disease nomenclature with the understanding that any biomedical diagnosis can then be broken down into a larger number of discrete Chinese medical syndromes and patterns of illness.

Angela Leung and Sean Hsiang-lin Lei have argued that the traditional category of *chuanran* or "contagious" could not have taken on the meaning of "infection" implied in "infectious disease" until after the arrival of the germ theory, the microscope, and the entirely new intellectual space of the laboratory, in which scientists could isolate, analyze, and distinguish discrete microorganisms for the first time.[64] The Chinese medical neologism *feidianxing feiyan* avoids the kind of complex change over time that the old Chinese phrase *chuanran* underwent in the twentieth century by its straightforward translation of a one-to-one correspondence with a biomedical category. It does not raise eyebrows. From a biomedical perspective, however, "Warm diseases" and "Heat-Wind epidemics" raise more doubts than eyebrows. They are conceptually opaque and linguistically illegible. These terms represent disease concepts from another time, place, and culture, of interest perhaps to medical anthropologists but antithetical to the basic premises of modern epidemiology, virology, and pharmacology that framed nearly all medical accounts of the SARS epidemic in the Western press as well as the biomedical response to it.

In the case of SARS in modern-day China, however, people fell deathly ill with *wenbing*, were treated for *wenbing*, and either recovered or died from *wenbing*. Today the Chinese "Warm Diseases" category includes the afflictions biomedicine classes as acute infectious diseases. They are also febrile diseases due to a climate-sensitive external pathogen that causes one's temperature to rise and fever symptoms to set in. The most virulent and contagious forms of *wenbing* become epidemics.

By placing SARS in the group of "heat-wind epidemics" that "occur most often in the spring and manifest symptoms similar to SARS," Shen emphasizes the role seasonal change plays in epidemic outbreaks of this

type. Modern epidemiology also considers seasonal change to be a factor in the emergence and spread of epidemics such as malaria, dysentery, dengue fever, and influenzas similar to SARS. The modifier "heat-wind," however, does not register a comparable familiarity. What Shen meant by "heat" and "wind" was neither the sensation of the sun's heat nor the brush of a cool breeze, but rather two pathogenic climatic factors characteristic of spring. In Chinese medicine, the combination of "heat-wind" can enter a vulnerable human body and suddenly destabilize a person's health; these pathogenic climatic factors are conceptually analogous to the viruses, bacteria, and parasites of biomedicine.

Near the end of the interview, reporter Ma asked Dr. Shen whether TCM drugs were effective beyond the prevention of SARS. This question expressed another common perception that Chinese medicine is good for strengthening the body's defenses against epidemics, but once someone has contracted an infectious disease, he or she should check into a Western hospital. Dr. Shen represented an alternative perspective shared also by his colleagues at the No. 1 Hospital of the Guangzhou College of TCM whom he had visited just two weeks before the interview on April 10th, 2003. Officials from the WHO had visited three days earlier on April 7th to evaluate the effectiveness of treating more than one hundred cases of atypical pneumonia in the hospital with traditional Chinese herbal medicine.

Dr. Lin, director of the hospital's respiratory department, explained that they divided the cases of atypical pneumonia into Four Sectors – meaning the early, middle, climax, and late phases of each case. Dr. Lin and his staff gave their SARS patients different herbal formulas according to each one of the Four Sectors of symptoms their patients manifested.[65] WHO officials saw this Four-Sectors method of diagnosis practiced when they visited the SARS cases on April 7th, though none publicly commented on it. An article published the next day on April 8th in the Hong Kong paper *Dagong bao* further elaborated on the Four Sectors approach to treating SARS.[66] With recent modifications, this is the same system originally attributed to Ye Gui in the eighteenth century for determining the course of Warm and Hot diseases (see pp. 116–17).

When Dr. Shen remarked, "hospitals in Hong Kong are now already beginning to emphasize using Chinese medicine along with Western treatment," he referred to this *wenbing* method of diagnosing Four Sectors

of increasing severity of SARS and adjusting herbal formulas accordingly. The SARS experience in mainland China, in fact, resulted in a new focus on the TCM approach to toxins, epidemics, and Warm diseases. Despite having a long established history in classical Chinese medicine, the SARS experience also opened up unresolved clinical debates artificially closed in the standardization of the curriculum in the 1950s and 60s. These debates have continued long after the epidemic subsided.[67] This experience not only encouraged new histories of epidemics in China's past and in global medical history, but has also reinforced the Chinese government's patronage of TCM as an integral aspect of the nation's health care system and one they have financially supported since in preparation for the next pandemic. Yet what remained a powerful echo from the past during the 2003 SARS epidemic in mainland China was an old emphasis on regional variations in climates and constitutions.

SARS Climates and Constitutions

Chinese physicians adapted herbal formulas not only to changes in their patients' conditions, but also according to obvious differences in regional climates. In mid-April of 2003, for example, two doctors of the Beijing Center for Traditional Medicine Research distributed a pamphlet through their clinic that recommended adjusting SARS herbal formulas to climatic differences. Their summary of the causes of SARS also demonstrates the persistence of a key concept in classical Chinese medicine that differences in climates correlate to discernable variations in human constitutions. The following explanation reflects the logic of their reasoning:

> Chinese doctors have long believed that "If essence is not stored in the winter, then spring will bring warm diseases." An understanding of the application of this concept to the various climatic regions of China helps us to begin to understand SARS through the prism of Chinese science. In southern China, a warm damp climate keeps the Defensive and Constructive *qi* of the local population on the surface. There is little opportunity for the storage of essence on the inside. Therefore, in most years, the combination of a warm climate with relatively little storage of essence in the winter creates heat in the body. In South China, this is generally not a problem and actually represents the normal situation. …

> This year, however, a relatively cold winter in southern China was followed by a sudden cold snap in early spring giving rise to the unusual situation of internal heat and external cold. The general warmth of the internal constitutions of the local population was out of step with the unusually cold weather. This is a situation conducive to invasion by external pathogens. It brings to mind the saying "excessively cold winters lead to heat diseases in the spring."[68]

The concept of body as microclimate is central in this passage. The idea of building up one's defenses to withstand external pathogens is also obvious through the metaphor of "storage of essence in the winter." The binary yinyang also comes to the fore in the conflict between internal heat and external cold. The meaning of the statement "in southern China, a warm damp climate keeps the Defensive and Constructive *qi* of the local population on the surface," however, is not readily apparent to a lay audience. The Four Sectors, as summarized earlier, refer simultaneously to four main stages of the progression of an infectious disease and the four levels of defense within the human body – Defensive *qi*, Constructive *qi*, yang *qi*, and yin *qi*. Just as sensitive people are said "to wear their emotions on their sleeve" in colloquial English, in Chinese medicine, Cantonese are thought to wear their most protective *qi* on the outer surface of their bodies. Doctors in the Far South were advised to modify formulas taking into account the greater dampness in the region: "Chinese doctors have utilized the primary approach of "clearing heat" (*qingre* 清熱) and a secondary goal of "resolving toxins" (*jiedu* 解毒) in the treatment of SARS. In southern China, doctors have also been modifying formulas to dry the dampness [in their patients]."[69]

These two passages illustrate how place matters in TCM interpretations of SARS. First, the warm and damp climate of southern China combined with an unseasonable cold snap in the spring created conditions ripe for vulnerability to an external pathogen. In a biomedical frame, this was the first known transference of a coronovirus from the civet cat to humans; in a TCM frame, this was pathogenic climatic *qi*. The authors also argued that comparable seasonal irregularities around Beijing made people vulnerable as well when SARS spread north. Conversely, they explained the odd absence of SARS cases in Shanghai to normal weather patterns. Within the TCM framework, there was not one set treatment protocol for all patients

with SARS, unlike the goal of biomedical research and WHO guidelines. Doctors in different regions were expected to adapt formulas according not only to the four stages of development of SARS in each patient, but also to local climatic conditions and constitutional predispositions. In the southernmost Guangdong and Guangzhou provinces, TCM doctors therefore added to the standard *wenbing* formulas herbs intended to dry out the damper local type of constitutions of their SARS patients. Far to the north in Beijing, in contrast, they added moistening herbs to help lubricate the dryer local type of constitutions and lungs of their SARS patients. Although no longer pertinent to bio-medicine in either the West or in China, the resonance of regional climates and individual constitutions nonetheless persists in present-day interpretations of Chinese traditional medicine and, in the case of SARS in mainland China, in the hybrid integrated medical treatments used to treat a majority of their SARS patients.

Summary

The five directions, eight winds, and the northwest–southeast axis figured prominently in the metageography of classical medicine. From about 200 to 900, people from the central states feared the frontiers to the west, east, and south because of their unfamiliar environments, strange diseases, and the threatening customs of their people. The spatial concepts associated with diseased frontiers added complexity to the more schematic and bounded metageography of the medical canons. Despite the unprecedented attempt of the Song government to establish a state medicine for all under heaven, after the north was lost, a new dichotomy of northern and southern medicine took hold among literati and physicians alike based in the Yangzi River region.

The northwest–southeast axis still entered the geographic imagination of physicians from the late fourteenth century on, and the north–south boundary became the most influential geographic conception, but the five directions and eight winds kept their interest only for antiquarians. A few scholarly doctors became aware of Western medicine after Jesuit missionaries translated a couple of treatises in the seventeenth century but this knowledge was limited. It was only during the nineteenth-century expansion of Christian missions, and twentieth-century conflicts over what “national medicine” should become, that a dualism of Western and Chinese

medicine became familiar, politically charged, and widely debated in literary and medical sources.

In the light of Western medicine's present global dominance, one would think that not only would this metageography, with its northwest–southeast and north–south axes be as antiquated as the five regions and eight winds, but that a universal biomedicine would have replaced national peculiarities. The Lingnan *wenbing* example discussed above demonstrates that this has not happened – nor has it happened elsewhere. The 2003 case of SARS as *wenbing* has even more convincingly shown that there is no reason for confidence that it will happen in the PRC soon.[70]

Why, then, do the old nosologies and antiquated geographic imagination persist in the otherwise rapidly modernizing and increasingly biomedicalizing China? Within this persistence must reside some forms of resistance. Despite the remarkable capabilities of modern medicine, its nosology's foundation in well-defined causative agents, distinct diseases, specific drugs, and statistical risk factors has paradoxically expanded therapeutic power and narrowed the realm of thought about human suffering. The latter is true not only of the patient's experience of illness but of the physician's repertoire for encouraging recovery. Not all patients and physicians in China today find in biomedicine a vocabulary that fits all the particularities of their lives. Just as Lingnan's *zhang* continues to resist translation into modern malaria among people in the Far South,[71] China's *wenbing* remains a meaningful disease concept in Chinese communities around the world.

Notes

Introduction

1 In translating Chinese disease concepts, I have chosen to capitalize the climactic factors such as Warm, Cold, Dry, Damp to indicate in Chinese medicine that they mean both pathogenic cause and dominant symptom, which differs from their more narrow connotations in English.

2 I borrow the term metageography from Lewis and Wigen 1997, who used it in their analysis of the spatial and cultural constructs in modern global geography, such as the Seven Continents, the Orient and Occident, East and West, and even the First, Second, and Third Worlds. Wigen 1990 used "the geographic imagination" in her study of western approaches to early modern Japanese history. Although the emphasis in both publications is on western metageographic attitudes toward the rest of the world – and how to correct its distortions – I use the term instead to refer to a Chinese metageography and draw out its implications in medical history.

3 Although the characters for *wen* in *wenbing* and *wenyi* are both pronounced in the first tone and share the same phonetic component on the right side (sun radical over plate radical, pronounced *wen*), their signifier components on the left side differ. The first *wen* 溫 has a water radical, suggesting the moisture and sweat associated with warmth, both of the weather outside and the sensation of heat within the human body, which includes what we now call fevers. I therefore translate *wenbing* straightforwardly as "Warm disease" when singular or "Warm diseases" when clearly plural. The second *wen* 瘟 has an illness radical, reinforcing the character's strong association with epidemic diseases while maintaining a semantic connection to the sensations of warmth and heat in the water-radical *wen*. Although this illness-radical *wen* is translated "plague" or "plagues," in the modern use of the English term as an umbrella category for epidemics, I resist this translation because of its possible conflation with the modern disease concepts bubonic and pneumonic plague. When the illness-radical *wen* 瘟 joins with *yi* 疫, meaning "epidemic" in *wenyi*, I translate it as "febrile epidemics" to convey the semantic connection to the water-radical *wen* meaning warmth, and by extension feverish symptoms in medicine. When the illness-radical *wen* is used on its own, I hyphenate the same translation "febrile-epidemics" to clarify that it is a translation of just that character.

4 Other scholars have done fine work on religious interpretations and responses to epidemics in China. Primary material in English can be found in De Groot 1892. On "Demonology and Epidemiology" in the medieval period, see Strickmann 2002, pp. 58–88; for the cult of General Wen, the plague god, in late imperial China, see Katz 1995; for ritual responses to a cholera epidemic in Western Yunnan in 1942, see Hsu 1952, 1983; for the cult of the Great Emperor Who Protects Life in modern Fujian, see Dean 1993, pp. 61–98; for French scholarship on the subject, see Schipper 1985; and Lu Dong and Thann 1995.

5 I do not address the emergence of "Autumn-Dryness" (*qiuzao* 秋燥), for example, as an important new distinction in the Warm diseases current of learning because I have found no

geographic conception integrated with it. The same can be said for the concept of "latent *qi*" (*fuqi* 伏氣) in Warm diseases' etiology. In other words, I have not attempted an exhaustive biography of my subject.

6 See Zhu Gong 朱肱, *Shanghan lei zheng huo ren shu* 傷寒類證活人, "*wenbing*," GJTSJC [1725] 1935, *juan* 319, p. 43a; or GJTSJC, YBQL 2000, *juan* 299, pp. 1813–14.

Part I Foundations and Inheritances

1 The *Hanyu dacidian* includes nothing resembling the term *kou zuo*. I suspect there is something wrong with the text but until I learn otherwise, this translation should be considered tentative.

2 Cao Zhi, "Speaking of epidemic *qi*" (*Shuo yi qi* 說疫氣), *Caoji quanping*, vol. 2, *juan* 9, pp. 66–67. Cited in GJTSJC [1725] 1935, "Epidemics and disasters section" (*Yizai bu* 疫災部), *juan* 114, *ci* 45, p. 37a.

3 On Cao Zhi's literary reputation and works, see Nienhauser 1986, pp. 790–91.

4 Although attributed to Zhang Ji, neither this text nor any record of him survived from his own time; even this preface may never be fully authenticated as by his own hand, but it is highly unlikely to have been written by a later author who assumed his identity. For the preface in Chinese with notes, see Guo Aichun, ed. *Shanghan lun jiaozhu yuyi* 1996, pp. 1–4, quotation p. 2. For Chinese with English translation, see Mitchell, *et al*., 1999, pp. 27–32.

5 Wang Xi is better known by his syle name Wang Shuohe 叔和.

6 This summarizes the early history of Zhang Ji's medical writings, based on Goldschmidt 2009, pp. 97–100. His Table 3.6 on "References to Zhang Zhongjing by name or to the Treatise by title (third to eleventh centuries)" is particularly clear on how rare and uninfluential it was during this period.

1 Medical History in Three Themes

1 See Cunningham 1992 on the problems of equating old European disease concepts with new identities of disease dependent on new laboratory technologies.

2 Examples of projecting these modern disease models on to China's past span the twentieth century, including Jefferys and Maxwell 1910 and Maxwell 1929, Needham and Lu 1967, and Chen Shengkun 1992. For use of same approach in antiquity, see Brothwell and Sandison, eds. 1967. The best analysis of the historical etymology of Chinese terms for disease-constructs, symptoms, and parts of the body is Fan Xingzhun 1989. For historical syntheses on understandings of specific modern disease concepts in East Asia, see Kuriyama and, for pre-modern China, see Leung in Kiple, ed. 1993, pp. 52–59 and pp. 354–62.

3 On the reasoning underpinning the "framing disease" model, see Rosenberg, 1992b. For criticism of the model and metaphor, see Cooter 2004.

4 Duffin 2005, pp. 9–19.

5 For the theoretical underpinning of this distinction between ontological and historical disease concepts, see Adrian Wilson 2000.

6 Adrian Wilson 2000, p. 276.

7 I borrow here Wilson's four reasons why he chose "pleurisy" as the case study to illustrate his argument for the analytic power of the historicist-conceptualist approach to the history of disease concepts. See Wilson 2000, p. 282.

8 Comparable social and cultural histories of specific disease concepts in US medical history include Rosenberg 1962 on cholera, Brandt 1985 on venereal disease, Feudtner 2003 on

diabetes, Wailoo 1997, 2001 on sickle-cell anemia, Duffin 2005 on lovesickness and hepatitis C, Ballenger 2006 on Alzheimer's disease, and Wexler 2008 on Huntington's disease.

9 Early representatives of this approach, for example, are Zinsser 1934 on typhus, René and Jean Dubos 1952 on tuberculosis, and Hudson on cholorosis 1977. The "Biographies of Disease" series, edited by Charles E. Rosenberg, continues this approach in the history of medicine. To date this series includes Packard 2007 on malaria, which takes a global history approach, Peitzman 2007 on chronic kidney disease, and Healy 2008 on how older concepts of mania became bipolar disorder. Warwick Anderson's book 2008 on the fatal brain disease kuru in New Guinea is global in its tracing of this disease concept through the international networks of scientists who researched it.

10 For further elaboration on this point, see Rosenberg foreword in Packard 2007, pp. vii–ix.

11 On the distinction in Western medical history between the "phenomenological" understanding of the subjective experience of an individual sickness and the "ontological" status given a specific disease entity separate from the individual and with a natural history of its own, see Temkin 1963, pp. 441–43. For a good example from the anthropological literature on the distinction between the professional understanding of disease and the patient's experience of illness, see Eisenberg 1977.

12 On smallpox, measles, and other poxes in early modern Japan, see Jannetta 1987, 1993. On tuberculosis in Japan, see Johnston 1995. For an analysis of the concept of disease in the *Shanghan lun*, see Epler 1988.

13 On the cough in medieval China, see Despeux and Obringer 1997.

14 Andrews 1997.

15 Benedict 1996a–c.

16 See Smith 2008a, 2008b.

17 The *li* character could be pronounced *lai*, and came to have the same meaning as *lai* 癩, "disease with ugly sores," but to simplify I just use *li* from here on to refer to this disease concept. See Leung 2009b, p. 18, fn. 9.

18 For her first historical analysis of the changing meanings of *mafeng*, see Leung 1999; for her monograph on *li*, *lai*, *mafeng*, and their transformation into modern-day leprosy, see Leung 2009b.

19 For earliest mention of *shuyi* in an 1891 medical book and 1899 gazetteer, see Benedict 1996a, p. 8, fn. 5. For Benedict's comparison of Cold Damage and Warm diseases diagnoses of plague in the first two decades of the twentieth century, see pp. 105–10.

20 On the concept of cultural manifolds applied to science and medicine in ancient Greece and China, see Lloyd and Sivin 2002.

21 For a review of the environmental determinism in antiquity through the eighteenth century in Western culture, for example, see Glacken 1967. For a complex history of the changing views of health, race, and the environment under British imperialism in India from 1600 to 1850, see Harrison 1999.

22 For what he calls the "ecological theme in Hindu medicine," see Zimmerman 1987.

23 The *Han shu* simply lists the title *Huangdi neijing* in 18 *juan*. By the Sui it had been separated into a *Suwen* and a *Zhen jing* 鍼經; the latter name persisted until the Northern Song. See Sivin 1993.

24 For details of this textual history, see Okanishi 1974, pp. 19–32; and Ôtsuka 1966, pp. 17–45. For a summary of this Japanese scholarship on recensions of the *Shanghan zabing lun*, see the bibliography in Sivin 1987, pp. 460–61. When I use the title the *Cold Damage Treatise*, I refer to the Northern Song version separated from the two *Golden Casket* sections. "Cold Damage tradition" refers to the use of any of Zhang Ji's texts and formulas.

25 With the unprecedented find in 1973 of the medical manuscripts from the third tomb at the Mawangdui archeological site, we now have evidence that an earlier stage of medical knowledge

preceded and was related to the more complex concepts systematized in the *Inner Canon*. For a complete translation and fine study of these texts, see Harper 1998.

