



Assembling the Cure: Materia Medica and the Culture of Healing in Late Imperial China

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Assembling the Cure: *Materia Medica* and the Culture of Healing in Late Imperial China

A dissertation presented

by

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to

The Department of the History of Science

in partial fulfillment of the requirements
for the degree of
Doctor of Philosophy
in the subject of
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Assembling the Cure: Materia Medica and the Culture of Healing in Late Imperial China

Abstract

This dissertation examines the intersection between the culture of knowledge and socio-economic conditions of late Ming and Qing China (1550-1800) through the lens of *materia medica*. I argue that medicine in China during this time developed new characteristics that emphasized the centrality of drugs as objects of pharmacological knowledge, commodities valued by authenticity and efficacy, and embodiment of medical skills and expertise. My inquiry contributes to a deeper understanding of the materiality of healing as a basic condition in early modern societies: on the one hand, textual knowledge about drugs and the substances themselves became increasingly available via the commoditization of texts and goods; on the other hand, anxiety arose out of the unruly nature of potent substances, whose promise to cure remained difficult to grasp in social practice of medicine.

Drawing evidence from medical texts, local gazetteers, court statutes and commercial records, my findings suggest three major realms of change associated with medical substances that have greatly shaped what is known as modern Traditional Chinese Medicine (TCM) today. First of all, *bencao* (*materia medica*) texts were no longer primarily standard reference compiled under state patronage, but became a heterogeneous genre for authors and publishers with distinct political, commercial, and intellectual agenda. Secondly, harvest and transportation of crude drugs ceased to be directed by the central state by the end of the seventeenth century, but increasingly relied

on regional and interregional trade run by merchant groups. Importantly, the notion of place-based authenticity (Ch: *daodi*) came out of the long distance trade and shaped popular imagination of value, efficacy, and authenticity beyond the context of medicine. Lastly, individual physicians gradually lost their control over the pharmaceutical processes, lacking the capital and access to wholesale market of *materia medica*. A new type of eclectic pharmacy began to dominate urban scenes in the eighteenth century, combining service to fill regular prescriptions with preparation of standard and proprietary remedies. In the end, the advertisement of material efficacy came to eclipse the value of experience and expertise in the medical marketplace.

Table of Contents

Maps, Figures & Tables.....	vii
Acknowledgements.....	viii
Introduction.....	1
<i>Materia Medica</i> Knowledge in Seventeenth Century China.....	5
Imagining the Pharmacological Object.....	10
Drugs as Matters of Exchange.....	18
Ways with Things: Rethinking Expertise.....	25
Tradition, Material Culture and Early Modernity.....	30
Part 1 Texts.....	36
Chapter 1 Portable Treasures: Diverging Visions of <i>Bencao</i> in Ming Book Culture	36
.....	
The Emperor’s Book.....	41
The Official’s Task: “We simply cannot afford to lose it”.....	47
Everyman’s Book: “The path is short, the effort is easy...”.....	57
The Scholar’s Book.....	64
The Consumer’s Book.....	72
Conclusion: The Divine Farmer’s Book.....	77
Chapter 2 Fathoming the Nature of Drugs: Rational Pharmacy and Its Discontents	81
.....	
Making <i>Exegesis</i> : Miao Xiyong and His Readers.....	84
Miao Xiyong’s Pharmacology I: <i>Bencao</i> and the Nature of Drugs.....	91
<i>Advocating for Causal Explanation in Pharmacology</i>	91
<i>From Cosmological System to Study of Particulars</i>	99
<i>Study of Drugs and the Philosophy of Mind</i>	104
Miao Xiyong’s Pharmacology II: Telling Differences.....	109
<i>From Imagery to Material Genesis: The Practice of Exegesis</i>	109
<i>Community of Pharmacological Learning in the Lower Yangzi Region</i>	113
Miao Xiyong’s Pharmacology III: Warnings over Error.....	121
<i>On the Notion of pian: From Imbalance to Idiosyncrasy</i>	121
<i>Criticism from Practitioners: Yu Chang’s Alternative Model for Medical Learning</i>	
.....	127
Conclusion	134
Part II Circulation.....	138
Chapter 3 Collecting Medicines from the Land: the Rise and Decline of Local	138
Tribute.....	138
Provincial Soils: The Early Origins of <i>Materia Medica</i> as Local Tribute.....	141
<i>The Central State’s Perspective</i>	141
<i>Local Perspective</i>	146
Mapping Authenticity.....	149
From Local Tribute to Designated Procurement: Medicine in Ming Fiscal History..	151

<i>Auditing the Land's Wealth</i>	151
<i>Debate over Monetization</i>	156
<i>Problems with or without Money: the Local Response</i>	162
Negotiations over Local Tribute in Early Qing	166
Conclusion	169
Chapter 4 Reckoning with <i>Daodi</i>: Interregional Commerce and the Qing	
Imagination of Authenticity	172
Trade and Regional Imagination of Medicinal Drugs before 1600	175
Expansion of Interregional Materia Medica Trade in Late Ming and Early Qing.....	181
<i>Promises and Perils of Individual Careers</i>	181
<i>The Making of a Medical Market Town: the Case of Zhangshu</i>	185
Supplying Metropolitan Consumers: An Ecology of Medicinal Items	190
“Assembly Place for All Kinds of Drugs:” Market Towns in High Qing	196
Mercantile Knowledge and Qing Consumer Culture	201
<i>Daodi Medicine and the Imagination of Distance</i>	201
<i>The Wild and the Homegrown: An Economy of Exotics</i>	206
<i>Ascertaining Daodi: An Insider's View</i>	212
Conclusion	220
Part 3 Social Practices	222
Chapter 5 Masters of the Medicine Chamber: Pharmaceutical Expertise in Textual and Social Spaces	222
Notes at the Margin: Pharmaceutical Instructions in Early Medical Texts	228
Physician's Art and Livelihood: Running a Medicine Chamber	232
Pharmaceutical Primers: Consolidating Technical Knowledge in Texts.....	240
Reinventing Master Thunder in an Affluent Age	243
Private Medicine Chambers and the Elite Endorsement of <i>Master Thunder</i>	248
Reining in the Unruly Nature of Drugs: Pharmaceutical Expertise as Confucian Ethics	254
Conclusion: the Empty Medicine Chamber	258
Chapter 6 Pharmacist's Progress: Manufacturing Promise in the Qing Medical Marketplace	261
Changing Representation of Pharmacy and Pharmacists in Qing China	263
The Raw and the Cooked: Medical Shops in Urban History	272
Founder Stories and Marketing Rhetorics of Qing Pharmacy	275
Ancient Recipes and “Pious Creations”	280
Secret and Open Knowledge in Qing Pharmacist Literature	284
Pharmacy and Everyday Life in Beijing	290
Yu Yue and the Two Faces of Medicine	297
Conclusion	305

Maps, Figures & Tables

Maps

Map 1 Places of publication for <i>bencao</i> texts mentioned in this chapter	2
Map 2 Place names associated with Miao Xiyong near the Lower Yangzi Delta	84
Map 3 Hometowns of people who contributed to Ni Zhumo's <i>Collected Discourse</i>	115
Map 4 Local administrations responsible for presenting <i>materia medica</i> tribute during the Northern Song	150
Map 5 Meng Rui's trajectory	183
Map 6 Distribution of sub-provincial place names in <i>Complete Guide</i>	219

Figures

Figure 1 Page from the 1600 reprint of <i>Zhenglei bencao</i>	39
Figure 2 Cover of <i>Zhenglei bencao</i> (Hall of Wealth and Springtime edition, 1581)	52
Figure 3 Page from <i>Yaoxing yaolie</i> (Jianyang, 1541)	60
Figure 4 Page from the first edition of <i>Bencao yuanshi</i> (Siku quanshu edition)	66
Figure 5 Page from <i>Bencao yuanshi</i> (Kunshan, 1638).....	69
Figure 6 Forged signature of Li Shizhen in <i>Dietetic Materia Medica</i> (Suzhou, 1637)	76
Figure 7 Page from <i>Exegesis of the Divine Farmer's Classic of Materia Medica</i> (Changshu, 1625).....	89
Figure 8 Jin-Yuan pharmacological theory: <i>faxiang</i>	100
Figure 9 Location of Zhangshu in the Gazetteer of Qingjiang County (Tongzhi edition).....	187
Figure 10 Title page of <i>Complete Guide</i> with author's signature	214
Figure 11 Zhang Zeduan, <i>Along the River during the Qingming Festival</i> , middle detail (Doctor Zhao's studio).....	234
Figure 12 Attributed to Qiu Ying, <i>Along the River during the Qingming Festival</i> (late 16 th century), details (medicine chambers).....	238
Figure 13 Page from <i>Buyi leigong paozhi bianlan</i> (illustrated ms. c. late sixteenth century).	250
Figure 14 Attributed to Qiu Ying, <i>Along the River during the Qingming Festival</i> (late 16 th century), middle detail (apothecary shop).....	264
Figure 15 Reptiles in early modern apothecaries, Suzhou and Naples	266
Figure 16 Chen Mei et al. Qing Imperial Academy of Art, <i>Along the River during the Qingming Festival</i> , details (Pharmacies).....	269
Figure 17 Reptiles in early modern apothecaries, Suzhou and Naples	271

Tables

Table 1 Jin-Yuan classification of basic drug qualities	94
Table 2 Correspondence of cosmic cycle and pharmacological property in Jin-Yuan medicine	101
Table 3 Categories of local tribute during the Northern Song Dynasty	145
Table 4 Annual quota of raw medicines collected by the Ming court in 1587	154
Table 5 Classification of taxable commodities for Hushu Customs House in early Qing	192
Table 6 Tax rate for raw medicines at the Beixin Customs House, Yongzheng reign	193
Table 7 Tax rate for various raw medicines at the Zhejiang Maritime Customs	195

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Introduction

“Their Physicke Rules differ much from ours; they examine the Pulse alike. They succeed well in their Prescriptions, which usually are Simples, Herbs, Rootes, and the like. They have for it no publike Schoole, but each learnes it of his owne Master, yet in the two Royall Cities Degrees of this Art are given after Examination, but cursorily and without any respect acquired by his Degree, because all may practise which will.”

— Matteo Ricci on China¹

Ricci’s remarks on medicine in early seventeenth century China captured its two characteristics outstanding to the Jesuit’s eyes: First, that medical substances were objects central to medical knowledge and practice in China. Second, that the social boundary between expert and amateur practitioners was much blurred—“all may practice which will.” This dissertation sets out from the juncture of Ricci’s two observations, and seeks to show how the value of drugs derived from contemporary systems of economic exchange and social expertise. I use the case of drugs in late imperial China (1550-1800CE) to better understand the social underpinnings of medicine in early modern societies around the globe. At the most general level, this is a study of materiality as a basic condition of healing, by examining a culture at the apogee of its reveling in the comfort and promises of substances: if every act in an medical encounter necessarily entails *transactions* between doctor and patient of material cures, what would the history

¹ English translation of Ricci’s original Latin text is quoted from Samuel Purchas, *Hakluytus Posthumus, Or, Purchas His Pilgrimes: Contayning a History of the World in Sea Voyages and Lande Travells by Englishmen and Others*, 1905-07 reprint of the 1625 edition, 424.

of medicine be like if we put drugs at the center of our story, rather than the systems of ideas and social relations that revolve around them?

Pharmacies in and beyond China today still dispense traditional *materia medica* in their neatly arranged drawers and cabinets, and gift shops of traditional medicine in ultra-modern airport shopping arcades beckon to curious travelers with an air of calculated exotic appeal. Indeed, the centrality of drugs in the Chinese medical tradition seems a truism that hardly warrants explanation for defenders and critics of Traditional Chinese Medicine alike.² The Chinese doctor's cabinet of medicine, with the bewildering array of shredded herbs, cut roots and dried animal parts tucked inside, comes to be associated with an alternative healing system, and a time capsule preserving the world view of an ancient civilization. This association showed up as early as in the 1840s by Melchior-Honoré Yvan, physician to the French mission in China. In his travels Yvan became fascinated with Chinese pharmacists, "both a man of science and a merchant," and eventually published a monograph on the pharmaceutical enterprises in China in 1847.³ For him, the Chinese pharmacy encompassed the "scientific, industrial, and social" aspects of the Middle Kingdom, and the establishments everywhere were similar in their "provisions and style of arrangement."⁴ It thus sufficed to study one local case to know the overall situation in the entire civilization, for, noted Yvan, "with this stationary and

² The capitalized phrase, Traditional Chinese Medicine, has been used to refer specifically to the standard practice and pedagogy in the People's Republic of China since the 1950s.

³ Yvan traveled to China by way of Malacca and Singapore, making a few stops in Macau and Canton, before sailing north to the newly opened treaty ports of Amoy, Ningbo, and Zhoushan (Chusan). In Singapore he noted that Chinese pharmacists were the only local people who knew how to cultivate the shrub of gambier and extract the substance known as catechu, or terra-japonica, and reported his findings with interest. M. Yvan, "Extrait d'un travail sur Singapore," in *Journal de chimie médicale de pharmacie*, Ser. 3, T.1 (1845), 148-55.

⁴ Melchior-Honoré Yvan (aka Dr. Yvan), *Lettre sur la Pharmacie en Chine* (Paris: Labé, 1847), 6.

common people, a limited space offers the complete specimen of what exists for the entire stretch of the Celestial Empire.”⁵

This dissertation shares Yvan’s basic premise that pharmacy and drugs constitute an integral part of, and are a useful way of understanding, a society’s economic and cultural achievements at any time. My inquiries differ, however, from Yvan’s insistence on the stationary nature of Chinese civilization, and reveal instead the *historical* nature of dominant ideals and practices in pharmacy, showing that in fact, many of them only recently emerged as historical phenomena during the late Ming (1368-1644CE) and Qing (1644-1911CE) dynasties. The Chinese pharmacy, if indeed we can speak of any ideal type, was no embodiment of a fossilized past. It was rather from Yvan’s, and our own present willingness to imagine an ontological world alternative to 19th century European and mainstream biomedicine today, that the idealized Chinese pharmacy was born.

How, then, do we go about writing a drug-centered history of medicine? Buying and consuming medicines, and the effort to obtain efficacious drugs, constituted a crucial aspect of personal care in a country that was undergoing rapid economic development and demographical expansion --- from less than 150 million in the early eighteenth century, to over 300 million by 1800.⁶ The logistic and conceptual problems that arise with the widespread implementation of a drug-centered healing system were thus already keenly debated and coped with by people practicing and consuming medicine in Ming and Qing China. Not all their experience, and in fact perhaps only a small proportion, found way into written records at that time. My inquiry thus begins with the most

⁵ *ibid.*, 7.

