

Zhang (“Miasma”), Heat, and Dampness:
The Perception of the Environment and the Formation of
Written Medical Knowledge in Song China (960-1279)

Chen Yun-Ju

Doctor of Philosophy in Oriental Studies

University of Oxford
Pembroke College
2015

Abstract

How the world of experience, text-based medicine, and the social world came to interact with each other in a historically situated way is the subject of this doctoral thesis, which studies what I shall call *zhang* 瘴 (“miasma”) medicine in Song China (960–1279 CE). By the phrase “the world of experience,” I refer to the bodily experience of the environment in a given region as well as to experiences of medical practices. “The social world” broadly refers to concomitant social, intellectual, and political events or trends. This thesis proposes a new approach to the study of the environment within the history of medicine in Imperial China (around 202 BCE–1911 CE), an approach which is inspired by anthropological analytical concepts. It highlights individuals’ world of experience, treating their knowledge about environmental medicine as the culmination of a dynamic collaboration of their experiential world and existing culture-specific concepts, such as those deriving from scholarly medicine.

This new approach dictates a re-examination of the sources that have received intensive attention in the history of medicine in Imperial China: texts up to the thirteenth century on the aetiology, therapies, and prevention methods of *zhang* as disorders endemic in Lingnan 嶺南 (in Guangdong and Guangxi provinces). Based on this re-examination, I contend that the Song period witnessed the emergence of a pronounced explanatory mode among

authors of writings about *zhang* medicine about how their world of experience informed and affirmed their medical knowledge and practices relating to *zhang*. This Song explanatory mode embodies, I argue, the endeavor of Song scholar-officials and physicians to extend the proliferation of scholarly medicine at that time to *zhang* medicine, which lacked widely acknowledged textual references and therapies of medicinal effectiveness. The findings in this thesis firstly broaden our understanding of the development of environmental medicine in Imperial China and, secondly, extend our knowledge of the expansion of scholarly medicine into southern China in Song times.

key words: experience-based knowledge, scholarly medicine, knowledge production, environment, the body

Acknowledgements

Where being about to complete this current thesis, I would like to first of all thank Professor Elisabeth Hsu, my doctoral supervisor whose generous support has covered throughout my entire research project, for helping me develop and polish my conceptual framework and argument, for cultivating me a scholarly manner of translating Chinese materials, for providing me with valuable analytical concepts and research references, for supporting my academic pursuit. Her support cannot be fully recounted here. I also owe my gratitude to Professor Marta Hanson and Dr. Robert Chard, both of my examiners of the doctoral degree viva, for offering me valuable comments on improving the translation and argument of this thesis. Their feedback points to a promising direction in which I can expand the scope of my thesis and conduct further research.

Along this 51-month journey, many people have helped me with writing this thesis in various ways. Professor Hilde De Weerd, who was my first-year co-supervisor, offered me crucial feedbacks to the early formulation of this thesis and has shown me how the burgeoning field of digital humanities can throw a new light on research of the Song history. Professor Barend Ter Haar, who is my third-year reserve supervisor, advised me to consider how the change in readership of medical texts in Song times affected the formation of written medical knowledge, which advice inspires one of the main argument of my thesis. Dr. Erica Charters and Dr. Peter Ditmanson reminded me of possible influences of the Song social dimensions on the formation of medical knowledge that I have discussed in Chapter Two.

Many researchers have given me insightful comments on different parts of this thesis at different conferences and workshops that I have attended over these four years. At the International Conference on Life and Health in China from the Perspective of the History of Daily Life at Nankai University in 2012, Professor Chen Hsiu-Fen, Professor Chin Shih-Chi, Professor Yu Gengzhe, and Professor Yu Xinzhong helped me better elucidate the argument and contribution of my conference paper (which later becomes Chapter Two of my thesis). Professor T. J. Hinrichs and Professor Angela Ki Che Leung gave me suggestions on how to put my research subject into a broader context of the development of medicine in Imperial China in relation to the treatment for disorders that were conceived as endemic in its far southern territory. At the International Interdisciplinary Conference on Middle Period China, 800-1400 at Harvard University in 2014, Steven Boyaton and Professor Hinrichs helped me polish the argument of Chapter Five of this thesis.

When presenting my translation of core sources of this thesis at Text Reading seminar at the Needham Research Institute in 2013, I learned valuable ideas about how to revise my translation and rethink relevant

argument from John Moffet, Dong Qiaosheng, Fu Yang, and Binly Yang. I am also grateful to John for kindly helping me find materials and references for this thesis in the Institute. Researchers who also shed a light on passages that were difficult to be translated include participants of the Classic Chinese Reading group at Oxford (particularly Dr. Chard, Dr. Wim De Reu, Dr. Ditmanson, Dr. Liu Qian, Dr. Liu Siyu, Professor Dirk Mayer, Professor Ter Haar, Dr. Justin Winslette, Dongsob, Elisabeth Forster, Yegor Grebnev, Rens Krijgsman, Edward Luper, and Yuan Ai), those of the online translation reading session (especially Dr. Michael Stanley Baker, Dolly Yang, and Liu Yan), and those of translation workshops held by Professor Hsu (particularly Professor Wu Zongping and Dr. Yao Jue).

Apart from foregoing researchers, many friends have provided me with not only valuable comments on various parts of this thesis, but also comradeship by sharing in the pains and gains of doctoral study. Marshall Crag, Guo Ting, Lincoln Tsui, and Samuel Yin read most parts of this thesis, giving me comments that refined my conceptual framework and methodology. They also arranged mock interviews for almost each important oral examination over the course of my doctoral study. Lin Hsin-Yi and Wu Hsiao-Chun read almost the whole thesis, discussing with me line by line about how to present more clearly its argument and contribution. Dolly Yang's comments on the Introductory Chapter enable me to articulate the difference between the approach of this thesis and that of existing scholarship.

I owe great debt of thanks to friends who have helped me to collect references and materials, such as Fu Yang and Lincoln Tsui. You Jih-Sheng has generously assisted me in collecting a vast body of primary sources in Taiwan, on which sources this thesis mainly relies. I am also grateful to the Chiang Ching-Kuo Foundation for supporting me with a one-year Doctoral Fellowship.

Last but not least, the everlasting love and support of my parents and grandmother have steadied me over these years and bestowed on me the courage to proceed. Chen Li-Kung's words and company were constant encouragement to me when the seemingly endless revision of the drafts of this thesis exhausted me at the final stage of my doctoral project. I am very blessed to have so many people's help over my academic pursuit. This thesis cannot be accomplished without it.

Table of Contents

Chapter One Introduction	1
1.1 Environmental Medicine in a Social World: Literature Review	3
1.2 Taking the World of Experience into Account: an Analytical Approach	19
1.3 Why <i>Zhang</i> Medicine in Song China? The Choice of and Introduction to the Research Subject.....	27
1.4 Principal Primary Sources.....	36
1.5 Chapter Layout.....	39
Chapter Two Hot Weather, Foulness, and Stench: Fumigating and Steaming	47
2.1 The New Southern Song Aetiology of <i>Zhang</i> Disorders and the Song Reasons for Its Documentation: Chen Ziming’s Formulary	48
2.2 Fumigating and Steaming in the Medical Literature up to Song Times	67
2.3 Clogged Waterways and Foulness in Hot Weather	76
2.4 Fumigating and Steaming Qi from the Crowded Victims of Disasters.....	91
2.5 Concluding Remarks	96
Chapter Three Accounting for Identified Environmental Features via Cosmological Terms	101
3.1 Linking the Yang-Heat and Yin-Dampness in Lingnan with Particular Symptoms of <i>zhang</i> in the Early Southern Song	103
3.2 Latent Experienced Environmental Features in Lingnan: Sui and Tang Medical Literature about <i>Zhang</i>	120
3.3 Latent Experienced Environmental Features in Lingnan: Other Northern Song Medical Literature about <i>Zhang</i>	129
3.4 Expounding Environmental Bodily Experience for Literate Readers.....	151
3.5 Concluding Remarks	158
Chapter Four The Use of Drugs to Treat and Prevent <i>Zhang</i> (“miasma”): Why Treat Heat with Heat?	163
4.1 Significance of Experience in Li Qiu’s Treatments for <i>Zhang</i>	165
4.2 Song Opinions on the Use of <i>Fuzi</i> to Treat <i>Zhang</i>	176
4.3 Song Opposing Stances on the Drinking of Alcohol to Prevent <i>Zhang</i>	199

4.4 Medical Knowledge about <i>Zhang</i> in Song Formularies and Miscellaneous Notes	206
4.5 Concluding Remarks	211
Chapter Five Expanding Scholarly Medicine to Lingnan: <i>Zhang</i> (“miasma”), Cold Damage Disorders, and Bodily Constitutions	216
5.1 Expanding Cold Damage Medicine to <i>Zhang</i> Medicine	217
5.2 Extending the Northeast-Southwest/North-South Axis in Prescription Strategy to Treatments of <i>Zhang</i>	238
5.3 Concluding Remarks	260
Chapter Six Conclusion	264
References.....	282

Chapter One Introduction

How people's bodily experience of the environment historically informed the formation of medical practice and knowledge recorded in texts is the main concern of this thesis. The process of formation engages with reciprocal influences between: bodily experience and written accounts; action and concepts; and practices contingent to specific situations and general norms. Scholarly medicine in Imperial China, with its emphasis on textual learning and its claims to therapeutic efficacy, is a particularly apt field for exploring these reciprocal influences. A vast body of literature on the environmental influences that scholarly medicine in Imperial China considered to affect the body has focused on how social, intellectual, or political trends at that time shaped the formation of environmental medicine. To broaden our understanding of this formation process, this thesis takes into account an essential but largely overlooked contributor to the process—that is, the world of experience. By the phrase “the world of experience,” I refer to individuals' perception of the regional environment and experience in practices. By taking this world of experience, especially the bodily experience, as a starting point and then investigating how it interacted with associated trends and came to inform medical practice and written knowledge, this thesis contributes to the field of the history of medicine in Imperial China.

To illuminate the formation of environmental medicine in Imperial China, this thesis uses the example of the treatment and prevention of *zhang* (“miasma” 瘴) in Song China (960–1279), an era when a new and influential environmental consciousness emerged. *Zhang* in Song China typically referred to a range of disorders, or to a debilitating atmosphere, that were thought to be endemic in Lingnan 嶺南 (literally, south of the Ling ranges), an area that is largely encompassed by the present-day Guangdong and Guangxi provinces, and were usually attributed to the heat (*re* 熱), dampness (*shi* 濕), and poison (*du* 毒) found in that environment.¹ For convenience, I use the phrase, “*zhang* medicine”, in reference to both medical practice and knowledge concerning the aetiology, diagnosis, treatment, and prevention of *zhang* disorders in Lingnan.

Accounts of *zhang* medicine by Song authors appear in a wide range of genres, including medical literature, miscellaneous notes (*biji* 筆記), individual authors’ collected works (*bieji* 別集), and so forth, all of which constitute primary sources that this thesis utilizes. Taking the Song authors’ bodily experience as a starting point, I analyze the terms, concepts, and narrative sequences by which they applied their experience of environmental features in Lingnan to theorise or validate *zhang* medicine. This close textual analysis focuses also on how different Song authors articulated their opinions on *zhang* medicine as a way of responding to the various social, intellectual, or political trends of the era.

¹ The location of places in ancient and Imperial China discussed in this thesis is based on the *Zhongguo gujin diming da cidian* (2005).

Next I review existing scholarship on the environmental factors that affected the body according to medicine in Imperial China. After the literature review, I articulate the analytical approach of this thesis by defining terms that are important to my analysis and discussing anthropological indicators that inspire the approach. I then explain the choice of my research subject—*zhang* medicine in Song China—and introduce the principal primary sources on which this thesis relies. Finally, I provide an outline of the core chapters.

1.1 Environmental Medicine in a Social World: Literature Review

The relationship between medicine and environment in Imperial China has received intensive scholarly attention since the 1990s. An impressive body of research has substantiated that, over time, environmental features observed in a given region, such as the heat and dampness in Lingnan, occupied an increasingly prominent place in explanations of the aetiology, nosology, and pharmacotherapy of various disorders. These studies have shown how, as this tendency developed, the description of conceived influences of the environment on the body reflected the Imperial Chinese authors' impressions of contemporary social trends. For instance, Hanson indicates how Ming physicians attributed the perceived fragile constitutions of southerners to an indulgent lifestyle at that time in the wealthy Jiangnan 江南 area (literally, south of the River), which corresponds roughly to the south of the

lower Yangzi.² On the other hand, these studies also illustrate how the environmental factors that were considered to affect the body were in turn influenced by what I refer to broadly throughout this thesis as “the social world”—that is, the social, intellectual, and political trends during a particular historical period. For example, many studies have concluded that, starting in the fourth century, the increasing number of immigrants and visitors to Lingnan encouraged the compilation of medical literature on treating disorders that were thought to be endemic there.³

In this section, I review these studies’ findings on the relationship between medicine and environment in Imperial China. The aim of this review is twofold. First, I indicate how Song people understood and wrote about what they considered to be the effects of regional environment on the body has received insufficient attention. This oversight is what this thesis is intended to remedy. Second, I suggest that the focus of these studies has been on how the social world affected environmental medicine, while the role of bodily experience of the regional environment in informing and affirming the medicine has been neglected by researchers. To complement the existing literature on the social world, this thesis takes into account the bodily experience of the regional environment. Once this dimension is brought into the equation, we can form a more comprehensive picture of the relationship between medicine and environment in Imperial China.

² Hanson (2011).

³ For instance, Fan Ka-Wai (1995).

Studies from the 1970s to the early 1990s on the perceived effects of the environment in Imperial Chinese medicine tend to examine the extent to which the contemporary understanding was accurate in terms of either biomedicine or physical topography in China.⁴ Focusing on the accuracy of the Imperial Chinese authors' understanding, those studies are less concerned with discrepancies resulting from differences among genres or historical periods.

Representative of those earlier studies, Hsiao Fan's seminal article in 1993 investigates disorder-inducing circumstances in the southern (*nan* 南) environment as identified in the literature between the Han and Song periods.⁵ It shows that at least as early as the second century BCE, the heat and dampness in the south had been mentioned as threats to the human body in non-medical literature, such as *Essays from the Masters at Huainan* (*Huainan zi* 淮南子, circa 139 BCE).⁶ During the 1500 years leading up to the Song dynasty, the notion of heat and dampness in the

⁴ Regarding the term "Chinese medicine," Unschuld (1985/2010: 2) criticizes the fact that the term "Chinese medicine" used by Porkert (1974) that connotes medicine in China as a coherent system. Unschuld thinks that this term ignores the plurality of multiple interpretations and practices of medicine in China in a given historical period due to long-term changes overtime. For this reason, he proposes the term "medicine in China" instead. Sivin (1987) argues that medicine in China (which includes the term Chinese medicine *zhong yi* 中醫 in contemporary China) is historically rooted and changes over time. Hsu (1999) indicates the term "Chinese medicine" itself concerns a multiplicity of knowledge and practices. Scheid (2002: 1-61, 238-260) likewise points to the plurality of Chinese medicine. In line with the studies indicating the plurality of Chinese medicine, in this thesis I use the term Chinese medicine to refer mainly to scholarly medicine because we have so few extant sources regarding *zhang* in Song folk medicine to research.

⁵ Hsiao (1993/2005). Other instances of this first wave include Xie (1935/1970) and Miyashita (1967). Works of Fan (2000), Zuo (2002), Ma (2007), and Yu (2011) also pay little attention to discrepancies in Imperial accounts of environmental triggers of disorders, though their work is not concerned with examining the geographical or biomedical accuracy of the accounts. As the notion of disorder-inducing circumstances in medicine in Imperial China is crucial to my analysis in this thesis, I further explain in section 2.1 "The New Southern Song Aetiology of *Zhang* Disorders and the Song Reasons for Its Documentation: Chen Ziming's Formulary" of Chapter Two that my choice of terms that serve to describe the pre-modern understanding of the occurrence of disorders.

⁶ *Huainan zi*, *juan* 4, p. 61.

south as health hazards appeared across a wide range of genres, including historiographical texts, medical literature, miscellaneous notes, and poems. After pointing this out, Hsiao recounts numerous ways of treating and preventing the disorders endemic to the south, such as drinking alcohol (*jiu* 酒) to prevent *zhang* in Lingnan, that were known up to the Song era.

Although Hsiao's article is widely cited in subsequent studies on circumstances thought to induce disorders in the south in Imperial Chinese medicine, it fails to point to discrepancies among the vast body of the primary sources analyzed in it. First of all, even though the "south" in his cited sources sometimes refers to different places, such as Lingnan and Jiangnan, Hsiao does not address possible differences in the pre-modern authors' understanding of those places. Nor does he consider differences among the various genres he cites, such as differences in narrative emphasis among historiographical texts, medical literature, and poems. He further fails to analyze changes, over the 1500 years under examination, in the description of heat and dampness in the south as threats to the body. His article thus offers a rather homogeneous and static pre-thirteenth-century stereotype about the debilitating southern environment.

Refining Hsiao's observation, subsequent studies have observed a progression whereby environmental features in various regions, especially the environmental features identified in Jiangnan and Lingnan, gradually occupied more pronounced positions in aetiology, nosology, and pharmacotherapy—at least from the fourth century on. However, as the following review shows, those studies have focused on

how the medical knowledge about the environment in different regions engaged with a social world in the medieval and Ming-Qing periods. They have paid less attention to the world of experience and to Song China.

Environmental features in Lingnan and Jiangnan received much more attention in medicine during the period between the third and early tenth centuries, according to Fan Ka-Wai's work. Fan Ka-Wai indicates a linear progression of medicine for treating disorders endemic to these southern regions as follows: during the Six Dynasties (222–589) large numbers of northerners immigrated to Jiangnan and Lingnan to escape warfare. The immigrants encountered a variety of unfamiliar disorders there, such as *zhang* and foot qi (*jiao qi* 腳氣). The Six Dynasties-physicians struggled to find effective treatments for these unfamiliar disorders. Eventually, in Tang times, the need for more effective treatments prompted the appearance of formularies (*fang shu* 方書 or *yi fang shu* 醫方書, collections of medical formulas) devoted to the disorders endemic to the southern regions. These formularies include the *Discussion on Foot qi in Lingnan* (*Lingnan jiaoqi lun* 嶺南腳氣論), and the *Formularies offfor Lingnan* (*Lingnan fang* 嶺南方).⁷ Fan Kai-Wai mainly attributes the emergence of the formularies to the large number of immigrants, whose presence gave rise to an increased need to treat the southern disorders. He shows how a socially demographic change and increased demand for medical treatment in the Six

⁷ Other Tang formularies on disorders in Lingnan listed in Fan Ka-Wai's work (2004: 154) are the *Formularies for Urgent Needs in Lingnan* (*Lingnan jiyao fang* 嶺南急要方), *Discussion on Preserving Life in Four Seasons in Nanzhong* (*Nanzhong sishi shesheng lun* 南中四時攝生論), and *Formularies for Going to the South* (*Nan xing fang* 南行方). Unfortunately, these formularies are no longer extant.

Dynasties stimulated the development of medical knowledge and practice relating to the regional environment.

The considerable number of studies on Song medicine to date covers a wide range of topics but pays relatively little attention to the correlation of medicine to features of the perceived environment in particular regions.⁸ When examining environmental medicine in Song China, scholars' interest is attracted to the application of celestial or seasonal cycles to the prediction of occurrence of disorders and epidemics, diagnosis, and pharmacotherapy. Among those studies on celestial and seasonal cycles in Song medicine, Despeux's work nicely illustrates how Song authors of medical texts used the system of Five Circulatory Phases and Six Atmospheric Qi (*wuyun liuqi* 五運六氣) to correlate seasonal and calendrical cycle with the occurrence of disorders and, accordingly, with the selection of medical formulas to treat those disorders.⁹

Some of the studies on Song medicine for treating Cold Damage disorders (*shanghan* 傷寒) touch upon how the Song authors used seasonal cycles to explain the aetiology of these disorders. Cold Damage disorders were regarded as a type of seasonal epidemic, and were often ascribed to the invasion of cold qi.¹⁰ The studies ascribed the prominence of Cold Damage medicine in the Song era to the fact that

⁸ For an English-language review of scholarship on medicine in Imperial China, see Hinrichs (1998). For a review of Chinese-language scholarship on Song medicine published between 1911 and 1995, see Chen (1995).

⁹ Despeux (2001: 146).

¹⁰ The development of medicine for Cold Damage disorders up to Song times is further discussed in Chapter Five where I analyze how the Song authors expanded Cold Damage medicine to *zhang* medicine.

recurrent outbreaks since the Northern Song dynasty had motivated emperors, scholar-officials, literati, and physicians to search for a more effective treatment.¹¹ In other words, their analysis has focused on how social needs drove the development of Cold Damage medicine.

The prominence of the Cold Damage medicine and the system of Five Circulatory Phases and Six Atmospheric Qi during the Song dynasty marks a “new kind of environmental consciousness.”¹² That is to say, the prominence accorded to them, especially to the system of Five Circulatory Phases and Six Atmospheric Qi, reveals “a conscious attempt to define and structure the relationship between illness and the environment, and between internal and external causes.”¹³ This new environmental consciousness in Song times, or the popularity of the system and, in a narrower sense, of Cold Damage medicine, is traced to various innovations in medicine at that time. As these innovations in Song medicine provide substantial social, intellectual, and political contexts for understanding the Song development of medicine related to the regional environment, I shall review scholarship on these innovations in greater detail.

One innovation in Song medicine that correlates directly to the popularity of Cold Damage medicine and the system of Five Circulatory Phases and Six Atmospheric Qi is the emphasis on classic medical doctrines in Song China, given that the

¹¹ For example, Ye Fazheng (1995: 76), Goldschmidt (2009: 69–102, 141–172).

¹² This phrase is proposed by Furth (2006: 482) but based on Angela Ki-Che Leung’s earlier work (2003). In the same article, Furth (2006: 482–483) proposes that the Jin-Yuan medical masters further emphasized the geographical and temporal mutability of disorders by pointing out the role of the regional environment and unpredictability of both celestial and seasonal cycles.

¹³ Leung (2003: 380).

knowledge of these subjects was by and large elaborated in what are considered classic medicine doctrines of the Song era. The system is articulated in the *Yellow Emperor's Inner Canon* (*Huangdi neijing* 黃帝內經, hereafter, *Inner Canon*).¹⁴ Cold Damage medicine is grounded in the *Treatise on Cold Damage and Miscellaneous Disorders* (*Shanghan zabing lun* 傷寒雜病論, hereafter, the *Treatise*), which was composed by Zhang Ji 張機 (150–220 CE) but compiled and published by the Bureau for Editing Medical Texts (*jiaozheng yishu ju* 校正醫書局) in 1065.

The persistent Song emphasis on medical doctrines is discussed by historians in different but related contexts. Socially, the recurrent outbreak of epidemics in Northern Song China stimulated the Song government to disseminate medical literature, including the doctrines, as a way of epidemic relief.¹⁵ Intellectually, the increasing dominance of Neo-Confucianism in the civil service examination during the Southern Song period encouraged learned physicians to use the classic medical doctrines to present a more coherent and systematic understanding of pharmacology,

¹⁴ The *Inner Canon* is considered to be the most crucial canonical work in scholarly medicine in Imperial China. In Chinese antiquity, several books bear this circulated title. Unschuld (2003: 3-5) suggests that the earliest compilation of the extant *Inner Canon* corpus might date from the Han era. However, Keegan (1988: 19-20, 64) regards the extant *Inner Canon* as having undergone a series of compilations within the Yellow Emperor medical tradition during the Han and Tang dynasties. Other studies point out that the extant *Inner Canon* was massively revised in 1026/1027 and 1067 (Ma, 1990: 70; Sivin, 1993: 202). The extant form of *Inner Canon* consists of two texts the *Basic Questions* (*Suwen* 素問) and the *Divine Pivot* (*Lingshu* 靈樞). The version of the *Basic Questions* that has come down to us is mainly based on the version compiled by the Northern Song government in 1067.

¹⁵ Leung (2003: 376), Furth (2006: 482), Goldschmidt (2009: 69–95). Of course, the dissemination of classic medical doctrines was not the only Song response to the outbreak of epidemics. For example, Liang Keng-Yao (1999) discusses how Southern Song officials prevented the outbreak of epidemics in city areas by dredging blocked waterways. Leung (2001) examines how the medical policies affected the local medical resources to treat epidemics, e.g., the number of official physicians and the availability of drugs, during the Song, Yuan, and Ming periods.

aetiology, and bodily functions.¹⁶ Politically, the emphasis on classic medical doctrines can also be understood as civilizing projects undertaken by both Song central and local government to legitimate their rule;¹⁷ for example, the dissemination of medical literature sometimes went hand in hand with controlling unorthodox medical customs in Lingnan.¹⁸ Hinrichs further indicates that the dissemination of medical texts as a way of epidemic relief was rarely seen before the Northern Song.¹⁹ The development of *zhang* medicine was particularly interrelated with civilizing projects in Lingnan, as Chapter Five shows.

The new environmental consciousness is additionally attributed to another innovation in Song medicine; that is, the increasing preference for a prescription strategy that prioritized individual particularities, including personal bodily constitutions, the ways in which disorders developed inside the body, and features considered distinctive to the region where a patient lived. This trend is ascribed by historians to a skepticism about, or challenge to, the medical modality that stressed a standardized approach to disorders.²⁰ The preference for individually tailored

¹⁶ Unschuld (1985/2010: 154-172, 1986: 53-101), Furth (2006: 423-424).

¹⁷ For instance, Lee Jingwei (1989) lists the Northern Song emperors' policies relevant to medicine. Fan Ka-Wai (2011) traces reasons for the establishment of the Bureau for Editing Medical Texts in 1057, indicating that the reasons include epidemic relief, and a civilizing project for legitimating governance. Fan Ka-Wai (2013) discusses how Emperor Huizong 徽宗 (1028-1135, r. 1100-1126) legitimated the Song governance against overwhelming Jin military threats by disseminating medical literature and enhancing the role of the *Inner Canon*. Hinrichs (2011) compares Tang government textual projects of compiling and distributing medical collections with those of the Song, pointing to how unprecedented the engagement of medical matters was as a way of legitimating governance in Song China.

¹⁸ Hinrichs (2003, forthcoming), Wang (2012).

¹⁹ Hinrichs (2011).

²⁰ Leung (2003: 375-377), Furth (2006: 428). For conflicts and compromises between the medical modality which stressed individually tailored prescription and the modality which advocated

prescription is moreover attributed to medical market competition at that time, especially to the emergence of new, so-called “scholarly physicians” (*ru yi* 儒醫). From the late Northern Song period on, the term “scholarly physicians” referred to those who modeled themselves on the Confucian scholars. Many of these were civil service candidates who had failed to pass the examination.²¹ Some of self-identified scholarly physicians and learned physicians distinguish themselves with other medical practitioners, such religious healers, by emphasizing an art of prescribing in accordance with individual particularities.²² Based on the scholarly findings of reasons for the rising preference for individually tailored prescription, this thesis will provide more specific textual evidence to show how the Song authors used their own or patients' bodily experience and their experience in medical practices to confirm their views of individually tailored prescription.

Evolving with these two medical innovations and relevant social, intellectual, and political changes in Song China, the new environmental consciousness serves as a meaningful starting point for historians to probe reciprocal influences between medicine and the social world in which it is situated.²³ However, in comparison to

standardized or easy-to-apply prescription in the Song medicine for treating Cold Damage disorders, see Goldschmidt (2009: 146–172).

²¹ Those unsuccessful candidates chose the practice of medicine as a vocational option, partially due to the development of a more positive view of medicine and being a physician. For scholarly discussion of reasons for the emergence of scholarly physicians, see Hymes (1987) and Chen Yuan-Peng (1997). Chu Ping-Yi (2006) examines how Song and Ming scholarly physicians built their own identity by writing biographies of famous physicians up to their time.

²² Chu Ping-Yi (2006).

²³ Of course, besides the innovations in Song medicine noted above, there were other developments in Song medicine that influenced later Yuan, Ming, and Qing medicine; for instance, the formation of the gendered body as well as theories and practices relating to pregnancy. See Furth (1999: 59 n133) as a pioneer, Wilms (2005), and Chang Chia-Feng (2013) on Song medicine for infants and

the medicine related to celestial and seasonal cycles and their possible effects, variations in the environmental features observed in a given region (e.g., heat and dampness in Lingnan) have been left largely unexamined in the field of the Song medical history. Admittedly, there are several Chinese-language studies on environmental features perceived to have a debilitating effect in certain regions during the Song period; however, these studies consider those features as natural occurrences and do not problematize historical changes in the way those features are documented in medicine.²⁴ This thesis, by contrast, puts the bodily experience of the regional environment on center stage. This thesis moreover demonstrates how medical accounts of these features changed drastically during the Song period and how these changes paralleled certain social and cultural trends at that time.

From the late thirteenth century on, regional distinctions in relation to a spatial frame of reference of a northwest-southeast axis (or a north-south axis) were applied widely in nosology, aetiology, and pharmacotherapy, as Angela Ki-Che Leung indicates. Leung argues that even though Hsiao Fan's aforementioned article shows

children. Another focus of scholarly interest in Song medicine is interactions between religious healing and scholarly medicine. For example, Katz (1995: 21-32, 42-43) introduces the Song rituals for preventing the outbreak of epidemics. Fang (2009) discusses religious healing of female disorders and pregnancy in Song times. Liu (2006, 2008) has recently focused on medical activities of Buddhists between the Tang and Song periods. Foreign medicine in Song China also acquires scholarly interest, e.g. McKnight (1981). For an overview of the Song medical development, see Xie Guan (1935/1970: 13-16), Fan Xingzhun (1986: 97-160), Miyashita (1967), Hinrichs and Barnes (2013). Yan Shi-Yun (1993) looks at the Song physicians' medical theories. Unschuld (1985/2010: 154-172) and Goldschmidt (2009) discuss the introduction of cosmological models in the classical medical doctrines to the formularies in Song times. Obringer (2001) examines medical application and techniques of *pishuang* 砒霜 (arsenic compounds) against malaria (which Obringer infers from the term *nüe* 瘧 [intermittent fevers]) as a case study of Song innovations in pharmacotherapy.

²⁴ For instance of this type of studies on *zhang* medicine in Song China, Zuo Peng (2002) and Ma Qiang (2007).

that a conception of regional particularities in terms of north and south had existed at least since Han times, it was not articulated systematically and comprehensively in the medical context until the late thirteenth century.²⁵

Leung further proposes that from the late Southern Song period on, the spatial frame used to understand the regional distinctiveness in medicine had evolved from a five-direction frame of reference (*wufang* 五方, the five directions being east *dong* 東, west *xi* 西, south *nan* 南, north *bei* 北, and center *zhong* 中) to a bi-directional one (north-south or northwest-southeast). Leung suggests that the five-direction model was based on calculations (*shushu* 數術), whereas the north-south divide in medicine in late imperial China was based on empirical observation of the existent environment.²⁶ The most notable difference between these two frames of reference, according to Leung's research, lies in the fact that the south in the five-direction model is difficult to map onto any specific region in China, while the south in the late Imperial north-south dichotomy has a much clearer connection with a subtropical region, corresponding mostly to the present-day provinces Guangdong and Guangxi, which was usually known as Lingnan. The transition proposed by Leung from the five-direction frame of reference, based on calculating techniques, to the bi-directional one, based on observation, suggests a shift from a theoretical (if not

²⁵ Leung (2002/2005: 358, 360)

²⁶ Leung (2003: 379–382; 2002/2005: 359–364). Roughly speaking, calculating techniques (*shushu*) are a prevailing knowledge system in pre-modern China and used for calculating the working principle of the world order. For further English-language explanation with regard to medicine in Imperial China, see Unschuld (1985/2010: 51–100).

magical) understanding of environment to a more empirical assessment. Leung's narrative thus appears to stress progress or linear development.

One point raised in Leung's argument warrants further research. She suggests that the prevalence of the north-south division from the late thirteenth century on may have resulted from a Southern Song political event; namely, the long-term political division from the establishment of the Southern Song government in 1127 to the reunification of China by the Yuan regime in 1279.²⁷ However, she does not identify the means by which this political division encouraged medical thinking. Instead of the Southern Song and Jin political division, other reasons for the rise of the seminal north-south divide have remained unaccounted for. In Chapter Five, I offer more specific reasons for the application of the dichotomy in Southern Song medicine.

The wide application of regional distinctions in Ming-Qing medicine is exemplified by the emphasis on regional variations of epidemics since the late Ming and the emergence of Warm Disease (*wenbing* 溫病) schools in Jiangnan since the eighteenth century, both of which are investigated in Hanson's monograph.²⁸ Regional distinctiveness along north-south lines includes variations in climate, geography, medical customs, life styles, and the perceived bodily constitutions of inhabitants. Centering on Ming-Qing medicine, Hanson's work proposes that from the Song dynasty on, medical skepticism of "universal cosmology" gradually gained

²⁷ Leung (2003: 379).

²⁸ Hanson (2011: 126–150).

prominence.²⁹ By the phrase “universal cosmology” in medicine, Hanson refers to a Cold Damage tradition that upheld the universal applicability of aetiologies and prescription of Cold Damage disorders, which were typically attributed to seasonal or climatic variations. The medical skepticism, according to Hanson, arose from the increasing accessibility of the classical medical doctrines since the Song era, which was the first time many of the classical doctrines became accessible to a wider readership due to technological advances in printing and to the dissemination of medical texts by the government.³⁰ The physicians and literati from then on began to wonder if treatments derived from those doctrines might effectively counter the epidemics occurring in different regions with their own distinctive climatic and geographical characteristics, especially in the case of Cold Damage disorders. However, as this thesis shows, while this medical skepticism suggested by Hanson can be observed in certain medical works by Song authors, other such works did attempt to expand the medicine for Cold Damage disorders to the distinctive regional features in Lingnan.

Investigating the significance of regional distinctions in Ming-Qing medicine, Hanson’s work clearly shows a reciprocal construction between medicine relating to the regional environment and social backgrounds. This dialectic construction is encapsulated in a phrase, “geographical imagination,” coined by Hanson. By this

²⁹ Hanson (2011: 84-150).

³⁰ Besides the increasing accessibility of the classical medical doctrines, another reason indicated by Hanson (2011: 102) is that the widespread fatal epidemics in the lower Yangzi area and the chaos of the Manchu conquest in the seventeenth century both encouraged the late Ming and Qing physicians and literati not to believe in a predictable universe.

phrase Hanson refers to fundamental spatial frames of reference that informed the ways people organized their world, such as the north-south division in Ming-Qing China.³¹ For instance, Hanson indicates that within that dichotomy, late Ming physicians ascribed southerners' presumed delicate constitutions to a lavish and indulgent lifestyle at that time in Jiangnan.³² Later, according to Hanson, in the nineteenth century, the contrast between northerners, who were thought to be robust, and the delicate southerners corresponded to a political transition in which centralized Qing state power was challenged by the rise of regionalism after the Taiping Rebellion (1850–1864).³³ Here again we can see the powerful impact of social or political trends on the development of medicine concerning the regional environment.

After reviewing representative studies on environmental medicine in Song and Ming-Qing times, I discuss how historians formulate the relationship between the medicine concerning the environment in Song times and that of the Ming period. In her widely acclaimed essay on the Song-Yuan-Ming medical transition, Angela Ki-Che Leung observes that “the continuity [of Song-Yuan-Ming medicine] lay in an increasing consciousness of the essential significance of the environmental in pathogenesis. And the differences, or the apparent rupture after the twelfth century, arose precisely from variations in the role assigned to environmental factors (that is

³¹ Hanson (2011: 2). Sun (1994) has described medical concepts about spatial frames in pre-modern China but paid little attention to their historical changes.

³² Hanson (2011: 66–68).

³³ Hanson (2001).

to say, the larger geographical particularities involving locational and climatic variables, as well as social conditions and life-style).³⁴ By bringing the role of bodily experience of the regional environment in medicine into account, I seek in this thesis to refine Leung's observation.

On the one hand, I agree with Leung's observation that the continuity of Song-Yuan-Ming medicine reflected an increasing environmental consciousness. On the other hand, when it comes to medicine concerning the environment in Lingnan, I argue that the differences between the Song and Ming approaches lies in *how* the perceived regional environmental features were accounted for rather than in *what* features were identified or implicated in the medicine. More specifically, as the following core chapters show, what the Song authors proposed as environmental factors affecting perceived bodily constitution, aetiology, and treatment of disorders endemic in Lingnan were similar to the influences proposed by their Ming descendants. However, the Song authors' manner of applying these environmental influences differed from that of the Ming writers.

More importantly, my way of formulating this Song new environmental consciousness is divergent from Leung's. Leung formulates this consciousness from a connected perspective of a shift from a theoretical understanding of environment to a more empirical assessment occurring in environmental medicine since the late Southern Song. By contrast, I put this consciousness in the context of a more noticeable explanatory mode emerging in the Southern Song; that is, an approach of

³⁴ Leung (2003: 379).

explicating an author's bodily experience of the regional environment and his experience in practice as verification of written medical knowledge.

In short, both Western and Chinese scholarship on the history of medicine concerning the environment has shown that the Song period is a crucial era when a new and influential environmental consciousness emerged due to various but often related social, intellectual, and political trends at that time. Those concomitant tendencies I refer to in a broad sense as "a social world." However, in contrast to the enormous scholarly interest in the role of the social world in the formation of medical knowledge about the environment in Imperial China, how the bodily experience of the environment factored in this formation has been mostly unexplored. This oversight is exactly what I seek to remedy. By taking the bodily experience of the regional environment into account, I wish to illustrate how such experience informed and affirmed medicine and interacted with the social world. By doing so, I wish to provide a more comprehensive understanding of the development of environmental medicine.

1.2 Taking the World of Experience into Account: an Analytical

Approach

By taking the world of experience into consideration, this thesis approaches the process by which medicine concerning the environment was formed in Imperial China from a new angle. By "the world of experience," I refer to individuals' bodily

experience of the environment as well as their experience in practice. The emphasis in this thesis on individuals' perception and experience differs from that of existing studies that focus on the impacts of concomitant social, cultural, and political trends on environmental medicine. To better explain the differences between the analytical approach of this thesis and that of the studies reviewed above, I provide two figures as follows.³⁵ Figure 1.1 depicts the foregoing studies' main approach to the medicine about the environment. Their approach focuses on the impacts of the social world on medical accounts of the environment, giving little attention to how the environment relates to those accounts.

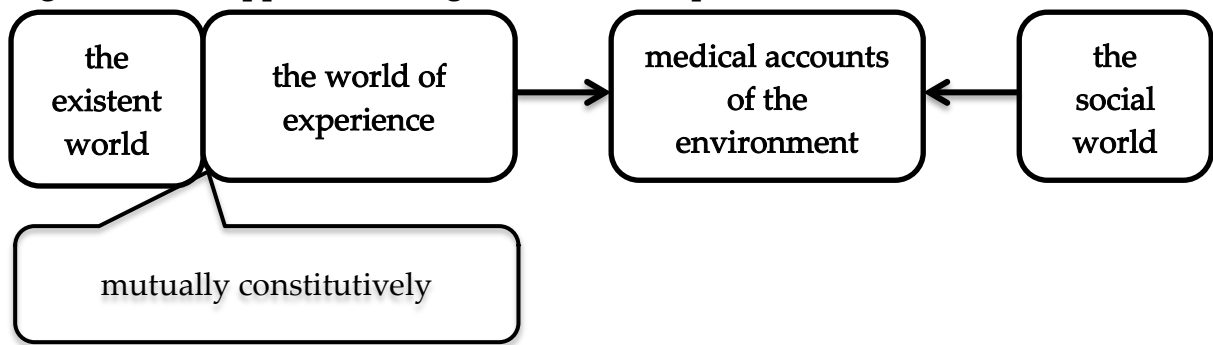
Figure 1.1 The approach focusing on environmental medicine in the social world



In this thesis I am taking the perception of the environment into consideration and exploring how this perception interacted with both the accounts and the social world (see Figure 1.2). By bringing the element of perception into the analysis, I aspire to present a more comprehensive understanding of how medical accounts were formed in a specific historical period and place, namely, Song China.

³⁵ These two figures were worked out at a very helpful supervision with Prof. Elisabeth Hsu on 9th October 2014.

Figure 1.2 The approach taking the world of experience into account



I highlight the role of the world of experience in the formation of the medical accounts based on analysis of the terms, notions, and narrative sequence with which the authors extended this world to the aetiology and treatment of *zhang*. While focusing on this world, this thesis also pays attention to the social world that informed the medicine about the environment. But first, it is useful to define the key analytical concept of this thesis; that is, sentient ecology.

- **Tim Ingold's "sentient ecology"**

Anthropologist Tim Ingold's book *The Perception of Environment: Essays on Livelihood, Dwelling, and Skill* inspires this thesis with its view on reciprocal relationships between environment and knowledge. The view is named as a "sentient ecology" or "a dwelling perspective" by Ingold.³⁶ The sentient ecology counters a conventional anthropological view that the surrounding world is an existence that undergoes construction and representation by people from different cultures in different ways. According to this conventional view, the way to acquire

³⁶ Ingold (2000: 5).

knowledge about the surrounding world is to learn how to decipher codes constructed in the world.

Arguing against this conventional view, Ingold attributes an active role to the surrounding world. In Ingold's opinion, the knowledge about the surrounding world, such as stories transmitted for generations among the Apache people living in east central Arizona in the United States, does not serve as a manual for people to decipher codes contained in the landscapes they inhabit. Rather, the knowledge offers clues that allow people to relate themselves to specific features in the landscape that surround them. This process of relating human and the landscape requires people to hone their observation on, and coordination with, their landscapes. That is to say, the surrounding world is not an entity waiting passively to be deciphered or discovered; rather it actively reveals clues. Ingold refers to the knowledge which arises from mutual involvement between humans and the surrounding world, as a "sentient ecology."³⁷ Notably, the sentient ecology emphasizes that the formation of the knowledge requires mutual involvement between human activities as well as "clues", where clues are difficult to divide into clues from physical surrounding world or from cultures.³⁸

Besides the concept "sentient ecology," the term "perception of the environment" as used in this thesis is borrowed from the title of Tim Ingold's book with the same title. His work is largely influential to the overall conception of this thesis, even

³⁷ Ingold (2000: 9-10).

³⁸ Ingold (2000: 9-10, 21-25).

though we attach slightly different meaning to the term “environment.” In his book, Ingold typically uses “environment” to refer to human’s surrounding landscapes and the world in which they personally live and act.³⁹ In comparison, I use the term in reference to the natural world in a more general sense. For example, I consider comments about the perceived climatic features in Lingnan made by Song authors who were in northern China also as a perception of the environment, although what the authors talked about was not a landscape surrounding them. To avoid confusion, within this thesis, I use “surrounding world” or “landscapes” to distinguish these things from what I mean by “environment.” In other words, by the term “perception of the environment,” I refer to the understanding of the environment which could be derived from the bodily experience of the surrounding world or from knowledge about the environment learnt from reading or oral communication. To prevent misunderstanding, I shall also indicate that the term “the bodily experience” of the regional environment discussed throughout this thesis by no means refers to a purely biological experience. What the “bodily experience” refers to is the bodily experience which was mediated through and expressed in culture-specific ways. This is also the way in which Ingold’s sentient ecology and Hsu’s body ecologic use the term.

- **Elisabeth Hsu’s “body ecologic”**

³⁹ Ingold (2000).

Elisabeth's scholarship in 2007 about the notion "body ecologic" is the pioneer in examining how the bodily experience of the environment (in her work, that is bodily experience of seasonal cycles) informed Chinese medicine. Although the body ecologic emphasizes the central role of the environment in informing knowledge the same as the sentient ecology does, by the term "ecologic," Hsu emphasizes the importance of the bodily experience of the surrounding world in medicine. Hsu's 2007 essay engages in an analysis of sentences in the medical writings about the theory of the five agents (*wuxing* 五行, i.e. metal *jin* 金, wood *mu* 木, water *shui* 水, fire *huo* 火, earth *tu* 土) in Chinese medicine. She uses the analysis as an example of how to investigate how "common ecological, climatic, and seasonal realities were initially understood and later systematized [in scholarly medicine in Imperial China and Traditional Chinese Medicine (TCM)]."⁴⁰

In Hsu's research, Hsu points out that sections (*pian* 篇) 1-5 of the *Basic Questions* (*Suwen* 素問) can be contextualized in different ways, and sets out to demonstrate variations in the application of the five agents in different periods in China. For instance, in the sections in the *Basic Questions* compiled in Han times, *wuxing* was mapped by season as physicians observed that the incidence of particular disorders would coincide with each of the seasons. For example, Hsu mentions a record in the *Basic Questions* that "in autumn one has a propensity to ail from wind-induced

⁴⁰ Hsu (2007a: 93). To be very brief, the five agents were considered as five rubrics of the universe. Each agent was also co-substantive within different visible or intangible phenomena or entries, and co-relative with each other. For a historical outline of the application of the five agents in Chinese medicine, see Sivin (1987: 208-212).

intermittent fevers (*feng nüe* 風瘧)."⁴¹ The Han application of *wuxing* was used accordingly for predictive purposes. In the sections compiled in the Tang period, *wuxing* served to regulate moral conduct. Similar sections in the *Canon of Categories* (*Leijing* 類經, 1624) were used to emphasize a Ming viewpoint where internalized bodily processes resonated with externally apparent functions. Although the number of the sources discussed in Hsu's essay is limited, her work shows how the "body ecologic" can serve as a methodological orientation for analyzing historically-varied perceptions or the changing "literal" wording of the experience in learned Chinese medicine.

To recapitulate, in my reading, the body ecologic in Hsu's essay foregrounds the importance of the bodily experience of the surrounding ecological world in Chinese medicine in two layers. The first one is that the experience of seasonal cycles had constituted a crucial part of reasoning the occurrence of disorders in terms of the theory of the five agents, especially in Han medicine. The body ecologic approaches the theory of the five agents not from the perspective of how the theory represented the seasonal cycles, but from how the experience of the cycles informed the theory. In other words, on the one hand, the body ecologic views the experience of the ecological world as mediated by language and therefore advocates the analysis of wordings about the modern or historical accounts of the experience. On the other hand, it by no means follows from this view that the body ecologic implies that scholars can only investigate how language represents or constructs the experience.

⁴¹ Hsu (2007a: 112).

Rather, we can analyze how language gives access to the experience of the surrounding world and therefore look at how the experience leads to medical knowledge.⁴²

The second layer is a further step to indicate that the seasonality of certain disorders noted by the Han literate physicians can not only find their counterpart in medical writing of ancient Greeks, but also is documented by modern ecologists.⁴³ While admitting that details in the ancient Chinese, Greek, African, and biomedical accounts of the seasonality of disorders are different, Hsu maintains that the accounts all concern “a cross-culturally acknowledged ecological reality.”⁴⁴ Based on a cross-culturally observed ecological reality, the theory of the five agents testifies a sophisticated *culture-specific*, rather than *culture-constructed*, account of the physical environment.

Although the analytic approach of this thesis are inspired by both sentient ecology and the body ecologic, my approach still bears one important difference from the body ecologic. In my adaptation of the body ecologic, it is of no further concern to this thesis to which degree the bodily experience derived from the environment written in the Song sources shares common elements with the bodily experience in biomedicine. For instance, this thesis will not engage itself in discussing to what

⁴² This view of the relationship between language and the experience of the body is articulated in Csordas (1994/2003: 11). Csordas talks about the bodily experience in general without specifying the experience of the ecological world. In comparison, Hsu (2007a) demonstrates how this view can be applied to the textual analysis of texts about Chinese medicine.

⁴³ Hsu (2007a: 111, 114).

⁴⁴ Hsu (2007a: 114).

extent the Song authors' feeling of fatigue in hot weather can be understood in terms of biomedicine. As we will see in the following core chapters, entries about the perception of environment in Lingnan and symptoms of *zhang* were either too fragmented or too less-structural to provide a hard proof for experiential similarity between the symptoms of *zhang* and certain biomedical disorders. Hence, the way in which I discuss the significant roles of the environment in the *zhang* medicine of Song China is not to indicate the experiential similarity of Song medicine and biomedicine. Instead, in this thesis, I focus on how the authors took their perception of the environment in Lingnan into account when they wrote about *zhang* medicine.

1.3 Why *Zhang* Medicine in Song China? The Choice of and Introduction to the Research Subject

In this thesis, I apply an analytical approach to *zhang* medicine in Song China. This medicine was chosen as the major study case of the thesis primarily because prior to fourteenth-century China, it is most often in *zhang* medicine in Song China that we find the most multiple, divergent, and detailed expression of the perception of the environment in a given region.⁴⁵ As a result, *zhang* medicine in Song China provides

⁴⁵ The extant sources left by the Jin authors mention *zhang* only briefly. Meanwhile, *gu* 蠱 poisoning, a complex term referring to a range of arcane practices, from the treatment for various disorders with venom to the practice of magic by minority groups, was connected with Lingnan since the late Tang. Yu Gengzhe (2011: 171–199) indicates that *gu* poisoning had been associated with the lower Yangzi area and Fujian province since the middle period of the Tang and with Lingnan since the late Tang. For the Ming understanding of *gu* poisoning in Imperial China, see Hanson (2011: 80-84). As the explanation of the occurrence of *gu* poisoning in Song China did not highlight regional

us with fertile grounds to scrutinize how the perception of the regional environment informed the formation of medicine before the Ming-Qing period.

The sheer volume of existing studies on *zhang* in China has enriched our understanding of this notorious far-southern feature, building an important foundation for my discussion of *zhang* in Song China throughout this thesis. However, this thesis has a research concern different from the concern of the body of those previous studies. The studies on *zhang* cover wide-ranging topics, ranging from nosology, aetiology, pharmacotherapy of *zhang*, its geographical distribution, obstacles imposed by it for Chinese southern expansion and governance, to its ethnical and cultural connotations.⁴⁶ Their research period crosses from the earliest appearance of the records of *zhang* in Han times to its current association with malaria. Their findings show that before the nineteenth century, accounts of far-southern *zhang* in China crucially partook of long-standing stereotypes against and fear toward unfamiliar southern frontiers in China and indigenous non-Han ethnic groups there. The accounts of the far-southern *zhang* can tell us much about contrast, conflict, and negotiation between ideas and practices about the central and the local; Han and non-Han; familiar environment (i.e. central prefectures) and exotic one. In contrast to the studies on *zhang* in Imperial China, this thesis has a different research purpose in analyzing *zhang*. I use the writings on *zhang* medicine

environmental features as much as *zhang* medicine of the day did, it is not a subject of my research for this thesis.

⁴⁶ For a review of recent Chinese-language studies on *zhang*, see Zhou (2006). For a brief review of important modern Chinese and English scholarship on *zhang*, see Yang (2010: 165-167).

in Song times as a case study in order to offer a different understanding to the broader scholarly discussion about environmental medicine in Imperial China. In other words, through a case study of *zhang* in Song medicine, the aim of this thesis is to re-conceptualize our accounts of the ways in which the perception of the regional environment informed medicine in a given historical period. In the following paragraphs, I will introduce the understanding of *zhang* up to Song times, an understanding which largely relies on the existing studies on *zhang* in Imperial China.

The appearance of the character *zhang* 瘴

The exact character *zhang* 瘴, understood as epidemics occurring in the south, can be traced back to a historiographical work of the fifth century. Before the fifth century, this character appeared neither in the excavated early manuscripts nor in the *Inner Canon*, which contains materials that can be dated to the Han era.⁴⁷ The character *zhang* 瘴 appears in the biography of Ma Yuan 馬援 (d. 49) in the historiographical work *History of the Later Han* (*Hou Han shu* 後漢書), which was compiled by Fan Ye 范曄 (398-445) and presented to the court in 445 CE. In Ma Yuan's biography, Emperor Guangwu 光武 (5 BCE-57, r. 25-55) in 42 CE assigned Ma to suppress a rebellion on the far southern borders, Jiaozhi 交趾 (the northern area of Vietnam nowadays). While he was in Jiaozhi, Ma Yuan often consumed the

⁴⁷ For this observation on the appearance of the character *zhang*, see Zuo (2002: 258), Zhang (2009: 135), Hanson (2011: 71).

seeds of *yi* (*yi shi* 薏苡實, Coix seeds) in order to overcome (*sheng* 勝) the miasmatic atmosphere (*zhang qi* 瘴氣) there.⁴⁸ In the autumn of 44, after Ma's armies quashed the rebellion, approximately forty to fifty percent of soldiers died in *zhang* epidemics (*zhang yi* 瘴疫) during the war time in Jiaozhi.⁴⁹ Records in Ma's biography used the character *zhang* in reference to disorders in the modern northern areas of Vietnam but introduced no reason for its triggers.

A report by Yang Zhong 楊終 to Emperor Zhang 章 (57-88, r. 75-88) in 76, another record in the *History of the Later Han*, used a term *zhang* (obstacles) 障 in reference to a debilitating issue arising from the southern environment. In the report, Yang Zhong said that: "The south is summer hot and damp; *zhang* (obstacles) and *du* (poison) gave rise to each other (*nanfang shu shi, zhang du hu sheng* 南方暑濕, 障毒互生)."⁵⁰ Yang Zhong used this reason to persuade Emperor Zhang not to exile political criminals to the remote southern areas of China. The character *zhang* 障 meant "obstacle" as a noun, or "to obstruct" as a verb. By extension, in Yang Zhong's report, it could refer to south-specific disorders as a barrier. Yang Zhong ascribed the south-specific disorders to the summer heat (*shu* 暑) and dampness in that region.⁵¹

⁴⁸ *Hou Han shu*, *juan* 24, p. 846. The English names of drugs in this thesis are derived from a dictionary of Chinese herbology and pharmacology edited by John K Chen and Tina T Chen (2004). As for drugs which are not listed in the dictionary, I provide their literal names which are translated by myself instead.

⁴⁹ *Hou Han shu*, *juan* 24, p. 840.

⁵⁰ *Hou Han shu*, *juan* 48, p. 1598.

⁵¹ Zhang (2009) suggests a reason why people since the Han had usually used the character *zhang* ("miasma") 瘴 in reference to the various disorders correlated with the southern environment. He notes that the character *zhang* ("miasma") 瘴, which has the same pronunciation as *zhang* (obstacles) 障, connotes those disorders as barriers to the northern immigration to the south and to the Chinese exploitation of the southern frontiers. His opinion is clearly from a lexicographic tradition.

Interestingly, the character *zhang* 瘴 was absent in the *Discussing the Patterns and Explicating the Characters* (*Shuowen jiezi* 說文解字), which text is the earliest extant comprehensive reference book of Chinese characters, compiled by Xu Shen 許慎 in 121. While consisting of entries for 10,639 characters, this text contains no entry for the character *zhang* 瘴 (“miasma”). As a result, Yang Bing in his article of 2010 infers that *zhang* 瘴 (“miasma”) was a new term, coined to refer to “tropical and subtropical diseases.” The term was coined by the Han Chinese who had migrated, from the early third century, from the central areas of China to the south due to continuous warfare. Yang suggests that these Han Chinese immigrants coined the term *zhang* 瘴 (“miasma”) to refer to the unfamiliar disorders which they suffered in their new environment.⁵²

- **The areas of the occurrence of *zhang***

Generally speaking, the areas where the occurrence of *zhang* was recorded moved southward in accordance with the expansion of major dynasties to the far south. Gong Shengsheng suggests that the recorded *zhang*-affected areas were the south to the Qinling ranges 秦嶺 and the Huai River 淮河 during the Warring States period

⁵² Yang (2010: 175). However, the extant *Discussing the Patterns and Explicating the Characters* contains a character *dan* 瘴. *Shuowen jiezi*, p. 155. Hsu (p.c., 2014, 25, February) pointed out that the character *dan* 瘴 was mentioned side by side with the summer-heat and dampness in the south in the Han historiographical work *History of the Former Han* (*Han shu* 漢書). The *History of the Former Han* was mainly composed by Ban Gu 班固 (32-92) in the late first century. The sentence about *dan* in the *History of the Former Han* is: “The south is hot and damp; [when it is] close to summer time, there is *dan* and heat (*nanfang shu shi, jinxia dan re* 南方暑濕, 近夏瘴熱).” In this quotation, the circumstance inducing *dan* is similar to that inducing *zhang* in the above-cited report by Yang Zhong. *Han shu, juan* 64, p. 2781. Hsu (2010a: 213-216) indicates that *dan* 瘴 is a very old word and in the Han literature usually refers to a condition of extremely exhausted depletion condition.

(475-221BCE) without hard textual evidence. The recorded areas later moved southward to the Lingnan region since the seventh century.⁵³ Recent studies further indicate that after the Eastern Han period (25-220 CE), Lingnan had become an area in which *zhang* was thought to be endemic. The view of Lingnan as a *zhang*-prevalent area resulted from the increasing number of immigrants to the south, impelled there by the ceaseless warfare between the third to sixth centuries. Those immigrants suffered numerous unfamiliar disorders in Lingnan.⁵⁴ *Zhang* 瘴 became the portmanteau term used to name the unfamiliar disorders from that time and onward.⁵⁵

Lingnan, since at least the Six Dynasties, had referred to a region of the south to the Nanling 南嶺. Nanling includes mountains which range from the northwest part of present-day Guangxi province to the north of Guangdong province, dividing the river basin of the Yangzi River to its north and that of the Pearl River (Zhujiang 珠江) to its south. This region covers the subtropical region encompassed by most of the present-day provinces of Guangdong and Guangxi as well as the southern parts of Hunan and Jiangxi provinces. Today, the lowest average temperature in winter for this region is approximately 10 centigrade.⁵⁶ The annual rainfall there is around 1500-2000 ml.⁵⁷ Its landscape, bordered to the north by the Nanling and high

⁵³ Gong (1993).

⁵⁴ Gong (1993), Zuo (2002: 258-261), Fan (2004: 141-144).

⁵⁵ Zhang (2009).

⁵⁶ Zhang (1991: 107). Zhu (1972: 174-175), in his classic article on the development of climate in China from 3000 BCE to nowadays, indicates that climate in Song times was colder than in Tang times.

⁵⁷ Zhang (1991: 126).

plateaus, is formed by the drainage basin of three major rivers flowing into the South China Sea.⁵⁸

The place name Lingnan can be traced back to the *Records of the Historian* (*Shiji* 史記, ca. 86 BCE) which was composed by Sima Qian 司馬遷, even though it was written in different Chinese characters Lingnan 嶺南.⁵⁹ During the period of the Six Dynasties, Lingnan was sometimes instead named Nanyue 南越 (Southern Yue), Lingbiao 嶺表 (literally, beyond the Ling ranges), or Lingwai 嶺外 (literally, outside the Ling ranges).⁶⁰ Lingnan between the Han and Six-Dynasty periods typically referred to Guang Prefecture 廣州 (Guangzhou, in Guangdong province), Yue Prefecture 越州 (Yuezhou, in Guangxi province), and Jiao Prefecture 交州 (Jiaozhou, in the northern part of Vietnam).⁶¹

Although *zhang* had been seen as being endemic in the south, some of the studies indicate that since the Tang, recorded areas where *zhang* occurred became wider. Besides Lingnan, the areas recorded in the literature between the Wei-Jin (220-420) and the Tang period extended to present-day Sichuan, Guizhou, Yunnan, and Qinghai provinces.⁶² After the late Tang period, present-day Fujian province also was viewed as the part of the *zhang*-prevalent area.⁶³ During the Song dynasty, the

⁵⁸ For the description from the fourth century to eighteenth centuries of forests and plants in the far south (i.e. nowadays in Guangdong and Guangxi provinces), see Elvin (2004: 70-78).