26 The three recensions are the *Suwen*, *Lingshu*, and *Taisu* (*The Grand Basis*), all of which Tang and Song editors revised, but the *Taisu* appears somewhat less revised, and comes from about a century earlier than that of Wang Bing. According to Sivin, *Huangdi neijing* has been the collective title since the Northern Song for the three recensions. The first part, *Suwen*, focuses on theoretical and cosmological issues, and the second, *Lingshu*, turns to clinical medicine, particularly the relationship between acupuncture and the circulation tracts. From this point on I will refer to the entire text, comprised of these two parts, simply as the *Inner Canon*. For the sources and argument supporting this consensus, see Sivin 1993, pp. 196–99.

27 For the useful distinction between the attention to the "temporal order" of a disease in Zhang Ji's *Cold Damage Treatise* and the emphasis of diseases as "synchronous events" in the two parts of the *Inner Canon*, see Ågren 1986, pp. 211–18. Ågren argues that these two frameworks – the *Cold Damage Treatise's* temporality and the *Inner Canon*'s synchronic approach – were never fully integrated. Although I find this distinction useful here, Ågren was influenced by twentieth-century Japanese physicians who built on eighteenth-century Japanese physicians of the Old Prescription School (lit. *kohōha*, or "Ancient Formulas lineage,"), which was based on the classical formulas in the *Cold Damage Treatise*. They opposed the concepts of yin-yang, Five Phases, and the twelve circulatory tracts of *qi* found in the *Inner Canon*. Ågren summarized the arguments of Keisetsu Ōtsuka, who wrote that the *Inner Canon* represented a northern tradition and the *Cold Damage Treatise* represented a southern tradition, further differentiating the two regionally.

28 The other early medical texts include the *Jiayi jing* 甲乙經 (*A-B Canon*) for acupuncture, *Shennong bencao* for materia medica, the *Mojing* 脈經 (*Canon on pulses*), and *Nanjing* 難經 (*Canon of Problems*). Most Ming-Qing physicians writing about Cold Damage, Warm diseases, and epidemics tended to consider the *Basic Questions* and the *Cold Damage Treatise*, the two most pertinent Han-era medical canons for their concerns.

29 For an analysis of critical approaches to geography, see Soja 1989.

30 I borrow the concept of two spatial regimes from Keirstead's book on the geography of power in medieval Japan 1992 and article on gardens and conceptions of space in medieval Japan 1993.

31 Because of the climatic diversity of China's vast territory, most of the seasonal markers that became standard by 200 BCE were not useful outside of the old north.

32 See Kuriyama 2000 who argues that Chinese were obsessed with the menace of weather, though he also traces an early awareness of contagion.

33 For an anthropological discussion of cosmology and challenges to it that have informed my analysis, see Douglas 1966, 1970.

34 Temkin 1977, p. 15.

35 See Kong Li 1996. The two now canonical *wenbing* texts were from the eighteenth century: Ye Tianshi's short essay "On Warm and Hot" ("*Wen re lun*" 溫熱論) and Wu Tang's *Systematic Analysis of Warm Diseases* (*Wenbing tiaobian*), the first compilation of writings on *wenbing*.

36 See Ren Yingqiu, 1986, *Suwen* 5.2.6, p. 20.

37 See Ren Yingqiu 1986, *Suwen* 33.1, p. 96. For more definitions of *wenbing* as a spring manifestation of winter Cold Damage, see Ren Yingqiu 1986, *Suwen* 33.3, p. 15, and 5.2.6, p. 20.

38 The historical etymology of the Chinese terms for *yi* "epidemics," *wen* "Warm," and *wenyi* "febrile epidemics" is too complicated for this overview. See the etymology of these and other terms related to communicable diseases in Fan Xingzhun 1989, pp. 263–70.

39 In one of the seventh-century interpolated chapters, *wenbing* is coupled with its older cousin *li* 癘 (calamity or pestilence): "[When] the people [suffer] from pestilence, then it is the work of Warm diseases…. When the disease is "Warm," the pestilence spreads widely so that near and far,

everywhere is the same." See Ren Yingqiu 1986, *Suwen* 71.1.2, p. 210; and a variation of the same idea, 71.1.4 p. 213.

40 Zhang Ji's subdivision of Cold Damage into various types of Warm, Hot, and other seasonal disorders was borrowed from both *Basic Questions* and the *Canon of Problems*. See *Nanjing*, problem #58: "There are five types of Cold Damage: Wind-stroke, Cold Damage, Damp-Warm, Hot disease, and Warm disease."

41 See Goldschmidt 2009, pp. 97–100.

42 The twelfth-century northern physician Liu Wansu 劉完素 (1110–?), for example, focused on Heat, and other Jin-Yuan innovators, especially Zhu Zhenheng, emphasized Fire over the pathogenic Wind and Cold that their predecessors and contemporaries who adhered to the Cold Damage tradition emphasized.

43 In the fourteenth century, Wang Andao 王安道 (c. 1332–91) first proposed that *wenbing* should not be classed with Cold Damage because it was not due to latent cold *qi* but rather pathogenic warm *qi*. Everyone agreed Warm diseases were due to external climatic pathogenic *qi*; its acute onset suggested an external agent, but what type of pathogenic climatic *qi* was open to debate. Wang Ji 汪機 (1463–1539) further differentiated dormant *qi*-induced *wenbing* due to Cold Damage from newly contracted *wenbing* from a different external cause.

44 *Nanbing biejian*, Song Zhaoqi preface 1878, p. 1.

45 Two of the authors Song selected, Xue Shengbai and Xue Chengji, were his maternal relatives. The other one was Ye Gui, a contemporary though neither friend nor colleague of Xue Shengbai.

46 On the case of SARS and Chinese medicine in mainland China, see Hanson 2011.

47 Rosenberg 1992a, p. 295.

48 Rosenberg 1992a, pp. 295–96.

49 See Xie Guan 1935, for epidemics argument, pp. 24a–b; for the development of writings on Warm diseases coming out of the Cold Damage tradition, pp. 24a–28a.

50 Fan Xingzhun [1961] 1986, pp. 240–41.

51 See Jia Dedao 1979, p. 204.

52 The 1980 foreword to the reprint of the earliest commentary on the *Treatise on Febrile Epidemics*, the *Wenyi lun ping zhu* 1709, for example, compared Wu Youxing's innovations to those of modern biomedical understandings of acute infectious diseases. See *Wenyi lun ping zhu* 1985, pp. 2–7. The first approach is also represented by the textbook on "contagious diseases" (*chuanran bing* 傳染病) by Li Jiageng, *et al*., eds. 1997. The second approach is reflected in the monograph on "externally contracted febrile diseases" (*waigan rebing* 外感熱病) by Wu Yin'gen and Shen Qingfa, eds. 1991, and in the textbook *Warm disease studies* (*wenbing xue* 溫病學) by Meng Shujiang 1985, 1989. See also Zhao Pushan 1997, pp. 205–11.

53 It is notable that Ren Yingqiu did not mention either the *Southern Diseases* of 1878 or the regional identification of the new *wenbing* current of medical learning. Both were also ignored in the *Qing Draft History* of 1928, which Ren Yingqiu could have relied upon though it is unclear if he had access to it.

54 For example, in his *Systematic Analysis of Warm Diseases* (*Wenbing tiaobian*, pr. 1812), Wu Tang represents the "new discoveries and righting previous limitations" argument by his admission that Wu Youxing's *Treatise* was his original source of inspiration and by his choice of later texts showing the influence of his teachings among disparate physicians who never personally knew or worked with Wu himself. *Southern Diseases* of 1878, by contrast, exemplified the regionalist argument in its origin in a local medical lineage from Suzhou skilled in treating southern patients and a family lineage through the famed Suzhou physician Xue Shengbai.

55 On "contextualizing the canon" in the history of science in the West, see Schaffer 1996.

56 See especially Farquhar 1994a, 1994b.

57 I thank Charlotte Furth for this insight and metaphor.

58 I consider Xu Dachun 徐大椿 (1693–1771), for example, to be the most representative mid-eighteenth-century defender of the Cold Damage tradition as well as promoter of Han learning in medicine. In this account, I do not follow the advocates of the Cold Damage tradition into the twentieth century, although the tradition continues globally in TCM colleges, in Japan, and on the internet.

2 A Deep History of the Chinese Geographic Imagination

1 Li Gao 李杲, *Zhenzhu bao zhizhang* 珍珠寶指掌. Version cited in GJTSJC [1725] 1935, *Yishu dian*, Medical section, *juan* 522, *ci* 464, p. 19a. This book is conventionally known as *Zhenzhu nang* 囊 *zhizhang*.

2 The "Four Masters" in Chinese medical history was not consistent through time. Physicians have debated who should or should not be included since its original conception. According to the earliest Yuan period references to "Three Masters" of medicine, these were Zhang Congzheng, Liu Wansu, and Li Gao. Starting only in the sixteenth century, some physicians replaced Zhang Congzheng with the Han physician Zhang Ji and added Zhu Zhenheng, clearly a southerner, to the group.

3 Leung 2002.

4 Birrell, 1993, pp. 69, 98. This myth was first recorded in both *The Book of the Master of Huainan* (*Huainanzi* 淮南子) and the *Book of Master Lie* (*Liezi* 列子) (Graham 1990).

5 On the apportionment of the four seasons among the Five Phases, see Sivin 2009, p. 401, commentary.

6 I follow the argument in Allan 1991, p. 68. About half of the poetical works in this collection, including this one, are attributed to the noble Qu Yuan 屈原 (*c*. 343–*c*. 277). See Hawkes, in Loewe, ed. 1993, pp. 48–55.

7 See translations by Hawkes 1985, p. 128, lines 33–35; Field 1986, #35; and Major 1993, p. 64.

8 Although the *Liezi* is attributed to Lie Yukou 列禦寇 (*c*. 400 BCE), it was not written down until around 300 CE, probably by one anonymous author. See Graham 1990, p. 12; and Barrett 1993, pp. 298–308.

9 Although the *Book of Master Guan* (*Guanzi* 管子, 5th–1st cent. BCE), compiled *c*. 26 BCE by Liu Xiang 劉向 (*c*. 77–*c*. 6 BCE) and *Discourses of the States* (*Guoyu* 國語, contents date from 431–314 BCE) contained other stories about Gong Gong, only the *Liezi* and the *Huainanzi* recounted his destruction of Mount Buzhou and the consequent toppling of one of the eight earthly pillars that held up the canopy of the sky. See Birrell 1993, pp. 97–98.

10 *Gujin lüli kao* 古今律歷考 (*Studies of Astronomical Systems Past and Present*), *juan* 9, by Xing Yunlu 邢雲路. This source of 1607 provides evidence that the myth of a skewed Earth was still in circulation then. Translation from Graham 1990, p. 96, Romanization altered to pinyin. Table 2.1 follows the convention in early Chinese maps to place south at top.

11 Major 1993, p. 26.

12 See the summary of this argument and chart in Hawkes 1985, pp. 135–36.

13 For a detailed argument, see Sivin 1995c. For comparisons with ancient Greece, see Sivin 1995a.

14 There were six interlocutors in the *Inner Canon*, but Qibo 岐伯 was the most important and the only one of concern in the passages quoted here.

15 See Ren Yingqiu 1986, *Suwen* 8, *zhang* 1–2, p. 28. Translation from Sivin 1995a, p. 7.

16 Lloyd and Sivin 2002. The *Lü shi chunqiu* 呂氏春秋 (*The Annals of Lü Buwei*, 239 BCE) and its successors provide evidence that the state theory of an imperial bureaucratic ideal was contemporary with the idea of a somatic as well as celestial bureaucracy.

17 Sivin 1987, p. 47.
18 Sivin 1987, pp. 59–60.
19 Sivin 1987, pp. 70–80. Until the mid third century, Five Phases (*wuxing*) had various other meanings. On their early use as material and ethical categories, see Lloyd and Sivin 2002, pp. 259–60.
20 For evidence of this argument, see Fan Xingzhun [1961] 1986, pp. 127–28; and Leung 2009, p. 18, fn. 8.
21 Fire is not always interchangeable with Heat, however, as in the case of "Gate of Life Fire" (*Mingmen huo* 命門火) located in either one of the kidneys or between them depending on different medical perspectives.
22 Sivin 1987, p. 275. The idea that external pathogens could enter through the mouth and nose appeared much later and became particularly important in Wu Youxing's *Treatise on Febrile Epidemics*, 1642 (see Chapter 5).
23 For use of orthopathic *qi* for *zhengqi* and heteropathic *qi* for *xieqi*, see Sivin 1987, pp. 49, 102. Porkert translated *xie* as "heteropathia" and distinguished five types according to how they were transmitted. See note in Porkert 1974, p. 54. Porkert first translated *zheng* as "orthopathy" in a later book. See Porkert and Ullman 1988, pp. 57–59.
24 During the Qing, dampness disorders in the autumn became a debated topic and dryness disorders emerged as an important medical problem in the Warm diseases compilations of the nineteenth century (see Chapter 7).
25 In Ren Yingqiu 1986, *Suwen* 12.1, p. 39.
26 Although translated here as jades, *yü* includes a broad group of translucent colored minerals, not just nephrite and jadeite.
27 *Duyao* are strong drugs that can counteract pathogens but would harm a healthy body.
28 *Bi* refers to pain in the limbs or trunk, or numbness caused by wind, cold, or damp factors.
29 Ren Yingqiu 1986, *Suwen* 12.1–5, pp. 39–40. For a good explanation of this *Inner Canon* conception of loose and tight pores with respect to protection of the body from invasion by wind, see Hsu 2008, pp. 115–16.
30 See "Nine palaces and eight winds" (*Jiugong bafeng* 九宮八風), in Ren Yingqiu 1986, *Lingshu* 77.3, pp. 468–69.
31 See "On seasonal dew" (*Sui lu lun* 歲露論), in Ren Yingqiu 1986, *Lingshu* 79.3, pp. 475–76.
32 As will be discussed in Chapter 3, the *Huainanzi* and *Liezi* both preserved accounts of this Chinese myth of the creation of the world.
33 This was despite the fact that in traditional China the left, associated with the east, was the ritual position of honor.
34 See "Major essay on yin-yang resonances and appearances" (*Yinyang yingxiang dalun* 陰陽應相大論), Ren Yingqiu 1986, *Suwen* 5.4.3, p. 22.
35 Ma Jixing 1990, pp. 73–74; Sivin 1993, p. 199. Part of *pian* 9 and all of 66–71 and 74, which are devoted to the post-Han 'phase energetics' cosmological model, are later fabrications.
36 See the seventh-century interpolated chapter, "Major essay on the governance of the five regularities" (*Wu chang zheng dalun* 五常政大論), *Suwen* 70, *zhang* 2.1, p. 205.
37 "Left" (*zuo* 左) appears with the meaning east in the *Shi jing* 詩經 (*Book of Songs*, *c*. 1000–*c*. 600 BCE), "Tang Airs" (*Tang feng* 唐風), and in later commentary by Zheng Xuan 鄭玄 (127–200). Both cited in the *Hanyu dacidian* 1988, vol. 2, p. 959.
38 For an English translation of one of the earliest descriptions of a state ritual attributed to the Duke of Zhou, see Lewis 2006, pp. 263–64. See *Li ji zhu shu* 禮記 注疏, ch. 31, "Positions at the Bright Hall" (*Ming tang wei* 明堂位), pp. 2a–4a.
39 The same principle held true for highlands where people lived longer and lowlands where people died prematurely. Ren Yingqiu 1986, *Suwen* 70.2.2, p. 205.

40 These details come from the interpolated *pian* 70, in Ren Yingqiu 1986, *Suwen* 70.2.1, p. 205.

41 For a convincing argument that outbreaks of epidemics coincided with a Northern Song revival of Zhang Ji's writings on Cold Damage, see Goldschmidt 2009, pp. 72–87.

42 Modern MD's would identify many of them as acute infectious or epidemic diseases.

43 For the Chinese original, an English translation, and a clear explanation of the White Tiger Decoction pattern of sickness, see Mitchell, *et al*., 1999, p. 316. Passage also cited and discussed in Farquhar 1994, p. 214.

44 The Northern Song imperial editors of the *Cold Damage Treatise* published in 1065, and again in 1088, found the text difficult to understand. They did not have the necessary literary resources, such as previous commentary, to complete a fully annotated edition of the text. See Goldschmidt 2009, pp. 100–101.

45 Although the term *jingfang* appeared as early as the *Hanshu* and again in the Tang in Sun Simiao's writings, it then meant, "formulas based on experience" (*jingyan fang* 經驗方). The more restricted reference to the "canonical formulas" of the *Cold Damage Treatise* came into use only after conservatives came in conflict with propopents of the "contemporary formulas" (*shifang* 時方) associated with the Jin-Yuan revisionists and Warm diseases current of learning of the mid-seventeenth century on. For a detailed summary of these terms and the conflict they represented, see Li Jingwei and Cheng Zhifan, eds. 1987, pp. 78–81.

46 I refer specifically to the *Inner Canon: Basic Questions* and the *Canon of Problems*.

47 For historical analysis of the emergence of these doctrines in the Northern Song, see Despeux 2001. For a more detailed explanation in English, see the appendix in Unschuld 2003. Porkert 1974 coined the term "phase energetics" as a translation of *yunqi* 運氣 and also provided an analysis of this doctrine. For the earliest use of hand mnemonics to remember phase energetics doctrines, see Hanson 2008a.

48 On the earliest sources on medical apprenticeship and initiation, see Sivin 1995b.

49 Tamba no Mototane 1983, p. 87. One of the Tang critics, Zhang Shunmin, referred to may have been the scholar Yu Shining 于士寧 (*c*. 7th cent.) who, working on a revised materia medica, is quoted as informing the emperor that Tao's book was "Biased toward Jiangnan. He did not have a comprehensive knowledge of medicines and minerals." Ibid. 1983, p. 90. Original in *Xin Tangshu*, *juan* 104, biography 29, p. 1407.

50 Tamba no Mototane 1983, p. 87. Original in Zhu Xi, *Classified Comments by Master Zhu* (*Zhuzi yu lei* 朱子語類), [1270] 1962, p. 15a.5351. For life, times, and writings of Tao Hongjing, see Strickmann 1978, who, however, does not discuss his medical activities.

51 *Qing* does not mean green, blue, green-blue, or blue-green as it is typically translated. In nature it refers to a wide range of saturated colors, in people to a pale ashen color, and in animals to gray. In modern Japanese, *aoi* 青 retains the last two senses.

52 Zhu Gong, *Lei zhong huo ren shu*, "*Wenbing*," cited in GJTSJC [1725] 1935, *juan* 319, 43a. Also in GJTSJC, YBQL 2000, *juan* 299, pp. 1813–14. Ephedra and Cinnamon Twig are the two main ingredients in the Great Gray Dragon formula. This is a classic Cold Damage formula for clearing interior heat and resolving the exterior with warmth and acridity. See Mitchell, *et al*., 1999, pp. 114–16.

53 I thank one of the two anonymous readers of this manuscript for this insight.

54 Chen and Cai were two ancient states generally located in present-day Henan. Passage cited in Tamba no Mototane 1983, p. 282, but Tamba does not provide a citation for the original source by Zhao Xibian. The two formulas were common Cold Damage remedies. Bupleurum root, the principal drug for "Bupleurum decoction" (*Chaihu tang* 柴胡湯) is a pungent and cooling diaphoretic herb. "White Tiger decoction" (*Baihu tang* 白虎湯) combines ground gypsum, wind-weed rhizome, prepared licorice root, and rice gruel to clear heat.

55 Tamba no Mototane 1983, p. 71. Locus classicus, Zhang biography, *Jinshi*, *juan* 131, p. 2812; also in Qian Yuanming, *et al*., eds. 1986, pp. 65–66. The biography includes an interesting account of Zhang Yuansu successfully treating Liu Wansu of a bad case of Cold Damage with non-Cold Damage methods. *Jinshi*, *juan* 131, p. 2812.

56 This publication is referred to from here on as the *Song Imperial Formulary* (*jufang* 局方).

57 Leung 2003a, pp. 374–98.

58 See *Rumen shiqin* 1994 reprint, *juan* 1, p. 35.

59 Ibid.

60 See previous translation of locus classicus in the *Inner Canon* (see pp. 31–32).

61 For extensive sources on regional conceptions of goiter incidence and use of seaweed and thyroid gland to treat them, see H.T. Huang 2000, pp. 573–78. In a rare example of speculation, Huang explains how the two therapies made sense according to the yin-yang reasoning of deficiency or excess of *qi*. Seaweed was a plentiful food of the coastal region where no goiter occurred and thus could counterbalance the diet deficiencies in mountainous regions. Although hyperplasia of the thyroid suggested, on the contrary, excess *qi*, the early physicians suggested thyroid glands to remedy a deficiency in *qi*. See H.T. Huang 2000, p. 578.