⁶ Ho Ping-ti, *Studies on the Population of China, 1368-1953* (Cambridge, MA: Harvard University Press, 1959), 281.

concentrated body of primary medical sources known as *bencao* (pronounced “*pen-ts’ao*,” lit. “roots and herbs”), in order to determine how new developments in the genre during the seventeenth and eighteenth centuries reflected contemporary ideas about drugs.⁷ In Part 1 of this dissertation, I examine the writing, publishing, and uses of *bencao* texts from the seventeenth century reader’s point of view, in order to understand why drugs became good objects to think with and write about – for certain groups of people.

A second perspective into the historical formation of pharmaceutical practices involves tracing the social lives of *materia medica* before the ingredients came into the practitioners’ hands.⁸ The assembly of pharmaceutical material, which easily entails up to several hundred kinds of substances, required tremendous effort by individuals and institutions, most of which were not practitioners of medicine. Part 2 of this dissertation reconstructs the changing circulatory patterns of *materia medica* as carried out under the decree of the Chinese imperial state, and later delegated to merchant groups. My findings suggest that by the opening of the nineteenth century, major urban pharmacies in China depended on a common interconnected market for supplies, including both homely and exotic cures from near and far.

Implicit in both medical and non-medical description of drugs is the question of expertise in the medical marketplace. Without a centralized apparatus of medical training and licensing, practitioners competed intensely over the means to dispense drugs on the

⁷ Whenever possible, I use the Chinese term *bencao* in reference to the *textus receptus* that labeled itself as such, and *materia medica* in translated titles and when referring to the medical substances themselves.

⁸ Arjun Appadurai ed., *The Social Life of Things: Commodities in Cultural Perspective* (Cambridge: Cambridge University Press, 1988). I will discuss further the specific ways in which I use the concept of the “social lives of drugs” later in the introduction.

one hand, and the authority of interpreting the uses of them, on the other hand. Part 3 draws from literature, visual art, patient's accounts and concerned statements by both physicians and pharmacists, showing how the centrality of drugs shaped the contemporary space of healing as well as the construction and dissolution of medical specialties. In the end, market-based valorization of drugs eventually posed concrete challenges to the experience-based authority of individual doctors (Ch: *yi*), as a new group of urban-based pharmacists came to prominence by the early nineteenth century. I conclude the dissertation by arguing that a drug-centered history of medicine allows us to see a logical but unintended transformation in China's culture of healing, a critical precondition for its later "encounter" with Western medicine.

***Materia Medica* Knowledge in Seventeenth Century China**

The writing of formula constitutes a critical move in clinical practice of contemporary Traditional Chinese Medicine in and beyond China. Typically, having examined the patient by taking his or her pulse, the doctor would sit down and compose a prescription that consists of several to dozens of ingredients, each marked with dosage and guidelines for preparation.⁹ Prescriptions of famous old doctors passed down in the hands of patients, and were often collected and published as the ultimate embodiment of the individual practitioner's unique method in a pluralistic healing tradition.¹⁰ The collection of drug-based formulas indeed also constituted the largest category of survived works in

⁹ For an ethnographical account of modern-day TCM prescriptions, see Judith Farquhar, *Knowing Practice: the Clinical Encounter of Chinese Medicine* (Boulder: Westview Press, 1994), especially Chapter 6.

¹⁰ For an in-depth discussion of the pluralistic nature of TCM practice and contemporary attempts toward synthesis, see Volker Scheid, *Chinese Medicine in Contemporary China: Plurality and Synthesis* (Durham, N.C.: Duke University Press, 2002).

the Chinese medical corpus, and this is not counting recipes included in case histories, practical pharmacological knowledge printed at the margin of household encyclopedias, and miscellaneous notes on drugs and how to take them in non-medical works. Above all, writings on the subject of *materia medica*, known as *bencao* in Chinese, have played a pivotal role in establishing a common ground for linking names to bodies. Any attempts to understand the historical nature of the extremely abundant, varied, and dispersed “drug talks” between various persons therefore must begin with a historical examination of the specialized literature of *bencao* and its functions in the society at large.

The seventeenth century marks a unique period of transition in the history of *bencao* that has so far not been adequately understood. On the one hand, previous inquiries have been dominated by the study of *Bencao gangmu* (Systematic *Materia Medica*, first published in 1596), a masterpiece that synthesized and surpassed previous works of the genre, and has since received extensive scholarly attention.¹¹ Both Emil Bretschneider (1833-1901) and much later, Joseph Needham (1900-1995) used *Bencao gangmu* as exemplar of pre-modern Chinese achievement in the study of nature, and saw no works of comparable stature in the seventeenth and eighteenth centuries.¹² On the

¹¹ For two representative takes on the *Bencao gangmu*'s merit and the natural world described therein, see Georges Metaille, “The *Bencao gangmu* of Li Shizhen.” in Elisabeth Hsu ed., *Innovation in Chinese Medicine* (Cambridge, UK: Cambridge University Press, 2001), 221-261; and Carla Nappi, *The Monkey and the Inkpot: Natural History and its Transformations in Early Modern China* (Cambridge, MA: Harvard University Press, 2009).

¹² Bretschneider was an Estonia-trained, Baltic German who served as medical officer in the Russian embassy in Peking since 1866. Emil Bretschneider, *On the study and value of Chinese botanical works, with notes on the history of plants and geographical botany from Chinese sources* (Foochow, China: Rozario, Marcal & Co., c.1970). The agricultural scientist Shi Shenghan (1907-1971) introduced Bretschneider's account to native readers by publishing a Chinese translation of this text in 1935. Joseph Needham, with the collaboration of Lu Gwei-Djen and a special contribution by Huang Hsing-Tsung, “Biology and biological technology. Part 1, Botany,” in *Science and Civilisation in China*, vol. 6

other hand, even for as enthusiastic an endorser of Chinese science as Needham, the *bencao* literature's pharmacological aims proved far more difficult to account for than its natural historical aspects. Needham himself was never close to finishing the section on pharmacology in his monumental series of *Science and Civilisation in China*, as he himself derided the European medieval herbals as “wholly unverifiable pseudo-science” and doubted the scientific value of merely practical discussion over drugs.¹³ After the glorious moment of late sixteenth century has passed, lamented Needham, “nothing was quite the same.”¹⁴

For people who lived in the immediate shadow of *Bencao gangmu*'s achievement, however, the outlook for the learning of *materia medica* was not so stagnant. In fact, the output and variety of *bencao* works reached higher levels in the seventeenth century than ever before. The most recent bibliographies of extant Chinese medical texts counts over 130 new titles composed during the seventeenth century and over 110 for the eighteenth century, compared to less than 20 in the fifteenth century and about 53 titles in the sixteenth century.¹⁵ The Japanese historian of classical medicine Okanishi Tameto (Jp: 岡西為人) divided the large body of *bencao* texts created during the 17th-18th century

(Cambridge: Cambridge University Press, 1986). Needham hailed Li Shizhen (1518-1593), a humble physician and author of *Bencao gangmu*, as the “prince of pharmacists.” Ibid., 308-21.

¹³ Manuscripts on the unfinished section of pharmacology are in University of Cambridge, mss. Needham/NRI2/SCC2/323-5.

¹⁴ Ibid., 222-229. Needham was focusing primarily on the expansion of naturalistic descriptions in *bencao*, a quality that served to lift the genre beyond mere “practical pharmaceutical needs.” Needham implies that as the “scientific”/natural historical content of *bencao* expanded, it had to become less practical.

¹⁵ Count of documented titles is based on bibliographical information in Shang Zhijun, Lin Qianliang and Zheng Jinsheng, *Lidai zhongyao wenxian jinghua* (Essential Literatures in Chinese Pharmacology) (Beijing: Kexue jishu wenxian chubanshe, 1989), 419-490. To be sure, works composed during the late Ming and Qing had significantly higher chance of survival than previously, owing to proximity in time as well as availability of printing. However, my analysis suggests that there was indeed a qualitative change in the perceived utility and actual form of *bencao* texts between previous era and the late Ming.

into three types: practical instructions of pharmacotherapy, explorations of pharmacological principles, as well as philological reconstruction of ancient classics.¹⁶ Building on Okanishi's work, Paul Unschuld confirmed that the "peak of interest" in the subject of *materia medica* indeed happened around the year of 1600. He saw the proliferation of *bencao* texts as consisting of "eclectic" texts composed by excerpts from existing works on the one hand, and a conservative intellectual fashion toward philological reconstruction of ancient classics, on the other hand. Neither group, according to Unschuld, offered much original insight for the historian of medicine, in contrast to their more illustrious predecessors.¹⁷ Even the once-active exchange between Jesuits and Chinese scholars left little impact to the field of *materia medica* despite the Qing emperors' relative favorable stance in the Westerner's medicine,¹⁸ not to mention the contrast to fields such as astronomy and mathematics.¹⁹ Again, we return to the negative conclusion of Bretschneider and Needham.

¹⁶ Okanishi Tameto, *Chugoku isho honzō kō* (A Study of Chinese Medical Books and *Bencao* Literature) (Ōsaka: Maeda Shoten, 1974), 309-310.

¹⁷ Paul U. Unschuld, *Medicine in China: a History of Pharmaceutics* (Berkeley: University of California Press, 1986), 169-204.

¹⁸ The only known *bencao* treatise composed by a foreigner was attributed to a Franciscan missionary named Pedro Piñuela, in collaboration with a convert Chinese scholar, but the text itself was short, and produced little influence in the field afterwards. The treatise was titled *Bencao bu* (Supplementary *Materia Medica*), introducing a total of thirteen ingredients and an additional three household formula. The only influence on Chinese scholarship was later in the eighteenth century, when Zhao Xuemin cited the work in his *Supplement to Bencao gangmu*. For an comprehensive analysis of its content, see Cui Weixiao, "Shi Duolu yu Bencao bu (Pedro de Piñuela the Franciscan Missionary and His *Supplemented Materia Medica*)," *Shehui kexue* (Social Sciences) (no. 1, 2007), 124-133, and also Zhen Xueyan and Zheng Jinsheng, "Shi Zhenduo yu Bencao bu," *Zhonghua yishi zazhi* (Journal of Chinese Medical History) 32.4 (2002): 205-7.

¹⁹ For Jesuit Mathematics at the Qing court, see Catherine Jami, *The Emperor's New Mathematics: Western Learning and Imperial Authority During the Kangxi Reign (1662-1722)* (Oxford: Oxford University Press, 2012). For collaborative cartographical projects between Jesuits and Manchu officials, see Mario Cams, "Early Qing geographical surveys as a case of collaboration between the Jesuits and the Kangxi court," *Sino-Western Cultural Relations Journal* 34 (2012), 1-20. For Jesuit practice of scholarship in China in general, see Florence C. Hsia, *Sojourners in a Strange Land: Jesuits and Their Scientific Missions in Late Imperial China* (Chicago: University of Chicago Press, 2009).

To break away from this impasse, I reconsider the case for seventeenth and eighteenth century Chinese *bencao* texts from two basic questions in Part 1 of this dissertation. First, what was the social basis for the reproduction and transmission of *bencao* texts, vis-à-vis other genres of knowledge? That is to say, *who* was responsible for the compiling, printing, distributing, and editing processes, and *where* did such activities take place? Second, what elements in the intellectual culture of that time favored drugs as *archetypical objects good to think with* for a larger audience than ever before? Following methods suggested by scholars such as Francesca Bray, and Dagmar Schäfer, I trace the diverse agenda and diverging forms of late Ming and early Qing *bencao* texts, focusing on the intense competition and exchanges enabled by increasingly accessible woodblock printing technology.²⁰ Overall, I argue that *bencao* texts constitute an integral and unique aspect of the contemporary regime of learning, and a meaningful discussion of the field's evolution must look at the entire spectrum of texts, ranging from the most monumental titles to the most concise. In Chapters 1 and 2, I describe how the *bencao* literature of Ming-Qing period underwent a significant shift, turning away from pivoting around state-commissioned references, and with a strong tendency toward *causal* explanations of pharmacological action for individual drugs.

One last note for my choice of late Ming *bencao* texts as point of departure: how could it be useful at all, one might ask, to examine a number of minor authors and their humble works that may or may not have had any lasting impact at all? Will an emphasis on activities associated with book publication distort our assessment of Chinese opinions

²⁰ See for instance Francesca Bray's discussion of agronomy in *idem, Technology, Gender and History in Imperial China: Great Transformations Reconsidered* (New York: Routledge, 2013), esp. Chapter 6; Dagmar Schäfer, *The Crafting of the 10,000 Things: Knowledge and Technology in Seventeenth-Century China* (Chicago: University of Chicago Press, 2011).

about drugs, by leaving out the bulk of unpublished and tacit accounts?²¹ I have no objection to the validity of the challenge, but do want to point out that the lure of printed words was as real for authors and publishers in late Ming as for us, and that the historical formation of *bencao* as a genre was especially intertwined with literacy and book knowledge. The proliferation of published texts on the subject of drugs, however short-lived and volatile some of them may have been, presents an empirically demonstrable phenomenon that warrants explanation. Furthermore, it is only when we command a solid understanding for the social life of texts can we begin to measure the extent to which such books reflected the social life of things.²² It is perhaps not at all surprising that my findings suggest that drugs as *textual* objects developed along a separate trajectory from drugs as objects for market exchange under the political economic formations of late imperial China.

Imagining the Pharmacological Object

The British botanist and historian Agnes Arber once remarked that in the history of herbal medicine, metaphysical considerations often preceded detailed observation of natural phenomena.²³ It is telling that Joseph Needham, by insisting on translating *bencao* not as “herbals” but “pharmaceutical natural history,” essentially tries to portray

²¹ For the importance of manuscripts and a range of representative studies, see Vivienne Lo and Christopher Cullen eds., *Medieval Chinese Medicine: the Dunhuang Medical Manuscripts* (London: Routledge Curzon, 2005). Also see the introductory essay by Paul U. Unschuld and Zheng Jinsheng in idem. eds., *Chinese Traditional Healing: the Berlin Collections of Manuscript Volumes from the 16th through the Early 20th Century* (Leiden, Boston: Brill, 2012).