⁵⁹ *Shiji*, *juan* 129, p. 3269. This view is from Fan's work (1998: 28).

⁶⁰ Fan (1998: 29). According to Hanson (2011: 183), the earliest use of Lingwai was in the *History of the Later Han* (*Hou Han shu* 後漢書, comp. 4-5th cent., pr. 445). The earliest use of Lingnan and Lingbiao was in the *History of the Jin* (*Jin shu* 晉書, pr. 646).

⁶¹ Fan (1998: 29-31).

⁶² Zuo (2002: 258-261).

⁶³ Zuo (2002: 268-269).

zhang-prevalent area in the primary sources extended to present-day Jiangxi, Hunan, Hainan, Guangdong, and Guangxi provinces.⁶⁴ Given the wide geographical distribution of *zhang*, historians have hotly debated what *zhang* referred to in the medical sphere.

- **Multiple references to *zhang* in the medical literature**

Existing studies on *zhang* in Imperial China have identified its different references according to the context. For instance, Schafer's work on the south in Tang China mentions medical texts referring to *zhang*. Schafer indicates that *zhang* could refer to either a miasmatic condition in the south that would bring about disorders, or "malaria" as a disease endemic in the south.⁶⁵ *Zhang* could be a pervasive and harmful miasma in the south,⁶⁶ or a category encompassing various subtropical or tropical diseases occurring in the south.⁶⁷ Zuo proposes that since the third century, *zhang* could serve as a portmanteau term covering various disorders that resulted from people unadjusted to the unfamiliar environment.⁶⁸ By proposing this idea of *zhang* as a portmanteau term, Zuo attempts to explain why the places where occurrences of *zhang* were recorded were spread over such a large area in the Tang to Song literature.

⁶⁴ Zuo (2004: 195-199).

⁶⁵ Schafer (1967: 130-131).

⁶⁶ For example, Ma (2007: 21-23).

⁶⁷ For instance, Feng (1981), Hsiao (1993/2005: 88), Yang (2010: 176).

⁶⁸ Zuo (2002: 261-272).

Authors of the post-Sui medical texts more frequently discussed *zhang* with *nüe* 瘧 (intermittent fevers).⁶⁹ *Nüe* 瘧 (intermittent fevers) in Imperial Chinese medicine primarily referred to intermittent coldness and heat, which could be either systematic disorders or a symptom. On the intersection of medicine and religion, *nüe* in mid-Imperial China could be treated either by pharmacotherapy or by religious healing.⁷⁰ What *nüe* referred to in Imperial China and how it related to *zhang* are issues still open to debate.⁷¹ To keep the points of my argument salient, in this thesis, I will not engage with the complex relationships between *zhang* and *nüe* (intermittent fevers). Rather, I will concentrate on environmental triggers of *zhang*.⁷²

Given the multiple references of *zhang*, within this thesis, I have no intention of treating *zhang* as one disorder for which a definition was clear enough for historians

⁶⁹ This tendency is mentioned in Fan (2004: 257), Yang (2010: 178-179), and Hinrichs (forthcoming).

⁷⁰ For example, Fan (2007: 244-252) describes how Tang people prevented or treated *nüe* (intermittent fevers) through Buddhist or Daoist rituals.

⁷¹ Some scholars (e.g. Miyashita, 1979: 90-112, Hsiao, 1993/2005: 88) identify *zhang* (“miasma”) and *nüe* (intermittent fevers) as malaria because both disorders have symptoms of intermittent coldness and heat. Fan (2004: 256-257) summarizes this view proposed in the Chinese-language studies on *zhang* and *nüe* (intermittent fevers) in early and middle Imperial China. Nevertheless, recently, more historians (e.g. Zuo, 2002; Yang, 2010) hesitate to endorse this equivalence as it risks anachronism and ignores other varied symptoms to which *zhang* and *nüe* (intermittent fevers) referred to in Imperial China. Proposing that *zhang* could refer to a trigger of disorders rather than a disorder, Feng (2007) claims that at least since the Sui dynasty, *zhang* could refer to a south-specific trigger of *nüe* (intermittent fevers). In Feng’s opinion, it was as late as the early Southern Song when the *Formulas for Preserving Life in Lingnan* (*Lingnan weisheng fang* 嶺南衛生方) began to treat *zhang* as a category of disorders. Nonetheless, Feng doesn’t take into account the entries on *zhang qi* in the Sui and Song medical texts and thus his division between *zhang* as a trigger of disorders and as a category of disorders is incomplete. With regard to *nüe* (intermittent fevers), Hsu (2009a) proposes a phenomenological approach to illness experience rather than the approach of retrospective diagnosis in Miyashita’s work. Hsu (2009a) points out that as *qinghao* 青蒿 (blue green wormwood herb) is biomedically recognized to have medicinal effectiveness in treating malaria, it provides a clue for modern scholars to differentiate between multiple references to *nüe* (intermittent fevers) depending on whether the *nüe* was treated by *qinghao*.

⁷² In Ming times, *zhang* was additionally linked with *li* 厲, which is identified as leprosy-like skin ailments by medical historians, and with so-called “Myrica berry sores” (*yangmei chuang* 楊梅瘡). For existing scholarship on the Ming understanding of *zhang*, see Leung (2009: 32-33) and Hanson (2011: 69-80).

to trace an understanding over its *longue durée* development. I will not compare all triggers of *zhang* recorded in medical literature from the seventh to thirteenth century because such comparison may include many different disorders covered by the portmanteau term *zhang*. For instance, serpents and snakes had been regarded as one of the triggers of miasmatic *zhang qi* in Lingnan, but I will not discuss this trigger in this thesis. Instead, I focus on the records of *zhang* that were attributed to the heat and dampness in Lingnan. The purpose of this thesis is by no means to examine whether those records about *zhang* are the same disease in our biomedical understanding. Rather, the purpose is to analyze which terms and notions the writers used to convey their perception of the environment when ascribing triggers of disorders and even symptoms of *zhang* to the southern heat and dampness.

1.4 Principal Primary Sources

To disclose how the perception of the regional environment informing medical practice and knowledge about *zhang* and how the perception interacted with the social world, within this thesis I draw extensively on a large pool of medical literature up to Song times, which can be further divided into three types for the convenience of introducing them.⁷³ The first type of medical literature is classic medical doctrines. They include medical works which bear the name “canon” (*jing*

⁷³ The main method used to collect the sources which this thesis utilises is to search for keywords (such as the terms *zhang* 瘴 [“miasma”] and *nan* 南 [south]) on large scale databases online, such as the *Wenyuange Siku qianshu neilian wangban* (文淵閣四庫全書內聯網版 the intranet version of the Wenyuange Edition of the *Siku quanshu*).

經) in Imperial times, e.g. the *Inner Canon*, and medical texts were considered as orthodox guides to treatments, such as the *Treatise*. These doctrines mostly discussed perceived bodily functions, aetiologies, and principles of treatments. The second type which constitutes the majority of my sources are formularies (which were usually called *fangshu* 方書 or *yifang* 醫方 in Song times). The formularies typically list medical formulas by the symptoms and disorders that they treat.⁷⁴ Before listing the formulas, the Song formularies sometimes indicate aetiologies of or prescription strategy for *zhang* that the formulas treated, which offers ample information about the Song authors' personal understanding of *zhang*. The third type is *materia medica* (*bencao* 本草) which introduce drugs (*yao* 藥) or their raw materials in separate entries. Knowledge introduced in the entries on drugs usually includes their sapor (*wei* 味), quality (*xing* 性), places of origins, therapeutically main indications (*zhuzhi* 主治), methods of preparation, and so on.⁷⁵

Other important sources used in this thesis are miscellaneous notes (*biji* 筆記) and collected works of individual authors (*bieji* 別集), both of which sometimes contain information about the environment in Lingnan and its relation to the occurrence of

⁷⁴ For example, the *Formulary of the Pharmacy Service for Great Peace and for the Benefit of the People* (*Taiping huimin heji jufang* 太平惠民和劑局方) of 1107-1110.

⁷⁵ The term *wei* 味 is translated in English scholarship on early Chinese history as "taste" (e.g. Unschuld 1986: 21), "flavour" (e.g. Sterckx 2005: 37), and "sapor" (e.g. Lo 2005: 164). In the context of the *materia medica*, the translation "sapor" is usually preferred as it stresses the medical rather than the culinary dimension of the term *wei*. The early English scholarship which translates *wei* into "sapor" is Porkert (1974: 113). For discussion of the translation of the term *wei* into "sapor" in the medical context, see Sivin (1987: 181-184). The five sapor (*wuwe* 五味), i.e. sweet (*gan* 甘), sour (*suan* 酸), pungent (*xin* 辛), bitter (*ku* 苦), salty (*xian* 鹹), were one of main categories of drug quality. It is difficult to draw a clear line regarding the development of systematic correspondences to the considered sapor of drugs up to the Northern Song period, due to obscure textual history of the extant early *materia medica* (Lo 2005: 164). For a further introduction to which types of knowledge were recorded in *materia medica* in Imperial China, see Unschuld (1986).

disorders. The former literature moreover gives intimate and vivid detail to their flesh-and-blood experience of daily life in Lingnan, such as the *Answers on Regions beyond the Ling Ranges* (*Lingwai daida* 嶺外代答) composed by a low-ranking official Zhou Qufei 周去非 (ca. 1134-?) approximately in 1178 about his experience in Guangxi province.

Even though medical literature, miscellaneous notes, and collected works of individual authors are three genres in terms of writing purposes and format, records in these genres about medicine are often transcribed from each other during the Song period. When compiling formularies, some Song physicians or literati drew on materials from the latter two genres to prove their opinions. Moreover, the Song era witnessed scholar-officials' burgeoning interest in learning medicine and the emergence of scholarly physicians as a new style of physicians. Many of the Song authors discussed throughout this thesis learnt about medicine for years, although they did not earn their living by practicing medicine. This intertextuality of medical knowledge among different genres is regarded as one conspicuous change in Song medical cultures,⁷⁶ and allows us to develop an argument drawn from textual evidence in these genres if differences between them are carefully contextualized. For the precision of my discussion, in this thesis the phrase "medical literature" is used to refer to the classic medical doctrines, formularies, and materia medica; the phrase "medical writings" is in reference to writings concerning medical affairs,

⁷⁶ Hinrichs (2013).

which can be drawn from medical literature, miscellaneous notes, collected works of individual authors, and so forth.

To understand the historical background against Song changes in *zhang* medicine, I will also work with other sources from two other genres. One genre concerns government documents, in particular memorials (*zouyi* 奏議), e.g. Song officials' reports to the emperors on treatments of epidemics occurring in the south. The other concerns historiography (*shibu* 史部). For instance, local gazetteers (*difang zhi* 地方志 or *fangzhi* 方志) were categorized as dealing with geography (*dili* 地理) in historiography.⁷⁷ They were usually edited and compiled by officials of the local government. They contain entries on demography insofar as they account for the local populations in a section giving the number of households (*hukou* 戶口). Although few of the Song gazetteers have been left to us as independent texts, the extant ones provide information about southern circumstances at the time.

1.5 Chapter Layout

This thesis consists of four core chapters. Organized in a similar vein to the way in which Song authors sequenced their explanation of *zhang* in their formularies, Chapters Two and Three first investigate their explanations of occurrences of *zhang*. Chapters Four and Five then move to the Song discussion of the practice of treating and preventing *zhang*. In order to highlight the innovation of *zhang* medicine in Song times, my discussion in this four core chapters will begin with analyzing Song

⁷⁷ According to Gu (2010: 4), only 29 local gazetteers compiled in Song times are extant as books.

sources and then compare them with Sui and Tang ones. In order to illustrate how the world of experience informed medicine in Song China, my textual analysis will pay particular attention to a vast array of terms, notions, and narrative sequences in the Song writings.

Chapter Two, entitled “Hot Weather, Foulness, and Stench: Fumigating and Steaming,” examines how the bodily experience of hot weather, stench (*chou* 臭), and foulness (*hui* 穢) in Lingnan was extended to the aetiology of *zhang* in Southern Song times through a disorder-inducing process of fumigating (*xun* 薰/熏) and steaming (*zheng* 蒸). This chapter begins with a newly-documented aetiology of *zhang* in the late thirteenth century; that is, the stench (*chou* 臭) and foulness (*hui* 穢) which fumigated (*xun* 薰/熏) and steamed (*zheng* 蒸) people in the hot weather in Lingnan, bringing about *zhang* disorders. I moreover propose that the emergence of this new aetiology reflects an explanatory mode that emerged in Song times—that is, a mode that typically expounded on how authors’ perception of the surrounding area and their experiences in medical practice informed or validated their opinions on medicine. I furthermore suggest that the lack of reliable textual references on *zhang* medicine in Southern Song China, as indicated by some of the Song authors discussed in this thesis, may have enhanced the degree to which Song authors relied on their own perception of the environment to confirm their medical opinions.

Although only one record of this newly-documented aetiology of *zhang* can be found in extant Song formularies, the notion that disorders could be brought on by the *qi* fumigating and steaming from the dampness or foulness in hot weather was

nevertheless prevalent. To demonstrate this, the latter part of Chapter Two examines the ways in which the Song scholar-officials used this notion to explain outbreaks of epidemics inside or around city walls.⁷⁸ In line with existing scholarship which observes that this notion emerged in Southern Song times, this chapter provides additional textual evidence from different genres, including formularies, memorials, letters, and so forth, to show that the notion was more prevalent than historians have previously thought.

Chapter Three, entitled “Accounting for Identified Environmental Features via Cosmological Terms,” explores how the Southern Song authors integrated the bodily experiences of environmental features in Lingnan, which in the case of *zhang* included heat, dampness, and frequent changes in temperature in a single day, into the aetiology of *zhang*. By comparing the Song accounts of how the environment in Lingnan brought about *zhang* with those featured in Sui and Tang sources, I demonstrate that since the early twelfth century, some of the Song authors of *zhang* formularies described a *zhang*-inducing process; whereby the heat and dampness in Lingnan resulted in specific symptoms of *zhang*. In comparison, the earlier medical accounts merely juxtaposed the heat and dampness in Lingnan and symptoms of *zhang*, without claiming any explicit relationship between them. This difference, I suggest, reflects the Song-era explanatory mode of expounding an author’s bodily

⁷⁸ Although there are other Song sources mentioning the concepts of fumigating and steaming as a disorder-inducing process, e.g. poems, the medical information in those sources is too scattered and too general to serve as a research subject for thematic analysis. I thus analyze these Song scholar-officials’ writing only in respect to steaming, fumigating, and epidemics inside or around city areas.

experience of the environment as confirmation of his medical opinions. After exploring this difference, in the final section of this chapter I propose that this Song mode, for the cases discussed in this chapter, serves to respond to the Song literati's meticulous comments on and critiques of the medical writings that they read.

Having discussed the aetiology of *zhang*, in Chapters Four and Five I move on to investigate how the Song authors used their perception of the environment in Lingnan to justify or rationalize the medical practice of *zhang*. The primary sources analyzed in Chapters Four and Five are drawn from the Song formularies, *materia medica*, miscellaneous notes, and collected works of individual authors. In these two chapters, differences in genres are more heavily emphasized than in Chapter Two and Three.

Chapter Four, entitled "The Use of Drugs to Treat and Prevent *Zhang* ("miasma"): Why Treat Heat with Heat?", moves to the Song concerns about applying medicines understood to have extremely hot (*da re* 大熱) quality (*xing* 性) to treat or prevent *zhang* in the hot environment of Lingnan. Their major concerns were typically raised in Song discussions of the application of *fuzi* 附子 (prepared root of common monkshood, or aconite) to cure *zhang* and of alcohol (*jiu* 酒) to prevent it. The chapter begins with the Song authors' differing opinions regarding how, and why *fuzi* should be used to treat *zhang* in the hot environment of Lingnan. To provide a clearer idea of the medicines discussed by the Song authors, I examine the knowledge of *fuzi* and alcohol recorded in the extant Song *materia medica*, with which any Song readers of formularies were presumably acquainted. Next, drawing on

relevant passages from different genres, I consider the Song authors' varying opinions as to the degree to which the application of medicines ascribed with the quality of heat to treat or prevent *zhang* would increase potential threats to the body posed by the debilitating environment in Lingnan. Although their opinions varied, the Song authors tended to reference their own bodily experience of the environment and experiences in medical practice as support for their viewpoints. Disclosing the multiplicity of the Song authors' viewpoints on the application of *fuzi* and alcohol to treat or prevent *zhang*, I suggest that there had been a dearth of treatments for *zhang* that were recognized as effective and, accordingly, that the Song authors were searching for effective treatments by trial and error.

In the final section of Chapter Four I offer a reason for why some of the Song authors declared their medical opinions in miscellaneous notes, inspired by recent scholarship on the popularity of miscellaneous notes in Southern Song times. The reason is that: the less structured writing style of miscellaneous notes offered a genre that allowed the politically less established scholar-officials to express medical opinions that were far from systematic enough to be published as medical monographs; in doing so, those scholar-officials showed their erudition in miscellaneous knowledge (including medicine) and thereby maintained their sense of being an intellectual elite regardless of their less successful political careers.

Continuing in the vein of Chapter Four, Chapter Five, entitled "Expanding Scholarly Medicine: *Zhang* ("miasma"), Cold Damage Disorders, and Bodily Constitutions", examines the Song authors' discussion of why and how Cold

Damage medicine and a northwest-southeast/north-south axis should or should not be extended to the aetiology of and treatments for *zhang*. The northwest-southeast/north-south axis was based on the notion that regional differences (such as climate, quality of land, and inhabitants' dietary habits and daily conduct) between north and south gave rise to north-/south-specific bodily constitutions that dictated corresponding prescription strategies. In analyzing the Song extension of the northwest-southeast/north-south axis to the prescription strategy for *zhang*, I propose a reason for why this axis was highlighted in *zhang* medicine in Song times—namely, the failure of physicians who had only lately immigrated to Lingnan from the north to treat *zhang* effectively was due to their unfamiliarity with the south-specific bodily constitutions. While applying the northwest-southeast/north-south axis to the prescription strategy for *zhang*, the Song authors simultaneously warned against overemphasizing the influence of regional distinctions on the body. I suggest that by both identifying the regional influences and pointing to the drawbacks of overemphasizing their impact, the Song authors tended to operate as medical learners who understood contingency in prescription as the core value of scholarly medicine, rather than adhering rigidly to prescription rules. In this chapter, I argue that this extension of Cold Damage medicine and the north-south axis revealed the Song authors' attempt to expand the proliferating scholarly medicine of the day to *zhang* medicine in Lingnan, which was considered to lack reliable textual references and effective treatments.

All in all, when the four core chapters are taken together, it becomes clear that although the world of experience had previously constituted an integral part of the formation of medical knowledge, during the Song period the ways of describing the authors' bodily experience and experience in medical practice, and the reasons for preparing such accounts underwent changes in accordance with concomitant social and cultural trends. Specifically, it was in Song times that the tendency of medical writing to draw on the author's experience as confirmation of their medical practice and knowledge became more pronounced than it had been in earlier times. The dearth of credible textual references presumably increased the Song authors' reliance on their experience as support for their medical opinions on *zhang*, and especially for their expansion of the scholarly medicine to *zhang* medicine. Aside from this dearth, there were other motivators for those authors to resort to this writing convention; it offered a way to respond to the educated readers' meticulous evaluation of medical works that they read, and a means for less politically established scholar-officials to bolster their sense of being an intellectual elite.

With its analytical approach and findings, this thesis moves beyond existing histories of the impacts of the social world on medicine to explore how the world of experience figured in historically situated interactions between the social world and the formation of medicine. In doing so, this thesis adds to our understanding of the significance of the experience of the environment in medical practice and knowledge as well as the significance of the social world in accounting for this experience. By setting the research period in the Song era, a time when a new environmental

consciousness emerged as a culmination of many contemporary social, intellectual, and political trends, with its further developments of later Ming-Qing medicine, this study contributes directly to the body of knowledge of the evolution of this consciousness over the long interval between the tenth and nineteenth centuries. This study additionally extends the scope of our understanding of scholarly medicine in Song China. *Zhang* medicine in Song China thus offers a valuable window into the dynamic entanglement of the body, environment, practice, knowledge, and the social world.

Chapter Two Hot Weather, Foulness, and Stench: Fumigating and Steaming

This chapter begins with an investigation into a newly-documented aetiology of *zhang* (“miasma”) disorders in a Southern Song formulary; that is, that qi fumigating (*xun* 熏/薰) and steaming (*zheng* 蒸) from stench (*chou* 臭) and foulness (*hui* 穢) of outdoor human excretion in the hot weather in Lingnan can bring about *zhang*. This investigation shows not only a Southern Song author’s emphasis on the crucial role of his bodily experience of the weather, stench, and foulness in Liangguang 兩廣 (literally, two Guang places) in Song China in informing his aetiology of *zhang*, but also his emphasis as a possible response to a lack of reliable medical texts on *zhang* at that time. Liangguang in Chen’s formulary highly likely referred to the Guangnan East Circuit (Guangnan dong lu 廣南東路, largely encompassed by Guangdong province) and Guangnan West Circuit (Guangnan xun lu 廣南西路, mainly in Guangxi province), two Circuits which covered an area similar to what Lingnan covered.¹

As the concepts of fumigating and steaming were frequently applied as disorder-inducing processes of *zhang* in Song China, it is worth mapping the development of these concepts. Section 2.2 investigates these two concepts in

¹ There is no entry on Liangguang 兩廣 of Song China in the *Zhongguo gujin diming da cidian* (2005). I suspect that it refers to Guangnan East and West Circuits.

the medical literature up to Song times and sections 2.3 and 2.4 examine how Song officials used these two concepts to give reasons for epidemics occurring inside or around city walls. The aim of the investigation in these three sections is to provide a clearer understanding of fumigating and steaming for our discussion of Song *zhang* medicine in the following chapters.

2.1 The New Southern Song Aetiology of *Zhang* Disorders and the Song Reasons for Its Documentation: Chen Ziming's

Formulary

This section scrutinizes a section devoted to *zhang* epidemics (*zhang yi* 瘴疫) in the Southern Song formulary *Complete Compendium of Good Formulas from a Singular Perspective* (*Guanjian daquan liangfang* 管見大全良方, in 1271). Its compiler Chen Ziming 陳自明, an eminent physician of medical lineage from Linchuan 臨川 (in Jiangxi province), proposed an aetiology of *zhang* disorders (*zhang ji* 瘴疾) which is not seen in earlier extant medical literature.²

² Our knowledge about Chen Ziming's life is mainly from his preface to his seminal formulary on medicine for women: *Complete Collections of Good Formulas for Women* (*Furen daquan liangfang* 婦人大全良方). Chen Ziming wrote this preface in 1237 when he was teaching medicine in a prestigious Mingdao Confucian school (Mingdao *shuyuan* 明道書院) in the present-day city of Nanjing. In Chen's preface of 1271 to the *Complete Compendium of Good Formulas from a Singular Perspective*, Chen said that the vast body of medical formulas caused difficulties for travellers who had to carry these formulas on their way. This problem encouraged him to select the formulas and compile this document into his old age. For the preface of the *Complete Compendium of Good Formulas from a Singular Perspective*, see *Guanjian daquan liangfang*, p. 289. For Chen's preface to the *Complete Collections of Good Formulas for Women*, see Okanishi (1958/2010: 939).

In exploring Chen Ziming's aetiology in this section, I highlight two essential characteristics of *zhang* medicine in the Song era. One is a lack of adequate medical works on *zhang* in Lingnan even as late as the thirteenth century. Another is the Song authors' emphasis on their bodily experience of the regional environment in corroboration of their accounts of medical practice and knowledge of *zhang*. These two characteristics are referenced frequently throughout the four core chapters of this thesis.

The section on *zhang* epidemics in Chen Ziming's formulary begins with his reason for its composition. He said that when encountering rampant *zhang* disorders in Liangguang, few patients suffering from *zhang* could be brought back to life. Although *zhang* was endemic in Liangguang, Chen Ziming thought among the formularies that he read at the time, none of the *zhang* medical formulas or opinions was appropriate. He listed the titles of two *zhang* documents that he failed to access; namely, the *Discussion on hui ju* (*Hui ju lun* 回車論) and *Responses to the Regions of Lingnan* (*Lingnan daida* 嶺南代答).³

Chen Ziming's difficulty in obtaining proper medical texts on *zhang* in Liangguang contrasts sharply with the Song government engagement in disseminating medical texts in the south. Regarding the dissemination of

³ *Guanjian daquan liangfang*, juan 3, p. 312. The *Discussion of Hui Ju* is perhaps the abbreviation of the *Discussion of Hui Ju about Preserving Life from the South* (*Nan lai baosheng hui ju lun* 南來保生回車論) by Dong Chang 董常在 Song times, whose title is listed in the category of medicine in the *Dynastic Bibliographies* (*yiwen zhi* 藝文志) from the *Song History* (*Song shi* 宋史). *Song shi*, juan 207, p. 5319. No bibliographical information about the *Responses to the Regions of Lingnan* (*Lingnan daida* 嶺南代答) can be found in the extant primary sources. However, its title is very similar to the Southern Song miscellaneous notes *Answers on Regions beyond the Ling Ranges* (*Lingwai daida* 嶺外代答, in 1178).

medical texts, Hinrichs indicates that the Northern Song witnessed a new approach to propagating medical knowledge—that is, distributing medical *texts* to laypeople (especially to common people in the far south) rather than engraving the information on stone stelae. Two instances of governors' efforts in circulating medical texts in the south discussed by Hinrichs are the case that Shao Ye 邵晔 (952–1014, obtained *jinshi* 進士 degree in 983) planned to disseminate the *Imperial Benevolence Formulary of the Taiping Era* (*Taiping shenghui fang* 太平聖惠方) throughout the Guangnan 廣南 areas in 1006;⁴ and the effort by Cai Xiang 蔡襄 (1012–1067) to distribute the *Selected Formulas from the Imperial Benevolence Formulary of the Taiping Era* (*Shenghui xuanfang* 聖惠選方) in Fu Prefecture 福州 (Fuzhou, Fujian province) in 1046.⁵ Despite those official endeavors to disseminate medical texts, many authors of writings about *zhang* medicine, who will be discussed in the following chapters, still lamented how difficult it was to access reliable medical literature dealing with *zhang* disorders in Lingnan at that time. This inconsistency, which has largely been unaccounted for in existing studies to date, reveals a gap between the assertive Song medical governance of the southern areas and conditions of local medical practices in Lingnan.⁶

⁴ *Song shi*, *juan* 7, p. 131. *Duxing zazhi*, *juan* 3, p. 142. Guangnan highly likely referred to Guangnan East Circuit and Guangnan West Circuit (in Guangdong and Guangxi provinces).

⁵ Okanishi (1958/2010: 618-619).

⁶ Leung in her article of 2001 has examined the influences of medical policies upon the availability of physicians, drugs, and medical treatment in local regions during the Song, Yuan, and Ming period. Her article shows that though the Song policies improved the

Considering the knowledge about *zhang* in the formularies accessible to him to be inaccurate, Chen Ziming thought that being a physician who was in Liangguang in person—both notorious *zhang* endemic areas—warranted his composing a writing piece on *zhang* epidemics to articulate principles (*qiong qi yaozhi* 窮其要旨) of the aetiology of and treatments for *zhang*.⁷ His reasons provide us with two revealing clues about *zhang* medicine in Southern Song times. Firstly, texts devoted to disorders endemic in Lingnan were not easy to access and were regarded as inaccurate even during the Southern Song period; a time which witnessed a burgeoning private publishing industry and the increasing accessibility of medical literature. Secondly, personal experience in particular could be emphasized as legitimate claims to medical knowledge.

When introducing the aetiology, Chen Ziming specifically pointed out that it was derived from his personal experience in Liangguang, where he travelled and practiced medicine in the southeast of Southern Song China (*dongnan* 東南) for years. In the section on *zhang* epidemics, Chen Ziming first introduced a common aetiology as follows:

I unfold origins of this disorder. It is because that lands in the far south are warm and hot; below [there is] accumulated rainwater (*lao*) [i.e. on

availability of the medical resources in local regions, the scale of improvement was limited. On the basis of her observation, my thesis focuses on a specific region to discuss the inconsistency between the Song medical policies and local medical resources and practice.

⁷ *Guanjian daquan liangfang*, juan 3, p. 312.

the ground] and above [there is] mist [i.e. in the air]; poisonous qi fumigates and steams, thereby giving rise to this disorder [i.e. *zhang*].⁸

僕原疾之由，蓋極南之地暄熱，下潦上霧，毒氣薰蒸，而成斯疾。⁹

In this quotation, Chen Ziming ascribed the outbreak of *zhang* epidemics to the combination of the heat in the far south (here referred to as Liangguang), dampness of the accumulated rainwater and mist, and poisonous qi. Given that he had been in Liangguang in person, I interpret that his statement in this quotation was derived from his bodily experience of the heat and dampness in Liangguang to certain degree. His perception of the environment was that Liangguang was a debilitating place with poisonous qi. The concept through which Chen associated his bodily experience of heat and dampness with the aetiology of *zhang* epidemics is the concept of fumigating and steaming. In Song writing about the aetiology of *zhang* (which will be further discussed in the following chapters), such an association of the environmental heat and dampness in an area corresponding roughly to the Guangdong and Guangxi provinces widely appeared with the occurrence of *zhang* through what was considered to be the disorder-inducing process of fumigating and steaming.

⁸ My method of translation can be understood as translating *literal* meaning first as opposed to the way of translating *extended* meaning directly. As many terms in medicine in pre-modern China were polysemic, I believe that this way will be the best one to provide an entry into the field where the implied meaning is so rich. Since my translation is deliberately as verbatim as possible, the English translation may sometimes look less idiomatic. My way of translation is inspired by Merleau-Ponty's work. Merleau-Ponty (1962/2002: 213-214) indicates that the spoken word is a "gesture" that implies an intimate and complex interaction between literal words and extended meaning.

⁹ *Guangjian daquan liangfang*, p. 312.

When stressing that his experience in Liangguang confirmed the common aetiology quoted, Chen Ziming additionally cited a poem written by Du Dune 杜荀鶴 (846-904) and a letter composed by Su Shi 蘇軾 (1037 - 1101) as two textual references to this aetiology.¹⁰ Chen Ziming's use of poems and letters as references for the aetiology of *zhang* reflects a dramatic change in Song medical culture noted by scholars; that is, an author of medical literature, such as formularies, not only drew on literati writing, such as poems and pieces in collected works of individual authors, but also published his medical work in explicit conversation with the literati writing. This change is noteworthy because it reflects an unprecedented circulation of knowledge (including medical knowledge) across geographical distances and social boundaries between physicians and literati, as observed by Hinrichs.¹¹ During the Six Dynasties, medical knowledge was mainly transmitted within medical lineages. In Tang times, a number of officials actively collected and published medical formulas which had been proven therapeutically effective (*yanfang* 驗方).¹² Nonetheless, it was as late as Song times when both the burgeoning state and commercial publication of medical literature encouraged medical knowledge to emerge into public view and to be

¹⁰ *Guangjian daquan liangfang, juan 3*, p. 312. Besides citing works of Du Xuhe and Su Shi, Chen Ziming also mentioned a local proverb in Liangguang as another piece of evidence.

¹¹ Hinrichs (2013).

¹² Fan (2007: 147-168).

discussed by physicians and non-experts alike.¹³ It is against this changing landscape of medical culture over the Song period that Chen Ziming cited other literati's works as textual references to the aetiology of *zhang*.

After mentioning the above-quoted aetiology, Chen Ziming stressed that when staying in regions next to the South Sea (Nanhai 南海) over a long period of time, he personally experienced how irregular (*bu qi* 不齊) the weather was there. The irregularity, according to Chen Ziming, included the fact that the temperature fluctuated between cold and hot in a single day, or that the weather was expected to be cold but turned out to be hot or the other way round. Although the works of Du Xuhe and Su Shi cited by Chen Ziming already mentioned this irregularity of hot and cold weather as an environmental feature of Lingnan and Liangguang, Chen Ziming still indicated his personal bodily experience of this irregular weather there.

This explanatory mode of citing existing works and emphasizing bodily experience appeared frequently in Song authors' writings about *zhang* medicine. The explanatory mode shows that when discussing *zhang* medicine, the Song authors' perception of the environment in Lingnan was entangled with both existing descriptions of the environment and their bodily experience or observation of that region. This entanglement is reminiscent of Ingold's sentient ecology that an individual's understanding of the environment is learnt from a close collaboration between their bodily

¹³ Hinrichs (2013)

experience of the surrounding landscape and existing knowledge. This Southern Song entanglement moreover renders it extremely difficult to distinguish between which aspects of the Song authors' perception of the environment came from existing knowledge about or bias against the far south and which parts were derived from their own bodily experience or observation.

However, despite the difficulty of drawing a distinction between existing knowledge and bodily experience in the far south, it is still noteworthy that many of the Song authors articulated their experience in Lingnan to affirm what was known about this place. To be sure, authors of earlier medical texts had emphasized experience as evidence for their medical knowledge. However, I argue that the way of stressing and writing down experience as verification of medicine can vary in different historical periods. As for the period from the Six Dynasties and the Tang, Fan Ka-Wai shows that the increase in the number of readers who were less personally connected to authors of medical texts probably motivated authors not only to stress that medical formulas collected in their works were already proven in practice (*yanfang* 驗方), but also to include in the titles of many medical texts the phrase “collection of effectiveness-proven formulas” (*jiyan fang* 集驗方).¹⁴ However, among the extant sources from the period between the third and tenth centuries, apart from declaring that their collected formulas were

¹⁴ Fan (2007: 147–168).

proven to be therapeutically effective in practice, those authors during this period only occasionally articulated their own experience as another form of evidence. The exposition of personal bodily experience in support of claimed knowledge about Lingnan appears less commonly in pre-Song writing, as this and the following chapters will show.

While highlighting that the experiential explanatory mode became more pronounced in the Song medicine for treating *zhang*, I by no means overlook the significance of texts in medicine at that time. As Hymes indicates, textual learning was crucial for scholarly medicine in the Song. The example provided by Hymes is that when some Northern Song scholar-officials wrote about how a physician acquired his medical knowledge, what they praised above all was not his apprenticeship to a master or experience in practice, but his textual learning and expertise in classic medical doctrines. One instance cited by Hymes is the funeral inscription that the literati Zhang Lei 張耒 (1054–1114) wrote for an eminent physician 龐安時 (ca. 1042–1099).¹⁵ Though textual expertise was likewise emphasized in some Song authors' writings about *zhang* medicine when describing their medical education, they often expounded on their experience as confirmation of their opinions on aetiology or therapies of *zhang*, as shown in the following chapters.

Returning to Chen Ziming's experience of the irregular weather around the South Sea, he proclaimed that with such weather, if an inhabitant failed to

¹⁵ Hymes (1987: 37).

maintain the vital energy of his body, he would suffer from *zhang* disorders.¹⁶ Chen Ziming's claim illustrates a typical way of reasoning about a disorder in Imperial China. In the medicine of Imperial China, reasoning about the occurrence of a disorder rarely worked along a monocausal chain. A disorder was usually thought to result from different and multiple factors in a haphazard fashion. Take the above quotation as an example: here *zhang* epidemics were considered to arise from the combination of the heat, dampness, and fumigating and steaming poisonous qi in Liangguang.¹⁷ In the Imperial Chinese authors' opinion, moreover, the combination of these debilitating factors would bring about a disorder only when the body of an individual lacked vital life energy. This energy was often referred to as essence (*jing* 精), qi, primordial qi (*yuan qi* 元氣), and so forth. Following in this vein, those factors were *potentially* able to bring about disorders, rather than being a major cause of a disorder. For example, in Chen Ziming's claim, the irregular weather would damage an inhabitant's body only if he had failed to maintain his vital bodily energy. It was the depleted essential bodily energy, rather than the irregular weather, which bore the fundamental

¹⁶ *Guangjian daquan liangfang*, juan 3, p. 312.

¹⁷ Based on "examination records" (*zhenji* 診籍), or medical case histories, of Chunyu Yi 淳于意, an eminent early Han physician, Hsu (2001: 69-72; 2010a: 16-21, 363-369) indicates the non-monocausal way of reasoning a disorder in medicine in Imperial China. Hsu (2010a: 369) moreover explicitly argues against a biomedical concept that "all diagnosis, and subsequent choice of treatment, requires knowledge of the cause of a person's disorder." Farquhar (1994: 86-91) articulates this notion that as for Chinese medicine in contemporary China, factors which are ascribed to the occurrence of a disorder are potentially responsible for it rather than a cause of illness in the biomedical sense.

responsibility for a person developing a *zhang* disorder. Given this way of reasoning about a disorder in the medicine of Imperial China, I am reluctant to use the term ‘the *cause* of a disorder’, which may mislead readers into inferring a strong or direct causal relationship between the considered debilitating factors and the occurrence of a disorder. Instead, within this thesis I use the terms *triggers* and *disorder-inducing conditions/circumstances* in reference to the identified debilitating factors in aetiologies of a disorder proposed by authors in Imperial China.

After mentioning the potential threat of the irregular weather to the body, and symptoms and types of *zhang* disorders in Liangguang, Chen Ziming indicated how local people’s daily conduct there gave rise to *zhang*. This conduct was described as follows:

Although it is said that the cold and warmth [in Guangdong and Guangxi provinces] are irregular [i.e. change intermittently], the qi of hot poison fumigates and steams, becoming [*zhang*]. Nonetheless, local people there did not build toilet rooms. Males and females alike excrete outdoors. When the weather is warm and hot, the qi of stench and foulness would fumigate streets and pathways. People who inhale the qi; how can they not become ill?

雖曰寒暄不齊，熱毒之氣薰蒸而成。然彼方之人，不造廁室。不問男女，皆是野溷。遇天氣暄熱，則臭穢之氣便薰街路。人吸其氣，安得不成病乎？

18

In the first sentence Chen Ziming, on the one hand, recognized the irregular cold and hot weather and fumigating and steaming qi of hot poison as a commonly recognized disorder-inducing condition of *zhang* epidemics. On the other hand, after the term *ran* 然 (nonetheless) at the beginning of the second sentence, Chen Ziming proposed another aetiology of *zhang* epidemics. In this second aetiology, Chen Ziming associated his bodily experience of the hot weather with the qi of the stench and foulness. This qi of the stench and foulness fumigating from outdoor human excretion in hot weather was highly likely to match his bodily experience of the environment in Liangguang. In my reading, Chen Ziming's association of his bodily experience of the stench and hot weather with the aetiology of *zhang* through the concept of fumigating showcases a specific way in which bodily experience of the surrounding landscape informed medical knowledge.

After describing this aetiology, Chan Ziming indicated that if an inhabitant who had abundant (*sheng* 盛) qi of the body resonated (*gan* 感) with the fumigating and steaming qi of the stench and foulness, he would definitely (*bi* 必) suffer from symptoms of over abundant heat (*tai guo re sheng zhi zheng* 太過熱盛之證) which included feeling heat (*fa re* 發熱), obstruction of excretion

¹⁸ *Guangjian daquan liangfang*, juan 3, p. 312.

and urine (*da xiao bian butong* 大小便不通), and so forth.¹⁹ To treat these symptoms, Chen Ziming listed several medical formulas and specified that a formula named wood fragrant pill (*mu xiang yuan* 木香圓) would definitely achieve therapeutic effects. He also indicated that this formula is one that appears in the *Excellent Formulas of Su and Shen* (*Su Shen liang fang* 蘇沈良方) compiled by two famous Northern Song scholar-officials Su Shi and Shen Kuo 沈括 (1029-1093).

Chen Ziming furthermore informed his readers how to reduce dosage or swap particular drugs in the formulas in order to tally with an individual patient's specific symptoms.²⁰ For instance, if a patient felt hot but his excretion was not dense (*da bian bu mi* 大便不秘), his urine was not red in color (*xiao bian bu chi* 小便不赤), and his stomach was not expanded or feeling full (*fu bu zhang man* 腹不脹滿), he should not be given *dahuang* 大黃 (rhubarb root) or *mangxiao* 芒硝 (mirabilite). Chen Ziming then listed other medical formulas to treat other particular symptoms of *zhang*. Following this he cited words from the *Inner Canon* to again emphasize the significance of maintaining vital bodily energy and re-stated the general principles of

¹⁹ *Guangjian daquan liangfang*, *juan 3*, p. 312. Sivin (1987: 106-107) articulates that categories of symptoms, syndromes, and diseases/illnesses in medicine in Imperial China are much more blurred than those in biomedicine, even though authors in Imperial China were able to make a distinction which was seemingly close to the biomedical division of these three categories. For instance, the terms *zheng* 證 or *hou* 候 used by the Imperial Chinese authors may correspond roughly to the biomedical definition of symptoms. However, as Sivin indicates, distinctions between disorders (*bing* 病 or *ji* 疾) and symptoms (*zheng* 證 or *hou* 候) was rather loose in medicine in Imperial China.

²⁰ *Guangjian daquan liangfang*, *juan 3*, pp. 312-313.

diagnosis and prescription of *zhang*, such as applying drugs considered to be of hot quality to counterbalance the symptoms of feeling cold.²¹

As we have seen in the above discussion, the narrative structure of Chen Ziming's section on *zhang* epidemics is as follows: Chen first proposed the aetiology, listed the names of medical formulas in accordance with particular symptoms, and then instructed which drugs should be reduced or swapped to tally with an individual's specific symptoms. This structure suggests that the aetiology, which linked the bodily experience of hot and irregular weather and of the stench and foulness with the occurrence of *zhang* via the disorder-inducing process of fumigating and steaming, was mentioned for the purpose of instructing readers to choose or adapt a medical formula in correspondence with the individual's particular symptoms.

Chen Ziming's own preface to this formulary *Complete Compendium of Good Formulas from a Singular Perspective* clearly explains why he wrote instructions for his readers on how to choose or adapt medical formulas. In the preface, he indicates that the aim of his formulary was to provide a summarized version of the large-scale *Formulary of the Pharmacy Service for Great Peace and for the Benefit of the People* (*Taiping huimin heji jufang* 太平惠民和劑局方) which was first printed by the Southern Song government in 1151.²² The Song central

²¹ *Guangjian daquan liangfang*, juan 3, p. 313.

²² *Guangjian daquan liangfang*, p. 289. The *Formulary of the Pharmacy Service for Great Peace and for the Benefit of the People* was the enlarged and revised version of the *Formulary of Imperial Medical Service* (*Taiyi ju fang* 太醫局方) which was compiled by the Northern Song

government is famous for compiling and publishing medical literature, as the Introductory chapter mentions. Formularies published by the Song central government often contain vast collections of medical formulas.²³ For instance, the *Formulary of the Pharmacy Service for Great Peace and for the Benefit of the People* originally collected approximately 297 medical formulas and then was enlarged to 788 in the thirteenth century.²⁴

As Hinrichs observes, the formularies disseminated by the Song central government did not serve as a means to teach readers how to restore or maintain the balance of qi between the internal body and the external cosmos. Instead, what the government-disseminated formularies provided was a collection of standardized medical formulas that were less concerned with “individualized modulations of flows of qi” but were aimed explicitly at “transparency, broad application, and ease of use.”²⁵ For instance, the layout of the extant *Formulary of the Pharmacy Service for Great Peace and for the Benefit of the People* categorized medical formulas under sections on different disorders or symptoms. Each formula entry began with the name of the formula, then the symptoms that the formula can treat are listed, followed by

government between 1078-1085. After being first printed by the Southern Song central government in 1151, the *Formulary of the Pharmacy Service for Great Peace and for the Benefit of the People* was expanded and revised at least six times and widely circulated in China and Japan. The bibliographical information on the *Formulary of the Pharmacy Service for Great Peace and for the Benefit of the People* is from Ma Jixing (1990: 177-178).

²³ Goldschmidt (2009).

²⁴ The number of medical formulas is based on an article by Chen Keji and Chen Weiyang in 1963.

²⁵ Hinrichs (2011: 237-238).

the compositions of the drugs and their dosages in the formula. Apart from listing an array of symptoms under each entry, the *Formulary of the Pharmacy Service for Great Peace and for the Benefit of the People* scarcely mentioned the circulation of qi or the progression of disorders in specific bodily channels (*jing* 經) and links (*luo* 絡).

The dissemination of medical literature by the government in Northern Song times serves not only as a method of epidemic relief but also as one dimension of medical governance, which is proven by existing scholarship on Song medicine.²⁶ Medical governance in Northern Song China covered a series of policies regarding medical affairs at that time, which included the compilation and publication of medical literature, campaigns to transform unorthodox healing customs in the south, especially in Lingnan, and the establishment of institutions for medical education, for the provision of healing service or drugs, for the preparation and selling of drugs, and for the publication of medical texts.²⁷ Although the Sui and Tang governments also built institutions for medical education and published a number of medical texts, the Northern Song government exceeded the Sui and Tang precedents by engaging with a much wider scope of medical affairs and by printing

²⁶ For instance, Lee Jingwei's article (1989) discusses the Northern Song emperors' medical policies, Goldschmidt's essay (2006) centers on Emperor Huizong's 徽宗 (1082-1135, r. 1100-1126) policies on medicine. Fan Ka-Wai's work (2011) investigates the Bureau for Editing Medical Texts (*jiaozheng yishu ju* 校正醫書局, established in 1057) in the reign of Emperor Renzong 仁宗 (1010-1063, r. 1022-1063) and his conference paper (2013) examines Emperor Huizong's project of compiling medical and Daoist texts. The term "medical governance" in Song China is particularly emphasized by Hinrichs (2011).

²⁷ For the scope of the Song medical governance see Hinrichs (2011, forthcoming).

larger numbers of medical literature and on a larger scale.²⁸ The Southern Song period witnessed both the central and local government retreating from its Northern Song predecessors' active engagement with medical affairs.²⁹ For instance, the central Southern Song government seldom compiled large-scaled formularies and pharmacological manuals; the local governors in Lingnan attempted to transform unorthodox healing customs through persuasion rather than coercion. Though much less active, medical governance in Southern Song China persisted. The central government occasionally printed large-scale formularies, such as the *Formulary of the Pharmacy Service for Great Peace and for the Benefit of the People* in 1151.

In parallel with the shrinking scope of medical governance during the Southern Song period, it received increasing critics the trend that the Northern Song government disseminated standardized medical formulas to treat various disorders.³⁰ Amongst these two seemingly conflicting movements in Southern Song medicine, in the preface to his formulary Chen Ziming, on the one hand, praised the standardized formulas, which were collected in the Northern Song government compiled *Formulary of the Pharmacy Service for Great Peace and for the Benefit of the People*, as being reliable in most cases since serious medical scholars had evaluated the therapeutic

²⁸ This view can be seen in works of Goldschmidt (2009: 87-95), Fan Ka-Wai (2011), and Hinrichs (2011).

²⁹ Hinrichs (2003, 2011, forthcoming).

³⁰ Hinrichs (2003: 111-113).

effects and compositions of the formulas before compiling and publishing them.³¹ Given that these formulas were by and large reliable but their sheer volume rendered carrying the formulas difficult for readers who were travelling, Chen Ziming provided his smaller-scaled formulary as an alternative for readers to carry with this text as a handy reference.³² On the other hand, in the main text of his formulary, he offered further instructions for his readers on how to select and adapt those standardized medical formulas. It was under this instruction that the aetiology of *zhang* epidemics that was supported by Chen Ziming's personal bodily experience of the environment in Lianguang was documented.

To summarize, in the case of Chen Ziming's formulary about *zhang* epidemics, the bodily experience of the surrounding landscape in Lianguang, which he identified with the heat, dampness, irregular weather, and the stench and foulness of outdoor human excretion, was connected to the occurrence of *zhang* via a disorder-inducing process of fumigating and steaming. While indicating the crucial role of bodily experience in informing Chen Ziming's aetiology of *zhang*, I have no intention of postulating that Chen Ziming's concern about the threats of the stench and foulness of outdoor excretion on the body reflects a more empirical understanding of the

³¹ *Guangjian daquan liangfang*, p. 289.

³² *Guangjian daquan liangfang*, p. 289.

environment or corresponds closely to the concept of hygiene in biomedical terms.

Instead, I underline the crucial role of bodily experience of the regional environment in informing Chen Ziming's aetiology into a Song explanatory mode of explicating an author's bodily experience as a claim to knowledge. As for Chen Ziming's writing discussed here, the approach appeared in the narrative context of providing instructions on how to choose or adapt medical formulas in accordance with individual patients' particular symptoms. The instructions were given as a guide for readers to find appropriate medical formulas among the sheer volume of medical recipes collected in formularies compiled by the Song government.

This section has illustrated how bodily experience of the regional environment contributed to the accounts of the aetiology of *zhang* and how the accounts appeared as a response to choose medical recipes pertinent to a patient's condition among the vast body of the Song government-commissioned medical formulas. By analyzing this case, I aim to show a dynamic interaction between the author's bodily experience of the surrounding landscape, the accounts of medicine, and the contemporary social world. As the terms of fumigating and steaming frequently appeared in Song authors' reasoning about how the heat and dampness in Lingnan

brought about *zhang* disorders, the following section will further discuss references to these two terms.

2.2 Fumigating and Steaming in the Medical Literature up to

Song Times

The terms fumigating (*xun* 熏/薰) and steaming (*zheng* 蒸) frequently served to explain how the heat and dampness in Lingnan was thought to bring about *zhang* disorders. To better understand the references to these two terms, this section provides an overview of the development of the concepts of fumigating and steaming in medical literature composed from Han to Song times. Essentially, in comparison to earlier medical literature, these two terms became more frequently associated with low-lying lands in Song formularies.

In the extant classic medical doctrine of the *Inner Canon*, the term fumigating referred either to the movement of qi inside the body as a normal bodily function, or to a disorder-inducing process.³³ Six passages in the *Inner*

³³ The character *xun* 熏 also appears in medical manuscripts so-called “Recipes for fifty-two ailments” (*wushier bingfang* 五十二病方), “Recipes for nurturing life” (*yangsheng fang* 養生方), “Recipes for various cures” (*zhaliao fang* 雜療方), which were excavated from tomb 3 in Mawangdui in Changsha city in Hunan province (buried in 168 BCE). In the manuscripts, it mainly refers to a method of preparation for medical formulas or a manner of treatment. *Mawangdui hanmu boshu*, pp. 34, 37, 55, 57, 62, 113, 124. Harper (1998) analyzes and translates Mawangdui medical manuscripts into English comprehensively. Besides the Mawangdui manuscripts, the term *xun* also appears in one passage in the memoir of a famous early Western Han physician, Chunyu Yi 淳于意. The memoir was transcribed in the *Records of the Historian*. For an English interpretation of the passage, see Hsu (2010: 122-123).

Canon referred to the term “fumigating” as a disorder-inducing process.³⁴ Three of them discussed the fact that the heat fumigated inside the body.³⁵ In these three passages, the section (*pian* 篇) 61 of the *Basic Questions* mentioned that the heat in summer fumigated flesh and skin pore pattern.³⁶ Section 62 of the *Basic Questions* said that hot qi in the stomach could fumigate the chest and then bring about symptoms of internal heat.³⁷ Section 81 of the *Divine Pivot* stated that hot qi rising from a clog (*yong* 癰) would fumigate organs.³⁸ The heat mentioned in these three passages did not indicate its relationship with the land explicitly. The remaining three passages described fumigating qi as a normal bodily function.³⁹ For example, section 43 of the *Basic Questions* mentions the guarding qi (*wei qi* 衛氣) fumigating inside the body.⁴⁰ Section 30 of the *Divine Pivot* said that the upper burner (*shangjiao* 上焦) fumigated the skin with the qi of the five grains.⁴¹

³⁴ The six records are: *Suwen* 7, p. 122; 61, p. 738; 62, p. 759, 760 and *Lingshu* 63, p. 198; 81, p. 272.

³⁵ The three records are: *Suwen* 61, p. 738; 62, p. 760 and *Lingshu* 81, p. 271-272.

³⁶ *Suwen* 61, p. 738.

³⁷ *Suwen* 62, p.760. For other examples see: *Suwen* 7, p. 122; 61, p. 738; and *Lingshu* 63, p.198; 81, p. 272.

³⁸ *Lingshu* 81, p. 271-272. Hsu (2010a: 123-126) investigates (*yong* 癰) in early Chinese medicine, including a detail analysis of *Lingshu* 81. As Hsu indicates, in general, clog (*yong*) designated obstructions at that time. In the specific case in *Lingshu* 81 analyzed by Hsu, clog (*yong*) resulted from a coagulation of blood which caused by noxious coldness staying in the bodily channels (*jing* 經) and links (*luo* 絡). The cold qi transformed into heat which triggered a serious of disorders inside the body and then fumigated organs.

³⁹ *Suwen* 43, p. 565. *Lingshu* 4, p. 19; 30, p. 128. *Lingshu* 4, p. 19.

⁴⁰ *Suwen* 43, p. 565.

⁴¹ *Lingshu* 30, p. 128. On the basis of Dunhuang medical manuscripts and the extant *Inner Canon*, Hsu (2008: 25-26) suggests that the term *san jiao* 三焦 (three burners or triple burners, a tripartite entity in reference to the upper, middle, and lower burners) became prominent in mid-Imperial China.

In the *Inner Canon*, the term steaming referred to a type of movement of qi inside the body. The movement was either normal or pathogenic and appeared in only two passages in the *Divine Pivot*.⁴² One of the passages mentioned this term when introducing the function of the middle burner (*zhongjiao* 中焦) in terms of the way that this burner could steam bodily fluids (*jin ye* 津液) to nurture the body.⁴³ Another passage described steaming as a stage in the development of disorders as follows: if a person was damaged by the wind, the bodily hair (*mao* 毛) on his skin would be steamed.⁴⁴ In contrast, in the *Basic Questions*, the term steaming only appears in sections 67, 69, 70, and 71, all of which were probably interpolated by Wang Bing 王冰 (fl. 762). More notably, all of them refer to phenomena in the universe rather than to qi inside the body. For instance, section 69 of the *Basic Questions* mentioned that the virtue (*de* 德) of the center (*zhongyang* 中央) was moist and steamed (*ru zheng* 溽蒸).⁴⁵ In short, in the antique *Inner Canon*, which excluded the seven sections 66-71 and 74 presumably interpolated in the eighth century, the terms fumigating and steaming were rarely linked with concepts about land.

⁴² The cooking technique of vaporization had developed since the Neolithic and the Zhou dynasty (eleventh century-256 BCE), which is evident in so-called excavated *yan* 甗 vessels and clay pots with holes in the bottom (Rawson 1990: 335-344). Given the graph *qi* 氣 enclosing the graph *mi* 米 (rice) in the *Discussing the Patterns and Explicating the Characters* in 121 CE and the ancient existence of vaporization cooking technique, Hsu (2007b: 117) suggests that the graph *qi* perhaps implied that “Easter Han lexicographers thought that Chinese ethnophysiology drew on the food technology of vaporization.”

⁴³ *Lingshu* 18, p. 93.

⁴⁴ *Lingshu* 18, p. 92.

⁴⁵ *Suwen* 69, p. 894. For the two other instances see *Suwen* 67, p. 839; 70, p. 909.; 71, p. 979.

Instead of using the term steaming, the extant antique *Inner Canon* used other terms to explain how the damp qi from the land brought about disorders. In the *Basic Questions*, when listing how various types of qi jeopardized the body, section 5 mentioned that “resonating with the damp qi of the land would damage skin, flesh, sinew, and vessels” (*di zhi shi qi gan ze hai pi rou jin mai* 地之濕氣感則害皮肉筋脈).⁴⁶ When introducing a disorder of flesh flaccidity (*rou wei* 肉痿), section 44 stated that if one’s living place was damp, his muscle (*ji* 肌) and flesh (*rou* 肉) would be immersed (*ru* 濡) soaked (*zi* 漬), then become a blockage (*bi* 痹), and, finally, turn out to be flaccid.⁴⁷ The entry in the *Divine Pivot* indicated that if the cool and fresh damp qi of the land (*qing shi di qi* 清濕地氣, or alternatively translated as the qi of fresh damp land) struck (*zhong* 中) people, it must begin from the feet.⁴⁸

In the extant medical literature from the Six Dynasties (220-589) to the Tang (618-907) period, fumigating and steaming can either refer to the movement of qi inside the body or to disorder-inducing conditions. In the case of the latter, the connection between steaming and fumigating and the quality of the land mainly appeared in the aetiology of foot qi disorders (*jiao qi* 腳氣).⁴⁹ A variety of symptoms of foot qi were recorded in medical literature during the Six

⁴⁶ *Suwen* 5, p. 101.

⁴⁷ *Suwen* 44, p. 572.

⁴⁸ *Lingshu* 3, p. 15.

⁴⁹ Besides these, one entry attributed to the fourth-century *Emergency Formulas Kept in One’s Sleeve* (*Zhouhou beiji fang* 肘後備急方) by Ge Hong 葛洪 (284-363) but collected in the mid-seventh formulary mentioned the steaming qi of the land. The entry stated that if it felt stuffy in wells and tombs (*zhong* 塚), it was because the qi of the land was steaming. *Waitai biyao fang*, *juan* 28, p. 550.

Dynasties and Sui dynasty (581-619). They include weakness (*ruo* 弱), obstruction (*bi* 痺), fullness (*man* 滿), swelling (*zhong* 腫), or painful feet (*jiao teng* 脚疼), an extended and taut chest and abdomen (*xin fu zhang ji* 心腹脹急 or inflated abdomen and taut heart), extreme heat, or a headache.⁵⁰ These various symptoms were all perceived to originate in the feet and were grouped under the name foot qi (which was occasionally called *jiao ruo* 腳弱, literally, foot weakness).

Existing studies on foot qi have drawn a clear picture of its development in medical theories and its geographical distribution in Imperial China.⁵¹ As they observed, the earliest medical account of foot qi left to us is the fourth-century *Emergency Formulas Kept in One's Sleeve* (*Zhouhou beiji fang* 肘後備急方) by Ge Hong 葛洪 (284-363).⁵² Ge Hong said that foot qi originated from Lingnan and then spread to Jiangdong 江東 (literally, the east of the

⁵⁰ *Zhubing yuanhou lun*, *juan* 13, pp. 413-422.

⁵¹ Many of the existing studies on foot qi are part of a heated debate from the 1950s over which diseases foot qi referred to in biomedical terms. Some of them regard foot qi as beriberi caused by vitamin deficiency, such as Lu and Needham (1951: 13-14), Fan (1995: 165-169). Liao (2003: 145-169) claims that foot qi in the Six Dynasties refers to suffering toxicity of improperly consuming mineral medicines. Other studies, such as Fan Ka-Wai (2004: 133-140), propose that foot qi covers a variety of biomedical diseases which include beriberi and disorders resulting from excessive consumption of toxic mineral medicines. Fan Ka-Wai (1995: 155-165, 169-172) moreover surveys the development of foot qi in aetiology and therapies from the fourth to thirteenth centuries. Smith's dissertation (2008) not only expounds Fan's observation (1995), but also expands the scope of research to modern times without trying to retrospectively identify foot qi as a biomedical disease. Smith's work (2008) will be further reviewed in later parts of this section and in the next chapter.