62 See "Revision of the rules of the seven formulas and the ten prescriptions" (*Qifang shiji shengmo ding* 七方十劑繩墨訂), *Rumen shiqin*, *juan* 1 1998 reprint, p. 21; or *Rumen shiqin yanjiu* 1998, p. 320.

63 For further examples, see Unschuld 1986, pp. 85–101.

64 In contrast to the one or two diseases of the other four directions, Zhang associated 14 illnesses with the center: the nine jaundices (*jiudan* 九疸), food exhaustion (*shilao* 食癆), fullness of the center (*zhongman* 中滿), lodged phlegm-rheum (*liuyin* 留飲), sour-acid vomiting (*tusuan* 吐酸), and abdominal distention (*fuzhang* 腹脹).

65 See discussion of this evidence for five regional drugs in Leung 2002, p. 169.

66 *Rumen shiqin* 1994 reprint, *juan* 1, p. 21; or Xiao Guogang, ed. *Rumen shiqin yanjiu* 1998, p. 321.

67 Zhang's evidence of regional drugs supported his concluding points that the seven types of formulas (*fang* 方) combined (*he* 合) several ingredients, as in a mixing bowl, to treat a disease (*bing* 病), but the ten types of prescriptions (*ji* 劑) harmonized (*he* 和) these ingredients, as in a porridge, to treat the individual patient's illness (*ji* 疾).

68 Furth 2006, pp. 428–29; also Wu Yiyi 1993–94, pp. 43–45.

69 For qualifications of this simplification of Zhu Zhenheng's practice, see Liu Shijue, *et al*., eds. 2004.

70 Furth 2006, pp. 433–34.

71 For this argument and evidence to back it up, see Liu Shijue, *et al*. 2004.

72 For full biography of Zhu Zhenheng, see Dai Liang, "*Danxi weng zhuan*," *Jiuling shanfang ji* 九靈山房集 (*Collected Works from the Mountain Villa of Nine Divinities*), *juan* 10, 6b–14a; for this passage, see center of 7b. Reprinted in He Shixi 1991, vol. 1, pp. 249–53, p. 250; and ZGYJTK 1991, vol. 2, pp. 2404–406, p. 2405. Translated also in Furth 2006, p. 433, fn. 18.

73 Dai Liang, *Jiuling shanfang ji*, 7a.

74 Song was a friend of Zhu as well as Dai. For his biography of Zhu as a portrayal of a "Confucian physician" (*ruyi* 儒醫), see Furth 2006, pp. 435–41. Song wrote it as a funerary essay, "*Gu Danxi xiansheng Zhu gong shibiaoci* 故丹溪先生朱公石表 辭," in *Song Lian quanji*, *juan* 4, pp. 2131–38. His preface to Zhu's *Gewu zhizhi yulun* is quoted in full in ZGYJTK 1991, vol. 2, pp. 2396–97. The relevant passages are cited in Ding Guangdi 1999, p. 31.

75 On this friendship between Dai, Song, and Wang as linked to their origin in Jinhua prefecture (Zhejiang), see Gerritsen 2007, p. 39. She writes "Wang Wei" for "Wang Hui."

76 These are the honorific names for Zhang Yuansu, Liu Wansu, Zhang Congzheng, and Li Gao. See Ding Guangdi 1999, p. 33. From Wang Hui's *Qing yan cong lu* (*Gray Cliffs Collectanea*) but Ding did not indicate the *juan*.

77 The best work on the family, master-disciple, and fictive lineages of physicians stemming from the Jin and Yuan period is by Wu Yiyi 1993–94.

78 Guo Aichun 1987. I refer to this text as *Medical Books by Province*. This data offers an opportunity to determine province-by-province differences in the attribution, authorship, and publication of medical texts over roughly two thousand years. Tabulating the number of medical titles listed in these gazetteers according to genres, dynasties, and provinces makes it possible to sketch in broad strokes the most important regional differences and historical changes of medical publishing in early modern China.

79 The first attempt to use this material to prove that there was a southward shift and that it occurred during the Yuan dynasty is Wang Jiulin 1997, pp. 293–94.

Part II New Ming Medical Boundaries

1 See the opening "Question #1" (*Di yi dao* 第一道), *Taiyiju zhuke chengwen ge* 太醫居諸科程文格 (*Model Examination Essays for the Various Disciplines in the Imperial Medical Bureau*, 1279), *juan* 1, p. 1a–2a/7. I thank T.J. Hinrichs for directing me to this primary source.

2 See "Question #2" (*Di er dao* 第二道), *Taiyiju zhuke chengwen ge*, *juan* 1, pp. 8b–9a/10–11.

3 The Geographic Imagination in Ming Medicine

1 Translation from "A discussion of the scientific character of Chinese medical doctrines from the achievements of the two great northern medical currents of learning," (*Cong beifang liang da liupai de chengjiu tan dao zhongyi lilun de kexuexing* 從北方兩大流派的成就談到中醫理論的科學性), in *Ren Yingqiu lun yi ji* 任應秋論醫集 (*Ren Yingqiu's Collected Writings on Medicine*, 1984), p. 417. Taiwan reprint 1989, p. 661.

2 On the publishing boom in the Ming, see Brokaw and Chow 2005. For a study of one late Ming publisher of medical texts, see Widmer 1996, pp. 77–122. See also Leung 2003a, pp. 374–98.

3 On Northern Song medical activism that affected expansion of medical education, medical institutions, medical publishing, and drug therapy as well as the standardization of acu-moxa therapy and texts, see Goldschmidt 2005. On the particular role of Emperor Huizong (1082–1135, r. 1101–26), see Goldschmidt 2006.

4 The "Warming and restorative current of learning" (*wenbu xuepai* 溫補學派) that became associated with the southern physician Xue Ji was aligned with the southeast side of this dichotomy.

5 Although the *Inner Canon* examples discussed in Chapter 2 used "Heaven is insufficient in the northwest" (*Tian buzu xibei* 天不足西北) instead of the phrasing "Heaven tilts in the northwest" (*Tian qing xibei* 天傾西北) used here, the meaning is the same.

6 The second image is of the 64 hexagrams of the *Book of Changes* (*Yijing* 已經) arranged according to the four cardinal directions. See *The Imperial Longevity Permanent Calendar* (*Sheng shou wannian li* 聖壽萬年歷, 1595) published by Prince Zhu Zaiyu 朱載堉 (1536–1611).

7 The third image is of the palm of the left hand, published in the *Illustrated Commentary of the Classified Canon* (*Lei jing tu yi* 類經圖翼, 1624) by Zhang Jiebin 張介賓 (1563–1640). All these images are discussed in Hanson 2008b, the longer Chinese version of Hanson 2006.

8 [*Zuantu zengxin qunshu lei yao*] *Shilin guangji*, Yuan, Zhishun (r. 1330–33) ed. *juan* 1, p. 2.

9 According to Despeux 2005, pp. 39–41, Taoist adepts of the inner alchemy tradition read a comparable image from bottom to top as an aid for meditation practices and associated the Five Phases with the five main ingredients of internal alchemy (cinnabar, silver, mercury, lead, and earth) instead of the five Neo-Confucian virtues as in this example.

10 For the classical textual roots of this universal-regional tension, see the introduction to Lewis 2006.

11 Two essays accompanied this image explaining the cosmological processes it represented. The "*liangyi tu shuo*" discussed the interdependent yin-yang relationship between Heaven and Earth by quoting several classical texts, including from *Basic Questions*: "Heaven is insufficient in the northwest, therefore the northwest region is yin" (*Tian buzu xibei, gu xibeifang yin ye* 天不足西北,故西 北方陰也). See Ren Yingqiu, HDNJ 1986, *Suwen* 5.4.3, p. 22.

12 According to the myth, the rabbit was formerly the goddess Chang E who stole the elixir of immortality from Archer Yi and escaped to the moon. In other accounts, a toad resides on the moon, though there appears to be no connection to the rabbit or the immortal goddess Chang E. Allan 1991, pp. 27–36.

13 [*Zuantu zengxin leiju*] *Shilin guangji*, Ming, Hongzhi reign edition, *juan* 1, pp. 2b–3a. Taipei facsimile.

14 Dai Liang, *Collected Works from the Mountain Villa of Nine Divinities* (*Jiuling shanfang ji* 九靈山房集). On the inspiration for this argument, see Leung 2002, p. 170.

15 Li Yun, 1988, pp. 644–45; He Shixi 1991, pp. 773–74.

16 These three doctors were Liu Wansu, Zhang Congzheng, and Li Gao.

17 Dai Liang, "*Baoyi weng zhuan*" 抱一翁傳 ("Biography of Xiang Xin"), *Jiuling shanfang ji*, *juan* 19, pp. 9b–17a. Also cited in Leung 2002, p. 170.

18 Li Yun, 1988, p. 177; He Shixi 1991, p. 246.

19 See Dai Liang, "*Zeng yishi Zhu Bishan xu*" 贈醫師朱碧山序 ("Preface as a gift for the physician Zhu Bishan"), *Jiuling shanfang ji*, *juan* 13, pp. 12a–b.

20 Leung 2002, p. 170, quoted this passage as representative of the medical conceptions of northern and southern differences after the Yuan dynasty.

21 For a comparable analysis of anxiety about the immoderate appetites for food and sex among male patients in sixteenth-century Huizhou, see Grant 2003.

22 Jiangzhe was a large administration that included much of what was South China in the Yuan period. Its capital was Hangzhou and it was a regional rather than a central unit.

23 Dai Liang, "*Zeng yishi Zhu Bishan xu*," *Jiuling shanfang ji*, *juan* 13, p. 12b.

24 Huguang encompasses the two provinces, Hubei and Hunan.

25 He Shixi 1991, pp. 44–45; Li Yun 1988, p. 49. Although three other books are attributed to Wang Lun, the one that made him known and is still being reprinted is the *Miscellaneous Writings by Enlightened Physicians* (*Mingyi zazhu*).

26 He Shixi 1991, pp. 277–80; Li Yun 1988, p. 952. The edition with Xue Ji's commentary is the only one extant. It has survived because it was included in two collections of Xue's commentaries and editions of other physicians' writing.

27 Xue Ji revised and published his father's book on paediatrics, *Selecting Essentials for Protecting Infants* (*Baoying cuoyao* 保嬰措搖, 1556).

28 See Cheng Weizhong, ed. 1999, pp. 1091–93.

29 Shi Qianwei preface to *Mingyi zazhu*, p. 3. For the history of transmission of this current of learning, see Wu Yiyi 1993–94, pp. 36–65. Wu argued that the editors' introductory statement on medicine in the *Wenyuange Siku quanshu* of 1782 "was the first to affirm the existence of such lineages among medical practitioners" (Wu Yiyi 1993–94, p. 37). Shi Qianwei's preface to

Mingyi zazhu in 1556, however, places the conception of regional medical lineages in the mid-1550s.

30 *Mingyi zazhu*, *juan* 1, p. 3; *juan* 3, pp. 106–107. Dongyuan refers to Li Gao (1180–1251) and Danxi refers to Zhu Zhenheng (1282–1358). A third essay titled "Proposal to treat Lingnan's various disorders" (*Ni zhi Lingnan zhubing* 擬治嶺南 諸病), *juan* 2, pp. 82–86, on medical views of the Lingnan region and diseases of the Far South, is discussed in Chapter 4.

31 Wang Lun, *Mingyi zazhu*, *juan* 1, p. 3.

32 Ren Yingqiu, HDNJ 1986, *Suwen* 74.2.5, p. 236; and 74.5.2, p. 242. *Pian* 74 is also one of the later fabrications, but this has no bearing on the classical status of the maxim.

33 Xue Ji's commentary follows the original passage in *Mingyi zazhu*, *juan* 1, p. 3.

34 Needham 2000, p. 54.

35 This formula is cited in *Excellent Formulas of Su and Shen* (*Su Shen liang fang* 蘇沈良方), *juan* 2 and 3. Neither *juan* of the *Su Shen liang fang* refers to the 1089 epidemic in Huangzhou, which is discussed in the *Formulas for General Benefit* (*Puji fang* 普済方), *juan* 151.

36 *Mingyi zazhu*, *juan* 1, p. 3.

37 Ren Yingqiu, HDNJ 1986, *Suwen* 12, *jie* 1–5, pp. 39–40.

38 Leung 2002, pp. 171–72, has already clearly examined the change from the five directions to the northwest–southeast model from the Han to the Ming dynasty. She argued that the same divergence indicated further refinement in the relationship between the environment and the human constitution in the writings of late Ming physicians such as Wang Lun and Zhang Lu (1617–1700).

39 See especially "Essay on the genuine words of the Golden Casket" (*Jinkui zhenyan lun pian* 金匱真言論篇) in Ren Yingqiu, HDNJ 1986, *Suwen* 4.3, p. 17.

40 *Mingyi zazhu*, *juan* 3, p. 106. Dongyuan refers to Li Gao, Danxi refers to Zhu Zhenheng, Luo Qianfu 羅謙甫 refers to Luo Tianyi (*c*. 13th cent.), and Liu Zonghou refers to Liu Chun 劉醇 (*c*. 14th cent.)

41 On Luo Zhiti's role in transmitting Liu Wansu's teaching south, see Wu Yiyi 1993–94, pp. 43–44.

42 On the early Han dynasty idea of legendary sages as culture-givers of knowledge based on a universal standard – such as the Divine Husbandman and the Yellow Emperor – see the section on "sovereigns as innovators" in Sivin 1995b, pp. 188–90.

43 Wang Lun did not refer to the five regions of the *Inner Canon*, but rather mentioned the north, south, Lingnan, and Jianghu and ignored the three other original regions – west, east, and center. This example further supports the argument that when later medical authors referred to the *Inner Canon*'s "*Yifa fangyi lun*," they alluded to the ancient notion of regional variation in medical practices, but did not adhere closely, if at all, to the content of the original chapter.

44 *Mingyi zazhu*, *juan* 3, p. 106.

45 Taipu refers to Wang Bing 王冰 (8th cent.). This is the shortened title to the *Formulary of the Pharmacy Service for Benefiting the People in the Great Peace Era* (*Taiping huimin heji jufang*, compl. Daguan r. 1107–10).

46 *Mingyi zazhu*, *juan* 3, p. 106.

47 The "Four Masters" for Li Zhongzi were Zhang Ji, from the second century CE and Liu Wansu, Li Gao, and Zhu Zhenheng from the Jin-Yuan period. See Bao Laifa, ed. 1999, vol. 1, pp. 789–92. See also Li Yun 1988, pp. 272–73. For nearly exhaustive evidence about the debate on the "Four Masters" thereafter, see Ding Guangdi 1999, pp. 30–34.

48 *Yizong bidu*, *juan* 1, p. 80. Unschuld 1985, p. 203, also noted Li Zhongzi's defense of these authors against charges of one-sidedness.

49 For major social and economic transformations of the end of the sixteenth century, see Brook 1998, pp. 153–237.

50 *Yizong bidu*, *juan* 1, p. 81.
51 Ibid. Zhang Zihe refers to Zhang Congzheng and Xue Lizhai refers to Xue Ji.
52 Ibid. Original in Ren Yingqiu, HDNJ 1986, *Suwen* 78, p. 249.
53 *Yizong bidu*, *juan* 1, p. 81.
54 Ibid.
55 Li Zhongzi, "*Fangtu lun*," *Yisheng weilun*, pp. 695–96. The exception is Zhang Jiebin (1563–1640) in his *Classified Canon* (*Lei jing*, 1624). Zhang's commentary, however, did not revise and restructure the original *Inner Canon* essay as Li's version did. See *Lei jing*, *juan* 12, pp. 199–200.
56 Ibid. For a chart of the differences between Li's and the *Suwen* version, see Hanson 2006 and Chinese version 2008b.
57 On "The pharmacology of systematic correspondence," see Unschuld 1985, pp. 179–88.
58 See Leung 2002, pp. 168–69; pp. 196–97 for this insight on Zhang Congzheng's innovation and examples of other doctors who specified certain drugs for different regions thereafter in the Ming and early Qing. Passage from *Rumen shiqin*, *juan* 1, p. 21.
59 For support of this argument that mid- to late Ming physicians preferred drugs over acupuncture and moxibustion, see Furth on the pharmaceutical strategies of the Ming doctor Cheng Congzhou 程從周 (1581–?), 1999, pp. 224–65. On literate male practitioners and their preference for drug therapies in his analysis of the medical care in the sixteenth-century novel, *Plum in the Golden Vase* (*Jinpingmei* 金瓶梅), see also Cullen 1993, pp. 115–22.
60 Summary of arguments in Leung 2002, pp. 201–203.
61 Unschuld 1985, pp. 179–88. A comparable integration of Jin-Yuan innovations in materia medica and herbal formularies can be seen in the work of his disciple Guo Peilan 郭佩蘭 for whose *Collected materia medica* (*Bencao hui* 本草匯) he wrote a preface. Unschuld 1986, pp. 120–22.
62 Zimmerman 1987, p. 219.

4 Ming medical Frontiers

1 Although I translate *chong* as "worms and insects," it encompasses a broad range of creatures.
2 Han's crime was criticizing the veneration of a relic of the Buddha – by the emperor, among others.
3 See the biography of Han Yu, *Jiu Tang shu* (舊唐書), *juan* 160, biography section *juan* 110, p. 4201. Also partially translated in Yang Bin 2010, p. 171, fn. 35. Han was writing from modern Fujian province. Although I have chosen "miasma" to translate *zhang*, the term has a strong association with the Far South that the word does not have in Europe.
4 Translation of Liu Xun 劉恂, *Records of the Strange in Lingbiao* (*Lingbiao luyi* 嶺表錄異), in Schafer 1967, p. 130.
5 The earliest use of Lingwai was in the *History of the Later Han* (*Hou Hanshu* 後漢書, comp. 4 – 5th cent., pr. 445). The earliest use of Lingnan and Lingbiao was in the *History of the Jin* (*Jinshu* 晉書, pr. 646).
6 Naquin and Rawski 1987a, pp. 176–84.
7 See essay on "Intermittent fevers" (*nüeji* 瘧疾) in Fan Xingzhun [1961] 1989, pp. 300–310; on its southern dominance and conflation with miasmic *qi*, pp. 304–306. See also Hsiao Fan 1993, p. 74.
8 The early Qing physician Chen Shiduo 陳士鐸 (17th cent.) wrote in 1687: "Miasmic pestilence is the transformation of the accumulated steam of the *qi* of Guangdong and Guangxi (lit., *liang Ou* 兩歐)." See *Shishi milu* 石室秘錄 1999 reprint, p. 385. Chinese quoted in Leung 2002, p. 179.

9 Many scholars equate the Chinese disease concept *nüe* with biomedical malaria, but one should avoid this slippage for earlier periods. Similarly, although the Chinese disease concept *zhang* overlaps with symptoms resembling malaria in the past, and is still equated with malaria in present scholarship (Elvin 2004; Bello 2005; Yip 2009), recent anthropological research in Yunnan has shown that some locals distinguish *zhang* symptoms from malaria. For fieldwork, see Zhou Qiong 2007; for reference, see Yang Bin 2010, p. 191 fn. 130.

10 For multivalent meanings of *du* (lit., "poisoning") in medieval China, see Obringer 1997.

11 For the use of the neologisms "contagion-consciousness" and "climate-consciousness," see Kuriyama 2000. He used them to clarify a distinction between the greater awareness of contagion among the populace and contrasting emphasis on the weather among elite physicians. On Song understandings of contagion, see also T.J. Hinrichs 2004, pp. 61-75, and 130–202, and especially the history of the concept *chuanran* by Leung 2011.

12 Obringer 1997, p. 275. Original text in the *Shengji zonglu*, *juan* 148, p. 2422. In the *Zhubing yuan hou lun* 諸病源候論 (610), Chao Yuanfang 巢元方 (550?–630?) was the first medical author to focus on *zhang* as a distinct disease category. Obringer 1997 analyzed this text at length with respect to conceptions of toxicity in the Tang; Chang Chia-feng 2001 used the same text to analyze epidemics and concepts of contagion. For Chao Yuanfang's discussion of Lingnan's *zhangqi*, see also Chang 2001, pp. 42–43.