²² Arjun Appadurai ed., *The Social Life of Things: Commodities in Cultural Perspective* (Cambridge: Cambridge University Press, 1986). I will specify my usage of the term “social life of drugs” later in this introduction.

²³ Agnes Robertson Arber, *Herbals, Their Origin and Evolution: A Chapter in the History of Botany, 1470-1670* (Cambridge: Cambridge University Press, 1912), 6.

the Chinese corpus as more scientific than medieval European herbals.²⁴ One outstanding feature of 17th-18th century Chinese *bencao*, however, is precisely its turning away from accumulating naturalistic description of creatures, and always assuming that the plant, animal or mineral body in question had already been harvested, preyed upon, and processed into forms ready for consumption. What we need is thus not to locate the rise and fall of “rational” or “empirical” thinking in Chinese medicine, but to rethink the genealogy of a particular kind of objectivity – that of the pharmacological object - in the general history of science.

It is probably universal that non-human creatures first appeared in ancient civilizations by virtue of their utilities to mankind. The same ancient sage-king, the Divine Farmer (Ch: 神農), was understood in early Chinese texts to have discovered the secrets of agriculture on the one hand, and the uses and dangers of medicine, on the other hand. The study of early collections of drug-based formulae reveals a rich understanding of potent substances in both Greek and Chinese practitioners.²⁵ Meanwhile, what ended up became canonized medical corpus in both traditions, namely Galen’s collected works and the *Yellow Emperor’s Inner Canon*, contained little discussion of particular drugs, but sought to establish a cosmological foundation for medicine. What remained constant and stable in circulation were specialized accounts on drugs and formulae, such as Dioscorides’ *De Materia Medica* in the post-Greco-Roman world and the miscellaneous texts passed down from distinct practitioner lineages in China during the Six Dynasties

²⁴ Joseph Needham, “Biology and biological technology. Part 1, Botany,” 220-4.

²⁵ Laurence Totelin, *Hippocratic Recipes: Oral and Written Transmission of Pharmacological Knowledge in Fifth- and Fourth-Century Greece* (Leiden: Brill, 2009). Cf. Donald J. Harper, *Early Chinese Medical Literature: the Mawangdui Medical Manuscript* (New York: Kegan Paul International, 1998).

era (222-589CE).²⁶ In sum, the ways in which substances were described in medical writings remained exploitative and anthropocentric, and “pure” writings on botany and zoology were exceptions rather than the rule. In Francis Zimmermann’s account of animals in Ayurveda medicine, “There is no zoology in ancient India, only catalogs of meats.”²⁷

To say that drugs had historically been described in a utilitarian way does not mean that people in the past pursued such inquiries for pragmatic ends only. To make sense of the abundant body of information in pharmacy texts, Zimmermann discerns a “cosmic physiology” behind the combination and hierarchy of substances, and an ecological theme setting the fauna of India’s central dry lands (the “jungle”) up against the eastern coastal area. Pharmacological doctrines thus lend themselves to a correlative reading that connects the sphere of medicine to that of law, geography, and formation of linguistic habits.²⁸ In a similar way, Laurence Totelin’s analysis of place name epithets in Hippocratic recipes reconstructs the mental map with which ancient Greek practitioners labeled their medicines. The cosmic order immanent in a culture’s pharmacological practice is not only ecological, but also geopolitical, in the Greek case.²⁹ Recent inquiries into early Chinese pharmacopeia, dietetics and syncretic compilations of translated recipes under the Qing Empire alike reveal the fusion of pharmacological imagination

²⁶ Fan Jiawei’s work shows that schools that claimed inheritance from various ancient sages in China passed down different teachings on *materia medica*. See idem., *Liuchao Sui Tang yixue zhi chuancheng yu zhenghe* (Transmission and integration of medicine during the Six Dynasties) (Hong Kong: Zhongwen daxue chubanshe, 2004), Chapter 2.

²⁷ Francis Zimmermann, *The Jungle and the Aroma of Meats* (Berkeley: University of California Press, 1987), viii.

²⁸ Ibid., ix. Also see Claude Lévi-Strauss, *The Raw and the Cooked* (New York: Harper and Row, 1969).

²⁹ Laurence Totelin, *Hippocratic Recipes*, 141-196. Also see Linda E. Voigts, “Anglo-Saxon Plant Remedies and the Anglo-Saxons,” *Isis* 70.2 (Jun., 1979), 250-268.

with religious and eco-geopolitical order of the day.³⁰ In a sense, the quest after cosmology order (or chaos) in pharmacopeia extends from previous scholarship on the history of geographical/environmental determinism in science and medicine at various times. If qualities and characteristic of humans are subject to the influence of places, so do things.³¹

Another line of scholarship has followed conspicuous efforts and movements to reconcile current pharmaco-therapy with philosophical systems. The first attempts at rationalizing drug therapy in China have been identified during the Song-Jin-Yuan period (c.10th-13th). Many physicians at this time systematized the so-called doctrine of the Five Circulatory Phases and Six Seasonal Influences (Ch: 五運六氣), a sixty-year system of calendrical and astrological cycles, and used it to guide their practice.³² It was also during the Song dynasty when drug-based formulaic traditions, notably the so-called Cold Damage treatises attributed to Zhang Zhongjing (150-219CE), received

³⁰ See for instance Michael Stanley-Baker, "Mapping Historical Drug Transmission across Asia," unpublished work, cited with permission of the author; Paul Buell and Eugene Anderson, *A soup for the Qan: Chinese dietary medicine of the Mongol era as seen in Hu Szu-Hui's Yin-shan cheng-yao: introduction, translation, commentary and Chinese text* (London: Kegan Paul International, 2000); Carla Nappi, "Qing Bodies: Exercises in Style," unpublished work, cited with permission of the author.

³¹ See Marta Hanson, "Robust northerners and delicate southerners: the nineteenth-century invention of a southern wenbing tradition." *Positions: East Asia Cultures Critique* 6.3 (Winter 1998): 515-549. Her level of analysis falls largely on the synthetic aims of therapeutics (e.g. restorative or purgative) rather than with qualities of individual drugs. Also see the special issue on "Modern Airs, Waters, and Places," eds. Alison Bashford and Sarah W. Tracy, *Bulletin of the History of Medicine* 86.4 (Winter 2012).

³² For an introduction of the doctrine, see Catherine Despeux, "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)," in Elizabeth Hsu ed., *Innovation in Chinese Medicine* (Cambridge: Cambridge University Press, 2001), 121-166. For how cosmological frameworks elevated the status of learned medicine, see Angela Ki-Che Leung, "Medical Learning from the Song to the Ming," in Paul Jakov Smith and Richard von Glahn eds., *The Song-Yuan-Ming Transition in Chinese History* (Cambridge: Harvard University Asia Center, 2003), 374-98. This could be seen as a parallel to the revival of astrology and medicine in medieval Europe under Islamic influences. See Nancy Siraisi, *Medieval and Early Renaissance Medicine: an Introduction to Knowledge and Practice* (Chicago: University of Chicago Press, 1990), 36-37.

endorsement by elite medicine and much wider applications at the bedside.³³ The “rational turn” in medicine corresponds to what John Henderson has identified as the mature age of cosmological systems in China, and the integration of metaphysical systems into Neo-Confucian thought.³⁴ In sum, the practice of medicine in China received unprecedented scrutiny and interest from philosophers equipped with firm belief in a regular, predictable universe and broadened access to previous textual traditions.

Much remains to be done on the period after the Jin-Yuan articulation of “rational” theory till the consolidation of the distinct styles of practice in the sixteenth and seventeenth centuries.³⁵ My analysis of 17th-18th century Chinese drug literature, however, suggests that the subfield of *materia medica* underwent a distinct trajectory of development from medical botany in Europe. In Chapter 2, I will use a representative group of *bencao* authors to show how their approaches to drugs turned away from transcendent metaphysical systems created by their predecessors, but instead bore more similarities to what John Murdoch called “particularist ontology” in late medieval scholastic writings.³⁶ While the Chinese authors’ expressed strong interest toward individual experience and description of “natural particulars,” their work and intellectual

³³ Asaf Goldschmidt, *The Evolution of Chinese Medicine: Song Dynasty, 960-1200* (London: Routledge, 2009), esp. 69-102.

³⁴ John B. Henderson, *The Development and Decline of Chinese Cosmology* (New York: Columbia University Press, 1984). For a specific study of the intellectual climate for system-building during the Northern Song, see Leah Ya Zuo, *Capricious Destiny: Shen Gua (1031--1085) and His Age*, Ph.D diss., Princeton University, 2011. Also see Chapter 2 of this dissertation.

³⁵ Some interesting works have been underway in the recent years, including Fabien Simonis, “Illness, “schools,” and texts in the rise and fall of the Danxi synthesis, 1320-1800,” and Stephen Boyanton, “The Treatise on Cold Damage and the Birth of Literati Medicine: Social, Epidemiological, and Medical Change in China 1000-1400.” Unpublished works, cited by the permission of the authors.

³⁶ John Murdoch, “The analytic character of late Medieval learning: Natural philosophy without nature,” in Lawrence D. Roberts ed. *Approaches to Nature in the Middle Ages* (Binghamton, New York: Center for Medieval and Early Renaissance Studies, 1982), 171-213, note 8.

energy did not give rise to the transformation of *bencao* into a recognizable precursor to modern botany, as was the case in Renaissance European university classrooms and princely courts.³⁷ Charles Singer observed as early as in the 1920s that the transformation of medieval herbals towards botany or natural history signifies the dawning of modern science.³⁸ His insight has been substantiated in recent years by the increasing attention to the “science of describing” in fields such as botany, anatomy, and a host of learned inquiries associated with the humanistic method of *historia*.³⁹ Representational tools such as “true to nature” illustrations not only found their way into standard practice across Europe, but also carved out a new set of habits of looking, reading and scholarly exchange that were to have lasting impact on the formation of scientific communities in the subsequent centuries in and beyond Europe.⁴⁰ The development of *bencao* (*Honzōgaku*) in Tokugawa Japan, for instance, proved to be

³⁷ For an early example of the rise of causal analysis of individual phenomena at princely courts, see Katharine Park, “Natural particulars: Medical epistemology, practice, and the literature of healing springs,” in Anthony Grafton and Nancy Siraisi eds., *Natural Particulars: Nature and the Disciplines in Renaissance Europe* (Cambridge, MA: MIT Press, 1999), 347-368. For the formation of a community for natural historical inquiries, see Paula Findlen, “The formation of a scientific community: Natural history in sixteenth-century Italy,” in *ibid.*, 369-400.

³⁸ Charles Singer, “Early Herbals,” in *idem.*, *From Magic to Science: Essays on the Scientific Twilight* (London: Earnest Benn, 1928), 168-198. Agnes Arber’s classic study of 15th- and 16th century herbals show that superior plant description, classification and illustration constituted major accomplishments during this period. See Arber, *Herbals, Their Origin and Evolution*.

³⁹ Brian W. Ogilvie, *The Science of Describing: Natural History in Renaissance Europe* (Chicago: University of Chicago Press, 2006). Gianna Pomata and Nancy Siraisi eds., *Historia: Empiricism and Erudition in Early Modern Europe* (Cambridge, MA: MIT Press, 2005). For a case study of natural philosophy in humanist learning, see Ann Blair, *The Theater of Nature: Jean Bodin and Renaissance Science* (Princeton: Princeton University Press, 1997).

⁴⁰ See Sachiko Kusukawa, *Picturing the Book of Nature: Image, Text, and Argument in Sixteenth-Century Human Anatomy and Medical Botany* (Chicago: University of Chicago Press, 2012), esp. chs. 5-8. Also for the social and cultural context of an English herbal, see Deborah Harkness, *The Jewel House: Elizabethan London and the scientific revolution* (New Haven: Yale University Press, 2007), chapter 1.

much more akin in both aesthetic form and subject matter to the narrative of early modern global community of natural studies than their Chinese counterparts.⁴¹

While it is not very helpful to ask why a certain form of intellectual inquiry *did not* take hold in China, we must nevertheless try to explain why drugs did become a popular subject of scholarly interest during the late Ming and Qing.⁴² The key to understanding late imperial Chinese *bencao* thus involves a systematic reappraisal of the kind of knowledge generated by looking at substances as *pharmacological* objects, instead of natural historical ones in the case of Europe and also Tokugawa Japan. While the “botanical Renaissance” has been firmly written into the general history of science, the considerable body of literature on pharmacological ideas and practices received treatments in the study of “vernacular science,” especially the history of alchemy and Paracelsian iatrochemistry.⁴³ The story ultimately leads to the gradual separation

⁴¹ Federico Marcon, *The Names of Nature: The Development of Natural History in Japan, 1600—1900*, (Ph.D diss., Columbia University, 2007). For an analysis of the visual presentation of plants in early 19th century Japan, see Maki Fukuoka, *The Premise of Fidelity: Science, Visuality, and Representing the Real in Nineteenth-Century Japan* (Stanford: Stanford University Press, 2012). W.F.Vande Walle, “Linguistics and translation in pre-modern Japan and China,” in idem. and Kazuhiko Kasaya eds., *Dodonaeus in Japan*, 124-147. Also see Yamada Keiji, *Mono no imēji: Honzō to hakubutsugaku e no shōtai* (The Image of Things: an Invitation to *Bencao* and Natural History) (Tōkyō: Asahi Shinbunsha, 1994). For a compelling comparative study of the early modern natural history revival in Western Europe and Japan, see Nishimura Saburō, *Bunmei no naka no hakubutsugaku: Seiō to Nihon* (Natural history in civilizations: Western Europe and Japan) (Tōkyō: Kinokuniya Shoten, 1999).

⁴² For an exercise of thinking out of the “Needham question” of why the Scientific Revolution did not happen in China, see Nathan Sivin, “Why the Scientific Revolution Did Not Take Place in China —or Didn't It?” *Chinese Science*, 1982, 5: 45-66, and the revised version by the author in 2005, <http://ccat.sas.upenn.edu/~nsivin/scirev.pdf>.