⁵² *Zhouhou beiji fang*, *juan* 3, p. 56.

River), without explaining the occurrence of this disorder.⁵³ The place “Jiangdong” refers to the lower Yangzi area.⁵⁴

An entry on symptoms of wind dampness (*feng shi hou* 風濕候) explained the aetiology of foot qi via the term steaming in the medical collection *Treatise on the Origins and Symptoms of Disorders* (*Zhubing yuanho lun* 諸病源候論). This entry stated that wind dampness resulted from damage caused by wind qi (*feng qi* 風氣) and dampness qi (*shi qi* 濕氣). The latter was the steaming qi of watery dampness (*shui shi zhi zheng qi* 水濕之蒸氣). If the land was low-lying and damp (*di xia shi* 地下濕) and if there was little frost (*shuang* 霜) and snow, the qi of mountains and water would steam (*shan shui qi zheng* 山水氣蒸). If the weather was warm (*nuan* 暖), the pores on people’s skin were open (*couli kai* 腠理開). In this case of this condition, people were prone to wind dampness that would turn into foot qi in the future. The notion that steaming qi invaded the body and brought about foot qi was a common theme of this aetiology which was frequently recorded in later Tang and Song medical literature.

As Fan Ka-Wai’s research indicates, on the one hand, physicians of the fourth to thirteenth centuries typically attributed foot qi to the invasion of

⁵³ *Zhouhou beiji fang*, juan 3, p. 56.

⁵⁴ Elvin (2004: 49) indicates that in this region nowadays, the average annual rainfall is approximately 900 to 1500 mm due to the summer monsoon and the average annual temperature is from 13 to 20 centigrade. Elvin (2004: 49-58) moreover traces the human exploitation of the middle Yangzi to the sixth century BCE and then of the lower Yangzi from the fifth century CE to the eighteenth century.

wind qi (*feng qi* 風氣) and damp qi (*shi qi* 濕氣), which were perceived to be particularly abundant in Jiangdong and Lingnan.⁵⁵ This attribution seems to extend the notion of steaming to the land in certain regions. On the other hand, from the Tang dynasty and beyond, foot qi was believed to have the potential to occur throughout the empire.⁵⁶ In the *Essential Prescriptions Worth a Thousand, for Urgent Need* (*Beiji qianjin yaofang* 備急千金要方) compiled by the eminent physician Sun Simiao 孫思邈 in 650-659, it was proclaimed that since China had been reunited by the Tang Empire, the wind and the qi under Heaven became mixed and homogeneous (*tianxia feng qi hun tong* 天下風氣混同). Hence, people who had never been to Jiangdong would also suffer from foot qi.⁵⁷ Moreover, Sun Simiao pointed out that the coldness, summer heat (*shu* 暑), wind, and dampness of the land (or the seasonal coldness and summer heat as well as wind and dampness of the land) could all become steaming qi (*di zhi han shu feng shi jie zuo zheng qi* 地之寒暑風濕皆作蒸氣). As humans' feet constantly trod on (*lü* 履) the land, the invasion of wind poison was often through the feet.⁵⁸ In this claim, the steaming qi also was associated with the land but this was not always geographically bound.

During the Song period, the term steaming also serves to explain how *zhang* disorders resulted from qi that steamed from mountains and water in

⁵⁵ Fan (1995: 157-158).

⁵⁶ Fan (1995: 164).

⁵⁷ *Beiji qianjin yaofang*, juan 7, p. 110.

⁵⁸ *Beiji qianjin yaofang*, juan 7, p. 110.

Lingnan. One example can be found in the *Taiping Era Formulas of Sagely Grace* (*Taiping shenghui fang* 太平聖惠方). This formulary, with disease categories mainly based on the Sui *Treatise on the Origins and Symptoms of Various Disorders*, was compiled by the Northern Song central government in 978-992, completed in 992, and then Emperor Taizong 太宗 (939-997, r. 976-997) ordered two copies distributed to each prefecture.⁵⁹ This formulary introduced the aetiology as follows:

For Jiangdong and Lingnan, the earth and land is low-lying and damp. Between spring and summer, wind poison becomes further (*mi*) abundant. Moreover, the mountains are damp and the water is steaming, and there are frequent incidences of *zhang* poison.⁶⁰

夫江東嶺南，土地卑濕。春夏之間，風毒彌盛。又山水濕蒸，致多瘴毒。

61

No indication about whether the compilers of this formulary had been to Jiangdong or Lingnan in person is given. The dampness (*shi* 濕), which was mentioned as many as two times in this short quotation, was associated with the low-lying lands, mountains, and water there. Through the processing of steaming, the dampness gave rise to *zhang* poison. *Zhang* was ascribed to the *qi* that steamed from the mountains and water in Lingnan. In this aetiology,

⁵⁹ Bibliographical information is based on Ma Jixing (1990: 173). Johannes Kurz (2001) argues that the compilation projects (including medical literature) of Taizong served as a means of integrating literati who were from recently conquered southern regions into the new Song regime.

⁶⁰ Another possible interpretation of *you* 又 in this quotation is “another source says.”

⁶¹ *Taiping shenghui fang*, *juan* 45, p. 1385.

the term steaming was clearly associated with the lands in particular regions. This aetiology also appeared in other Song medical collections and miscellaneous notes.

Moving to Southern Song times, besides introducing how qi steamed from the dampness in Jiangdong and Lingnan, physicians also stated that qi can fumigate and steam from foulness. One example of linking the notion of fumigating and steaming with foulness is Chen Ziming's formulary about *zhang* epidemics, which was discussed in section 2.1. Another example exists in a medical collection *Formulary of the Three Causes Epitomized and Unified for Disorder Manifestation* (*Sanyin jiyi bingzheng fanglun* 三因極一病證方論), which was composed by the Southern Song physician Chen Yan 陳言 who wrote his preface in 1174. Chen Yan discussed this view in the following way:

That which makes epidemics occur is that sometimes ditches and canals are not dredged, [those ditches and canals] accumulate their foulness and malicious things, that [foulness and the malicious] fumigates and steams, and thereby brings about epidemics.

况疫之所興，或溝渠不泄，畜其穢惡，薰蒸而成者。⁶²

In the same way as Chen Ziming, Chen Yan also mentioned that the qi of foulness (*hui* 穢) could fumigate and steam and then give rise to epidemics. The foulness in this quotation likely refers to blocked waterways themselves or matter which accumulated in the blocked waterways. Although there is a

⁶² *Sanyin jiyi bingzheng fanglun*, juan 6, p. 743-229.

limited amount of extant medical literature about the process of how fumigating and steaming qi of foulness resulted in epidemics, other Song scholar-officials mentioned this disorder-inducing process in a wide range of genres.

To further understand the concepts of fumigating and steaming, which played an essential role in the Song authors' reasoning about the aetiology of *zhang*, in the following two sections I will analyze non-medical Song sources about the disorder-inducing process of fumigating and steaming qi from foulness.

2.3 Clogged Waterways and Foulness in Hot Weather

In this and the following sections, I will draw on sources from a wide range of genres to investigate how Song scholar-officials connected their bodily experience of the heat, dampness, stench, and foulness to the occurrence of epidemics, which often involved the notions of fumigating and steaming. The aim of the investigation in sections 2.3 and 2.4 is to show that the aforementioned aetiology of *zhang* by Chen Ziming may echo the Song scholar-officials' concern about fumigating or steaming qi from foulness in hot weather. The sources that I work with in these sections are mainly concerned with reasons for the occurrence of epidemics inside or around city areas. I choose them as research materials as among the extant non-medical

sources on the combination of the hot or warm weather, dampness, foulness, fumigating, and steaming, written pieces about epidemics inside or around city areas contained enough information for thematic analysis. The sources discussed in section 2.3 and 2.4 range from local gazetteers (such as the *Records about Siming from the Baoqing Period* [*Baoqing Siming zhi* 寶慶四明志]), collected works of individual authors, letters (such as a letter composed by Ouyang Shoudao 歐陽守道 [1208-1273]), edicts, to memorials (such as the one written by Su Shi).⁶³ The priority in these two sections' quotation and analysis is given to the source that clearly and informatively described the notion that qi fumigating or steaming from the dampness or foulness in the hot weather would bring about disorders. I believe that with an awareness of different possible writing purposes and formats among these genres, we can still reveal the extent to which Song scholar-officials understood the multiple interactions between dampness, hot weather, foulness, fumigating and steaming.

Existing studies on the social or medical history of Song China have indicated that Song scholar-officials, especially those from the Southern Song, paid increasing attention to the threat to the body of clogged waterways and of what was considered to be the dirty environment in city areas.⁶⁴ Their

⁶³ The records of the aetiology in section 2.3 and 2.4 are all the records which I have found. On the production of local gazetteers in Song times, see Dennis (2011).

⁶⁴ For instance, Liang Ken-Yao (1999), Bao Weimin (2006), and Yu Xiaoman (2010) all indicate this tendency, but Liang's research is not only the earliest one but also more comprehensive

findings regarding the reasons why waterways became seriously clogged during the Song period provide insights into the social background against which the authors discussed this issue of foulness bringing about epidemics. I shall thus review their findings in the following paragraphs before moving onto my discussion. In Liang Ken-Yao's widely acclaimed article in 1999, he indicates that although waterways carried multiple functions in Song times; such as transportation, irrigation, and prevention of flood and fire, the central and local governments usually failed to maintain these waterways due to the severity of the blockages as well as the shortage of funds and human resources.⁶⁵

The increasing population and resulting water pollution in city areas further exacerbated the degree of blockages in the waterways.⁶⁶ Cities from the Tang through to the Song dynasty, generally speaking, underwent a three-stage transition.⁶⁷ The first stage was the gradual breakdown of the ward and market system (*fangshizhi* 坊市制), which set temporal and spatial restrictions on urban daily activities, entertainment, business, and so on.⁶⁸

in disclosing reasons for why the blockage of waterways became a serious problem in Southern Song cities.

⁶⁵ Liang (1999).

⁶⁶ Liang (1999).

⁶⁷ This is said in awareness of the research concludes that "cities" were administratively well-developed concepts. For an English description to the development of cities from the Sui dynasty to the Song, see De Weerd (2013). Liang's argument for the development of towns and cities (1985/1995b) forms the foundation for scholarly discussion on the evolution of Song cities.

⁶⁸ On the collapse of this system, see Katō Shigeshi (1959/1962), Liu Shu-Fen (1991/1992). The essay of Katō indicates that the collapse occurred at the end of the Northern Song period, while Liu's essay argues that it actually happened at the end of the Tang dynasty.

The second stage witnessed urban districts becoming more and more crowded, due to the increasing population density from the Northern to the Southern Song, and even expanding into the surrounding countryside. Thus, the function of wards, which were used to designate particular areas in cities and to draw an opposition to the countryside, gradually diminished.⁶⁹ Finally, the rising population resulted in the increased prosperity of manufacturers and the subsequent emergence of cities as centers for commercial activities during the Southern Song.⁷⁰

The trend of growing populations, indicated by historians, could be observed in the section of “a registered number of households” (*hukou* 戶口) in local gazetteers.⁷¹ For example, Hang Prefecture 杭州 (Hangzhou, in Zhejiang province), which was a prosperous prefecture in the Northern Song and then one city in this prefecture—Lin’an 臨安 (in Zhejiang province)—became the capital of the Southern Song government, witnessed considerable growth in the number of households:

⁶⁹ Liang (1981a, 1981b, 1995a).

⁷⁰ Liang (1985, 1995b).

⁷¹ On the demographic development from the Song dynasty, for example, see Hartwell (1982) and Sufumi So and Billy K. L. So’s article in 2002.

Table 2.1 The Approximate Registered Number of Households in Hangzhou during the Song dynasty⁷²

time	11 th - 12 th centuries	13 th century
locations		
Hang Prefecture	202,816 during the Yuanfeng period (1078-1085)	1632,019 during the Xainchun period (1265-1274)
Qiantang county and Renhe county in Lin'an	249,877 during the Qiandao period (1165-1173)	618,376 during the Xainchun period

According to narratives in local gazetteers, the number of households in other cities also increased, although records as specific as the household numbers in Hang Prefecture are lacking. For instance, in Qingyuan Prefecture 慶元府 (Qingyuan fu, in Zhejiang province), the rising populations were described as follows: “the [number of] living teeth [i.e. people] are auspiciously dense, the walled markets and market places are [profitably] overflowing” (*shengchi haofan, huanhui tianyi* 生齒浩繁，闐闐填溢).⁷³

However, the greater the number of households and populations in urban areas was, the greater the quantity of rubbish generated and subsequent

⁷² Information is drawn from *Xianchun Lin'an zhi*, juan 58, p. 3869-1.

⁷³ *Kaiqing Siming xuzhi*, juan 1, p. 5940-1.

water pollution became, as shown in Liang Ken-Yao's classic scholarship.⁷⁴ According to his research, rubbish was often thrown into ditches, canals, and rivers, making these waterways narrower or even entirely clogged up. Liang makes the observation that urban rubbish—which included waste, excrement from dwellers and livestock, industrial materials, and polluted water—came from markets, food shops, grocery stores, entertainment places, and households.⁷⁵

Moreover, due to the rising urban population, more and more houses and buildings were established on riverbanks, which caused or exacerbated the blockage of the waterways in cities. Given that previously unused land, such as places around city walls and streets in cities, was full of newly built houses, people began to occupy the land alongside rivers or bridges, or lived in boats floating on rivers. Such dense occupation of living spaces not only led to narrower and narrower waterways around or inside urban areas, but also aggravated the degree of water pollution because those occupants usually threw their waste directly into the waterways.⁷⁶

These studies on waterways and environment problems in Song cities center on the social or political reasons that caused the blockage of waterways. They examine how the clogged waterways were thought to result in epidemics from a biomedical or modern scientific perspective, such as the

⁷⁴ Liang (1999).

⁷⁵ Liang (1999: 121-139).

⁷⁶ Liang (1999: 129-133).

influence of a growing population on environmental pollution.⁷⁷ Unlike those studies, the following discussion in sections 2.3 and 2.4 will focus on bodily experience and perception of the regional environment. By approaching the Song authors' accounts of the threat of clogged waterways on the body from a different angle, I hope to utilize these Song accounts as an example of how bodily experience and perception of the foulness informed the aetiology of epidemics.

My discussion begins with a memorial record of dredging rivers in Tai Prefecture 台州 (Taizhou, in eastern Zhejiang province) composed by a local literatus Jiang Rong 姜容, who was also one of the compilers of the local gazetteer *Records of Red City during the Jiading Reign Period* (*Jiading chichengzhi* 嘉定赤城志, in 1223). According to Jiang Rong, the waterways in Tai Prefecture were dredged in 1046, 1169, and 1224 during the entire period of the Song dynasty—only three times in over one hundred and eighty years.⁷⁸ The few times the waterways were dredged supposedly caused serious blockage problems. In the memorial record, Jiang Rong recalled one of the disadvantages brought about by the blocked river in Tai Prefecture:

[Before the rivers were dredged], just after the rains, muddy rainwater had flooded pathways and even broken the doors of houses. In spring

⁷⁷ For instance, Liang Ken-Yao (1999), Bao Weimin (2006), and Yu Xiaoman (2010)

⁷⁸ *Chicheng ji*, *juan* 13, p. 138.

and summer it had been damp and steaming, which brought about epidemics.

雨俄頃，濁潦沒道，甚或破扉齧屋。春夏濕蒸，疾厲以滋。⁷⁹

In Jiang Rong's description here, steaming is considered to be a disorder-inducing process through which rainwater in the warm weather in spring and summer gave rise to epidemics. Although Jiang Rong in this statement did not use first person pronoun, I propose that the damp and steaming in the warm weather in Tai Prefecture was perhaps part of Jiang Rong's personal bodily experience as he was a local resident.

In the local gazetteer *Records about Siming from the Baoqing Period* compiled by Luo Jun 羅濬 in the thirteenth century, Luo recalled the disadvantages of a blocked river in Siming 四明 (in eastern Zhejiang province) in 1242, stating that: "there was no way to disperse water, qi exhalation steamed and fumigated, which made all people passing [the river] cover their noses" (*shuiwu suoxie, qixi zheng xun, guozhe yanbi* 水無所洩，氣息蒸薰，過者掩鼻).⁸⁰ The conduct of people covering their noses vividly illustrates the bodily experience of the dirty circumstance. This quotation does not specify whether the blocked river brought about epidemics; nonetheless, both the terms steaming and fumigating and the conduct of people covering their nose when passing the blocked river is reminiscent of Chen Ziming's statement that the

⁷⁹ *Chicheng ji*, juan 13, p. 139.

⁸⁰ *Baoqing Siming zhi*, juan 12, p. 5154-2.

fumigating qi from the stench and foulness of outdoor excretion would trigger *zhang* disorders.

Other Song scholar-officials' writing about how the clogged waterways were ascribed to the outbreak of epidemics mentioned stench or foulness, although the disorder-inducing processes identified by those Song authors were not always fumigating and steaming.

A letter to a local governor Wang in Ji Prefecture 吉州 (Jizhou, in Jiangxi province) articulates the notion that the qi from the stench and foulness was considered as a trigger of epidemics. Its author Ouyang Shoudao, who had retired from officialdom and lived in Ji Prefecture at the time of the letter's composition, wrote this lengthy letter to urge governor Wang to dredge blocked waterways. In the letter, Ouyang first states that holding a ceremony to pray to the gods of epidemics was fruitless and merely satisfied common people psychologically. Ouyang Shoudao then criticized various superstitious and ineffective medical customs in Ji Prefecture; for example, common people either abandoned their sick relatives or preferred to ask for local shamans rather than calling for physicians. He argued, in the final section of the letter, that the true triggers of epidemics were not ghosts but the clogged waterways and the debilitating quality of the land in Ji Prefecture. Ouyang Shoudao provided his perception of the serious blockage, and the simultaneous

increase in the number of patients, as evidence of the clogged waterways being a trigger of epidemics.⁸¹

After stating this perceived condition, he explained his aetiology of epidemics as follows:

When ditches and canals are not unobstructed, everywhere is foul and malicious, and every house is damp and moist. When a person's blood and qi come into contact with this, then the qi is gathered and does not move, and disorders are thus generated.⁸² Today on the thoroughfares there is still no place that is clean, and on the by-roads and circuitous lanes people cover their noses to rush through. The situation being like this, then, how could there not be a disorder? The land of this prefecture is inherently low-lying and damp. For this reason alone, even the high and dry land becomes filthy and low-lying. This [filthy and low-lying land] is disorder-inducing qi. What else could possibly bring it about?⁸³

溝渠不通，處處穢惡，家家濕潤，人之血氣觸此，則壅氣不行，病於是乎生。今通達廣路，猶無潔淨之所，而偏街曲巷使人掩鼻疾趨，如此則安得

⁸¹ *Xunzhai wenji*, juan 4, p.1183-539.

⁸² Within this research project, the term "blood" is used in reference to the cultural-specific concept of *xue* 血 recorded in pre-modern medical Chinese texts. This concept refers to vital bodily fluids (such as human milk and biomedical blood) is divergent from the biomedical concept of blood. For further discussion on the difference, see Furth (1986), Wu (2010).

⁸³ The translation of the above paragraph is based on T. J. Hinrichs' dissertation (2003: 156-157) but modified.

不病。此州之地本自卑濕，惟以此故，雖爽塏亦為汙下。即此乃病氣也，
豈復有使之者？⁸⁴

This quotation contains two noteworthy points. First of all, the bodily experience of the surrounding circumstances indicated in this quotation is the stench. The experience of the smell was vividly illustrated by Ouyang Shoudao's description of people covering their noses to rush through by-roads and lanes. Ouyang used this experience to substantiate his aetiology of disorders; that is, when the blood and qi of the human body came into contact with foulness and dampness in the environment resulting from clogged waterways, the inhabitant's qi would become obstructed and accordingly suffer from disorders. Although the disorder-inducing process mentioned in this quotation concerns contact (*chu* 觸) and gathering (*yong* 壅), Ouyang Shoudao's statement echoes the previously discussed opinions of Chen Ziming and Chen Yan in section 2.1, that stench and foulness would give rise to disorders.⁸⁵ Secondly, Ouyang further stated that the low-lying and damp quality of the land in Ji Prefecture was inherently debilitating. This statement highlights the impact of what was considered to be the quality of land in a specific region on bringing about disorders.

⁸⁴ *Xunzhai wenji*, juan 4, p.1183-539.

⁸⁵ Harper (1998: 290) points to that "etymologically the word [*yong* 壅] connotes a "walled-up" place where pus collects." Harper's opinion inspires me to translate *yong* 壅 as "gathering."

Ouyang Shoudao ended this letter with a proposal to dredge the waterways:

If you consider the above [aetiology], [you could] in spring command local officials to announce to the inhabitants that they should dispose [of their rubbish] and clean [the ditches and canals]. If there were bricks and stones covering [the ditches and canals], [you could] also order [the public] to temporarily enforce work [of placing bricks and stones] one by one, to cooperatively work, to separately carry and then put [these bricks and stones] to empty and spacious places outside the city, so as to make accumulated water [in the blocked canals] flow and become unobstructed, then the compressed, accumulated, and sedimentary malicious qi will also be dispersed. Although it is not difficult, I am worried so writing this letter.

今若及此，方春命廂所告示居民屏治蕩滌。有磚石遮蔽者，亦令暫施工，魚鱗相次，同力為之，各自負挈置之城外空曠之所，使積水流通，則鬱積盤結之惡氣亦散矣。但此雖非難事，亦慮具文。⁸⁶

Ouyang Shoudao's proposed method to reduce the threat of the clogged waterways to inhabitants' bodies comes from an administrative perspective. He proposed a specific way for local governors to command inhabitants to dredge the blocked waterways. In contrast to Ouyang's thinking about medicine in administrative terms, Chen Ziming and Chen Yan addressed the

⁸⁶ *Xunzhai wenji*, juan 4, p.1183-539.

epidemics, which were considered to result from the stench and foulness, by providing medical formulas. Ouyang Shoudao's proposal also reveals his emphasis on the accumulated malicious qi in the blocked ditches.

Besides Ouyang Shoudao's letter, the aetiology of epidemics in terms of foulness in blocked waterways also appeared in Lou Yue's 樓鑰 (1137-1213) writing. Lou Yue mentioned the recurrent outbreaks of epidemics before the local government rebuilt the water conservancy system in Cixi 慈溪 county (in Zhejiang province):

Rivers in the county were shallow and silted, and gourds and rushes grew thickly there. The residents, in order to occupy the riverbank, cut down the woods and built houses. Day by day [the water levels] declined, when rainwater accumulated, then [the rivers] overflowed and brought layers of silt. In the end, it [the water] became filthy, foul, stagnant, and gathered. Qi was gathered and did not spread out. This often resulted in epidemics.

縣河淺淤，菰蒲叢生。居民因侵其旁，藝木築室。日就湮微雨集，則溢溢沉墊。已則污穢停滯，氣壅不宣，多起癘疫。⁸⁷

The observed filth (*wu* 污) and foulness (*hui* 穢), in this quotation referred to the sludge and accumulated rainwater in the waterways. Qi became obstructed and could not disperse and this then frequently brought about epidemics. Luo Yue did not specify whether the obstructed qi referred to the

⁸⁷ *Gongkui ji*, *juan* 59, p. 797. The punctuation is modified.

internal qi in the inhabitants' body, or to the qi of the clogged waterways, or to both.

The memorial record written by Ye Shi 葉適 (1150-1223) to commemorate the success in dredging rivers in Dongjia county in Wen Prefecture 溫州 (Wenzhou, in southeastern Zhejiang province), as another example, describes the process in which epidemics occurred:

The small [narrow and blocked] rivers received filth and contained foulness, and flowing water would not come, this resonance (*gan*) turned into pestilential epidemics.⁸⁸

而小者納汙藏穢，流泉不來，感為厲疫。⁸⁹

In this quotation, Ye Shi ascribed the outbreak of epidemics to two factors: the filth and foulness in the rivers as well as the lack of flowing water. The disorder-inducing process is that the two pathogenic factors resonated (*gan*) with the human body, giving rise to disorders.

Of course, not all Song scholar-officials explained how the clogged waterways resulted in epidemics via the concepts of filth and foulness. For instance, a report to the gods for dredging the waterways, which was composed by the famous Southern Song scholar-official Zhen Dexiu 真德秀 (1178-1235), explained the aetiology of epidemics as follows:

⁸⁸ On the concept of *gan* 感 (literally, resonance or affection) in Chinese cultures from an anthropological perspective, see Chau (2008), Hsu (2009b: 73-77).

⁸⁹ *Shuixin ji*, *juan* 10, p. 1164-219.

There are ditches and canals on earth, just as there are blood vessels in the body. When the blood vessels are unimpeded, then the body is calm and qi is harmonious. Once [the blood vessels] are lowered, there is a blockage, then disorders occur.

地之有溝渠，猶身之有血脉也。血脉宣暢，則體安而氣和。一或底滯，則疾疢生矣。⁹⁰

Zhen Dexiu here focused on the correspondence between the blocked ditches on earth and obstructed blood vessels in the body.⁹¹

To sum up, looking at the Song scholar-officials' explanations for how clogged waterways resulted in the occurrence of disorders, it is clear that some of them emphasized their bodily experience of the foulness in blocked waterways, exemplified by the writing of Lou Yue and the letter from Ouyang Shoudao. In comparison to Chen Ziming's and Chen Yan's formularies which applied the concept of fumigating and steaming qi from foulness to explain the occurrence of disorders, the explanations discussed here did not always refer to the notion of fumigating and steaming. Moreover, the method proposed by the Southern Song scholar-officials of addressing the epidemics resulting from the clogged waterways mainly centers on administrative

⁹⁰ *Xishan wenji*, juan 52, p. 1174-831.

⁹¹ For another record explaining the blocked waterways as the triggers of disorders through this correspondence, see *Gongkui ji*, juan 59, p. 798. For the medical concept of human bodies as micro-cosmos and nature as macro-cosmos, see Sivin (1987: 54-59, 1995).

means; namely, to dredge the waterways rather than to provide medical formulas.

In order to elucidate the ways in which the concept of fumigating and steaming were considered as a disorder-inducing process from the Song official scholars' perspective, the following section examines how this concept was applied in the Song discussion of an emergency situation of disaster relief: displaced victims of a disaster who crowded inside or around cities were considered to be a trigger of epidemics.

2.4 Fumigating and Steaming Qi from the Crowded Victims of Disasters

In this section, my analysis will focus on how the concepts of hot weather, foulness, fumigating, and steaming were utilized in Song discussions about epidemic threats posed by displaced victims of disasters assembling around or inside cities, which was typically revealed in the Song officials' debate over proper disaster relief policies.⁹²

The concept that the fumigating and steaming of stench and foulness would trigger epidemics can be clearly observed in a memorial in 1091 composed by

⁹² This section only cites the Song writings which used the ideas of fumigating and steaming as disorder-inducing processes to explain how the Song officials thought that displaced victims crowded inside or around cities would bring about epidemics. There is other Song writing which mentions the crowds of victims resulting in epidemics but did not indicate specific disorder-inducing conditions or processes. Wang The-Yi's monograph (1970) devotes itself to the Song policies of and debates about epidemic relief. While noticing that there were a few Song officials' opinions about epidemic threats posed by the crowd of victims, Wang The-Yi (1970: 138) only cites one source to show this Song officials' opinion without further discussing it.

Su Shi, who was a prefect for Ying Prefecture 穎州 (Yingzhou, in Anhui province) at that time. Su Shi described a possible scenario that could result in epidemics:

If [the displaced victims] starve to death on the pathways and streets [of Ying Prefecture], the stench and foulness [of their corpses] fumigates and steams, and both the famished victims and people [i.e. local population] suffer harm caused by epidemics.

若飢斃道路，臭穢薰蒸，饑民同被災疫之苦。⁹³

Notably, Su Shi declared that epidemics resulted from the fumigating and steaming stench and foulness of those victims' corpses. In the memorial, Su Shi did not indicate how far this aetiology was derived from what he had witnessed the famished victims' corpses. This is in contrast to the aforementioned formulary of Chen Ziming, who when proposing the aetiology of *zhang* in his section on *zhang* epidemics, emphasized at least twice that his opinion was based on or confirmed by his personal experience in Lianguang.

The term "steaming" also served to describe a disorder-inducing process in which the qi of weak victims crowding inside or around cities gave rise to epidemics. For example, Zeng Gong 曾鞏 (1019-1083), a famous Northern Song scholar-official, once claimed in his memorial on disaster relief that: "if the crowd [of victims suffering from the flood and earthquake in Hebei 河北

⁹³ *Su Shi wenji*, p. 949.

(i.e. Hebei East Circuit [Hebei dong lu 河北東路] and Hebei West Circuit [Hebei xi lu 河北西路], both mainly in Hebei province and northern Henan province)] assembles and stays together [inside or around city walls to wait for food delivery from governments], and qi steams and extends, it inevitably gives rise to epidemics” (*you qun er chu zhi, qi jiu zheng bao bisheng jili* 又羣而處之，氣久蒸薄，必生疾癘).⁹⁴ Here the source from which the qi steamed was supposed to be the crowds.

The aetiology of fumigating and steaming qi of crowded victims resulting in epidemics can be found in *zhazi* 笱子, one kind of memorial in a broad sense, written by Liu Zai 劉宰 (1166-1239) to discuss whether the local governor should command farmers in his administrative region to dredge rivers in summer. Liu Zai argued that: “If people suffering from hunger over a long period of time do not dispel for a long time, qi exhalation fumigates and steams, and epidemics occur” (*jiu ji zhi min, rijiu busan, qixi xunzheng, jili ziqi* 久饑之民，日久不散，氣息熏蒸，疫癘滋起).⁹⁵ Liu Zai claimed that if the victims gathered in a place over a long time, their qi would fumigate, steam, and then trigger epidemics.

Due to the epidemic threats posed by these displaced victims, alternative policies on disaster or famine relief were proposed. One such example is a report to Emperor Zhezong 哲宗 (1077-1100, r. 1085-1100) by an official Zhao

⁹⁴ *Yuanfeng leigao*, juan 9, p. 14a.

⁹⁵ *Mantang ji*, juan 13, p. 1170-20.

Cheng 趙稱 in 1086 on proper famine-relief policies for displaced victims of the floods in Bo Prefecture 亳州 (Bozhou, in Anhui province), Su Prefecture 宿州 (Suzhou, in Anhui province), Si Prefecture 泗州 (Sizhou, in Anhui province), Chu Prefecture 楚州 (Chuzhou, in Jiangsu province), and Hai Prefecture 海州 (Haizhou, in Jiangsu province).⁹⁶ In this report, Zhao Cheng proposed a relief policy stating that the local government should command displaced victims to return to their original work. Governors should deliver food according to the number of people. This, in Zhao's opinion, could dispel epidemic disorders brought by the fumigating and steaming of the crowds.

One reason why crowds of victims would bring about epidemics was attributed to the combination of the victims' weak physical condition and the warm climate in spring. In a memorial written in 1167 by Cheng Shuda 程叔達 (1120-1197), proposed this explanation in order to argue against delivering porridge both inside or around the city walls to the victims of famine. Cheng Shuda described the correlation between famine, assemblage, and epidemics as follows:

Once [humans] lose average standards of being satisfied or hungry, disorders then arrive [and affect those people]. Not to mention the people suffering from hunger over a long period of time, staying next to each other and gathering at city walls: in the warm weather of spring, only a few of them will not suffer from epidemics.

⁹⁶ *Xu zizhitongjian changbian*, juan 392, p. 9546.

飢飽一失其節，且猶疾病隨至。况於久飢之民，相比而集於城郭，春深候暖，其不生疾疫者幾希。⁹⁷

Cheng Shuda thought that individuals who had an irregular diet would become sick, and so the famished were even more vulnerable to disorders. The famished gathering around or inside cities would bring about epidemics in the warm spring climate. The combination of the warm weather and the gathering of victims remind us of fumigating and steaming which were thought to frequently occur in hot or warm weather. Cheng Shuda then suggested that Emperor Xiaozong 孝宗 (1127-1194, r. 1162-1189) ordered local governors to deliver money and rice to those victims of the famine who still had homes to return to, so that they would resume their work.

In summary, when proposing how crowded victims of disasters inside or around cities brought about epidemics, the Song officials sometimes applied the concept of fumigating or steaming. Things that were considered to fumigate and steam can refer either to the assemblage of the victims or to the victims' corpses. The terms stench and foulness was indicative of the considered quality of the corpses. In comparison with the writing discussed in section 2.1 and 2.3, the Song memorials analyzed in this section rarely specified the extent to which their opinions were derived from their bodily experience of the weather, stench, and foulness, or from what they had witnessed of the occurrence of epidemics.

⁹⁷ *Songhuiyao jigao*, p. 6314.

2.5 Concluding Remarks

With the Southern Song aetiology of *zhang* disorders in Chen Ziming's formulary *Complete Compendium of Good Formulas from a Singular Perspective* in 1271 as an example, in this chapter I have demonstrated how the experience of the regional environment informed medical practices and knowledge, and how the contemporary social world affected the ways the experience were accounted for. One of the aetiologies in Chen Ziming's formulary discussed in section 2.1 was that the irregular weather in Liangguang and the depleted vital bodily energy of inhabitants would together bring about *zhang* disorders. Another of the aetiologies, which was newly documented by Chen Ziming, was that qi which fumigated or steamed from the stench and foulness of outdoor excretion would result in *zhang* disorders. When making these proposals, Chen Ziming indicated that his personal experience and what he had witnessed in Liangguang rendered his aetiology more convincing.

Instead of regarding Chen Ziming's emphasis on experience as a mark of a progress, whereby southern medicine was moving in a more empirical direction, I view his emphasis as an instance of an explanatory mode; that is, an approach of explicating the bodily experience of the regional environment as a claim to medical knowledge. Although in the extant writing about medical affairs in Imperial China, this explanatory mode had existed before the Song dynasty, it became much more visible in Song times. The crucial role

of bodily experience of the regional environment in inspiring medicine was expounded in this particular Song explanatory mode.

After pointing out the aforementioned aetiology, Chen Ziming moved to list the names of medical formulas in accordance with symptoms of *zhang* disorders and to instruct his readers on how to modify the formulas to correspond to individuals' particular symptoms. Those formulas, according to Chen Ziming's preface to his formulary, mainly came from standardized medical formulas collected in the large scale *Formulary of the Pharmacy Service for Great Peace and for the Benefit of the People*, which was first published by the Southern Song central government in 1151. Although the standardized formulas in this Song government compilation were mostly reliable, Chen Ziming thought their sheer volume made it difficult for readers to use when travelling. To resolve this issue, Chen Ziming compiled his formulary as a handy and easy-to-carry reference as an alternative for readers.

Chen Ziming's purpose in compiling the formulary and the narrative sequence of Chen's section on *zhang* epidemics (which first proposed the aetiology and then instructed readers on the selection and adaptation of the medical recipes) together show that the aetiology and the accompanying explication of bodily experience emerged in the context of responding to the vast body of standardized medical formulas disseminated by the Song government. The dissemination of medical texts by the Song central

government, as shown in existing scholarship on Song medicine, constitutes an integral part of Song medical governance. Song medical governance includes the production and publication of medical literature, the establishment of institutions for medical affairs, and campaigns to transform unorthodox southern medical customs. During the Southern Song period, both the central and local governments took less active roles in medical governance than their Northern Song precedents. Concomitantly, criticism of the standardized medical formulas gradually emerged. It was against this changing medical culture in Northern Song and Southern Song times, observed in the existing scholarship, that Chen Ziming proposed his instructions for selecting and modifying the standardized medical formulas, substantiated his opinions about aetiology of, and accorded treatments for *zhang* disorders with his bodily experience and perception in Liangguang.

To understand the reference of the terms fumigating and steaming, which frequently appeared in the aetiology of *zhang* disorders, in this chapter I have analyzed the references and application of these two terms in medical literature (Section 2.2) and in letters, memorial records, and memorials (Sections 2.3 and 2.4) up to Song times. Existing scholarship indicates that the notion that *qi* fumigated and steamed from dampness or foulness in warm weather in the environment emerged in Southern Song times and were expressed more explicitly and systematically from the Ming dynasty

onwards.⁹⁸ This chapter provides further textual evidence to demonstrate that this aetiology can be found not only in medical literature but also in political documents, such as memorials in Song China.

In medical literature in early China, the term fumigating (*xun* 熏/薰) served to describe either normal or disordered movement of qi inside the body in the classical *Inner Canon* and a way of preparing for medicines in the early Western Han Manwangdui manuscripts.⁹⁹ The term steaming (*zheng* 蒸) in the *Inner Canon* also referred to the movement of qi inside the body, yet in the chapters interpolated by Wang Bing in the eighth century, it referred to phenomena in the environment and universe.

From the Six Dynasties onwards, the concepts of steaming were frequently deployed to the aetiology of foot qi disorders, which were considered to be endemic in Lingnan and Jiangdong areas. The aetiology of foot qi revealed a pronounced association between the dampness of the land in specific areas (i.e. Lingnan and Jiangdong) and concepts of steaming. In comparison, in the *Inner Canon*, terms which served to describe ways in which the damp qi of the land damaged the body were “resonating” (*gan* 感), “immersing” (*ru* 濡), “soaking” (*zi* 漬), and “striking” (*zhong* 中).

The Southern Song period witnessed a more pronounced acknowledgement that the stench (*chou* 臭) and foulness (*hui* 穢) in the surrounding landscape

⁹⁸ Leung (2002/2005: 375-380).

⁹⁹ The seven chapters highly likely interpolated by Wang Bing in 762 are excluded.

would fumigate and steam debilitating qi in warm weather and consequently bring about epidemics. Although this idea was expressed in only two extant Southern Song formularies composed by Chen Ziming and Chen Yan, many scholar-officials mentioned it when advocating the necessity of dredging blocked waterways and discussing appropriate ways of dealing with victims affected by disasters who crowded inside or around city walls, as discussed in sections 2.3 and 2.4. The foulness in these scholar-officials' work had different references, including the quality of lands, things blocking the waterways, (e.g. sludge and accumulated rainwater), broader filthy living circumstances aggravated by these waterways, and the victims' unburied corpses.

The aetiologies in this chapter about how qi fumigating and steaming from the stench and foulness in hot weather gave rise to disorders show how individuals' understanding of the environment was formed through a dynamic combination of the bodily experience that some of the Song authors observed (of, for example, a stench that made people cover their noses) and existing culture-specific knowledge (of, for example, a disorder-inducing process of fumigating and steaming). This combination is reminiscent of Ingold's sentient ecology as described in the Introductory chapter. In the next chapter, I point to this combination in other Southern Song aetiologies of *zhang* and propose explanations for why the Song authors utilized it.

Chapter Three Accounting for Identified Environmental

Features via Cosmological Terms

By examining the Southern Song physician Chen Ziming's formulary in the preceding chapter, I have explored how bodily experience (which include the Song authors' own experience and others' experience observed by those authors) of the regional environment was explained in detail and explicitly applied as a claim to medical knowledge. I have moreover proposed how certain changes in medical culture at the time encouraged this explication and application of experience. Following in the same vein, this chapter will analyze another way in which bodily experience of the regional environment occupied a more prominent role in forming medical knowledge and how associated social tendencies encouraged this increasingly visible role. The sources that this chapter utilizes are mainly pieces of medical literature composed up to the Song dynasty, such as medical collections compiled by Chao Yuanfang in the Sui and Wang Tao 王燾 in the Tang, medical texts attributed to Emperor Huizong in the late Northern Song, and formularies composed by Li Qiu 李璆 and Wang Fei 王棐 in the early Southern Song.

I will begin with the Southern Song formulary *On Zhang Nüe* (*Zhang nüe lun* 瘴瘧論, circa 1100-1140) by Li Qiu, the core source of this thesis. My analysis will focus on how Li Qiu applied the bodily experience in Lingnan (in

present-day Guangdong and Guangxi provinces) to identify a correlation between the heat and dampness in Lingnan and the occurrence of particular symptoms of *zhang*.¹ I will argue that Li Qiu's application of experience demonstrates an increasingly obvious role of experience in Song *zhang* medicine.

I then compare the correlation proposed by Li Qiu with the aetiology of *zhang* disorders in Lingnan documented in extant medical literature from the Sui, which witnessed the earliest existing account of an aetiology of *zhang* disorders in Lingnan, to the Song. The comparison will show that in the extant medical literature, it is as late as the early twelfth century that the personal or observed bodily experiences were emphasized and explained in detail as crucial evidence for the Southern Song authors' medical reasoning.

After discussing this more noticeable role of bodily experience in early Southern Song medicine, I will propose a contemporary social tendency as its possible contributor; that is, the soaring number of literati as readers of medical texts in Song times as well as their meticulous evaluation of written medical literature is likely to have encouraged the literati as authors of medical writing to stress and explain their opinions and their evidence (which can be drawn from existing texts, their bodily experience, observations, or

¹ I use the term *correlation* rather than *causal* relationships because reasoning about a disorder in medicine in Imperial China rarely worked in a definite and clearly monocausal chain of reasoning. For further explanation as to why I am reluctant to use the term *cause* or the phrase *causal* relationships in my discussion about *zhang* medicine, see section 2.1 "The New Southern Song aetiology of *Zhang* Disorders and the Song Reasons for its Documentation: Chen Ziming's Formulary" in Chapter Two.

practices). The proposed reasoning in this chapter will broaden historians' ongoing discussion about how the soaring number of literati, as readers and authors of medical writings since the Northern Song dynasty and beyond, changed the formation of written medical knowledge.

3.1 Linking the Yang-Heat and Yin-Dampness in Lingnan with Particular Symptoms of *zhang* in the Early Southern Song

In this section, I begin by introducing bibliographical information on the formulary *On Zhang Nüe* composed by Li Qiu, which contains ample information about the bodily experience of the environment in Lingnan and, in turn, becomes the core source on which this thesis relies. I then analyze this formulary with particular attention to how Li Qiu accounted for the bodily experience of the surrounding landscape in Lingnan and how he applied this experience to validate his aetiology of *zhang* disorders.

Bibliographical information on Li Qiu's *On Zhang Nüe*

Li Qiu was from Bian 汴 (present-day Kaifeng city in Henan province) and gained his *jinshi* degree in 1112. He had lived in several places during his career as an official (See Map 3.1). In the south, these included Ying Prefecture 英州 (Yingzhou, in Guangdong province) from at least 1121 to 1122, Ji Prefecture 吉州 (Jizhou, in Jiangxi province) in 1134, and Chengdu Prefecture

成都府 (Chengdu fu, in Sichuan province).² Li said in *On Zhang Nüe* that he had been to Cangwu 蒼梧 (in Guangxi) during the Shaoxing 紹興 period (1131-1163). After witnessing the fatal epidemics of *zhang* in Cangwu, Li believed that his ideas about and prescription of *zhang* were more medicinally effective than those of the ignorant and inept contemporary physicians in Lingnan at the time. He then wrote down his ideas in detail and compiled medical formulas about *zhang* in *On Zhang Nüe*.³

Li Qiu's *On Zhang Nüe* was later expanded by Zhang Zhiyuan 張致遠 (1090-1147), who obtained his *jinshi* degree in 1121 and later became an administrator in Guangzhou (in Guangdong province) in 1138.⁴ Based on Li Qiu's statement of *zhang*, Zhang Zhiyuan added his essay on *zhang* and medical formulas. The version expanded by Zhang Zhiyuan was named *On Zhang* or *On Zhang Nüe* (*Zhang lun*, or *Zhang nüe lun* 瘴[瘧]論), or *Prescriptions for Preserving Life in Lingnan* (*Lingnan weisheng fang* 嶺南衛生方). This expanded version of the formulary by Li Qiu and Zhang Zhiyuan was compiled approximately between 1139-1148.⁵

² Other places where Li Qiu had been as an official before he came to Ying Prefecture included: Chen Prefecture 陳州 (Chenzhou, in Henan province) and Fang Prefecture 房州 (Fangzhou, in Hubei province) (See Map 3.1). *Song shi*, *juan* 377, pp. 11654-11655.

³ *Lingnan weisheng fang*, p. 4. As local officials in the south, the Song literati discussed extensively how perilous and life-threatening *zhang* was in Lingnan. Their reluctance to serve in official positions in Lingnan had caused difficulties for the central government in staffing the posts throughout the Song dynasty. For the problems of staffing the posts in Lingnan, see Zhang (2011: 206-211).

⁴ *Song shi*, *juan* 376, p. 11628.

⁵ The compilation date is from Zuo Peng (2006).

Map 3.1 Places Where Li Qiu Stayed



No. Place Name

1 Bian 汴 (Kaifeng city in Henan province)

2 Chen Prefecture 陳州 (Chenzhou, in Henan province)

3 Fang Prefecture 房州 (Fangzhou, in Hubei province)

4 Ying Prefecture 英州 (Yingzhou, in Guangdong province) from 1121 to 1122 at least

5 Ji Prefecture 吉州 (Jizhou, in Jiangxi province) in 1134

6 Chengdu Prefecture 成都府 (Chengdu fu, in Sichuan province)

7 Cangwu 蒼梧 (in Guangxi) during the Shaoxing period (1131-1163)

Unfortunately, the Southern Song version of the *On Zhang Nüe*, which included both the works of Li Qiu and Zhang Zhiyuan, does not exist in the present day as an independent book. It is partially collected in a Yuan

formulary that bears the same title *Formulas for Preserving Life in Lingnan* (*Lingnan weisheng fang* 嶺南衛生方). The Yuan version was compiled by a Buddhist cleric Shi Jihong 釋濟洪 when he travelled in Lingnan sometime between 1255 and 1267. Its preface was composed by Shi Jihong in 1283.⁶ Shi Jihong added his opinion, his collected medical writings, and medical formulas relating to *zhang* into the Song version of *Formulas for Preserving Life in Lingnan* which he owned.

In the extant Yuan version, Shi Jihong preserved not only Li Qiu's and Zhang Zhiyuan's written pieces, but also two other Southern Song officials' writings on *zhang*: Wang Fei 王榘 and Zhang Jie 章傑. However, although Shi Jihong clearly separated each of the four written pieces on *zhang* and Lingnan composed by these four Southern Song scholar-officials, he did not indicate whether the formulas collected in the Yuan version were drawn from earlier or contemporary formularies. This lack of indication impedes any further investigation into how the four Southern Song authors' medical ideas interacted with specific compositions of drugs in medical formulas. Our investigation of the four Song authors' *zhang* medicine thus inevitably inclines to the aetiology and prescription strategies for *zhang*. Now that the bibliographical information on the Song version *Formulas for Preserving Life in*

⁶ The bibliographical information on the Yuan version *Formulas for Preserving Life in Lingnan* is based on Rong Li (2004).

Lingnan and its limitation as a medical source has been introduced, I will examine Li Qiu's *On Zhang Nüe*.⁷

Bodily experience and perception in Li Qiu's aetiology of *zhang* disorders

Although entitled *On Zhang Nüe*, Li Qiu's formulary mainly used the term *zhang* disorders (*zhang ji* 瘴疾), *zhang*, or a disorder of alternating coldness and heat (*han re zhi ji* 寒熱之疾). In the formulary, Li Qiu ascribed the occurrence of a disorder of alternating coldness and heat to what he identified as environmental features in *Lingnan* in the following way:

Lingnan not only bears the name *yan fang* (literally, the flame direction), but also borders the sea. Its land is low-lying and its earth (*tu*) is thin (*bao*). In the flame direction, the earth is thin. This is why the qi of yang-heat (*yang ao*) constantly disperses itself. By the sea, the land is low-lying. This is why the qi of yin-dampness (*yin shi*) is constantly abundant. The two [types of qi] attacks each other (*xiang bo*) and that is the reason why the disorder of [alternating] coldness and heat occurs.

嶺南既號炎方，而又瀕海。地卑而土薄。炎方土薄，故陽燠之氣常泄。瀕海地卑，故陰濕之氣常盛。而二者相薄，此寒熱之疾所由以作也。⁸

⁷ According to Rong Li (2004), the earliest extant edition of the *Yuan Formulas for Preserving Life in Lingnan* is a Ming edition, presumably inscribed from an earlier Ming version that was printed in 1576. Another edition is a Japanese Gakukokan one of 1841 which was reprinted from that Ming edition.

⁸ *Lingnan weisheng fang*, p. 1.

The environmental features revealed in this quotation include the sea-bordering location, low-lying lands, thin earth, and the heat, which I infer from the term “flame direction.” This term served as a reference to the south in general, and sometimes Lingnan specifically, in both historiographical texts and literature.⁹ Li Qiu then proposed that the constantly dispersing qi of the yang-heat resulted from the combination of the flame direction and thin earth in Lingnan; and the constantly abundant qi of yin-dampness from the combination of the sea-bordering location and low-lying lands there. Through the phrase *you* (由 reason), we can see that Li Qiu attributed the occurrence of the disorder of coldness and heat to a conflict between the qi of yang-heat and the qi of yin-dampness.

In comparison, in Chen Ziming’s aetiology of *zhang* disorders discussed in Chapter Two, although Chen also mentioned the heat, especially hot weather, in Liangguang (in Guangdong and Guangxi provinces), the factors he considered to be *zhang*-inducing were poisonous qi (*du qi* 毒氣), stench (*chou* 臭), and foulness (*hui* 穢). In Li Qiu’s aetiology above, Li not only devoted his discussion to the environmental features (such as the quality of land), but he

⁹ *Yan fang* 炎方 in the Tang and Song literature usually referred to the south (but not strictly to Lingnan only). For example, *Heroic Flowers from a Literary Garden* (*Wenyuan yinghua* 文苑英華, 982-986), *juan* 273, p. 1382-2; *juan* 278, p. 1410-2; *juan* 297, p. 1512-2; *juan* 601, p. 3121-2; *juan* 668, p. 3434-2; *juan* 721, p. 3732-2; *juan* 725, p. 3759-1; *juan* 727, p. 3772-1; *juan* 987, p. 5190-2. *Quan Song shi*, *juan* 244, p. 2824; *juan* 1118, p. 12702. However, neither the Tang nor the Song authors explained explicitly the use of this term in reference to the south. It is therefore difficult for us to infer if it is because the south was usually regarded as a direction of the fire phase in terms of the five agents or because the southern land was considered to be of hot quality, or other reasons.

also applied different terms—yin and yang—to explain the disorder of coldness and heat. The following analysis of Li Qiu’s aetiology of *zhang* will take a closer look at how Li Qiu described the bodily experience of the environment in Lingnan in cosmological terms, as well as how he explained the way in which the conflict between the qi of yang-heat and that of yin-dampness brought about the disorder of coldness and heat.¹⁰

The aetiology in this quotation and indeed most of the aetiologies of *zhang* discussed in this thesis could be synthesized in the notion of “correspondence between microcosm-body and macrocosm-cosmos” coined by scholars working on medicine in China.¹¹ However, previous studies on medicine in Imperial China have rarely attempted to decipher how bodily experience of the environment served to substantiate this correspondence. The following discussion of the increasingly prominent role of bodily experience of the regional environmental in Song *zhang* medicine will shed new light on this thus-far unexplored issue.

¹⁰ The search results for the phrases *yang ao* 陽燠 (yang-heat) and *yin shi* 陰濕 (yin-dampness) on the *Wenyuange Siku qianshu neilian wangban* (文淵閣四庫全書內聯網版 the intranet version of the Wenyuange edition of the *Siku quanshu*) show that in the literature collected under the title *Siku quanshu* (四庫全書 The Complete Books of the Four Storehouses) the phrases *yang ao* and *yin shi* did not appear until medical texts composed later than Li Qiu’s *On Zhang Nüe*. Similar to the usage in Li Qiu’s *On Zhang Nüe*, in those later medical texts, the two terms referred to the environmental features in the south.

¹¹ The notion “microcosm-macrocosm correspondence” is foregrounded by Sivin (1987) and attributed to the concept “systematic correspondence” which is proposed by Porkert (1974) and later elaborated by Unschuld (1985/2010). Sivin (1995) further shows that in the Han, this correspondence was consciously used by some philosophers and authors of the *Inner Canon* to link the harmony of cosmological forces, effective governance of an emperor and his bureaucratic system, with good conditions of the body so as to legitimise the ruling of the Han Empire.

After proposing the abovementioned aetiology, Li Qiu then linked multiple bodily experiences of the environment in Lingnan to the qi of yang-heat and the qi of yin-dampness so as to validate the perception he had made. In his opinion, the constantly dispersing qi of yang-heat meant that there were flowers blossoming over all four seasons and no snow in the winter. Summer heat (*shu re* 暑熱) occupied a period of over half a year in Lingnan. The strength of the sunshine was so strong that people were still using fans even in the winter.¹² The qi of an inhabitant's body often went upward and gathered (*qi duo shang yong* 氣多上壅). People had considerable sweat exuding through the skin (*fu duo han chu* 膚多汗出) and an untight skin pore pattern (*couli bumi* 腠理不密).¹³ Due to the abundant qi of yin-dampness, the period of steaming and dampness occupied over six months of a year (*yisui zhi jian, zheng shi guo ban* 一歲之間，蒸濕過半). However, it was not excessively hot during the three ten-day periods of the hot seasons (*sanfu* 三伏). After several days of rain during midsummer, the weather would turn chilly to the extent that people would wear fur. There was frequently mold on food, clothes, and drugs. Hence, the southerners would often feel that their limbs and body were heavy and fatigued (*zhi ti zhong juan* 肢體重倦), and they suffered from foot qi disorders.¹⁴ Moreover, Li Qiu proclaimed that given that yin qi and yang qi were off-balanced (*pian* 偏) and attacked each

¹² *Lingnan weisheng fang*, p. 1.

¹³ *Lingnan weisheng fang*, p. 2.

¹⁴ *Lingnan weisheng fang*, p. 2.

other (*xiang bo* 相薄), the weather changed several times in a single day. For example, it would be hot in the morning but chilly at night. A sunny day could be hot but a cloudy and rainy day would be cold.¹⁵

In my reading, the phenomena listed above reveal Li Qiu's attempt to associate his environmental experience of the heat, dampness, and unpredictable weather in Lingnan with his perception of disorders or his bodily experience of ailments, e.g. feeling fatigued. To better understand the obvious role of bodily experience, Table 3.1 lists the bodily experience of the environment in Lingnan, which Li Qiu observed or experienced in person, with both a standard environment and one associated with disorders so as to highlight how Li Qiu regarded ways in which the environmental features affected the normalized bodily experience and the experience relating to disorders.

¹⁵ *Lingnan weisheng fang*, p. 2.

Table 3.1 The association between the environment, yin-yang configuration, bodily experience, and disorders in Li Qiu's *On Zhang Nüe*

no.	environmental features in Lingnan	reasons for forming the environmental features	inhabitants' bodily experience of the environmental features	disorders or bodily experience of ailments
1	hot weather	the dispersing qi of yang-heat	<ol style="list-style-type: none"> 1. over six-month of the period of summer heat 2. the use of fans in the winter 	<ol style="list-style-type: none"> 1. upward-going-and-gathered qi of the body 2. considerable sweat and subsequently an untight skin pore pattern
2	dampness	the abundant qi of yin-dampness	<ol style="list-style-type: none"> 1. over six-month of the period of steaming and dampness 2. not excessively hot during the three ten-day periods of the hot seasons 3. chilly weather and 	<ol style="list-style-type: none"> 1. heavy and fatigued limbs and body 2. suffering from foot qi

			wearing fur after
			several days of rain
			in midsummer.
		4.	frequently moldy

3	changes in	the yin qi and	1. hot in the morning
	weather in a	yang qi that	but chilly at night
	single day	were slanting	2. a sunny day which
		and attacked	could be hot but a
		with each	cloudy and rainy
		other	day which could
			be cold

Looking at Table 3.1, which is based on Li Qiu's *On Zhang Nüe*, three points in Li Qiu's statement deserve our attention. First of all, for each of the three environmental features, Li Qiu proposed at least two examples of normalized bodily experiences of Lingnan in order to illustrate the features and the configuration of the yin qi or yang qi causing them. This highlights the importance of bodily experience acting as evidence of one's argument about disorders in the regional environment. Secondly, the environmental features in Lingnan that were identified by Li Qiu were very similar to Chen Ziming's perception of the features in Liangguang, given that both of them indicated the hot weather, dampness, and rapid hot or cold changes in weather in a single day. Thirdly, unlike Chen Ziming's use of the concepts of poisonous qi,

stench, and foulness, Li Qiu explicitly applied the concepts of yin and yang to explain the formation of environmental features and subsequently normal and disordered bodily experiences.

After introducing the phenomena above, Li Qiu spoke of the influence of yin-dampness and yang-heat in Lingnan on an inhabitant's bodily constitution:

The one qi of a person connects with Heaven and Earth. As the qi of Heaven and Earth works in this way, those who live between them [i.e. Heaven and Earth] are prone to frequently suffer from disorders of coldness and heat. Moreover, as the yang-heat disperses, it renders a person's original qi (*ben qi*) infirm. Yang does not go downward and constantly floats above. This is why the sick are typically compressed (*yu*) and stuffy (*men*) in their upper chest cavity, as well as depleted and upset (*fan*) in their chest. As yin-dampness is abundant, it renders the humans' lower parts cold. Yin does not go upward and constantly sinks and descends. This is why the sick typically are heavy and have pain in the lower back (*yao*) and knees, and their legs and feet cold and numb (*jue*).

人之一氣，與天地通。天地之氣既爾，則居其間者，宜其多寒熱疾也。又陽燠既泄，則使人本氣不堅。陽不下降，常浮於上，故病者多上腕鬱悶，

胸中虛煩。陰濕既盛，則使人下體多冷。陰不上騰，常沉而下，故病者多腰膝重疼，腿足寒厥。¹⁶

In Li's explanation here, the configuration of the qi of yang-heat and that of yin-dampness systematically resonated with aspects of disorders in the body. For instance, the 'constantly floating above' qi of yang-heat gave rise to disorders in the upper body parts (such as the upper chest cavity); the sinking qi of yin-dampness brought about disorders in what are relatively lower body parts (such as the lower backs, knees, and legs).

More notably, when explaining the aetiology of various symptoms or disorders in *On Zhang Nüe*, Li Qiu seldom used the term yin and yang alone in reference to the external yin-yang configuration in Lingnan. Instead, the phrases that were applied in his discussion most frequently were the yang-heat and yin-dampness. One may argue that heat was and is classified as one phase or quality under the category of yang, and the same can be said for the dampness of yin. However, I contend that besides this enduring classification, the heat and dampness in these two phrases also encompasses the particular heat and dampness of the environment in Lingnan, given that Li Qiu gave a lengthy description of how the bodily experience of phenomena there substantiated his connection between the environmental features, the yin-yang configuration, the phenomena, and disorders in Lingnan (see Table 3.1, especially no. 1 and 2). In other words, considering the written attention

¹⁶ *Lingnan weisheng fang*, pp. 2-3.

devoted to the environmental features and related normalized bodily experience of these features, I believe that the phrases yang-heat and yin-dampness embody an entanglement between cosmological concepts and experienced region-specific environmental features.