13 Kuriyama 2000. Kuriyama writes about contagion-consciousness and the split between awareness of contagion very early among ordinary Chinese people and yet comparatively scant attention paid to contagion ideas in medical texts, because of a dominant emphasis on the weather and concept of pathogenic climatic *qi*.

14 Ma Yuan's biography was originally published in the *History of the Former Han Dynasty* (*Hanshu*), by Ban Gu (32–92 CE), presented in 92 CE.

15 The *Record of the Three Kingdoms* preserved a story of General Gongsun Zan who led a military campaign into Vietnam in the second century CE. When he paid his respects at his parents' tomb he said: "I began life as your son, but now I am a servant of the emperor and must go to Rinan [i.e., modern Central Vietnam]. [Because of] Rinan's miasmatic *qi* perhaps I will not return. I now take leave of my ancestors." See *Sanguozhi*, *juan* 8, p. 239. Cited also in Yang Bin 2010, p. 168, fn. 24.

16 See Ma Boying 1994, for origin of smallpox myth, p. 805 and, for Ge Hong reference, p. 803.

17 See "*Zhangqi hou*," *Zhubing yuan hou lun*, vol. 1, *juan* 10, pp. 336–38.

18 For a thorough historical analysis of popular and medical conceptions of contagion from antiquity up through Chao Yuanfang's *Zhubing yuan hou lun*, see Chang Chia-feng 2001.

19 For the most thorough overview of primary sources for early medieval Chinese concepts of Lingnan's climate and *zhang* from the Period of Disunity through the Tang dynasty, see Hsiao Fan 1993, pp. 82–105. The *Lingbiao luyi* was by the Tang scholar Liu Xun 劉恂 (n.d.). Another Tang collection of essays on Guangdong that discussed the local climate and *zhang* was the *Panyu zaji* 番禺雜集 (*Guangdong Miscellanea*) by Zheng Xiong 鄭熊.

20 See the *Lingnan weisheng fang* 嶺南衛生方, by Li Qiu 李璆 (?–1151) and Zhang Zhiyuan 張致遠 (1090–1147), comp. 1255–64. I paraphrased here one of the main points of an anonymous preface repr. in ZGYJK 1982, p. 669. Many of the essays in this text are devoted to explaining and treating diseases due to Lingnan's "miasmas" (*zhang*) and "miasmic ague" (*zhangnüe* 瘴瘧).

21 See the essays under the "Wind and soil section" (*fengtu men* 風土門) on the "local climate" (*fengqi* 風氣), "miasmic region" (*zhangdi* 瘴地), and "miasmas" in *Lingwai daida*, *juan* 4, pp. 149–53. The author, Zhou Qufei 周去非 (*jinshi* 1163), compared the epidemics of the central regions with the miasmatic illnesses of Lingnan (p. 151) and argued that miasmas are to the south as Cold Damage is to the central regions (p. 152).

22 See section on miasmas, in Schafer 1967, pp. 130–34. For Qing military problems with troop deaths due to *zhang* in Yunnan, see Bello 2005.
23 Schafer 1967, p. 38.
24 *Songshi*, *juan* 159, p. 3722.
25 See the *liu* category in *The Great Ming Code* (*Da Ming lü* 大明律), pp. 303–307, 363–64, 368–69. Cited also in Yang Bin 2010, p. 173, fn. 46. For examples of banishment to Xinjiang in the eighteenth century, see Waley-Cohen 1991.
26 *Regulations of the Ministry of War* (*Bingbu zeli* 兵部則例, 1850), *ce* 131, *tao* 15.
27 To distinguish from the English meaning of Man meaning humanity, the Chinese pronunciation of Man rhymes with "on." The use of "Man Miasmas" (*Manzhang* 蠻瘴) goes back at least to the Song poet Zhang Jiucheng 張九成 (1092–1159). The *Standard History of the Ming* (*Mingshi*) referred to the "Miasmatic Man" (*Zhangman* 瘴蠻) people as well.
28 For example, "Man locale" (*Mantu* 蠻土) and "Man region" (*Manfang* 蠻方). See *Hanyu dacidian* 1994, vol. 8, pp. 1009b, 1010a.
29 The two-character phrase for the Man region can be found much earlier in the *Book of Poetry* as well as in the writings of Cao Zhi 曹植 (192–232) from the Three Kingdoms. The two-character phrase for the Man locale was used by Song scholar Liu Changshi 劉昌詩. See *Hanyu dacidian* 1994, vol. 8, pp. 1009a–10a.
30 See *Hanyu dacidian* 1994, vol. 8, pp. 1012a, 1013a–b, and 353b.
31 In the fourth century, Ge Hong referred to them as enemies' sores (*luchuang)*.
32 Chang Chia-feng 1996a, p. 49.
33 *Mingyi zazhu* 1985, *juan* 2, p. 82.
34 *Mingyi zazhu* 1985, *juan* 2, p. 83.
35 *Mingyi zazhu* 1985, *juan* 2, p. 82.
36 Xue Ji, *Liyang ji yao*, repr. in *Xue Lizhai yixue quanshu* 1999, p. 349. Huaiyang referred to that part of Jiangsu province to the south or yang of the Huai River and north of the Yangzi River. Min referred to the southeast coast, mainly encompassing modern Fujian province.
37 See Leung 2009b, p. 18.
38 Leung points out that the twelfth-century physician Chen Yan first articulated the idea that *li* was not due to Wind but another pathogenic factor. Zhu Zhenheng followed this line of reasoning suggesting another particularly vicious *qi* caused it. He appealed to a noxious local *qi* over the configurationist Wind that had dominated discourse on these diseases since antiquity. See Leung 2009b, pp. 28, 32. On *li* as an example of a contagious disease in the Song, see also T.J. Hinrichs 2004, pp. 189–93.
39 Wind occurs in both compounds *dafeng* and *mafeng* because it signified the earliest etiology of these skin ailments in the *Inner Canon* and later texts that attributed their cause to pathogenic Wind. For a long-term history, see Leung 2009, pp. 17–59.
40 Kuriyama 1994, pp. 23–28. Although I simply note here the centrality of the Wind as a pathogenic factor in early classical Chinese medicine, Kuriyama elaborated upon the link between the imagination of winds and the emergence of body consciousness and a sense of self.
41 On terminology and Xue Ji's monograph, see Leung 2009, pp. 4, 32, 46.
42 See Strickmann 2002 on concepts of contagion and person-to-person transmission in Buddhist and Taoist texts.
43 The characters for *yanzhang* – *yan* meaning a sensation of oppression felt in a dream and *zhang* within the disease radical meaning evident – are not those usually used for this concept. They are nonetheless homonyms and so I take them to mean "smoky miasmas."
44 Shen Zhiwen, *Jiewei yuansou*, *juan* 1, 8b. I have provided my own translation but summarized here arguments original to Leung. Translated and discussed in Leung 2009, p. 36, fn. 87.

45 Leung 2009, p. 39 on *zhulian* transmission, p. 43 on two modes of transmission. Leung points out that Shen borrowed the idea of magical *gu* transmission from the Song Daoist Lu Zhizhong's discussion of chronic wasting disorders (*lao zhai* 勞宅). See p. 43, fn. 118. See also Li Jianmin 1999.

46 Leung 2009, p. 39. On translating the nominal form of *zhu* as "infestation" (in reference to what she calls "infestatious disorders," and others call spirit possession) and the verbal form as pouring, staying, or dwelling, see T.J. Hinrichs 2004, pp. 172–76. I use the primary sense of the term "to possess."

47 Leung 2009, p. 43; also Chapter 3 on the contagious female body, pp. 114–24.

48 Shen Zhiwen, *Jiewei yuansou*, *juan* 1, 3a. Cited in Leung 2009, p. 46, fn. 127. My translation is based on Leung with variations. Directly following this passage, the section concludes with a statement that women from Min and Guang pass on *li* by producing a poison from *chong* "worms and insects" and killing people with it, which sounds very similar to views of *gu* poisoning.

49 Yu Bian's comment was in an entry on the herb *Rhizoma septemlobae* (*bixie* 薜薢). See *Xu yishuo*, *juan* 10, p. 13a–b. Cited also in Leung 2009, p. 45, fn. 123.

50 For this point on resemblance to Myrica berries, see Leung 2009, p. 45. Li Shizhen's comment is in the clarification section of his entry on *Smilax glabra* Roxb. (*tufuling* 土茯苓) in *Bencao gangmu* 1998, vol. 1, *juan* 18, p. 883.

51 For a monograph on this treatise, see Nappi 2009.

52 Since Leung has translated Li Shizhen's full entry, here I summarize the important points and clarify how they relate to my arguments.

53 The Mian referred to non-Chinese tribes in Burma. A Chinese official wrote an account in 1407 after he visited Burma and linked the *zhang* disease concept explicitly with the women of the *Mian* tribes: "The Mian people often cultivate promiscuous women to seduce our soldiers. Anyone who has sex with these women will die. Hence, these women are called human *zhang*." He also lectured solders: "When you left here, your parents, wives, and children cried farewell … if you die of human *zhang*, and your wives then marry other men, how could your parents bear it?" See Zhang Hong 張洪 (14th cent.), *Shi Mian lu*. Quoted in Wang Shuwu 2001, p. 18. Translated in Yang Bin 2010, p. 172, fn. 41. Both Wang and Yang, however, referred to this source incorrectly as the *Ping Mian lu*.

54 See Li Yun 1988, p. 742.

55 See "Section on miasmic *qi*" (*Zhangqi men*) in *Gujin yitong daquan* 1996, vol. 2, pp. 466–79.

56 The habitual use of this product in the Far South goes back to at least the early medieval period, since *binlang* (betel nut or areca nut) is found listed in the *Nanfang cao mu zhuang* 南方草木狀 (*Account of the Plants and Trees of the South*), by Ji Han (c. 3rd cent.) of the Jin (266–316). There has been, however, a major debate over the authenticity of *Nanfang cao mu zhuang*, on which see Li Hui-lin 1979 and Ma Tai-loi 1978. Wang Tao (702–772) also recommended it as a remedy against the bloating associated with "foot *qi*" (*jiaoqi*), sometimes similar to symptoms associated with the vitamin deficiency disease beri-beri, in his *Waitai mi yao fang* 外臺秘要方 (*Arcane Essential Formulas from the Imperial Library*), *juan* 18, p. 48b, p. 611. On betel nut as a drug for *jiaoqi*, see also Schafer 1967, p. 133.

57 See Benedict, *Golden-Silk Smoke*, forthcoming, ch. 4 on medical uses of tobacco.

58 This comparison of consumption of betel nut in the Far South and junket in the north contrasts the comparable use of a heating substance in a hot climate with a chilling product in a cold climate. Just as the betel nut's heating helps disperse dampness out of a southerner's body, the junket's cooling helps constrict pores to prevent entry of external pathogens in a northerner's body.

59 *Gujin yitong daquan*, *juan* 76, pp. 468–69.

60 Paraphrased from essay on “Miasmic *qi* only infects the exhausted and famished,” in *Gujin yitong daquan, juan* 76, p. 469.
61 Paraphrased and quoted from essay on “Ten sayings about Lingbiao,” in *Gujin yitong daquan, juan* 76, p. 471.
62 For extended discussion of this during the Song, see especially chs 2–4 in Hinrichs 2004, pp. 30-100.
63 “Ten sayings about Lingbiao” (*Lingbiao shishuo* 嶺表十說) in *Gujin yitong daquan, juan* 76, 1996, p. 470. Originally from the Southern Song text, *Lingnan weisheng fang* 1983, *zhong juan*, pp. 55–62.
64 *Lingnan weisheng fang* 1983 ed.
65 The preface to the third edition is dated 1587.
66 See “On Li [Qiu] waiting for an edict [to go to the] miasmic ague [region]” (*Li daizhi zhangnüe lun*) in *Lingnan weisheng fang* 1983 ed., for essay, pp. 1–10/1a–5b, for regionally different uses of dispersing formulas, pp. 5a–b.
67 On malaria in world history, see Packard 2007.
68 The *Fivefold Miscellany* covers the five subjects – Heaven, Earth, Man, Things, and Affairs – and all the comments about Fujian and Lingnan are in the Earth section. For this passage, see Xie Zhaozhe, *Wu zazu, juan* 4, p. 107. Translation also in Elvin 2004, p. 403. He translates *zhang* as “malaria” and *gu* as “poisonous animals,” which obscures the more complex cultural connotations and history of these two characters.
69 Xie Zhaozhe, *Wu zazu, juan* 4, pp. 109–10. For more comprehensive discussion of Xie’s views on the relationship between “humankind and the habitat,” see Elvin 2004, pp. 402–12; and for translation of this passage pp. 405–406.
70 One of this manuscript’s reviewers observed that people in Jiangnan today still prefer cold to heat and suggested that this sense of a salubrious native climate remains important.
71 See Diamond 1991, 1994.
72 For an introduction to the Daoist concept of the *sanchong* and related longevity practices such as grain abstinence, see Toshiaki Yamada 1989, pp. 107–108, 110. Although translated here and elsewhere as “worms and insects,” early images of them do not resemble worms or insects.
73 Needham and Lu 1967, p. 225. They argued that in the Zhou-Han Confucian classics *gu* represented not only poison and disease generally, but may also be considered the first reference to schistosomiasis, sometimes referred to as *guzhang* 鼓脹 because the swelling of the stomach was like a drum (*gu* 鼓), a homonym for the *gu* character referring to poison. Yet the combination *guzhang* in current usage means dropsy, a condition biomedicine attributes to kidney failure, not parasitic worms. This article is actually a summary of Yu Yan 1953, written in 1939, and therefore unaware of the studies of ancient epigraphy of the last 70 years. Their anecdote was to the point, but vague.
74 Needham and Lu 1967, p. 229.
75 For analysis of the semantic range of *gu*, which I do not summarize here beyond the geographic associations, and translation into French of passages about it in Chao Yuanfang’s treatise, see Obringer 1997, pp. 225–73.
76 See “The Di-Qiang *gu* syndrome” (*Di Qiang guhou* 氐羌蠱候), *Zhubing yuan hou lun*, vol. 1, *juan* 25, p. 723. Conversely, “The *Shegong* syndrome” (*Shegong hou* 蛇工候) is about a poisonous vermin that “shoots accurately” and was considered common to Jiangnan in Central China. *Zhubing yuan hou lun*, vol. 1, *juan* 25, pp. 725–28.
77 For Song discussions of “medicine against *gu*” and a legal case from 1175 related to *gu* poisoning in Fujian province, see Hinrichs 2004, pp. 91–93, 149–55.
78 See the subsection on “Miao people” (*Miaoren* 苗人) in “Various Tribes” (*Zhu xiong* 諸匈) in Guo Zizhang, *Qian ji*, 1608, p. 59/3a–4b. I thank Laura Hostetler for sending this citation. She

copied it from the Guizhou Provincial Library. *Xiong* originally came from the Han term *xiongnu* for the people living along the northern frontiers, who later became known as Huns.

79 Cases of this type of *gu*-seduction, for example, increased after the Miao rebellions of 1735–1736. Hanson 1997, pp. 75–84. On the nexus of minorities, women, and the Chinese civilizing project during the Qing, see introduction to Harrell 1995, pp. 3–36.

80 Xu Chunfu, *Gujin yitong daquan*, *juan* 77, p. 480.

81 Gong Tingxian, *Jishi quanshu*, *juan* 1, p. 875. Cited in Leung 2002, p. 37, fn. 96. She noted that, although the book is attributed to Zhu Zhenheng, this passage originally came from Gong Tingxian.

82 Xu Chunfu, *Gujin yitong daquan*, vol. 2, *juan* 77, "*Zhonggu men*" 中蠱門 ("Section on attack by Gu") 1996, pp. 480–88.

83 Xu Chunfu may be borrowing from that passage attributed to Zhu Zhenheng cited by Gong Tingxian: "…on the fifth day of the fifth month, they put centipedes, vipers, and toads in the same vessel and let them devour one another." See *Jishi quanshu*, *juan* 1, p. 875. Cited also in Leung 2009, p. 37, fn. 96. It is interesting to note that Gong also provided several incantations and rituals to ward off *gu* poisoning.

84 See Kuriyama 1999 ch. 5 on "Blood and Life," pp. 195–232 and recent work 2008 that follows up on the contrast between Chinese fears of depletion and European fears of excess.

85 Paraphrase of first essay, *Gujin yitong daquan*, vol. 2, *juan* 77, "*Zhonggu men*" ("Section on Gu stroke"), 1996, p. 480.

86 *Hu man cao*, or *Hu man teng* 胡蔓藤, was also known as *Gouwen* 鉤吻, *Gelsemium elegans* Benth. The plant grew as a bush in the hills and forests of southern China. The entire plant was used medicinally; when boiled it was also used as a pesticide for rice crops. See Fèvre and Métailié 2005, *gouwen* p. 149; *Hu manteng*, p. 187. It is worth noting that Xu Chunfu wrote about this plant only as a poison. This suggests that it had become a synecdoche for the toxicity of both place – the two Guangs – and people – the Hu.

87 Ancient name for modern Hunan, most of Hubei province, part of Guizhou and later also parts of Anhui, Jiangsu, Jiangxi, and Henan. First known as the state of Jing and then later as the state of Chu.

88 For *Shu mangcao*, see *Mang cao* in Fèvre and Métailié 2005, p. 304. *Illicium lanceolatum* A C. Smith, a small tree of 3–10 meters found along the lower reaches of the Yangzi River valley. Its fruit is toxic. Although Xu Chunfu speculated that this plant may have been the same as *Hu man cao* – perhaps because of the similar sounding name, comparable form as a bush or small tree, and shared toxicity – for the former the entire plant is toxic and in the latter only the fruit is poisonous.

89 See "Struck by *Gu*" (*zhonggu men*) in Xu Chunfu, *Gujin yitong daquan* 1991, vol. 2, p. 480.

90 Ibid. pp. 480–88.

91 See Guo Zizhang 郭子章, *Qian ji* 黔記 (*Records of Guizhou*, 1608), p. 59/3a–4b.

92 See Hostetler 2001, pp. 159–79, on Han anxiety and curiosity toward the Miao in non-medical sources. Writings on the connection between Miao women and *gu* poisoning increased significantly during the Qing after the Miao rebellion of 1735–1736 and through the end of the nineteenth century. See Hanson 1997, pp. 77–84.

93 For how these same boundaries played out in writings on leprosy and the idea of *guolai* 過癩 "passing on *lai*" but without the explicit ethnic labeling, see Leung 2009, pp. 119–24.

94 Feng and Shryock 1935, p. 10; Leung 2009, p. 38, fn. 97; and Diamond 1988, p. 3.

95 See Diamond 1994; Hanson 1997, pp. 75–84; and Bello 2005.

96 For *guolai* custom, see Leung 2009, pp. 115–18.

97 Henderson 1984.

98 Atwell 1977, 1982, 1986.

99 For Han learning and philology, see Elman 1984. For the role that the civil service examination played in reinforcing the orthodox status of the Confucian canon in the first phase in the late Ming, see Elman 1990; and for the Qing, see Elman 2000.
100 For the possibility of venereal syphilis as a New World export, see Crosby, 1986, pp. 215–16.
101 Elvin 1973, p. 310; Dunstan 1975; and Cao Shuji 1997.
102 Henderson 1984, pp. 163–65.
103 On skepticism up to the Song dynasty based on experiences with diseases in the tropics, see Hsiao Fan 1993. On new developments after the Song dynasty related to experience with epidemics and what physicians perceived to be new diseases, see Ren Yingqiu 1980, pp. 39–90.
104 This date is based on his comment that he was already over eighty years old when he completed his treatise in 1632. See Zhao Shilin 1991, p. 29.
105 See his preface, repr. ZGYJTK 1993, vol. 4, pp. 4577–78.
106 MS [1726] 1965–66, p. 257/3. See QDZJCK 1985, pp. 066098, 102183.
107 MS [1726] 1965–66, p. 257/1. See QDZJCK 1985, pp. 066098, 102181, 086 597, 094770, 096658. Cited in Atwell 1988, p. 601.
108 See repr. of prefaces in ZGYJTK 1991, vol. 2, pp. 1633–35.
109 See his preface to *The Expanded 'Complete Treatise on Summer-Heat Damage' with Critical Notes* (*Zengping shangshu quanshu*), repr. in YXDC 1992, vol. 16, p. 1–2.
110 See *Zengping shangshu quanshu*, repr. in YXDC 1992, vol. 16, p. 9. The modern-day provinces provided in parentheses are approximations of the geographic scope of the older regional terms. The last three terms, Dian, Qian, and Yue, were post-Warring States regional terms.
111 See Yang Fang's preface, *Shangshu quanshu* repr. in ZGYJTK 1991, vol. 2, p. 1634. Bian Que was a famous legendary Zhou physician of uncertain date (*c*. 5th–3rd cent. BCE).
112 Ibid.
113 This "*Qi*-augmenting Rhubarb Decoction" (*Shengqi dahuang tang*) was a common Cold Damage formula.
114 See "Study of the Pulse" (*Mai kao* 脈考), Hou Wailu, ed. *Fang Yizhi quanshu* 方以智全書 1988, p. 1544.
115 Further evidence of this point is in the opening statement "Explanation of ancient formulas" (*Gufang jie* 古方解), in which he took the position that the ancient had to be adapted to the contingencies of the present and the individual according to the following dualities: phase energetics-locale, strong-weak, old-young, noble-base, new-old, inner-outer. Hou Wailu, ed. *Fang Yizhi quanshu* 1988, p. 1545.
116 For the earliest use of *jun* and *xijun* for germs in China, see Andrews 1997, pp. 134–35
117 See preface in *Meichuang milu*, repr. in ZGYJTK 1993, vol. 4, pp. 4577–78.
118 See the first question in "Questions Someone Asked" (*Huowen*), *Meichuang milu* 1884, p. 2a.
119 Hu was used as a general term for minority groups in the north and northwestern frontiers, especially the Mongol and Tartar peoples, and including Turkish and other peoples.
120 See the second question in "*Huowen*," *Meichuang milu* 1884, pp. 2a–b.
121 See the fifth and sixth questions in "*Huowen*," *Meichuang milu* 1884, pp. 2b–3a.
122 For example, Chen Yan's discussion of external causes (*waiyin* 外因) as one of the "three causes" of illness in his *Sanyin jiyi bing zheng fang lun* and Liu Wansu's greater attention to pathogenic Fire.