⁴³ Alisha M. Rankin, *Panacea's Daughters: Noblewomen as Healers in Early Modern Germany* (Chicago: University of Chicago Press, 2013). Also see Bruce Moran, *Distilling Knowledge: Alchemy, Chemistry, and the Scientific Revolution* (Cambridge, MA: Harvard University Press, 2005), and William Eamon, *Professor of Secrets: Mystery, Medicine and Alchemy in Renaissance Italy* (Washington DC: National Geographic, 2010).

between chemical and natural historical nomenclatures that set the scene for the establishment of modern chemistry as a discipline.⁴⁴

With the insights and conceptual schemes derived from history of pharmacology elsewhere in mind, I begin in Chapter 1 with a survey of a variety of attitudes and reactions to a print-based market of *bencanao* books in the sixteenth century. Chapter 2 highlights how 17th century authors took the field to a new stage by trying to pin down the pharmacological principles for each individual substance, and relates their approach to contemporary heightened concern over materiality (*qi*) in Neo-Confucianism natural philosophy. Instead of pre-supposing a divide between the knowing subject and the object of inquiry, my Chinese *bencanao* authors saw nature being an ontological continuum possessed by humans and non-human beings alike. Their prolific writings on the subject of drugs were understood in the social circles of scholars that the study of *bencanao* is both righteously egoistic (to prolong the life of humans) and also a worthy intellectual pursuit (to fathom the ultimate principle of universe). Overall, my findings suggest that the study of drugs constitutes a vibrant field in seventeenth and eighteenth-century Chinese science, one that has been relatively little studied in comparison to fields such as mathematics, astronomy, and agricultural sciences.⁴⁵ Putting drugs into the larger picture of intellectual culture would do well to enhance our understanding of the appeal and meaning of natural studies at that time.

⁴⁴ Ursula Klein and Wolfgang Lefèvre, *Materials in Eighteenth-Century Science: a Historical Ontology* (Cambridge, MA: MIT Press, 2007).

⁴⁵ Benjamin Elman, *On Their Own Terms: Science in China, 1550-1900* (Cambridge, MA: Harvard University Press, 2005). Also see Sakade, Yoshinobu, *Chūgoku kindai no shisō to kagaku* (Science and Thoughts in Modern China) (Kyōto: Hōyū Shoten, 2001).

Drugs as Matters of Exchange

In the most abstract quests after pharmacological principles during the seventeenth century, drugs appeared in *bencao* texts as standard substances, creatures of a universe replete with amorphous matter. The principle that makes rhubarb a superior purgative, for instance, should be one and the same everywhere. However, many of the same authors also hastened to take note in their writings, that in the real world one must take care to distinguish the *differences* among substances with the same name. There are, after all, too many factors in a drug's social life that could go wrong: before arriving in neatly cut pieces in an urban pharmacy, the raw materials must be collected from native habitats, traded across immense spans of space, and properly processed to guard against decay. Any steps of the above could be carried out in ways unbeknownst to the patient, hence some products are bound to be better than others. A sense of order, or better, a systematic guideline to estimate quality and value is badly needed in practice.

The circulation and exchange of drugs therefore constitute a second theme that guides this project as a whole. While *bencao* texts can serve as a rich source of information for the social life of drugs, I hope to emphasize that they are frequently receptacles of values and trade structures generated *outside* the sphere of elite medicine, but must be understood as part of the larger political economic context as a whole. Anthropologists have long reminded us the fundamental importance of the exchange of things in human society.⁴⁶ The potency of medicines has rendered themselves as objects

⁴⁶ Marcel Mauss, *The Gift: the Form and Reason for Exchange in Archaic Societies* (New York: Norton, 1967); Marshall Sahlins, *Stone Age Economics* (Chicago: Aldine-Atherton, 1972).

of prime importance in rituals and all sorts of social exchanges.⁴⁷ The singular significance of certain drugs and potions in primitive rituals, however, must give way to the tendency of commoditization, which hinges upon a certain assumption of stability and commonality. In the anthropologist Igor Kopytoff's words, we can take "a biographical approach" to examine how certain things came to be accepted as appropriate commodities in a society:

T[t]he natural world of singular things must be arranged into several manageable value classes – that is, different things must be selected and made cognitively similar when put together within each category and dissimilar when put into different categories.⁴⁸

I argue that Chinese *materia medica* provides an excellent case in illustrating the historical processes by which "traditional Chinese drugs" emerged as standard commodities endowed with a hierarchy of exchange value. In Part 2 of this dissertation, I use *bencao* texts, governmental records and local case studies to show how the sixteenth to eighteenth century witnessed an especially intense phase of development in the push toward commoditization of medical substances in China.

The central arc of change that I describe entails a broad transition from the state as the primary authority in directing the exchange of medical substances to one dominated primarily by long-distance merchant groups. State consumption of drugs, in the form of local tributes presented to the court, inscribed into statutes and histories a comprehensive map of material flow from the locality to the center, and in turn shaped the content and scope of *bencao* texts commissioned by the Tang (618-906CE) and Northern Song (960-

⁴⁷ Victor Turner, *The Forest of Symbols: Aspects of Ndembu Ritual* (Ithaca: Cornell University Press, 1969). Also see Jacques Derrida. "Plato's Pharmacy." In idem., *Dissemination*, translated by Barbara Johnson, (London: Athlone Press, 1981), 61–172.

⁴⁸ Igor Kopytoff, "The Cultural Biography of Things," in Arjun Appadurai ed. *The Social Life of Things*, 70.

1127CE) states. In a sense, the integrity of the imperial pharmacy was predicated upon the integrity of the polity, as well as good diplomatic terms with neighboring states.⁴⁹ In Chapter 3, I describe how state collection of medicines as local tribute reached a high point during the mid-Ming. When the demand for drugs exceeded the capacity of local production, payments in silver gradually replaced the transportation of actual medicines to the court. In local histories and taxation records during this period, we begin to see how local communities and even administrators appropriated central demand to their own advantage and increasingly opted for the market to make their ends meet. It is my contention that the give-and-take between a centralized regime and the local community constituted a crucial force in the commoditization of drugs.⁵⁰

Along with the retreat of the state emerged an alternative system of assigning distinct values for *materia medica*, one that was run by regional wholesale merchants specialized in the trade of medicine. While many details of their operation remained elusive due to a scarcity of survived systematic records, it is nevertheless to detect the commercial network's profound influence on seventeenth-eighteenth century Chinese society by analysis of cultural history. In Chapter 4, I examine the emergence of

⁴⁹ Under the tributary system, trade between China and other countries was conducted the guise of a reciprocal exchange of tribute items and the Chinese emperor's gifts, until disrupted by the Opium Wars in the nineteenth century. For John King Fairbank's classic formulation of "China's response to the West," see *idem.*, *Trade and Diplomacy on the China Coast: the Opening of the Treaty Ports, 1842-1854* (Stanford: Stanford University Press, 1969). For an eclectic approach to the cultural ramifications of the tribute system, see Richard J. Smith, *Mapping China and Managing the World: Culture, Cartography and Cosmology in Late Imperial Times* (New York: Routledge, 2013).

⁵⁰ The process of monetization was part of what was known as the "Single-Whip" tax reforms that characterized the last century of Ming rule (1550-1640s), as corvée labor for the state and even surplus agricultural products increasingly became convertible to cash. See Ray Huang, *Taxation and Governmental Finance in Sixteenth-Century Ming China* (London: Cambridge University Press, 1984). For the powerful impact of monetization on late Ming culture, see Timothy Brook, *The Confusions of Pleasure: Commerce and Culture in Ming China*. My examination of the unintended consequences of state plans (including the large-scale collection of medicine based on quotas and book-keeping) borrows James Scott's insight. James C. Scott, *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed* (New Haven: Yale University Press, 1998).

discourses over place/route-based authenticity (Ch: *daodi* or *didao*), a vernacular term derived from commercial transactions, and show how it came to dominate the value system of medicines by the seventeenth century in both popular and elite writings.⁵¹ I also describe how the imagination of “wild” drugs as more potent and efficacious than their “homegrown” counterparts was also a recent phenomenon appearing first explicitly in late 17th and 18th century *bencao* authors’ evaluation of market supplies. The Qing preoccupation over authenticity and efficacy thus grew out of the context of increased population mobility and proliferation of specialized economic centers. While the arrival of New World crops and foreign commodities in Qing China certainly had a profound impact on the economy and culture of consumption,⁵² I wish to emphasize the profound and oft-neglected influence of domestic commerce on the material outlook of everyday life as well as intellectual pursuit during the eighteenth century.⁵³

A second urgent question that follows the overall narrative of commoditization is how to document the persistence of various spheres of exchange aside from the “regular” market. In fact, we must look beyond the most elite forms of procuring medicines – the court, the wealthy, and those who had easy access to urban outlets of long-distance trade

⁵¹ The term *daodi* or *didao* comes to denote generic “authenticity” of goods and persons in modern mandarin, and still structures the trade of many specialized commodities such as tea, porcelain, and foods. For a recent example of how similar discourses of authenticity played out in the trade of tea, see Jinghong Zhang, Conclusion: “An alternative authenticity” in *Puer Tea: Ancient Caravans and Urban Chic* (Seattle: U of Washington Press, 2014), 197-204.

⁵² Carol Benedict, *Golden-Silk Smoke: a History of Tobacco in China, 1550-2010* (Berkeley: University of California Press, 2011), and Timothy Brook, *Vermeer’s Hat: the Seventeenth Century and the Dawn of the Global World* (New York: Bloomsbury, 2008). The story of opium later in the nineteenth century provided an especially salient example of history-changing substance, see David Bello, *Opium and the Limits of Empire: Drug Prohibition in the Chinese Interior, 1729-1850* (Cambridge, MA: Harvard University Asia Center, 2005).

⁵³ My analysis of commercial sensibility in 18th-century *bencao* borrows insight from Harold Cook, *Matters of Exchange: Commerce, Medicine, and Science in the Dutch Golden Age* (New Haven: Yale University Press, 2007).

– to reconstruct the reach and limits of the metropolitan market. Authors of *bencao* frequently remarked how difficult it is to assemble the ideal pharmacy, and how one must always be ready to compromise for cheaper/more accessible substitutes when the “authentic” (*daodi*) ingredient could not be securely obtained. Overall, medicine provides a unique example of commodities more specialized and dispersed in its source than staples like grains and textile, and less strictly regulated by the state than salt, tea, and metals. As is often the case, people who lived nearby the native place of a certain drug harvested the substance for sale, but rarely used it to heal their own illnesses, and insiders of the trade, as my case study of merchants from the market town of Zhangshu (Jiangxi Province) shows, were often less concerned with learned inquiries and possessed a distinct set of knowledge from generic teachings in *materia medica* books. The disjuncture between the economic and pharmacological values of the same substance thus necessitates a multi-sited analysis to discern patterns of trade and consumption.

In his seminal works on market and social structure of rural China, the anthropologist G. William Skinner (1925-2008) provided the first systematic spatial analysis of China not as a unitary whole, but instead as nine physiographic macro-regions separated by natural barriers. Due to technological constraints in transportation between the macro-regions, they developed relatively independent rhythm of growth, ranging from the most developed urban centers in the Lower Yangzi region and the utmost frontier regions of the southwest. For Skinner, long-distance trade took place as the exception rather than the norm of *intra*-regional economic exchange; indeed, he saw long-distance trade as only realizable when driven by centralized political power, which results in the emergence of China’s early metropolitan economies in dynastic capitals.

Ultimately, however, the late imperial era witnessed the emergence of newly established hubs of trade *outside* previous political centers, giving rise to a great number of market towns with concentrated economic activities.⁵⁴ My study of specialized merchant groups and market towns such as Zhangshu confirmed Skinner’s broad characterization of economic development in late imperial China.

The case of medical substances, however, deemed the *regional* approach to spatial analysis inadequate in revealing the overall pattern of trade, which has always been interregional due to the imperative to assemble substances found in multiple ecosystems and habitats. While Skinner’s seminal findings stimulated a fruitful wave of scholarship in the 1970s and 1980s to study Chinese history from the “theory of regional society” (*chiiki shakairon*),⁵⁵ I argue that the need to procure quality medicines serves as a strong incentive for people living in the regional society to reach beyond their immediate surroundings. While we know relatively well the economic and cultural practices evolving around especially high value drugs such as ginseng and rhubarb, trajectories of the majority of Chinese *materia medica* (which easily reaches several hundred ingredients) remain obscure.⁵⁶ To better understand the general character of the

⁵⁴ G. William Skinner, “Marketing and Social Structure in Rural China” Part 1-3, *Journal of Asian Studies* 24.1-3 (1964), and idem., “Introduction: Urban Development in Imperial China” and “Regional Urbanization in Nineteenth-Century China” in *The City in Late Imperial China* (Stanford UP, 1977). Also see Kawakatsu Mamoru, *Min Shin kōnōsei to kyodai toshi rensa: Chōkō to daiunga* (The tribute system of the Ming-Qing period and the giant chain of metropolitan cities: Yangzi River and the Grand Canal) (Tokyo: Kyūko Shoin, 2009).

⁵⁵ For a comprehensive review, see Kishimoto Mio, *Chiiki shakairon saikō* [Rethinking the Regional Society Theory] (Tōkyō: Kenbun Shuppan, 2012).

⁵⁶ Linda Barnes, *Needles, Herbs, Gods, and Ghosts: China, Healing, and the West to 1848* (Cambridge: Harvard University Press, 2005). Chiang Chu-Shan, “Shengtai huanjing, renshen caiji yu guojia quanli--yi Jiaqing chao de yangshen an wei li de tantao (Ecology, ginseng harvest and state power: an inquiry into the case of cultivated ginseng during the Jiaqing reign).” in Wang Lihua ed. *Zhongguo lishi shang de huanjing yu shehui* (Environment and society in Chinese history). Beijing: Sanlian Shudian, 2007, 86-116; Chang

pharmaceutical trade and its influence on Ming and Qing *bencao* literature, it is thus necessary to employ an inclusive approach and examine the entire commodity class of *materia medica* as the object of analysis.

In Chapters 3 and 4, I seek to approximate the geographical distribution and directionality of flow by mapping out sources of medicine mentioned in medical, official, and commercial accounts. By looking at *routes* and *networks* instead of self-enclosed regions, my spatial reconstruction of medicinal trade suggests that on the one hand, the distinction among domestic, frontier, and overseas trade is frequently blurred as perceived by contemporary observers; on the other hand, we must not overlook the centrality of physiographic borders, such as mountains and distant regions, in the supply of material comfort for metropolitan consumers. Previous scholarship has shed much light on the multivalent nature of the Qing commercial world,⁵⁷ as well as the ecological limits of empire expansion into Inner Asia, Manchuria, and the southwest.⁵⁸ In many ways, I see *materia medica* as a unique case to illustrate how flexible new economic arrangements were devised during the Qing to meet the mandate of cultural systems (in this case, the several hundred ingredients required for a regular pharmacy), and at the

Che-chia. "Dahuang misi: Qingdai zhicai xiyang jinyun dahuang de celüe siwei yu wenhua yihan (The myth of rhubarb: strategic rational and cultural meanings of the Qing embargo on rhubarb to the West)." *Bulletin of the Institute of Modern History* (Academia Sinica) 47 (2005): 43-100.