Only when recognizing this interconnection between cosmological notions and experienced region-specific environmental features embedded in the phrases yang-heat and yin-dampness, can we see that the resonance between disorders in Lingnan and the configuration of the qi of yang-heat and the qi of yin-dampness crucially engaged with those perceived features. It is through this crucial engagement that the role of bodily experience of the regional environment stands out.

The resonance between the configuration of yang-heat and yin-dampness and the disorders in the upper or lower body parts in the previous quotation is even more evident in the following citation:

I observe *zhang* disorders in Lingnan: although symptoms may not be the same, the great majority of cases are where yin and yang respectively do not go up and down. [Those] suffering heat in the upper and coldness in the lower parts are eight or nine cases out of ten. Moreover, in a person's whole body, the upper burner belongs to the Fire of *bing* and *ding*, the middle burner to the Earth of *wu* and *ji*, the lower burner to Water of *ren* and *gui*. The upper [part of the body] is certainly constantly hot; the lower part is certainly constantly cold. In

addition, [the inhabitants in Lingnan] are further resonated with the disharmonious qi of yang-heat and yin-dampness, naturally they often suffer a syndrome of heat in the upper and coldness in the lower parts.

余觀嶺南瘴疾:證候雖或不一，然大抵陰陽各不升降。上熱下寒者，十有八九。況人之一身，上焦屬丙丁火，中焦戊己土，下焦壬癸水。上固常熱，下固常冷。而又感此陽燠陰濕不和之氣，自多上熱下寒之證也。¹⁷

There are two noteworthy points in this quotation. First of all, Li Qiu particularly noted that it was his personal observation (*yu guan* 余觀) that the majority of disorders in Lingnan concerned heat in the upper body parts and coldness in the lower ones. Here we see how observation served as one type of evidence for medical knowledge.

Secondly, the resonance of the qi of yang-heat and the qi of yin-dampness with the body goes even further. In the last quotation (see note 16 on page 115), the resonance existed between the disorders of heat in the upper and coldness in the lower body parts and the configuration of yang-heat and yin-dampness in the environment. In this quotation, the resonance very clearly extended to the bodily constitution through concepts of the ten celestial stems (*tiangan* 天干, e.g. *bing*, *ding*, *wu*, *ji*, *jia*, *yi*) and the five agents (*wuxing*). Li Qiu used these concepts to introduce his opinion that the human body was originally constantly hot in the upper and simultaneously cold in the lower body parts since the body was configured so that the upper burner

¹⁷ *Lingnan weisheng fang*, p. 3.

belonged to the Fire of *bing* and *ding*, the middle burner to the Earth of *wu* and *ji*, the lower burner to Water of *ren* and *gui*.¹⁸

Li Qiu claimed that the configuration of the qi of yang-heat and the qi of yin-dampness in Lingnan affected this bodily configuration, thereby emphasizing the original division in the body; that heat was in the upper and coldness in the lower body parts. This emphasis finally gave rise to the syndrome of heat in the upper and coldness in the lower body. After this quotation, Li Qiu criticized the inept physicians in Lingnan who failed to notice such an obvious connection between this configuration of the yang-heat and yin-dampness in Lingnan and the specific symptoms of *zhang*.¹⁹

In short, in the previous analysis, I have demonstrated that in two related areas, we can observe the significant role of bodily experience of the environment in Lingnan in informing the aetiology of *zhang*. The first, and more direct, aspect is that Li Qiu by and large used his observation of inhabitants' experience to substantiate his resonance between the environmental features, multiple phenomena (see Table 3.1), various symptoms of *zhang* which were synthesized by Li Qiu as the syndrome of heat in the upper body parts and coldness in the lower ones, and the

¹⁸ Among the extant medical literature up to Song times, I have found no sources that remain regarding this notion of three burners belonging to a specific phase of the five agents and to two phases of the ten celestial stems, even though Li Qiu stated that it was a commonly acknowledged idea.

¹⁹ Further implications of the correspondence proposed by Li Qiu to prescription practice will be discussed in Chapter Four. In this chapter, I focus on the aetiology of *zhang*.

region-specific configuration of qi bringing about the features. The configuration is a conflict between the dispersing and floating qi of yang-heat and the abundant and sinking qi of yin-dampness.

The second, and less explicit, aspect concerns the notion of yang-heat and yin-dampness. As I have argued through the close textual analysis in this section, the concepts and phrases of yang-heat and yin-dampness testify to an interconnection between cosmological notions and experienced region-specific environmental features. In this sense, the yang-heat and yin-dampness configuration as a pivot giving rise to a myriad of environmental features and *zhang* disorders also in turn demonstrates the significance of the experienced environmental features and the yin/yang “bodily experience” used to verify features in medicine.

Before moving to the further implications of this resonance for Li Qiu’s prescription strategy, in the following two sections I will first compare Li Qiu’s aetiology above with other medical literature mentioning the aetiology of *zhang* up to Song times, in order to show that the explication of experience and perception of the environmental in Lingnan occupied a relatively more prominent role in the early Southern Song formulary about *zhang* medicine.

3.2 Latent Experienced Environmental Features in Lingnan: Sui and Tang Medical Literature about *Zhang*

Although the authors of extant Sui and Tang medical literature also regarded the heat and dampness in Lingnan as one of *zhang*-inducing conditions, the majority of the Sui and Tang authors rarely gave any indication of bodily experience of the environment there, even though some of them did stay in the regions considered to be *zhang*-endemic at the time. In this sense, the dimension of bodily experience of the regional environment is rather difficult to discern in the aetiology of *zhang* in these Sui and Tang medical genres. In the following section, I will demonstrate my above observations by analyzing the aetiology of *zhang* in Lingnan prior to the Northern Song.

Aetiologies of *zhang* as Lingnan-specific disorders in medical literature can be traced back to the *Treatise on the Origins and Symptoms of Various Disorders* of 610. This treatise was compiled by the medical official Chao Yuanfang 巢元方 and his team under an edict from Emperor Yang 楊 (569-618, r. 604-618). The collection was intended to be a comprehensive medical text that would include the origins of disorders.²⁰ Later extant formularies before the twelfth century generally followed the aetiology of *zhang* provided in the *Treatise on*

²⁰ Okanishi (1958/2010: 499-501).

the Origins and Symptoms of Various Disorders with little alteration; remarkable differences did not appear until the very late Northern Song.

There are two entries in the *Treatise on the Origins and Symptoms of Various Disorders* describing the aetiology of *zhang*: the entry on the symptoms of *zhang qi* 瘴氣 under the section on “epidemic pestilences” (*yi li* 疫厲) as well as that of mountain *zhang nüe* (*shan zhang nüe hou* 山瘴瘡候) under the section on *nüe* (intermittent fevers).²¹ I will discuss these two entries in sequence. The entry on *zhang qi* speaks of the aetiology as follows:

Qingcao zhang [literally, blue green grass *zhang*] and *huangmang zhang* [literally, yellow floss-grass *zhang*] in Lingnan are similar to Cold Damage disorders in Lingbei region [i.e. the north of the Ling ranges].²² The southern land is warm, and this is why in the period of major *yin* (*tai yin*), grass and [leaves] of trees will not become yellow or fall. Dormant insects are not closed off to hide away [i.e. do not hibernate]. Miscellaneous types of poison arise because of the warmth.

夫嶺南青草、黃芒瘴，猶如嶺北傷寒也。南地暖。故太陰之時，草木不黃落，伏蟄不閉藏。雜毒因暖而生。²³

Two points in this quotation are noteworthy. Firstly, the environmental features identified here were the warmth of the southern land, which can be

²¹ *Zhubing yuanhou lun*, *juan* 10, pp. 336-338; *juan* 11, p. 355.

²² According to the Descriptions of the *Herbaceous Plants and Trees of the Southern Quarter* (*Nanfang caomu zhuang* 南方草木狀) composed by Ji Han 嵇含 (263-306), *huangmang zhang* 黃芒瘴 [literally, yellow floss-grass *zhang*] was named because it occurred during the period when floss-grass were withered. *Nanfang caomu zhuang*, p. 257.

²³ *Zhubing yuanhou lun*, *juan* 10, pp. 336-337.

observed in the description of the leaves of trees not falling, and insects not hibernating in the period of major yin (i.e. in the winter). The warmth would give rise to miscellaneous types of poison.²⁴ Unfortunately, no hard evidence remains to show whether the compilers of this medical collection had been to Lingnan in person. This lack of evidence makes any inferences regarding the extent to which the warmth described in this quotation was derived from bodily experience of the regional environment uncertain.

The second noteworthy point is that *zhang qi* in Lingnan was considered to be comparable to Cold Damage disorders in Lingbei (i.e. the north to the Ling ranges). This comparison not only concerned the similarities and differences between the aetiology of and treatments for *zhang* and Cold Damage disorders since they were documented in the Sui and beyond, but more importantly pertained to how the Song authors extended Cold Damage medicine to *zhang* medicine. I will analyze the Song authors' discussion about the extension of the aetiology of and treatments for Cold Damage disorders to *zhang* medicine in Chapter Five, after addressing the aetiology of *zhang* in this chapter and treatments for *zhang* in Chapter Four.

²⁴ The character *du* 毒 in Imperial Chinese medicine could refer to both poison (or toxicity) and potency. Given the multiple references of *du*, the above quotation has given rise to two possible interpretations. First, if the *du* in the quotation referred to poison, the aetiology of *zhang* would be that the warmth generated miscellaneous types of poison. Second, if the *du* referred to potency, the aetiology would be that the potent warmth jeopardised the health of the body. However, since the second interpretation cannot fit the last sentence in this quotation, especially the phrase *za du* 雜毒, the first is adopted in this thesis. The concept of *du* in Chinese pharmacotherapy usually indicates both poison and potency. On *du* in reference to poison (or toxicity) and to potency of Chinese knowledge about drugs, see Unschuld (1986: 165-166, 286). Although Frédéric Obringer (1997) discuss toxic/potent drugs of pre-modern China in his French monograph, I cannot consult it due to language.

Unlike the aforementioned entry on *zhang qi*, which concerned warmth and poison, the entry on mountain *zhang nüe* in the *Treatise on the Origins and Symptoms of Various Disorders* paid much more attention to the qi of dampness and poison in Lingnan. The beginning of this entry indicated that mountain *zhang nüe* occurred in Lingnan and the symptoms were of feeling coldness and heat intermittently. It claimed that the disorder “all resulted from the qi of damp poison (*shi du qi*) in mountain streams and mountain peaks and barriers (*zhang*)” (*jie you shanxi yuanling zhang shi du qi gu ye* 皆由山溪源嶺嶂濕毒氣故也).²⁵ Like the previous entry on *zhang qi*, this entry on mountain *zhang nüe* made no mention of the degree to which the aetiology was derived from bodily experience and perception of Lingnan.

Moving to Tang times, the large-scale formulary *Arcane Essential Formulas from the Imperial Library* (*Waitai biyao fang* 外臺祕要方) also mentioned the aetiology of *zhang*. It was compiled by Wang Tao 王燾 (702-772) and was presented to the central government in 752. According to Wang Tao’s preface to this formulary, Wang Tao once suffered from *zhang* in Fangling 房陵 (in Hubei province). This experience of suffering *zhang* prompted him to compile a collection of medical formulas.²⁶ Wang Tao, taking advantage of his access to the Imperial Library (*hongwen guan* 弘文館) as an official, collected a considerable number of the medical formulas in the library and brought them

²⁵ *Zhubing yuanhou lun*, *juan* 11, p. 355.

²⁶ *Waitai biyao fang*, p. 4.

together to make the *Arcane Essential Formulas from the Imperial Library*.²⁷ In Wang's collection, records referring to *zhang* appeared in nineteen formulas devoted to mountain *zhang nüe* under the section of *nüe* (intermittent fevers).²⁸

Among the 19 formulas, Wang Tao explained the aetiology of *zhang* in only one formula. This formula is attributed to the earlier Tang formulary *Essential Formulas Worth a Thousand, for Urgent Need* (*Beiji qianjin yaofang* 備急千金要方) which was composed by the eminent Tang physician Sun Simiao 孫思邈 (ca. 581-682) no later than 659.²⁹ Nonetheless, in Sun Simiao's extant medical works, not one entry introduced the aetiology of *zhang*. Sun Simiao's extant works consist only of medical formulas to treat *zhang* under headings for different disorders.³⁰ The introduction to the aetiology of the mountain *zhang nüe* in the *Arcane Essential Formulas from the Imperial Library* was as follows:

²⁷ Ma Jixing (1990: 169).

²⁸ *Waitai biyao fang*, *juan* 5, pp. 83-86. Although the *Arcane Essential Formulas from the Imperial Library* contains other prescriptions against *zhang*, none of them introduced its aetiology.

²⁹ For bibliographical information on Sun Simiao's works, see Ma Jixing (1990: 161-169).

³⁰ In each section of the *Essential Formulas Worth a Thousand, for Urgent Need*, Sun Simiao typically gave his opinions on the disorders or symptoms before offering corresponding medical formulas. After compiling this medical collection, Sun Simiao put together another formulary *Supplementary Prescriptions Worth a Thousand* (*Qianjin yifang* 千金翼方). Unlike the format adopted in the *Essential Prescriptions Worth a Thousand, for Urgent Need*, Sun Simiao in the *Supplementary Prescriptions Worth a Thousand* listed the formulas without further elaboration. The *Formulas at the Heart of Medicine* (*Ishimpō* 醫心方) was compiled by Tanba Yasuyori 丹波康賴 (912-995) between 982 and 984 in Japan and presented to the court in 986. Tanba Yasuyori, a physician at the Japanese court of the Heian period (ca. 794-1194), selected and transcribed Chinese medical writings up to Tang times, and then compiled them into the *Formulas at the Heart of Medicine*. According to Ma Jixing (1990: 207), in the thirty chapters of the *Formulas at the Heart of Medicine*, Tanbo Yasuyori cited 204 Chinese medical works. Although this Japanese medical collection contains a considerable number of the medical formulas in China by the tenth century, it records only four formulas to treat *zhang* (*Ishimpō*, *juan* 13, p. 532; 14, pp. 567, 573; 19, p. 803), without explanation on the aetiology of *zhang*.

Zhang and *nüe* are distinguished by two names, but their (*qi*) reality (*shi*) is the same.³¹ Some first feel cold and later hot, some first feel hot and later cold. In Lingnan, they are all called *zhang*; in the north of the [Yangzi] River they are all called *nüe*.³²...Nevertheless, the south is warm and poisonous, and this disorder is more serious. Unfolding the origins of this disorder, there are approximately four. One is the poisonous *qi* of mountain streams. The second is wind (*feng*), warmth (*wen*), [swallowing] phlegm (*tan yin*). The third is to be added [i.e. encountered] by ghosts and pestilences. The fourth is the manifestation of hot poison. Among these, hot poison is the most serious.

夫瘴與瘧，分作兩名，其實一致。或先寒後熱，或先熱後寒。嶺南率稱為瘴，江北總號為瘧。...然南方溫毒，此病尤甚。原其所歸，大畧有四：一山溪毒氣，二風溫痰飲，三加之鬼癘，四發以熱毒。在此之中，熱毒最重。

33

Notably, the first sentence in this quotation made the explicit claim that *zhang* and *nüe* were considered to be the same disorder but given different names because of the variations in medical language between the northern and southern regions of the Yangzi River. This comment viewed mountain *zhang*

³¹ The phrase *qi shi yizhi* 其實一致 could possibly be translated as “in reality they are the same.” However, the following sentences in this quotation indicate that *zhang* disorders are more severe in Lingnan. The difference in the severity of the disorders suggests that *zhang* in the south of the Ling ranges and *nüe* in north of the Yangzi River were not thought to be exactly the same. Given this suggestive difference, I chose to translate the phrase *qi shi yizhi* as “their reality is the same.”

³² Translation of this sentence is adopted from Hinrichs (forthcoming).

³³ *Waitai biyao fang, juan 5*, p. 84.

nüe as not geographically bound in those southern regions. This entry proposes four possible situations that can bring about *zhang*. The heat in Lingnan is only one of them even though the warmth and poison in the south made this disorder more serious. After this quotation, the entry focuses on different treatments for *zhang* and *nüe* respectively rather than elaborating on the perception of Lingnan.

The concept that dampness could give rise to *zhang* can also be found in the *materia medica* *A Supplement to Materia Medica* (*Bencao shiyi* 本草拾遺), which was written by the Tang physician Chen Cangqi 陳藏器 (681-751).³⁴ Although *A Supplement to Materia Medica* does not remain as an independent book, the entry on water qi (*shui qi* 水氣) was incorporated into a later *materia medica* privately re-printed in 1249, entitled the *Revision of Materia Medica of the Zhenghe Reign, Classified and Verified from the Classics and Histories* (*Chongxiu Zhenghe jingshi zhenglei beiyong bencao* 重修政和經史證類備用本草, hereafter, the *Revision of Materia Medica of the Zhenghe Reign*).

As the *Revision of Materia Medica of the Zhenghe Reign* consists of the main source of *materia medica* that this thesis utilizes, I shall introduce it in further detail. This thirteenth-century *materia medica* consisted of two Northern Song *materia medica*: the *Elucidation of the Meaning of Materia Medica* (*Bencao yanyi* 本草衍義), which was composed by an official Kou Zongshi 寇宗奭 in 1116 and published in 1119, the *Newly Revised Materia Medica of the Zhenghe Reign*,

³⁴ *Chongxiu Zhenghe jingshi zhenglei beiyong bencao*, juan 5, p. 140.

Classified and Verified from the Classics and Histories (*Zhenghe xinxiu jingshi zhenglei beiyong bencao* 政和新修經史證類備用本草, hereafter, the *Materia Medica of the Zhenghe Reign*). The *Materia Medica of the Zhenghe Reign* were government-published and -revised versions of the *Materia Medica Classified and Verified from the Classics and Histories, for Urgent Need* (*Jingshi zhenglei beiji bencao* (經史證類備急本草), which was composed on the private initiative of Tang Shenwei 唐慎微 in 1082-1098, an eminent physician originating from Sichuan province.³⁵ Tang Shenwei's *materia medica*, inscribing many Tang and Northern Song *materia medica* now are lost, was revised, enlarged, and published by the Northern Song government in 1108 by Sun Di 孫覲 and in 1116 by Cao Xiaozhong 曹孝忠.³⁶

In the entry on water qi reserved in the *Revision of Materia Medica of the Zhenghe Reign*, Chen Cangqi claimed that both *zhang* and *niie* (intermittent fevers) resulted from the dampness which was particularly serious in the earth (*tu*) in the south (*nan tu you shen* 南土尤甚). He also pointed out that although symptoms of intermittent coldness and heat could be roughly considered to be a *zhang* disorder, the resulting treatments should be further

³⁵ According to Ma Jixing (1990: 276) research, Tang Shenwei completed the initial version of this text in 1082 and then added newly collected information into this version until its final version approximately in 1098.

³⁶ Besides the publication conducted by Sun Di and Cao Xiaozhong, Tang Shenwei's *Materia Medica Classified and Verified from the Classics and Histories, for Urgent Need* was printed several times in the Song by private publishers. The bibliographical information on the *Revision of Materia Medica of the Zhenghe Reign*, Tang Shenwei's work, and Kou Zongshi's *Elucidation of the Meaning of Materia Medica* is all based on Ma Jixing (1990: 275-278).

differentiated. Chen Cangqi did not elaborate as to how his bodily experience inspired his aetiology.

To sum up, the Sui and Tang aetiology above differs from Li Qiu's in two ways. First of all, the aforementioned Sui and Tang medical literature rarely explicated how far their bodily experience of the regional environment informed the aetiology. To be sure, the Tang authors of formularies did emphasize experience knowledge; however, their way of emphasis is indicating that therapies collected in their works had been proven to be medicinal effective in practice in the titles of the recipes (such as, *yanfang* 驗方 [literally, effectiveness-proven formulas]) or of the formularies (*ji yanfang* 集驗方 [literally, collection of effectiveness-proven formulas]), as shown in Fan Ka-Wai's research.³⁷

Secondly, the Sui and Tang aetiology did not document the specific symptoms of *zhang*, which were attributed to the identified environmental features in Lingnan.³⁸ Interestingly, although the aim of the *Treatise on the Origins and Symptoms of Various Disorders* was to offer a comprehensive introduction to the origins and symptoms of disorders, this large-scale medical collection did not focus on the aetiology. One might say that they did not pay attention to the symptoms. Alternatively, it is likely that the pre-Song

³⁷ Fan (2007: 147-168).

³⁸ Smith's (2008: 42) dissertation on foot qi observes a similar tendency that the Sui and Tang authors of medical works did not link the disorder-inducing conditions of foot qi to its specific symptoms.

authors of medical literature had not cultivated an explanatory mode that was in favor of developing and fleshing out their medical ideas explicitly; especially in terms of explaining their bodily experience of the regional environment in detail to verify their medical opinions.

3.3 Latent Experienced Environmental Features in Lingnan:

Other Northern Song Medical Literature about *Zhang*

Extant Northern Song medical literature about *zhang* in Lingnan rarely explicated how an author's bodily experience informed or affirmed his opinions on *zhang* medicine. In the following pages of this section, I analyze two important large-scale Northern Song formularies to support my observation.

The early Northern Song aetiology of *zhang* in Lingnan: an example of the disorder of *zhang* poison and foot *qi*

Extant early Northern Song medical literature mainly followed the explanation of *zhang qi* and mountain *zhang nüe* introduced in the above Sui and Tang medical texts; particularly those presented in the *Treatise on the Origins and Symptoms of Various Disorders*. Although Smith in her dissertation regards the accounts of the disorder of *zhang* poison and foot *qi* (*zhang du jiao qi* 瘴毒腳氣) in the early Northern Song as an innovation of foot *qi* medicine, I

does not view those early Northern Song accounts as a remarkable development of the aetiology of *zhang*. In the following paragraphs, I will indicate historical conditions that support my viewpoint.

The accounts of the disorder of *zhang* poison and foot qi are inscribed in the 21 formulas for treating the disorder of the *zhang* poison and foot qi in Jiangdong and Lingnan (*zhi Jiangdong Lingnan zhang du jiao qi zhufang* 治江東嶺南瘴毒腳氣諸方) in the early Northern Song court-commissioned *Taiping Era Formulas of Sagely Grace*.³⁹ The entry proposed that the land in Jiangdong was low-lying and damp. Between spring and summer, wind poison (*feng du* 風毒) became abundant (*sheng* 盛).⁴⁰ Moreover, dampness and steaming arose from mountains and water, and thus there was much *zhang* poison (*shanshui shi zheng, zhi duo zhang du* 山水濕蒸，致多瘴毒). The qi of wind and dampness arose from the land, which would easily damage people (*feng shi zhi qi, cong di er qi, yi shang yu ren* 風濕之氣，從地而起，易傷於人). Here the identified environmental feature in Jiangdong and Lingnan is the dampness.

As Smith indicated, the disorder of *zhang* poison and foot qi was recorded among multiple types of foot qi recorded in the *Taiping Era Formulas of Sagely Grace*.⁴¹ For instance, another type of foot qi included in the formulary was wet versus dry foot qi (*gan shi jiao qi* 乾濕腳氣); the former would make patients' feet swell (*zhong* 腫) and the latter would not. Smith puts the

³⁹ *Taiping shenghui fang*, juan 45, pp. 1385-1388, and *Shengji zonglu*, juan 84, pp. 697-699.

⁴⁰ *Taiping shenghui fang*, juan 45, p. 1385.

⁴¹ Smith (2008: 105-107).

appearance of multiple types of foot qi in that formulary into a context; that is, the *Taiping Era Formulas of Sagely Grace* was the first extant formulary that not only divided foot qi into panoply of “mutually exclusive” types, but also grouped the formulas for treating foot qi in accordance with its symptoms. She infers that by categorizing foot qi into an array of different types, the Northern Song central government offered readers a limited range of possible diagnoses of foot qi. This would help the readers to find corresponding formulas and treat themselves more easily without relying on a physician’s diagnosis.⁴²

However, Smith’s acknowledgement of the presence of the section of *zhang* poison and foot qi in the *Taiping Era Formulas of Sagely Grace* being related to the Northern Song government’s efforts to disseminate easy-to-apply formulas does not take the likelihood of earlier existing records of this disorder into account. In other words, the appearance of this disorder in the *Taiping Era Formulas of Sagely Grace* may not completely result from the promotion of easy-to-apply medical formulas by the Northern Song government. Rather, records of the disorder may have appeared earlier.

Firstly, when talking about *zhang* poison and foot qi in the *Taiping Era Formulas of Sagely Grace*, Smith pays little attention to the section in the middle-eighth-century *Arcane Essential Formulas from the Imperial Library* which bore a similar title “the alcohol, decoction, and powder formulas

⁴² Smith (2008: 105-107).

against *zhang qi* and foot qi in Lingnan” (*Lingnan zhang qi jiao qi jiu tang san fang* 嶺南瘴氣腳氣酒湯散方). The phrase *zhang qi jiao qi* (literally, *zhang qi* and foot qi) in the Tang formulary is similar to the phrase *zhang du jiao qi* (literally, *zhang* poison and foot qi) in those of the Northern Song.⁴³

Moreover, Smith does not address the extent to which the idea of categorizing *zhang* poison and foot qi as one type of foot qi disorder in the *Taiping Era Formulas of Sagely Grace* was inspired by medical formulas circulated during the Five Dynasties and Ten Kingdoms (907-960), given that those formulas constituted a major part of the medical recipes collected in this Northern Song formulary. According to the preface composed by Emperor Taizong 太宗 (939-997, r. 976-997), the formulas had two origins. One was Taizong’s personal collection, of which there were approximately one thousand. Another was family-transmitted and efficacy-approved formulas held by physicians in the medical office of the Hanlin Academy (*Hanlin yiguan yuan* 翰林醫官院), of which there were more than ten thousand. A mission to collect the formulas began in 982 when Taizong issued a decree to Wang

⁴³ Admittedly, there were some differences between the section on the disorder of *zhang qi* and foot qi in the Tang *Arcane Essential Formulas from the Imperial Library* and the section on the disorder of *zhang* poison and foot qi in the Northern Song *Taiping Era Formulas of Sagely Grace*. Among the thirteen formulas in the former, ten were to treat foot qi, one for *zhang qi*, and the remaining two to treat both *zhang qi* and foot qi. In the latter, twelve out of thirteen formulas were said to treat “*zhang* poison and foot qi” in their titles. This difference implies that the latter possibly regarded “*zhang du jiao qi*” (*zhang* poison and foot qi) as a reference to one disorder. *Taiping shenghui fang*, juan 45, pp. 1385-1388.

Huaiyin 王懷隱 to compile a comprehensive formulary.⁴⁴ After ten long years, Wang Huaiyin completed a large-scale formulary, which consisted of as many as 16,834 formulas that later bore the title “*Taiping Era Formulas of Sagely Grace*.” As the compilation began at the very start of the Northern Song dynasty, the majority of the collected formulas were supposed to have been composed by the early tenth century during the period of the Five Dynasties and Ten Kingdoms. Given these two reasons above, a closer association between *zhang* poison, foot qi, and the regions of Jiangdong and Lingnan had perhaps already evolved between the late Tang and early Northern Song period. In other words, before viewing the nosology of the disorder of *zhang* poison and foot qi in Jiangdong and Lingnan as a Northern Song innovation in medicine, a closer investigation of the association between this nosology and its earlier precedents is required.

The late Northern Song aetiology of *zhang*: entries in the *Sagely Benefaction Medical Encyclopedia*

The remarkable difference between the previous Sui-Tang and early Northern Song expressions of the aetiology of *zhang* reveals itself in the *Sagely Benefaction Medical Encyclopedia of the Zhenghe Reign Period* (*Zhenghe shengji zonglu* 政和聖濟總錄, hereafter, the *Sagely Benefaction Medical Encyclopedia*).

⁴⁴ According to Ma Jixing (1990: 173), Wang Huaiyin had been a Taoist, then a medical official of the Hanlin Academy and the Chief Steward of the Palace Medical Service (*shangyao fengyu* 尚藥奉御) in the Northern Song central government.

This encyclopedia was compiled during the Xuanhe 宣和 period (1119-1125), but was not published in Song China because of the siege and fall of Kaifeng in 1126 by the Jurchens.⁴⁵ The aetiology of *zhang* in the *Sagely Benefaction Medical Encyclopedia* differs from the aforementioned Sui and Tang aetiology, by encompassing the quality of land in Lingnan and more cosmological terms.

Before developing my analysis of the aetiology of the *Sagely Benefaction Medical Encyclopedia*, an introduction to its bibliographical information is essential for understanding the formation of the aetiology. The authorship of the *Sagely Benefaction Medical Encyclopedia* was attributed to Emperor Huizong 徽宗 (1082-1135, r. 1100-1126). It is a large-scale collection of medical formulas at the end of the Northern Song dynasty. This work was part of Huizong's grand textual project which began with the *Canon of Sagely Benefaction* (*Shengji jing* 聖濟經, 1118), followed by the *Sagely Benefaction Medical Encyclopedia*. Recent scholarship has shown that this textual project, as part of a series of policies during the Zhenghe period (1111-1118), aimed to enhance the legitimacy of Huizong's governance against a background of overwhelming military pressure from the Jin in the north.⁴⁶ The *Canon of*

⁴⁵ Bibliographical information on the *Sagely Benefaction Medical Encyclopedia* is from Ma Jixing (1990: 173-176).

⁴⁶ Fan Ka-Wai (2013: 249-256). Goldschmidt (2006) puts the textual project of compiling these two medical collections in the context of Huizong's medical policies. Fan's recent conference paper (2013) shows that this textual project was embedded not only in medical policies, but more in a series of policies aimed at legitimating his governance. For instance,

Sagely Benefaction is no longer extant and only its Song preface remains, which was attributed to Huizong. The *Canon of Sagely Benefaction* preface indicated that through this canon of medical knowledge, Huizong aimed to “elucidate the principles of nature and fortune” (*yuan xing ming zhi li* 原性命之理) and to demonstrate his benevolence towards his people by elaborating on ideas in the *Inner Canon*.⁴⁷

To achieve this aim, in addition to compiling the *Canon of Sagely Benefaction*, Huizong ordered that as comprehensive a collection of medical formulas in Northern Song China be gathered as possible and compiled into the *Sagely Benefaction Medical Encyclopedia*. The Song preface to the *Sagely Benefaction Medical Encyclopedia* claimed that it ultimately consisted of almost 20,000 formulas.⁴⁸ Huizong stated that the *Canon of Sagely Benefaction* served as a way (*dao* 道) through which physicians could acquire a thorough understanding of the spirit (*shen* 神); the *Sagely Benefaction Medical Encyclopedia* acted as a means by which physicians could treat disorders effectively.⁴⁹ This design of the textual project indicates that the rationale of the *Sagely Benefaction Medical Encyclopedia* was deliberately grounded on the *Canon of Sagely Benefaction* and the *Inner Canon*.

Fan argued that Huizong tended to enhance the role of the *Inner Canon* by lifting it as a Daoist canon as important as the *Canon on the Way and Its Power* (*Dao de jing* 道德經).

⁴⁷ Okanishi (1958/2010: 998).

⁴⁸ Okanishi (1958/2010: 681). In comparison, the *Essential Prescriptions Worth a Thousand, for Urgent Need* consisted of 3,500 formulas; the *Arcane Essential Formulas from the Imperial Library* around 6,000; the *Imperial Grace Formulary of the Taiping Reign* of 16,834. These statistics are taken from a table in the monograph of Goldschmidt (2009: 118).

⁴⁹ Okanishi (1958/2010: 681).

The format of the *Sagely Benefaction Medical Encyclopedia* was that each section began with an introduction to the aetiology of disorders, followed by the medical formulas. After it had been compiled, the *Sagely Benefaction Medical Encyclopedia* did not circulate in Northern Song China as Huizong had intended. It was soon introduced into Jin territory and subsequently published in the North. Regardless of the fact that the *Sagely Benefaction Medical Encyclopedia* was never distributed in the territory of Southern Song China, this work still serves as a significant source for our understanding of Northern Song medicine because it collected a considerable body of medical formulas circulating at that time.

There are three entries in the *Sagely Benefaction Medical Encyclopedia* that introduced the disorder-inducing conditions of *zhang*, namely the entries on *zhang qi*, *zhang nüe* 瘴瘧, and *zhang* poison and foot qi (*zhang du jiao qi* 瘴毒腳氣). The first two appeared under the section on *nüe* disorders (*nüe ji* 瘧疾, intermittent fevers), and the last under foot qi disorders. To be general, in comparison with the two entries of *zhang qi* and *zhang* poison and foot qi in the *Sagely Benefaction Medical Encyclopedia*, the entry on *zhang nüe* bears less pronounced region-specific environmental features.

The entry on *zhang nüe* claimed that the name of the disorder was derived from its symptoms of intermittent coldness and heat, which was the same as the typical symptoms of *nüe* (intermittent fevers). The entry referred to a commentary which said (*zhuan wei* 傳謂) that “[in a landscape] where water

runs in between two mountains, there are many cases of *nüe*“ (*liang shan jia shui duo nüe* 兩山夾水多瘧).⁵⁰ The entry then explained that it was because there was more yin qi than yang qi in such places and as a result, the disorder of coldness and heat (*han re zhi ji* 寒熱之疾) often occurred. This aetiology of *zhang nüe* provided no information about which particular regions were considered to have this landscape.

In comparison with the entry on *zhang nüe*, the other two entries on *zhang qi* and *zhang* poison and foot qi in the *Sagely Benefaction Medical Encyclopedia* explicitly associate the aetiology with the environment in Lingnan. I will discuss which environmental features in Lingnan were identified and how they were linked to the occurrence of *zhang* disorders in the two entries in sequence. The entry on *zhang qi* begins with a commentary, which stated (*zhuan yan* 傳言) that “*zhang* is the qi of poison and pestilence from mountains and rivers” (*zhang zhe, shanchuan du li zhi qi* 瘴者，山川毒厲之氣).⁵¹ The commentary continued by saying that in or/and on water, mountains, and mist qi, there were many cases of *zhang* and it was for this reason that their qi was compressed and steamed (*jiang shan wuqi duo zhang, fan yi qi qi yu*

⁵⁰ *Shengji zonglu, juan 37*, p. 349-350.

⁵¹ *Shengji zonglu, juan 37*, p. 347. There is a possibility of interpreting the two characters *zhuan yan* 傳言 (a commentary says) as *chuan yan* 傳言 (it is said) instead. If we consider that the *Sagely Benefaction Medical Encyclopedia* was designed to explain principles in canons, particularly those in the *Inner Canon*, translation of the two characters into *zhuan yan* 傳言 (a commentary says) meets more closely the emphasis of this formulary on textual reference or canonical authority. Moreover, this translation also corresponds with the words *zhuan wei* 傳謂 (a commentary says) in the entry on *zhang nüe*.

zheng er ran ye 江山霧氣多瘴，凡以其氣鬱蒸而然也).⁵² Here we see steaming again as a *zhang*-inducing process. The aetiology of *zhang qi* based on the unspecified commentary so far concerns the poisonous and pestilential *qi* in mountains, water, and mist. After introducing the aetiology in the commentary, this entry continued by pointing out that there were various ways of treating *zhang* at that time; these ways either assumed that the symptoms of *zhang* were similar to those of Cold Damage disorders, or to those of *nüe* (intermittent fevers).

After mentioning the existence of different ways of treating *zhang*, the entry on *zhang qi* proclaimed that “here [we] trace that (*jin yuan*) the landscape of mountains and water in Guangnan 廣南 (i.e. south of the Guang place) is the reason for why *zhang qi* develops (*jin yuan Guangnan shanchuan dixing, zhang qi suosheng zhi yin* 今原廣南山川地形，瘴氣所生之因).⁵³ Guangnan presumably referred to Guangnan East Circuit and Guangnan West Circuit, which covered an area similar to that covered by Lingnan, as both of them are by and large encompassed in the present-day Guangdong and Guangxi provinces. This claim specifies an association between the occurrence of *zhang qi* and region-specific environmental features (here the landscape) in Guangnan. The entry then described the characteristics of the landscape as follows:

⁵² *Shengji zonglu*, juan 37, p. 347.

⁵³ *Shengji zonglu*, juan 37, p. 347.

Moreover, yang arises from *zi* and becomes abundant in *si*. Yin arises from *wu* and becomes abundant in *hai*. When yang does not reach its maximum, then yin will not emerge. When yin does not reach its maximum, then yang will not develop. As the location of Guangnan is equivalent to the [direction of] *si-wu*, the qi of yin and yang accumulating here can be deduced. Heaven is incomplete in the northwest, and Earth is incomplete in the southeast. The northwest is yin; the soil and land there is high-lying and thick. The southeast is yang; the land and soil there is inferior and low-lying. Moreover, as Guangnan belongs to the southeast, how inferior and low-lying the land is there can be deduced.

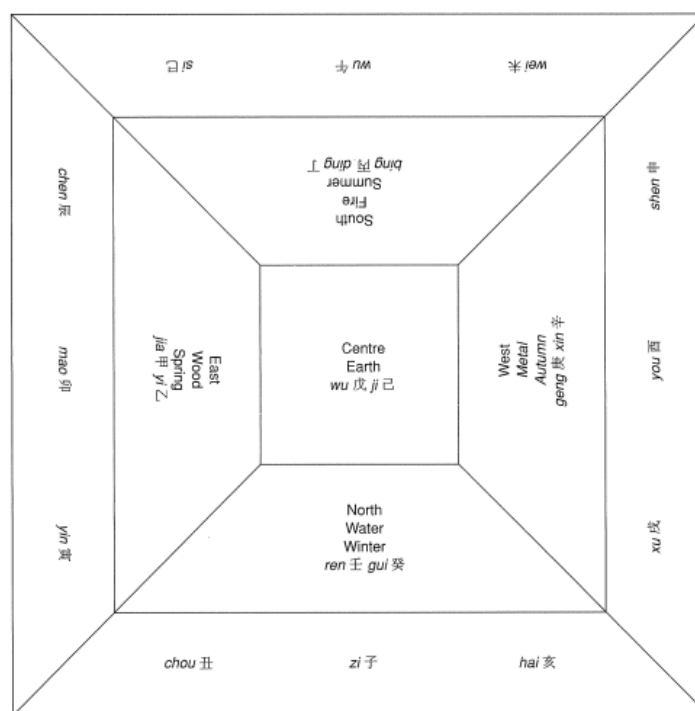
且陽生於子，盛於巳。陰生於午，盛於亥。陽不極，則陰不萌。陰不極，則陽不長。而廣南位當巳午，則陰陽之氣蘊積于此可知矣。天不滿西北，地不滿東南。西北陰也，土地高厚。東南陽也，地土卑下。而廣南屬東南，則土地之卑下可知矣。⁵⁴

Notably, this quotation describes the landscape of Guangnan via cosmological concepts and terminologies, which is exemplified by its application of the twelve terrestrial branches (*dizhi* 地支). Guangnan was characterized as the southeast that contrasted to the northwest, even though the entry did not specify which particular region in the northwest was being referred to. Under this spatial frame, two features of the environment in Guangnan were

⁵⁴ *Shengji zonglu*, *juan* 37, p. 347.

identified. One feature is the accumulation of yin qi and yang qi. This feature was associated with the location of Guangnan in the *si* and *wu* directions where yang qi was abundant (For the location of the *si* and *wu* directions, See Figure 3.1).⁵⁵

Figure 3.1. The distribution of the ten celestial stems and twelve territorial branches in the five directions⁵⁶



⁵⁵ Although the theoretical foundation of the *Sagely Benefaction Medical Encyclopedia* is claimed to be based on the *Inner Canon*, the terms *si*, *wu*, *zi*, *hai* occasionally appeared in the *Inner Canon*. Moreover, the records of these terms in the *Inner Canon* all referred to temporal frames. According to Harper (2001: 106-114), the twelve terrestrial branches were applied as temporal models to account for the course of disorder in the excavated manuscripts found in the Jiudian 九店 tomb 56 at Jiangling, Hubei (burial dated late fourth century BCE) and in Shuihudi 睡虎地 tomb 11 at Yunmeng, Hubei (burial dated around 217 BCE). Li Jianmin (1994: 763-780) describes how the twelve terrestrial branches served as twelve directions in a chart “*Yu cang maibao tu*” 禹藏埋胞圖 which was used to choose auspicious sites to bury the afterbirth and was excavated from the Mawangdui 馬王堆 tomb 3 at Changsha, Hunan (burial dated 168 BCE). Li Ling (1993/2001: 129-140) outlines spatial models (including the twelve terrestrial branches) in early Han times.

⁵⁶ This Figure is adopted from Despeux (2001: 124), which is adapted from Kalinowski (1983).

Another identified feature of the environment in Guangnan in this entry is the low-lying quality of land in the southeast of yang in contrast to the high-lying and thick quality of the land in the northeast of yin. This feature references an asymmetry recorded in the extant sections 5 and 70 of the *Basic Questions* when it states that “Heaven is incomplete in the northwest, and Earth is incomplete in the southeast” (*tian buman xibei, di buman dongnan* 天不滿西北，地不滿東南).⁵⁷ I will compare these references to asymmetry in the entry on *zhang qi* with passages about asymmetry in the *Basic Questions* after analyzing this entry.

Following this introduction to the two features of the environment in Guangnan, which were the low-lying quality of the land and accumulation of yin and yang qi, the entry explained how they made the environment debilitating:

Because its land is inferior and low-lying, yin qi and yang qi both accumulate here. Therefore mountains surrounding in the four directions are high and mutually circle around each other; the flows of the hundred rivers all return toward there. In autumn, grass and [leaves] of trees will not fall and wither; in winter, dormant insects do not hide away. [Guangnan] stores poison of coldness and heat. It

⁵⁷ For this asymmetry in the *Inner Canon*, see Hanson (2011: 32-35). The asymmetry between the northwest and the southeast can additionally be found in other texts in early China, e.g. the *Canon of Mountains and Seas* (*Shanhai jing* 山海經). For the northwest-southeast asymmetry in the *Canon of Mountains and Seas*, see Dorofeeva-Lichtmann (2003: 51-52).

accumulates and does not disperse. Qi of mist and dew can easily harm the person. This is what Qibo said: the land in the south is low-lying and the water and earth there are weak. It is because [the south is the place] where mist and dew gathers. Hence *zhang qi* is singularly rampant in Guangnan.

以土地卑下，而陰陽二氣所蘊積。是以四圍之山，崇高相環；百川之流，悉皆歸赴。及秋草木不凋瘁，冬令蟄蟲不伏。藏寒熱之毒，蘊積不散。霧露之氣，易以傷人。此岐伯所謂南方地下、水土弱，蓋霧露之所聚也。故瘴氣獨盛于廣南。⁵⁸

This quotation uses the landscape of Guangnan that was surrounded by mountains where rivers returned to, and the phenomena of plants not losing their leaves in the autumn and insects not hibernating in winter, as examples of the identified environmental features in Guangnan. The last three sentences in this quotation appear to explain why *zhang qi* was endemic in Guangnan when indicating the accumulated poison of coldness and heat, the harmful qi of mist and dew, and Qibo's statement.

After this quotation, the entry on *zhang qi* introduces various symptoms of *zhang* using different terms of *zhang*, *zhang qi*, and *zhang ji* 瘴疾 (*zhang* disorders) without differentiating them. This lack of differentiation between those terms suggests that Song people, at least the authors of this formulary, did not strictly classify *zhang* as either debilitating miasmatic qi or as a

⁵⁸ *Shengji zonglu*, juan 37, p. 347.

disorder. The entry then ascribed them entirely to the qi of poison, pestilence, compression, and steaming (*du li yu zheng zhi qi* 毒厲鬱蒸之氣).⁵⁹

Unlike the aforementioned Sui, Tang, and Southern Song medical literature on the aetiology of *zhang*, the asymmetry of Heaven being incomplete in the northwest and Earth incomplete in the southeast in the entry on *zhang qi* in the *Sagely Benefaction Medical Encyclopedia* had a clear textual reference: the *Basic Questions*. To contextualize this asymmetry cited in this Northern Song formulary, in the following paragraphs I will compare the asymmetry mentioned in it and that recorded in the *Basic Questions*.

The concept of asymmetry can be found in sections 5 and 70 of the extant *Basic Questions*. Hanson indicates that this asymmetry in the *Basic Questions* was likely to have been borrowed from the myth that titanic Gong Gong 共工 destroyed one of the pillars supporting Heaven in the northwest direction of the world and caused Earth to tilt upwards towards the northwest and downwards toward the southeast.⁶⁰ Hanson moreover makes a comparison between these two sections in the *Basic Questions* in detail, the findings of which will be discussed after I introduce and compare the two sections with the *Sagely Benefaction Medical Encyclopedia*.⁶¹

In section 5 of the *Basic Questions*, asymmetry is mentioned within the explanation proposed by Qibo for how yin and yang resonated multiple

⁵⁹ *Shengji zonglu*, juan 37, p. 347.

⁶⁰ Hanson (2011: 26-27).

⁶¹ Hanson (2011: 33-34).

phenomena in the world, ranging from changes in climate, the four seasons, five directions, body parts, and so on. Among the various types of resonance, the northwest-southeast asymmetry emerges as follows:

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.⁶²

天不足西北，故西北方陰也，而人右耳目不如左明也。地不滿東南，故東南方陽也，而人左手足不如右強也。⁶³

In this quotation, each of the two directions resonated with the weakness associated with different body parts. Following this quotation, Qibo explained that the east (*dong fang* 東方) was yang, in which the essence (*jing* 精) was ascendant. Thus (*gu* 故), the easterners had good eyesight and hearing but clumsy hands and feet. In contrast, the west (*xi fang* 西方) was yin, in which the essence was downward. The westerners thus had nimble hands and legs but poor eyesight and hearing.⁶⁴ Although Qibo describes the negative influences of the southeastern and northwestern directions on bodily parts, beyond the resonance, he barely mentions particularly debilitating environmental features in each of the two directions. In contrast, the entry on

⁶² Translation is adapted from Hanson (2011: 33).

⁶³ *Suwen* 5, pp. 96-97.

⁶⁴ *Suwen* 5, pp. 96-97.

zhang qi in the *Sagely Benefaction Medical Encyclopedia* defines several environmental features in Guangnan as debilitating.

In comparison to section 5, section 70 in the *Basic Questions* provides more information about the regional differences between these two directions, as indicated by Hanson.⁶⁵ Sections 66–71 and 74 of the *Basic Questions* were highly likely to have been interpolations by Wang Bing in 762, but physicians and literati in Imperial China accepted these seven chapters as authentic.⁶⁶ Section 70 claimed that the southeast was yang, where the essence went downward. The climate of the southeast was hot in the right and warm in the left (*you re er zuo wen* 右熱而左溫). Inhabitants of the southeast would suffer from boils (*chuang* 瘡) when exposed to the warmth and heat. The northwest was yin, where the essence was ascendant and cold. The climate in the northwest was cold in the left and cool in the right (*zuo han er you liang* 左寒而右涼). Inhabitants of the northwest would suffer from the feeling of expansion (*zhang* 脹) after having been exposed to coldness. Section 70 briefly mentioned that the resonance between yin and yang in two directions and the ensuing disorders was associated with the constant pattern of an opening and closing skin pore pattern (*couli kaibi zhi chang* 腠理開閉之常).⁶⁷ By comparing these two sections, Hanson indicates that while section 70 explains regional differences in “climate and [bodily] constitutions,” “both

⁶⁵ Hanson (2011: 33-34).

⁶⁶ Ma (1990: 73-74), Sivin (1993: 199).

⁶⁷ *Suwen* 70, pp. 933-934.

relied on the macrocosm-microcosm model to correlate celestial-terrestrial structures with the human body and used the yin-yang principle to systemize and simplify geographic and human variations.”⁶⁸

Like the two sections in the *Basic Questions*, the entry on *zhang qi* in the *Sagely Benefaction Medical Encyclopedia* also used celestial-terrestrial structures and the yin and yang principle to synthesize differences in regions. The difference between the *Basic Questions* section 70 and the entry on *zhang qi* in the *Sagely Benefaction Medical Encyclopedia* lies in the case that the former attributed the disorders partially to the opening and closing of the skin pore pattern; in contrast, the latter Northern Song one paid a great deal of attention to the identified quality of land and the accumulation of yin and yang qi in Guangnan.

Another textual reference in the entry on *zhang qi* in the *Sagely Benefaction Medical Encyclopedia* comes from a dialogue between the Yellow Emperor and Qibo in section 12 of the *Basic Questions*, in a dialogue known as “On different methods being appropriate for different directions” (*yifa fangyi lun* 異法方宜論). This dialogue arranged what were considered to be regional particularities and different treatments into a five-directional spatial frame, i.e. east, west, south, north, and center, corresponding to the five agents respectively, i.e. Wood, Metal, Fire, Water, and Earth.

⁶⁸ Hanson (2011: 34).

The dialogue began with the Yellow Emperor's question to Qibo, which asked why physicians gave different treatments to individual patients and yet all of their patients recovered. Qibo responded that it was because of the propensity of earth (*di shi* 地勢).⁶⁹ Qibo broadened the discussion to include dietary habits, local customs, common disorders, and treatments in each of the five directions. The following is Qibo's description of the south:

The south is where Heaven and Earth grow and nourish [things]. It is the place of abundant yang. Its land is low-lying, water and earth are weak, and fog and mist accumulate there. The people there like sourness and eating ripe, smelly foods (*fu*). Therefore the people all have delicate (*zhi*) pores (*li*) and red complexions. The [common] disorders there are spasms and obstruction. The most appropriate treatments are fine needles.⁷⁰

南方者，天地之所長養，陽之所盛處也。其地下、水土弱、霧露之所聚也。

其民嗜酸而食胘，故其民皆緻理而赤色。其病攣痺。其治宜微鍼。⁷¹

⁶⁹ The implications of the term *shi* 勢 in pre-modern Chinese literature have been discussed in studies in Chinese philosophy. My understanding of the term *shi* in this citation is inspired by François Jullien's monograph (1995: 107-130) on the implications of the term *shi* in pre-modern Chinese texts.

⁷⁰ The translation is adapted from Hanson (2011: 32). Hanson's discussion (2011: 30-32) on the dialogue in section 12 of the *Basic Questions* focuses on how the concept of the five directions reflected in the dialogue added "spatial dimension to the temporal, seasonal, and corporeal realms of the Five Phases [*wuxing*] systems of correspondence." Though her findings are insightful, they are not the core research concern of this thesis. The purpose of this thesis discussing the dialogue in section 12 is to disclose the textual reference of the entry on *zhang qi* in the *Sagely Benefaction Medical Encyclopedia*.

⁷¹ *Suwen* 12, pp. 176-177.

Qibo made no mention of the term heat (*re* 熱) in the south. The dampness, which I infer from the accumulation of fog and mist, was described in the context of the impacts of Heaven, Earth (*di* 地, as opposite to *tian* 天), and the yang force on creatures. The dampness was juxtaposed with other factors, which included the low-lying quality of land (*di* 地) there, the weak quality of water and earth (*tu* 土), and inhabitants' dietary habits.

Notably, the resonance between the geographical characteristics, disorders, and treatments in Qibo's statement is not made explicitly. By contrast, the entry on *zhang qi* in the *Sagely Benefaction Medical Encyclopedia* explicitly attributed rampant *zhang qi* to the low-lying quality of the land and the *si-wu*/southeast location of Guangnan. Interestingly, the authors of the entry seemed to not feel compelled to explain how they modified the five-direction spatial frame in section 12 into the asymmetry of the southeast and northwest when citing Qibo's statement on the south.

Regarding the entry on "zhang poison and foot qi" in Jiangdong (i.e. the lower Yangzi area) and Lingnan (Jiangdong Lingnan *zhang du jiao qi* 江東嶺南瘴毒腳氣) in the *Sagely Benefaction Medical Encyclopedia*, it begins with Qibo's statement recorded in section 12 of the *Basic Questions* that "the land in the south is low-lying and the water and earth there are weak. It is because [the south is the place] where mist and dew gather" (*nanfang di xia, shui tu ruo, gai*

wu lu zhi suo ju ye 南方地下、水土弱，蓋霧露之所聚也).⁷² Following this citation, the entry declared that Qibo's statement can also be applied to situations in Jiangdong and Lingnan. Then it claimed that between the spring and summer, mountains and water steamed and compressed (*chun xia zhi jiao, shan shui zheng yu* 春夏之交，山水蒸鬱). There was rampant poisonous qi of wind and dampness (*feng shi du qi* 風濕毒氣). If the feet resonated with (*gan* 感) the qi, the disorder of *zhang* poison and foot qi occurred.⁷³ This aetiology focuses on dampness and does not mention the term heat (*re* 熱) as a disorder-inducing condition.

In the aetiology of *zhang* poison and foot qi inscribed in this formulary, comments regarding the environment in Jiangdong and Lingnan mention the low-lying quality of the land, the dampness, which I infer from the gathering of mist and dew, steaming between the spring and summer (perhaps because of the warmer weather during that period), and the poisonous qi of wind and dampness. This perception of the environment in Jiangdong and Lingnan is similar to the aetiology of foot qi in the Sui and Tang medical literature, which was discussed in section 2.2 "Fumigating and Steaming in the Medical Literature up to Song Times" of Chapter Two.

The aetiology of *zhang nüe*, *zhang qi*, and *zhang* poison and foot qi in the *Sagely Benefaction Medical Encyclopedia* bears a key difference from the

⁷² *Shengji zonglu*, juan 84, p. 697.

⁷³ *Shengji zonglu*, juan 84, p. 697.

aetiology of various *zhang* disorders in the Sui, Tang, and Southern Song medical literature; that is, the claims to knowledge in the *Sagely Benefaction Medical Encyclopedia* explicitly rely on commentaries (*zhuan* 傳) and the *Inner Canon*. By contrast, other medical literature discussed in this thesis so far rarely foregrounded textual references about the aetiology of *zhang*. Furthermore, Chen Ziming and Li Qiu additionally emphasized that their aetiologies were firmly embedded in the bodily experience of the environment in Liangguang or Lingnan.

To reiterate, after scrutinizing the aetiology of *zhang* (which includes *zhang* epidemics, *zhang* disorders, and *zhang* qi) for comments regarding the heat and dampness in the south (which includes Jiangdong, Lingnan, Guangnan, and Liangguang) in the medical literature up to Song times, I have shown that on the one hand, the basic environmental features identified in Lingnan—such as the warmth/heat, dampness (in some quotations, I infer it from the emphasis on mist and dew), and the low-lying quality of the land—seemingly underwent few conspicuous changes since the Sui.

On the other hand, once we examine the aetiology from the perspective of the experienced world, we can observe a noteworthy change within the aetiology; that is, the explication of the bodily experience of the southern regional environment as verification of his medical opinions rose to prominence in the Southern Song. Moreover, interestingly, among the authors discussed in the two chapters of this thesis so far, only Li Qiu and Chen

Ziming made a clear connection between the occurrence of *zhang* disorders with the irregular or unpredictable weather in Guangdong and Guangxi provinces, where the weather fluctuated between cold and hot temperatures in a single day. Unfortunately, no other extant sources allow us to further probe the degree to which and in what specific ways Li's and Chen's bodily experiences in Lingnan inspired this correlation between the occurrence of *zhang* disorders and the irregular weather.

3.4 Expounding Environmental Bodily Experience for Literate

Readers

By comparing extant medical literature discussing the aetiology of *zhang* from the Sui to the Southern Song in the preceding three sections, I have demonstrated that at least in the case of *zhang* medicine, the early Southern Song witnessed a more noticeable explanatory mode of explicating the bodily experience of the regional environment as verification of his medical knowledge. It is certainly possible that this explanatory mode emerged earlier. However, extant sources on medicine for treating Lingnan-specific disorders only allow us to trace the pronounced explanatory mode back to the early Southern Song period. In this section, based on the case of Li Qiu's *On Zhang Nüe*, I will first propose one possible reason for this increasingly pronounced mode during the early Southern Song period and then discuss how this

explanation enhances our understanding of the seminal influences brought about by the Song literati on the development of medicine.

As for the case of Li Qiu's *On Zhang Nüe*, although Li ascribed his composition to the failure of inept physicians in treating *zhang* effectively in Lingnan as well as to his personal success in treating *zhang*, this ascription alone cannot fully explain why he elaborated on the bodily experience of the environment in Lingnan. A lack of medical resources and proficient physicians was a common reason proposed by literati or physicians for why they compiled or distributed medical works. In the Tang era, officials already attributed their compilation of formularies to the lack of medical resources.⁷⁴ However, authors of those extant Tang formularies merely collected and transcribed medical formulas but rarely applied the bodily experience to elaborate on the aetiology of disorders that the formulas treated.

Nor does experience in person in Lingnan alone constitute a principal reason for the emergence of the Southern Song explanatory mode. One compelling example is the case of Wang Tao, the Tang official and compiler of the large-scale formulary *Arcane Essential Formulas from the Imperial Library*. Wang Tao attributed his compilation of the formulary partially to his experience of suffering from *zhang* on his travels when he was assigned to

⁷⁴ Fan Ka-Wai (2007: 147-168) shows how Tang officials collected therapeutically effective medical formulas which treated disorders in Lingnan before or when they went there.

Fangling (in Hubei province).⁷⁵ Nevertheless, Wang's compilation only collected medical formulas. He neither mentioned his opinions about the aetiology and treatment strategy, nor described his experience of *zhang* and the environment in Fangling. As compilers of the extant formularies which were devoted to treating disorders in the south by their titles, the Tang officials seemingly paid much more attention to collecting formulas that were proven to be therapeutically effective rather than to explaining the aetiology or prescription strategy, as shown in Fan Ka-Wai's research.⁷⁶ By contrast, the Southern Song period witnessed a soaring number of officials working as compilers of medical literature who delineated their experience of the southern environment, examples of which include Li Qiu and others who will be discussed in the following chapters.

Despite little direct textual evidence of the emergence of this Southern Song explanatory mode remaining, the reading response of Li Qiu's contemporary scholar-officials to Li's *On Zhang Nüe* provides us with a historically situated indication as to why the approach rose to prominence in the early twelfth century. Although no source exists showing whether Li Qiu's formulary was a printed version before it was printed and circulated by a prefect in Guangdong in 1513, it at least circulated in the form of manuscripts among certain officials in Lingnan. During the early Southern Song period, at least

⁷⁵ This is in Wang Tao's preface to his formulary. *Waitai biyao fang*, p. 4.

⁷⁶ Fan (2007: 147-168).

two officials—Zhang Zhiyuan and Wang Fei—had read and commented on Li Qiu’s formulary.