5 Ming Medical Skepticism

1 See Chen Qide 陳其德, "Record of Disasters and Famines" ("*Zai huang jishi*" 災荒記事, 1641), *Tongxiang xian zhi* 1887 1970, pp. 20/8a–9a, pp. 746–47. Followed the next year by "Another

Record of Disasters and Famines" ("*Zai huang youji*" 災荒又記, 1642), p. 20/9b–10a, p. 747. For more discussion of these accounts, see Hanson 1997, pp. 117–22.

2 Preface to *Wenyi lun*, WYLPZ 1985, p. 2; or WBXQS 2002, p. 981.

3 Preface to *Wenyi lun*, WYLPZ 1985, p. 1; or WBXQS 2002, p. 981.

4 My reading of Wu Youxing's cosmological criticism responds to Henderson's suggestion that Wu was part of this movement. See Henderson 1984, pp. 163–65.

5 See subsection "On Syndromes" (*lun zheng* 論症) of chapter on "Febrile Epi demics" (*wenyi*), in *Jingyue quanshu*, *juan* 13, p. 225.

6 See Campany 1996, p. 7.

7 See the brief list of "Epidemics" (*jiyi* 疾疫) in *Ming shi*, *juan* 28, pp. 442–43. Such records of epidemics tended to be terse and uninformative. The list recorded more epidemics in the capital and northern provinces than in the south.

8 See also the summary of sources in Dunstan 1975, pp. 2–4. *Xiang* can mean bad as well as good portents.

9 When *wen* with the illness radical is used alone I translate it as "febrile-epidemic" to convey that the original *wen* with a water radical meaning "warm" is etymologically related to the illness-radical *wen* meaning epidemic. When illness-radical *wen* is used instead in the combination *wenyi* generically meaning epidemics, I translate it as "febrile epidemics" to convey that it is an illness-radical *wen* modifying "epidemic" *yi*. This translation choice is intended to distinguish the illness-radical *wen* from the water-radical *wen* found in both *wenbing* "Warm diseases" and *wenyi* "Warm epidemics."

10 The characters for deviance and pestilence are homonyms.

11 Henderson refers to Wu Youxing's medical writings as an example of the intellectual origins of cosmological criticism. See Henderson 1984, pp. 163–64.

12 This contrasts markedly with the primary sources on Wu's contemporary in England, Thomas Sydenham (1624–1689), about whom we know a great deal – his life, family, social status, scientific community, politics, and medical practice; Dewhurst 1966, Cunningham 1989.

13 The earliest reference only lists his book's title and his native place. See *Wumen buchong* 1820, *juan* 7, p. 6b. The *Qingshi gao's* biographical entry on him merely quotes a passage from his preface to the *Treatise* (*juan* 52, pp. 13866–67). The relevant gazetteers have no entry on him.

14 For editions, see LHML #05886. Okanishi Tameto attributed to Wu an otherwise unrecorded *True Record of Cold Damage* (*Shanghan shi lu* 傷寒實錄), but noted that he had not seen it 1958, p. 452.

15 The stele remains embedded in the wall to the right of a side door as you enter into a dilapidated barn in modern-day Dongshan. The barn and a pond, now with ducks, are all that remain of the former "Temple of the Deep Pool with Geese" (*Etan miao* 鵝潭廟).

16 See Jin Qinglei and Jin Qingjiang 1993, pp. 40–41. I am grateful to Dr. Jin Qinglei for escorting me to these sights in Dongshan, helping me make a rubbing of the stele, and giving me articles that he and his brother had written on Wu Youxing.

17 *Juan* refers to a division of a Chinese book, which corresponds roughly to a Western chapter. It can contain anywhere from a few lines to over a hundred pages, but is generally of more or less consistent size in a given book. Only very long *juan* were separately bound, so I translate the term as "chapter." See Giles 1911, Appendix II. For the earliest uses of *juan* to refer to either strips of bamboo bound together in a "bundle" or works on silk rolled up into "sections" or a "scroll," see Wilkinson 2000, pp. 445, 447.

18 These three chapters on heterogeneous *qi* were the only ones extracted for inclusion in the section on epidemics and disasters of the *Imperial Encyclopedia*. See GJTSJC [1725] 1935, *juan* 114, pp. 36a–37b.

19 Bloom 1990, pp. 193–96.

20 Ibid., 1985, p. 1. The final allusion refers to mistaking Warm diseases (the deer) for Cold Damage (the horse).
21 See preface, WYLPZ 1985, p. 1. For the anecdote, see *Shiji* 史記, *juan* 6, p. 273.
22 Ibid., p. 1.
23 Wang Shuhe is the style for Wang Xi (3rd cent.).
24 "*Zhujia wenyi zhengwu*," WYLPZ 1985, p. 275.
25 Author of *Nanyang Treatise to Save Lives* (*Nanyang huoren shu* 南陽活人書), also called *Categorized and Verified Life-saving Treatise* (*Lei zheng huo ren shu* 類證活 人書), a.p. 1118. Nanyang referred to Zhang Ji's native place.
26 Tao Hua published his commentary along with five other books on Cold Damage in the *Six Treatises on Cold Damage* (*Shanghan liushu* 傷寒六書, 1445).
27 See WYLPZ 1985, p. 275; or WBXQS 2002, vol. 2, p. 1020.
28 See preface and conclusion, WYLPZ 1985, pp. 1, 276; or WBXQS 2002, vol. 2, pp. 981, 1020.
29 See Kuriyama 2000, p. 7, on the difference between climate consciousness and contagion consciousness, and pp. 18–21 on the reasons why he thinks climate dominated contagion in physicians' writings on epidemics.
30 See "*Shanghan lie zhengwu*," WYLPZ 1985, pp. 258–63; or WBXQS 2002, vol. 2, pp. 1016–18.
31 The summary of conventional conceptions and Wu's criticism is based on his last two chapters.
32 In Chinese medicine today, disorders that arise from heterogeneous *qi* are considered particularly difficult to diagnose because this type of *qi* does not follow natural processes.
33 See "*Zaqi*," WYLPZ 1985, p. 152; or WBXQS 2002, p. 1001.
34 Some Chinese scholars argue from the following passage that Wu discovered germs before Western scientists. For one of the earliest examples of this argument, see Shi Changyong 1957.
35 Rahu and Ketu are pseudo-planets that Indians believed swallowed the moon to cause eclipses. See Hou Ching-lang 1979, pp. 206, 227; and Needham, *Science and Civilization in China*, vol. 3, 1959, pp. 175, 228.
36 See WYLPZ 1985, p. 152; or WBXQS 2002, p. 1001.
37 See WYLPZ 1985, p. 153; or WBXQS 2002, p. 1001.
38 He did not mention either the Throat impediments (*houbi* 喉痹) of 1581–82 epidemics in the north or the Sheep's Wool epidemics (yangmao yi 羊毛疫) of Jiangsu and Zhejiang in 1641–44.
39 For good arguments for translating the term "*jingluo*" as "tracts," see Needham and Lu 1980, pp. 11–13; and Sivin 1987, p. 122 fn. 11.
40 See WYLPZ 1985, p. 153; or WBXQS 2002, p. 1001. The last sentence makes sense only if *zhi* 治 is emended to *zhi* 知.
41 See WYLPZ 1985, p. 153; or WBXQS 2002, p. 1001.
42 *Huoluan* cases have both vomiting and diarrhea. *Li* is a type of diarrhea containing foreign matter, such as blood or pus.
43 See "*Zaqi lun*," WYLPZ 1985, p. 154: WBXQS 2002, p. 1001.
44 WYLPZ 1985, p. 9; WBXQS 2002, p. 981.
45 Nutton 2000, pp. 148–49, 151.
46 See Lei Hsiang-lin 2011.
47 See WYLPZ 1985, p. 8. The term "*moyuan*" literally means "membrane area." *Basic Questions* cites the term twice in one essay; See Ren Yingqiu, HDNJ 1986, *Suwen* 39.2.3, pp. 112–13.
48 This constitutional *qi* is what people are endowed with at birth. It is at their "root" (*ben* 本). For an analysis of related types of *qi*, see Porkert 1974, pp. 172–73.
49 See WYLPZ 1985, p. 9.
50 For the idea of a specific disease entity that transcends individual cases, see Nutton 2000, p. 151.
51 WYLPZ 1985, p. 163; or WBXQS 2002, p. 1002.

52 See his comment at end of second chapter of first volume, “The initial appearance of Warm epidemics” (“*wenyi chu qi*”), *Wenyi lun*, WYLPZ 1985, p. 19; or WBXQS 2002, p. 982.
53 The formula called for two *qian* of betel nut, one *qian* of *Magnolia officinalis* (*houpo* 厚朴) and five *fen* of Tsaoko cardamom (*caoguo* 草果, *Amomum cao guo* Crevost et Lem.). The cardamom, like betel nut, is native to the Far South. See Fèvre and Métailié 2005, p. 42.
54 It is not clear if Wu used the magnolia bark or root, both of which were used medicinally. See Fèvre and Métailié 2005, p. 184. As for the cardamom, he used the seeds.
55 *Wenyi lun*, WYLPZ 1985, p. 19; or WBXQS 2002, p. 982.
56 Elman puts it that Wu’s concept of deviant *qi* opened up the option of alternative pathologies other physicians could then take up 2005, p. 232.
57 Henderson 1984, p. 171.
58 Henderson 1984, p. 248; and WYLPZ 1985, pp. 163–64.

Part III Early Modern Medical Transformations

1 See Kangxi’s edict, 1713, 10th month, Bingzi 13th day, in *Shengzu Ren huangdi shengxun* 聖祖仁皇帝聖訓 (*Emperor Kangxi’s Edicts*), *juan* 4.
2 See Kangxi’s edict, 1714, about the “Escape the Summer Heat Mountain Villa” (*Bishu shanzhuang* 避暑山莊), *Shengzu Ren huangdi shengxun*, *juan* 4.
3 See Kangxi’s Edict, 1717, 11th month, *Shengzu Ren huangdi shengxun*, *juan* 9.
4 *Shengzu tingxun geyan* 聖祖庭訓格言 (*Kangxi’s Aphorisms from Court Lectures*), 62b–63a.

6 Matters of Place

1 In July 1644, Dorgon issued an edict that Manchus who had occupied Chinese homes be granted a tax amnesty for one year. Elliott 2001, p. 100; Ma Feng-ch’en 1956, p. 348.
2 Elman 1984, pp. 33–36. For the differences between Ming scholars’ emphasis on *kaoju* 考據 (“learning based on what can be ascertained”) and the related Qing discourse on *kaozheng*, see Elman 2000, pp. 458–59, 503–507.
3 For discussion of the influence of Han learning in medicine, see Elman 2005, pp. 232–36.
4 See *Ming shi*, *juan* 239, Du Tong biography, p. 6216. Cited also in Ma Boying 1994, p. 808.
5 For extensive evidence supporting this argument, see Chang Chia-feng 2002, pp. 177–97.
6 Chang Chia-feng 2002, pp. 185, 187 and Chen Keji 1990, p. 2178.
7 Chang Chia-feng 1996a, p. 171.
8 Chang Chia-feng 2002, p. 181.
9 Hsu 2001, p. 26.
10 The late Ming physician Zhang Jiebin, for example, suggested that the “northern enemies” (*beilu* 北虜) did not get smallpox because they had a simpler diet, which he thought was more comparable to the diet of people in antiquity when smallpox was not known to exist. He contrasted this case in antiquity with the current excesses of the rich diet of families, which he saw as one of the reasons for more cases of smallpox since antiquity. See *Jingyue quanshu*, *juan* 43, p. 744. Cited for the point “that the northern peoples did not develop the disease” in Chang Chiafeng 2002, p. 177.
11 See Xie Zhaozhe, *Wu zazu*, *juan* 5, p. 134; Elvin 2004, pp. 393–94; Chang Chiafeng 2002, p. 177.
12 See *Qingshi gao*, *liezhuan* 31, “*Zhao Kaixin zhuan* 趙開心傳,” p. 1. Cited also in Ma Boying 1994, p. 809.

13 Chang'an refers to modern-day Xian, the former capital of the Tang dynasty (618–907) and the largest urban center in Shaanxi during the early Qing. Tan Qian, "Expulsion of Smallpox" (*Qu zhen* 驅疹), *Record of Traveling in the North* (*Beiyou lu* 北游錄), p. 355.

14 Elliott 2001, pp. 98–99.

15 Wakeman first used the phrase "Manchu apartheid." He estimated that the first policy to establish a garrison in Beijing affected 60 percent of Beijing's population. He based this percentage on the estimate by Ma Feng-ch'en that three-fifths of the population was affected by the Manchu's "enclosure" of Chinese residential homes and segregation of the population into different sections. See Wakeman 1985, p. 465; Ma Feng-ch'en 1956, p. 348.

16 This smallpox-segregation policy was not eased until the death of Dorgon in 1650. See Tan, *Beiyou lu* 1997, p. 355. Chang Chia-feng 1996a, p. 183. It was even suggested that villages be designated in all four suburbs surrounding the capital at which people forced to leave their homes could gather. See *Qingshi gao*, *Xiliang zhuan* 錫良傳 ("Account of a Gift of Virtue"). Cited in Ma Boying 1994, p. 809.

17 The former Ming official Zhao Kaoxin, as one of the ten newly appointed Qing censors, penned the report. The ten censors appraised the emperor on all matters in the capital. They were grouped into five groups, and each group had a Warden's office to which smallpox patients reported. Chang Chia-feng 1996a, pp. 182–83. This report followed a new system of "enclosure" that began with an edict of January 20th, 1645. See Ma Feng-ch'en 1956, p. 336. The Ming censor's proposed land survey of early 1645 is also discussed by Elliott 2001, p. 100.

18 In 1649, Prince Dodo (1614–49) and the two wives of Prince Ajige (1605–51) died from smallpox. *Da Qing Shizu Zhang Huangdi shilu*, *juan* 43, pp. 4–8. Chang Chiafeng 1996a, p. 174, fn. 37.

19 Chang Chia-feng 1996a, p. 175. She also provides evidence that funeral rituals of those who died from smallpox in the imperial family were different from those who died from other causes.

20 Chang Chia-feng 1996a, p. 142, fn. 96. See especially Chang Chia-feng 1996c, pp. 30–32. Originally from Jiangxi province, Zhu Chungu wrote about his experience working for the emperor in a treatise titled the *Definitive Treatise on Smallpox* (*Douzhen dinglun* 痘疹定論, 1713). For more on this treatise see, Chang Chia-feng 2002, pp. 177–78.

21 A summary of this policy was preserved in *Tingxun geyan* 1730, pp. 16a–b. Kangxi noted that at the beginning of the Qing many feared smallpox. When he ordered variolation for the "49 banners and Khalkha," the elders thought it a strange practice. Physician Zhu Chungu was put in charge of the effort to spread variolation among the Mongols. In contrast to Zhang Jiebin and Xie Zhaozhe's dietary arguments for the absence of smallpox among "northern enemies" and the "Tartars," Chang noted that Zhu thought the nomadic lifestyle of Mongols protected them. On his appointment and expansion of practice to Mongols, see Chang Chia-feng 1996a, pp. 127, 169; and 2002, p. 178, fn. 3.

22 For confirmation, see evidence in Leung 1987; Chang Chia-feng 1996c.

23 YZJJ 1990, *juan* 56–59, vol. 2, pp. 1429–1540.

24 No copy of the first edition survives. On the book's rarity see the preface to the 1694 edition by Zhang Yizeng in Yang Jin 1988b, pp. 26–27 and Yang Jin 1988a, pp. 139–40.

25 See this book's introduction for the third-century physician Wang Xi as the earliest editor of Zhang Ji's *Treatise on Cold Damage and Miscellaneous Diseases*."

26 Elman 2005, p. 234, notes that the editors of the *Four Treasuries* catalogue praised Yu Chang for having "overcome eight centuries of misinterpretation" and "rediscovered the principles of Cold Damage illnesses" after 1500 years.

27 Nor did all *kaozheng* scholars subscribe to this faith. Elman 1984, p. 34.

28 See his *Notes that Indirectly Express My Intentions* (*Yuyi cao* 寓意草, 1643) in *Yu Jiayan yixue sanshu* 1984, pp. 713–830. For the point about Yu Chang's use of case records over canonical

authority, see Elman 2005, p. 232. On Yu Chang's view of his own cases as "action oriented and personal" judgments, see Furth 2007, pp. 143–45.

29 *Yu Jiayan yixue sanshu* 1984, p. 26.

30 Unlike the multiple interpretations of the Triple *jiao*, in the two parts of the *Inner Canon*, *Basic Questions* and *Divine Pivot*, Yu's sense was a division of the torso into three vertical sections. The first stage began in the organ systems of the upper *jiao* (lungs and heart). If the heteropathic *qi* was not expelled from there, it traveled to the medial *jiao* (stomach and spleen) and, finally, to the lower *jiao* (kidneys and liver).

31 *Yu Jiayan yixue sanshu* 1984, p. 24–25.

32 See his *Supplements to Essays on Communing with the Past* (*Shang lun hou pian* 尚論後篇), in *Yu Jiayan yixue san shu* 1984, pp. 175–314. Yu's contributions to "Warm Diseases" are recorded in Meng Shujiang 1989, p. 687.

33 Yu concluded his "Warm epidemics" essay with the northwest–southeast duality, the rationale of which is considerably more complex than indicated by the summary provided here. See *Yu Jiayan yixue sanshu* 1984, pp. 26–27.

34 For example, Kong Minli 孔敏禮 renamed it "Essay on Epidemic Diseases" (*Yibing pian* 疫病篇) and appended it to a later edition of the *Wenyi lun*, *Chongding yimen pudu wenyi lun* 1832, repr. in YXDC 1992, vol. 13, *juan* 2, pp. 79–82; and repr. in WBXQS 2002, pp. 1096–97.

35 There is an alternative argument that *sha* is best translated as "acute outbreaks," perhaps related to its homonym *sha* 殺 "to kill," but this neglects the long history of the term's reference to a range of epidemic rashes. See summary of arguments in Yi-Li Wu 2010, p. 219.

36 The *Jade Standard on Granular Sand-like Rashes and Swellings* (*Sha zhang yuheng* 痧脹玉衡, 1675), LHML #06066.

37 See *Sha zhang yuheng*, preface, WBXQS 2002, vol. 2, p. 1641; foreword, p. 1643. He explained that because of "the local *qi* and weak constitutions" in the regions nearby, he had "cut in half" (*fen liang* 分兩) the formulas normally used to treat epidemic rashes in order to make them more effective for local patients. But the same formulas should be doubled for people in the northwest "where the Earth has high winds and dry soil and the people are strong and robust."