⁵⁷ For an overview of changing patterns of domestic trade in early Qing, see Xu Tan, "Qingdai qianqi liutong geju de bianhua" (New trends in commodity flow during the early Qing), *Qingshi yanjiu* 3 (1999), 1-13. For maritime trade during the Qing, see Matsumura Akira, *Shindai hansen enkaikōunshi no kenkyū* (Study of boat commerce along the Qing shores) (Suita-shi: Kansai Daigaku Shuppanbu, 2010). For Chinese trade in Southeast Asia, see Chang Wen-chin and Eric Tagliacozzo eds., *Chinese Circulations: Capital, Commodities, and Networks in Southeast Asia* (Durham: Duke University Press, 2011).

⁵⁸ For the Qing Empire's expansion into the western terrains and its world historical significance, see Peter Perdue, *China Marches West: the Qing Conquest of Central Eurasia* (Cambridge, MA: Belknap Press of Harvard University Press, 2005); For an environmental history account of economic exploitation of newly conquered regions, see Robert Marks, *Tigers, Rice, Silk, and Silt: Environment and Economy in Late Imperial South China* (Cambridge: Cambridge University Press, 1998).

same time sought to alleviate the consequent ecological constraints by tapping into new resources.⁵⁹ Even today, the structure of medicinal production and trade remains heavily indebted to patterns first consolidated by the end of the eighteenth century.

Ways with Things: Rethinking Expertise

A third central theme of this dissertation concerns the role of drugs in the demarcation of expertise in social practice. Medical encounters in late imperial China were dominated by a shared concern over substances: what kinds of drugs to prescribe, how much they cost, and often-intense exchanges between the patient and the practitioner. Scholars have long noted the decline and blurring of *formal* distinction between medical experts and laymen, or what Angela Leung called “organized medicine,” in Ming-Qing China, echoing Ricci’s observation cited at the beginning of this chapter, namely that anyone “may practice which will.”⁶⁰ The social identity of healers, as well as the applicability of concepts derived from the European historical context, such as the “medical profession,” “licensed practice,” and even the term “doctor” itself, therefore deserves careful consideration.

While my aim here is not to provide a comprehensive account of expertise and occupational authority in pre-modern China, I suggest that much light can be shed on the practical processes of establishing expertise by looking at drugs. The historiography of

⁵⁹ Previous studies of Qing solutions and responses to environmental challenge include Peter Perdue, *Exhausting the Earth: State and Peasant in Hunan* (Cambridge, MA: Harvard University Council of East Asian Studies, 1987). Also Jonathan Schlesinger, *The Qing Invention of Nature: Environment and Identity in Northeast China and Mongolia, 1750-1850*, Ph.D diss., Harvard University, 2012.

⁶⁰ Angela Ki Che Leung, “Organized Medicine in Ming-Qing China: State and Private Medical Institutions in the Lower Yangzi Region.” *Late Imperial China* 8, no. 1 (June 1987): 134–166. For a recent summary of this condition, see Nathan Sivin, “Therapy and Antiquity in Late Imperial China,” in Miller and Louis, *Antiquarianism and Intellectual Life in Europe and China, 1500-1800*, 222-233.

medical professions in Europe often begins with the rhetoric of university-educated doctors in medieval Europe, namely that practicing with one's mind commands a distinct status higher than those who practice with their hands. The right of diagnosis and prescription should therefore be separated from the *dispensing* and *compounding* of drugs, hence banning apothecaries from the ranks of elite physicians. In real life, however, the clear separation between the ideal and the material never became absolute.⁶¹ Numerous studies of practitioners in Europe and their claims to expertise showed how the authority of the so-called "medical old regime" underwent a decline during the political upheavals of seventeenth and eighteenth centuries, a period of relative anarchy in the medical market.⁶² In fact, many scholars have argued convincingly that early modern science and medicine hinged upon activities of countless surgeons, apothecaries, and their merchant partners, and their access to worldly commodities in fact prompted inquiries for natural knowledge at unprecedented levels.⁶³ Harold Cook, for instance, argued that global commerce and utilitarian concerns underpinned much of the

⁶¹ See Nancy Siraisi, *Medieval and Early Renaissance Medicine: an Introduction to Knowledge and Practice* (Chicago: University of Chicago Press, 1990), Ch.2, "Practitioners and Conditions of Practice"; Also Katharine Park, *Doctors and Medicine in Early Renaissance Florence* (Princeton: Princeton University Press, 1985); Harold Cook, *The Decline of the Old Medical Regime in Stuart London* (Ithaca: Cornell University Press, 1986).

⁶² Deborah Harkness, *The Jewel House*, Ch. 2; Mary E. Fissell, *Patients, Power, and the Poor in Eighteenth-Century Bristol* (Cambridge: Cambridge University Press, 1991); Dorothy and Roy Porter, *Patient's Progress: Doctors and Doctoring in Eighteenth-Century England* (Stanford: Stanford University Press, 1989); For the most representative analysis of "artisanal epistemology," see Pamela H. Smith, *The Body of the Artisan: Art and Experience in the Scientific Revolution* (Chicago: University of Chicago Press, 2004);

⁶³ Paula Findlen, *Possessing Nature: Museums, Collecting, and Scientific Culture in Early Modern Italy* (Berkeley: University of California Press, 1994).

investment and interest in the new sciences, and apothecaries and physicians, among others, stood at the forefront of the scene in early modern knowledge-making.⁶⁴

Substances also come to receive more recent attention from historians of the medical profession during the modern era. The story is much richer and more complex than the inevitable rise of a scientific biomedicine in the twentieth century, after successfully driving out unlicensed quacks and patent remedies.⁶⁵ The history of pharmacy itself grows from a somewhat narrowly defined special field intended for educating professionals, and comes to shed light on larger historical processes, such as what Jeremy Greene and Elizabeth Watkins described as the “history of prescriptions.”⁶⁶ The study of individual substances, the cultural valences of their commoditized form in national and global stages, and controversies around drug policy together constitute another active line of inquiry in the history of medicine.⁶⁷

⁶⁴ Harold J. Cook, *Matters of Exchange: Commerce, Medicine, and Science in the Dutch Golden Age* (New Haven: Yale University Press, 2007).

⁶⁵ See for instance Rosemary Stevens, *American Medicine and the Public Interest* (New Haven: Yale University Press, 1971); also Barbara M. Barzansky, and Norman Gevitz eds. *Beyond Flexner: Medical Education in the Twentieth Century* (New York: Greenwood Press, 1992); and James Harvey Young, *The Toadstool Millionaires: A Social History of Patent Medicines in America Before Federal Regulation* (Princeton: Princeton University Press, 1961).

⁶⁶ Edward Kremer and George Urdang, *Kremer and Urdang's History of Pharmacy*. This textbook intended for students of pharmacy underwent numerous reprints throughout the second half of the twentieth century. For a recent initiative to bring pharmacy history out of its narrow professional focus, see Jeremy Greene and Elizabeth Watkins eds., *Prescribed: Writing, Filling, Using, and Abusing the Prescription in Modern America* (Baltimore: Johns Hopkins University Press, 2012).

⁶⁷ See for instance Jeremy A. Greene, *Prescribing by Numbers: Drugs and the Definition of Disease* (Baltimore: Johns Hopkins University Press, 2007), and Elizabeth Watkins, *On the Pill: A Social History of Oral Contraceptives, 1950-1970* (Johns Hopkins University Press, 2001). For recent works that examine drugs in a global context, see Gabriela Soto Laveaga, *Jungle Laboratories: Mexican Peasants, National Projects, and the Making of the Pill* (Durham: Duke University Press, 2009), Adriana Petryna, *When Experiments Travel: Clinical Trials and the Global Search for Human Subjects*. (Princeton: Princeton University Press, 2009), and Abena Dove Osseo-Asare, *Bitter Roots The Search for Healing Plants in Africa*. (Chicago: University of Chicago Press, 2014).

In Part 3 of this dissertation, my analysis of drugs in constituting medical expertise in China proceeds along two lines. First, I seek to show how the *material* value of drugs has always been a central criteria of judging a medical practitioner's skills, to the extent that literary and pictorial representations of healing have highlighted the very substance about to be transacted between doctor and patient. While a similar tendency to debase manual labor certainly existed in Chinese elite practitioners, I suggest that prior to the seventeenth century, the handling of drugs remains a central part of one's livelihood as practitioner, and drugs and recipes again constituted the foundation of claims to specialty and expertise.⁶⁸ In fact, the emergence of the pharmacist as a distinct social identity apart from the "physician" warrants a careful examination. In Chapter 6, I argue that the commoditization of *materia medica* resulted in the emergence of a new type of metropolitan pharmacy during the Qing, making it very difficult for the average physician to compete in the medical marketplace. The materiality of drugs, as well as claims of efficacy and value, thus came to eclipse the embodied expertise of the individual physician. What we see in "traditional" Chinese pharmacies today therefore represents only one recent way of distributing and claiming pharmaceutical expertise historically present in Chinese society.

Second, we can also better understand how *bencao* literature and other medical texts served as intellectual and rhetorical sources of authority in clinical encounters. In other words, discussions over the "nature of drugs" became the primary locus on which patient and healers sought to impress each other in what Chang Che-chia called the

⁶⁸ Another major aspect of medical expertise, namely the writing of cases especially in conjunction with legal practices, has received a thorough reading in Charlotte Furth, Judith T. Zeitlin, and Ping-chen Hsiung eds., *Thinking with Cases: Specialist Knowledge in Chinese Cultural History* (Honolulu: Hawaii University Press, 2007); and Fabien Simonis, "Mad Acts, Mad Speech, and Mad People in Late Imperial Chinese Law and Medicine" (Ph.D diss., Princeton University, 2010).

“therapeutic tug-of-war” in one extremely tough case – medicine for the ruler.⁶⁹ The revival of interest in pharmacological explanation of drug actions in seventeenth century *bencao* had the unintended consequence of furnishing the amateur reader with resources for self-diagnosis and self-treatment, tipping the balance of power between the physician and the client in favor of the latter. Therefore, the battle between competing claims to authority took place on every page of *bencao*, as authors strived to demarcate themselves from the inferior practitioners in their “drug talks.”⁷⁰ Historians and anthropologists of medicine have shown that for healing to proceed in pre-20th century clinical settings, mutual agreement by healer and patient on the meaning of therapeutics is key.⁷¹ Doctors in nineteenth-century America were expected, for instance, to “act out their roles” by performing phlebotomy (bloodletting) on patients, and the momentum to keep current therapeutic practice persisted well after conceptual shifts took place in academic medicine. In the case of late imperial China, I suggest that the explication of pharmacological principles became the equivalent site for displaying medical expertise and virtuosity. In fact, we might view the late Ming-early Qing era as the high point of the amateur elite’s interest in, and appropriation of, technical expertise previously restricted to specialist practitioners.⁷² Following the pragmatic uses of late Ming and

⁶⁹ Chang Che-chia, “The Therapeutic Tug of War: The Imperial Physician -Patient Relationship in the Era of Empress Dowager Cixi (1874-1908)” (PhD diss., University of Pennsylvania, 1998).

⁷⁰ For clinical encounter in late imperial China and tension between “lineage physicians” and Confucian physicians, see Yi-Li Wu, *Reproducing Women: Medicine, Metaphor, and Childbirth in Late Imperial China* (Berkeley: University of California Press, 2010), Ch.1.

⁷¹ For an overview of this approach see Charles E. Rosenberg, “The Therapeutic Revolution: Medicine, Meaning, and Social Change in Nineteenth-Century America.” *Perspectives in Biology and Medicine* 20 (1977): 485-506. Also see John Harley Warner, *The Therapeutic Perspective: Medical Practice, Knowledge, and Identity in America, 1820-1885* (Princeton: Princeton University Press, 1997).

⁷² The recent work of Dagmar Schäfer, for instance, interprets a famous technical treatise as integral to a marginal literatus’ political “writing campaign” against the ills of his time. Dagmar Schäfer, *The Crafting*

Qing *bencao* can thus teach us much about both the sociology of pharmacological knowledge and the cultural genealogy of distinct forms of healing.

Tradition, Material Culture and Early Modernity

Historians have long questioned the sweeping generalization that China was “trapped” by its own success, and remained other to modernity until the violent encounter with Western imperialism.⁷³ Scholars have worked to make explicit or implicit comparisons between indigenous developments in Ming-Qing China and that of Europe, and in so doing, revealed a great deal of dynamism and change in the economic, political, cultural, and social spheres distinct to the era.⁷⁴ An alternative paradigm has emerged in recent decades to integrate East Asia into an “early modern” world buttressed by more intense traffic of commodities, persons, and ideas across continents than ever before.⁷⁵ The appeal of the early modern globe resonates not only with our present preoccupation with globalization, but also in recent trends in geopolitical changes, hence the revived search

of the 10,000 Things: Knowledge and Technology in Seventeenth-Century China (Chicago: University of Chicago Press, 2011).

⁷³ For the most representative and eloquent version of this argument, see Mark Elvin, *The Pattern of the Chinese Past* (Stanford: Stanford University Press, 1990).

⁷⁴ On economic development up to the eighteenth century, Kenneth Pomeranz, *The Great Divergence: China, Europe, and the Making of the Modern World Economy* (Princeton: Princeton University Press, 2000). On state building and empire formation, see Evelyn Rawski, “The Qing Formation and the Early Modern Period,” in Lynn Struve ed. *The Qing Formation in World-Historical Time* (Cambridge, MA: Harvard University Asia Center, 2004), 207-41, and other articles in the volume. Also see R. Bin Wong, *China Transformed: Historical Change and the Limits of European Experience* (Ithaca: Cornell University Press, 1997). For general survey of politics, economy and culture under the Qing rule, see William T. Rowe, *China’s Last Empire: the Great Qing* (Cambridge, MA: Belknap Press of Harvard University Press, 2009), and also Susan Naquin and Evelyn Rawski, *Chinese Society in the Eighteenth Century* (New Haven: Yale University Press, 1987).