In Zhang Zhiyuan’s formulary, he did not indicate how he received Li’s *On Zhang Nüe* but described at length how he checked Li’s opinions meticulously in the following way: after obtaining (*de* 得) Li’s work, Zhang Zhiyuan discussed treatments for *zhang* with a physician Wang Zijin 王子僅 in Hua Prefecture 滑州 (Huazhou, in Henan province).⁷⁷ After confirming with those treatments that were therapeutically effective, Zhang Zhiyuan composed his formulary on *zhang nüe*. In his formulary, he also attributed *zhang* disorders to the configuration of the dispersing yang qi and abundant yin qi in Lingnan, which was similar to Li Qiu’s aetiology.⁷⁸

Wang Fei, who was an administrator of the military in Guiyang 桂陽 (in Hunan) in 1202, also composed a formulary which was known as the *Formulary of Instructing the Lost and on Zhang Nüe* (or the *Instruction on Lost Formulas and on Zhang Nüe*, *Zhimi fang zhang nüe lun* 指迷方瘴癘論).⁷⁹ In this formulary, Wang Fei acknowledged the aetiology and medical formulas collected in Li Qiu’s and Zhang Zhiyuan’s formularies. Wang Fei’s formulary begins with an introduction on how he learnt about medicine for treating *zhang*. He said that he had studied prescription practice and pulse diagnosis

⁷⁷ *Lingnan weisheng fang*, p. 10.

⁷⁸ *Lingnan weisheng fang*, p. 10.

⁷⁹ In the extant *Formulary of Instructing the Lost and on Zhang Nüe*, Wang Fei mainly discussed *zhang* and *nüe* (intermittent fevers) respectively, as Li Qiu and Zhang Zhiyuan did.

over a long period of time. After staying in the south (*nan* 南), Wang Fei not only investigated formularies about *zhang nüe*, but also invited a senior physician in Guilin 桂林 (in Guangxi province) to discuss them with him.⁸⁰

On the basis of his knowledge about *zhang*, Wang Fei praised the fact that many formulas in Li Qiu's and Zhang Zhiyuan's works were correct.⁸¹ While recognizing Li Qiu's opinions on the medical formulas of *zhang*, Wang Fei criticized Li's omission of the pulse diagnosis of *zhang*. In Wang Fei's view, this exclusion would make it difficult for the sick who consulted Li and Zhang's work to treat themselves by finding formulas in accordance with their symptoms. One of purposes of compiling his formulary was to resolve this issue.⁸²

After introducing how he learnt about medicine, Wang Fei often cited or summarized what he had read in other formularies on *zhang* and argued for or against those formularies. When making a case for his arguments, he used his experience of the southern regions where he had stayed for a while to validate his opinions. For instance, when criticizing the tendency in some formularies of his day to overemphasize threats of the southern environment to the body, he first stated that as an official, he had been to Cangwu (in Guangxi province) first, and then to Liucheng 柳城 (in Guangxi province),

⁸⁰ *Lingnan weisheng fang*, pp. 13-14.

⁸¹ *Lingnan weisheng fang*, p. 14.

⁸² *Lingnan weisheng fang*, pp. 17-18.

Yiyang 宜陽 (in Henan province), and Nanrong 南容 in sequence and then proposed his perception of the environment in those regions.⁸³

The conscientious effort of both Zhang Zhiyuan and Wang to examine medical documents composed by their literate fellows suggests one possible factor which contributed to the emergence of the explanatory mode in the early Southern Song; that is, an attempt to advocate, modify, challenge, or defend one's own opinions about medicine for treating Lingnan-specific disorders encouraged some authors of Southern Song medical literature to explicate their personal experience of the environment there.⁸⁴ This examination conducted by Southern Song literati as readers and writers of medical texts of whether the textual medical knowledge was correct or not is embedded in the changing readership of medical literature during the Song dynasty.

Existing studies have shown that since the Northern Song dynasty, both the burgeoning government and private publishing of medical literature contributed to the ever-increasing accessibility of medical texts to literate readers. Along with this trend, the Song literati's increasing interest in learning and writing about medicine together prompted a continuous rise in the number of readers and writers of medical genres.⁸⁵ The studies further

⁸³ *Lingnan weisheng fang*, pp. 19-20. I will further discuss Wang Fei's opinion in Chapter Five.

⁸⁴ I appreciate Prof. Barend Ter Haar for drawing my attention to the influence of the changing readership in Song times.

⁸⁵ These studies often investigate this trend in the context of the emergence of "scholarly physicians" (*ruyi* 儒醫) since Song times. For example, see Unschuld (1985/2010: 166-168),

observe several profound influences on medicine which resulted from the increase of literati as readers and writers. One such influence was the soaring number of contributions to medical writing at the time, written by members of the literati. More importantly, as medical writers some Song literati introduced knowledge that previously existed in other genres (such as classics recognized by Confucianism and historical texts) to medical literature.⁸⁶

In line with the studies on the impacts of the increasing literati as readers and writers of medical texts, in this section I propose another specific influence; that is, facing literate readers' meticulous examination of textual medical knowledge, the Southern Song literati as writers expounded the bodily experience of the regional environment so as to convince the potential educated readership of their medical views. This reason will broaden our existing understanding of how the literati changed the formation of written medical knowledge from Song times and onwards; a core issue for the field of the history of medicine in Imperial China. Although textual evidence in support of the influence proposed throughout this chapter appears rather limited, I will provide further materials in the following two chapters to substantiate my argument and then discuss how my observation specifically

Hymes (1987), Chen Yuan-Peng (1997), Chu Ping-Yi (2006), Goldschmidt (2009), Hinrichs (2013).

⁸⁶ For example, Unschuld (1985/2010: 166-168), Chu Ping-Yi (2006), Goldschmidt (2009: 121-123), and Hinrichs (2013).

contributes to existing studies on the literati's impacts on Song scholarly medicine in Conclusion Chapter.

3.5 Concluding Remarks

By comparing the aetiology of disorders under entries on *zhang* in their titles in the extant Sui, Tang, and Song medical literature, I have shown in this chapter that the role of the experience of the regional environment became increasingly pronounced in early Southern Song times. This increasingly visible role can be observed in two aspects. The first, and more direct, aspect is that some Southern Song authors of formularies about *zhang* (e.g. Li Qiu, Wang Fei, and Chen Ziming) explicated their experience of Guangdong and Guangxi provinces to validate their accounts of the environment and the occurrence of *zhang*. By contrast, earlier aetiologies of *zhang* in Sui, Tang, and Northern Song medical literature discussed in this chapter rarely spelt out the bodily experience. The claims to *zhang* knowledge in the late Northern Song *Sagely Benefaction Medical Encyclopedia* were by and large based on the medical doctrine *Basic Questions* and commentaries (*zhuan* 傳).

The second, and less explicit, aspect is that although the yin and yang principle still served to systemize and connect the identified features of the regional environment and the occurrence of disorders there, the author's bodily experience of the surrounding landscape played a more important role

in reasoning about *zhang* disorders. In Li Qiu's *On Zhang Nüe*, Li went to great lengths to illustrate how the Lingnan-specific configuration of the dispersing qi of yang-heat and the abundant qi of yin-dampness brought about multiple and various phenomena alongside a normal and disordered bodily experience (see Table 3.1). In this sense, on the one hand, Li Qiu's aetiology was that the Lingnan-specific configuration of yin-dampness and yang-heat qi resonated with the body and then gave rise to the syndrome of *zhang* which involved heat in the upper body parts and coldness in the lower ones. On the other hand, the bodily experience of the environment in Lingnan still constituted crucial support for his aetiology in light of the configuration of the yang-heat and yin-dampness.

The important role of the bodily experience of Lingnan in Li Qiu's aetiology is encapsulated by the phrase "yang-heat" (*yang ao* 陽燠) and "yin-dampness" (*yin shi* 陰濕). As mentioned in my argument in section 3.1, Li Qiu's lengthy accounts of the inhabitants' bodily experience of Lingnan mean that these two phrases did not simply symbolize a long-existing combination between yang and heat as one phase or quality of yang and between yin and dampness. Rather, Li's accounts, in my reading, made a combination between the cosmological yin-yang principle with dampness and heat as regional environmental features in Lingnan. In other words, it is the later combination

which demonstrates an increasingly significant role of the bodily experience of the environment that served as verification of the aetiology of *zhang*.

The findings in this chapter above give new insights for historians in formulating relationships between regional environmental triggers and medicine which were documented in Imperial China. Some of the widely acclaimed studies on the relationships tend to interpret them as a progress that pre-modern Chinese people gradually developed more accurate observation of their surrounding world in Song times in terms of biomedicine. For instance, Hsiao Fan's article examines the degree to which environmental medicine between the Han and Song corresponded to modern biomedicine, such as how their understanding of *zhang* came close to malaria in the biomedical sense.⁸⁷ Angela Ki-Che Leung investigates how environmental medicine since the Yuan gradually departed from cosmology-based medicine.⁸⁸ Their studies remind us there was a tension between medicine that was based on cosmological patterns and stressed celestial or seasonal cycles and medicine that was derived from empirical observation of the regional environment.

However, in the case of Song *zhang* medicine, this tension between cosmology-based medicine and experience-derived medicine did not yield a clear-cut separation between these two types of medicine. Rather, the Song

⁸⁷ Hsiao (1993/2005).

⁸⁸ Leung (2002/2005, 2003: 379-382).

authors relied largely on cosmological terms, such as the five agents, ten celestial stems, and twelve terrestrial branches, to rationalize their experience of the environment in Lingnan. This strong interaction between existing cosmological knowledge and individual experience, which could be best encapsulated in Tim Ingold's sentient ecology, constituted the Song people's understanding of *zhang* medicine. The case of Song *zhang* medicine hence provides historians with another possible way of formulating the environment-medicine relationships in Imperial China.

I view this increasingly prominent role of the bodily experience of Lingnan in the Song *zhang* medicine as an instance of an emerging explanatory mode from early Southern Song times that explained in detail the experience as verification of medical knowledge. This view differs from regarding the increasingly prominent role as a progression in which Southern Song authors developed into more shrewd or accurate observers of their surrounding landscape in Lingnan.

I moreover propose a historically situated reason for the emergence of the early Southern Song explanatory mode, based on the case of Li Qiu's *On Zhang Niue*. Building on my analysis in section 3.4 of how Zhang Zhiyuan and Wang Fei conscientiously examined Li Qiu's aetiology and medical formulas, I have suggested that the Song literati's meticulous examination of written medical knowledge may have encouraged literati authors to explain the bodily experience of the regional environment in their medical writing, with

the purpose of convincing their literate fellow readers of their medical opinions about Lingnan. This proposed reason will broaden the ongoing scholarly discussion about how the increasing number of literati as readers and authors of medical texts from the Song dynasty and beyond changed the landscape of written medical knowledge by providing a small but concrete and historically situated instance of Zhang Zhiyuan's and Wang Fei's reading response to Li Qiu's formulary.

In the next chapter on the medical practice of treating and preventing *zhang*, I will draw on more pieces of textual evidence to support and expand my current argument about the increasingly prominent role of the experience of the regional environment in Song *zhang* medicine and in the emerging explanatory mode.

Chapter Four The Use of Drugs to Treat and Prevent *Zhang*

("miasma"): Why Treat Heat with Heat?

Based on the investigation into the aetiology of *zhang* ("miasma") in the preceding two chapters, in the remaining two core chapters in this thesis I will turn my attention to the medical practice of treating and preventing *zhang* in Song China. In this chapter, I investigate how in Song times, the environmental features in Lingnan identified by the Song authors interacted with the heat as a symptom of *zhang* and drugs which were believed to be of extremely hot (*da re* 大熱) quality (*xing* 性). My investigation will attend in particular to how bodily experience of the environment in Lingnan was understood and applied by the Song authors to defend their opinions. Through this investigation, I aim to demonstrate the crucial role of the bodily experience of the environment and hands-on experience in medical practice of *zhang*, and trial and error as a key element of *zhang* medicine in Song China.

This chapter relies on sources from different genres, of which the main one is medical literature; for example, formularies composed by Li Qiu and Xu Shuwei 許叔微 (1079-1154), *materia medica* compiled by Tang Shenwei and Kou Zongshi. The complementary sources are miscellaneous notes, such as the notes composed by Fan Chengda 范成大 and Zhou Qufei, and short literate pieces of writing, such as the works of Yang Tianhui 楊天惠 and

Zhang Jie. As explained in section 1.4 “Principal Primary Sources”, though medical literature, miscellaneous notes, and other literate writing belonged to different genres, the practice of citing medical passages between these genres and forming a writing piece became quite common in the Song dynasty. The mutual citation of medical ideas between different genres allows historians to combine these genres to investigate Song medicine if differences of narrative purpose and writing styles borne in these genres are carefully contextualized.

In this chapter, I will first analyze Li Qiu’s formulary *On Zhang Nüe* because his discussion on therapy strategy in this text exemplifies the crucial role of bodily and hands-on experience in the Song authors’ search for effective treatments for *zhang* by trial and error. I then examine a variety of Song views on the application of drugs of hot quality to treat or prevent *zhang* using the example of *fuzi* 附子 (prepared daughter root of common monk’s hood, or aconite) in section 4.2 and an instance of alcohol (*jiu* 酒) in section 4.3. Strictly speaking, in comparison with *fuzi*, alcohol was on the borderline between a drug, which had a separate entry in the Song *materia medica*, and food which could be consumed in daily life. These two examples are chosen because among the extant Song sources, materials relating to these two drugs are rich enough for thematic analysis. Given that the argument in this chapter is based on passages drawn from different genres, in the last section of this chapter I will discuss the similarities and differences between *zhang* medical knowledge

composed in these genres and then propose a reason for why some Song authors explained their medical opinions on *zhang* in the writing style of miscellaneous notes.

4.1 Significance of Experience in Li Qiu's Treatments for *Zhang*

In his formulary *On Zhang Nüe*, Li Qiu gave a detailed description of how he developed his own prescription strategy for treating *zhang*, in which heat, as a symptom of *zhang*, closely interacted with the hot quality of drugs. This description provides us with an abundance of information not only about the important role of patients' bodily experience and the author's perception in forming the prescription strategy, but also about the trial and error nature of the medical practice of *zhang*, as shown in the following analysis.

In *On Zhang Nüe*, Li Qiu described his own diagnosis of and treatments for *zhang* at length, after proposing the aetiology of *zhang*. Li's aetiology, as shown in section 3.1, "Linking Yang-Heat and Yin-Dampness in Lingnan with Particular Symptoms of *Zhang* in the Early Southern Song", attributed various phenomena and symptoms of *zhang* (especially the syndrome of heat in the upper body parts and coldness in the lower ones) to the Lingnan-specific conflict between the dispersing qi of yang-heat (*yang ao* 陽燠) and the abundant qi of yin-dampness (*yin shi* 陰濕) identified by Li Qiu.¹ After

¹ *Lingnan weisheng fang*, pp. 1-3.

proposing how this conflict gave rise to *zhang* disorders, Li Qiu criticized the inept physicians in Lingnan at the time.

This criticism was levied due to the physicians' failure to recognize the obvious *zhang*-inducing conflict between the qi of yang-heat and the qi of yin-dampness. Li Qiu stated that by ignoring this true reason for the occurrence of *zhang*, the physicians misdiagnosed a patient's disorders of being depleted (*xu* 虛), upset (*fan* 煩), compressed (*yu* 鬱), and oppressed (*men* 悶) as manifestations of heat inside the body rather than as symptoms of *zhang*. To treat the misdiagnosed heat, those physicians either prescribed medicine to discharge the exterior condition (*fabiao yao* 發表藥), which in turn damaged the infirm yang qi in the patient's body, or the physicians prescribed drugs to disinhibit (*li yao* 利藥) and purge (*xia* 下) the heat, which in turn exacerbated the coldness in the patient's lower body. Li Qiu condemned the fact that people had not died from *zhang* pestilence (*zhang li* 瘴癘) itself but from the wrong prescription of these inept physicians.²

Following his criticism of incompetent physicians, Li Qiu outlined how he was witness to an outbreak of *zhang* pestilence in Cangwu 蒼梧 (in Guangxi province), and subsequently developed medicinally effective treatments for *zhang* which differed from the incorrect physicians' prescription strategy. He recalled what he had witnessed in detail: after moving to Cangwu during the Shaoxing reign period (1131-1163) (see Map 3.1 in Chapter Three), he

² *Lingnan weisheng fang*, pp. 3-4.

witnessed an outbreak of *zhang* pestilence which was so severe that almost all the family members of the officials Wang Jizhi 王及之, Zhang Ding 張鼎, and Ge Tuan 葛象 died and countless visiting northerners and local southerners suffered from it too.³ Li Qiu asked what drugs the unfortunate people (*buxing zhe* 不幸者) suffering from this *zhang* pestilence had consumed and found out that the drugs were mainly *mahuang* 麻黃 (ephedra), *chaihu* 柴胡 (Chinese thorowax root), *biejia* 鱉甲 (turtle shell), and *baihu tang* 白虎湯 (literally, a decoction of white tigers).⁴

In that year of the *zhang* pestilence outbreak, Li Qiu also suffered from it seriously, as did his entire family. At that time, Li Qiu applied therapeutically effective drugs, which warmed the interior of the body (*wen zhong* 溫中), solidified the lower body parts (*gu xia* 固下) causing yin and yang to ascend or descend in the body (*sheng jiang yin yang* 升降陰陽), and rectifying the qi of the body (*zheng qi* 正氣). He additionally used moxibustion (*jiu* 灸) on three points of the body, which were *zhongwan* 中脘, *qihai* 氣海, and *sanli* 三里. Li Qiu declared that these treatments saved ten out of ten patients without harming a single one.⁵

At the time, his two servants also fell ill. They had focal distention, were stuffed, upset, and restless in their chest (*xiong zhong pi men fan zao* 胸中痞悶

³ *Lingnan weisheng fang*, p. 4.

⁴ *Lingnan weisheng fang*, p. 4. For the quality of these three drugs, see Table 4.2. Unfortunately, Li Qiu did not indicate the composition of drugs in the decoction of white tigers.

⁵ *Lingnan weisheng fang*, p. 4.

煩躁). One fainted and another wished to have cooling drugs (*liang yao* 涼藥) to refresh (*qing* 清) and clean (*li* 利) his diaphragm and stomach (*ge wan* 膈腕). Li Qiu discerned (*bian* 辨) their disorders and then found out that both the servants actually suffered from symptoms of heat in the upper body parts and coldness in the lower ones (*shang re xia han* 上熱下寒). He prescribed a decoction of fresh ginger and *fuzi* (*shengjiang and fuzi tang* 生薑附子湯), rather than cooling drugs which the servant requested.⁶ Li Qiu let the decoction cool down first before allowing the servants to consume it. These two servants regained consciousness the next day and said that their chests and diaphragms (*xiong ge* 胸膈) were fresh (*qing* 清) and cool (*liang* 涼). They acquired the feeling of the freshness and coolness associated with cooling drugs, without realizing that it was because of *fuzi*. On the next morning, Li Qiu asked them to consume pills of *dansha* (cinnabar) (*dansha wan* 丹砂丸) when their stomachs were empty, then they could eat porridge. Next, Li Qiu applied drugs which were therapeutically effective at normalizing qi (*zheng qi* 正氣) and calming the stomach (*ping wei* 平胃). As a result of this series of treatments, the two servants fully recovered. After learning about the medicinal effectiveness of these treatments in person, Li Qiu applied the

⁶ Fresh ginger was considered to be of slightly warm quality (*wei wen* 微溫) and *fuzi* of extreme hot quality in the *Revision of Materia Medica of the Zhenghe Reign*, which will be further discussed in the next section.

decoction of fresh ginger and *fuzi* to acquaintances of his. All ten of the other people were saved.⁷

Li Qiu's detailed description of what he witnessed and his treatments for *zhang* disorders in Cangwu suggest two noteworthy points. First of all, two signs point to the suggestion that the decoction of fresh ginger and *fuzi* were not widely applied to treat *zhang* in Cangwu at that time. One indication is that according to Li Qiu, most of the sufferers consumed other drugs, such as *mahuang* (ephedra), *chaihu* (Chinese thoroughax root), *biejia* (turtle shell), and the decoction of white tigers (*bai hu tang*). Another indication is that Li Qiu used the decoction to treat his two servants first and then his acquaintances, which suggests that Li himself was not absolutely certain about the therapeutic effectiveness of the decoction of fresh ginger and *fuzi*. This uncertainty in turn implies that this application of the decoction to treat *zhang* was less common.

Based on the first point, considering the less common application of the decoction of fresh ginger and *fuzi*, it is likely that Li Qiu used the detailed description of what he had witnessed and treatments for *zhang* disorders as evidence to convince his readers of the medicinal effectiveness of the decoction. His usage of a detailed description thereby attests an increasingly pronounced explanatory mode of explaining personal experience as verification of an author's medical practice and knowledge from early

⁷ *Lingnan weisheng fang*, pp. 4-5.

Southern Song times, as demonstrated in the preceding two chapters. Perhaps it was to convince his readers that Li Qiu used highly positive phrases to describe the success that his treatments achieved; for instance, ten out of ten patients were cured.

These two points together illustrate how Li Qiu attempted to design a therapeutically effective treatment for *zhang* when encountering the lack of competent physicians and effective treatments during the severe outbreak of *zhang* pestilence in Cangwu in the early twelfth century. His attempt reflects the trial and error approach as an element of medical practice of treating or preventing *zhang*. The trial and error nature of Li Qiu's search for effective treatments can be also observed in his attention to patients' bodily experience of the symptoms in order to adopt a pertinent prescription.

After describing his success, Li Qiu explained the medicinal effectiveness of the decoction of fresh ginger and *fuzi*:

Fuzi [prepared daughter root of common monk's hood or aconite] obtains the therapeutic effectiveness of fresh ginger in discharging and dispersing. It attacks heat with heat. Moreover it guides false heat in the body [as opposite to the genuine heat *zhen re* 真熱 proposed by Li Qiu later] to the lower burner, eliminates dormant coldness, solidifies and connects primary qi. If the chest is upset and oppressed, let [the decoction] cool down before consuming it. If one consumes the

decoction when it is hot, then [this way] will cause the effectiveness of drugs to manifest quickly. If [physicians] intend to guide the hot qi downward, it should have [the effectiveness of drugs] manifesting slowly.

蓋附子得生薑能發散，以熱攻熱，又導虛熱向下焦，除宿冷，又能固接元氣。若胸中煩悶，且放冷服之。熱服則藥力之發也速。欲導熱氣向下，自當取其發緩也。⁸

In this quotation, Li Qiu synthesized his application of *fuzi*, which was with the assistance of fresh ginger, to treat *zhang* in a phrase of “attacking heat with heat” (*yi re gong re* 以熱攻熱). In this phrase the first mention of heat refers to the hot quality of *fuzi* and the second refers to heat as a symptom.⁹ Heat as a symptom includes the false heat (*xu re* 虛熱) mentioned in the quotation and heat in the upper body parts that Li Qiu included in his description of how he treated the two servants. Nevertheless, Li Qiu did not specify the relationship between these two types of heat as symptoms of *zhang*. He did, however, indicate that if a patient’s chest was upset and oppressed, they could consume the cooled decoction. The efficacy of the *fuzi* depended on the temperature of the decoction; namely, if the decoction was hot, the effectiveness of *fuzi* was

⁸ *Lingnan weisheng fang*, pp. 5-6.

⁹ The notion of “attacking heat with heat” (*yi re gong re* 以熱攻熱) can be also found in the medical text *A Means for Confucian Scholars to Serve Their Relatives* (*Rumen shi qin* 儒門事親, published in 1228) composed by Zhang Congzheng 張從正 (1156-1228). In the text, Zhang Congzheng claimed that using *pishuang* 砒霜 (Arsenic compounds) to treat *nüe* 瘧 (intermittent fevers) is to attack heat with heat; namely, to use the hot quality of this drug to attack the intermittent heat of *nüe*. *Rumen shi qin*, *juan 1*, p. 23.

thought by Li Qiu to manifest more quickly.¹⁰ Here a patient's bodily experience of symptoms (i.e. the upset and oppressed chest) served as a significant indication for treatment strategy.

In later paragraphs of *On Zhang Nüe*, Li Qiu contrasted false heat (*xu re* 虛熱) from genuine heat (*zhen re* 真熱), which was another type of internal heat resulting from *zhang* and was proposed by Li Qiu, albeit without a clear definition. He provided a way of distinguishing between the two types as symptoms of *zhang*; that is, if a patient felt upset (*fan* 煩) and restless (*zao* 躁) and was reluctant to drink water as they feared (*wei* 畏) its coldness, then what he or she was suffering was false heat rather than genuine heat. In this case, a pertinent treatment would be the decoction of fresh ginger and *fuzi*. Li Qiu's emphasis on differentiating false heat from genuine heat reflects his meticulous attention to his patients' bodily experience of *zhang* in order to prescribe drugs. This emphasis shows a specific way in which patients' bodily experience of heat as a symptom of *zhang* interacted with the hot and cold quality of drugs and the hot and cool temperature of the decoction in healing practice.

While maintaining the application of the fresh ginger and *fuzi* decoction in *On Zhang Nüe*, Li Qiu also listed the names of three other formulas to

¹⁰ The idea of drinking a decoction at cool temperatures can be found in the Northern Song formulary *Discussions on the Profound Meaning of Cold Damage Disorders* (*Shanghan weizhi lun* 傷寒微旨論, in 1086) as well. In the formulary, the author and the famous Northern Song physician Han Zhihe 韓祗和 mentioned that if there was too much abundant yin qi in patients' bodies, they should drink the cooled decoction. *Shanghan weizhi lun, juan shang*, p. 8.

complement the decoction and introduced how to apply the three.¹¹ Unfortunately, none of the specific compositions of drugs in the formulas collected in *On Zhang Nüe* remains. I alternatively checked two other large-scale formularies compiled by the Northern Song government—the *Taiping Era Formulas of Sagely Grace* and the *Formulary of the Pharmacy Service for Great Peace and for the Benefit of the People*.¹² There is no formula bearing the name *shengjiang fuzi tang* 生薑附子湯 (the decoction of fresh ginger and *fuzi*) in these two formularies, but a formula exists in the *Formulary of the Pharmacy Service for Great Peace and for the Benefit of the People* named “*jiang fu tang*” 薑附湯 (literally, the decoction of ginger and *fuzi*) to treat Cold Damage disorders.¹³

The other three formulas were the *jia he* powder (*jia he san* 嘉禾散),¹⁴ a decoction of small *chaihu* (Chinese thoroughax root) (*xiao chaihu tang* 小柴胡

¹¹ *Lingnan weisheng fang*, p. 7.

¹² The Assistant Teacher of the Imperial Medical Service 太醫院助教 Xu Hong 許洪 in 1208 expanded the revised version of the *Formulary of the Pharmacy Service for Great Peace and for the Benefit of the People* and added the *General Guide* (*Zhinan zonglun* 指南總論), which listed a comprehensive guide for applying medical formulas collected in the *Formulary of the Pharmacy Service for Great Peace and for the Benefit of the People*. The Imperial Medical Service also revised and enlarged the *Formulary of the Pharmacy Service for Great Peace and for the Benefit of the People* twice in 1225-27. The *Formulary of the Pharmacy Service for Great Peace and for the Benefit of the People* was then expanded in 1241-52 and the end of the Southern Song dynasty, which formed the extant version. The *General Guide* was also entitled *General Guide for Applying Drugs* (*Yongyao zhinan zonglun* 用藥指南總論), *General Guide for Preparing Medical Formulas* (*Heji zhinan zonglun* 和劑指南總論), or *General Guide for Applying Drugs in the Medical Formulas of the Imperial Medical Service* (*Jufang yongyao zhinan zonglun* 局方用藥指南總論). The bibliographical information about the *Formulary of the Pharmacy Service for Great Peace and for the Benefit of the People* and *General Guide* is from Ma (1990: 177-178).

¹³ *Taiping huimin heji jufang*, *juan 2*, p. 61.

¹⁴ The name of the *jia he* powder (*jia he san* 嘉禾散) in the *Formulary of the Pharmacy Service for Great Peace and for the Benefit of the People* is categorised under the section of formulas treating accumulation of qi. *Taiping huimin heji jufang*, *juan 3*, p. 88.

湯),¹⁵ and the ground powder of the seven precious (*qibao cuo san* 七寶鏗散).¹⁶

Li Qiu stressed that the priority for treating *zhang* should be to stabilize the root and normalize the qi (*gu ben zheng qi* 固本正氣) of the body. The decoction of fresh ginger and *fuzi* can achieve this desired therapeutic effectiveness for most cases of *zhang*. Once a patient's primary qi was stabilized and returned to a normal condition, they could consume the decoction of small *chaihu* (Chinese thorowax root) or the ground powder of the seven precious. If physicians could not discern (*bian* 辨) the patient's symptoms or wondered if they were suffering from the symptom of heat, the *jia he* powder was a suitable alternative in this case.¹⁷

To sum up, in this section I have investigated Li Qiu's detailed description of how he struggled to develop therapeutically effective treatments for *zhang* pestilence and of how he proposed the application of a decoction of fresh ginger and *fuzi* and other medical formulas in accordance with an individual patient's symptoms. Through the investigation, I have shown that given that no treatments for *zhang* were widely acknowledged as therapeutically effective in that day, the Song author struggled to find an effective method by trial and error. In this experimental process of seeking appropriate treatments,

¹⁵ The decoction of small *chaihu* (Chinese thorowax root) (*xiao chai hu tang* 小柴胡湯) was mainly used to treat Cold Damage disorders. *Taiping shenghui fang*, *juan* 8, p. 231; *Taiping huimin heji jufang*, *juan* 2, p.55. The *General Guide* additionally indicated that it can also treat *zhang nüe*. *Zhinan zonglun*, *juan zhong*, pp. 541-542.

¹⁶ Neither the *Taiping Era Formulas of Sagely Grace* nor the *Formulary of the Pharmacy Service for Great Peace and for the Benefit of the People* contains entries about the ground powder of the seven precious (*qibao cuo san* 七寶鏗散).

¹⁷ *Lingnan weisheng fang*, p. 7.

a patient's bodily experience of *zhang* symptoms served as an important indication of which drugs could be applied.

Certainly, prescribing in accordance with the patient's bodily experience of symptoms was central to drug therapy in Imperial Chinese medicine. There were also many other disorders in Song China awaiting effective treatments, such as *nüe* (intermittent fevers). Obringer's research indicates how the Song's supposed increasing need for treatments for *nüe* stimulated the use of *pishuang* 砒霜 (arsenic compounds) as an innovative remedy to treat it at that time.¹⁸ According to Obringer, when discussing this application, the main concern of the authors of the Song, Jin, and Yuan medical texts was its strong toxicity/potency (*du* 毒) rather than its extreme hot quality.¹⁹ In comparison, the main concern in the Song discussion of the use of drugs to treat *zhang* was the hot quality of drugs in light of the conceived environmental features in Lingnan, rather than the toxicity/potency of the drugs, as the following two sections will show.

However, in my view, what makes the Song *zhang* medicine unique is not only its lack of widely acknowledged effective treatments at that time, but also the prominent role of bodily experience of symptoms and of the environmental features in Lingnan in serving as verification of various Song

¹⁸ Obringer (2001). After identifying *nüe* (intermittent fevers) closely with malaria in biomedicine, Obringer (2001: 201-202) suggests that the extension of irrigated rice cultivation in Song times may result in wider geographical distribution of malaria. Its wider distribution in turn stimulated increasing need for treatments for *nüe* (intermittent fevers).

¹⁹ Obringer (2001: 203-209).

authors' relevant opinions. In other words, the combination of the lack of effective treatments, and the subsequent search for them by trial and error, in addition to the noticeable role of patients' bodily experience renders medical modalities of treating *zhang* different from the modalities of treating other disorders in Song times.

I will provide further evidence in favor of this trial and error nature and the crucial role of bodily experience in the Song medical practice of treating and preventing *zhang* in the following two sections. Each of the two sections analyzes one drug which attracted particular attention among Song authors in their discussion about whether, how, and why drugs of hot quality should be applied to treat *zhang* in Lingnan. Section 4.2 examines *fuzi* and section 4.3 investigates alcohol.

4.2 Song Opinions on the Use of *Fuzi* to Treat *Zhang*

In this section, I will first illustrate a variety of Song opinions on what *fuzi* precisely referred to, its places of origin at that time, and its quality and main indications (*zhu zhi* 主治) listed in the extant *Revision of Materia Medica of the Zhenghe Reign*. Following this, I investigate different ways of accounting for the use of *fuzi* to treat *zhang* in the Song era.

Views on identifying what *fuzi* was in the extant *materia medica* and literate writing composed in Song times are too numerous to be listed

comprehensively in this section. There is recent scholarship devoted to the discussion of different views regarding the identification of *fuzi* in Imperial China.²⁰ In general, the majority of the Song writers regarded *fuzi* as a drug which was derived from a kind of living plant; the name of which was not documented, but the places they originated from were in present-day Sichuan province. During the Song period, depending on the collection season or on the preparation methods, the living plant could take on different names; drugs derived from different parts of the same living plant could also be known by different names.

Here I list three Song views as examples of the wide variety that existed. The first two are drawn from two Song *materia medica* which were published several times by both the government and private publishers from the late Northern Song dynasty and onwards. The third view is drawn from the only extant Song writing piece that was devoted to introducing *fuzi* by its title. The first view identifies *fuzi* in terms of the season when the living plant in Sichuan province was harvested. The large-scale *Revision of Materia Medica of the Zhenghe Reign* indicated that if the living plant, which originated in the valleys of Jianwei 犍為 (in Sichuan province) and Guanghan 廣漢 area (in

²⁰ Wei Bing (2012).

Sichuan), was harvested in winter, it was named *fuzi*; if in spring, it was named *wutou* 烏頭 (mother root of common monk's hood or aconite).²¹

This view is essentially copied from *Notes on the Classics of the Materia Medica* (*Bencao jing jizhu* 本草經集注) by Tao Hongjing 陶弘景 (456-536), who was a prestigious figure in Daoist schools and officialdom in his time and from a family practicing drug lore for at least three generations.²² It was originally compiled in around 500 CE when he retired to Mao Mountain (Maoshan 茅山, in Jiangsu province). Tao Hongjing drew his sources from the *Divine Husbandman's Canon on Materia Medica* (*Shennong bencao jing* 神農本草經) with compilation dates varying from the second century BCE to the fifth century CE.²³ He also drew his sources from an anonymous pieces of work from the third century CE referred to as *Informal Records of Eminent Physicians* (*Mingyi bielu* 名醫別錄).²⁴ The *Notes on the Classics of the Materia Medica* was frequently cited by later literati and physicians as a classic reference to the knowledge of drugs.

²¹ *Chongxiu Zhenghe jingshi zhenglei beiyong bencao, juan 10*, pp. 241-242. The *Records for Being Erudite of Things* (*Bowu zhi* 博物志) by Zhang Hua 張華 (232-300) held a similar view that *fuzi*, *tianxiong*, and *wutou* referred to the same thing but differed in terms of which of the four seasons they were collected in.

²² For English scholarship on Tao's life, see Strickmann (1979: 138-59).

²³ For this opinion see: Unschuld (1986: 17), Lin, Shang, and Zheng (1989: 145-47), Schmidt (2006). For an introduction to different extant versions of *Notes on the Classics of the Materia Medica*, see Ma (1990: 246-56). For a brief review of Chinese scholarship on the composition date of *Notes on the Classics of the Materia Medica*, see Wang and Zhang (2001: 13-17).

²⁴ The bibliographical information on the *Informal Records of Eminent Physicians* is based on Ma (1990: 261-67).

The second view is recorded in the *Elucidation of the Meaning of Materia Medica* (*Bencao yanyi* 本草衍義, in 1116) compiled by a Northern Song official Kou Zongshi 寇宗奭.²⁵ In the preface to this work, Kou Zongshi emphasized that in order to acquire accurate information about the drugs for the compilation of this document, he interviewed local people and visited places where the drugs originated from when travelling around as a civil servant.²⁶ Kou's emphasis is cited in Fu Daiwei's research as one piece of evidence for the Northern Song literati's increasing interest in experience-based knowledge.²⁷ In this *materia medica*, Kou Zongshi stated that *fuzi*, *cezi* 側子 (literally, slanting seeds), *wutou* (mother root of common monk's hood or aconite), *wuhui* 烏喙 (literally, crow's beak), and *tianxiong* 天雄 (root of common monk's hood) all referred to the same object, but took on different names depending on whether they were large or small, and long or short. For example, Kou Zongshi stated that if *fuzi* was applied to replenish depletion and coldness (*xu han* 虛寒) of the patient's body, the applied *fuzi* was in an

²⁵ According to Kou Zongshi's preface to the *Elucidation of the Meaning of Materia Medica*, the aim of his work was to elucidate unarticulated knowledge about drugs in order to serve as an explanatory supplement of two large-scale Northern Song government-compiled *materia medica*. The two are: the *Annotated Materia Medica of the Jiayou Reign* (*Jaiyou buzhu Shennong bencao* 嘉佑補注神農本草, 1057-1061) and the *Illustrated Canon of Materia Medica* (*Bencao tujing* 本草圖經, 1058-1062). Kou Zongshi was in charge of Revenue Sections in Li Prefecture 澧州 (Lizhou, in Hunan province) in 1116. There is no biography of Kou left. We can only glimpse Kou's life career through the *Elucidation of the Meaning of Materia Medica*. For English bibliographical information on the *Elucidation of the Meaning of Materia Medica*, see Unschuld (1986: 85).

²⁶ *Bencao yanyi*, *juan* 1, p. 2.

²⁷ Fu Daiwei (2010: 287-288).

even (*ping*) and round shape (*duan ping er yuan* 端平而圓) and its weight was over a half of a *liang* (*da ji ban liang* 大及半兩).²⁸

The third view was from a written piece known as “A record on *fuzi* in Zhangming county” (*Zhangming xian fuzi ji* 彰明縣附子記 [Zhangming county is in Sichuan province]), which was compiled by a Southern Song literatus Yang Tianhui 楊天惠.²⁹ This written piece introduced *fuzi* comprehensively, by classifying its places of origin, approximate annual yields of *fuzi* in these locations, cultivation methods, the collection and preparation of *fuzi*, and the differentiation between *fuzi* and other drugs. In his written piece, Yang Tianhui copied many passages of *fuzi* from another text, the *Ancient Record of Fuzhou* (*Gu Fu zhi* 古涪志 [Fu Prefecture 涪州 Fuzhou is in Sichuan province]), composed by Yang Shuo 楊說 possibly in Southern Song times.³⁰ According to the *Ancient Record of Fuzhou* cited by Yang Tianhui, Yang Shuo disagreed with the view stated in Tao Hongjing’s *Notes on the Classics of the Materia Medica* that *fuzi* and *wutou* (mother root of common monk’s hood or aconite) were named differently because of their

²⁸ *Bencao yanyi*, *juan* 11, p. 69.

²⁹ The written piece “A record on *fuzi* in Zhangming county” is collected in the Southern Song miscellaneous notes *Records Written after the Guest Has Left* (*Bin tui lu* 賓退錄) by an official Zhao Yushi 趙與時 around 1224. *Bin tui lu*, *juan* 3, p. 32.

³⁰ According to the *Broad Records of the Shu Area* (*Shu zhong guan ji* 蜀中廣記) by Cao Xuequan 曹學佺 (1573-1646) in 1573-1619, there was a text entitled *Gu Fu zhi* 古涪志 (the *Ancient Record of Fuzhou*) by Wang Kuanfu 王寬夫 in Song times and a text named *Record of Guiling* (*Guiling zhi* 龜陵志) by a Southern Song official scholar Yang Xing 楊興, who was a contemporary of a famous official Wei Liaoweng 魏了翁 (1178-1237). As Guiling is an alternative name of Gui Mountain in Fu Prefecture, the *Ancient Record of Fuzhou* on which the essay “A record of *fuzi* in Zhangming county” was based may be the *Record of Guiling* by Yang Xing in Southern Song times. *Shu zhong guan ji*, *juan* 96, p. 563.

collection season. Instead, Yang Shuo claimed that one plant grown from seeds was named *wutou* (mother root of common monk's hood or aconite); the one growing next to *wutou* was called *fuzi*; the one next to *fuzi* was called *lizi* 鬲子 (seeds of type of caldron with three hollow legs); the long ones next to *lizi* were called *tianxiong* 天雄 (root of common monk's hood).³¹

There are many more sources which could be cited to demonstrate the wide range of views on what exactly *fuzi* referred to in Song times; however, current examples already suffice to illustrate my point that beyond the living kind of plant in Sichuan from which *fuzi* derived, no consensus on the specific reference of *fuzi* seemed to have been reached among Song people.³² Regardless of these differing views, all of the Song authors recognized *fuzi*, *wutou* (mother root of common monk's hood or aconite), and *tianxiong* (root of common monk's hood) to be drugs of extreme hot quality and strong toxicity/potency.

According to the *Ancient Record of Fuzhou* quoted by Yang Tianhui, in Song times Zhangming county was a place famous for the cultivation of high quality *fuzi*, where the land of four villages (*xiang* 鄉) was particularly suitable for its cultivation. Inhabitants of these four villages obtained *fuzi*

³¹ In "A record on *fuzi* in Zhangming county," Yang Tianhui cited various views in other earlier *materia medica* and literate writing on what *fuzi* precisely referred to, but he did not clearly indicate his own opinion on the exact reference of *fuzi*. *Bin tui lu*, *juan* 3, p. 32.

³² Given that the *materia medica* in Imperial China usually discussed *fuzi*, *tianxiong* (root of common monk's hood), and *wutou* (mother root of common monk's hood or aconite) together, Li Jianmin (2007: 107) proposes that *fuzi* refers to a group of drugs rather than a drug type. His article (2007) also explored the fact that the *fuzi* in the Han era could be applied as a drug in daily life and as a poison for political murder.

seeds from Long'an 龍安 (in Sichuan province), planted them in the winter until the eleventh month of the lunar year, and then picked them in the autumn until the ninth month. These four villages cultivated *fuzi* from approximately one-hundred *qing* 頃 of land and amassed at least 160,000 *jin* 斤 of *fuzi* per year.³³

The main text of the *Revision of Materia Medica of the Zhenghe Reign* indicated that *fuzi* was a drug of warm (*wen* 溫) and extremely hot quality, strong toxicity/potency, with a pungent (*xin* 辛) and sweet (*gan* 甘) sapor (*wei* 味). It also noted that *fuzi* covered a wide range of main indications, e.g. warming the internal body (*wen zhong* 溫中); strengthening muscles; treating wind and coldness (*feng han* 風寒), deviant qi (*xie qi* 邪氣), wounds caused by metal tools or weapons (*jin chuang* 金瘡), accumulation and assemblage (*ji ju* 積聚), coldness and dampness (*han shi* 寒濕), painful feet (*jiao teng* 腳疼), dysenteric disorders (*xia li* 下痢), and so forth.³⁴

Notably, in the *Revision of Materia Medica of the Zhenghe Reign*, despite this wide range of main indications of *fuzi*, not one of them was to treat *zhang*. Table 4.1 lists the drugs which were mentioned as treating *zhang* in the main text of the *Revision of Materia Medica of the Zhenghe Reign*.

³³ *Bin tui lu*, *juan* 3, p. 32.

³⁴ *Chongxiu Zhenghe jingshi zhenglei beiyong bencao*, *juan* 10, pp. 241-242.

Table 4.1 Drugs for treating *zhang* in the main text of the *Revision of Materia Medica of the Zhenghe Reign*

no.	drug (with its English or literal name) ³⁵	quality	sapor	toxicity/ potency	page number
1	<i>posuoshi</i> 娑娑石 (lit. stone from <i>posuo</i> land)	N/A	N/A	N/A	3, 96
2	<i>shengma</i> 升麻 (cimicfuga, large trifoliolious bugbane rhizome)	neutral, minor cold	sweet, bitter	no	6, 158
3	<i>caoxigen</i> 草犀根 (literally, roots of grass rhinoceros)	neutral	pungent	no	6, 169
4	<i>qianliji</i> 千里及 (literally, the reach of thousand mile)	neutral	bitter	minor (<i>xiaodu</i> 小毒)	6, 170
5	<i>fujizigen</i> 伏雞子根 (literally, root of <i>fugizi</i> herb)	cold	bitter	no	6, 170
6	<i>Chenjia baiyao</i> 陳家白藥 (literally, white medicine of Chen's family)	cold	bitter	no	6, 170

³⁵ The English names of drugs are according to the dictionary of Chinese herbology and pharmacology edited by John K Chen and Tina T Chen (2004). As for drugs which are not listed in the dictionary, I provide my literal translation of their names instead in the Table 4.1 and 4.2.

7	<i>diburong</i> 地不容 (literally, incompetence with land)	extreme cold (<i>dahan</i> 大寒)	bitter	no	7, 191-92
8	<i>baizhangqing</i> 百丈青 (literally, hundred mile blue green)	cold	bitter	no	8, 215
9	<i>jinchagu</i> 金釵股 (literally, section of gold hairpins)	neutral	pungent	minor (<i>xiaodu</i> 小毒)	8, 215
10	<i>yazhicao</i> 鴨跖草 (creeping dayflower)	cold	bitter	no	11, 283
11	<i>wuyao</i> 烏藥 (lindera root)	warm	pungent	no	13, 329
12	<i>qianjinteng</i> 千金藤 (literally, thousand gold rattan)	N/A	N/A	N/A	14, 349
13	<i>yanfuzi</i> 鹽麩子 (literally, salt bran)	minor cold (<i>weihan</i> 微寒)	sour	no	14, 355
14	<i>tianlinggai</i> 天靈蓋 (top of the human skull)	neutral	savory	no	15, 365-66
15	<i>xijiao</i> 犀角 (rhinoceros horn)	cold, minor cold	bitter, sour	no	17, 383
16	<i>mihou</i> 獼猴 (monkey)	neutral	sour	no	18, 395

17	<i>guoranrou</i> 果然肉 (literally, meat of animal <i>guoran</i>)	N/A	savory	no	18, 395-96
18	<i>zhegu</i> 鷓鴣 (francolin)	warm	sweet	no	19, 400-01
19	<i>haitunyu</i> 海狷魚 (literally, sea pig fish)	N/A	savory	no	20, 420-21
20	<i>haiyaoyu</i> 海鷓魚 (literally, sea sparrow hawk fish)	N/A	N/A	no	20, 421
21	<i>shi</i> 豉 (fermented bean)	cold	bitter	no	25, 493-94

It is noteworthy that no drugs of hot quality appear in the list. Nine out of twenty-one drugs are cold (*han*) (nos. 2, 5, 6, 7, 8, 10, 13, 15, 21); six are neutral (nos. 2, 3, 4, 9, 14, 16); five are inapplicable (nos. 1, 12, 17, 19, 20); and two are warm (nos. 11, 18). Nonetheless, few Song authors discussed the application of these twenty-one drugs to treat *zhang*.³⁶ By contrast, the Song authors attended to the pertinence of applying drugs of hot quality to treat or prevent *zhang* in Lingnan, especially *fuzi* and alcohol, as the following discussion will show.

For the convenience of the following discussion of the Song writers' concerns regarding the application of drugs of hot or cold quality to treat

³⁶ The case that the knowledge of applying drugs to treat certain disorders in *formularies* became integrated into *materia medica* can also be found in the case of *qinghao* 青蒿 (blue green wormwood herb) in Imperial China. For the case on *qinghao*, see Hsu (2010b: 106-110).

zhang, Table 4.2 lists the hot and cold quality of drugs which are said to treat *zhang* in the formularies and miscellaneous notes discussed in this chapter.

Table 4.2 Hot and cold Quality of Drugs in the Formularies and Miscellaneous Notes Discussed in Chapter Four

no.	drug (wth its English or literal name)	quality	sapor	toxicity/ potency	page number
1	<i>dansha</i> 丹砂 (cinnabar)	slightly cold	sweat	no	3, 79
2	<i>poxiao</i> 礞硝 (the crude form of sodium surface)	cold, extremely cold	bitter, pungent	no	3,87
3	<i>shigao</i> 石膏 (gypsum)	slightly cold, extremely cold	pungent, sweet	no	4, 108
4	<i>cishi</i> 磁石 (literally, magnetic stone)	cold	pungent, savory	no	4, 111
5	<i>chaihu</i> 柴胡 (Chinese thorowax root)	neutral, slightly cold	bitter	no	6, 155
6	<i>shengjiang</i> 生薑 (fresh ginger)	slightly warm	pungent	N/A	8, 194
7	<i>mahuang</i> 麻黄 (ephedra)	warm, slightly warm	bitter	no	8, 199
8	<i>fuzi</i> 附子 (prepared)	warm,	pungent,	extreme	10, 241

	daughter root of common monk's hood, or aconite)	extremely hot	sweat		
9	<i>wutou</i> 烏頭 (mother root of common monk's hood, or aconite)	warm, extremely hot	pungent, sweat	extreme	10, 243
10	<i>dahuang</i> 大黃 (rhubarb root)	cold, extremely cold	bitter	no	10, 246
11	<i>qinghao</i> 青蒿 (blue green wormwood herb)	cold	bitter	no	10, 250 ³⁷
12	<i>changshan</i> 常山 (dichroa root)	cold, slightly cold	bitter, pungent	yes	10, 253
13	<i>binlang</i> 檳榔 (betel nut)	warm	pungent	no	13, 319
14	<i>biejia</i> 鱉甲 (turtle shell)	neutral	savory	no	21, 425
15	<i>jiu</i> 酒 (alcohol)	extremely hot	bitter, sweet, pungent	yes	25, 487

As shown in Table 4.2, over half the number of drugs were of cold quality. Eight out of the fifteen drugs can be categorized as drugs of cold quality (nos. 1, 2, 3, 4, 5, 10, 11, 12 in Table 4.2), five of warm (nos. 6, 7, 8, 9, 13), three of extremely hot (nos. 8, 9, 15), and two of neutral quality (nos. 5, 14). The

³⁷ *Qinghao* (blue green wormwood herb) was recorded under the entry on *cao hao* 草蒿 (herbaceous wormwood herb).

distribution of the cold quality is similar to what is recorded in the main text of the *Revision of Materia Medica of the Zhenghe Reign* (see Table 4.1), in which nine out of the twenty one are drugs of cold quality. The fact that drugs of cold quality outnumbered those of extreme hot quality suggests why Song authors tended to discuss the reasons for which drugs of extreme hot quality, such as *fuzi* and alcohol, could be applied to treat *zhang*.

As for the use of *fuzi* in Song China, the wide range of main indications of *fuzi* supposedly contributed to the large demand for *fuzi* in that day. The Southern Song *Ancient Record of Fuzhou* cited by Yang Tianhui stated that although *fuzi* of high quality was cultivated in the Shu 蜀 area (in Sichuan), few inhabitants there could consume it.³⁸ Instead, people who consumed *fuzi* of high quality from the Shu area were those living in the areas of Shanfu 陝輔, Min 閩 (in Fujian province), and Zhe 浙 (in Zhejiang province).³⁹ Moreover, in those three areas, scholar-officials obtained *fuzi* of the highest quality; the second highest quality was sold to Min and Zhe; and the third-rated quality to Shanfu.⁴⁰

Although the extant Song *materia medica* did not record the medicinal effectiveness of *fuzi* to treat *zhang*, this usage prevailed in Guangnan West Circuit (in Guangxi province) at least during the twelfth century, according to

³⁸ *Bin tui lu*, *juan* 3, p. 32.

³⁹ There is no entry entitled shanfu 陝輔 in the *Zhongguo gujin diming da cidian* (2005). I suspect that this term is an abbreviation for a combination of two place names. They are Shan 陝 (in Shaanxi province) and Sanfu 三輔 (in Shaanxi province).

⁴⁰ *Bin tui lu*, *juan* 3, p. 33.

the Southern Song miscellaneous notes *Treatises of the Supervision and Guardian of the Cinnamon Sea* (*Guihai yuheng zhi* 桂海虞衡志) by Fan Chengda 范成大 (1126-1193). Fan Chengda, a famous scholar-official and literati of the day, was an official of Jingjiang Prefecture 靜江府 (Jingjiang fu, in Guangxi province) in the West Circuit of Guangnan 廣南西路 in 1172-1175, then being assigned to Chengdu 成都 in 1175. He composed the *Treatises of the Supervision and Guardian of the Cinnamon Sea* to recall his times in Jinjiangfu on his way to Chengdu.⁴¹

In these notes, Fan Chengda indicated that *zhang* prevailed everywhere in the southern regions beneath Guilin 桂林 (in Guangxi). Typical symptoms included feeling chilly and hot flushes. Although various treatments of *zhang* were deployed there, *fuzi* was frequently used in urgent situations (*ji xu* 急須) and the formula *buhuan jin zheng qi san* 不換金正氣散 (literally, the powder that is not being changed with gold and rectify qi) was applied in more common cases.⁴² Unfortunately, Fan Chengda made no mention of which formulas used *fuzi* and which drugs were in the formula of the powder.⁴³

The lack of incorporating up-to-date information about drug application in the Song government-published *materia medica*, such as the use of *fuzi* to treat

⁴¹ For further bibliographical information about the *Treatises of the Supervision and Guardian of the Cinnamon Sea*, see Hargett (2010: xix-xx).

⁴² *Guihai yuheng zhi*, p. 128.

⁴³ A formula bearing the same title was categorized in the *Formulary of the Pharmacy Service for Benefiting the People in the Era of Great Peace* in an appendix of getting heat stroke in the summer (*zhong shu* 中暑) under the section on Cold Damage disorders. *Taiping huimin heji jufang*, juan 2, p. 76.

zhang, reveals an inconsistency between government medical policies and local medical practices for *zhang*. Noticing this inconsistency can provide us a more comprehensive historical picture of the development of southern medicine in Song China. On the one hand, scholarship (e.g. Hinrichs' research) has indicated that the Song government, especially the Northern Song one, strove to improve underdeveloped southern medicine under a political project of "transformation through teaching" (*jiaohua* 教化) of laymen there by disseminating medical texts and drugs.⁴⁴ On the other hand, the discussion in this thesis so far has shown that local medical practices and knowledge of *zhang* in Lingnan still lacked widely acknowledged textual references and developed by trial and error. This development by trail and error is in contrast to the assertive Song governance of southern medicine.

The case of the knowledge of drugs attests an inconsistency between the political realm, where policies relating to southern medicine were assertively enforced, and social practice, where uncertainty and trial-and-error governed the pursuit of effective treatments. Hinrichs indicates that the Song governors' endeavor to disseminate medical texts was to promote scholarly medicine over unorthodox medical customs. For instance, as early as 974, Emperor Taizu 太祖 (927-976, r. 960-976) had already decreed the distribution of unspecified *materia medica* and formulas to Qiong Prefecture 瓊州 (Qiongzhou,

⁴⁴ Hinrichs (2003, 2011, forthcoming) has conducted a series of research projects on the Song governance and policies of southern medicine.

on Hainan island).⁴⁵ However, my comparison between Table 4.1 “Drugs for treating *zhang* in the main text of the *Revision of Materia Medica of the Zhenghe Reign*” and Table 4.2 “Hot/cold Quality of Drugs in the Miscellaneous Notes and Formularies Discussed in Chapter Four” shows that: the drugs recorded in the large scale Song *Revised Materia Medica of the Zhenghe Era* as having medicinal effectiveness for treating *zhang* are less discussed by the Song authors writing about medical practices related to *zhang* in Lingnan. I suspect that this inconsistency between knowledge about treating *zhang* in the late Northern Song *materia medica* and in the Song authors’ discussion of practice implies that the government-commissioned *materia medica* may rarely have incorporated up-to-date drug therapies for *zhang*. Accordingly, it is hard to say that the decree of Emperor Taizu improved southern medicine.

Although the extant Song *materia medica* did not include treating *zhang* as one of the main indications of *fuzi*, the Song authors of formularies proposed two reasons for the medicinal effectiveness of *fuzi* when treating *zhang*. One reason was that the hot quality of *fuzi* could attack the heat, the known symptom of *zhang*. This effectiveness was encapsulated in the phrase “attack heat with heat” (*yi re gong re* 以熱攻熱) coined by Li Qiu. Similar views additionally appeared in a written piece “Ten talks about the Lingbiao area” (*Lingbiao shi shuo* 嶺表十說) composed by Zhang Jie 章傑, who had stayed in Lingnan as a low-ranking official in early Southern Song times. Zuo Peng’s

⁴⁵ *Xu zizhi tongjian changbian*, juan 16, p. 349.

article suggests that he was perhaps a Southern Song official in the Tax Transport Bureau (*Zhuanyu panguan* 轉運判官) in Guangnan East Circuit (in Guangdong province) before the fourth year of the Shaoxing reign (1134) in the early Southern Song.⁴⁶ Zhang Jie stated that *fuzi* could attack the *zhang* heat through its hot quality and thus discharge and disperse the coldness and deviance (*fa san han xie* 發散寒邪) in the body.⁴⁷

The second reason for the use of *fuzi* for cases of *zhang* is that *fuzi* can replenish the patients' depleted yang qi, though the evidence in support of this is indirect. It can be inferred from an entry on *zhang* in the Southern Song miscellaneous notes *Answers on Regions beyond the Ling Ranges* composed by Zhou Qufei, who was from Yongjia 永嘉 in Wen Prefecture 溫州 (Wenzhou, in Zhejiang province) and gained his *jinshi* degree in 1163.⁴⁸ He was in Qin Prefecture 欽州 (Qinzhou) and Jingjiang Prefecture 靜江府, which are both in Guangxi province, as a low-ranking official from approximately 1172 to

⁴⁶ Zuo (2004: 201). I regard the written piece "Ten talks about the Lingbiao area" as an extract from miscellaneous notes rather than belonging to the medical genre for two reasons. Firstly, this piece was composed in a layout typical of miscellaneous notes at the time; that is, the notes consisted of separate entries (which were usually not very long); the multiple entries were categorised under different topics but the sequence of arranging the entries in each specific topic could hardly be seen. Secondly, the extant version of this written piece seems to have had no intention of providing any specific information about treatments for *zhang*, such as the contents of medical formulas. These two features (i.e. the layout and no specific information about practice) remind us of Zhou Qufei's miscellaneous notes *Answers on Regions beyond the Ling Ranges*.

⁴⁷ *Lingnan weisheng fang*, p. 33.

⁴⁸ For information about Zhou Qufei's life career, see *Lingwai daida jiaozhu*, pp. 1-6.

1178.⁴⁹ In the preface of *Answers on Regions beyond the Ling Ranges*, he said that he wrote the miscellaneous notes about what he had witnessed and heard about in person in Guangxi in order to answer countless questions from his relatives and friends about Lingnan—the remote and exotic far south.⁵⁰

In *Answers on Regions beyond the Ling Ranges*, when elaborating on his ideas about treatments of *zhang*, Zhou Qufei proposed that certain drugs, such as *fuzi*, which was well-known to be of extremely hot quality, could be applied in the following situation:

Previously, the family of Attendant Censor Tang in Jingjiang Prefecture was given *qinghao* [i.e. blue green wormwood herb] powder by immortals. Until nowadays [whoever suffers from] *zhang* in the south and consumes this powder will have marvelous therapeutic effectiveness. This powder (*san*) is made from *qinghao* [i.e. blue green wormwood herb], *shigao* [i.e. gypsum], and herbs. Those who consume it but do not recover, it is because their inherited bodily constitution is weak and they suffer from a disorder that is serious. [If physicians] instantly rescue the patients with *fuzi* and *dansha* [i.e. cinnabar], they would usually be cured. As the south is extremely hot, applying *dansha*

⁴⁹ During his time in Guangxi, Zhou Qufei first held the position of instructor at a Confucian school (*shuyuan* 書院) in Qin Prefecture in 1172-73, in Jinjiang Prefecture in 1174-75, and then went back to Qin Prefecture in 1176-78.