38 On Lin Qilong, see He Shixi 1991, vol. 2, p. 21. In 1674, he republished Fang Youzhi's *Systematic Analysis of Cold Damage* (*Shanghan tiaobian* 傷寒條辨) to which he appended Yu's 1648 *Essays on the Revered Treatise*.

39 Yu Chang's original essay "Detailed discussion of Warm epidemics" was called "Yu Jiayan 'On Febrile Epidemics'" ("*Yu Jiayan Wenyi lun*" 喻嘉言瘟疫論) in Lin Qilong's 1675 repr. of Zhang Heteng's *Shangshu quanshu*, WBXQS 2002, vol. 1, pp. 839–40. Lin Qilong included his comments on it as a preface, WBXQS 2002, vol. 1, p. 838.

40 Zhou Yangjun included his essay "On epidemic diseases" ("*Yibing lun*" 疫病論) and both the earlier two Yu and Lin essays on epidemics as appendices in his *Wen re shu yi quanshu* 1679, WBXQS 2002, vol. 1, pp. 620–23.

41 For the exegetical and commentary model, and emphasis on philological accuracy of ancient texts, in conventional learning of the early modern period, see Elman 1984, 1990; and Wilson 1995.

42 Zheng Chongguang's 1710 edition was reprinted in 1995 under the title *Wenyi lun buzhu*.

43 His younger brother was the famous commander-in-chief during the Yongzheng reign, Nian Gengyao 年羹堯 (d. 1726).

44 The quality of the treatise suggests that this was a government-sponsored printing, but, as often happened, Nian might also have used his yamen's printing facilities for a bit of personal patronage.

45 Yang Jin 1988a, pp. 139–40.

46 On this being the first edition with a commentary, see Yang Jin 1988a, pp. 139–40. Neither YJK nor ZGYJTK reprinted his preface. Reprint in Yang Jin 1988b, pp. 26–27. I used the original text, LHML #05886.5, *Baorentang* edition (CAS). This edition listed ten members of his editorial committee, which included two Suzhou physicians, Jiang Shiji and You Cheng, a Hangzhou physician, Pan Zun, and the official and poet Gu Sixie.

47 In his preface, Dai Tianzhang places himself in a lineage on "febrile epidemics" from Liu Wansu and Li Gao to Wu Youxing. See ZGYJTK 1991, vol. 2, pp. 1659–60 and Ma Jixing 1990, p. 209. I examined the *Guang wenyi lun* 1695 edition (CATCM). Under the original title *Guang wenyi lun*, see LHML #05892; under the second title, *Wenyi ming bian*, see LHML #15893.

48 Dai credited Wu Youxing with ten of them, including "Reach the Membrane Drink" (see Chapter 5).

49 On the key differences in the eighteenth-century debate, Elman 1984, pp. 33–36 (citing p. 35); and 2005, pp. 227–36.

50 Yang Jin 1988a, p. 140. This greater distribution suggests that it was being widely purchased.

51 Yang Jin 1988a, p. 140. See 1995 repr. of commentary, *Wenyi lun buzhu* 1710.

52 They argued, for example, that physicians did not differentiate the six climatic configurations of *qi* from heterogeneous *qi*, nor did they conduct their own research on seasonal epidemics. Warm epidemics and Cold Damage may both manifest fevers, but non-climatic types of toxic *qi*, which caused Warm epidemics, took a different path into and within the body: "Moreover, the epidemic, pestilential, foul, and chaotic *qi* are received through the nose and mouth and not through (the pores into) the [Six] Warps [as with Cold Damage]. So why are they classified as Cold Damage when, in fact, they are something else?" See Liu Chang's preface, YJK 1983, p. 465; or ZGYJTK 1991, vol. 2, p. 1639.

53 Nian's edition of the *Wenyi lun* was based on Zhang Yizeng's 1694 edition with commentary. The edition LHML #05886.5 at the CAS Library in Beijing has Nian Xiyao's marginalia. The first text in this compilation, *Ji yan liangfang* 集驗良方 (*Collection of Superior Formulas (Based on) Experience*), was republished in 1991. Although this compilation is conventionally dated 1717, this was probably the publication date of the first text on formulas and not of the compilation. For evidence in prefaces to the first edition, see LHML #11633.1, 1724 *Ouzhai* edition (CATCM).

54 To ensure the highest quality, he enlisted eight Hangzhou scholars to proofread and edit it, and secured the patronage of two of his colleagues to write prefaces. Four prefaces, including two Nian wrote, and a list of eight proofreaders were in Nian Xiyao's 1725 edition of the *Wenyi lun*, LHML #05886.7 (CATCM). One author of a preface was also an official. See Zang Lihe 1984, p. 982.1. Nian's 1725 edition ended up being the highest quality edition published.

55 Neither the YJK nor ZGYJTK reprinted Nian Xiyao's prefaces. This quotation is from the preface to 1725 ed. of the *Wenyi lun*, LHML #05886.7 (CATCM), p. 1a. Nian's preface was only reprinted in the *Wenyi lun*, YXDC 1992 ed., vol. 13, pp. 1–2.

56 See the intellectual lineage presented in Zhou Yangjun's preface, *Wen re shu yi quanshu* 1679, WBXQS 2002, vol. 1, pp. 576–77. He did not exclusively cite Suzhou physicians in this lineage, but also included his mentor Lin Qilong (from Hebei) and Zhang Heteng (from Anhui province), author of the *Complete Treatise on Summer-Heat Damage*, which Lin republished in the 1670s.

57 For the case as a form of reasoning with truth claims based in empirical knowledge and as models for real-life interventions, see Furth, "Introduction," in Furth *et al*., eds. 2007, pp. 3–5.

58 See sections on *wenbing*, Wei Zhixiu, *Xu mingyi lei an* 1982, *juan* 3, pp. 63–81; and "Epidemics" (*yi* 疫), *juan* 5, pp. 106–18.

59 For analysis of origins, changes over time, and emergence of case records as a separate genre of medical writing in China, see Cullen 2001. For cases as evidence in arguments, see Furth 2007, pp. 3–5.

60 See Guo Mei's preface, *Linzheng zhinan yi'an*, *Ye Tianshi yixue quanshu* 1999, p. 9.

61 For summary of references to Hua Xiuyun, including the point that he was not Ye Gui's actual disciple, see He Shixi 1991, vol. 2, pp. 244–45. Short entry also in Li Yun 1988, p. 155.
62 Hua responded:

> …. some had doubts about his ability to obtain rapid results with mild drugs.
> Some thought that his methods could only treat the weak constitutions of southerners and could not treat the strong bodies of northerners. I say that this is not so.
>
> (Foreword, *Linzheng zhinan yian*, *Ye Tianshi yixue quanshu* 1999, p. 11)

63 Hua Xiuyun's foreword, *Linzheng zhinan yian* 1991, p. 3; or *Ye Tianshi yixue quanshu* 1999, p. 11. In this passage, *li* "general patterns" contrasts with *zheng* "syndromes." In philosophy, *li* refers to underlying principles: as in *li-qi* 理氣 dualism in which the heavenly principles *li* are prior to the phenomenal world of *qi*; or in the *li-shi* 理事 dichotomy between principles and affairs. See Elman 1990, pp. 142, 204.
64 Hua Yutang's essay, *Linzheng zhinan yian* 1991, pp. 315–17; or *Ye Tianshi yixue quanshu* 1999, p. 137.
65 Zou Zijiu's essay following "epidemics," *Linzheng zhinan yian* 1991, pp. 366–67; or *Ye Tianshi yixue quanshu* 1999, p. 156.
66 See "Epidemics" cases in *Linzheng zhinan yian* 1991, pp. 365–67; or *Ye Tianshi yixue quanshu* 1999, p. 156.
67 The "yin *qi* sector" used here refers to the most severe stage of an illness and the deepest level in the body reached by pathogenic heat or dampness. Five cases in *Linzheng zhinan yian* 1991, pp. 365–67; or *Ye Tianshi yixue quanshu* 1999, p. 156.
68 For a good explanation of Defensive and Constructive *qi*, see Sivin 1987, pp. 238–40.
69 The Four Sectors model for Warm-Hot diseases attributed to Ye Gui, like the styles of Zhu Zhenheng and others, is a simplification of his practice and medical thinking by later interpreters and historians. The concise summary lacks the nuance of Ye's clinical practice.
70 By way of comparison, Ye Gui sometimes referred to the Six Warps patterns of the Cold Damage tradition in cases of Warm diseases and epidemics. These three diagnostic models – Six Warps, Three Burners, and Four Sectors – were not mutually exclusive in practice. For the latter two models, for example, the Upper Burner generally corresponded with the Defensive sector, the Medial Burner with the Constructive and Qi sectors, and the Lower Burner with the Blood sector.
71 It was first published in the *Wuyi hui jiang*, 1792.
72 He wrote: "In Jiangnan, where the land is low-lying and the *qi* thin, when dampness is prevalent and the heat humid, even more suffer from it." *Linzheng zhinan yian* 1991, p. 348; or *Ye Tianshi yixue quanshu* 1999, p. 149.
73 See the comment by Hua Xiuyun on "Wind-stroke" (*zhongfeng* 中風) in *Linzheng zhinan yian* 1991, pp. 17–19; or *Ye Tianshi yixue quanshu* 1999, p. 21.
74 Xu Dachun in *Linzheng zhinan yian* 1991, p. 31; or *Ye Tianshi yixue quanshu* 1999, p. 149.
75 Songjiang is between Suzhou and Shanghai. On regional therapeutic styles for treating smallpox, see *Linzheng zhinan yian* 1991, pp. 747–48; or *Ye Tianshi yixue quanshu* 1999, pp. 306–307. On different harvesting seasons for "smallpox sprouts" in the north and south, see *Linzheng zhinan yian* 1991, p. 78; or *Ye Tianshi yixue quanshu* 1999, p. 319.

76 See Furth 2007, pp. 125–51.
77 See *Xu mingyi lei an* 1982, “Dampness” (*shi*), *juan* 4, pp. 94–96; “Hot diseases” (*rebing*), *juan* 4, pp. 96–106; “Dryness” (*zao*), *juan* 5, pp. 118–20; and “Miasmas” (*zhang*), *juan* 6, pp. 134–37.
78 See *Xu mingyi lei an* 1982, “Warm diseases” (*wenbing*), *juan* 3, p. 63.
79 See Wu Daoyuan’s *Compilation on Dysentery-like Syndromes* (*Lizheng huican*, 1773, LHML #06012) and Xiong Lipin’s *Compilation of Essentials on Dysentery-like Syndromes* (*Lizheng zuanyao*, 1775, LHML #06013), which was published in his compilation on epidemics.
80 Xiong Lipin republished, in 1776, the *Treatise on Febrile Epidemics* in 1776 with the essay on epidemics by Yu Chang (who also came from Xichang, Jiangxi province) and his own commentary in the *Complete Book on Treating Epidemics* (*Zhiyi quanshu* 治疫全書, LHML #05900). In 1777, this treatise was published separately and included as well in *Compilation on Febrile Epidemics and other Infectious Syndromes* (*Wenyi chuanzheng huibian* 瘟疫傳症彙編, LHML #05899), which included monographs on dysentery-like epidemics and on smallpox and measles. See Li Yun 1988, p. 936.
81 On Hong Tianxi, see Li Yun 1988, p. 670. For publication history, see LHML #05901. On Yang Xuan, see Li Yun 1988, p. 340. Modern repr. in WBXQS 2002, vol. 2, pp. 1165–307. For publication history, see LHML #05902. On Liu Kui, see Li Yun 1988, p. 211–12. He explicitly adapted Wu’s work for northern conditions, availability of drugs, and patients in *Classified Chapters of the Treatise on Febrile Epidemics* (*Wenyi lun leibian* 瘟疫論類編, 1785, LHML #05907–8). For publication history and various editions of Liu Kui’s books on epidemics, see LHML #05907–11.
82 Modern repr. in WBXQS 2002, vol. 2, pp. 1311–414. See the author’s prefaces to his two books, ZGYJTK 1991, vol. 2, pp. 1683–87.
83 An alternative title of Miao’s *A Physician’s Understanding of Warm-Hot* [*Disorders*] (*Wen re lang zhao*) was *Wenbing lang zhao* 溫病朗照 (see LHML #05686). It was not published until the late twentieth century. Modern repr. WBXQS 2002, vol. 1, pp. 141–265.
84 In the title, Wu referred to the region around Suzhou.
85 *Wuyi hui jiang*, *juan* 2, p. 16. Tang recorded his position as “director of the prefectural medical school of Suzhou” (*Suzhou fuyixue zhengke* 蘇州府醫學正科).
86 Elman 1984, pp. 22, 33, 59, 79, 122.
87 Some historians claim that Tang published the eleven sections individually over nine years from 1792, the date of his preface, to his death in 1801, and that his son republished them as a book after Tang’s death, e.g. Qian Xinzhong 1987, p. 220. The earliest extant edition, however, shows that the entire compilation was published in 1793, the date of the third preface. See Su Tiege 1993.
88 *Wuyi hui jiang*, *juan* 2, pp. 18–19.
89 In *Suzhou Physicians*, an essay on “Three *jiao*” (*Sanjiao*), *juan* 6, p. 74, explained the origin of Yu’s metaphor in the *Inner Canon: Divine Pivot*.
90 *Wuyi hui jiang*, *juan* 1, p. 38. He argued that during years of drought the water dried up and rivers became contaminated with toxic-heat. When people drank it, it caused dysentery-like epidemics (*yili* 疫痢).
91 See, “Essential Words on Recognizing and Treating Epidemics” (*Renyi zhiyi yaoyan* 認疫治疫要言), *Wuyi hui jiang*, p. 75.
92 It is the second essay in the first chapter. The abstract preceding this essay notes that one of Ye’s disciples, Gu Jingwen, transcribed the essay while on a boat with Ye on Lake Tai during a visit to Mount Dongting. See “*Wenzheng lun zhi*,” *Wuyi hui jiang*, *juan* 1, pp. 3–11.
93 From the turn of the fourteenth century on, the *xinbaoluo* also became a visceral system. The conception may have been based partly on the pericardium, but the Heart Envelope Junction cannot be equated with it. See Sivin 1987, pp. 126-31.

94 *Wuyi hui jiang*, *juan* 1, pp. 3–4. He related symptoms to one of the Four Sectors, explained transformations from one manifestation type to another, and listed appropriate formulas for each variation. The essay analyzed abnormalities of the tongue and teeth to indicate levels of penetration of pathogenic factors.

95 *Wuyi hui jiang*, *juan* 1, p. 5. Another essay referred to Suzhou natives' preference for mild formulas. See Zhou Sizhe, "Essay on dried soybean sprouts" (*Dadou huangjuan bian* 大豆黃卷辯), *Wuyi hui jiang*, *juan* 3, pp. 37–38.

96 Shao Xinfu's commentary at the end of Ye's cases on "Warm-Hot" (*wen re*), for example, restates the classic Cold Damage definition of Warm diseases as spring manifestations of winter Cold Damage. *Linzheng zhinan yian* 1991, *juan* 5, p. 331; or *Ye Tianshi yixue quanshu*, p. 143.

97 See Guan Ding, "Cold-damage disorders occur during all four seasons" (*Sishi jie you shanghan lun* 四時皆有傷寒論), *Wuyi hui jiang* 1792, *juan* 7, p. 87. Guan's four essays are discussed in Hanson 2001.

98 See Tang's short note preceding Xue's jottings in *Wuyi hui jiang*, *juan* 1, p. 14. Xue also published commentary on two medical texts by other authors.

99 See Xue Shengbai's "Miscellaneous Jottings from Daily Lectures" (*Rijiang zaji* 日講雜記), *Wuyi hui jiang*, *juan* 2, pp. 14–15. This essay contains eight terse yet varied notes. In its passage on epidemics, Xue does not refer to Wu Youxing or his doctrines, but does cite Yu Chang and his Triple *jiao* schema.

100 T he *wenbing* text attributed to Xue Xue was the *Systematic Determination of Manifestations of Damp and Hot* (*Shi re tiaobian* 濕熱條辨), but it was not published until the 1830s, and not integrated into a *wenbing* anthology until Wang Shixiong's *Warp and Weft of Warm and Hot* (*Wen re jingwei* 溫熱經緯) in 1852. Xue Chengji's draft on Cold Damage in *Suzhou Physicians* reappeared for a third time in the anthology of Suzhou physicians' writings on southern diseases, the *Discriminate Examination of Southern Diseases* (*Nanbing biejian* 南病別鑒) of 1878 (see pp. 143–45).

101 Not one of Xue Shengbai's jottings, for example, referred to the *wenbing* writings on "Damp-Heat" diseases later attributed to him. Nor did he intend to publish his jottings. Furthermore, his grandson Xue Chengji's essay is a draft of another physician's treatise situated within the Cold Damage current of learning.

102 This compilation was also known as the *Imperial Encyclopedia*. The chief editor was Chen Menglei 陳孟雷. It was presented to the throne in 1725, but not published until 1728.

103 See YZJJ (Beijing, 1990). The editors had to rely on medical texts already in the imperial library, since the Qianlong emperor's order for an empire-wide collection of medical texts was not carried out. Early in his reign he lacked the institutional power to realize it.

104 The SKQS was not the imperial library, but a special manuscript collection – later also printed – for the emperor's personal use. The "medicine section" (*yijia lei* 醫家類), SKQSZM 1983, vol. 1, *juan* 103–105. The first 97 medical titles of the catalogue were copied into the library, and the remaining 100 are merely listed, in vol. 1, *juan* 105.

105 The Four Treasuries book-collecting project was also designed to find and destroy books disrespectful of Manchus, and severely punish their owners. The classic monograph on the politics of the project is Goodrich 1935, updated and revised by Guy 1987.

106 For the medical section, see "Arts and Techniques" within the "Arts and Sciences" division, GJTSJC [1725] 1935, *juan* 21, p. 540. Although religious healing practices were excluded here, they were covered. For beliefs in epidemic gods, for example, see GJTSJC [1725] 1935, *juan* 35, pp. 18b–21a.

107 Although this emphasis on the *Inner Canon* reflects the conventional location of authority in founding canons, it also may indicate the influence of Han learning among the editors. The only medical texts copied in full, in fact, were of the Han period: the two parts of the *Inner Canon of*

the Yellow Emperor, the *Yellow Emperor's Canon of Eighty-One Problems*, and the *Cold Damage Treatise*.

108 Although some of the smallpox texts in the *Imperial Encyclopedia* referred to variolation, such as Wan Quan's *Essential Methods of Smallpox* (*Dou zhen xinfa* 痘疹新法, 1549), *juan* 10, the collection did not devote an essay to it. Although a decade earlier Kangxi's variolation expert, Zhu Chungu, had published descriptions of variolation techniques, his book was not included.

109 This section's coverage of epidemics was administrative, religious, and literary rather than medical. It quoted lengthy explanations of epidemics in texts from antiquity – the *Record of Rites*, *Rites of Zhou*, and *Canon of Mountains and* Seas – and then listed epidemics from the earliest records through 1705. GJTSJC [1725] 1935, *juan* 113, pp. 30b–34a, *juan* 114, pp. 34b–36b.

110 These sections are: "On Heterogeneous *qi*," "On the Growth and Decline of *qi*," and "On Differences in Damage due to *qi*." See GJTSJC [1725] 1935, *juan* 114, pp. 36b–37a.

111 This exclusion may have also been because he died in 1652, nearly a decade after the fall of the Ming, There are eight *juan* devoted to the biographies of Ming physicians. See GJTSJC [1725] 1935, *juan* 530–37.

112 For its significance among Qing imperial publications, see Gugong Museum Library, *et al*., eds. 1995, pp. 308–309. Also cited in *Qingshi gao* 1977, vol. 15, p. 4336.

113 On the importance of the Han learning and Cold Damage training for this group of mostly Anhui and Zhejiang physicians, see Hanson 2003.

114 In the reprint of the *Cold Damage Treatise*, one chapter discussed how to diagnose Warm diseases and gave the standard Cold Damage formulas to treat them, following the conventional configurationist model. See YZJJ 1990, *juan* 11, pp. 315–18. The *Golden Mirror* also included a few paragraphs on Warm diseases and febrile epidemics in the last paragraphs of *Essential Methods of Cold Damage* (*Shanghan xinfa yao*). Again unseasonable *qi* explained all febrile disorders as transformations of latent Cold *qi*. See YZJJ 1990, *juan* 38, pp. 48–51.