⁷⁵ Kenneth Pomeranz, “Areas, Networks, and the Search for ‘Early Modern’ East Asia,” in David L. Porter, ed., *Comparative Early Modernities: 1100-1800* (London: Palgrave, 2012), 245-69; and other articles in the same volume.

for East Asian economic vitality in its historical paths.⁷⁶ A global historical approach to the study of early modern science has also gone into great lengths in revising a Eurocentric narrative of the scientific revolution.⁷⁷ Overall, many works now have contributed to a more sophisticated understanding of common sensibility – or an early modern epistemology if you will - with local variations.⁷⁸

My choice of *materia medica* as object of inquiry builds upon the literature on early modern science, but also seeks to reflect on the methodological limitations when one begins with categories and expectations derived from the early modern European experience, and then sees similar trends elsewhere. The keen attention to drugs in every written prescription, pages of *bencao*, tax registers of local histories, and shop signs of physicians and pharmacists during the Qing found no place in the narrative of global early modernity, for we are not prepared to see it in cultural forms and products long deemed to be “traditional.” In fact, traditional medicine in China and elsewhere has so far primarily been studied as a cultural phenomenon that is antithetical to mainstream biomedicine, while its persistence in the 21st century came to be read as indication for the plausibility of an “alternative modernity” that mirrors global politics in everyday life.⁷⁹

⁷⁶ Giovanni Arrighi, Takeshi Hamashita, and Mark Selden eds. *The Resurgence of East Asia: 500, 150 and 50 Year Perspectives* (London, New York: Routledge, 2003).

⁷⁷ For works that engaged with early modern global scientific activities in East Asia, see for instance Harold Cook, *Matters of Exchange*; Fan Fa-ti, *British Naturalists in Qing China: Science, Empire, and Cultural Encounter* (Cambridge, Mass.: Harvard University Press, 2004); Kuang-chi Hung, “Finding Patterns in Nature: Asa Gray's Plant Geography and Collecting Networks (1830s-1860s)” (Ph.D Diss., Harvard University, 2013).

⁷⁸ See for instance Dagmar Schäfer's strongly comparativist work on Song Yingxing, *The Crafting of 10,000 Things*; for a collection of representative articles on material sensibilities, see Paula Findlen ed. *Early Modern Things* (New York: Routledge, 2012).

⁷⁹ Bridie Andrews, *The Making of Modern Chinese Medicine, 1850-1960* (Vancouver: UBC Press, 2014). Sean Hsiang-lin Lei, *Neither Donkey nor Horse: Medicine in the Struggle over China's Modernity* (Chicago: University of Chicago Press, 2014). For two recent ethnographies of contemporary practice of traditional medicine and “arts of life,” see Judith Farquhar and Zhang Qicheng, *Ten Thousand Things*:

While the works of modern historians and anthropologists have helped us to realize that Traditional Chinese Medicine (TCM) is firmly and fully a modern institution, we must also keep in mind the modern construct of TCM never functioned that way in the past. Taking on *early modern Chinese medicine* from the perspective of drugs, rather than its theoretical constructs, thus can give us a way of measuring changing contours and expectations of practice as experienced and perceived historically.

We can always find more individual cases of cultural expression to prove or disprove the “global early modernity” hypothesis. It is more urgent, in my opinion, to revise and replenish what we mean by “early modernity” via more rigorous and comprehensive studies of historical change *within* each indigenous tradition. Ultimately, this type of inquiry may do well to unsettle the unity and stability of the tradition in question, bringing it to the same level of scrutiny as concepts such as “early modernity.” After all, as Peter Burke and other cultural historians have observed, the advent of the “golden age of traditional culture” only took place after the commercial revolution in the sixteenth century.⁸⁰ This dissertation thus aims to shed light on a similar process in late Ming-early Qing China by examining the kinds of drugs people were able to procure, and the ways in which drugs figured in people’s modes of knowing and navigating their world.

Nurturing Life in Contemporary Beijing (New York: Zone Books, 2012) and Mei Zhan, *Other-Worldly: Making Chinese Medicine through Transnational Frames* (Durham: Duke University Press, 2009).

⁸⁰ Peter Burke, *Popular Culture in Early Modern Europe* (Ashgate, 3rd revised edition, 2009), 337. Also see Hans Medick, “Plebeian culture in the transition to capitalism”, in Raphael Samuel and Gareth Stedman Jones eds., *Culture, Ideology and Politics: Essays for Eric Hobsbawm* (London: Routledge, 1982), 84-112, and Eric Hobsbawm and Terence Ranger eds., *The Invention of Tradition* (Cambridge: Cambridge University Press, 1984).

Chapter Outline

Chapter 1 sets the stage by surveying the divergent visions over where *bencao* learning should locate in the classification of knowledge in sixteenth century China, as manifest in the production, circulation and reception of a variety of *bencao* texts during that time. I argue that the genre of *bencao* underwent a crucial process of fragmentation since mid-sixteenth century. A host of actors, including provincial officials, commercial publishers, commoner philanthropists and individual authors, made use of woodblock printed books to transmit and transform *materia medica* knowledge. As a result, the old *bencao* compendia compiled under state patronage evolved into a range of sub-genres tailored to different reader groups. Overall, the vision of *bencao* as state-commissioned universal knowledge gave way to more individualized interpretations, ranging from the very proprietary to the very scholastic, by the early seventeenth century.

Chapter 2 investigates the seventeenth century philosophical turn in *materia medica* scholarship by examining in depth a seminal work of *bencao* - *Shennong bencaojing shu* (Exegesis of the Divine Farmer's Canon of *Materia Medica*, 1620s) by a renowned physician and political dissident Miao Xiyong. I discuss how Miao's proposal to reform previous *materia medica* knowledge appealed to many followers, and how they sought to thoroughly explain the nature of each individual drug. I argue that the renewed push for a rational pharmacy should be understood in the context of Neo-Confucian philosophy, especially the discussion over Nature (*xing*) and substance (*qizhi*). I end this chapter by assessing the impact of Miao's proposal in medical practice by examining the criticism of Yu Chang, who adamantly defended the physician's authority against the overflowing speculations about pharmacology among amateur readers of *bencao*.

Chapter 3 examines the rise and fall of the institution of local tribute (*tugong*) in coordinating the flow of *materia medica* from native production sites toward the central state. Using local gazetteers and court statutes as my major source, I describe the Ming state's staggering demand for medicines, and how local community and officials grappled with the task of meeting this demand. While some localities were able to convert drug quotas into cash payments in silver, other places struggled with the hardship of collecting the medicine and the exhaustion of natural resources. In the process of constant negotiations and resultant fiscal reform, the original designation of local tribute became subverted in one way or another. The Qing state later retreated altogether from its direct claim on local products and instead sought to meet imperial and military demand by purchasing from the domestic market. **Chapter 4** then moves to elucidate the key role played by trade actors and merchants in the origin of place-based authenticity (*daodi*), and the expansion of long-distance pharmaceutical trade over the Ming and early Qing dynasties. I use the market town of Zhangshu (Jiangxi Province) as a case study to reveal the historical conditions that shaped the circulatory pattern of the trade. I argue that by the end of the eighteenth century, overlapping regional and interregional trade of raw medicines have formed a mature network extending into untapped lands and frontiers under the Qing Empire, exerting major influence on the discourse of potency and efficacy in *bencao* writings.

With renewed interest in pharmacology and widened access to the market of drugs, Qing consumers also came to have a different range of choices over providers of authenticity and safety. **Chapter 5** examines the shifting representations of pharmaceutical expertise in both realm of scholarship and space of social practice. From

medieval times onwards, physicians used to claim authority over the preparation of drugs, and pharmaceutical expertise itself constituted a crucial part of the social identity of a physician, so much so that a practitioner's shop in the 13th-15th centuries was known as the "Medicine Chamber" (Ch. *yaoshi*). During the sixteenth century, however, a revived interest in archaic pharmaceutical methods, as exemplified by those taught in *Master Thunder's Discourse of Pharmaceuticals*, challenged the physician's claims to monopolize pharmaceutical expertise. Elite amateurs' growing interest in pharmaceutical art as self-cultivation, on the one hand, and a worthy philosophical inquiry for Confucian gentlemen, on the other hand, fostered the separation of pharmaceutical expertise from the body and dwelling place of physicians.

Chapter 6 concludes the dissertation by highlighting how pharmacists, as a trade emerging from previously marginal social figures, prospered from the changed outlook of material supply in healing. Using visual and literary sources, I argue that the success of urban pharmacies during the Qing hinged on their ability to combine wholesale business, which connected them to the domestic market of *daodi* medicines, and to claim expertise in the compounding and manufacturing of patent compounds formerly belonging to distinct medical specialties. Qing pharmacists promised customers with the material authenticity of their supply and the faithful adherence to "ancient methods" of preparation, turning into reality the exotic and elaborate remedies previously only existing in texts. The pharmacist's cabinet thus also embodied an important aspect of late imperial urban culture - imaginaries of the wild and the homegrown, the commonplace and the strange, the grandiose and the miniscule, which remain resonant even today.

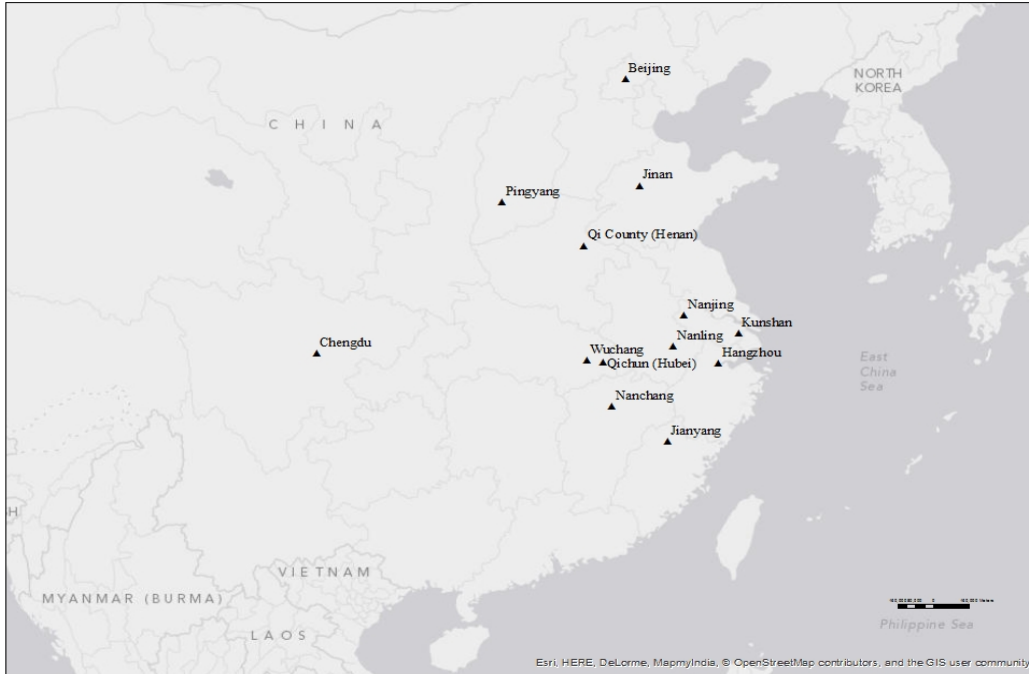
Part 1 Texts

Chapter 1 Portable Treasures: Diverging Visions of *Bencao* in Ming Book Culture

The winter of 1575, three years into the Wanli reign (Ch: 萬曆 1573-1620), witnessed a moment of local pride for many living in the county of Nanling (Ch: 南陵). Tucked away in the southwest corner of the Lower Yangzi plains, where cultivated rice paddies gradually gave way to rugged ridges of the Yellow Mountain, Nanling belonged to the Ningguo prefecture (Ch: 寧國府), which was in turn a key component of the Southern Metropolitan Region (Ch: 南直隸) under the Ming dynasty (Map 1). As its name suggests, the Southern Metropolitan Region was administered directly by the court from the southern capital, Nanjing.¹ Even after emperor Yongle (r.1402-24) moved the Ming court to Peking, Nanjing remained its superiority in arenas of culture and commerce, as measured in part by book publishing activities. One thing that had not been moved northward was the finely carved woodblocks for printing, inherited from previous imperial collections, and with those the Southern Imperial Academy (Ch: 南國子監) in Nanjing churned out hundreds of titles of superior quality.² The county of Nanling, by contrast, could boast no such cultural prestige, when an ambitious publishing project began there earlier in 1575.

¹ Descriptions of general topological features and administrative history of Nanling are based on *Nanling xian zhi* (Gazetteer of the Nanling County), Jiaqing edition.

² According to Zhou Hongzu (*jinshi* 1599), the southern Imperial Academy had produced 273 titles by the time he compiled a comprehensive bibliography arranged by publishing sites. See Zhou, *Gu jin shu ke, juan* (chapter) 1.



Map 1 Places of publication for *bencao* texts mentioned in this chapter

The man who sponsored the printing was Wang Qiu (Ch: 王秋), a well-to-do merchant known for his generosity. Wang Qiu's father, a “man of the markets” (Ch: 坊市人), once earned an officially endorsed plaque by donating a thousand *shi* (Ch: 石)³ of grain in poor relief. Wang Qiu himself also underwrote the construction of a bridge, paid for the education of some local students, and did not seek any reciprocal gain when some eventually gained official titles. Local gazetteer of Nanling County later described him as “a man forthright in his nature, who always see things with wisdom,” strong words of praise for someone of relatively humble origins.⁴ His two sons, Daxian and Dacheng, both enrolled in the local academy and helped their father proofread and supervise the

³ *Shi* is a unit of measure for volume, equivalent to approximately 0.1 cubic meters. Therefore, 1000 *shi* of rice will take up 100 cubic meter of space, weighing approximately 150,000 kilograms.