⁵⁰ *Lingwai daida*, p. 1. Although Zhou Qufei claimed that records in his text were from his personal experience, some of the entries were actually copied from Fan Chengda's *Treatises of the Supervision and Guardian of the Cinnamon Sea* in 1175. For which entries in Zhou's work were copied from Fan's work, see *Lingwai daida jiaozhu*, pp. 11-12.

[i.e. cinnabar] is by no means using heat to enhance heat; it is because the yang qi [of the patients] is not solid and they depend on (*jia*) heating drugs to gather and collect the qi.

昔靜江府唐侍御家，仙者授以青蒿散。至今南方瘴疾服之，有奇驗。其藥用青蒿、石膏及草藥。服之而不愈者，是其人稟弱而病深也。急以附子、丹砂救之，往往多愈。夫南方盛熱，而服丹砂，非以熱益熱也；蓋陽氣不固，假熱藥以收拾之爾。⁵¹

Two points in this quotation merit our attention. Firstly, the superiority of *qinghao* (blue green wormwood herb) powder presumably comes from two particular facets. One is its outstanding medicinal efficacy when treating *zhang* disorders. Another is its mythological origins; it was said that this formula was provided by immortals.

The second, and more important point is the potential tension between the heat in Lingnan and hot quality of drugs mentioned in the last sentence of this quotation. Zhou Qufei proclaimed that although the environment in Lingnan was extremely hot, the purpose of taking drugs of hot quality was to solidify the infirm yang qi of patients, rather than to enhance the heat in Lingnan with the hot quality of drugs.⁵² As he had stayed in Lingnan over several years, Zhou Qufei's comments about heat in Lingnan possibly summarized his

⁵¹ *Lingwai daida* 4.68, pp. 152-53.

⁵² In the *Revision of Materia Medica of the Zhenghe Reign, dansha* (cinnabar) was actually recorded as a drug of slightly cold quality (See Table 4.2, no. 1), whereas in this quotation Zhou Qufei seemed to regard it as a drug of hot quality.

bodily experience of the environment there. Instead of applying drugs of hot quality in the first place, he suggested using *qinghao* (blue green wormwood herb) powder first. *Qinghao* was an alternative name for *cao hao* 草蒿 (herbaceous wormwood herb) in the *Revision of Materia Medica of the Zhenghe Reign*, which was documented to be of cold quality and bitter sapor (see Table 4.2).⁵³ Only in cases where the powder failed to achieve therapeutic effectiveness should patients consume *fuzi* and *dansha* (cinnabar). This step-by-step prescription strategy for healing *zhang* indicates the trial and error method of the search for medicinally effective treatments of *zhang*.

Interestingly, although Zhou Qufei praised the remarkable therapeutic effectiveness of the *qinghao* (blue green wormwood herb) powder, he did not list its medical formula in his work. This omission is in keeping with the written purpose of these miscellaneous notes, which he indicated in the preface; that is, their purpose was to casually record his perception on Lingnan. In the same vein, Zhou's purpose of composing treatments for *zhang* was less to promote a systematic argument of how to treat *zhang* properly, as Li Qiu did, than to showcase his extensive knowledge of Lingnan. I will further compare the medical knowledge composed in the Southern Song formularies and miscellaneous notes in section 4.4.

⁵³ *Chongxiu Zhenghe jingshi zhenglei beiyong bencao*, juan 10, p. 250.

A similar notion of applying *dansha* (cinnabar) to rectify the yang qi in the body of a patient suffering from *zhang* can also be encountered in the entry on *zhang qi* in the *Sagely Benefaction Medical Encyclopedia*:

The principle of the treatment should be that [physicians] first apply *cishi* [i.e. magnetic stone] to contract the yin in the patients' lower body parts; secondly use *dansha* [cinnabar] to rectify the yang in the patients' upper body parts. Once the qi of yin and yang have returned to normality, [symptoms of] internal fullness will naturally be dissolved. Then [physicians] apply *binlang* [i.e. betel nut] to remove the remaining accumulated [yin and yang].

治法當先以磁石下收其陰，次以丹砂上正其陽。陰陽氣正，中滿自消。然後以檳榔解其餘蘊。⁵⁴

This quoted prescription strategy is supported by the yin and yang principles. It focuses on the medicinal effectiveness of *dansha* (cinnabar) for normalizing the yang qi of the patient's body. In comparison, Li Qiu's prescription strategy, which was examined in the preceding section, mainly considered treatments of *zhang* in terms of heat and coldness. For instance, Li Qiu discussed how to treat heat as a symptom of *zhang* with *fuzi*, which was of extremely hot quality, and why the decoction of fresh ginger and *fuzi* should be allowed to cool down first.

⁵⁴ *Shengji zonglu*, Juan 37, p.348.

The concept that drugs of hot quality can recover yang qi can be traced back to the *Basic Questions*. Section 5 in the *Basic Questions* mentioned that what the pungency and sweetness can discharge [the exterior condition] and disperse was yang (*xin gan fa san wei yang* 辛甘發散為陽).⁵⁵ This sentence was extended in the formulary *Discussion on Comprehensive Cold Damage Disorders* (*Shanghan zongbing lun* 傷寒總病論, printed in ca. 1100), which was composed by the eminent Northern Song physician Pang Anshi 龐安時 (1042-1099). Pang Anshi claimed that an appropriate treatment for patients who suffered from deviant or inverse yin qi or yang qi (*xie ni yin yang zhi qi* 邪逆陰陽之氣) was to make them sweat. In this case, Pang Anshi cited the above sentence from section 5 in the *Basic Questions* and indicated that drugs of a pungent and sweet sapor, such as ginger and *fuzi*, could recover (*fu* 復) the yang qi.⁵⁶ Another instance is the medical formula pills of the five spirits (*wu ling yuan* 五靈圓) in the widely circulated formulary *Original Formulary for Popular Relief* (*Puji benshi fang* 普濟本事方 or named *Leizheng puji benshi fang* 類證普濟本事方), which was compiled by a famous physician Xu Shuwei 許叔微 (1079-1154) in his old age.⁵⁷ The entry on the pillar of five spirits stated that

⁵⁵ *Suwen* 5, p. 42.

⁵⁶ *Shanghan zongbin lun*, *juan* 1, p 152.

⁵⁷ Xu Shuwei was famous for his medical skills, especially in treating Cold Damage disorders. He was from Zhen Prefecture 真州 (Zhenzhou, in Jiangsu province) and obtained a *jinshi* degree in 1133. Regarding the printed date of the *Original Formulary for Popular Relief*, Ma (1990: 180) says 1232, but Goldschmidt (2009: 188) says 1144. However, neither of them state which textual evidence the date is based on. Xu's own preface to the *Original Formulary for Popular Relief* only mentioned that he composed it when he was old. *Puji benshi fang*, p. 83.

some drugs of hot quality, e.g. *fuzi*, were strong medicines (*gang ji* 剛劑) which could serve to enhance yang qi and tonify the genuine qi (*zhen qi* 真氣) in a patients' body.⁵⁸

To sum up, by exploring how the Song authors accounted for the use of *fuzi* to treat *zhang*, in this section I have shown that on the one hand, *fuzi* was frequently applied to treat *zhang* in twelfth-century Guangxi in urgent situations, as Fan Chengda indicated. On the other hand, the Song authors held a variety of views on reasons for its therapeutic effectiveness and in which specific conditions it could be applied. For example, Li Qiu advocated applying the decoction of fresh ginger and *fuzi* in many cases of *zhang*. In comparison, Zhou Qufei proclaimed that *fuzi* was only used if the *qinghao* (blue green wormwood herb) powder failed to achieve the desired medicinal effectiveness. This variety of opinions among the Song authors reveals not only their endeavors to pursue effective treatments for *zhang* by trial and error but also their emphasis on personal experience of practice, which in turn served as claims about their medical ideas. The heat in Lingnan sometimes emerged in their concerns about the use of *fuzi* to treat *zhang*. In the following section on Song opinions on drinking alcohol to prevent *zhang*, I will provide more evidence about the interaction between trial and error in medical practice, the emphasis on the environmental bodily experience and the

⁵⁸ *Puji benshi fang*, Juan 2, p. 102.

experience in practice, and the environmental features that were identified by the Song authors.

4.3 Song Opposing Stances on the Drinking of Alcohol to

Prevent *Zhang*

Two conflicting Song stances on the consumption of alcohol to prevent *zhang* are subject to investigation in this section. In this section, I first analyze a textual reference in favor of drinking alcohol to prevent *zhang*, which was frequently cited by Song authors who argued against the recommendation of alcohol to prevent *zhang*. I then examine the two contrasting Song stances; the disagreement regarding drinking alcohol to prevent *zhang* can be generally divided into two categories which are not mutually exclusive: the first regarding the deadly combination of environmental features identified in Lingnan and the hot quality of alcohol which would bring about disorders; the second was related to the fact that the act of drinking itself would result in disorders. These Song authors often utilized their experience or others' experience observed by those authors in Lingnan to defend their viewpoints.

In both *Notes on the Classics of the Materia Medica* composed by Tao Hongjing and the *Song Revision of Materia Medica of the Zhenghe Reign*, alcohol was logged as a drug of extremely hot quality and toxicity/potency. It was thought to be capable of promoting the medicinal effectiveness of formulas and of

killing a hundred quantities of deviance and qi of malicious [substances] and poison (*sha bai xie e du qi* 殺百邪惡毒氣).⁵⁹ Tao Hongjing referred to the case that coldness can freeze even the sea but not alcohol, to validate the classification of alcohol as a drug of extremely hot quality.⁶⁰

The earliest sources documenting the concept that consuming alcohol in the south could maintain health can be found in the biography of Yuan Ang 袁盎 (ca. 200-148 BCE) in *Records of the Historian*. The biography details the time when Yuan Ang was assigned to Wu 吳 (in Jiangsu province), and his nephew Yuan Zhong 袁種 suggested that he maintained his health using alcohol “since the south was low-lying and damp, you can drink every day” (*nanfang bei shi, jun neng ri yin* 南方卑濕, 君能日飲).⁶¹ Although Yuan Zhong’s suggestion does not indicate which disorders this approach would prevent, it is perfectly clear that drinking alcohol could keep a person healthy in the damp environment of the south, which was regarded as debilitating and which is referred to as Jiangsu province in this story. The notion that drinking alcohol could prevent *zhang* in Lingnan appeared widely in Song poems and memorials although they did not specify reasons why it could prevent *zhang* or maintain health in the south.⁶²

⁵⁹ *Shennong bencao jing jizhu*, juan 7, p. 510. *Chongxiu Zhenghe jingshi zhenglei beiyong bencao*, juan 25, p. 487.

⁶⁰ *Shennong bencao jing jizhu*, juan 7, p. 510.

⁶¹ *Shiji*, juan 101, p. 2741.

⁶² Hsiao Fan (1993/2005: 285-288) cited many Song poems and memorials to show that drinking alcohol was regarded as not only being able to prevent *zhang* but also to maintain health in the hot and damp environment in Lingnan.

When disagreeing with the drinking of alcohol to prevent *zhang*, the Song authors often made reference to a story in Tao Hongjing's *Notes on the Classics of the Materia Medica*. The story reads as follows: once upon a time, three people encountered mist (*chu wu* 觸霧) when travelling in the morning. Later, one was fine, another sick, and the third one dead. Before setting off, the healthy one had drunk alcoholic drinks, the sick one had consumed porridge, and the dead one had eaten nothing. In *Notes on the Classics of the Materia Medica*, Tao Hongjing suggested that the healthy one was fine because of the propensity (*shi* 勢) of alcohol to repel (*pi* 辟) malicious (*e* 惡) substances.⁶³ Even though the story did not specify whether the mist was *zhang* or not, the Song authors frequently mentioned this story when refuting the notion that drinking alcohol could prevent *zhang*.⁶⁴

Even though this notion of alcohol's propensity to prevent *zhang* or maintain health had existed since the Han, some Song writers disagreed with it. One reason for their disagreement concerned the heat and dampness in the south. For example, in his written piece "Ten talks about the Lingbiao area," Zhang Jie cited the aforementioned story in *Notes on the Classics of the Materia Medica* and then argued against the notion of drinking to prevent *zhang*. He

⁶³ *Shennong bencao jing*, *juan* 7, p. 510. Hsu (2010a: 324-325) cites a sentence in *Essays by Master Han Fei* (*Han Fei zi* 韓非子, ca. third century BCE) to propose that in antiquity, drugged wine (*yao jiu* 藥酒) was consumed by kings.

⁶⁴ Some Song literati attributed the case that drinking alcohol prevented *zhang* not only to the alcohol itself but to the raw materials from which the drinks were made. For example, Su Shi said that he drank alcohol made from *gui* 桂 (cinnamon) to prevent *zhang*. He moreover cited the opinion of Tao Hongjing and Sun Simiao that *gui* (cinnamon) could nourish and lighten the body if one consumed it over a long time. *Su Shi wen ji*, *juan* 20, p. 593.

first suggested that it was the indulgence of drinking that caused people to suffer from *zhang*. He then said that “*tu* in the south [literally, the earth of the south] is summer heat and dampness. [If one] indulges in drinking alcoholic drinks, then one usually is struck by the poison of summer heat” (*nan tu shu shi, shi jiu ze duo zhong shu du* 南土暑濕，嗜酒則多中暑毒).⁶⁵

Zhang Jie particularly argued against drinking in the *mao* 卯 hour (approximately present-day 8-10am) due to the rapidly changing weather in Lingnan. Zhang Jie declared that the weather in Lingnan was hot in the morning whereas it was chilly at night. The cold and hot weather would even change several times in a single day. He claimed that people who drank alcohol early in the morning when the weather remained cold would definitely become sick once they encountered the sudden heat in the daytime.⁶⁶ His claim is noteworthy as it integrates the concern of drinking alcohol into the specific weather rhythm of Lingnan that was experienced and identified by Zhang Jie, Li Qiu, and Chen Ziming.

Another reason for the disagreement was the hot quality of alcohol itself. It was suggested that the heat of the alcohol would accumulate in the body and then result in disorders if a person had drunk over a long period of time. This notion is evident in the opinion of Liu Anshi 劉安世 (1048-1125) in the *Explication of Master Yuancheng's Words* (*Yuancheng yulu jie* 元城語錄解, 1135).

⁶⁵ *Lingnan weisheng fang*, p. 56.

⁶⁶ *Lingnan weisheng fang*, p. 57.

It was compiled by Ma Daniaan 馬大年, who was Liu Anshi's student and transcribed Liu's words in this text.⁶⁷

Liu Anshi mentioned this notion of drinking alcohol to prevent *zhang* as an example of the danger in making overgeneralized statements. According to Ma Daniaan's transcription, Liu Anshi first repeated the story in *Notes on the Classics of the Materia Medica* and then argued against drinking alcohol to prevent *zhang* in Lingnan. Liu Anshi recalled that when he had just arrived in Lingnan, an eminent monk warned him that because both the land in the south was hot (*nan fang di re* 南方地熱) and the quality of alcohol was extremely hot, drinking alcohol in Lingnan would definitely bring about disorders. The symptom of these disorders included the skin all over the body becoming yellow, which was a manifestation of extreme heat in the body. As a result of the monk's warning, Liu Anshi stopped drinking alcohol after going to Lingnan. He believed that it was because of this that he had never suffered from *zhang* in Lingnan. Liu Anshi further proclaimed that although at first consuming alcoholic drinks to prevent *zhang* seemed to be effective,

⁶⁷ Ma Daniaan became Liu Anshi's student when Liu Anshi stayed at Yongcheng county 永城 in Bo Prefecture 亳州 (Bozhou, in Anhui province) in 1109-1111. Although Liu later moved to Nanjing 南京 (in Jiangsu province), Ma still frequently came to Nanjing to visit Liu. After being Liu's student for over twenty-six years, Ma inscribed Liu's words into the *Explication of Master Yuancheng's Words* and composed a preface of this work in 1135. For Ma's preface see *Yuancheng yulu jie*, p. iii.

the heat of the drinks would accumulate in five visceral systems (*wu zang* 五臟) and would lead to fatal results in the foreseeable future.⁶⁸

Liu Anshi concluded that if the northerners could stop both drinking and sexual indulgence, they could maintain their health even in the “flame direction” (*yan fang* 炎方, i.e. the south) in places such as Lingnan. The rationale behind his conclusion suggests that it was indulgence and inappropriate daily conduct, rather than the environment in Lingnan that was notoriously debilitating, damaging the dweller’s body. Moreover, given that Liu Anshi himself said that he had striven to promote this idea to as many people as he could after going back to the north, suggests that the notion of drinking alcohol to prevent *zhang* was more prevalent than Liu Anshi’s viewpoint, at least in the north of the Nanling ranges at that time.⁶⁹

Liu Anshi’s opinion echoes the standpoints of both Zhang Jie and Wang Fei; that is, the role of an unregulated lifestyle was emphasized over that of the environmental features considered to be debilitating, in giving rise to disorders in Lingnan. This Song opinion illustrates the extent to which scholarly medicine learnt by the Song authors could be extended to

⁶⁸ *Yuancheng yulu jie, juan shang*, p. 7. A similar opinion can be found in *Medical Anecdotes* (*Yi shuo* 醫說, preface composed in 1189, printed in 1225) by Zhang Gao 張杲 (1127). Zhang Gao was a Southern Song literatus whose father was good at medicine. Zhang Gao collected many notes or stories relevant to medicine from a variety of genres, compiling them into the *Ruminations of Medicine*. It cited a record from the *Remaining of Medicine* (*Yi yu* 醫餘) stating that the accumulated heat in the body as a result of consuming drugs of hot quality would damage one’s health. It stated that drugs of dry hot quality (*zao re zhi yao* 燥熱之藥), such as *fuzi*, could by no means replenish the depletion of a patient’s body but merely drain the blood and qi. *Yi shuo, juan 4*, p. 262.

⁶⁹ *Yuancheng yulu jie, juan shang*, p. 7.

Lingnan—a place notorious for its exotic environment. In Song writing, the issue of the expansion of scholarly medicine to treat *zhang* in Lingnan often occurred in two different but related observations, which the Song authors claimed to make in person: one is the importance of living a regulated lifestyle; the other is the relationship between the diagnosis, nosology, symptoms, and treatments of *zhang* and Cold Damage disorders. To properly address this issue of the extension of scholarly medicine from the Song authors' viewpoint, I will discuss the Song view after investigating the relationship between medicine to treat *zhang* and to heal Cold Damage disorders in the next chapter.

In summary, while the concept of drinking alcohol to prevent *zhang* persisted, some Song scholar-officials refuted it. The reasons that they proposed can be broadly divided into two categories. The first concerns the case that the environmental features in Lingnan would combine with the alcohol and subsequently result in disorders in the drinker's body. For instance, the heat and dampness in Lingnan would make the drinker be poisoned by the summer heat there, or when encountering the fluctuating temperatures in a single day, identified as a Lingnan-specific weather rhythm, the drinker would become sick. These two opinions are both proposed by Zhang Jie, a low-ranking official in Lingnan in the early twelfth century. The second category is related to the act of drinking alcohol itself, highlighting the

threat of an indulgent lifestyle on the body and thereby focusing less on the perceived harmful environmental features in Lingnan. For example, the accumulation of the heat of alcohol in the drinker's body would soon give rise to disorders.

Given that the Song sources on which sections 4.2 and 4.3 rely come from formularies and miscellaneous notes, I will compare the medical knowledge documented in the two genres and propose a reason why some of the Song scholar-officials tended to note their opinions on the medical practice of treating or preventing *zhang* in miscellaneous notes.

4.4 Medical Knowledge about *Zhang* in Song Formularies and

Miscellaneous Notes

Our discussion of *zhang* medicine in Song times so far already provides sufficient sources for us to compare the similarities and differences between medical knowledge composed in formularies and miscellaneous notes at that time. In this section, I will first compare medical knowledge about *zhang* written in the Song formularies and miscellaneous notes. After indicating their differences, I will propose one reason to explain why some of the Song authors chose to write down their opinions on *zhang* medicine in the latter genre. This reason will contribute to a growing body of literature on the influences on the medicine which resulted from a continuously rising number

of literati became readers and authors of medical texts since the Northern Song.

As for the similarities, authors of both genres identified several environmental features in Lingnan as *zhang*-inducing circumstances, which were typically heat, dampness, and rapid changes in temperature in a single day. When identifying and describing these features, the Song authors—such as, Li Qiu, Wang Fei, and Chen Ziming in their formularies and Zhang Jie and Zhou Qufei in their miscellaneous notes—often stressed that it was based on the patients' bodily experience and their observation of the surrounding landscape in Guangdong or Guangxi provinces.

A crucial difference between the medical knowledge of *zhang* inscribed in the formularies and that of the miscellaneous notes lies in the fact that the latter are often much less structured. One compelling example of this is provided by Li Qui, who wrote a lengthy argument to explain his own aetiology and treatments of *zhang*, which was analyzed in section 3.1 “Linking Yang-Heat and Yin-Dampness in Lingnan with Particular Symptoms of *Zhang* in the Early Southern Song” of Chapter Three and section 4.1. By contrast, both Zhou Qufei and Zhang Jie expressed their medical ideas about *zhang* in an array of short entries. Moreover, it is difficult to discern how those varying and short entries were arranged next to each other in the extant sequence

Some studies has noticed the Song literati's emphasis on experience-based knowledge by analyzing entries in the *Brush Talks for Dream Brook* (*Mengxi bitan* 夢溪筆談), which was composed by the famous scholar-official Shen Kuo in 1086. In terms of medical knowledge, Elisabeth Hsu indicates that Shen Kuo in his work documented a remarkable botanical observation of the plant *qinghao* (blue green wormwood); that is, Shen Kuo differentiated two types of *qinghao*: one was blue green (*qing* 青) in color in summer and autumn while another was green (*lü* 綠) in summer and turned yellow (*huang* 黃) in autumn.⁷⁰ Mainly based on the analysis of the *Brush Talks from Dream Brook*, Fu Daiwei's research suggests that the Northern Song saw the literati's growing interest in observation of the existent world and in experience-based knowledge without discussing why some Song authors expressed this interest in the genre of miscellaneous notes.⁷¹

The emphasis on bodily experience and experience in practice, along with the structured way of explaining medical ideas about *zhang*, in the Southern Song formularies presumably served as justification and a means of convincing their literate reading fellows who examined written medical knowledge meticulously, as proposed in section 3.4 "Expounding the Environmental Bodily Experience for Literate Readers" of Chapter Three. If so,

⁷⁰ Hsu (2010b: 101–102). Hsu (2010b: 113–114) further indicates that Shen Kuo's way of distinguishing two types of *qinghao* (blue green wormwood herb) is, incidentally, similar to one of the main criteria that modern pharmacognosists use to differentiate *Artemisia annua* from *Artemisia apiacea*.

⁷¹ Fu (1993-94, 2010).

a pertinent question would be, what possible reasons drove the authors of miscellaneous notes to place similar emphasis but provide less structured medical viewpoints on *zhang*? In respect to this enquiry, my answer is indebted to Zhang Cong's recent article on explaining the rising number of miscellaneous notes as a genre since the Southern Song period. Zhang Cong proposes that the casual and less structured characteristics of miscellaneous notes allowed less-politically established scholar-officials to share their knowledge on a variety of different subjects.⁷² Many less-established Song scholar-officials, who often served at low-ranking positions in officialdom, were distant from either political or cultural centers of the day but acquired knowledge on assorted topics while travelling as official servants or through hands-on experience. By compiling this wide array of knowledge into miscellaneous notes, they were presenting their erudition and building their sense of themselves as intellectual elites, despite of their less successful political careers.⁷³

This explanation for the increasing number of miscellaneous notes in Southern Song China can help us to understand why Zhang Jie and Zhou Qufei's wrote about *zhang*. Both of their written pieces bear the casual and less structured characteristic of miscellaneous notes. This less structured feature of miscellaneous notes, in my view, may have allowed scholar-officials to write

⁷² Zhang (2012).

⁷³ Zhang (2012: 77).

down their relatively random thoughts on *zhang* medicine, which were not systematic enough to be composed into a lengthy piece of medical writing or medical monograph.

Zhang Jie did not mention why he noted down his experience of Lingnan; in Zhou Qufei's preface in 1178 to the *Answers on Regions beyond the Ling Ranges*, Zhou stated that his reason for composing this note was that "[I am] tired of [being asked about things in Lingnan] at social occasions. If someone asks me [these questions] again, I can use this text of miscellaneous notes instead" (*yingchou juan yi. you fu wen pu, yong yi dai da* 應酬倦矣。有復問僕，用以代答).⁷⁴ If we take this quotation at face value, it seems Zhou's purpose in composing the note was to answer the numerous questions raised by his relatives and acquaintances who were interested in the remote and unfamiliar area of Guangxi province. However, it is noteworthy that in this preface, Zhou spent much more time stressing that his informative sources about this area all came from conversation with other scholar-officials there as well as from what he had witnessed and heard, albeit recognizing that his note consisted of entries cited from the *Treatises of the Supervision and Guardian of the Cinnamon Sea*. The tone of Zhou's preface is that his personal experience in Guangxi was what his expertise in Lingnan, and the reliability of his *Answers on Regions beyond the Ling Ranges*, was built on.

⁷⁴ *Lingwai daida*, p. 1.

The foregoing findings in this section contribute to extent literature on the literati's impacts on medicine since the Northern Song. Hinrichs' article indicates that the Song literati drew on medical knowledge from both medical literature and literate writing.⁷⁵ In line with Hinrichs' observation, this section takes a step further by proposing differences of written medical knowledge between formularies and miscellaneous notes and why the knowledge was composed in the latter genre.

4.5 Concluding Remarks

In this chapter, I have investigated the multiplicity of Song opinions on the treatment and prevention of *zhang* through the application of drugs that were considered of extremely hot quality, from a perspective which highlighted observations of patients' bodily experience. I have demonstrated the crucial role of experience in Song medical practices of treating and preventing *zhang*. The experience stressed by the Song authors encompass their bodily experience of the environment in Lingnan, patients' bodily experience of suffering *zhang*, and the authors' experience in treating and preventing *zhang*. The Song authors' emphasis on the experience often served as verification for their medical viewpoints on *zhang*. This way of explicating individuals' experience as a claim to knowledge furthermore reflects the trial and error nature of medical practice when searching for effective treatments of *zhang*.

⁷⁵ Hinrichs (2013).

The variety of Song views on the use of drugs of extremely hot quality to treat and prevent *zhang* suggests that there existed few, or even no, treatments and prevention methods of *zhang* that were commonly recognized as therapeutically effective by the Song people. This lack of acknowledgement coincides with Chen Ziming's lament that few correct formularies about treating *zhang* were accessible to him, which was examined in section 2.1 "The New Southern Song Aetiology of *Zhang* Disorders and the Song Reasons for Its Documentation: Chen Ziming's Formulary" of Chapter Two. To remedy this lack of knowledge, the Song scholar-officials and physicians struggled to discover effective methods for treating and preventing *zhang*. This search by trial and error, in my view, forms the very element of *zhang* medicine in Song China. Certainly, besides *zhang* in Lingnan, there were many other disorders that were awaiting effective treatments and prevention methods in Song China. Among those disorders calling for effective solutions during the Song period, sources about *zhang* in Lingnan are plentiful enough for us to scrutinize how bodily experience of the regional environment informed the search for effective treatments and prevention methods and the extent to which literate medicine was regarded to be applicable to this disorder.

The crucial role of the bodily experience of the environmental features in Lingnan, which included the experience of heat, dampness, and the irregular rhythm of weather, can be observed in two related dimensions. First of all, no

matter whether the Song authors approved of or refuted the application of *fuzi* and alcohol, the drugs of hot quality, to treat and prevent *zhang*, they could not circumvent the issue of these perceived Lingnan-specific environmental features affecting their own methods of *zhang* treatment or prevention.

Secondly, on the one hand, the Song authors may have obtained their understanding of the environmental features in Lingnan from reading, conversation, personal experience, or all of the above. On the other hand, when proposing their own ideas for the treatment and prevention of *zhang*, the Song authors discussed throughout this chapter frequently emphasized that their ideas were largely based on their experience in Lingnan, which is exemplified by Li Qiu's lengthy description of how he developed his prescription strategy of applying the decoction of fresh ginger and *fuzi* to treat rampant and fatal *zhang* pestilence in Cangwu. This emphasis moreover appeared in Zhou Qufei's prescription strategy which advocated the use of *fuzi* and *dansha* (cinnabar) but only if the *qinghao* (blue green wormwood herb) powder failed to achieve its desired medicinal effects; in Zhang Jie's argument the summer heat, dampness, and irregular weather rhythm in Lingnan—all of which he personally experienced—rendered drinkers vulnerable to illness; in Liu Anshi's statement, according to his experience of giving up alcohol in Lingnan, the heat of the alcohol in a drinker's body would give rise to

disorders not only by corresponding with the heat of the southern land, but also by itself accumulating in the body over a long time. Their emphasis on bodily experience and experience in medical practices as justification of their medical ideas verifies the significance of the experiential dimension in informing and accounting for medicine.

By analyzing the Song miscellaneous notes and *materia medica*, existing scholarship has suggested that the Northern Song witnessed a growing literati's interest in knowledge based on experience. In this chapter, by examining the Song scholars' vibrant debates on how to apply drugs of hot quality to treat and prevent *zhang*, I provide further textual evidence to support this scholarly postulation; that is, the sources can be moreover found not only in formularies but also in miscellaneous notes. However, merely asserting the increasing literati's interest in experience-based knowledge in the Northern Song cannot fully account for why some of the Song authors discussed in this chapter chose to document their experience-based medical knowledge in a less-structured writing style of miscellaneous notes.

The reason that I proposed to explain this large unaccounted issue is indebted from Zhang Cong's recent article on reasons for the popularity of miscellaneous notes in the Southern Song. The reason is that: the less-structured feature of miscellaneous notes allowed those Song authors, who were mainly less politically established scholar-officials, to document

their experience-based knowledge of *zhang* medicine, which knowledge was not structured enough to be composed as a medical monograph. This writing in turn maintained their sense of being an intellectual elite, regardless of their relatively unsuccessful political careers. This explanation proposed in this chapter extends our understandings of how experience-based medical knowledge came to be written in different genres.

In the next chapter, I will further investigate the Song treatments and prevention methods of *zhang*. My investigation will focus on how the Song authors utilized their bodily experience of the environment in Lingnan to substantiate or reason about their medical practice of *zhang*, especially the expansion of scholarly medicine to southern China implied in their discussion.

Chapter Five Expanding Scholarly Medicine to Lingnan: *Zhang* (“miasma”), Cold Damage Disorders, and Bodily Constitutions

In Chapter Four, I showed how the Song physicians and scholar-officials defended their varying opinions on the application of drugs of extremely hot quality to treat or prevent *zhang* by expounding on their bodily experience of the environment in Lingnan as well as their experiences in medical practice. Following this attention to the world of experience, in this chapter I will investigate how the Song authors combined the scholarly medicine they had studied with their experience in Lingnan and treatment of *zhang*.

This chapter consists of two core sections. In section 5.1, I will examine a variety of Song authors’ opinions on whether Cold Damage medicine should be applied, and how it should be extended, which had been a prominent branch of scholarly medicine since the eleventh century, to the aetiology and treatment of *zhang*. In section 5.2, I will disclose how the Song authors expanded on a long-existing medical concept; that is, regional differences between the northwest and southeast (or between the north and south) brought about northwest/north and southeast/south-specific bodily constitutions which required a matching prescription, and added this to their perception of Lingnan and treatments of *zhang*. In the same section, I move to the Song authors’ warning against an overemphasis on simplistic regional

determinism. Primary sources which I work with in this chapter are drawn from medical literature which were written between the Sui and Song dynasty, such as the Sui *Treatise on the Origins and Symptoms of Various Disorders* and the formulary composed by a Northern Song physician Pang Anshi, and drawn from miscellaneous notes, such as that of Zhou Qufei in the Southern Song.

5.1 Expanding Cold Damage Medicine to *Zhang* Medicine

In this section I will investigate the different Song authors' opinions on whether Cold Damage medicine should be applied, and how it should be extended to reason about or guide the aetiology and treatments of *zhang*. Through this investigation, I aim to demonstrate that the Song authors rarely viewed *zhang* in Lingnan as such an extreme form of a regionally distinct disorder, that its aetiology and treatment went against scholarly medicine at that time. Instead, they viewed *zhang* in Lingnan as a type of disorder which could be treated by extending scholarly medicine.¹ In this section, I will first introduce the development of Cold Damage medicine in Song times, and then

¹ My interpretation of the perceived souther deviance is in line with Mark Edward Lewis's and T. J. Hinrichs'. Lewis (2005: 189-244) indicates that the southern deviance in early China was not an antithesis of the spatially synthesis cosmology. Rather, it collaborated with the cosmology in a manner that the deviance caused disorder and hence required the influence of a sagely ruler's virtue to homogenise it. Inspired by Lewis' interpretation, Hinrichs in her forthcoming monograph on the Song medical governance of the southern regions likewise regards the southern deviance as a requirement for the impact of the sagely rulers' virtue. My interpretation of the Song relationship between Cold Damage medicine and *zhang* medicine is derived from a helpful supervision with Prof. Elisabeth Hsu on 9th October 2014.

explore the multiplicity of Song viewpoints on whether the expansion could be made, and if so, how this should happen. The investigation in this section is crucial to our understanding of the development not only of southern medicine in the Song, but also of Cold Damage medicine at that time.

Introduction to the development of Cold Damage medicine in Song times

A vast body of scholarship on the development of Cold Damage medicine from the Han dynasty to modern China has enriched our knowledge of this subject. In general, the majority of the scholarship to date has devoted itself to three sub-domains of the field. The first one looks at concepts related to the transmission of disorders between people, contagion, or even febrile diseases contained in Cold Damage medicine.² The second concerns how theories in classic medical doctrines (which are identified by scholars with bodily channels [*jing* 經], yin and yang phases, five agents, and so forth) were integrated into Cold Damage medicine from the Northern Song dynasty and onwards.³ The third is in respect to how Qing physicians, especially physicians from Warm Disease (*wen bing* 溫病) medical schools, and their

² For instance, Chang Chia-Feng (2001) examines medical accounts of Cold Damage disorders, disclosing concepts of transmission of disorders between people from the third to eighth century through. Angela Ki-Che Leung (2010) mentions Cold Damage disorders when tracing the development of the concept of contagion in Imperial China.

³ For example, Ye Fazheng (1995: 58-62) and Goldschmidt (2009: 95-102, 141-172).

descendants challenged the universal validity of Cold Damage medical schools.⁴

To be brief, in the Han to Song medical literature, Cold Damage disorders usually referred to a general category of epidemic disorders, which were typically attributed to the invasion of seasonal qi, especially the cold qi in winter.⁵ The appearance of the phrase *shanghan* 傷寒 (literally, being damaged by coldness) can be traced back to section 31 of the *Basic Questions*, entitled “Discussions on Heat Disorders” (*re lun* 熱論). Section 31 began with the statement that all heat disorders were ascribed to being damaged by coldness.⁶ Before introducing strategies for treatments, it described the six-day progression of heat disorders inside the body in terms of three yin and three yang phases of each day.⁷

The most essential medical doctrine for Cold Damage medicine in Song times is the *Treatise on Cold Damage and Miscellaneous Disorders* (*Shanghan zabing lun* 傷寒雜病論, hereafter, the *Treatise*). The *Treatise* was an amalgamation of treatises compiled in ca. 206 CE by an Eastern Han official Zhang Ji 張機 (150-220 CE) when waves of epidemics in Changsha 長沙 (in Hunan province) took away two thirds of his two hundred family members in

⁴ For instance, Leung (2010: 41-42) and especially Hanson’s work (2001, 2011: 126-150).

⁵ See Chang Chia-Feng (2001) and Goldschmidt (2009: 95-102).

⁶ *Suwen*, 31, p. 415.

⁷ These are giant yang (*juyang* 巨陽) in the first day, yang brightness (*yangming* 陽明) in the second, minor yang (*shaoyang* 少陽) in the third, major yin (*taiyin* 太陰) in the fourth, minor yin (*shaoyin* 少陰) in the fifth, and dull yin (*jueyin* 厥陰) in the sixth. *Suwen*, 31, pp. 415-424.

ten years during the Jian'an reign period (196-220). Then Wang Xi 王熙 (180-270), better known by his style Wang Shuhe 王叔和, edited and completed the first recension of Zhang Ji's treatises between approximately 220 and 256.⁸

The original Zhang Ji treatises no longer exist and our extant version of the *Treatise* is based on the version published by the Bureau for Editing Medical Texts of the Northern Song government in 1065. The situation of the circulation of Zhang Ji's treatises between the third and eleventh century is still controversial for historians.⁹ Studies of Cold Damage medicine indicate that the *Treatise* was soon acknowledged by the Northern Song central government as a canonical doctrine for medicine, in particular for epidemiology.¹⁰

After the publication of the *Treatise* in 1605, the Song dynasty witnessed a soaring number of pieces of medical literature devoted to Cold Damage disorders in their titles and recensions of the *Treatise*.¹¹ Remarkable innovations in Cold Damage medicine which took place during the Song included, although were not limited to, the emphasis on pulse diagnosis

⁸ Bibliographical information on the *Treatise* is from Ma Jixing (1990: 110-114).

⁹ Ye Fazheng (1995: 53-58) and Goldschmidt (2009: 95-102) believe that Zhang Ji's treatises were only circulated among few physicians before the 1065. Ma Jixing (1990: 112-123) and Lo (2013: 40) point to that given that there are many references in medical texts to Zhang Ji's treatises during the medieval period, those treatises must have been disseminated widely at that time.

¹⁰ Goldschmidt (2009: 100-101), Hanson (2011: 13).

¹¹ For the development of Cold Damage medicine during the Song period, see Ye (1995: 52-89) and Goldschmidt (2009: 69-102,141-172).

proposed by Han Zhihe, the establishment of further nosology in disorders by Pang Anshi, the unification of the theories of bodily channels and the progress of disorders in the body by Zhu Gong 朱肱 in 1108, and the application for a so-called Eight Rubrics (*bagang* 八綱) diagnosis pattern by Xu Shuwei. Among the innovations, the Song physicians' attention to regional differences when considering prescription strategy for treating Cold Damage disorders closely relates to the theme of this section and will now be discussed further.¹²

Song conflicting views on expanding Cold Damage medicine to the aetiology and treatments of *zhang*

The Song authors' viewpoints on whether Cold Damage medicine could be expanded to the aetiology and treatments of *zhang*, and how this should be undertaken are so different that they can even be regarded as conflicting at times. In the following discussion, I will begin with a radical Song view against this expansion and then move to the opinions that agreed with it but differed in terms of the specific ways in which the expansion should be made.

The radical Song view which challenged the expansion of Cold Damage medicine to treatments of *zhang* appears in the formulary *Discussion on Comprehensive Cold Damage Disorders* of circa 1100 composed by Pang Anshi,

¹² Ye Fazheng (1995: 62) additionally observes another Song innovation in Cold Damage medicine; that is, to propose different medicinal effectiveness of the decoction at hot or cold temperatures.

who was especially known for his skills in treating Cold Damage disorders. In the first section of this formulary on models of diagnosing and prescribing for Cold Damage disorders, which laid out the theoretical ground for the rest of his formulary, Pang Anshi declared why disorders in the south was not the concern of his formulary:

The south is a place where there is no frost and snow, and people [there will not suffer from Cold Damage disorders because they] are not being struck by cold qi. The qi of the land is not stored [i.e. it disperses and cannot be kept, but releases within the earth]. [Many] types of insects emit poison. Mountain mist and *zhang* occur intermittently. It is not included in models [discussed in this formulary]. For the treatments of each separately, there are medical formulas.

南方無霜雪之地，不因寒氣中人。地氣不藏，蟲類泄毒，嵐瘴間作。不在此法，治別有方也。¹³

In this first section of his *Discussion on Comprehensive Cold Damage Disorders*, Pang Anshi proclaimed that Cold Damage disorders mainly resulted from cold qi in winter that invaded the body and then gave rise to the disorders.¹⁴ In this quotation, Pang Anshi stated that the south was not only too warm to generate the cold qi, but also saw poison emitted by insects and rampant

¹³ *Shanghan zongbin lun, juan 1*, p. 152.

¹⁴ *Shanghan zongbin lun, juan 1*, p. 151.

mountain mist and *zhang*. These environmental features rendered the aetiology or treatments of disorders in the south distinct from his formulary that solely discussed Cold Damage disorders.

Pang Anshi's statement is particularly noteworthy on two points. Firstly, Pang was a physician famous for treating Cold Damage disorders at that time and was registered in Qi Prefecture 蕪州 (Qizhou, in Hubei province). No extant textual evidence shows that he had been to Lingnan in person. If this were the case, his statement could be viewed as a northern physician's understanding of environmental features in Lingnan, such as the perennially warm climate, poison, and rampant mountain mist and *zhang*.¹⁵

The second, and more important, point is that Pang Anshi's emphasis on regional differences exemplifies the fact that at least since the beginning of the twelfth century, Cold Damage medicine, as a prominent branch of Song scholarly medicine, had already highlighted the perceived influences of regional differences upon pharmacotherapy. Pang Anshi raised his opinion cited above immediately after advocating tailoring the pharmacotherapy of Cold Damage disorders to regional differences. When advocating this notion of region-tailored prescription, he first referenced Wang Xi's statement that the differences between earth and land (*tu di* 土地) and between the nature of things (*wu xing* 物性) required treatments which were tailored to those

¹⁵ Extant records about Pang Anshi, such as his biography in the *Song History* (*Song shi*, *juan* 462, pp. 13520-13522) and Su Shi's letters to him, were mainly about his activities in Hubei and Anhui provinces and did not show that he had been to the far south in person.

differences, as the dialogue between the Yellow Emperor and Qibo demonstrated.¹⁶ Pang Anshi used Wang Xi's statement above as confirmation of his advocacy of modifying the pharmacotherapy of Cold Damage disorders in accordance with regional differences.

He then upheld the idea that the decoction of *guizhi* (cinnamon twig) (*guizhi tang* 桂枝湯) could achieve therapeutic effect on whomever lived in the north and west over four seasons. In comparison, in Jianghuai 江淮 (which referred to the area between the Huai River 淮河 and Yangzi River) where it was inclined to warmth, the decoction of *guizhi* (cinnamon twig) could only be applied in spring and winter. For the rest of the year in those places in Jianghuai, the compositions of drugs in the decoction had to be changed in accordance with seasonal cycles. Pang Anshi then listed which specific drugs should be swapped or added into the decoction. He did not explain why the original formula of the decoction could only achieve its effect in cold and cool seasons. However, if we recall the discussion in Chapter Four about the Song authors' concern regarding the use of drugs of hot quality to treat *zhang* in hot Lingnan, Pang's concern here presumably stems from the fact that the warm (wen 溫) quality of *guizhi* (cinnamon twig) may conflict with the warmth in the places in Jianghuai.¹⁷

¹⁶ *Shanghan zongbin lun*, *juan 1*, p. 151.

¹⁷ The record of warm quality of *guizhi* (cinnamon twig) can be found in *the Revision of Materia Medica of the Zhenghe Reign*. *Chongxiu Zhenghe jingshi zhenglei beiyong bencao*, *juan 12*, p. 290.

Pang Anshi's opinion that disorders in the south required different treatments from the pharmacotherapy of Cold Damage disorders echoes a comment on the *Treatise* written in a famous Song bibliographical text *Memoirs of Reading in the Jun Studio* (*Junzhai dushu zhi* 郡齋讀書志, ca. in 1151-1187, printed in 1180-1184) composed by Chao Gongwu 晁公武, who obtained his *jinshi* degree in 1132 and stayed in Sichuan for many years. In his text, Chao Gongwu commented that the *Treatise* only contained drugs for healing disorders in the north but was missing treatments of disorders in the south (*you beifang zhi yao, er wu nanfang zhi zhi* 有北方之藥, 而無南方之治).¹⁸ Both opinions of Pang Anshi and Chao Gongwu challenged the potential for expanding Cold Damage medicine to treatments of *zhang* in Lingnan.

Some Southern Song medical literature emphasized the dangers of treating Cold Damage disorders and *zhang* in a similar yet simplistic manner. Their emphasis in turn suggests how prevalent extensions of Cold Damage medicine to *zhang* in Lingnan were. For example, Xu Hong, author of the medical text *General Guide* (in 1208), indicated that even though symptoms of *zhang* and Cold Damage disorders seemed to be similar at first glance, they were actually two different types of disorders which should not be treated in the same way.¹⁹ Similarly, in his formulary *On Zhang Nüe*, Zhang Zhiyuan complained that many of his contemporary physicians failed to discern the

¹⁸ *Junzhai dushu zhi*, juan 15, p. 708.

¹⁹ *Zhinan zonglun*, p. 541.

differences between symptoms of *zhang* in Lingnan and those of Cold Damage disorders in Lingbei (north of the Ling ranges). As a result, they mistakenly treated these two types of disorders in the same manner.²⁰

In contrast to the aforementioned Song views against extending Cold Damage medicine to *zhang* in Lingnan, more Song authors of medical writings attempted to expand Cold Damage medicine to the aetiology or treatments of *zhang*. Textual evidence for such expansion can be traced back to the entry on *zhang qi* in the Sui *Treatise on the Origins and Symptoms of Various Disorders*, which contained the earliest passages on the aetiology and prescription strategy of *zhang* in the remaining medical literature. After describing the aetiology of *zhang*, this entry presented a prescription strategy of *zhang*:

When [physicians treating *zhang*] consider the application of the body (*ti*) and nature (*xing*) of drugs, [in cases of] Cold Damage disorders in Lingnan [literally, south of the Ling ranges], the seasonal qi [there] is frequently warm. Cooling drugs should be slightly colder [in quality] than those applied in Lingbei [literally, north of the Ling ranges]. When [physicians] apply heating drugs, they should also decrease the *zi* and *zhu* [dosages of drugs] and remove two out of three. However, external manifestations (*wai hou*) of the disorders appear slightly (*xiao*)

²⁰ *Lingnan weisheng fang*, p. 10.

late, because what bodily channels (*jing*) and links (*luo*) transmitted the manifestations is no different from Cold Damage disorders.

量其用藥體性，嶺南傷寒，但節氣多溫，冷藥小寒於嶺北。時用熱藥，亦減其錙銖，三分去二。但此病外候小遲，因經絡之所傳，與傷寒不異。²¹

The rationale here for why Cold Damage medicine was extendable to *zhang* was that the transmission of *zhang* manifestations in the bodily channels and links of a patient's body was almost the same as that of Cold Damage disorders. This rationale seemingly denotes that the progress of *zhang* disorders inside the body was very similar to, if not the same, as that of Cold Damage disorders. Nevertheless, given the regional differences that were considered by the Sui authors of this medical collection, a modification of the specific application of drugs was necessary; namely, because of warm seasonal qi in Lingnan, when treating *zhang qi* in Lingnan, physicians were supposed to use drugs of a colder quality than those used to treat Cold Damage disorders in the north of Ling ranges. In a similar vein, the dosage of drugs of hot quality applied to treat *zhang* in Lingnan should be lower than that advised to treat Cold Damage disorders.²²

²¹ *Zhubing yuanhou lun*, *juan* 10, p. 337.

²² Even though drugs of cold quality were capable of treating *zhang*, it was considered that their dosage should never be excessive either. The entry on mountain *zhang nüe* in the mid-eighth-century *Arcane Essential Formulas from the Imperial Library* introduced how to treat *zhang* without causing diarrhea (*li* 痢) as a side-effect. The primary prescription strategy in this entry stated that: when physicians applied drugs of cold quality to cure *zhang*, the drugs should not be of too cold quality, or be in too large a dosage in order to prevent the side-effect of diarrhea. *Waitai biyao fang*, *juan* 5, p. 84.

In the miscellaneous notes *Answers on Regions beyond the Ling Ranges*, Zhou Qufei's statement corresponds with the abovementioned notion in the *Treatise on the Origins and Symptoms of Various Disorders* that *zhang* was similar to Cold Damage disorders. Zhou Qufei's statement exemplifies how Southern Song authors expanded Cold Damage medicine to treat *zhang* in Lingnan while drawing attention their possible differences and the distinctiveness of the local conditions in Lingnan. Zhou Qufei began an entry on *zhang* in his text with a statement saying that: "in the south, all disorders are all called *zhang*; their reality (*shi*) is similar to [that of] Cold Damage disorders [occurring] in central prefectures" (*nanfang fanbing, jie wei zhi zhang, qi shi si zhongzhou shanghan* 南方凡病，皆謂之瘴，其實似中州傷寒).²³ Without clarifying this statement, in this entry Zhou then turned to explain the aetiology of *zhang* and three types of *zhang*. He indicated that two of them could be treated in the same way that Cold Damage disorders were healed, after proposing that the essential (*shi*) of *zhang* was similar to that of Cold Damage disorders. The three types were cold *zhang* (*leng zhang* 冷瘴), hot *zhang* (*re zhang* 熱瘴), and mutinous-causing *zhang* (*ya zhang* 啞瘴).²⁴ Zhou Qufei claimed that a

²³ *Lingwai daida* 4.68, p. 152.

²⁴ In comparison with these three types of *zhang*, in the Sui *Treatise on the Origins and Symptoms of Various Disorders*, *zhang* was introduced in terms of its seasonal changes, e.g. blue green grass *zhang* (*qing cao zhang* 青草瘴), and yellow floss-grass *zhang* (*huang mang zhang* 黃芒瘴). The phrase *leng zhang* 冷瘴 (cold *zhang*) had already appeared in the Tang *Compendium of Institutions* (*Tong dian* 通典) by Du you 杜佑 in 801 where it stated that there was cold *zhang* in Tubo 吐蕃 (by and large on the present-day Tibetan Plateau). *Tong dian*, *juan* 190, p. 1642. Categorizing *zhang* in terms of its seasonal changes still prevailed in Southern Song times. For instance, in the *Treatises of the Supervision and Guardian of the*

symptom of cold *zhang* was hot and cold flushes, which was similar to suffering from intermittent fevers; a symptom of hot *zhang* was the feeling of heat inside the body without any symptom of feeling cold; mutinous-causing *zhang* rendered patients mute for unknown reasons. He then declared that if cold *zhang* was treated by treatments for *nie* (intermittent fevers), hot *zhang* by treatments for Cold Damage disorders, and mutinous-causing *zhang* by treatments for voice-loss Cold Damage disorders (*shiyin shanghan* 失音傷寒), over half of the patients could be cured.

Following this statement that hot *zhang* and mutinous-causing *zhang* could be healed with treatments for Cold Damage disorders, Zhou Qufei reminded his readers that there were still differences between these two types of disorders:

For treating *zhang*, one cannot simply apply drugs used for Cold Damage disorders occurring in the central prefectures. If one merely sees patients suffering from heat severely, he then applies the sort of drugs such as *puxiao* [i.e. the crude form of sodium sulfate] and

Cinnamon Sea, Fan Chengda said that in Yong Prefecture 邕州 (Yongzhou, in Guangxi province), there was green grass *zhang* in spring, yellow plum *zhang* (*huang mei zhang* 黃梅瘴) in summer, and yellow floss-grass *zhang* the eighth and ninth months. *Guihai yuhengzhi*, p. 128. Zhang Cong (2011: 200-201) points out the difference that Fan Chengda introduced *zhang* in terms of its seasonal changes but Zhou Qufei talked about hot *zhang*, cold *zhang*, and mutinous-causing *zhang*. As Zhang Cong's article mainly concerns how *zhang* imposed difficulties for the Song government in posting officials in Lingnan, it only points to the difference between Fan and Zhou. By contrast, the discussion in this thesis traces the seasonal-cycled approach to *zhang* back to the Sui medical literature in section 3.2 "Latent Experienced Environmental Features in Lingnan: Sui and Tang Medical Literature about *Zhang*" of Chapter Three.

dahuang [rhubarb root] to purge it [i.e. the heat]. If the inherited bodily constitution is weak, [a patient] immediately falls into crisis.

治瘴不可純用中州傷寒之藥。苟徒見其熱甚，而以礬硝、大黃之類下之。苟所稟怯弱，立見傾危。²⁵

Zhou Qufei disagreed with a simplistic application of drugs which were used for Cold Damage disorders in the central prefectures to treat *zhang* in Lingnan. Zhou warned that if physicians merely noticed heat as a symptom of *zhang* and accordingly applied *puxiao* (the crude form of sodium sulfate) and *dahuang* (rhubarb root), which were both logged/described as drugs of cold quality in the *Revision of Materia Medica of the Zhenghe Reign*, a patient of weak bodily constitution would be immediately endangered.²⁶ Overall, Zhou Qufei's opinion on expanding Cold Damage medicine to *zhang* can be summarized as follows; because of the similar essentials of these two disorders, the expansion was feasible but had to be conducted with caution.

Another instance of a cautious approach to the extension of Cold Damage medicine to treatments of *zhang* can be found in Wang Fei's *Formulary for Directing the Lost and Discussions on Zhang Nüe*. In his formulary, Wang Fei also proposed these three types of *zhang* (i.e. cold *zhang*, hot *zhang*, and mutinous-causing *zhang*) and argued against views on the three in the formularies that he had read. According to Wang Fei, those formularies

²⁵ *Lingwai daida* 4.68, pp. 152-53.

²⁶ *Chongxiu Zhenghe jingshi zhenglei beiyong bencao*, juan 3, p. 87; 10, 246.

proclaimed that *zhang* with symptoms of hot and cold flushes was named cold *zhang*, which would definitely (*bi* 必) not cause a patient to die; *zhang* with symptoms of burning heat was named hot *zhang*, which would cost a patient's life if he suffered from it over a long period of time; *zhang* accompanied by the symptom of becoming mute was mutinous-causing *zhang*, which was fatal.²⁷

After listing the above opinions which were widespread in the formularies that Wang Fei had read, he claimed that the mutinous-causing *zhang* was actually a manifestation of losing one's voice caused by a Cold Damage disorder (*shanghan shiyin zhi zheng* 傷寒失音之證) as well as a manifestation of losing the ability to speak caused by being struck by wind (*zhongfeng shiyu zhi zheng* 中風失語之證). He declared that patients suffering from mutinous-causing *zhang* could still recover with the proper treatment.²⁸ His explanation for mutinous-causing *zhang* reflects his endeavor to account for this type of *zhang* by drawing on intellectual sources about Cold Damage medicine.

The expansion of Cold Damage medicine to *zhang* in the Song occurred not only in pharmacotherapy, but also in local treatments of *zhang* in Lingnan, which is epitomized in the entry on *zhang* in Zhou Qufei's *Answers on Regions beyond the Ling Ranges*. The local treatment of *zhang* in Lingnan was named

²⁷ *Lingnan weisheng fang*, p. 15.

²⁸ *Lingnan weisheng fang*, p. 15.

tiao cao zi 挑草子, which means “picking grass seeds” in its verbatim translation or “picking hot and cold epidemics” in its extension reference. According to Fan Chengda’s *Treatises of the Supervision and Guardian of the Cinnamon Sea*, *cao zi* 草子, of which the verbatim translation was grass seeds, was a local name in Lingnan referencing hot and cold epidemics.²⁹ Zhou Qufei described the treatment of “picking grass seeds” in a way that when southerners (*nan ren* 南人) suffered from hot *zhang* for over one to two days, local practitioners used needles to prick the middle of the inside part of a patient’s upper and lower lip, wiped the bleeding with their hands and the tongue with leaves of *chu* 楮 trees, which belonged to the mulberry tree family. Then the patient was required to stand with his two heels together. The practitioner would prick the standing patient’s blue vessels on the backside of his heels, letting the blood out. After this, the patient would consume *qinghao* (blue green wormwood herb) with water.³⁰

After describing this method of “picking grass seeds,” Zhou Qufei used ideas of treating Cold Damage disorders to explain how this method achieved its therapeutic effectiveness:

Hot *zhang* is the manifestation of major yang Cold Damage disorders.

The treatment of pricking [a patient of suffering from hot *zhang*] and letting his blood out obtains (*de*) the [therapeutic] principle of inducing

²⁹ *Guihai yuheng zhi*, p. 130.

³⁰ *Lingwai daida*, p. 152.

perspiration. The upper and lower lips of the human body are where the stomach channel of yang brightness passes. The backside of the heels is where the bladder channel of major yang passes. When major yang [area of a patient] suffers from disorders for three days, the yang brightness [area] then will suffer from disorders. The needling of the southerners can be said to tacitly be one and the same [with the principle of treating the manifestation of major yang Cold Damage disorders].

熱瘴乃太陽傷寒證。刺出其血，是亦得汗法耳。人之上下脣，是陽明胃脈之所經。足後腕，是太陽膀胱脈之所經。太陽受病三日而陽明受病，南人之針，可謂暗合矣。³¹

Zhou Qufei extended Cold Damage medicine to account for the therapeutic effectiveness of this treatment by identifying that hot *zhang* itself was the manifestation of major yang Cold Damage disorders. To support his extension, he used the example of where the bodily points are, and the case that when needles were used, it was the same as the transmission of major yang Cold Damage disorders inside the body.

Although attempting to rationalize the local treatment “picking grass seeds” through the extension of Cold Damage medicine to *zhang* in Lingnan, Zhou Qufei nevertheless admitted the limitation of this extension. For instance, one treatment for a patient suffering from hot *zhang* which had entered deep into

³¹ *Lingwai daida*, p. 152.

the interior of his body and was about to die was to prick his penis. After describing this treatment, Zhou Qufei wrote that “I personally consider that it [the penis] is internally connected with the five visceral systems and thus this perhaps is the reason why [this treatment] can heal the patient” (*qie yi qi nei tong wu zang, gu huo key u ye* 竊意其內通五臟，故或可以愈也). The phrases “I personally consider” (*qie yi* 竊意) and “perhaps” (*huo* 或) show Zhou’s uncertainty of the healing mechanism, which went beyond Zhou Qufei’s scope of knowledge in terms of expanding Cold Damage medicine to treatments of *zhang*.

Another development of *zhang* medicine in the early twelfth century is reminiscent of the Song innovation in Cold Damage medicine; that is, the introduction of pulse diagnosis. As for *zhang* medicine, Wang Fei criticized the fact that in *On Zhang Nüe* composed by Li Qiu and Zhang Zhiyuan, despite parts of the formularies being correct, “their discussion does not touch upon the breath of the pulse” (*qi lun buji mai xi* 其論不及脈息), which refers to pulse diagnosis.³² Wang Fei declared that this missing information caused readers of Li’s and Zhang’s formularies difficulties in discerning which specific medical formulas in their publications should be deployed. To resolve this issue, Wang Fei said that his formulary would discuss the manifestation of *zhang* symptoms in terms of pulse diagnosis and then discuss drugs in

³² *Lingnan weisheng fang*, p. 17.

terms of the manifestation.³³ Unfortunately, none of the literature on the pulse diagnosis of *zhang* that can be confirmed as being written by Wang Fei remains.