115 See YZJJ 1990, *juan* 56–59, vol. 2, pp. 1429–540. The *Golden Mirror* devoted an entire section with four chapters to the subspecialty. See also Chang Chia-feng 1996a, p. 138. A comparable stamp of approval occurred just over a decade later in 1755 when the Royal College of Physicians in London supported similar variolation techniques. Noted in Needham and Lu 2000, "The Origins of Immunology," pp. 140–42.

116 See *Youke zhongdou xinfa yaozhi*, YZJJ 1990, *juan* 60, pp. 1543–51.

117 YZJJ 1990, vol. 1, *juan* 56, p. 1433, also cited in Chang Chia-feng 1996a, p. 169.

118 By the late fifth century, Chinese also associated smallpox with foreigners from the west who they believed to have transmitted it east into China. The date given as the fourth year of the Yonghui reign is most likely 476 CE, according to Chang Chia-feng 1996a, p. 50. The smallpox origin story of General Ma's "enemies' sores" continued in the eighth century in Wang Tao, "*Tianxing faban*" 天行發斑 ("Rashes produced from Heavenly Circulation"), *Waitai miyao fang*, 752 preface, 1991 ed., *juan* 3, p. 52. For the early eleventh century, see Pang Anshi 龐安時 (1042–1099), "*Ban douchuang lun*" 斑痘瘡論 ("On spots and smallpox sores"), *Shanghan zongbing lun*, *c*. 1100, *juan* 4.

119 On the authorship of these abstracts, see Guy 1987, p. 122. On their similarity to modern book reviews and the catalogue as the largest collection of such reviews by conventional scholars, see Elman 1984, p. 161; on the Han learning bias in the medical section, see Elman 2005, p. 235

120 SKQSZM 1983, *juan 104*, p. 868. On regional patronage patterns for the selection of the texts, see Guy 1987, pp. 90–91.

121 The editors used a common (*putong* 普通) edition. See SKQSZM 1983, *juan* 104, p. 877.

122 SKQSZM 1983, *juan* 105, p. 890.

123 They also listed a commentary on the *Book of Changes* by Xue Xue, indicating that they considered his reputation as a scholar as important as that of a physician. See SKQSZM 1983, *juan* 10, p. 83.
124 SKQSZM 1983, *juan* 103, p. 858. Also noted in Elman 2005, p. 234.
125 SKQSZM 1983, *juan* 104, p. 877.
126 They concluded their abstract on Wu, for example, acknowledging the limitations of his predecessors:

> However, since the ancients thought that febrile epidemic disorders were miscellaneous disorders, medical texts [thereafter] often appended views [about them] and did not establish a special category [on them]. [Physicians] sometimes also mistakenly accepted the text in *Basic Questions* that "Cold Damage in the winter must turn into a Warm disease in the spring," and gave the wrong treatments.
>
> See SKQSZM 1983, *juan* 104, p. 877.

127 For genealogical discourse, see Wilson 1995, pp. 1–5; for its relation to legitimating the Manchu heritage, see Crossley 1987, pp. 161–62, 167.
128 Introduction to the "Medicine section" (*yijia lei*), SKQSZM 1983, *juan* 103, p. 856.
129 Crossley 1987, pp. 780–81.
130 For the initial distinction of two possible interpretations of the "Four Masters" historical concept, see Scheid 2007, pp. 386–87.
131 He may well have been arguing against his contemporary in Suzhou, the medical representative of Han learning Xu Dachun, who in a 1757 publication defended the ancient methods of Zhang Ji and argued that he was a sage who should not be denigrated to the status of the later Jin-Yuan physicians. Cited for his "return to antiquity" stance in Elman 2005, p. 234.
132 See 1664 preface by Li Zhiyun (*jinshi* 1730), in *Linzheng zhinan yian* 1991, p. 1; *Ye Tianshi yixue quanshu* 1999, p. 3. Cited also in Chao Yüan-ling 2009, p. 23. He was an official from Wujiang prefecture.
133 Xu Yong, "Refutation of the Four Great Masters" (*Sidajia bian* 四大家辯), *Wuyi hui jiang* 1983, p. 108. He also criticized Li Zhongzi and Zhang Jiebin for their lack of reverence toward Zhang Ji and his medical legacy in two other essays. See *Wuyi hui jiang*, pp. 108–109. The abstract on Xu Yong stated that he was known for his attacks on those who "veered way from the learning of the *Inner Canon*." Xu Yong's essay, but not Tang Dalie's "Eight Masters" essay, was also cited in Chao Yüan-ling 2009, p. 23. Neither was cited in Ding Guangdi 1999. The Shandong physician Huang Yuanyu was the first to argue that Zhang Ji was one of the "Four Sages" of medicine, following the Yellow Emperor, his interlocutor Qibo, and Bian Que. See his 1753 preface to the *Cherished Source of the Heart-Mind of the Four Sages* (*Sisheng xinyuan* 四聖心源, 1753), in *Huang Yuanyu yixue quanshu*, p. 773. Xu Dachun was the first to criticize Wang Lun's and Li Zhongzi's earlier essays on the "Four Masters" in which they argued that the three Jin-Yuan masters had surpassed Zhang Ji. In a long diatribe against them, he argued that Liu Wansu's and Li Gao's doctrines were biased and that Zhu Zhenheng merely summarized his predecessors' works. See Xu Dachun (*Yixue yuanliu lun* 醫學源流論, 1757); translated in Unschuld 1990, pp. 356–58. Also cited in Ding Guangdi 1999, pp. 32–33; Chao Yüan-ling 2009, pp. 22–23; and Scheid 2007, p. 386.
134 For the most exhaustive evidence of the "Four Masters" debate from the fourteenth to eighteenth centuries, see Ding Guangdi 1999, pp. 30–34.

135 Chao Yüan-ling noted, for example, that the Ming physicians Wang Lun and Li Zhongzi placed Zhang Ji on the same level as the three Jin-Yuan masters. In the eighteenth century, this evoked strong criticism from physicians associated with Han learning, such as Xu Dachun and, later in the nineteenth century, Lu Yitian, both of whom argued that he was a sage to whom later generations should defer. Chao 1995, pp. 240–48.

7 Emergence of Traditions

1 See Ji Yun, *Yuewei caotang biji* 閱微草堂筆記, *juan* 18, pp. 458–59; QSG 1928, p. 13867. The Qing literatus Chu Renhuo 褚人獲 (1635–1681) noted that rhubarb root for treating epidemics was recorded as effective as early as the *Song Dynastic History*. His praise of it as the best drug for treating epidemics provides the broader context to understand why Ji Yun was so surprised by Li Yun's apparently successful use of gypsum powder. Chu Renhuo's and Ji Yun's jottings are also recorded in Tao Yufeng, *et al*. 1988, p. 230

2 This official was the Chief Minister of the Court of State Ceremonies, Feng Yingliu 馮應榴 (1741–1801). Gypsum is monoclinic calcium sulfate, a not very water-soluble mineral.

3 Ji doubted gypsum could always be effective, in large part because epidemics differed according to the sixty-year cycle of phase energetics (*wuyun liuqi*). Yu Lin did not discuss this case, although he mentioned others during the epidemic. See *What I Have Learned about Epidemic Rashes* (*Yizhen yide* 疫疹一得), WBXQS 2002, vol. 2, p. 1570, and two cases from 1793 on pp. 1588–89. These cases show that although Yu emphasized gypsum, his formulas included many other substances, and he varied them for different cases.

4 Preface in *Yizhen yide*, pp. 12–13. This was one of the three early main texts of the "Warm and Hot current of learning" (*wen re xuepai*) discussed in Ren Yingqiu 1980, pp. 128–30.

5 See account in his preface dated 1798, *Wenbing tiaobian*, WBXQS 2002, vol. 1, p. 11.

6 See Hobsbawm and Ranger, eds. 1983 for the highly influential first collection of essays on invented traditions in Europe. Their arguments strongly influenced articles by Andrews 1994, 1995, 1999 and her dissertation, 1996, on the invented aspects of modern Chinese medicine. See also the studies of the *wenbing* current of learning in Hanson 1997, 2001 and, on tradition in Chinese medicine, Scheid 2007, pp. 5–13.

7 For the genealogical function of "Confucian Anthologies" to fashion and refashion Confucian identities, see Wilson 1995, pp. 1-20; and for "Canonizing the Confucian Tradition," pp. 23–71. For the "Unraveling of Neo-Confucianism" in the Qing, see Elman 1984, pp. 26–36.

8 *Banghe* is a Chan Buddhist term for a blow from a stick and a shout to awaken a disciple from dosing off or punish him for giving a wrong answer.

9 The most important were the *North-China Herald*, *Chinese and Japanese Repository*, *Chinese Repository*, the *Chinese Recorder*, *British and Foreign Medico-Chirurgical Review*, *Medical Times Gazette*, *Revue medicale, pharmaceutique et hippiatrique*, *Bulletin of the Royal Asiatic Society*, and *The Lancet*.

10 The authors of the first *History of Chinese Medicine* in English remarked that "The importance of the early volumes of the Customs Medical Reports can hardly be exaggerated." This was the first time a publication regularly published reports intended for physicians without the limitations on space inevitable in medical journals. They provided nosological and historical information from missionary hospitals. Wong and Wu 1932, vol. 1, pp. 398–99.

11 See *Wenbing tiaobian*, *Wu Jutong yixue quanshu*, p. 386.

12 On Wang Tingzhen, see ECCP 1943, p. 776. The 1812 and 1813 editions are lost.

13 Although some argue that the compilation was completed in 1798, I agree with those who argue that he most likely worked on it until his patron Wang Tingzhen published it. See the analysis in *Wenbing tiaobian, Wu Jutong yixue quanshu*, p.386.

14 Wang Tingzhen's preface, ZGYJTK 1991, vol. 2, pp. 1710–11. For annotations on this preface, see the version in YGW, pp. 275–81, or WBXQS 2002, vol. 1, p. 9.
15 Ibid., Wang Tingzhen's preface. See foreword, *Wenbing tiaobian*, WBXQS 2002, vol. 1, p. 13.
16 In an essay about the problem of "Not reading ancient treatises" ("*Budu gushu lun* 不讀古書論"), Wu Tang criticized physicians who relied almost exclusively on Ye's case records for their medical knowledge. See his *Treatise on the Disorders of Medicine and Physicians* (*Yi yi bing shu* 1831), *Wu Jutong yixue quanshu*, essay #13, p. 148. This passage is translated in Scheid 2007, p. 52
17 This is the concluding statement of commentary to the second statement in "Upper *jiao* section" (*Shangjiao pian* 上交篇), *Wenbing tiaobian*, WBXQS 2002, vol. 1, p. 25; or *Wu Jutong yixue quanshu* 1999, p. 20.
18 Repr. of the two prefaces to the *Medical Master's Secret Bookbag* (*Yishi miji*), in ZGYJTK 1991, vol. 2, 2956–57. The first publication was anonymous, but the 1812 edition indicated Xue's authorship.
19 For the transmission of this Ye Gui text, see Ma Jixing 1990, pp. 211–13.
20 Guiji was the older name for Shaoxing.
21 *Yizong bidu*, p. 81; or Bao Laifa 1999, p. 81. Discussed in Chapter 3, pp. 62–65.
22 See Zhang Nan's preface to *Yimen banghe* [1829] 1987, p. 9.
23 Ibid., p. 9.
24 Ibid., p. 10.
25 See citation in Qiu Peiran and Ding Guandi 1992, *juan* 7, p. 441.
26 See ZGYJTK 1991, vol.2, pp. 1734–35.
27 See note on Zhang Nan in Li Yun 1988, p. 830. The opposing point of view in "Reading the Four Great Masters" ("*Du sidajia*" 讀四大家) by Xu Yong was still circulating in Zhang Nan's time. See Huang Yuanyu, *The Medical Heritage* (*Yi shu*, 1829), p. 15.
28 *Superfluous Words* was published earlier in 1824. See edition in WBXQS 2002, vol.1, pp. 268–80.
29 See the preface by official Yao Wentian in ZGYJTK 1993, vol.4, p. 5060. Biography of Yao Wentian in Hummel [1943] 1991, pp. 901–902.
30 See "Main Meaning of Warm and Hot Diseases" ("*Wen re bing da yi*" 溫熱病大意), *Wen re zhuiyan*, WBXQS 2002, vol. 1, p. 271. This essay rephrased the old geographic argument by saying that "Wind and Cold cause more illnesses in the northwest and Damp and Heat are more harmful in the southeast," and concluded by singling out regionally appropriate therapies.
31 Summarized from Wu Jintao's foreword, *Sanjia yian* 1831, 1936, vol. 6, p. 109. LHML #10118. Repr. prefaces in ZGYJTK 1993, vol. 4, pp. 5059–61.
32 Bray 1995, pp. 115–17.
33 See Maps 13.1 and 13.2 in MacPherson 1998, pp. 505, 507.
34 See Map 13.3 in MacPherson 1998, p. 508. Original in Simmons 1879, p. vii.
35 MacPherson 1998, pp. 506–508.
36 MacPherson 1998, pp. 490–92.
37 For an overview of cholera in the world, Pollitizer 1959. Updated in Kiple, ed. 1993, pp. 642–49.
38 As an early influence, he cited the famous maxim of the Northern Song Vice Councilor Fan Zhongyan (989–1052): "If one cannot be a superior minister, one can at least be a superior physician."
39 This case began his list of medical cases for the *Treatise on Sudden Turmoil* of 1838, but he also featured it in his *Chongqingtang suibi*.
40 His earliest case records after 1824 are from 1829 to 1831.
41 This refers to cases of *huoluan* with spasms of the superficial calf muscles.

42 In 1839, he published the *Treatise on Sudden Turmoil* as a separate volume as well as in a compilation titled *Three Medical Books from the Great Concentration Studio* (*Qianzhai yishu sanzhong*) that included the first two collections of his medical cases compiled over the past decade of clinical practice in Hangzhou. See LHML #06082, #11692.

43 Chinese physicians have previously made this point as early as Wu and Sung (1933) who first researched the range of possible meanings of *huoluan* in classical medical texts from the perspective of modern medicine in the 1930s. Cited in MacPherson 1998, p. 496, fn. 24, and pp. 498–99.

44 *Chong xiu Zhenghe jing shi zheng lei bei yong bencao* 重修政和經史證類備用本草 (*Revised Materia Medica of the Zhenghe Era, Classified and Verified from the Classics and Histories*), *juan* 4, p. 14b.

45 In Sheng Zengxiu 1999, p. 160a. This concludes with a statement that the rapid destruction to the flesh and bones can be explained because the "sudden turmoil" first causes harm to the Spleen-Earth visceral system, which refers to the spleen and stomach and according to the Five Phases concept governs the flesh.

46 Summarizing the Chinese "cholera years" from 1820–1932, MacPherson 1998, p. 513 noted that 1862 was a particularly bad year with an estimate that one eighth of the population between Shanghai and Songjiang (64 kilometers) died of it. Original figures from Wu Lien-teh, *et al*., 1934, p. 17. This was the region in which Wang Shixiong practiced.

47 Taylor 2005. See also Table 13.1 on the comparative chronology of cholera pandemics in MacPherson 1998, p. 489.

48 It appears that he did his own printing and bookselling, as most publishers of the time did.

49 Wang contrasts in background, publishing output, and focus on epidemics with his contemporary, the Menghe physician Fei Boxiong, prominent in Scheid 2007.

50 For an analyis of his gynecological cases, which show concern about pathogenic postpartum heat (rather than the prevailing view of inherently cold postpartum women), and align well with his comparable views on pathogenic heat as cause of epidemics, see Yi-Li Wu 2010, pp. 217–23.

51 He moved to Chunxi village, Haining County, located on the north side of the Qiantang River where it meets Hangzhou Bay. For chronologies of his life, see Wang Shaodong 1984, and Jiang Yiping and Chen Zichuan 1984. In 1855, he published several formularies, a third installment of his medical cases, a reissue of *Random Jottings*, and finally, the *Warp and Weft*, for which he had penned a preface in 1852.

52 "Collator" in nineteenth-century publishing had no fixed meaning; it was often used to acknowledge patrons or to indicate dependents one wished to support.

53 For the jotting, see *Chongqing tang suibi*, *Wang Mengying yixue quanshu*, p. 626.

54 Wang's point is that there is only one kind of anomalous *qi*.

55 He returns to this same point in his 1862 update of the *Treatise on Sudden Turmoil*, *Suixiju chongding Huoluan lun*, *Wang Mengying yixue quanshu*, p. 174.

56 Since this rural-urban distinction was so central in the European explanation of epidemics, Leung 2002 noted it is remarkable to find it so late in Chinese perceptions. A late Ming description of urban pollution is by Xie Zhaozhe, *Wu zazu*, *juan* 2, p. 38. He wrote about insalubrious conditions in the capital, noting the confluence of crowded housing, excrement and filth in the markets, flies and gnats, extreme heat and flooding from rain in causing intermittent fevers (*nüe*), incessant diarrhea (*li*), and febrile epidemics. This passage is fully translated in Dunstan 1975, p. 7; and Elvin 2004, p. 404.

57 *Chongqing tang suibi*, *Wang Mengying yixue quanshu*, p. 626a.

58 Ibid., p. 626a.

59 Ibid., p. 626a.

60 This therapeutic strategy was associated with Li Gao and Xue Ji, as discussed in Chapter 3.

61 See *Chongqing tang suibi*, *Wang Mengying yixue quanshu*, p. 626.

62 Wang Shixiong preface, *Wen re jingwei*, *Wang Mengying yixue quanshu*, pp. 6–7; or WBXQS 2002, p. 341.

63 He responded to Ye Gui's "Essay on Externally-contracted Warm and Hot" ("*Ye Xiangyan Waigan wen re bian*"), *Wen re jingwei*, WBXQS 2002, p. 369.

64 He weighed in on the side of the argument first expressed by Wang Lun, *Enlightened Physicians* (*Mingyi zazhu*, 1502). See pp. 56–57, 67.

65 *Wen re jingwei*, WBXQS 2002, p. 369. He thought that the person's constitution was not as important in prescribing as the manifestations of disease, weather, and presence of an epidemic. *Wen re jingwei*, WBXQS 2002, p. 394.

66 See his comments on Chen Pingbo's 陳平伯 "Essay on externally-contracted Warm and Hot [diseases]," *Wen re jingwei*, *Wang Mengying yixue quanshu*, p. 61; or WBXQS 2002, p. 387.

67 See Chapter 3, pp. 67–68.

68 He stated this view most clearly in his great grandfather's jotting on epidemics in the first chapter on the "Six *Qi*," *Chongqing tang suibi*, *Wang Mengying yixue quanshu*, p. 626.

69 See his comment at the conclusion of the introduction to Chen Pingbo's essay, *Wen re jingwei*, *Wang Mengying yixue quanshu*, p. 61; or WBXQS 2002, p. 387. In response to the opinion, then current, that "in Jiangnan, diseases due to Warm are greater and diseases due to Cold fewer," he added, "in the northern provinces, Warm diseases are even greater than Cold Damage." This statement also appeared in Wu Jinshou's edition of *Superfluous Words on Warmth and Heat* (*Wen re zhuiyan*), appended to the *Medical Cases of the Three Masters* (*Sanjia yian* 1831), WBXQS 2002, vol. 1, p. 271.

70 *Wen re jingwei*, *Wang Mengying yixue quanshu*, p. 87a.

71 Ibid., p. 86a. Conventional doctors thought that warmth and heat stimulated the fetal toxin, but did not connect it with epidemic *qi*.

72 See the conclusion to the essay on "Zheng Ji on Epidemic diseases," *Wen re jingwei*, *Wang Mengying yixue quanshu*, p. 37b. In his preface, Wang Shixiong argued that the canons provided the names (*ming* 名) but were lacking in method (*fa* 法). Perhaps this is how he thought all that followed were within the same range of ancient terms.

73 See Wang Shixiong's preface, *Wen re jingwei*, *Wang Mengying yixue quanshu*, p. 6.

74 That is, a rash that resembles granular sand. Beginning in Zhang Gao's *Yi shuo* (1189), *sha* refers to a miliary rash (i.e. one that resembles millet seeds), a Cold Damage disorder. In Yuan sources, *jiaochangsha* 攪腸痧 ("Upset intestines *sha*") is a popular synonym for *huoluan*. In the Qing, the meanings of *sha* greatly widened, so that some sources listed forty-four or forty-nine types of *sha*. See Yu Yongyan 1998.