⁴ *Nanling xian zhi*, Jiaqing edition, *juan* (chapter) 9.

printing project. Wang Qiu saw it as his last major contribution to the community by giving out three hundred taels of silver at one time, a considerable sum that greatly exceeded the average cost of producing local gazetteers at that time.⁵

All such resources and efforts on the Wang family's part went into the production of a *materia medica* text, albeit an unusual one. A monumental compilation of over 1,300 pages and covering miscellaneous information of over 1,700 simple drugs, the *Daguan bencao* (Ch: 大觀本草 *Materia medica* of the Daguan Reign) dated back to the early twelfth century in the Northern Song dynasty (960-1127).⁶ Commissioned and produced under court patronage, the Song *bencao* "had always been transmitted with official funds," according to Wang Daxian (Ch: 王大獻), the elder son of Wang Qiu, in his editor's epilogue to the 1575 Nanling edition. Daxian further remarked how unusual it was for a commoner to fund the printing of such a voluminous and expensive book, and how his father made such an important contribution to his hometown by leading a frugal life, and "entertained no superfluous things at home."⁷ In a slightly later reprint of the Nanling edition, the magistrate thanked the Wang family for their generosity: "It's been said that only since then did our town finally have *bencao*!" (Figure 1)⁸ Later bibliographers of Chinese medical texts saw little merit in the Nanling edition of the great

⁵ According to Joseph Dennis, most local histories prior to the seventeenth century cost rarely more than 80 taels of silver to compile and print. In 1588, for instance, it cost some 150 taels of silver for the prefecture of Nanchang to produce a new version of its local history, which consisted of 722 carved woodblocks. Joseph Dennis, "Financial aspects of Ming gazetteers," *Princeton East Asian Library Journal*, 14.1 (2010): 158-244, esp. appendix.

⁶ Chen Fengwu, preface to the 1523 edition of *Zhenglei bencao*. Chen, the overseer of this round of edition, stated that the work took approximately 1,340 woodblocks to produce. For a detailed account of the content of the *Daguan (Zhenglei) bencao*, see Paul U. Unschuld, *Medicine in China: A History of Pharmaceutics*, 70-82.

⁷ Epilogue, Wang Daxian, 1577 edition of *Zhenglei bencao*.

⁸ Zhu Chaowang, preface to the 1600 edition of *Zhenglei bencao*.

Song *materia medica*, primarily because it freely grafted the colophon and title page of one earlier edition onto the text body of a later one---a unmistakable sign of bibliographical ignorance on the editors' part.⁹ However, the local magistrate and Wang Daxian's remarks bespoke the profound pride felt by all parties involved: by making an investment in printing, Nanling could now claim to have its own *bencao*.

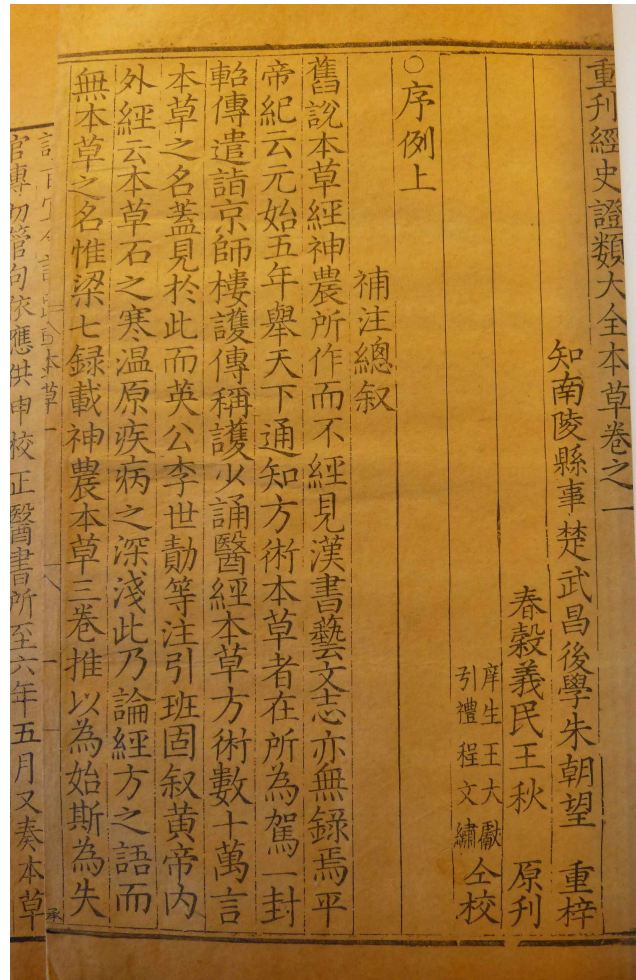


Figure 1 Page from the 1600 reprint of *Zhenglei bencao* with acknowledgement to Wang Qiu's donation (Library of Congress)

⁹ The Nanling edition reproduced colophon and a preface from the *Daguan bencao*, but its content was identical with a later expanded version known as *Chongxiu zhenghe bencao*. Philologists thus criticized the Wangs as being ignorant of the vital difference between editions. See Yang Shoujing, *Riben fang shu zhi bu* (Supplementary accounts of book hunting in Japan). However, the violation to editorial principles also revealed that the Wang family had both versions at hand when starting the printing project.

In this chapter, I set the stage for the whole dissertation by examining what kind of learning the *bencao* corpus represented in the scene of cultural reproduction, and argue that the sixteenth century witnessed a rapid fragmentation of the genre as a result of publishing activities such as Wang Qiu's. Building on previous scholarship in bibliography and philology of Chinese medical texts, I treat each edition of a text as product of contingent motivations on the part of authors, publishers, and readers. By tracing changing visions of these actors (sometimes the same person assumed more than one role), I show how transmission of *bencao* eventually carried the texts' social function far beyond its initial agenda.¹⁰ In other words, while previous scholarship on Chinese *bencao* literature emphasized the metamorphosis of content, I seek to reexamine a wide range of texts, all of which claimed themselves as *bencao*, against the original context of their production, transmission and reception in late Ming China.

The case of sixteenth century *bencao* contributes to historical understanding of reading culture in late imperial China in two major ways. First, as I shall show below, the trajectory of *bencao* publishing did not follow a neat transition from state patronage to commercial incentives, but relied on both official and private capital for its transmission well into the seventeenth century. The reason why this was the case had much to do with the overall intellectual agenda of *bencao* as a well-received genre of universal knowledge during the Ming, an assumption that only gave in to other ideals later in the seventeenth century (see Chapter 2). I thus trace the reverberation of the stately ideal in the private undertakings of individuals like Wang Qiu. Second, the

¹⁰ My use of bibliographical data of *bencao* texts borrows insight from Donald Mackenzie's "historical bibliography." See D.F. McKenzie, *Bibliography and the Sociology of Texts* (Cambridge, UK: Cambridge University Press, 1999), 7.

fragmentation of *bencao* as a genre presents us with a wider variety of representational techniques and strategies. A close examination of the physical forms of late Ming *bencao* books can provide clues as to how those texts might have been viewed, read, and used by historical actors. Dual attention to social status and material form of *bencao* texts thus anchor my analysis of *materia medica* knowledge in the audacious world of late Ming book culture.

The Emperor's Book

Medical practitioners in China knew from very early on, that human knowledge toward healing and toxic properties of plant, animal and mineral substances long preceded the invention of writing script. The ability to harness such power of healing and killing was passed down from master to disciple, and shrouded with awe and mystery. Literary forms of their teachings, however, gradually surfaced and consolidated into a variety of schools, as shown in early dynastic bibliographies of the Han Dynasty.¹¹ The schools traced their authority to a host of ancient sages, such as the Divine Farmer (Ch: 神農) and Master Thunder (Ch: 雷公), roughly around the same time when the *Inner Canon* was consolidated as the teaching of the Yellow Emperor.¹² When the great alchemist and Daoist master Tao Hongjing (Ch: 陶弘景 456-536) combed through the texts allegedly passed down by ancient sages, he realized that first, none of the texts could have been

¹¹ Among the most important ones was the dynastic bibliography (Ch: 藝文志) of the former Han (206BCE-9CE).

¹² For a detailed discussion on the diversity and consolidation of *materia medica* knowledge in medieval China, see Fan Jiawei, *Liuchao Sui Tang yixue zhi chuancheng yu zhenghe* (Hong Kong: Zhongwen daxue chubanshe, 2004), Chapter 2.

created in the age of the sages, there were no written records, and things were only taught “from one person’s understanding to another” (Ch: 識識相因). Secondly, Tao recognized that practitioners of all ages made substantial changes to the texts, such as adding information about where to find certain drugs with place names that were coined only recently in the Later Han dynasty, and hence could not have been written by the sages.¹³

Nevertheless, Tao found it necessary to create a master text that would incorporate various teachings and provide a solid ground of consensus for effective practice. While the school of Divine Farmer in Tao’s time claimed to master over 365 kinds of drugs, Tao doubled its scale with drugs coming from other schools, making a total of 730. In his *Collected Commentary to the Divine Farmer’s Materia Medica* (Ch: 神農本草經集註), Tao distinguished the original 365 entries with vermilion ink, his additions with black ink. Tao saw his own work as no more than a summary of personal opinion, and envisioned his audience as mainly fellow practitioners of alchemy and medicine.¹⁴

A century later in 659, however, the *Collected commentary* was picked up by the imperial court of the Tang Dynasty (618-907) and expanded into a much more ambitious pharmacopoeia that came to be known as the *Newly composed materia medica*, or simply *Materia medica of the Tang* (Ch: 新修本草/唐本草). Prominent courtiers and officials who oversaw the project pointed out that Tao’s southerner perspective rendered his work inadequate for the standard of the now unified and expanded empire. To manifest the

¹³ Tao Hongjing, preface to *Shen nong ben cao jing ji zhu* (Collected commentary to the Divine Farmer’s *Materia medica*).

¹⁴ Ibid.

power of the state, the compilers of *Tang bencao* ordered local reports and specimens of raw medicines to be sent to the court in Chang'an, with which a lavishly illustrated manuscript was prepared, including detailed accounts for a total of 844 drugs. Joseph Needham praised the *Tang bencao* as “the first national pharmacopoeia, issued by royal decree, in any civilization.”¹⁵ The manuscript enjoyed a limited circulation by copyists, and the only extant part of the illustrated text survived in Japan. Overall, however, the *Tang bencao* marked a major turning point in state appropriation and synthesis of previously esoteric “formulaic arts (Ch: 方術).”¹⁶ The Tang state’s enthusiasm for becoming the patron and arbiter of *bencao* knowledge had a lasting impact on subsequent regional and centralized regimes. Both the Later Shu (934-965CE) and Northern Song (960-1127CE) states commissioned revision of the *Tang bencao*, with the clear intention of establishing themselves as the legitimate patrons of the medical arts. The Northern Song emperors were especially proactive in organizing prominent scholars and physicians on editorial projects of *bencao*, producing *Kaibao bencao* (Ch: 開寶本草 973-75) and soon again *Jiayou bencao* (Ch: 嘉祐本草 1057-60), with its sequel *Illustrated Classics of Materia Medica* (Ch: 本草圖經) completed in 1061.¹⁷

The Northern Song regime’s unparalleled interest in sponsoring medical learning has been studied extensively by historians.¹⁸ It was also from the mid-eleventh century

¹⁵ Needham and Lu, *Science and Civilization in China*, Vol. 6, Part 1, 265-6.

¹⁶ Kong Zhiyue, preface to *Xinxiu bencao*.

¹⁷ Both *Kaibao* and *Jiayou* were reign titles of the Song at the time, and were used to name the *bencao* completed as court projects. See LDZYWXJH, 44-50.

¹⁸ See for instance T.J. Hinrichs, “Governance through Medical Texts and the Role of Print,” in Lucille Chia and Hilde de Weerdts eds., *Knowledge and Text Production in an Age of Print: China, 900-1400* (Leiden: Brill, 2011), 217-238. Hinrichs sees the state sponsorship for medical text production as part of transformative politics especially in the far South, whereas Asaf Goldschmidt emphasizes the personal

that state-commissioned *bencao* texts came to be transmitted in woodblock print, although the actual circulation of the text remained limited. In 1092, an official in southeastern China lamented local practitioners' ignorance of *materia medica* knowledge, and that even when people living in remote provinces wanted to read the state-commissioned *bencao*, they had no means of buying them.¹⁹ He thus went on to praise a physician named Chen Cheng (Ch: 陳承 fl. 1086-1110), who put together a combined version of *Jiayou bencao* and the *Illustrated Classic*, with a large portion of additional notes.²⁰ As Chen Cheng's expanded version began to enjoy its own fame, the Song court summoned Chen to oversee the compilation of the Imperial Medical Bureau's official recipe collection in 1110.²¹ The career of Chen Cheng illustrates the porous boundary between state and private undertakings in medical learning during the Northern Song. While individuals were inspired by state initiatives, private contributions also readily earned official recognition for the authors. Another example was Kou Zongshi (Ch: 寇宗奭), a local minor official who presented a treatise titled *Extended Explication of Materia Medica* (Ch: 本草衍義) to the court, and was awarded a position as "Purveyor and Inspector" (Ch: 收買藥材所辨認藥材) of *materia medica* in 1115.²²

interests of Song emperors and the external factor of raging epidemics. C.f. Asaf Goldschmidt, *The Evolution of Chinese Medicine: Northern Song Dynasty, 960-1127* (London: Routledge, 2009).

¹⁹ Lin Xi, preface to *Buzhu bencao tujing* (Expanded materia medica with commentary). Quoted from Taki Mototane, *Yi ji kao* (A Study of Medical Literatures), *juan* 10.

²⁰ For a detailed description of imperial pharmacy and state-sanctioned recipe collections during the Northern Song, see Goldschmidt, *Evolution of Chinese Medicine*, 123-140.

²¹ The formula collection was *Hejiju fang* (The Medical Bureau's formula for compounding).

²² LDZYWXJH, 239-42.

Another physician who singlehandedly expanded the *Jiayou bencao* was Tang Shenwei (Ch. 唐慎微 fl. 1086-94). Unlike Chen Cheng, who was “born into a prominent family of ministers,” Tang was a commoner physician who learned his art from the family, and practiced without official title in the southwestern province of Sichuan all his life.²³ An acquaintance later recalled that Tang would treat Confucian scholars for free in exchange of a piece of information from the books they read, either secret formula or description of a drug in books heretofore unknown to him. In this way, Tang was able to accumulate a significant body of rare formula and anecdotes from the Confucian classics, histories, Buddhist and Taoist writings and other non-medical sources.²⁴ The expanded manuscript, originally titled *Materia Medica Collected from the Classics and Histories for Emergence Use, and Arranged by Symptoms* (Ch: 經史證類備急本草, hereafter *Zhenglei bencao*), reflected the dual agenda in Tang Shenwei’s endeavor: on the one hand, he aspired to make the *materia medica* text more suitable for emergency by adding a large body of empirical recipes; on the other hand, he deeply admired orthodox learning of Confucian scholars, and managed to obtain access to books that were otherwise not available to him from his literati clientele.