Wang Fei's advocacy of pulse diagnosis paralleled the emphasis on pulse diagnosis in Cold Damage medicine during the Song period.³⁴ One striking example of the emphasis on pulse diagnosis for Cold Damage disorders occurs in Han Zhihe's eleventh-century formulary *On the Profound Meaning of Cold Damage Disorders* that proclaimed that when treating Cold Damage disorders, a prescription cannot be made if a physician only observed a patient's symptoms without knowing the pulse qualities; however, it would not cause any damage if a physician attempted treatment using a few drugs if he only knew a patient's pulse qualities rather than their symptoms.³⁵

In contrast to the foregoing Song authors' various opinions on whether Cold Damage medicine should be applied, and how it should be extended to *zhang* medicine, the Northern Song local governors were more assertive in making the extension. This assertive attitude is evident in the following case unearthed by Hinrichs: Around 1070, Liu Yi 劉彝 (1051–1091), the prefect of Qian prefecture 虔州 (Qianzhou, in Jiangxi province) at that time, gathered physicians and let them compile the *Formulary to Correct Customs* (*Zhengsu*

³³ *Lingnan weisheng fang*, p. 18.

³⁴ Ye Fangzheng (1995: 62) listed sentences, figures, songs about pulse diagnosis that were documented by the Song authors of medical texts devoted to Cold Damage disorders.

³⁵ *Shanghan weizhi lun, juan shang*, p. 9.

fang 正俗方), which solely addressed Cold Damage disorders. Then Liu Yi registered and restrained all shamans under his jurisdiction, who amounted to 3,700 people, giving each of them a copy of the *Formulary to Correct Customs*.³⁶ In contrast to Liu Yi's penetrating policy of giving shamans directly the formulary uniquely devoted to Cold Damage disorders, Song physicians and scholar-officials held divergent views on whether and how Cold Damage medicine could extend to the aetiology and treatment of *zhang* in Lingnan. Hinrichs discusses this case in the context of the Song medical governance through texts.³⁷ In contrast to Liu Yi's penetrating policy of giving shamans directly the formulary solely addressing Cold Damage disorders, the foregoing findings in this section show that the Song physicians and scholar-officials meanwhile held divergent views on whether and how Cold Damage medicine could extend to aetiology and treatments of *zhang* in Lingnan. How the Song people viewed and resolved this inconsistency between the policies relating to southern medicine were assertively enforced and practice where uncertainty governed the pursuit of effective treatments is beyond the research scope of this thesis and waiting for further research.

In short, by disclosing Song physicians' and scholar-officials' divergent viewpoints on whether Cold Damage medicine should be applied, and how it

³⁶ *Song shi*, *juan* 334, p. 10729. The *Formulary to Correct Customs* (*Zhengsu fang* 正俗方) no longer exists and only its title remains in the bibliographical section of the Song History as *Formulary to Correct Customs in Gan Prefecture* (*zhengsu fang* 贛州正俗方). Gan Prefecture is another name of Qian Prefecture. *Duxing zazhi*, *juan* 3, p. 143. *Song shi*, *juan* 207, p. 5319.

³⁷ Hinrichs (2011: 225-226).

should be expanded to the aetiology and treatments of *zhang* in Lingnan, I have demonstrated in this section that in Song times, *zhang* medicine was viewed less as an antithesis of Cold Damage medicine than as a potentially applicable expansion of the latter. On the one hand, some of the Song authors (such as Pang Anshi and Chao Gongwu) proclaimed that Cold Damage medicine could not treat disorders in the south. Pang attributed the inapplicability of Cold Damage medicine to the warmth in the south. On the other hand, on the basis of the extant Song sources, the notion that with a cautious approach, Cold Damage medicine was extendable to *zhang* in Lingnan seemed to be more prevailing in Southern Song China, which is evident in Zhou Qufei and Wang Fei's works. The foregoing discussion of the Song struggle for expanding Cold Damage medicine to *zhang* medicine in Lingnan not only broadens our understanding of the impact and innovations of burgeoning Cold Damage medicine since the Northern Song. The discussion also highlights an inconsistency between the Song assertive medical governance of the south and the uncertainty of medical practices in Lingnan. This inconsistency is large unaccounted for by existing studies to date.

In the next section, I will discuss how the Song authors expanded the notion of stressing region-tailored prescription strategy in the spatial frame of

the northwest-southeast/north-south axis that was well-documented in pre-Song medical literature to the treatments of *zhang*.

5.2 Extending the Northeast-Southwest/North-South Axis in

Prescription Strategy to Treatments of *Zhang*

In this section, I will first explore how the Song authors expanded the notion that north and south-specific bodily constitutions required tailored prescriptions, which appeared in earlier medical literature, to two related forms; firstly to the aspect of their experience of the environment and personal observation of customs in Lingnan and secondly to treatments and prevention methods of *zhang*. Then I propose one reason for the Song expansion of the northwest-southeast/north-south axis to *zhang* medicine. I next discuss how some of the Song authors were meanwhile concerned that an overemphasis on regional determinism would mean that other *zhang*-inducing circumstances would be overlooked. With the investigation throughout this section, I hope to provide another historically contextualized example of the Song authors' struggle to expand scholarly medicine to *zhang* in Lingnan.

The notion of region-tailored prescription strategy in terms of the northwest-southeast/north-south axis in pre-Southern Song medical literature

The notion that regional differences in diet, climate, and quality of land lead to inhabitants in different regions possessing different bodily constitutions and requiring correspondingly tailored treatments had existed at least from the Western Han.³⁸ Though implicit, this notion is expressed in the dialogue “On different methods being appropriate for different directions” (*yifa fangyi lun*) in section 12 of the *Basic Questions* that different skin patterns or bodily constitutions of inhabitants in the five directions required matching treatments.³⁹ This dialogue in the *Basic Questions* was frequently mentioned by latter authors of medical literature as textual evidence for regionally-tailored prescription strategy. We have seen how Pang Anshi mentioned this dialogue in his *Discussion on Comprehensive Cold Damage Disorders* in the preceding section.

In the medical literature before Song times, scattered entries mentioned the concept of prescription strategy being supposed to tally with region-specific bodily constitutions which resulted from regional variations between the north and south (or between the northwest and southeast) in climate, the

³⁸ See Hsiao (1999/2005: 196-208).

³⁹ Based on Leung’s analysis (2002/ 2005: 359-364) of this dialogue in the *Basic Questions*, Hanson (2011: 30-35) provides an English translation and discusses it in detail with other entries about five directions in the *Basic Questions*.

quality of land, the dwellers' dietary habits and lifestyles, and so forth. To show the long existence of this concept, in the following paragraphs I will examine all of the pre-Song medical literature I have found mentioning this concept in the spatial frame of the northwest-southeast/north-south axis in chronological order.

The entry on *zhang qi* in the Sui *Treatise on the Origins and Symptoms of Various Disorders* alluded to the differences in bodily constitutions between the local southerners in Lingnan and northern visitors. The entry indicated that it was unnecessary to treat indigenous southerners who had been suffering from *zhang* over a long period of time which had consequently developed into *shi dan* disorders (尸疸, literally, corpse consumption to the degree of becoming corpse-like). By contrast, for northern visitors suffering from the same condition, physicians could consider treating them.⁴⁰ These different treatments connote that northerners and native inhabitants of Lingnan possessed different bodily constitutions that varied in the level of response to *zhang*.

In the formulary *Essential Prescriptions Worth a Thousand, for Urgent Need*, the eminent Tang physician Sun Simiao claimed that the heat in the south resulted in the southerners' loose skin pore patterns and therefore a

⁴⁰ *Zhubing yuanhou lun*, juan 10, p. 337.

prescription tallying with their bodily constitutions was necessary.⁴¹ His claim appeared in an entry including an array of various considerations of prescription strategy in accordance with individual particularities, e.g. gender and age. In this entry, Sun Simiao declared that because Jiangnan (literally, the south of the River) and Lingnan were hot and damp, southern dwellers there had a thin (*bao* 薄) and fragile (*cui* 脆) quality of skin as well as an open and loose skin pore pattern. Therefore, when treating those southerners, physicians were advised to apply a lower dosage of drugs and of less potency (*yong yao qing sheng* 用藥輕省). By contrast, because the quality of land in Guanzhong 關中 (in Shaanxi province) and Hebei 河北 (literally, north of the [Yellow] River) was strong and dry, the northerners had a firm (*jian* 堅) and hard (*ying* 硬) quality of skin as well as a closed (*bi* 閉) and blocked (se 塞) skin pore pattern. Consequently, when treating northerners, physicians were supposed to apply a higher dosage of drugs and drugs of strong

⁴¹ In the extant *Essential Prescriptions Worth a Thousand, for Urgent Need*, three entries in total mentioned the northwest-southeast/north-south axis. One is the differences in bodily constitutions discussed in this paragraph. The second was the case when Sun Simiao claimed that felon (*biao* 癰) and abscess (*ju* 疽) usually occurred in Lingnan and were rare in the central earth (*zhong tu* 中土). He believed that the occurrence of the two disorders correlated with the varied types (*za* 雜) of food which southerners consumed. The third appeared in the section on the significance of nourishing the body. In the entry, Sun Simiao said that in comparison with the land in Guanzhong 關中 (in the present-day Wei River plain, the central of Shaanxi province), food produced in Jiangnan (south of the lower Yangzi) and Lingbiao (i.e. Lingnan) were plentiful. Once visiting these productive southern regions, northerners would indulge themselves while eating. Consequently, after a few months, the visiting northerners suffered from the disorders. *Beiji qianjin yaofang*, juan 22, p. 321; juan 27, p. 379.

potency (*yong yao zhong fu* 用藥重複).⁴² The different northern and southern bodily constitutions in Sun Simiao's postulation above were attributed to different climates and quality of land.⁴³

The concept of individually-tailored prescription according to regional differences between the north and south (or the northwest and southeast) likewise appears in a Northern Song physician Dong Ji's opinion on the treatment of foot qi disorders.⁴⁴ Dong Ji was a physician in Kaifeng (in Henan province) famous for treating Cold Damage disorders during the Chongning 崇寧 (1102-1107) and Dagan 大觀 (1107-1111) reign periods.⁴⁵ Besides

⁴² *Beiji qianjin yaofang*, *juan 1*, p. 2. Another interpretation of the phrase is "to apply drugs of strong potency and double the dosage" (*yong yao chong fu* 用藥重複). Given that this phrase is supposed to parallel the previous phrase "to apply a lower dosage drugs and of less potency" (*yong yao qing sheng* 用藥輕省), I chose to interpret the character 重 as *zhong* (heavy) rather than as *chong* (double) in order to contrast with the term *qing* 輕 (light).

⁴³ This notion can also be found in the *Medical Anecdotes* (*Yi shuo* 醫說), which was compiled in 1189-1224. Its author Zhang Gao 張杲 (1149-1227) was a medical practitioner from a family of physicians since the Northern Song dynasty. Zhang Gao collected statements and stories that he regarded as relevant to medicine from varied genres (e.g. miscellaneous notes, historiographies, medical literature), compiling these materials into the *Discussion on Medicine*. One entry in the *Medical Anecdotes* which was entitled "differences in wind and earth" (*feng tu bu tong* 風土不同) discussed the case that in the eastern regions between the Yellow River and Luo River, the quality of land was savory (*di xian* 地鹹) and the quality of water was cold. Thus, although inhabitants there consumed millet (*su* 粟) and wheat, they would not suffer from hot disorders (*re ji* 熱疾). The quality of wind and water in Huatai 滑臺 (in Henan province) was extremely cold, dwellers there could hence consume *fuzi* as their daily food, such as dasheen (*yu* 芋) and millet. Another entry stated that although people in Sichuan liked to consume cinnabar (*dan* 丹), they rarely suffered its side-effects. This was because the quality of land in the northwest was thick and endowments of qi in dwellers were abundant (*bing qi sheng* 稟氣盛). By contrast, it was unsuitable for southerners to consume cinnabar because the quality of land there was yin and damp. *Yi shuo*, *juan 8*, pp. 620-621; *juan 9*, pp. 698-599. For how the *Medical Anecdotes* reflected the changing medical cultures in Song times, see Hinrichs (2013).

⁴⁴ For the development of foot qi between the Eastern Jin and Song dynasties, see Fan (1995: 169-173). For the history of foot qi from the ancient to the modern times, see Smith (2008). Unlike their works centering on the history of foot qi, my discussion here focuses on notions of regional differences.

⁴⁵ *Bishu luhua*, *juan shang*, p. 239.

specializing in Cold Damage disorders, Dong Ji collected many medical formulas and tried various methods to treat foot qi on patients as well as himself, as a result of having suffered from foot qi for more than ten years. Experienced in treating foot qi disorders, Dong Ji believed himself to be in the right position to compose a medical monograph on these disorders.⁴⁶ Dong's medical work then became the only extant Northern Song formulary devoted to foot qi in its title: the *Essentials for Treatments of Foot qi* (*Jiao qi zhifa zongyao* 腳氣治法總要).

In the formulary, Dong Ji agreed that foot qi had originated in the low-lying and damp land in Jianghuai, but claimed that since the long-term reunion of China blurred the southern and northern differences in diet, northerners would suffer from foot qi as well. Moreover, people who went to the south and contracted foot qi there would bring it back to the "inner regions" (*nei di* 內地).⁴⁷ As Smith indicates, by declaring that foot qi disorders could occur in the north as well, some Tang and Song physicians intended to distinguish themselves from other "inferior" physicians and laymen who stubbornly believed the foot qi disorders were geographically limited in the south.⁴⁸ Here I will focus on how Dong Ji spoke of what he perceived to be the influences of regional differences in the pharmacotherapy of foot qi disorders.

⁴⁶ *Jiaoqi zhifa zongyao*, p. 419.

⁴⁷ *Jiaoqi zhifa zongyao*, p. 419.

⁴⁸ Smith (2008: 76-79).

While claiming that foot qi can occur in the inner regions, Dong Ji meanwhile indicated different treatments of foot qi in the south and north:

As for Jianghuai [the area between the Huai River and Yangzi River], Qinchuan [in Shaanxi province] and Lingnan, qi of the four seasons is different. If the northerners over a long period of time stay in Jianghuai and Lingnan as officials, a visiting wind poison resides in their organs and viscera. Some go back to Qinzhong [in Shaanxi province]. Their foot qi disorders erupt. The foot qi disorders [of the northerners back to Qinzhong] are treated in the ways of treating the disorders in Jianghuai and Lingnan. The land of Qinchuan is high (*gao kang*). Even if [Qinchuan] has rain in spring and summer, there is little steaming or dampness. As a result, rice plants, millets, and five grains receive qi differently, and food and drinks, [such as] water, vegetable, fish, and meat are all different. If the land is low-lying and damp, the steaming and heat occur one after another (*xiang reng*) and it is beneficial to using drying drugs. As for where the land is high, in accordance to the seasons, it is suitable for [using drugs that induce] sweating and disinhibit urine (*li*).

至如江淮、秦川、嶺南，四時氣隨異。如北人久在江淮及嶺南宦，客風毒在臧府，或歸秦中，脚氣發動，亦依淮嶺南法為治。盖秦川地原高亢。春

夏縱經霖霪，少有蒸濕。所以禾黍五穀受氣不同，水菜魚肉食飲全異。其地卑濕者，則蒸熱相仍，利於燥藥。土地高亢者，則時宜汗利。⁴⁹

Although Dong Ji regarded the geographical distribution of foot qi disorders as empire-wide, in this quotation he declared regionally-tailored treatments. Dong Ji's opinion, in my reading, was that he disagreed with the treatment of northerners' foot qi disorders which were obtained in Jianghuai and Lingnan but later erupted in Qin places in an identical manner to the treatments of foot qi disorders in Jianghuai and Lingnan. To oppose this treatment, Dong Ji contrasted the dry land in Qinchuan with the low-lying and damp land in Jianghuai and Lingnan. Based on the contrast, he proclaimed that drugs that induced sweating and disinhibited urine were suitable for inhabitants in Qinchuan and drying drugs were appropriate for those in Jianghuai and Lingnan .

The extension of the northwest-southeast axis to *zhang* medicine in Southern Song times

In the early twelfth century, the notion that north and south-specific bodily constitutions, which were considered to arise from identified regional distinctions, required matching treatments was expanded to treatments and prevention methods of *zhang*. This expansion is exemplified in Li Qiu's *On Zhang Nüe* as follows:

⁴⁹ *Jiao qi zhifa zongyao*, p. 421.

To be general, in the northwest, the land is cold, the quality of the earth is thick (*hou*), and the water is deep. Moreover, people [there] consume fatty types of cuisine, alongside dairy products. Patients [there] are mostly suited to drugs [with the efficacy] of discharging (*fa*), dispersing (*san*), twisting (*zhuan*), and disinhibiting [urine] (*li*). [If they suffer from] Cold Damage disorders and warm epidemics to the degree that they have sweat [inside the body] but cannot perspire and that they die, it is because their qi was constantly restrained (*shou lian*). In Lingnan, yin qi is not restrained. Moreover, [the land there] is low-lying and damp. Furthermore, people [there] consume betel nuts. Their qi is loose and infirm. In all four seasons, they perspire. How should such a patient further consume drugs [with the efficacy] of discharging and dispersing?

大抵西北地寒，土厚水深。又人食酥酪之類。病者多宜發散轉利。傷寒溫疫至有汗不得出而斃者，氣常收斂故也。嶺南陰氣不收，又復卑濕。又人食檳榔之類。氣疏而不實。四時汗出。病者豈宜更服發散等藥。⁵⁰

The extension of the northwest-southeast axis in this quotation may serve two functions for Li Qiu's statement. The first is to serve as another piece of evidence to support Li Qiu's prescription strategy. In section 4.1 "Significance of Experience in Li Qiu's Treatments of *Zhang* by Trial and Error" of Chapter Four, we saw that Li Qiu opposed treating *zhang* with drugs to discharge the

⁵⁰ *Lingnan weisheng fang*, p. 9.

exterior condition (*fabiao yao* 發表藥), or drugs to disinhibit urine (*li yao* 利藥) and to purge (*xia* 下) heat as a symptom. One of the reasons for his opposition was that a patient whose yang qi was infirm and whose lower body parts were cold could not bear drugs with the abovementioned efficacy.⁵¹ In this quotation, in my reading, by extending the long existent axis to treatments of disorders in Lingnan, Li Qiu provided further evidence to support his view.

The second function of Li's extension of the northwest-southeast axis, I suggest, is to help Li Qiu link his perception of the environment in Lingnan (i.e. the low-lying and dampness) and observation of local customs (i.e. eating betel nuts) to prescription strategy. As I argued in Chapter Three, given the long description of the inhabitants' bodily experience of Lingnan, the environmental features there (such as the heat, dampness, and low-lying land) that were discussed in Li Qiu's formulary are best to be interpreted as a product of combining the long-existing stereotype of the south with the author's experience in person of Lingnan. In this vein, the northwest-southeast axis mentioned in this quotation seems to have provided a "theoretical" ground on which Li Qiu extended his environmental experience to prescription strategy. In other words, the axis may have helped Li Qiu to transform his personal understanding of Lingnan into medical prescription. This close and dynamic connection between personal

⁵¹ *Lingnan weisheng fang*, pp. 3-4.

perceptions of the environment (e.g. the low-lying and damp environment and the custom of eating betel nuts) and existing environmental medical knowledge (i.e. the northwest-southeast axis in scholarly medicine) in forming an individual's environment knowledge is reminiscent of Tim Ingold's sentient ecology.

An entry focusing on the southern custom of eating betel nuts in Zhang Jie's written piece "Ten talks about the Lingbiao area" likewise clearly illustrates the combination of regional perceptions of the environment, and existing environmental medical knowledge (i.e. the northwest-southeast axis). I will discuss the combination after analyzing this informative entry. In this written piece, Zhang Jie began with a description of the people in Lingnan who were accustomed to eating betel nuts; sometimes eating ten or more in a single day. Zhang Jie spoke of the fact that *zhang* pestilence (*zhang li* 瘴癘) often resulted from stuffed qi and knotted phlegm (*qi pi tan jie* 氣痞痰結) caused by an indulgent diet. He claimed that people consumed betel nuts because they could cause qi to descend in the body (*xia qi* 下氣), get rid of waste food (*xiao shi* 消食, refer to dissolve food by extension), and rid the body of phlegm (*qu tan* 去痰).

In this entry Zhang Jie then declared that southerners who were in the habit of eating betel nuts only noticed benefits in the short term but overlooked the negative side-effects which would occur in the long term. He explained the

downsides of this habit in light of the northwest-southeast axis; specifically in terms of the land being in Saibei 塞北 (usually referring to the north of the Great Wall) and the northerners (*beiren* 北人) eating fatty types of cuisine and dairy products (*sulao* 酥酪). These two occurrences together rendered the northerners' stomach patterns (*wei li* 胃理) so dense (*zhen mi* 縝密) that if they should sweat when suffering from an epidemic (*yi* 疫), their perspiration would be blocked (*se* 塞). By contrast, the hot land in Lingnan and the practice of eating betel nuts collectively made the inhabitants' qi of organs (*zang qi* 臟氣) loose and leaky (*shu xie* 疏泄). Once people there suffered from *zhang*, their root (*ben* 本) was so depleted and weak (*xu lei* 虛羸) that they could not endure drugs with the efficacy of excretion (*xia* 下). Zhang Jie concluded this entry by underlining the case that some locals (*tu ren* 土人) in Lingnan were thin and had yellow skin could not be wholly attributed to the climate (*qi hou* 氣候) there but also to the habit of eating betel nuts.⁵²

Two noteworthy points occur in Zhang Jie's entry. First of all, this entry illustrates how Zhang Jie combined existing environmental knowledge (i.e. the northwest-southeast axis in scholarly medicine) to his personal observations of the southerners' betel nut eating habit. The combination then benefited him in his reasoning about the perceived benefits and drawbacks of eating betel nuts as well as the thin and yellow bodies of the locals.

⁵² *Lingnan weisheng fang*, pp. 55-56.

Secondly, by declaring that the local people in Lingnan failed to discern the long term negative side-effects of eating betel nuts, in this entry Zhang Jie intended to demonstrate his shrewder observations and more advanced medical knowledge than the common locals' understanding. The way Zheng Jie presented himself as a more discerning and erudite scholar of medical knowledge supports the argument I made in section 4.4 "Medical Knowledge about *Zhang* in Song Formularies and Miscellaneous Notes" of Chapter Four; that is, by writing down their less structured medical opinions in the form of miscellaneous notes, the less-politically established Southern Song scholar-officials maintained their status as members of an intellectual elite despite of their lack of political success.

If we compare Sun Simiao's statement above with those of Li Qiu and Zhang Jie, two differences can be found. These differences bring to light how the authors extended existing environmental medical knowledge to their perception of the regional environment in different ways. Firstly, Sun Simiao mainly ascribed the loose skin pore pattern of dwellers in Jiangnan and Lingnan to the heat there. By contrast, Li Qiu and Zhang Jie both identified the influence of a specific item of food in Lingnan—betel nuts—on the bodily constitutions of inhabitants. Secondly, although all of the three authors considered the heat in Lingnan to be a contributor to the specific inhabitants' bodily constitutions, their foci of documenting appropriate prescription

strategies are different. Sun Simiao placed more emphasis on dosage and the potency of drugs. For instance, he suggested prescribing a lower dosage of drugs or drugs of less potency in Jiangnan and Lingnan. In comparison, Li Qiu and Zhang Jie focused on the undesirable drug effects. For example, both of them mentioned that drugs with the effect of discharging, dispersing, or excreting were unsuitable for the inhabitants in Lingnan.

Another entry in “Ten Talks about the Lingbiao area” provides us with additional textual evidence of why Zhang Jie expanded the northwest-southeast axis to treatments of *zhang*:

Recently, northern physicians arrived here [i.e. Lingnan], and applied the decoction of big *chaihu* [Chinese thoroughax root] to treat hot *zhang*. It has to be people whose fundamental qi (*ben qi* 本氣) is vigorous and replete who are able to bear [the efficacy of the decoction]. For the locals who consume betel nuts over a long period of time, the qi of their organs is already depleted and [thus] often cannot bear drugs of cold [quality].

近時北醫至此，用大柴胡湯治熱瘴。須是本氣壯實者乃能堪之。如土人久服檳榔，臟氣既虛，往往不能服寒藥。⁵³

Given that Zuo Peng’s article indicates that “Ten talks about the Lingbiao area” was likely to have been written in the early twelfth century, the northern physicians mentioned may have immigrated to Lingnan due to warfare

⁵³ *Lingnan weisheng fang*, p. 59.

between the Song and Jin governments at that time.⁵⁴ If this was the case, then Zhang Jie's expansion of the northwest-southeast axis to the pharmacotherapy of *zhang* emerged to a certain degree as a response to the failure of the recently immigrated northern physicians in treating *zhang* in Lingnan effectively.

Angela Ki-Che Leung's widely acclaimed research of 2002 ascribes the increasing importance of the northwest-southeast/north-south axis in Yuan-Ming-Qing medicine to the long-term political division between the Southern Song and Jin governments.⁵⁵ Although the division may offer a political background for the axis, how the division specifically informed medical thinking largely remains unclear. To complement this unknown information, I here provide a more specific reason for how the political division affected the increasingly prominent role of the north-south axis in medicine; that is, ineffective treatments of *zhang* in Lingnan which were provided by physicians who had recently immigrated from the north stimulated some of the Song authors to use the long-existing axis to explain the physicians' failure.

Although Zhang Jie criticized the northern physicians who had immigrated, this did not mean that he held the indigenous physicians of Lingnan in higher esteem. In fact, following his comments quoted above, he criticized the

⁵⁴ Zuo (2006).

⁵⁵ Leung (2002/2005).

physicians in Lingnan even more harshly and stated his belief that they should learn medical skills from those who had immigrated from the north. He said that there were only few proficient physicians in Lingnan. People who claimed to be medical practitioners there were actually all incompetent and ignorant.⁵⁶ After complaining about the inept physicians in Lingnan and the lack of medical resources in Lingnan, Zhang Jie envisioned that since increasing numbers of northern physicians were coming to Lingnan at that time, the situation would improve if they could teach the indigenous southerners.

In Wang Fei's *Formulary of Instructing the Lost and on Zhang Nüe*, Wang also extended the medical notion that inhabitants in different regions tended to cultivate different bodily constitutions which needed corresponding treatments to his perception of Lingnan. Wang Fei considered that inhabitants in Lingnan not only frequently perspired, but also had fullness in the upper body parts and depletion in the lower parts (*shang ying xia xu* 上盈下虛). As a result, physicians were not supposed to prescribe drugs which caused sweating (*han* 汗), vomiting (*tu* 吐), and excreting (*xia* 下). Wang Fei further criticized the case that because some physicians in Lingnan ignored the distinctive bodily constitutions cultivated by the heat in Lingnan (which I

⁵⁶ *Lingnan weisheng fang*, p. 60.

infer from the phenomenon of frequent perspiration), they applied drugs mistakenly.⁵⁷

Although the Song authors extended the northwest-southeast axis to their bodily experience of Lingnan and to treatments of *zhang*, they meanwhile often warned their readers of the danger of overemphasizing the perceived impacts of regional differences on the occurrence of disorders or on bodily constitutions. Such a warning against a simplistic regional determinism can be also found in later Ming medical literature. As Hanson shows, by giving this warning and indicating the influences of regional differences at the same time, late Ming authors, such as Wang Lun 王綸 in his *Miscellaneous Writings by Enlightened Physicians* (*Mingyi zazhu* 明醫雜著, in 1502) presented themselves as inheritors of a more comprehensive medical knowledge.⁵⁸

Inspired by Hanson's interpretation above, I will argue that in Song times, the co-existence of the extension of the northwest-southeast axis to treatments of *zhang* and the warning against an overemphasis on regional determinism suggests that the Song authors attempted to present themselves as qualified medical learners who understood that contingency was the essential of prescription strategy in scholarly medicine rather than sticking to fixed rules. This co-existence and the attention to contingency in prescriptions for *zhang* are evident in Li Qiu's *On Zhang Nüe*. After declaring the existence of the

⁵⁷ *Lingnan weisheng fang*, p. 14.

⁵⁸ Hanson (2011: 56-61).

northwest-southeast axis in his prescription for *zhang*, in the final two sentences of his extant formulary Li Qiu stated that there were of course people in the northwest (*xi bei zhi ren* 西北之人) who were not suited to drugs with the efficacy of discharging (*fa* 發), dispersing (*san* 散), twisting (*zhuan* 轉), and disinhibiting urine (*li* 利); in the same way that there likely existed people in Lingnan who could endure drugs which induced discharging and purging (*xia* 下). The prescription strategy he had spoken of was only written in general terms, and should not be followed absolutely.

This concern about the overemphasis on regional determinism can also be observed in Zhang Jie's written piece "Ten Talks about the Lingbiao area," though it is less explicit than in Li Qiu's writing. While indicating that the environmental features in Lingnan could bring about various disorders, in some entries Zhang Jie seemingly equated the danger of an improper lifestyle with that of the perceived harmful weather. For instance, Zhang Jie proclaimed that the heat in Lingnan over half a year left habitants there inclined to be struck by summer heat poison (*shu du* 暑毒) if their diet and behavior were slightly improper.⁵⁹ In another entry, Zhang Jie declared that the rapid changes in hot and cold weather in Lingnan and the sea wind (*hai feng* 海風) there which differed from the typical sea wind (*yi chang* 異常) both

⁵⁹ *Lingnan weisheng fang*, p. 57.

increased the importance of and difficulties in nourishing one's body to prevent *zhang* and other disorders.⁶⁰

Since bodily constitutions were thought to be fostered by climate and dietary habits, could the constitutions of the northern immigrants in Lingnan evolve in correspondence with the local circumstance? It was possible, according to Wang Fei. In the first half of his formulary, Wang Fei introduced the prevalent aetiology of *zhang* in the formularies that he had read. It went as follows: as the qi of Heaven (*tian qi* 天氣) in the south was warm (*wen* 溫) and the summer hot (*shu* 暑) as well as the qi of Earth (*di qi* 地氣) compressed (*yu* 鬱) and steaming (*zheng* 蒸), the yin is constantly closed (*bi* 閉) and solid (*gu* 固) while the yang is emitted (*fa* 發) and dispersed (*xie* 瀉). Grass, woods, and water in the south all received malicious qi (*e qi* 惡氣). Living in such an environment, inhabitants gradually developed infirm primordial qi (*yuan qi* 元氣), which resonated with the malicious qi, and thus suffered from *zhang*.⁶¹

Wang Fei then counterbalanced the aetiology that attributed *zhang* to the environment in the formularies he had read with another statement he had come across:

The southerners who have grown up in the environment [in Lingnan] are familiar with the qi of water and earth. People who come from outside and enter the south will definitely become ill at once, but there

⁶⁰ *Lingnan weisheng fang*, p. 58.

⁶¹ *Lingnan weisheng fang*, p. 15.

is a difference between whether they are lightly [affected] or seriously. If they stay over a long period of time, they will transform (*hua*) in corresponding with (*yu*) it [i.e. the environment], then they are able to avoid [threats of disorders].

南人生長其間，與水土之氣相諳。外人之入南者，必一病，但有輕重之異。若久而與之俱化，則可免矣。⁶²

Although Wang Fei had declared the environmental features as a potential *zhang*-inducing circumstance, in this quotation he agreed with the concept that once the new comers had stayed in Lingnan for a long period of time, their bodies would transform in correspondence with the environment and free themselves from the threat of disorders. According to this quotation, it seems that suffering from a disorder in Lingnan at least once was a crucial turning point, after which the new comers' bodies would gradually adapt to the circumstances.

After introducing this concept, Wang Fei privileged the disorder-inducing role of an improper lifestyle over that of the environmental features as follows:

Moreover, as for the outbreak of this disorder, the locals suffered from it seriously and those coming from elsewhere [suffer] less. This is

⁶² *Lingnan weisheng fang*, pp. 18-19. In the *Answers on Regions beyond the Ling Ranges*, Zhou Qufei mentioned the same notion that the northern visitors would definitely get ill when being in the south at first, but they would eventually transform in correspondence to the environment. If the northerners could quit alcohol and sexual intercourse, they could be free from suffering from *zhang*. *Lingwai daida*, juan 4, p. 149.

because the locals are indulgent and the primordial (*yuan*) [qi] in their lower body parts is depleted. Moreover they bathe in creeks and then often catch a cold. Furthermore, they unrestrainedly consume raw and cold [food] as well as alcoholic drinks, without knowing how to regulate [themselves]. If the new-comers who arrive here eat and drink in a regulated manner, all of them will not suffer disorders.

且此病之作也，土人重而外人輕。蓋土人淫而下元虛。又浴於谿而多感冒。

且恣食生冷酒物，全不知節。外人之至此者，飲食有節，皆不病。⁶³

It is unclear which particular *zhang*-related disorders Wang Fei was referring to in this quotation. Prior to this quotation, he had discussed three types of *zhang* (i.e. cold *zhang*, hot *zhang*, mutinous-causing *zhang*) and *nüe* (intermittent fevers). Given the disorders he had previously discussed, the disorder mentioned may refer to the three types of *zhang*, *nüe*, or both. Here Wang Fei first proposed several reasons why the locals in Lingnan sometimes suffered from the disorder more seriously than the outsiders. Those reasons included their depleted lower body parts, bathing in creeks, and indulgence in consuming alcohol as well as raw and cold food. By contrast, outsiders who lived a regulated lifestyle would not suffer from the disorders. Wang Fei's opinion herein highlighted the inappropriate lifestyle, rather than the debilitating environment in Lingnan, as a fundamental *zhang*-inducing factor.

⁶³ *Lingnan weisheng fang*, p. 19.

Furthermore, Wang Fei drew on his personal experience in the south to challenge the overemphasis on environmental features as triggers of *zhang*, given many formularies he had read stressed how the environment in Lingnan gave rise to *zhang* disorders. He said that in the places he had been—which included Cangwu (in Guangxi province), Liucheng 柳城 (in Guangxi province), Yiyang 宜陽 (in Henan province), and Nanrong 南容—mist did not actually occur every day but only once every two days. There were hundreds of officials and soldiers in each of these places. Only ten percent out of them suffered from disorders. Among these sick officials and soldiers, only two or three out of ten died. Wang Fei thus concluded that the reason people in Lingnan suffered from disorders was not only the wind and earth (*feng tu* 風土, by extension, the environment) there, but also the indulgent lifestyle. He concluded that if a person could live in a restrained manner, e.g. give up alcohol, they could maintain their health despite staying in the poisonous environment of Lingnan.⁶⁴

To sum up, this section has looked at how the Song authors expanded the long-existing medical concept that the northwestern- and southeastern-specific bodily constitutions, which resulted from regional differences in climate, quality of land, diet, and daily conduct, requiring

⁶⁴ Although much more brief, in a writing piece “An essay on nourishing life” (*lun yangsheng shu* 論養生書) composed by Li Shi 李石 (1108-?, who obtained his *jinshi* degree in 1151) and collected in his *Collections of a Small Boat* (*Fang zhou ji* 方舟集), Li Shi held a similar opinion that if a person lived a regulated lifestyle, e.g. giving up alcohol and conducting meditation, they would not suffer from *zhang*. *Fang zhou ji*, *juan* 10, p. 640.

matching prescriptions to their bodily experience of Lingnan and to their prescription strategy or prevention methods of *zhang*. One possible reason that prompted this expansion may have been that some Song authors used this medical concept to explain the failure of newly immigrated northern physicians in treating *zhang* in Lingnan.

In parallel with the Song authors' expansion of the northwest-southeast axis to their personal experience of Lingnan and the pharmacotherapy of *zhang*, a warning against the overemphasis on regional differences in treatment and aetiology of *zhang* emerged in practically the same medical writing, such as the works of Li Qiu, Zhang Jie, and Wang Fei. At first glance the warning seems to conflict with these authors' serious concern about the perceived debilitating environment features in Lingnan; however, I argue that by delivering this warning, the Song authors intended to present themselves as medical experts who understood that contingency was the essential of scholarly medicine rather than sticking to fixed rules.

5.3 Concluding Remarks

By examining the Song authors' different viewpoints on appropriate prescription strategy for treating *zhang*, in this chapter I have demonstrated how they extended scholarly medicine to the treatments. I have likewise shown that during the process of the expansion, the Song authors combined

their knowledge of scholarly medicine to the patients' bodily experience and their observation of the environment in Lingnan and to the aetiology and treatments of *zhang*. The expansion and combination clearly show that *zhang* medicine was viewed less as the antithesis of scholarly medicine than as an arena awaiting the extension of scholarly medicine. This combination, I contend, reveals the literate Song groups' attempt to expand scholarly medicine to Lingnan, a place notorious for its poisonous and exotic circumstances and for its uncivilized medical customs.

In section 5.1 I investigated how the Song physicians and scholar-officials expanded Cold Damage medicine to the aetiology and treatments of *zhang*. Cold Damage medicine, as indicated by Ye Fazheng and Goldschmidt, witnessed remarkable innovations from the eleventh century onwards. The Northern Song central government edited and published Zhang Ji's *Treatise* in 1065 and set it as a canonical medical doctrine for epidemiology. The large number of Northern Song and Southern Song scholar-officials and physicians then wrote recensions of the *Treatise* and developed their diagnostic patterns, aetiology, nosology, and pharmacotherapy of Cold Damage disorders.

In contrast to these innovations in Song Cold Damage medicine, *zhang* medicine, at that time, continuously faced a dearth of textual references which was commonly acknowledged by the scholar-officials and physicians. This dearth probably, in turn, enhanced the Song authors' reliance on their

experience as verification of their medical ideas about *zhang*. This lack of information, I suspect, also encouraged the Song authors' to attempt to extend Cold Damage medicine to *zhang* and to the local conditions in Lingnan, since Cold Damage medicine was more developed and prominent at the time.

By demonstrating the expansion of Cold Damage medicine to *zhang*, the above findings can broaden our understanding of the development of Cold Damage medicine. When examining its development, existing scholarship focuses on the Song medical texts that mentioned Cold Damage disorders in their titles. However, my findings in section 5.1 show the influence of Cold Damage medicine in Song China was wider than the scholarship has been previously observed.

In section 5.2, I explored how the Song scholar-officials combined environmental features in Lingnan which they experienced or perceived with the northwest-southeast axis in scholarly medicine and conventional wisdom that a regulated lifestyle could help to prevent disorders. Section 12 of the *Basic Questions* already connoted the notion that regional differences in climate, quality of lands, and inhabitants' diet and daily conduct would bring about region-specific bodily constitutions requiring specific treatment, but discussed it within the context of the spatial frame of five directions. This notion mentioned in medical literature under the spatial frame of the northwest-southeast axis can be found in scattered entries in Sui, Tang, and

Northern Song ones. Since the early Southern Song, the authors had been explicitly combining the idea of the northwest-southeast axis to their observation of the environment and customs in Lingnan, declaring that the southerners' region-distinct bodily constitutions, which resulted from the environmental features as well as their diet and daily conduct, required different treatments from the northerners.

One reason for this explicit expansion of the north-south axis to the prescription strategy for *zhang* is evident in Zhang Jie's writing. Zhang Jie ascribed the failure of the physicians who had recently immigrated from the north to Lingnan in the early twelfth century to treat *zhang* effectively to their ignorance of northerners' and southerners' distinct bodily constitutions, which were cultivated by regional distinctiveness.

In addition to the Song authors discussed throughout this thesis, other Song officials also attempted to extend scholarly medicine to Lingnan, which has received intensive scholarly attention. In the following Conclusion, I will further discuss how the findings of this thesis so far contribute to the literature regarding the expansion of scholarly medicine to the south.

Chapter Six Conclusion

Zhang (“miasma”) medicine in Song China illustrates vividly the profound interaction between the world of experience,¹ written knowledge, and the social world² in the middle period of Imperial China. By illuminating this interaction, this thesis contributes both its analytical approach and its findings to the study of medicine in Imperial China, in particular to that of environmental medicine and scholarly medicine at that time.

Inspired by Ingold’s “sentient ecology” and Hsu’s “body ecologic,” my analytical approach highlights the combination of bodily experience, practical experience, and received knowledge in the formation of individual medical accounts of the environment. Particular attention is paid to the crucial role the world of experience plays in the individual’s selection, from their acquired knowledge and their social world, of the specific elements that form their account. This approach, which takes the insufficiently explored world of experience into consideration, complements the approach of existing studies on environmental medicine in Imperial China that have focused mainly on the impacts of the social world on the formation of these accounts.

Utilizing this new analytic approach, I have examined the Song authors’ opinions on the aetiology and medical practices of *zhang* in Lingnan, which I

¹ “The world of experience” includes authors’ bodily experience of the environment as well as their experience in practice.

² “The social world” comprises the intellectual, social, political trends of the day.

call “*zhang* medicine” in this thesis. I have concluded that their accounts not only combine scholarly medical knowledge with their own experience in Lingnan, but also explicate their experience in support of their opinions. Among extant sources, it was only until the Song dynasty that we could observe that this process of combination and explication emerged in relation to *zhang* medicine. I moreover point to several concomitant social, intellectual, and political events as possible factors contributing to the process. These findings extend our knowledge of the development of environmental medicine in Imperial China; and also refine our understanding of the development of scholarly medicine in Song China.

Here, I proceed to review my findings on the aetiology of *zhang*, and then the findings on medical practices relating to *zhang*, in each case assessing the various aspects of the dynamic entanglement among the world of experience, accounts of environmental medicine, and the social world.

In his *Complete Compendium of Good Formulas from a Singular Perspective* in 1271, famed physician Chen Ziming proposed that, in addition to the conventional aetiology of *zhang*, which centered on heat, dampness, and poison in the Lingnan environment, *zhang* could likewise be brought about by qi from the stench and foulness of steaming outdoor human excrement in hot weather there. When proposing this new aetiology, Chen Ziming emphasized that it was derived from his experience in person in Lingnan.

Three factors led to the inclusion of the section on *zhang* epidemics in Chen Ziming's formulary, in which this new aetiology was recorded. First was the limited availability of medical literature on the disorders that were endemic in Lingnan in his time. Second was Chen Ziming's belief that his medical expertise and personal experience in Lingnan qualified him to draft this section on *zhang* epidemics in this formulary. Third was that the whole aim of his formulary was to provide a condensed version of the large scale *Formulary of the Pharmacy Service for Great Peace and for the Benefit of the People* to provide his readers with a portable handy reference when traveling. These three factors inspired Chen Ziming to draft a treatise on *zhang* medicine. Chen Ziming's case suggests that both the lack of an acknowledged textual reference for *zhang* medicine in the Southern Song (which I infer from the low availability of medical texts on *zhang*) and the long held view of Lingnan as a remote and exotic place were likely to have encouraged the authors of medical treatises to rely on their experience of Lingnan when writing about *zhang* rather than turning to textual evidence to make their case.

In the early twelfth century, a scholar-official named Li Qiu, in his formulary *On Zhang Nüe*, explained how the environmental features in Lingnan that he identified and experienced confirmed a region-specific conflict between the dispersing qi of yang-heat and the abundant qi of yin-dampness in the environment. Li Qiu then stated how the conflict gave rise to *zhang* disorders, especially to a particular symptom of heat in the upper

body parts and coldness in the lower parts. After proposing his aetiology of *zhang*, Li Qiu described how his witnessing of a fatal *zhang* epidemic in Cangwu (in Guangxi province), and his treatment for *zhang* by trial and error, together led him to develop a prescription that highlighted the use of the decoction of fresh ginger and *fuzi* (prepared daughter root of common monk's hood, or aconite) (*shengjiang fuzi tang* 生薑附子湯).

Li Qiu's long and detailed description of how he arrived at the aetiology and prescription strategy, rarely seen in extant medical literature about *zhang* from earlier times, was perhaps a response to a continuously rising number of literati readers of medical texts of the day. Thorough comments on Li Qiu's formulary made by Zhang Zhiyuan and Wang Fei, two other contemporary scholar-officials in Lingnan, suggest a reason for Li Qiu's lengthy and detailed description in particular and, more generally, for the focus on experience in Song medical writings about *zhang*: Those educated readers' conscientious evaluation of written medical knowledge may have encouraged the authors of medical texts to expound upon how their medical practice and knowledge relied on their or patients' environmental bodily experience and their practical experience.

Up until the Southern Song dynasty, many authors writing about *zhang* medicine had complained of a dearth of valid medical texts and practice of such medicine. To remedy this, these Song authors offered a variety of perspectives on how to treat and prevent *zhang*. One of their concerns was

whether and to what degree drugs conceived of as having an extremely hot quality, among which *fuzi* and alcohol drew most of their attention, could be used to treat or prevent *zhang*. The Song authors' rationales for the therapeutic effectiveness of *fuzi* in treating *zhang* range from the heat of *fuzi* attacking the heat that is a symptom of *zhang*, to the effect of *fuzi* on replenishing the patient's qi, eliminate dormant coldness, or guide the heat symptom to the lower burners of the body. While the belief in drinking alcohol to prevent *zhang* persisted in Song times among laymen and scholar-officials, some of the latter rejected it, primarily for two reasons. One was that certain environmental features in Lingnan, such as summer heat, dampness, and unpredictable variations between hot and cold weather in a single day, would react with alcohol and bring about disorders. Another was that the alcohol's own heat would accumulate inside the drinker's body and produce disorders. Notably, regardless of whether they favored or opposed the use of *fuzi* and alcohol in the treatment of *zhang*, most of the *zhang* authors emphasized how their own bodily experience of Lingnan, the bodily experience of people whom those authors observed in Lingnan, and their personal experience in medical practice had informed or confirmed their views.

When discussing *zhang* medicine, some of the Song authors express their views in a less structured manner in the miscellaneous note-style of writing, as exemplified by Zhang Jie's and Zhou Qufei's works. I correlate this less

structured mode of writing about *zhang* medicine with the mounting number of miscellaneous notes produced during the Southern Song period. Zhang Cong's recent article posits that in the Southern Song this genre allowed less politically established scholar-officials and literati to express their varied knowledge in a rather casual manner; and by presenting their knowledge, they maintained their sense of being an intellectual elite regardless of their lack of political success. Relying on Zhang Cong's postulation, I suggest that the less structured style characteristic of miscellaneous note-writing likewise allowed the less politically established Southern Song authors to voice opinions on *zhang* medicine that were not structured enough to be formalized in a lengthy writing or medical work, and thus maintained their sense of themselves as an intellectual elite.

Encountering the lack of valid medical texts and practices for *zhang* and the perception of a noxious and exotic environment in Lingnan, the Song authors strove to find effective methods of treatment or prevention for *zhang*. In the course of their search, many of them attempted to extend the growing body of scholarly medicine to *zhang* medicine. The best example of this is seen in their attempt to extend Cold Damage medicine to the aetiology and treatment of *zhang*. Although this had been already mentioned in the *Treatise on the Origins and Symptoms of Various Disorders* in 610, this extension went further and took more diverse forms in Song times. A few Song authors claimed that Cold Damage medicine was not suitable for disorders engendered in the perennial

warm and noxious environment of Lingnan. However, others expanded Cold Damage medicine not only to prescriptions for *zhang* but also to its aetiology in varying degrees.

The extension of scholarly medicine to *zhang* medicine is moreover evident in the Song authors' various statements on how the regional differences in the spatial frame of the northwest-southeast (or north-south) axis affected both the conceived southerners' bodily constitutions and the prescription strategy for *zhang*. On the one hand, the Song authors referenced the north-south axis to explain how the environmental features in Lingnan that they identified and experienced worked with the southerners' dietary habits and daily conduct; and how those regional differences collectively fostered a south-specific bodily constitution, which included such features as the loose skin pore pattern and loose qi of the organs. This south-specific constitution was then understood to require correspondingly specific drugs that differed from those that were appropriate to the northerners' bodily constitution, such as drugs for discharging, dispersing, or purging.

The notion that region-specific bodily constitutions were promoted by distinctive regional features and required corresponding prescriptions had been alluded to in the classic medical doctrine *Basic Questions*. A similar notion, focusing specifically on north/south-specific bodily constitutions, appears in scattered entries in Sui, Tang, and Northern Song medical literature. I suggest that, by extending this notion of a northwest-southeast

axis to the prescription strategy for *zhang*, the Song authors attempted to integrate their bodily experience of Lingnan and their observation of customs there into the proliferating scholarly medicine of the day.

On the other hand, while speaking of the perceived influences of the regional differences on the prescription strategy for *zhang*, some of the same Song authors warn of the danger of overemphasizing those influences. My reconciliation of the Song authors' attention to the influences of regional differences in prescription strategy with their warning against placing too much emphasis of regional determinism owes itself to Hanson's explanation of a similar phenomenon in Ming times. Hanson's interpretation is that, by pointing to the possible significance of regional differences for prescription while also challenging a simplistic regional determinism, some Ming authors of medical texts presented themselves as inheritors of comprehensive medical knowledge. As for the Song authors offering similarly paradoxical propositions, I suggest that, by doing so, they presented themselves as medical learners who understood that the essence of scholarly medicine was to prescribe contingently according to individual particularities rather than to adhere rigidly to conventional prescription strategies.

The foregoing findings of this thesis can refine our understanding of the environmental medicine in Imperial China in two aspects: First of all, as reviewed in the Introductory chapter, existing studies mainly center on how

the changing social world drove the development of environmental medicine. By highlighting the under-explored world of experience, I reveal specific challenges of how people strove to find effective treatments and advance their knowledge, as well as of how the authors of medical texts justified to their readers the practices and knowledge they proposed.

For instance, Fan Ka-Wai's studies show that during the third and tenth centuries, flows of immigrants into the area south of the Yangzi River and Lingnan gave rise to medical texts devoted to treating disorders endemic to those southern regions.³ However, perhaps due to the shortage of detailed sources about that period, many of the specific challenges that may have been encountered in the development of southern medicine during the interval between the third and tenth centuries—such as the lack of reliable textual references, indeterminacy of disorder-inducing circumstances, and the search for effective prescription strategy—are left largely unaccounted for in his studies. In comparison with the earlier periods, the Song dynasty is seemingly the earliest period from which the sources left to us are ample enough both in number and in detail for historians to uncover the details involved in developing southern medicine, as examined and shown in this thesis.

A second and methodologically relevant aspect is that my analytical approach has enabled me to formulate the relationship between general norms in classical medical doctrines and knowledge about the environment

³ Fan Ka-Wai (1995, 1996, 2000, 2004: 127–154, 2007: 147–168).

derived from the bodily and practical experience. Contemporary scholarship has approached this relationship by indicating how the later followed or challenged the former. For example, Angela Ki-Che Leung's widely acclaimed research proposes that since the Yuan (or the very late Southern Song), the north-south axis, which is regarded by Leung as in large part deriving from empirical knowledge, gradually gained precedence over the five-direction spatial frame—which is viewed by Leung as cosmologically deductive knowledge based on calculating techniques—in the medical realms of aetiology, nosology, and pharmacotherapy.⁴ Despux's study on the system of Five circulatory phases and Six atmospheric qi between the Tang and Song dynasties illustrates how the Song authors modified that system, which was documented in the doctrine *Basic Questions* and other Daoist works, and applied it innovatively to epidemiology, physiology, and therapeutics.⁵

However, as shown in this thesis, the relationship between general norms in classical medical doctrines and experience-based knowledge in the *zhang* medicine of Song China is not a matter of either one validating or challenging the other. Rather, I argue that many of the Song authors discussed in this thesis selectively combined their experience-based knowledge, especially that which came from their experience in Lingnan, with existing culture-specific concepts, which included general norms (such as the concept of five agents

⁴ Leung (2002/2005).

⁵ Despux (2001).

and yin-yang principles), to form their own new medical accounts of *zhang*. In other words, the relationship between general norms and experience-based knowledge in Song *zhang* medicine is a collaborative one.

This collaborative relationship in Song *zhang* medicine between the general norms in classical medical doctrines and experience-based knowledge prompted by local conditions differed from the relationship between the two in Ming-Qing medicine. In the latter case, Hanson's recent monograph shows that a new medical modality gradually rose to prominence from the late Ming onward. This modality not only held that regional variations in climate, quality of land, dwellers' bodily constitutions, and so forth deserved regionally-tailored treatments, but also challenged the universal applicability of celestial seasonal cycles to the explanation of the occurrence of disorders, which had been one of the core medical ideas of the canonical medical doctrines. Such a challenge often targeted Cold Damage medicine. The new modality is attributed by historians to recurrent outbreaks of epidemics after the late Ming and is exemplified by a formulary, *Treatise on Epidemics* (*Wenyi lun* 瘟疫論), composed by Wu Youxing 吳有性 in 1642.⁶

The emergence of Warm Disease medicine in the nineteenth century in Jiangnan also exemplifies the tension between a southern medical modality, which gave precedence to regional particularities, and Cold Damage medicine, which was considered by promoters of the southern medical

⁶ Leung (2002/2005, 2010), Hanson (2011: 91–104).

modality to emphasize universal applicability, as shown in Hanson's monograph. The emergence of Warm Disease medicine is ascribed to the rampant epidemics in the south and the severe medical market competition of the day.⁷ This tension between region-specific medicine and Cold Damage medicine in Ming-Qing times stands in striking contrast to the collaborative relationship between general norms in classical medical doctrines and local experience-based knowledge and, in particular, to the expansion of Cold Damage medicine to *zhang* medicine in Song times. How this difference came about between Song *zhang* medicine in Lingnan and Ming-Qing epidemiology in the area south of the Yangzi River is another issue awaiting further research. It offers a fertile ground for exploring the radical changes in environmental medicine from the thirteenth to eighteenth centuries.

In addition to rendering our understanding of the development of the environmental medicine in Imperial China more comprehensive, the findings of this thesis can broaden our knowledge of the proliferating scholarly medicine in Song China in three aspects. First of all, the expansion of the scholarly medicine to the southern regions of Song China has drawn historians' intensive attention.⁸ Some of the research points to Song emperors' and officials' endeavors to promote scholarly medicine over unorthodox

⁷ Hanson (2011: 127–150).

⁸ For instance, Fan Ka-Wai (1995, 2000), Hinrichs (2003, 2011, forthcoming), Wang Cheung-Wai (2012).

medical customs (such as preferring shamans over physicians) in the south.⁹ Placing their endeavors in the context of medical governance in Song times, Hinrichs shows that it was in the Northern Song dynasty that medicine entered the governance arena of “transformation through teaching” of common people. Under the project of medical governance, government provision of medical resources, such as drugs, medical texts, and physicians, down to the administrative level of local prefectures became one way of legitimating the rule of the Song Empire.¹⁰

In comparison with the active and assertive policies by which Northern Song and Southern Song officials sought to expand scholarly medicine to the “uncivilized” far south, which are discussed thoroughly in Hinrichs’ research, the findings of this thesis unveil a largely unexplored dimension of such expansion—that is, the uncertainty of searching by trial and error for effective treatments of *zhang*. For instance, Hinrichs indicates that the Northern Song witnessed a new approach to propagating medical knowledge—that is, distributing medical *texts* to laypeople (especially to common people in the far south).¹¹ However, as shown in this thesis, despite those official endeavors to disseminate medical texts, Li Qiu, Zhang Zhiyuan, and Wang Fei in the early twelfth century and Chen Ziming in the thirteenth century were still lamenting how difficult it was to obtain reliable medical literature

⁹ Hinrichs (2003, 2011, forthcoming), Wang Cheung-Wai (2012).

¹⁰ Hinrichs (2003, 2011, forthcoming).

¹¹ Hinrichs (2011).

dealing with *zhang* disorders in Lingnan. Moreover, in contrast to Liu Yi's penetrating policy of giving shamans directly the formulary uniquely devoted to Cold Damage disorders, Song physicians and scholar-officials held divergent views on whether and how Cold Damage medicine could extend to the aetiology and treatment of *zhang* in Lingnan. Another instance concerns the drug therapy. Hinrichs indicates that some Song local governors in the south distributed drugs to laymen as a means of persuading common people to give preference to physicians over shamans.¹² Nonetheless, this thesis shows that the Song authors held varying views on which drugs were appropriate to the treatment of *zhang* and to the southerners' perceived specific bodily constitutions. Although many Song governors, physicians, and scholar-officials endeavored to expand the scholarly medicine to the south, there was a gap between the political realm, where policies relating to southern medicine were assertively enforced, and local medical practice, where uncertainty and trial-and-error governed the pursuit of effective treatments. How the Song people viewed and closed this gap is beyond the scope of this thesis and invites further research.

The Song discussion about whether and how to expand Cold Damage medicine to *zhang* in Lingnan, as examined in this thesis, can moreover broaden our understanding of the development of Cold Damage medicine. Existing scholarship, such as Ye Fazheng's and Goldschmidt's monographs,

¹² Hinrichs (2003, forthcoming).

indicates several remarkable innovations in Cold Damage medicine occurring from the Northern Song on.¹³ These innovations included, but were not limited to, the establishment of Zhang Ji's *Treatise* as a canonical medical doctrine for Cold Damage medicine and for epidemiology, and the development of pulse diagnosis, diagnosis patterns, and prescription strategy for Cold Damage disorders. When examining the development of Cold Damage medicine, those studies draw mainly on medical texts or sections in medical literature that refer to Cold Damage disorders in their titles. However, the findings of this thesis demonstrate that the expansion of Cold Damage medicine to *zhang* in Lingnan was another innovation of this medicine, and thereby broaden our understanding of the scope of influence of Cold Damage medicine in Song China.

The third aspect in which this thesis extends our understanding of scholarly medicine in Song China is by contributing to a growing body of literature on how scholarly medicine was affected by continuously increasing numbers of literati as readers and authors of medical writings, from the Northern Song period onward. The existing literature has indicated three related influences. First is the soaring number of medical texts composed or compiled by the Song literati, as observed by Chen Yuan-Peng.¹⁴ Second is the literati's introduction of different ways of examining medical texts. Chu Ping-Yi

¹³ Ye Fazheng (1995: 52–89) and Goldschmidt (2009: 69–102,141–172).

¹⁴ Chen (1997: 130–161).

indicates that when compiling medical works, scholar-officials in the Bureau for Editing Medical Texts in the Northern Song central government applied their method of editing other texts, such as comparing words transcribed among different versions of the same text, to the editing of medical literature.¹⁵ The third influence is the Song literati's invention of new types of medical works. For instance, Hinrichs indicates that the *Medical Anecdotes* compiled by Zhang Gao in the twelfth century distinguished itself from other medical works by ending or beginning nearly all entries with a list of source book titles; such a citation practice can also be found in some Southern Song miscellaneous notes.¹⁶ Chu Ping-Yi observes that the Song scholarly physicians, in the medical histories (*yi shi* 醫史) which they composed, emphasized textual learning as the "sole avenue to the art of medicine" and established genealogies of physicians which paralleled those of Confucian thinkers.¹⁷

This thesis provides another two specific influences of the increasing number of Song literati as readers and authors of medical texts. One is that the literati's meticulous evaluation of the medical works that they read probably encouraged their literate fellows to expound on their own experience in support of their medical propositions. Another is that the literati's strong interest in medicine and the prevalence of the miscellaneous

¹⁵ Chu (2006: 419).

¹⁶ Hinrichs (2013).

¹⁷ Chu (2006).

notes genre of writing in Southern Song times encouraged low-ranking officials to express their less formal medical knowledge in miscellaneous notes.