75 End of essay on "Warm Syndrome" types of cholera in *Suixju chongding Huoluan lun*, *Wang Mengying yixue quanshu*, p. 143a.

76 For a different argument that Wang Shixiong used the well-known disease concept "sudden turmoil" (*huoluan*) instead of a neologism in order to promote his own approach to treatment over others at the time, see Taylor 2005.

77 Essay on "Warm Syndrome" types of cholera in *Suixju chongding huoluan lun*, *Wang Mengying yixue quanshu*, p. 142b.

78 Ibid., p. 142b.

79 Ibid., p. 143b. On history of the concept of *huixie*, its relation to concepts of death, disease, and the connection made between urban pollution and occurrence of epidemics, see Leung 2002, pp. 187–94.

80 Chapter 2 of the 1863 ed. of the *Huoluan lun* details a number of treatment methods and preventive measures. See *Suixiju chongding Huoluan lun*, *Wang Mengying yixue quanshu*, pp. 148–60.

81 See essays on “Relieving the Troops” (*Ceying* 策應) and “Guarding from Harm” (*Shouxian* 守險) in ch. 2 of *Suixiju chongding Huoluan lun*, *Wang Mengying yixue quanshu*, pp. 151–53, 157–60; on the necessity of clean water, p. 158a.

82 On the significance and limitations of John Snow’s epidemiological investigations of 1854, see Hamlin 1990, pp. 127–29. Snow did not take the pump handle off himself, as legend has it, and admitted that the cholera epidemic was nearly over when he talked the local council into disabling the pump. There is no doubt, however, that he believed the cause of cholera was contaminated water.

83 *Suixiju chongding Huoluan lun*, *Wang Mengying yixue quanshu*, pp. 174b–75a.

84 *Suixiju chongding Huoluan lun*, *Wang Mengying yixue quanshu*, p. 173.

85 Formalized in 1882, Koch’s four postulates summarized what was necessary to demonstrate that a specific organism was the cause of a certain disease. See Porter 1997, p. 436.

86 *Suixiju chongding Huoluan lun*, *Wang Mengying yixue quanshu*, p. 130.

87 See Wang Shixiong’s 1852 preface, *Wen re jingwei*, *Wang Mengying yixue quanshu*, p. 6.

88 The *Nanbing biejian’s* texts by Ye Gui and Xue Chengji were previously published in Tang Dalie’s *Suzhou Physicians* (see Chapter 6).

89 See Song Zhaoqi preface, *Nanbing biejian*, YXDC 1936, vol. 15, p. 2; or WBXQS 2002, vol. 1, p. 470. I refer to the book below as *Southern Diseases*.

90 See Wu Runqiu 1984, pp. 7–9. Song Zhaoqi preface, *Nanbing biejian*, YXDC 1936, vol. 15, p. 2; or WBXQS 2002, vol. 1, p. 470. For the Xue family genealogy, see Hanson 1997, p. 361.

91 All the prefaces are reprinted in ZGYJTK 1991, vol.2, pp. 1776–79. Bi Changqing preface, *Nanbing biejian*, YXDC 1936, vol. 15, p. 1; or WBXQS 2002, vol. 1, p. 469.

92 On Gu’s life, see QDZJCK 1985, vol. 29, p. 481; vol. 33, p, 138; vol. 84, p. 377; vol. 121, p. 137; and vol. 125, p. 305.

93 See the “Artificer’s Record of the Winter Ministry” (*Dongguan Kaogong ji* 冬官考工記), in the edition of the *Rites of Zhou* with commentary, *Zhouli Zhengshi zhu*, *juan* 11, p. 278. For French translation, see Biot, [1851] 1969, vol. 2, p. 460.

94 Gu Wenbin preface, *Nanbing biejian*, YXDC 1936, vol. 15, p. 1; or WBXQS 2002, vol. 1, p. 467.

95 Ibid., p. 1.

96 Ibid., pp. 1–2.

97 Xu Kang preface, *Nanbing biejian*, YXDC 1936, vol. 15, p. 1; or WBXQS 2002, vol. 1, p. 468.

98 For the essay *Zhongjing fa fei beixue bian* 仲景法非北學辨 (“On Zhang Ji’s Methods Not Being Northern Learning”), see Mo Wenquan 莫文泉, *Yan jing yan* 研經言 (*Words on Studying the Canon*), p. 103; for the preface by Wang Bao 王寶 (fl. 1871) refuting the position that Cold Damage did not occur in the south, p. 7.

99 On how this was the case for the Menghe physicians in Shanghai, see Scheid 2007.

100 This was by no means a new phenomenon of the nineteenth century. During the early eighteenth century, one Chinese physician contrasted Chinese and Western organ systems, using an early-seventeenth-century Jesuit translation of a book on Western anatomy. See *Guisi lei gao* 癸巳類稿 (*Classified Notes of the Guisi year* [1833]), *juan* 14, pp. 545–46 . The relevant passages are translated in Zhang Qiong 2008, pp. 314–17. Wang Honghan 王宏翰 (*c*. 1640–1700), the focus of Zhang’s article, is famous for the first attempt to integrate the Western natural philosophy of the Jesuits with Chinese medicine in his *Yixue yuanshi* 醫學原始 (*Origins of Medicine*, 1692).

101 Warner 1986, p. 69.

102 Numbers 2000, p. 219.

103 For a more nuanced discussion of the many social functions of “southern medical distinctiveness,” see Warner 1989, pp. 199–205.

104 Ge Yuanxu, *Huyou zaji*, p. 41. These medical distinctions did not translate into concerns over eating exotic cuisines in Shanghai, however, since he obviously enjoyed eating in foreign restaurants. See Swislocki 2009, p. 108.
105 For a history of the Chinese Maritime Customs, a summary of Robert Hart's life and role as Inspector General, and an edited collection of his letters as "I.G. of Peking" (1968–1907), see Fairbank, *et al*., eds. 1975.
106 For the full text of the "Inspector General's Circular No. 19 of 1870," see Wong and Wu 1932, pp. 397–98. Dr. Jamieson was editor of these reports for the next forty years from the first issue in August 1871 to the final issues published in 1911.
107 Although in the early nineteenth century the classification of disease by William Cullen (1710–90) was still widely standard, William Farr started revising Cullen's and other's nosologies in 1839 and published his influential article on "Statistical Nosology" in 1842. By 1860, the General Record Office adopted his third nosology as their standard for vital statistics. See Eyler 1979, pp. 53–60. Also on Farr's nosology, see Pelling 1978, pp. 91–102.
108 See MacPherson [1987] 2002, p. 62. Jamieson 1872a, no. 3, p. 82 for quotation and first table using Chinese disease categories; 1872b, no. 4, p. 101 for second table using Chinese disease categories. In 1872, there was little to choose (aside from safe minor surgery) between the therapies of Chinese and European physicians in Shanghai.
109 Sutleffe 1826, p. 107, item 4.
110 For examples of his early efforts, see Andrews 1997, pp. 122–29.
111 See *The Lancet*, vol. 173, issue 4455, pp. 207. See also MacPherson [1987] 2002, p. 63, p. 284, fn. 39.
112 See Shapiro 2003, p. 356. His primary source was *Yixue Mingci* 醫學名詞 1917.
113 See Gordon 1884, I. 143-45, p. 274. Original in Meadows 1871, p. 144.
114 Ibid. For more examples comparing similarities between Western and Chinese doctors at the end of the nineteenth century in Tianjin, see Rogaski 2004, pp. 93–100.
115 For an analysis of Dudgeon's views on Chinese hygiene, diet, dress, residences, and social customes, see Li Shang-jen 2011.
116 Dudgeon 1872b, p. 29-32. For further elaboration on his views on these two topics, see MacPherson [1987] 2002, pp. 36, 56–7.
117 Rogaski 2004, p. 103.
118 Dudgeon 1877, p. 7.
119 Ibid., p. 49.
120 Ibid., pp. 49–50. The *kang* is a brick bed characteristic of north China that in the cold months transmitted heat from the kitchen stove to warm sleepers.
121 Ibid., p. 53.
122 Ibid., p. 53.
123 Ibid., p. 4.
124 Dudgeon was still using Cullen's classification of diseases in 1877, even though Jamieson had adopted Farr's new nosology for keeping vital statistics in the *Medical Reports* since 1872.
125 Macgowan 1881, pp. 23–4.
126 Macgowan 1885, pp. 42–52.

8 Conclusion

1 The causative agents for these four diseases were named in the early 1880s: malaria (Laveran 1880), tuberculosis (Koch 1882), cholera (Koch 1883), plague (Yersin, Kitasato, 1894). For a more complete list, see Ackerknecht 1982, p. 180.
2 These categories came from the table of contents in Jefferys and Maxwell 1910, pp. ix–xvi. They also covered, of course, diseases caused by other factors such as diet, alcohol and opium

consumption, nervous system dysfunction, children's diseases, physical abnormalities, and even insanity.

3 Research on diseases of tobacco plants in the 1890s showed that they were caused by an agent that could pass through filters that stopped the smallest known bacteria, but the researchers did not yet call these agents a virus. The word was first used in this technical sense in 1900.

4 Noting the scanty and uneven distribution of medical laboratories across China, Jeffreys and Maxwell summarized knowledge based on laboratory medicine as a means to spread its methods further. On laboratory methods, see Jeffreys and Maxwell 1910, pp. 699–707.

5 For this process related to the redefinition of "plague" in European medical history, see Cunningham 1992.

6 For an example of the former move, see especially their overview of Chinese diseases "Map 1 Noso-Geographical Divisions of China," in Jefferys and Maxwell 1910, p. 31.

7 For example, they equated beri-beri with "malarial leg" (their translation of *jiaoqi*) and wrote that it "has been described in a medical treatise attributed to Hwang-ti, B.C. 2697 (?)." See Jefferys and Maxwell 1910, p. 105.

8 They acknowledged that Dudgeon's work was the first nosological study of China on record, but dismissed it as no more than a study of hygienic conditions, out of date and worth reading only for its historic interest. Although their own work would eventually become outmoded, as they admittedly foresaw (see p. 25), Maxwell published a second edition in 1929 and was an advisor for Sutherland Gear's "The First General Epidemiological and Morbidity Survey of China" for the years 1933–34, as Chairman of the Research Council of the China Medical Association.

9 See Jefferys and Maxwell 1910, pp. 69, 87, 93, 107, 115, 141, 157, 174, 491, 522.

10 Manson 1878, pp. 25–27.

11 These maps appeared in the 1875 US Congressional report, *The Cholera Epidemic of 1873 in the United States*. See Koch 2005, pp. 159–61. The first edition of August Hirsch's famous *A Handbook of Geographical and Historical Pathology*, which included no maps of diseases, was published in three volumes from 1860 to 1864. The first English translation in 1886 was of the second German edition and considerably influenced later medical maps.

12 See Simmons 1879, p. vii.

13 For two maps of bubonic plague from 1896 to 1898 in Mongolia, see Matignon 1899, unnumbered page before p. 1, and between pp. 8 and 9. For map of global geographic distribution of beriberi including Japan, see Simmons 1880, between pp. 38 and 39,

14 Good sources for the period are Croizier 1968 and 1976 and the better-informed Zhao Hongjun 1989.

15 I am thinking specifically of Chen Guofu as discussed in Croizier 1976, pp. 345–46.

16 For these struggles and establishment of the *Guoyi guan*, see Yip 1995, pp. 58–62. According to Croizier, however, it had practically no influence on events.

17 See the last publisher's note before the table of contents in *Nanbing biejian*, Qiu Qingyuan, ed. *Sansan yishu* 1924, p. 8. The "Third of March" refers to Qiu's birthday. The *Sansan yishu* included ninety-nine titles, and was the largest compilation of Chinese medical texts in the 1920s.

18 On the politics of "medical revivalism" during this period, see Croizer 1976, pp. 341–54.

19 Qiu Qingyuan preface to *Zhenben yishu jicheng* 1936, p. 1a.

20 Xie Guan 1935, pp. 60a–62a.

21 See Appendix A in Hanson 1997, pp. 318–30.

22 These physicians follow directly after Ye Gui and Xue Xue in Group VI of the medical biographies in the *Qing Draft History* (see Table 8.1).

23 See for example, Ren Yingqiu 1980; Meng Shujiang 1985, 1989; Hsu and Wang 1985; Wen and Seifert 2000; Peng Shengquan 2000; Li Shunbao 2002.

24 See Ren Yingqiu 1980.

25 For example, on the Suzhou environs, Yu Zhigao *et al*., eds. 1990 and Yu Zhigao 1992; on the Shaoxing environs, Dong Hanliang, *et al*., ed. 1994; and on the Shanghai metropolitan region, Meng Xianyi, ed. 1989.
26 Chen Tongyun, ed. *Yanshan yihua* 1987; Xia Hongsheng, ed. *Beifang yihua*, 1988; Zhan Wentao, ed. *Changjiang yihua*, 1989; Liu Shangyi, ed. *Nanfang yihua*, 1991; and Sun Jifen, ed. *Huanghe yihua*, 1994.
27 See Xia Hongsheng, ed. 1988, pp. 3–4. The prefaces are dated 1984 and 1985.
28 For an astute analysis of the process of inventing "TCM" during the Republican and early Communist periods, see Andrews 1996.
29 For a parallel argument related to regional food history and national history, see Swisloski, ch. 4, "Where the Five Directions Come Together," pp. 162–170.
30 See Chen Daojin and Xue Weitao, eds. 1985.
31 See Suzhoushi difang zhi bianxuan weiyuan hui bangongshi, ed. *Wuzhong mingyi lu*, 1985.
32 See Yu Yongmin, ed. *Liaoning yixue renwu zhi*, 1990a; Zeng Yong, ed. *Xiangyi yuanliu lun*, 1991 (which has a section on local authors of books on Warm diseases, pp. 264–67.); Hong Fangdu, ed. *Xin'an yixue shi lue*, 1990; Li Jiren, *et al*., eds. *Xin'an mingyi kao*, 1990; Hong Fangdu, ed. *Xin'an yixue shi lue* 1990; and the Shanghaishi wenhua ziliao weiyuanhui, eds. *Haishang yilin*, 1991.
33 See Yu Zhigao 1992; Wu Qu 1990.
34 For example, Meng Xianyi, ed. *Guide to Traditional Chinese Medicine and Pharmacy in Shanghai* (*Shanghai zhongyiyao zhinan*, 1989).
35 See Hu Shijie 1990.
36 For Yu Ying'ao's preface, see, Hu Shijie, *et al*., eds. 1990, pp. 1–4.
37 Tang Dalie, *Wuyi hui jiang*, 1792.
38 See Dong Hanliang, *et al*., eds. 1994. The appendix to the 1994 Shaoxing text even reprints the original 1793 Suzhou compilation.
39 Several essays discuss geographic differences in food culture in K.C. Chang, ed. 1977. For regional food culture from the late imperial to socialist period in Shanghai, see Swislocki 2009.
40 See Cai Lian 1995.
41 See Wang Xinhua, GJXCS 1985.
42 See *Wuzhong yiji* bianxiezu (Editorial Committee on the *Compilation on Suzhou Medicine*), ed. 1989.
43 The other subjects in the projected three volumes in the series include texts in the *Inner Canon* and Cold Damage traditions and works on materia medica, prescriptions, internal and external medicine, gynecology, pediatrics, and orthopedics written by Suzhou authors. See publisher's preface, *Wuzhong yiji* bianxiezu, ed. 1989, p. 1.
44 The publication from the Nanjing College of Traditional Medicine edited by Meng Shujiang, *Warm Disease Studies* (*Wenbing xue*, 1989), for example, starts from the base of traditional Chinese medicine; and the publication of the Shanghai Medical College edited by Wu Yin'gen and Shen Qingfa, *Studies on Externally Stimulated Acute Febrile Disorders in Traditional Chinese Medicine* (*Zhongyi waigan rebing xue*, 1991), in contrast, places biomedicine at the foundation.
45 On Tibetan medicine, for example, see Luosang Quepei, ed. 1982 and Cai Jingfeng, ed. 1996. Since 1977 there have been innumerable publications on medicine among minority populations in China.
46 Peng Shengquan, *et al*., eds. 2002. This book was first published in 1991 as part of a series on Chinese medicine and pharmacy in the Guangdong and Guangxi region and was then titled *Lingnan zhongyiyao congshu*. I refer to it simply as *Lingnan wenbing*.
47 See both the foreword of 1990 and the prefaces of 1991, in Peng Shengquan, *et al*., eds. 2002, pp. 13.

48 Peng Shengquan, *et al*., eds. 2002, Foreword, p. 1.
49 Peng Shengquan, *et al*., ed. 2002, pp. 1–22. See also the two articles that focused on Lingnan's special medical geography by Lin Peizheng 2002, pp. 109–26; and Yang Wenzheng 2002, pp. 127–85.
50 Peng Shengquan, *et al*., eds. 2002, p. 8.
51 Ibid., p. 9.
52 See Charts 3, 8, and 9, in Yang Wenzheng 2002, pp. 127–85.
53 Peng Shengquan, *et al*., eds. 2002, p. 21.
54 See Chart 5 in Han Li 2002, p. 175. Yin deficiency refers to "inner damage" (*neishang*) illnesses due to heat from unrestrained yang in the body, which dehydrates the patient.
55 For comparable examples of the synthesis of Chinese medicine and biomedicine in clinical settings, see Scheid, 2002b.
56 See Han Li 2002, p. 171.
57 Meade, *et al*., eds. 1982.
58 See Ma Xiaonan, *Shanghai qingnian bao*, April 24th, 2003.
59 "Shanghai Mobilizes Traditional Chinese Medicine to Curb SARS," *Xinhua General News Service*, April 17th, 2003.
60 See Peng Shengquan 2000, *Wenbing xue*.
61 See the following two interviews: "Doctors in HK Hospitals Softening Stance Against Chinese Medicine" and "Use of Chinese Medicine for SARS Treatment Urged in HK," *Xinhua General News Service*, April 18th and 22nd, 2003.
62 The botanical name for *banlangen* is *Isatis tinctoria* L., or *I. Indigotica* Fort. Its pharmaceutical name is *Radix Isatidis*. Commonly referred to as *Isatis* root, it is credited with antimicrobial, antiparasitic, and antiviral effects. In addition to Shanghai, it was one of the most popular Chinese SARS drugs sold throughout Asia, the United States, and Canada. For the situation in Canada, see Ricky Leong, "Rush is on for Root in Chinese Treatment: SARS 'Prevention', Doctors Skeptical but Herbalists Busy," *The Gazette* (Montreal, Quebec), April 4th, 2003.
63 Ma Xiaonan, "Zhongyi zhuanjia," *Shanghai qingnian bao*, April 24th, 2003.
64 See Leung and Furth 2011 and Lei 2011.
65 "WHO Experts Examining Ability of Traditional Chinese Medicine to Treat SARS," *Beijing Xinhua in English*, April 7th, 2003.
66 "Yong wenbing de guandian lai zhiliao Feidian," *Dagong bao*, April 8th, 2003.
67 I thank one of the anonymous readers of the manuscript for this important point. For examples of these discussions in Chinese clinical journals just after the SARS epidemic subsided, see the articles published in a special series on SARS in *Tianjin zhongyiyao* 天津中醫藥 (*Tianjin Journal of Traditional Chinese Medicine*), vols. 20 and 21, 2003–2004. For example, Guo Liping *et al*., eds. 2003; Hai Xia 2003; Liu Mei 2003; Zhang Boli and Zhang Junpin 2003; Liu Baoyan *et al*., 2004; Wei Baolin, *et al*., 2004; and Zhou Pingan, *et al*., 2004.
68 Fan and Zhang, "*Zhongyi bu pa Feidian*," pp. 1–2. I thank Jason Robertson for sending this source to me from Beijing.
69 Ibid.
70 See my published article on the case of SARS and TCM as well as the definition of SARS as a type of *wenbing* in mainland China. I will not repeat my arguments or evidence in detail here. See Hanson 2010.
71 For fascinating field work on the modern meanings of *zhang* in contemporary China, see Zhou Qiong 2007.

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Note on Romanization of names: The following bibliography uses pinyin for all Chinese names in the past and for modern mainland Chinese scholars. But when a Chinese author has published in another language under a name using a different Romanization system such as Chang Che-chia (Zhang Zhejia), Chang Chia-feng (Zhang Jiafeng), and Angela Ki Che Leung (Liang Qizi), their articles are listed alphabetically by the name used in their publications, not according to the pinyin system. Chinese characters are provided for their names in the first listing of their published works.

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