The Southern Song was a crucial time insofar as the development of *zhang* medicine is concerned. The period witnessed a pronounced trend in the medical literature toward an explanatory mode that drew on personal experience to confirm medical practice and knowledge in Lingnan, known as an exotic and unorthodox place. Adopting such an explanatory mode, the Song authors attempted to make southern medicine into an extension, rather than the antithesis, of the scholarly medicine that was proliferating at that time, including cosmologically general norms, Cold Damage medicine, and the prescription strategy in terms of the north-south axis. The emergent explanatory mode and the expansion of scholarly medicine went hand in hand with social and cultural changes, including: an unprecedented circulation of medical knowledge across social groups—between physicians and literati; continuously growing numbers of literati as readers and writers of medical texts; the flow of immigrants from the north to Lingnan; and the newfound popularity of miscellaneous notes as a means by which less politically established scholar-officials were able to feel that they belonged to an intellectual elite. The development of *zhang* medicine thus is critical to our

understanding of the intensive interaction between experience, text-based medicine, and the social world in Imperial China.

References

A. Pre-modern works of the received tradition (titles in *pinyin* transcription, alphabetically ordered)

Baoqing Siming zhi 寶慶四明志 (Records about Siming from the Baoqing Period). Southern Song, 13th c. Luo Jun 羅濬. Reference to *Song Yuan fangzhi congkan* 宋元方志叢刊.

Beiji qianjin yaofang 備急千金要方 (Essential Formulas Worth a Thousand, for Urgent Need). Tang, 650/659. Sun Simiao 孫思邈. Reference to *Qianjin fang* 千金方. Edited by Liu Gengsheng 劉更生. Beijing: Huaxia chubanshe.

Bencao yanyi 本草衍義 (Elucidation of the Meaning of *Materia Medica*). Northern Song, 1116, published in 1119. Kou Zongshi 寇宗奭. Beijing: Renmin weisheng chubanshe, 1990.

Bin tui lu 賓退錄 (Records Written after the Guest Has Left). Southern Song, ca. 1172-1128. Compiled by Zhao Yushi 趙與時. Reference to *Song Yuan biji congshu* 宋元筆記叢書. Shanghai: Shanghai guji chubanshe, 1983.

Bishu luhua 避暑錄話 (Records of Talks at Being away for the Summer). Southern Song, 1135. Ye Mengde 葉夢得. Reference to *Quan Song biji* 全宋筆記. Edited by Zhu Yian 朱易安 and Fu Xuancong 傅璇琮. Zhengzhou: Daxiang chubanshe, 2006.

Bowu zhi 博物志 (Records for Being Erudite of Things). Jin, ca. 3rd c. Zhang Hua 張華. Reference to *Bowu zhi jiaozheng* 博物志校証. Edited by Fan Ning 范寧. Beijing: Zhonghua shuju, 1980.

Chengdu wen lei 成都文類 (Collected Writings about Chengdu). Southern Song, 1195-1201. Compiled by Hu Zhongrong 扈仲榮. Reference to SKQS.

Chicheng ji 赤城集 (Collected Writings about Chicheng). Southern Song, ca. 13th c. Compiled by Lin Biaomin 林表民. Reference to *Beijing tushuguan guji zhenben congkan* 北京圖書館古籍珍本叢刊. Beijing: Shumu wenxian chubanshe, 1998.

Chongxiu Zhenghe jingshi zhenglei beiyong 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). Northern Song, 1083. Tang Shenwei 唐慎微. Reprint, 1249. Beijing: Renmin weisheng chubanshe, 1957.
- Congshu jicheng chubian* 叢書集成初編 (CSJCCB, *First Compilation of Collected Collectanea*). Shanghai: Shangwu yinshuguan, 1935.
- Duanming ji* 端明集 (Collected Writings of Cai Xiang). Northern Song, 11th c. Cai Xiang 蔡襄. Reference to SKQS.
- Duxing zhazhi* 獨醒雜誌 (Miscellaneous Notes from the One who Wakes Alone). Southern Song, 12th C. Zeng Minxing 曾敏行. Reference to *Quan Song biji* 全宋筆記. Edited by Zhu Yian 朱易安 and Fu Xuancong 傅璇琮. Zhengzhou: Daxiang chubanshe, 2008.
- Fang zhou ji* 方舟集 (Collections of a Small Boat). Southern Song, 12th C. Li Shi 李石. Reference to SKQS.
- Gongkui ji* 攻媿集 (Collected Writings of Lou Yue). Southern Song, ca. 1163-1213. Lou Yue 樓鑰. Edited by Fu Yili 傅以禮. Reference to CSJCCB.
- Guanjian Daquan Liangfang* 管見大全良方 (Complete Compendium of Good Formulas from a Singular Perspective). Southern Song, 1271. Chen Ziming 陳自明. Reference to *Chen Ziming yixue quanshu* 陳自明醫學全書. Beijing: Zhongguo zhongyiyao chubanshe, 2005.
- Guihai yuheng zhi* 桂海虞衡志 (Treatises of the Supervision and Guardian of the Cinnamon Sea). Southern Song, ca. 1175. Fan Chengda 范成大. Reference to *Fan Chengda biji liu zhong* 范成大筆記六種. Edited by Kong Fanli 孔凡禮. Beijing: Zhonghua shuju, 2002.
- Han shu* 漢書 (History of the Former Han). Eastern Han, comp. 1st cent., pr. ca. 111. Ban Gu 班固. Beijing: Zhonghua shuju, 1962.
- Hou Han shu* 後漢書 (History of the Later Han). Liu Song, comp. 4-5th cent., pr. 445. Fan Ye 范曄. Taipei: Dingwen shuju, 1981
- Huainan zi* 淮南子 (Essays from the Masters at Huainan). Han, ca. 139 BCE. Assembled and edited by Liu An 劉安. Reference to *Zhuzi jicheng* 諸子集成, vol. 7. Edited by Guoxue zhengli she 國學整理社. Beijing: Zhonghua shuju: 1954/1993.
- Huangdi neijing Suwen* 黃帝內經素問 (The Yellow Emperor's Inner Cannon, Basic Questions). Zhou to Han, 3rd c. BCE to 3rd c. CE. Anon. Reference

- to *Huangdi neijing Suwen jiaozhu* 黃帝內經素問校注. Edited by Guo Aichun 郭霽春. Beijing: Renming weisheng chubanshe, 1992.
- Ishimpō* 醫心方 (Formulas at the Heart of Medicine). Heian period, 986. Tanba Yasuyori 丹波康賴. Edited by Zhao Mingshan 趙明山. Shenyang: Liaoning kexue jishu chubanshe, 1996.
- Jiao qi zhifa zong yao* 腳氣治法總要 (Essentials for Treatments of Foot qi disorders). Northern Song, late 11th c. Dong Ji 董汲. Reference to SKQS.
- Junzhai dushu zhi* 郡齋讀書志 (*Memoirs of Reading in the Jun Studio*). Southern Song, pr. 1180-1184. Chao Gongwu 晁公武. Reference to *Junzhai dushu zhi jiaozheng* 郡齋讀書志校證. Edited by Sun Meng 孫猛. Shanghai: Shanghai gugi chubanshe, 1990/2005.
- Kaiqing Siming xuzhi* 開慶四明續志 (Continued Records of Siming from the Kaiking period). Southern Song, 1259. Compiled by Mei Yingfa 梅應發. Reference to *Song Yuan fangzhi congan* 宋元方志叢刊.
- Lingnan weisheng fang* 嶺南衛生方 (Formulas for Preserving Life in Lingnan). Southern Song, ca. 1139-1148. Compiled by Li Qiu 李璆 and Zhang Zhiyuan 張致遠, edited by the Buddhist cleric Jihong 釋繼洪 (Yuan). Earliest extant edn., pr. 1576, preserved in an 1841 Japanese Gakko-kan 學古館 edition. Beijing: Zhongyi guji chubanshe, 1983.
- Lingshu jing* 靈樞經 (Canon of Divine Pivot). Zhou to Han, 3rd c. BCE to 3rd c. CE. Anon. Reference to *Lingshu jing* 靈樞經. Edited by Liu Hengru 劉衡如. Beijing: Renming weisheng chubanshe, 1964.
- Lingwai daida* 嶺外代答 (Answers on Regions beyond the Ling Ranges). Southern Song, 1178. Zhou Qufei 周去非. Reference to *Lingwai daida jiaozhu* 嶺外代答校注. Edited by Yang Wuquan 楊武泉. Beijing: Zhonghua shuju, 1999.
- Nanfang caomu zhuang* 南方草木狀 (Descriptions of the Herbaceous Plants and Trees in the Southern Quarter). Western Jin, ca. early 4th c. Ji Han 嵇含. Reference to *Han Wei Liuchao biji xiaoshuo daguan* 漢魏六朝筆記小說大觀. Annotated by Wang, Genlin 王根林. Shanghai: Shanghai guji chubanshe, 1999.
- Quan Song shi* 全宋詩 (Collection of Song Poems). Edited by Fu Xuancong 傅璇琮. Beijing: Beijing daxue chubanshe.

- Rumen shi qin* 儒門事親 (A Means for Confucian Scholars to Serve Their Relatives). Jin, 1228. Zhang Congzheng 張從正. Reference to *Zhang Zihe yixue quanshu* 張子和醫學全書. Beijing: Zhongguo zhongyiyao chubanshe, 2006.
- Sanyin jiyi bingzheng fanglun* 三因極一病證方論 (Formulary of the Three Causes Epitomized and Unified for Disorder Manifestation). Southern Song, 1174. Chen Yan 陳言. Reference to *Chen Wuze yixue quanshu* 陳無擇醫學全書. Beijing: Zhongguo zhongyiyao chubanshe, 2005.
- Shanghan weizhi lun* 傷寒微旨論 (On the Profound Meaning of Cold Damage Disorders). Northern Song, 1086. Han Zhihe 韓祇和. Reference to CSJCCB.
- Shanghan zongbing lun* 傷寒總病論 (Discussion on Comprehensive Cold Damage Disorders). Northern Song, ca. pr. in 1100. Pang Anshi 龐安時. Reference to *Zhu Gong, Pang Anshi yixue quanshu* 朱肱龐安時醫學全書. Beijing: Zhongguo zhongyiyao chubanshe, 2006.
- Shaoshi wenjian lu* 邵氏聞見錄 (Records of What Mr. Shao Have Heard and Seen). Southern Song, 12th C. Shao Bowen 邵伯溫. Arranged by Shao Bo 邵博. Edited by Li Jianxiong 李劍雄 and Liu Dequan 劉德權. Beijing: Zhonghua shuju, 1983.
- Shengnong bencao jing* 神農本草經 (Collected Annotations of Divine Husbandman's Cannon on Materia Medica). Han, 1st C. CE. Reference to *Shengnong bencao jing jizhu* 神農本草經集注. Annotated by Shang Zhijun 尚志鈞. Beijing, Renmin weisheng chubanshe, 1995.
- Shiji* 史記 (*Records of the Historian*). Han, ca. 86 BCE. Sima Qian 司馬遷. Beijing: Zhonghua shuju, 1959.
- Shu zhong guan ji* 蜀中廣記 (Broad Records of Shu Area). Ming, 1573-1619. Cao Xiaoquan 曹學佺. Reference to SKQS.
- Shuixin ji* 水心集 (Collected Writings of Ye Shi). Southern Song, ca. 1178-1223. Ye Shi 葉適. Reference to SKQS.
- Shuowen jiezi* 說文解字 (Discussing the Patterns and Explicating the Characters). Eastern Han, 121. Xu Shen 許慎. Beijing: Zhonghua shuju, 1963/1965.

- Siku quanshu* 四庫全書 (SKQS, The Complete Books of the Four Storehouses). Qing, 1773-1784. Taipei: Taiwan shangwu yinshuguan, 1986.
- Song shi* 宋史 (The History of the Song Dynasty). Yuan, 1345/1346. Tuo Tuo 脫脫. Beijing: Zhonghua shuji, 1977.
- Song Yuan fangzhi congkan* 宋元方志叢刊 (Song and Yuan Local Gazetteers). Edited by Zhonghua shuju bianjibu. Beijing: Zhonghua shuju, 1990.
- Songhuiyao jiga* 宋會要輯稿 (Collected Administrative Documents during the Song dynasty). Song, compiled by various authors between 978-1249. Edited by Xu Song 徐松. Beijing: Zhonghua shuju, 1936.
- Su Shen liang fang* 蘇沈良方 (Excellent Formulas of Su and Shen). Northern Song, 1075. Su Shi 蘇軾 and Shen Kuo 沈括. Edited by Yang Junjie 楊俊杰 and Wang Zhengguo 王振國. Shanghai: Shanghai kexue jishu chubanshe, 2003.
- Su Shi wenji* 蘇軾文集 (Collected Writings of Su Shi). Edited by Kong Fanli 孔凡禮. Beijing: Zhonghua shuju, 1986.
- Suwen* 素問 (Basic Questions). Reference to *Huangdi neijing Suwen*.
- Taiping huimin heji jufang* 太平惠民和劑局方 (Formulary of the Pharmacy Service for Great Peace and for the Benefit of the People). Southern Song, printed in 1151. First compiled by Chen Shiwen 陳師文. Reference to *Zenguang Taiping huimin heji jufang* 增廣太平惠民和劑局方.
- Taiping shenghui fang* 太平聖惠方 (Taiping Era Formulas of Sagely Grace). Northern Song, 978-992. Compiled by Wang Huaiyin 王懷隱 *et al.* Beijing: Renmin weisheng chubanshe, 1958.
- Tong dian* 通典 (Compendium of Institutions). Tang, 810. Du You 杜佑. Taipei: Dahua shuju, 1978.
- Waitai biyao fang* 外臺秘要方 (Arcane Essential Formulas from the Imperial Library). Tang, a.p. 752. Wang Tao 王燾. Edited by Gao Wenzhu 高文鑄. Beijing: Huaxia chubanshe, 1993.
- Wenyuan yinghua* 文苑英華 (Heroic Flowers from a Literary Garden). Northern Song, compiled by various authors between 982-986. Edited by Zhou Bida 周必大 *et al.*, printed in 1201. Beijing: Zhonghua shuju, 1966.

- Xianchun Lin'an zhi* 咸淳臨安志 (Records about Lin'an from the Xianchun Period). Southern Song, ca. 1265-1275. Qian Shuoyou 潛說友. Reference to *Song Yuan fangzhi congkan* 宋元方志叢刊.
- Xishan wenji* 西山文集 (Collected Writings of Zhen Dexiu). Southern Song, ca. early 13th c. Zhen Dexiu 真德秀. Reference to SKQS.
- Xu zizhitongjian changbian* 續資治通鑑長編 (Collected Data for a Continuation of the Comprehensive Mirror for Aid in Government). Northern Song, 1184. Compiled by Li Tao 李燾. Beijing: Zhonghua shuju, 1986.
- Xunzhai wenji* 巽齋文集 (Collected Writings of Oyang Shoudao). Southern Song, ca. 13th c. Oyang Shoudao 歐陽守道 (1209-?). Reference to SKQS.
- Yi shuo* 醫說 (Medical Anecdotes). Southern Song, ca. 1189-1224. Zhang Gao 張杲. Taipei: Xinwenfeng chubanshe, 1981.
- Yuancheng yulu jie* 元城語錄解 (Explication of Yuancheng's Words). Southern Song, 1135. Ma Dalian 馬大年. Reference to CSJCCB.
- Yunjian zhi* 雲間志 (Records about Huating). Southern Song, 1193. Yang Qian 楊潛. Reference to *Song Yuan fangzhi congkan* 宋元方志叢刊.
- Zenguang Taiping huimin heji jufang* 增廣太平惠民和劑局方 (Expanded the Formulary of the Pharmacy Service for Benefiting the People in the Ear of Great Peace). Southern Song, 1208. First compiled by Chen Shiwen 陳師文. Edited by Xu Hong 許洪. Modern Edited by Ren Tingsu 任廷蘇. Haikou: Hainan chuban she, 2002.
- Zhenghe shengji zonglu* 政和聖濟總錄 (Sagely Benefaction Medical Encyclopedia of the Zhenghe Reign Period). Northern Song, ca. 1118-1127. Emperor Huizong 徽宗 (Zhao Ji 趙佶), attributed compiler. Reference to *Dade chongjiao shengji zonglu* 大德重校聖濟總錄. Yuan, 1300. Annotated by Jiao Hui 焦惠. Taipei: Xinwenfeng chubanshe, 1978.
- Zhinan zonglun* 指南總論 (General Guide). Southern Song, 1208. Xu Hong 許洪. Reference to *Zenguang Taiping huimin heji jufang* 增廣太平惠民和劑局方.
- Zhouhou beiji fang* 肘後備急方 (Emergency Formulas Kept in One's Sleeve). Jin, 4th c. Ge Hong 葛洪. Beijing: Renmin weisheng chubanshe.
- Zhubing yuanhou lun* 諸病源候論 (Treatise on the Origins and Symptoms of Various Disorders). Sui, 610. Chao Yuanfang 巢元方. Reference to

Zhubing yuanho lun jiaozhu 諸病源候論校注. Edited by Ding Guangdi 丁光迪. Beijing: Renmin weisheng chubanshe, 1991.

B. Modern works and modern editions (alphabetically ordered by the name of authors, editors, or editorial teams)

Alleton, Viviane and Volkov, Alexei (eds.) 1994. *Notions Et Perceptions De Changement En Chine. Mémoires De L'institut Des Hautes Etudes Chinoises* 36. Paris: Collège de Franc.

Bao, Weimin 包偉民. 2006. "Shilun Songdai chengshi fazhan zhong de xin wenti" 試論宋代城市發展中的新問題 (On New Problems Resulting from the Development of the Song Cities). *Zhongguoshi yanjiu* 40: 235-266.

Bray, Francesca. 1997. *Technology and Gender: Fabrics of Power in Late Imperial China*. Berkeley: University of California Press.

Cao, Shuji 曹樹基. 1995. "Dili huangjing yu Song-Yuan shidai de chuanranbing" 地理環境與宋元時代的傳染病 (Geographical Environments and Contagious Illnesses in the Song-Yuan period). *Lishi dili* 12: 183-192.

Chang, Chia-feng 張嘉鳳. 2001. "Jiyi yu xiangran—yi *Zhubing yuanhou lun* wei zhongxin shilun Wei-Jin zhi Sui-Tang zhijian yiji de jibing guan" 「疾疫」與「相染」——以《諸病源候論》為中心試論魏晉至隋唐之間醫籍的疾病觀 ("Jiyi" (epidemics) and "xiangran" (contagion): Using the *Treatise on the Origins and Symptoms of Various Diseases* to Discuss the Medical Perspective on Illnesses from the Wei-Jin to the Sui-Tang Period). *Taida lishi xuebao* 27: 37-82.

Chang, Chia-feng 張嘉鳳. 2013. "Huangdi buneng chaqi youxiao—Song Qing zhijian xiaor yi de ziwo rentong yu shehui dingwei" 黃帝不能察其幼小——宋清之間小兒醫的自我認同與社會定位 (Even the Yellow Lord Cannot Treat Children: Self-Identity and Social Positioning of Chinese Pediatricians from the Song to the Qing Dynasties). *Xin shixue* 24 (1): 1-58.

Chau, Adam Yuet. 2008. "The Sensorial Production of the Social." *Ethnos: Journal of Anthropology* 73 (4): 485-504.

- Chen Keji 陳可冀 and Chen Weiyang 陳維養. 1963. "Tantan Taiping huimin heji jufang de chengjiu" 談談太平惠民和劑局方的成就 (Discussion about the Accomplishment of the *Formulary of the Pharmacy Service for Great Peace and for the Benefit of the People*). *Shanghai zhongyiyao zazhi* 5: 37-38, 9.
- Chen, John K and Chen, Tina T. 2001/2004. *Chinese Medical Herbology and Pharmacology*. City of Industry, Calif.: Art of Medicine Press.
- Chen, Yuan-Peng 陳元朋. 1995. "Minguo yilai Song dai yixueshi gaikuang jianjie—yi Taiwan yu dalu diqu de yanjiu chengguo weili" 民國以來宋代醫學史概況簡介——以台灣與大陸地區的研究成果為例 (Brief Review of the Song Medical History—Studies in Taiwan and China as Examples). *Dalu zazhi* 90 (5): 34-48.
- Chen, Yuan-Peng 陳元朋. 1997. *Liang Song de shangyi shiren yu ruyi—jianlun qi zai Jin Yuan de liubian* 兩宋的尚醫士人與儒醫——兼論其在金元的流變 (Literati Who Esteem Medicine" and "Scholar Doctor" in the Northern and Southern Song Dynasties—with Research on Their Changes during the Jing and Yuan). Taipei: National Taiwan University.
- Chia, Lucille and De Weerdt, Hilde (eds.) 2011. *Knowledge and Text Production in an Age of Print: China, 900-1400*. Leiden: Brill.
- Chia, Lucille. 2002. *Printing for Profit: The Commercial Publishers of Jianyang, Fujian (11th-17th Centuries)*. Cambridge, MA: Harvard University Asia Center for Harvard-Yenching Institute.
- Chu, Ping-Yi 祝平一. 2006. "Song Ming zhi ji de yishi yu ruyi" 宋、明之際的醫史與儒醫 (Narrations of Histories of Medicine from the Song to the Ming and the Rise of the Confucian Physician). *Zhongyang yanjiuyuan lishi yuyan yanjiusuo jikan* 77 (3): 401-448.
- Chu, Ping-Yi 祝平一 (ed.) 2010. *Zhongguo shi xin lun—keji yu Zhongguo shehui fence* 中國史新論——科技與中國社會分冊 (On Chinese History: Science, Technology, and Chinese Society). Taipei: Lianjing Chubanshe.
- Chu, Ping-Yi 祝平一. 2013. "Qing dia de sha zheng—yi ge jibing fangchou de dansheng" 清代的痧症——一個疾病範疇的誕生 (Framing *Sha* as a Disease Category in the Qing Dynasty). *Hanxue yanjiu* 31 (3): 193-228.
- Clark, Peter. 2013. *The Oxford Handbook of Cities in Word History*. Oxford: Oxford University Press.

- Csordas, Thomas J (ed.) 1994/2003. *Embodiment and Experience: The Existential Ground of Culture and Self*. Cambridge: Cambridge University Press.
- Dai Junliang 戴均良, Liu Baoquan 劉保全, Zou Yilin 鄒逸麟, Wang Wenchu 王文楚, and Zhang Xiaomin 張曉敏 (eds.) 2005. *Zhongguo gujin diming da cidian* 中國古今地名大詞典 (A Comprehensive Dictionary of Place Names in Pre-modern and Modern China). Shanghai: Shanghai cishu chubanshe.
- De Weerd, Hilde. 2013. "China, 600-1300." In Peter Clark (ed.), 292-309.
- Dennis, Joseph. 2011. "Early Printing in China View from the Perspective of Local Gazetteers." In Lucille Chia and Hilde De Weerd (eds.), 105-134.
- Despeux, Catherine. 2001. "The System of the Five Circulatory Phases and the Six Seasonal Influences (*Wuyun liuqi*), a Source of Innovation in Medicine under the Song (960-1279)." Translated by Janet Lloyd. In Elisabeth Hsu (ed.), 121-165.
- Di Cosmo, Nicola and Wyatt, Don J (eds.) 2003. *Political Frontiers, Ethnic Boundaries, and Human Geographies in Chinese History*. London: Routledge.
- Dorofeeva-Lichtmann, Vera. 2003. "Mapping a "Spiritual" Landscape: Representation of Terrestrial Space in the *Shanhaijing*." In Nicola Di Cosmo and Don J Wyatt (eds.), 35-79.
- Ebrey, Patricia Buckley and Bickford, Maggie (eds.) 2006. *Emperor Huizong and Late Northern Song China: the Politics of Culture and the Culture of Politics*. Cambridge, MA: Harvard University Press.
- Elvin, Mark. 2004. *The Retreat of the Elephants: An Environmental History of China*. New Haven: Yale University Press.
- Fan, Chengda 范成大 (1126-93) and Hargett, James M. 2010. *Treatises of the Supervisor and Guardian of the Cinnamon Sea: the Natural World and Material Culture of 12th Century South China*. Seattle: University of Washington Press.
- Fan, Ka-Wai 范家偉. 1995. "Dongjin zhi Song dai jiao qi bing zhi tantao" 東晉至宋代腳氣病之探討 (On Beriberi from the Eastern Chin Dynasty to the Sung Dynasty). *Xin shixue* 6 (1): 155-77.

- Fan, Ka-Wai 范家偉. 1998. "Liuchao shiqi renkou qianyi yu Lingnan diqu Zhang Qi bing" 六朝時期人口遷移與嶺南地區瘴氣病 (Chang-Ch'ih Disease and Population Migration in the Lingnan Region in the Six Dynasties). *Hanxue yanjiu* 16 (1): 27-58.
- Fan, Ka-wai 范家偉. 2000. "Dili huangjing yu jibing—lun gudai yixue dui Lingnan diqu jibing de jieshi" 地理環境與疾病——論古代醫學對嶺南地區疾病的解釋 (Natural Environment and Diseases in the Lingnan Region in Ancient China). *Zhongguo lishi dili luncong* 1: 17-30, 247.
- Fan, Ka-Wai 范家偉. 2004. *Liuchao Sui Tang yixue zhi chuancheng yu zenghe* 六朝隋唐醫學之傳承與整合 (The Heritage and Integration of Medicine in the Six Dynasties, Sui, and Tang). Hong Kong: Chinese University Press.
- Fan, Ka-Wai 范家偉. 2007. *Dayi jingcheng—Tang dai guojia xinyang yu yixue* 大醫精誠—唐代國家、信仰與醫學 (The Perfection and Sincerity of Great Physicians: The Nation, Faith, and Medicine in the Tang Dynasty). Taipei: Dongda tushu chubanshe.
- Fan, Ka-Wai 范家偉. 2011. "Bei-Song guangeguan, ruchen yu jiaozheng yishu ju" 北宋館閣官、儒臣與校正醫書局 (Officials of the Institutes and Archives, Literati Officials, and Bureau for the Revision of Medical Classics in Northern Song China). *Hanxue yanjiu* 29 (3): 89-124.
- Fan, Ka-Wai 范家偉. 2013. "Bei Song Huizong chao yunqi xueshuo xingqi de beijing" 北宋徽宗朝運氣學說興起的背景 (The Background against the Emergence of the System of *Yunqi* during the Reign Period of Emperor Huizong in Northern Song Times). Paper presented at conference "Song dai zhengzhishi yanjiu de xinshiye" 宋代政治史研究的新視野, Beijing, Beijing University, September 1-2.
- Fan, Xingzhun 范行準. 1986. *Zhongguo yixue shi lue* 中國醫學史略 (A General History of Medicine in China). Beijing: Zhongyi guji chubanshe.
- Fang, Yan 方燕. 2009. *Wu wenhua shiyu xia de Song dai nüxing—lizu yu nüxing shengyu jibing de kaocha* 巫文化視域下的宋代女性——立足於女性生育、疾病的考察 (Song Women in Cultures about *wu* (shaman)—Investigation into Gestation and Disorders of Women). Beijing: Zhonghua shuju.
- Farquhar, Judith. 1994. *Knowing Practice: The Clinical Encounters of Chinese Medicine*. Boulder: Westview Press.

- Feng, Hanyong 馮漢鏞. 1981. "Zhang qi de wenxian yanjiu" 瘴氣的文獻研究 (Research on Literatures on Zhang Qi). *Zhonghua yishi zazhi* 11: 44-47.
- Feng, Xiang 馮翔. 2007. "Guangyu Song dai zhi Ming dai nanfang de zhang bing jiqi lishi de yanjiu" 關於宋代至明代南方的瘴病及其歷史的研究 (A Discussing about the Disease Zhang in South China from Song Dynasty to Ming Dynasty and Its Historical Research). *Guangxi minzu daxue xuebao (ziran kexue ban)* 13 (2): 28-34.
- Foucault, Michel. 1984. *The Foucault Reader*. Edited by Paul Rabinow. New York: Pantheon Books.
- Fu, Daiwei 傅大為. 1993-94. "A Contextual and Taxonomic Study of the "Divine Marvels" and "Strange Occurrences" in the *Mengxi bitan*." *Chinese Science* 11: 3-35.
- Fu, Daiwie 傅大為. 2010. "Cong wenyifuxing dao xin shiye—Zhongguo Song dai de keji yu Mengxi bitan" 從文藝復興到新視野——中國宋代的科技與《夢溪筆談》 (From a Renaissance to a New Version--Science and Technology of the Song Dynasty and the *Brush Talks for Dream Brook*). In Chu Ping-Yi (ed.), 271-297.
- Furth, Charlotte, Zeitlin, Judith T., and Hsiung, Ping-Chen (eds.) 2007. *Thinking with Cases: Specialist Knowledge in Chinese Cultural History*. Honolulu: University of Hawai'i Press.
- Furth, Charlotte. 1986. "Blood, Body and Gender: Medical Images of the Female Condition in China." *Chinese Science* 7: 43-65.
- Furth, Charlotte. 1998. "Doing Body Research on the History of the Body: Representation and Experience." *Jindai zhongguo funüshi yanjiu* 8: 179-193.
- Furth, Charlotte. 1999. *A Flourishing Yin: Gender in China's Medical History, 960-1665*. Berkeley: University of California Press.
- Furth, Charlotte. 2006. "The Physician as Philosopher of the Way: Zhu Zhenheng (1282-1358)." *Harvard Journal of Asiatic Studies* 66 (2): 423-459.
- Goldschmidt, Asaf. 2006. "Huizong's Impact on Medicine and on Public Health," in Patricia B. Ebrey and Maggie Bickfor (eds.), 275-323.
- Goldschmidt, Asaf. 2009. *The Evolution of Chinese Medicine: Song Dynasty, 960-1200*. London: Routledge.

- Gong, Shengsheng 龔勝生. 1993. "2000 nian lai Zhongguo zhang bing fenbu bianqian de chubu yanjiu" 2000 千年來中國瘴病分佈變遷的初步研究 (A Preliminary Study on the Changes in the Distribution of *Zhang* Disorders in China over 2000 Years). *Dili xuebao* 4: 304-51.
- Gu, Hongyi 顧宏義. 2010. *Songchao fangzhi kao* 宋朝方志考 (Investigation into the Song Local Gazetteers). Shanghai: Shanghai guji chubanshe.
- Hanson, Marta. 2001. "Robust Northerners and Delicate Southerners: the Nineteenth Century Invention of a Sothern Medical Tradition." In Elisabeth Hsu (ed.), 262-291.
- Hanson, Marta. 2011. *Speaking of Epidemics in Chinese Medicine: Disease and the Geographic Imagination in Late Imperial China*. London: Routledge.
- Harper, Donald. 1998. *Early Chinese Medical Literature: the Mawangdui Medical Manuscripts*. New York: Columbia University Press.
- Harper, Donald. 2001. "Iatromancy, Diagnosis, and Prognosis in Early Chinese Medicine." In Elisabeth Hsu (ed.), 99-120.
- Harris, Stephen and Hsu, Elisabeth (eds.) 2010. *Plants, Health and Healing on the Interface of Ethnobotany and Medical Anthropology*. New York: Berghahn Books.
- Hartwell, Robert M. 1982. "Demographic, Political, and Social Transformations of China, 750-1550." *Harvard Journal of Asiatic Studies* 42 (2): 365-442.
- Henderson, John B. 1984. *The Development and Decline of Chinese Cosmology*. New York: Columbia University Press.
- Hinrichs, T. J. 1998. "New Geographies of Chinese Medicine." *Osiris* 13: 287-325.
- Hinrichs, T. J. 2003. "The Medical Transforming of Governance and Southern Customs in Song Dynasty China (960-1279 CE)." PhD dissertation, Harvard University.
- Hinrichs, T. J. 2011. "Governance through Medical Texts and the Role of Print." In Lucille Chia and Hilde De Weerd (eds.), 217-38.
- Hinrichs, T. J. 2013. "Yiru yiyi de Zhang Gao" 亦儒亦醫的張杲 (Zhang Gao, Scholar and Physician). *Zhongguo shehui lishi pinglun* 14: 65-76.

- Hinrichs, T. J. and Barnes, Linda (eds.) 2013. *Chinese Medicine and Healing: An Illustrated History*. Cambridge, MA: The Belknap Press of Harvard University Press.
- Hinrichs, T. J. Forthcoming. *Shamans, Witchcraft, and Quarantine: The Medical Transformation of Governance and Southern Customs in Song China*.
- Hsiao, Fan 蕭璠. 1993 "Han Song jian wenxian suojian gudai zhongguo nanfang de dili huanjing yu difangbing jiqi yingxiang 漢宋間文獻所見古代中國南方的地理環境與地方病及其影響 (Extant Sources from the Hanto Song on the Environment and Local Diseases of Ancient South China and Their Influence). *Zhongyang yanjiuyuan lishi yuyan yanjiusuo jikan* 63 (1): 67-171.
- Hsiao, Fan 蕭璠. 2005 "Han Song jian wenxian suojian gudai zhongguo nanfang de dili huanjing yu difangbing jiqi yingxiang 漢宋間文獻所見古代中國南方的地理環境與地方病及其影響 (Extant Sources from the Hanto Song on the Environment and Local Diseases of Ancient South China and Their Influence). In Li Jianmin (ed.), 193-298.
- Hsu, Elisabeth. 1994. "Change in Chinese Medicine: *Bian* and *Hua*. An Anthropologist's Approach." In Viviane Alleton and Alexei Volkov (eds.), 41-58.
- Hsu, Elisabeth. 1999. *The Transmission of Chinese Medicine*. Cambridge: Cambridge University Press.
- Hsu, Elisabeth (ed.) 2001. *Innovation in Chinese Medicine*. Cambridge: Cambridge University Press.
- Hsu, Elisabeth. 2001. "Pulse Diagnostics in the Western Han: How *Mai* and *Qi* Determine *Bing*." In Elisabeth Hsu (ed.), 63-85.
- Hsu, Elisabeth. 2007a. "The Biological in the Cultural: The Five Agents and the Body Ecologic in Chinese Medicine." In David Parkin and Stanley Ulijaszek (eds.), 91-126.
- Hsu, Elisabeth. 2007b. "The Experience of Wind in Early and Medieval Chinese Medicine." *The Journal of the Royal Anthropological Institute* 13: 117-34.
- Hsu, Elisabeth. 2008. "A Hybrid Body Technique: Does the Pulse Diagnosis *cun guan chi* Method Have Chinese-Tibetan Origins?" *Gesnerus* 65: 5-29.

- Hsu, Elisabeth. 2009a. "Diverse Biologies and Experiential Continuities: Did the Ancient Chinese Know That *Qinghao* Had Anti-malarial Properties?" *Canadian Bulletin of Medical History* 26 (1): 203-13.
- Hsu, Elisabeth. 2009b. "Experiences of Personhood, Health, and Disease in China: Some Reflections." *Cambridge Anthropology* 29 (3): 69-84.
- Hsu, Elisabeth. 2010a. *Pulse Diagnosis in Early Chinese Medicine: the Telling Touch*. Cambridge: Cambridge University Press.
- Hsu, Elisabeth. 2010b. "*Qing hao* 青蒿 (Herba Artemisiae Annuae) in the Chinese Materia Medica." In Stephen Harris and Elisabeth Hsu (eds.), 83-130.
- Huang, Ko-wu 黃克武 (ed.) 2002. *Xingbie Yu yiliao* 性別與醫療 (Gender and Medicine). Taipei: Zhongyang yanjiuyuan lishi yuyan yanjiusuo.
- Hymes, Robert. 1987. "Not Quiet Gentlemen? Doctors in Sung and Yuan." *Chinese Science* 8: 9-76.
- Ingold, Tim. 2000. *The Perception of the Environment: Essays on Livelihood, Dwelling and Skill*. London: Routledge.
- Johannes Kurz. 2001. "The Politics of Collecting Knowledge: Taizong's Compilations Project." *T'oung Pao* 87 (4-5):289-316.
- Jullien, François. 1995. *The Propensity of Things: Toward a History of Efficacy in China*. Translated by Janet Lloyd. New York: Zone Books.
- Kalinowski, Marc. 1983. "Les Instruments Astro-calendriques des Han et la Méthode Liu Ren." *Bulletin de l'Ecole française d'Extrême-Orient* 72 (1): 309-419.
- Katō Shigeshi 加藤繁. 1959/1962. "Songdai dushi de fazhan" 宋代都市的發展 (The Development of Cities in Song China). Translated by Wu Jie 吳杰. In *Zhongguo jingjishi kaozheng* 中國經濟史考證, 239-277. Beijing: Shangwu yinshu guan.
- Katz, Paul. 1995. *Demon Hordes and Burning Boats: The Cult of Marshal Wen in Late Imperial Chekiang*. Albany: State University of New York.
- Keegan, David J. 1988. "The "*Huang-ti nei-ching*": the Structure of the Compilation; the Significance of the Structure." PhD dissertation, University of California, Berkeley.

- Kiple, Kenneth F (ed.) 1993. *The Cambridge World History of Human Disease*. Cambridge: Cambridge University Press.
- Kuriyama, Shigehisa. 1993. "Concepts of Disease in East Asia." In Kenneth F Kiple (ed.), 52-59.
- Lagerway, John and Kalinowski, Marc (eds.) 2009. *Early Chinese Religion, Part One: Shang through Han (1250BC-220AD)*. Leiden: Brill.
- Lee, Jingwei 李經緯 1989. "Bei Song huangdi yu yixue" 北宋皇帝與醫學 (The Northern Song Emperors and Medicine). *Zhongguo keji shiliao* 3: 3-20.
- Leung, Angela Ki Che and Furth, Charlotte (eds.) 2010. *Health and hygiene in Chinese East Asia: Policies and Publics in the Long Twentieth Century*. Durham: Duke University Press.
- Leung, Angela Ki Che 梁其姿. 2001. "Song Yuan Ming difang yiliao ziyuan chutan" 宋元明的地方醫療資源初探 (A Preliminary Study on Local Medical Resources in Song, Yuan, and Ming Times), 219-37. In Zhang Guogang 張國剛 (ed.), 219-237.
- Leung, Angela Ki Che 梁其姿. 2002. "Jibing yu fangtu de guangxi: Yuan zhi Qing jian yijie de kanfa" 疾病與方土之關係:元至清間醫界的看法 (The Relations between Diseases and Locality: Views of Physicians from the Yuan to the Qing). In Huang Ko-Wu (ed.), 165-212.
- Leung, Angela Ki Che 梁其姿. 2003. "Medical Learning from the Song to the Ming." In Paul J. Smith and Richard von Glahn (eds.), 374-398.
- Leung, Angela Ki Che 梁其姿. 2005. "Jibing yu fangtu de guangxi: Yuan zhi Qing jian yijie de kanfa" 疾病與方土之關係: 元至清間醫界的看法 (The Relations between Diseases and Locality: Views of Physicians from the Yuan to the Qing). In Li Jianmin (ed.), 357-389.
- Leung, Angela Ki Che 梁其姿. 2009. *Leprosy in China: A History*. New York: Columbia University Press.
- Leung, Angela Ki Che 梁其姿. 2010. "The Evolution of the Idea of *Chuanran* Contagion in Imperial China." In Angela Ki Che Leung and Charlotte Furth (eds.), 25-50.
- Li, Jianmin 李建民 (ed.) 2005. *Shengming yu yiliao* 生命與醫療 (Lives and Medicine). Beijing: Zhongguo dabaike chubanshe.

- Li, Jianmin 李建民 (ed.) 2008. *Cong yiliao kan zhongguoshi* 從醫療看中國史 (Medical Perspective on Chinese Medicine). Taipei: Liangjing chuban.
- Li, Jianmin 李建民. 1994. "Mawangdui Han mu boshu "Yu cang maibao tu" jian zheng" 馬王堆漢墓帛書「禹藏埋胞圖」箋證 (Research on the Chart of *Yu cang mai bao* in the Silk Manuscript from Mawangdui Tomb 3). *Zhongyang yanjiuyuan lishi yuyan yanjiusuo jikan* 65 (4): 725-832.
- Li, Jianmin 李建民. 2007. "Nüyi sharen—Xi Han Xu Ping jun huanghou mousha an xin kaozheng" 女醫殺人—西漢許平君皇后謀殺案新考證 (A Female Physician Murdered—A New Investigation of a Murder Case of the Queen Xu ping jun in the Western Han). *Gujin lunheng* 17: 103-124.
- Li, Jianmin 李建民. 2009. "They Shall Expel Demons: Etiology, the Medical Canon and the Transformation of Medical Techniques Before the Tang." In John Lagerway and Marc Kalinowski (eds.), 1103-1150.
- Li, Ling 李零. 1993/2001. *Zhongguo fangshu kao* 中國方術考 (Investigation on *Fangshu* in China). Beijing: Dongfang chubanshe.
- Liang, Ken-Yao 梁庚堯. 1981a. "Nan Song chengshi de fazhan shang" 南宋城市的發展(上) (The Development of Cities in Southern Song China [Part One]). *Shihuo yuekan* 10 (10): 4-27.
- Liang, Ken-Yao 梁庚堯. 1981b. "Nan Song chengshi de fazhan xia" 南宋城市的發展(下) (The Development of Cities in Southern Song China [Part Two]). *Shihuo yuekan* 10 (11): 21-36.
- Liang, Ken-Yao 梁庚堯. 1985. "Nan Song de shi zhen" 南宋的市鎮 (Cites and Towns in the Southern Song Dynasty). *Hanxue yanjiu* 3 (2): 461-505.
- Liang, Ken-Yao 梁庚堯 (ed.) 1995. *Song dai shehui jingjishi lunji* 宋代社會經濟史論集. Taipei: Yunchen wenhua.
- Liang, Ken-Yao 梁庚堯. 1995a. "Nan Song chengshi de fazhan" 南宋城市的發展 (The Development of Cities in Southern Song China). In Liang Ken-Yao (ed.), 481-590.
- Liang, Ken-Yao 梁庚堯. 1995b. "Nan Song de shi zhen" 南宋的市鎮 (Cites and Towns during the Southern Song Dynasty). In Liang Ken-Yao (ed.), 14-99.

- Liang, Ken-Yao 梁庚堯. 1999. "Nan Song chengshi de gonggong weisheng wenti" 南宋城市的公共衛生問題 (The Problem of Public Health in Cities of the Southern Song Dynasty). *Zhongyang yanjiuyuan lishi yuyan yanjiusuo jikan* 70 (1): 119-163.
- Liao, Yu Qun 廖育群. 2003. *Yi zhe yi ye: renshi Zhongguo chuanguotong yixue* 醫者意也：認識中國傳統醫學 (Medicine is Judgement: Understanding Traditional Chinese Medicine). Taipei: Dongda chubanshe.
- Lin Qianliang 林乾良, Shang Zhijun 尚志鈞, and Zheng Jinsheng 鄭金生. 1989. *Lidai zhongyao wenxian jinghua* 歷代中藥文獻精華 (Essentials of the Literature of Traditional Chinese Drug Therapy). Beijing: Kexue jishu wenxian chubanshe.
- Liu, Shu-Fen 劉淑芬. 1981. "Zhonggu ducheng fangzhi de bengjie" 中古都城坊制的崩解 (The Breakdown of the Wall and Market System in Medieval China). *Dalu zhazhi* 82 (1): 31-48.
- Liu, Shu-Fen 劉淑芬 (ed.) 1992. *Liuchao de chengshi yu shehui* 六朝的城市與社會 (Cities and Society in the Six Dynasties). Taipei: Taiwan xuesheng.
- Liu, Shu-Fen 劉淑芬. 1992. "Zhonggu ducheng fangzhi de bengjie" 中古都城坊制的崩解 (The Breakdown of the Wall and Market System in Medieval China). In Liu Shu-Fen (ed.), 441-480.
- Liu, Shu-Fen 劉淑芬. 2006. "Jielü yu yangsheng zhijian—Tang Song siyuan zhong de wanyao, ruyao, he yaojiu" 戒律與養生之間——唐宋寺院中的丸藥、乳藥和藥酒 (Between Self-cultivation and the Monastic Code: Tea and Medicinal Soup in Tang and Song Monastic Life). *Zhongyang yanjiuyuan lishi yuyan yanjiusuo jikan* 77 (3): 357-400.
- Liu, Shu-Fen 劉淑芬. 2008. "Tang Song shiqi sengren, guojia, han yiliao de guangxi: cong yaofangdon dao huiminju" 唐宋時期僧人、國家和醫療的關係：從藥方洞到惠民局 (The Relationship among Monks, State, and Medicine During the Tang and the Song: From Prescription Cave to Public Benefits Pharmacy). In Li Jianmin(ed.), 145-202.
- Lo, Vivienne. 2005. "Pleasure, Prohibition and Pain: Food and Medicine in Traditional China." In Roel Sterckx (ed.), 163-185.
- Lo, Vivienne. 2013. "The Han Period." In T. J. Hinrichs and Linda Barnes (eds.), 31-42, 44-52, 55-64.

- Loewe, Michael (ed.) 1993. *Early Chinese Texts: A Bibliographical Guide*. Berkeley: Institute of East Asian Studies, University of California.
- Lu, Gwei-Djen and Needham, Joseph. 1951. "A Contribution to the History of Chinese Dietetics." *Isis* 47 (1): 13-20.
- Ma, Jixing 馬繼興. 1990. *Zhongyi wenxian xue* 中醫文獻學 (Study of Chinese Medical Texts). Shanghai: Shanghai kexue jishu chubanshe.
- Ma, Qiang, 馬強. 2007. "Tang Song xinan Lingnan zhang bing dili yu zhishi jieceng de renshi yingdui " 唐宋西南、嶺南瘴病地理與知識階層的認識應對 (Miasma Geography of Southwest and Lingnan Area in Tang and Song Dynasties and the Intelligent' Sensible Treatment). *Zhongguo lishi dili luncong* 22 (3): 21-29.
- Mawangdui Han mu boshu zhengli xiaozu 馬王堆漢墓帛書整理小組 (ed.) 1985. *Mawangdui Han mu bo shu* 馬王堆漢墓帛書 (The Silk Documents from a Han Tomb at Mawangdui), vol. 4. Beijing: Wenwu chubanshe.
- McKnight, Brian E. 1981. *The Washing Away of Wrongs: Forensic Medicine in Thirteenth-Century China*. Ann Arbor: Center for Chinese Studies, University of Michigan.
- Merleau-Ponty, Maurice. 1962/2002. *Phenomenology of Perception*. London: Routledge.
- Miyashita Saburo 宮下三郎. 1967. "Sō-Gen no iryō" 宋元の醫療 (Medicine and Healing in the Song and Yuan Periods). In Yabuuchi Kiyoshi (ed.), 123-70.
- Miyashita Saburō 宮下三郎. 1979. "Malariaa (yao) in Chinese Medicine during the Chin and Yuan Periods." *Acta Asiatica* 36: 90-112.
- Obringer, Frédéric. 1997. *L'aconit et L'orpiment: Drogues et Poisons en Chine Ancienne et Médiévale*. Paris: Fayard.
- Obringer, Frédéric. 2001. "A Song Innovation in Pharmacotherapy: Some Remarks on the Use of White Arsenic and Flowers of Arsenic." In Elisabeth Hsu (ed.), 192-213.
- Okanishi Tameto 岡西為人. 1958/2010. *Song yiqian yiji kao* 宋以前醫籍考 (Studies on Chinese Medical Texts up to the Song Dynasty). Translated by Guo Xiumei 郭秀梅. Beijing: Xueyuan chubanshe.

- Ono Yasushi, 小野泰. 2011. *Sōdai no suiri seisaku to chiiki shakai* 宋代の水利政策と地域社会 (The Policies of Water Management and Regional Society During the Song Dynasty). Tōkyō: Kyūkosho.
- Parkin, David and Ulijaszek, Stanley (eds.) 2007. *Holistic Anthropology: Emergence and Convergence*. Berghahn: Oxford.
- Porkert, Manfred. 1974. *The Theoretical Foundations of Chinese Medicine, Systems of Correspondence*. Cambridge, MA: M.I.T. Press.
- Rawson, Jessica. Arthur M. Sackler Foundation. Arthur M. Sackler Museum. 1990. *Western Zhou Ritual Bronzes from the Arthur M. Sackler Collections*. Washington: Arthur M. Sackler Foundation.
- Rong, Li 榮莉. 2004. "Lingnan weisheng fang de banben qingkuān yu jiaozhu jianjie" 嶺南衛生方版本情況與校注簡介 (Introduction to Annotations and Editions of *Formulas for Preserving Life in Lingnan*). *Zhongyi wenxian zazhi* 3: 7-10.
- Rosenberg, Charles E (ed.) 1992. *Explaining Epidemics and Other Studies in the History of Medicine*. Cambridge: Cambridge University Press.
- Rosenberg, Charles E. 1992. "Framing Disease: Illness, Society, and History". In Rosenberg (ed.), 305-18.
- Schafer, Edward. 1967. *The Vermilion Bird: Tang Images of the South*. Berkeley: University of California Press.
- Scheid, Volker. 2002. *Chinese Medicine in Contemporary China: Plurality and Synthesis*. Durham, NC: Duke University Press.
- Scheid, Volker. 2013. "Depression, Constraint and the Liver: (Dis)assembling the Treatment of Emotion-related Disorders in Chinese Medicine." *Culture, Medicine and Psychiatry* 37 (1): 30-58.
- Sivin, Nathan and University of Michigan. Center for Chinese Studies. 1987. *Traditional Medicine in Contemporary China: A Partial Translation of Revised Outline of Chinese Medicine (1972): With an Introductory Study on Change in Present-Day and Early Medicine*. Ann Arbor: Center for Chinese Studies, University of Michigan.
- Sivin, Nathan. 1991. "Change and Continuity in Early Cosmology. The Great Commentary to the Book of Changes." In Yamada Keiji and Tanaka Tan (eds.), 3-43.

- Sivin, Nathan. 1993. "Huang ti nei ching 黃帝內經," in Michael Loewe (ed.), 196-215.
- Sivin, Nathan. 1995. "State, Cosmos, and Body in The Last Three Centuries B. C.." *Harvard Journal of Asiatic Studies* 55 (1): 5-37.
- Smith, Hilary A. 2008. "Foot qi: History of a Chinese medical disorder." PhD dissertation, University of Pennsylvania.
- Smith, Paul J. and Richard von Glahn (eds.) 2003. *The Song-Yuan-Ming Transition in Chinese History*. Cambridge, MA: Harvard University Asia Center.
- So, Sufumi and So, Billy K. L. 2002. "Population Growth and Maritime Prosperity: The Case of Ch'üan-Chou in Comparative Perspective, 946-1368." *Journal of the Economic and Social History of the Orient* 45 (1): 96-127.
- Song, Ci and McKnight, Brian E. 1981. *The Washing Away of Wrongs: Forensic Medicine in Thirteenth-Century China*. Ann Arbor: Center for Chinese Studies, University of Michigan.
- Sterckx, Roel. 2005a. "Food and Philosophy in Early China." In Roel Sterckx (ed.), 34-61.
- Sterckx, Roel (ed.) 2005. *Of Tripod and Palate: Food, Politics and Religion in Traditional China*. New York: Palgrave Macmillan.
- Strickmann, Michel. 1979. "The Alchemy of T'ao Hung-Ching." In Holmes Welch and Anna Seidel (eds.), 123-92.
- Sun, Tiansheng 孫天勝. 1994. "Chuantong yixue zhong de yixue dili sixiang yanjiu" 傳統醫學中的醫學地理思想研究 (A Study of the Medico-Geographical Thought in the Traditional Chinese Medicine). *Renwen dili* 9 (3): 68-74.
- Unschuld, Paul. 1985/2010. *Medicine in China: A History of Ideas*. Berkeley: University of California Press.
- Unschuld, Paul. 1986. *Medicine in China: A History of Pharmaceuticals*. Berkeley: University of California Press.
- Unschuld, Paul. 1988. *Introductory Readings in Classical Chinese Medicine: Sixty Texts with Vocabulary and Translation, a Guide to Research Aids And a General Glossary*. Dordrecht: Kluwer Academic Publishers.

- Unschuld, Paul. 2003. *Huang di nei jing Suzhen: Nature, Knowledge, Imagery in an Ancient Chinese Medical Text*. Berkeley: University of California Press.
- Wang, Cheung-Wai 王章偉. 2012. "Wenming tuijin zhong de xianshi yu xiangxiang—Song dai Lingnan de wuxi wushu" 文明推進中的現實與想像——宋代嶺南的巫覡巫術 (Reality and Illusion in the Advancement of Civilization: Shamans and Shamanism in Lingnan during the Song Dynasty). *Xinshixue* 23 (2): 1-55.
- Wang, Jiakui 王家葵 and Zhang, Ruixian 張瑞賢. 2001. *Shennong bencao jing yanjiu* 神農本草經研究 (Research on Shennong Bencao Jing). Beijing, Kexue jishu chubanshe.
- Wang, The-Yi 王德毅. 1970. *Song dai zaihuang de jiuju zhengce* 宋代災荒的救濟政策 (On Policies of Disaster Relief During the Song Dynasty). Taipei: Zhongguo xueshu zhuzuo jiangzhu weiyuanhui.
- Wei, Bing 韋兵. 2012. "Cong "Zhangming xian fuzi ji" kan Song dai shidaifu dui fuzi de renshi" 從"彰明縣附子記"看宋代士大夫對附子的認識 (The Song Scholar-officials' understanding of *fuzi*: an investigation into "A record on *fuzi* in Zhangming county"). Paper presented at the fifteenth annual conference for the International Society of Song History, Henan University, Kafeng City, August 20-22.
- Welch, Holmes and Seidel, Anna (eds.) 1979. *Facets of Taoism: Essays in Chinese Religion*. New Haven: Yale University Press.
- Wilms, Sabine. 2005. "'Ten Times More Difficult to Treat': Female Bodies in Medical Texts from Early Imperial China." *Nan Nü* 7 (2): 182-215.
- Wu, Yi-Li. 2010. *Reproducing Women: Medicine, Metaphor, and Childbirth in Late Imperial China*. Berkeley: University of California Press.
- Xie, Liheng 謝利恆. 1935/1970. *Zhongguo yixue yuanliu lun* 中國醫學源流論 (On Origins of Chinese Medicine). Taipei: Jinxue shuju.
- Yabuuchi Kiyoshi 藪内清 (ed.) 1967. *Sō Gen jidai no kagaku gijutsushi* 宋元時代の科学技術史 (History of Science and Technology in the Song and Yuan Periods). Kyōto: Kyōto Daigaku Jinbun Kagaku Kenkyūjo.
- Yamada Keiji 山田慶兒 and Tanaka Tan 田中淡 (eds.) 1991. *Chūgoku kodai kagaku shiron. zoku* 中国古代科学史論. 續編 (The History of Science in Traditional China). Kyōto: Kyōto Daigaku Jinbun Kagaku Kenkyūjo.

- Yan, Shiyun 嚴世芸 (ed.) 1993. *Song dai yijia xueshu sixiang yanjiu* 宋代醫家學術思想研究 (Research on Song Physicians' Medical Concepts). Shanghai: Shanghai zhongyi xueyuan.
- Yang, Bin. 2010. "The *Zhang* on Chinese Southern Frontiers: Disease Constructions, Environmental Changes, and Imperial Colonization." *Bulletin of the History of Medicine* 84 (2): 163-92.
- Ye, Fazheng 葉發正. 1995. *Shanghan xueshu shi* 傷寒學術史 (The History of Cold Damage Medicine). Shanghai: Huazhong shifan daxue chubanshe.
- Yu, Gengzhe 于賡哲. 2011. *Tang dai jibing yiliao shi chutan* 唐代疾病、醫療史初探 (A Preliminary Study on the History of Tang Disorders and Medicine). Beijing: Zhongguo shehui kexue chubanshe.
- Yu, Xiaoman 余小滿. 2010. "Song dai chengshi de fangyi zhidu" 宋代城市的防疫制度 (On the Institutions of Preventing Epidemics in the Song Cities). *Gansu shehui kexue* 2010 (4): 210-214.
- Yu, Yunxiu 余雲岫. 1953. *Gudai jibing minghou shuyi* 古代疾病名候疏義 (Explanation of the Nomenclature of Disease in Ancient Times). Beijing: Renmin weisheng chubanshe.
- Zhang Guogang 張國剛 (ed.) 2001. *Zhongguo shehui lishi pinglun* 中國社會歷史評論 (Reviews of Society and History in China), vol. 3. Beijing: Zhonghua shuju.
- Zhang, Cong Ellen. 2011. "Between Life and Death: Song Travel Writings about *Zhang* 瘴 in Lingnan." *Journal of Song-Yuan Studies* 41: 191-225.
- Zhang, Cong Ellen. 2012. "To Be "Erudite in Miscellaneous Knowledge": A Study of Song (960-1279) *Biji* Writing." *Asia Major* 25 (2): 43-77.
- Zhang, Jiacheng 張家誠. 1991. *Zhongguo qiho zonglun* 中國氣候總論 (General Discussion on Climate in China). Beijing: Qixiang chubanshe.
- Zhang, Kefeng 張軻風. 2009. "Cong zhang dao zhang: zhang qi shuo shengcheng de dili kongjian jichu", *Zhongguo lishi dili luncong*" 從"障"到"瘴": "瘴氣"說生成的地理空間基礎 (From *zhang* (障, Barrier) to *zhang* (瘴, Miasma): Discussing the Geographical Basic of the Formation of *Zhang qi* Concept). *Zhongguo lishi dili luncong* 24 (2): 135-43.

- Zhangm, Yanhua. 2007. *Transforming Emotions with Chinese Medicine: an Ethnographic Account from Contemporary China*. Albany: State University of New York Press.
- Zhou, Qiong 周瓊. 2006. "Zhongguo dalu zhang qi yanjiu zongshu" 中國大陸瘴氣研究綜述 (A General Review on Mordern Scholarship in Mainland China on *Zhang qi*). *Zhongguoshi yanjiu dongtai*, 5: 12-19.
- Zhu, Kezhen 竺可楨. 1972. "Zhongguo jin wuqian nian lai qihou bianqian de chubu yanjiu" 中國近五千年來氣候變遷的初步研究 (The Preliminary Research on Changes in Climate in China between 3000 BCE to 2000 CE). *Kaogu xuebao* 1: 168-89.
- Zuo, Peng 左鵬. 2002. "Han-Tang shiqi de zhang yu zhang yixiang" 漢唐時期的瘴與瘴意象 (*Zhang* and Images of *Zhang* During the Han-Tang Period). *Tang yanjiu*, 8: 257-75.
- Zuo, Peng 左鵬. 2004. "Song-Yuan shiqi de zhang ji yu wenhua bianqian" 宋元時期的瘴疾與文化變遷 (Zhang Disorders and Cultural Evolution During the Song-Yuan Period). *Zhongguo shehui kexue*, 1: 194-206.
- Zuo, Peng 左鵬. 2006. "Lingnan weisheng fang zuozhe kao" 嶺南衛生方作者考 (Investigation into the authors of *Formulas for Preserving Life in Lingnan*). *Zhonghua yishi zazhi* 36 (3): 135-136.

C. Online references

- Wenyuange Siku qianshu neilian wangban 文淵閣四庫全書內聯網版 (The Intranet Version of the Wenyuange Edition of *Siku quanshu*). <http://skqs.ouls.ox.ac.uk/>.