Copies of Tang Shenwei’s manuscript quickly circulated beyond his immediate circles, and reached the southeastern coastal city of Hangzhou in the 1100s. When a renowned scholar-official in the vicinity of Hangzhou put the manuscript in print in 1108

²³ Lin Xi, preface to *Buzhu bencao tujing* (Expanded materia medica with commentary) and Yuwen Xuzhong, “Afterword” for *Zhenglei bencao*. Quoted from Taki, *Yi ji kao*, *juan* 10.

²⁴ Yuwen Xuzhong, “Afterword” for *Zhenglei bencao*. For a comprehensive summary of the text, see Unschuld, *A History of Pharmaceutics*, 70-82. For a detailed description on stages of development in Northern Song *materia medica* literature, see Goldschmidt, *Evolution of Chinese Medicine*, 107-122.

for the first time, he did not even know what kind of person Tang Shenwei was.²⁵ In 1116, Emperor Huizong ordered imperial physicians to revise and publish Tang's book in print, which was later known as the *Zhenghe* edition, named after the reign title. After the fall of the Northern Song dynasty to the Jurchen army in 1127, however, the *Zhenghe* edition did not get to circulate far beyond the immediate court circle, and close to total destruction due to repeated wars in the next hundred years.²⁶ While the Song regime retreated to the south, an early effort to update the *Zhenglei bencao* was not well received due to the unpopularity of its chief editor.²⁷ It was Zhang Cunhui (Ch: 張存惠), a publisher living in mid-thirteenth century Pingyang (Ch: 平陽), a major center of culture and letters in northern China, who produced a crucial edition in 1249 based on the *Zhenghe* edition.²⁸ With its incorporation of Kou Zongshi's comments and refashioned illustrations, Zhang Cunhui's edition was to become the template for most reproductions during the Ming Dynasty (1368-1644).

The Tang and Song *bencao* have long been hailed as landmark achievements of Chinese scientific knowledge. Although *bencao* was transformed into the emperor's

²⁵ The 1108 edition was produced in the official Sun Di's hometown near today's Changzhou, according to an account of 1185. It also incorporated comments by Chen Cheng, which was apparently also in circulation in Hangzhou, into Tang Shenwei's manuscript. See Shang Zhijun's notes in *Zhenglei bencao*, 1993 reprint, appendix, 10-11.

²⁶ Ma Ge, preface to Pingyang edition of *Zhenghe bencao*. Quoted from Taki, *Yi ji kao*, *juan* 10.

²⁷ The newly minted *Zhenghe* edition was unknown to most officials who migrated to the south. Shang Zhijun's note in *Zhenglei bencao*, 1993 reprint, appendix 12-13. During the 1150s Wang Jixian, an imperial physician did initiate a project to revise the *Zhenglei bencao*, truncating it in considerable measures and replacing all illustrations with new drawings. Wang's revised version came to be known after the reign title as *Shaoxing bencao*. As Wang himself fell out of imperial favor, however, the *Shaoxing bencao* also lost its appeal among literati readers. The only manuscript copies survived in Japan.

²⁸ Zhang carefully expanded the text and added some finely made illustrations typical of artisan's hands in Pingshui. He had access to the upper echelons of literati circles during his time under the Jurchen Jin Dynasty, and two of them, Ma Ge 麻革 and Liu Qi 劉祁, wrote preface and epilogue full of praises for Zhang Cunhui. For a succinct overview of Pingshui as a center for cultural activities during the Jin and Yuan dynasties, see Ye Dehui, *Shulin qinghua*, *juan* 4.

book from the esoteric domain of physicians and alchemists during the Tang, I seek to show that the state in fact contributed little in the actual transmission of the texts. During the eleventh and twelfth centuries, it was local authors such as Chen Cheng, Kou Zongshi, and Tang Shenwei who undertook to edit, expand, and transmit the *bencao* corpus, and their editorial works were later approved and appropriated by the central state. In their hands, however, the genre of *bencao* retained its symbolic aura and grand plan as originally conceived by the state, and the sheer cost of reproducing these erudite, sophisticated volumes prevented it from further popularization in China's first golden age of book culture during the Southern Song.²⁹ We will find below that the task of keeping *bencao* in print remained a task for the elite class of scholar-officials well into the sixteenth century.

The Official's Task: "We simply cannot afford to lose it"

Provincial officials began to reprint *bencao* soon after the Song court retreated to the south. Three known editions were dated to 1185, 1195 and 1211 respectively. One official remarked in 1211 that printing the most detailed and complete edition of *bencao* serves as a common good for the general populace, for having a good reference for pharmacology could prevent much harm done by irresponsible physicians.³⁰ He criticized the "vulgar imprints" (Ch: 俗刻) editions that often used cheaper paper and

²⁹ The most important center for commercial publishing was Jianyang. See Lucille Chia, *Printing for Profit: The Commercial Publishers of Jianyang, Fujian (11th-17th Centuries)* (Cambridge, Mass.: Harvard University Asia Center, 2002), Chs. 1-2. While many historians considered the late sixteenth century as the first time when print culture overtook the place of manuscript, historians of the Southern Song tended to consider the print revolution as having come much earlier during the twelfth century. See Joseph McDermott, "The Ascendance of the Imprint in China," in Brokaw and Chow eds., *Printing and Book Culture in Late Imperial China*, 55-105, and the Song historians' counterpoint in Chia and De Weerdts eds., *Knowledge and text production in an age of print*.

³⁰ See *Zheng lei ben cao*, 1993 reprint, appendix 11.

truncated commentary in order to save cost: the complete *Zhenglei bencao* could take up to 1,600 woodblocks to print, making it among the most expensive medical texts to produce for commercial publishers.³¹

It took a circuitous route for official publishing of *bencao* to resume in mid-fifteenth century under the Ming dynasty. In 1468, a prominent statesman Shang Lu (Ch: 商輅, 1414-1486) received a request from the provincial judge office in Shandong, asking him to write a preface for a new edition of *Zhenglei bencao* being reproduced there.³² He was told that Yuan Jie (Ch: 原傑), a censor-in-chief who was serving in Shandong at the time, came across a copy of the 1249 Pingshui edition of *Zhenglei bencao* from a subordinate colleague in the provincial administration. Upon inquiry, the owner said he acquired the book during his previous post in Pingshui, and then brought it over to his next appointment in Shandong. Yuan and his peers in the provincial administration agreed to sponsor the carving and printing of a new edition in Shandong, so as to make it easier for people to access this precious text.³³

Shang Lu duly composed a preface to praise the initiative of Yuan Jie and others. The actual work of printing, however, involved three officials further down the ladder of provincial bureaucracy together with one “sojourning literatus,” and they undertook the

³¹ One example of the “vulgar editions” made by Southern Song commercial publishers was preserved in the Daoist Canon (Ch: 道藏), a collection of miscellaneous works related to Daoist practice. The Daoist corpus was reprinted and transmitted in largely separate routes during the Ming Dynasty, although non-Daoist practitioners may also have had access to the texts as visitors to a Daoist site.

³² Shang Lu was remembered today for his unsurpassed achievement of winning the first place in all three rounds of civil examinations. He had just been reinstated to the powerful office of the Grand Secretariat upon receiving the request.

³³ Shang Lu, *Preface* to the 1468 edition of *Zhenglei bencao*. Note that the censor was not a formal member of the provincial administration, but a temporarily dispatched member of the capital bureaucracy. See Charles O. Hucker, *The Censorial System of Ming China* (Stanford, CA: Stanford University Press, 1966).

work of copying, collating, proofreading, and arranging it into some 1,340 woodblocks. The names of these men were included in the 1468 edition, and reproduced in certain later reprints (e.g. in 1624).³⁴ The set of woodblocks for *Zhenglei bencao* was hereafter preserved in the provincial office of Shandong, and later office-holders during the Ming sponsored at least four rounds of repair and printing in 1523, 1552, 1572, and 1624. Officials in other provinces also used the Shandong imprints as model for further rounds of reproduction.³⁵ In the absence of direct imperial patronage, the social transmission of the *Zhenglei bencao* during the Ming Dynasty thus relied heavily on the initiatives of officials serving in the provinces.³⁶ As well-educated office holders traveled from one short-term post to another, they took it as their task to collect books and mobilize resources to produce new editions for rare texts. As another Shandong censor put it in 1552, “we simply cannot afford to sit here and let the book fall out of use.”³⁷ The urgent sense for action justified the costs and efforts of publishing, which went well beyond the regular duties for a local administrator. The official imprints (Ch: 官刻) played a pivotal

³⁴ Name lists after the epilogue of Liu Qi, 1625 edition of *Zhenglei bencao*. Number of blocks was mentioned in Chen Fengwu’s preface to the 1523 reprint of the 1468 edition. See Shang Zhijun’s note in *Zheng lei ben cao*, 1993 reprint, appendix 19-21.

³⁵ *Zheng lei ben cao*, 1993 reprint, appendix 19-21.

³⁶ The princely households also sponsored a considerable share of medical publishing throughout the Ming. Zhou Hongzu, in his late sixteenth century bibliography, simply considered the princely households as another “printing unit” as provincial and prefectural administrations. See Jérôme Kerlouégan, “Printing for Prestige? Publishing and Publications by Ming Princes,” *East Asian Publishing and Society* 1.1 (2011): 39-73, 1.2 (2011): 105-144, and 2.1 (2012): 3-75.

³⁷ Wang Ji, preface to the 1552 edition of *Zhenglei bencao*. The quote was from Zhou Chong, who was also serving as a circulating censor. See *Zheng lei ben cao*, 1993 reprint, appendix 19.

role in the preservation of many key texts in medicine during the first two centuries under the Ming rule.³⁸

While official printing was also active during the previous southern Song and Yuan dynasties, the mechanism for funding such costly projects, however, was different. Previously, local government academies owned land and derived surplus revenue that could be used for printing projects. Under the Ming, however, there was no special budgets set aside for regular rounds of printing, and officials often relied on their own salary or tried to squeeze money from the regular local budget.³⁹ Joseph Dennis reported a variety of sources to which a magistrate or prefect could turn in order to make ends meet in compiling and printing local histories.⁴⁰

By the mid-sixteenth century, the Ming world of books was customarily charted according to administrative, rather than commercial centers: in a comprehensive bibliography of contemporary books, a scholar named Zhou Hongzu (Ch: 周弘祖 *jinshi* 1559) documented over 100 medical texts printed and stored by various levels of governmental offices and princely households.⁴¹ From Zhou Hongzu's perspective, the commercial bookshops (Ch: 書坊) were all aggregated in the town of Jianyang (Ch: 建陽

³⁸ Another example is the *Dongyuan shi shu* (Ten collected works of Dongyuan [Li Gao]), an important group of treatise by Jin-Yuan physicians. An edition in 1529 produced by the princely house of Liao in Huguang enjoyed wide circulation in the South.

³⁹ Ye Dehui, *Shulin qinghua*, fascicle 7.

⁴⁰ Dennis, "Financial aspects of Ming gazetteers," 197-205.

⁴¹ Zhou Hongzu, *Gu Jin Shu Ke*. The most famous example for princely household production of medical knowledge was Zhu Su (Ch: 朱橚), fifth son of the Hongwu emperor, who oversaw the compilation of *Materia medica in famine relief* (Ch: 救荒本草), one of the first treatise on identifying edible plants in times of famine. Another work under Zhu Su's name was *Formula of General Welfare* (Ch: 普濟方), a monumental collection of formula which consisted of over 80,000 recipes.

) in the southeastern coastal province of Fujian. Commercial enterprises of publishing were seen as the exception rather than the ubiquitous norm.

In contrast to other medical texts, state-commissioned *bencao* remained in the domain of official publishing at the beginning of the long Wanli reign (1572-1620). This is why the Wang family took pride in sponsoring the first local edition of *Zhenglei bencao* in their hometown, a text that “had always been transmitted with official funds,” in Wang Daxian’s words. The earliest extant commercial edition of *Zhenglei bencao* could be dated to 1581, when a major commercial publisher, Hall of Wealth and Springtime (Ch: 富春堂) put forward its own edition of *Zhenglei bencao*. Having enjoyed great success with their fine illustrated editions of popular plays, the Nanjing-based publishing house made their first foray in publishing the erudite text of *bencao*, catering to elite readers who patronized bookshops of the southern capital.⁴² To help this title sell well, however, Hall of Wealth and Springtime made sure that the cover posed as wide appeal as possible. The finely decorated cover (Figure 2) featured a composite title, *Complete Illustrated Canon with treatments for indications, Dagan edition of materia medica*, which differed from the original title in a number of ways:

⁴² Lucille Chia, “Of Three Mountain Street: the Commercial Publishers of Ming Nanjing,” in Cynthia Brokaw and Kai-wing Chow eds., *Printing and Book Culture in Late Imperial China* (Berkeley: University of California Press, 2005), 107-51.



Figure 2 Cover of *Zhenglei bencao* (Hall of Wealth and Springtime edition, 1581, Harvard Yenching Library microfilm)

First, the publisher probably put in the misleading term “Illustrated Canon” to attract readers. Second, the term *Zhenglei* (classified by symptoms) in the original title was

changed inconspicuously to *Zhengzhi*, which indicated practical relevance to bedside treatments. Moreover, the claim of the text being the earlier *Daguan* edition (1108) was altogether a false one, for the content of the title was entirely based on the substantially revised Pingshui edition (1249).⁴³ Finally, an additional remark on the cover declared the content as a faithful reproduction of the “original Shandong blocks,” which clearly referred to the long running imprints produced from the provincial governor’s office in Shandong. While the Hall of Wealth and Springtime’s decision to reprint the *Zhenglei bencao* in 1581 signaled the potential of a much broader readership for the most expensive type of *materia medica* literature, it is telling that this commercial edition of *bencao* in 1581 still relied very much on the prestigious reputation of official publishing. In comparison to other types of medical text, the cost and sophistication of *bencao* thus remained a difficult object of profit for commercial publishers.

This context could explain why Li Shizhen (Ch: 李時珍, 1518-1593) struggled so much during the 1580s and 1590s, to find a publisher willing to print his *magnum opus*, *Systematic Materia Medica* (Ch: 本草綱目). Li Shizhen grew up in a family of medical practitioners in Qizhou (Ch: 蕪州), and earned a humble position serving the princely household of Chu. Finding many descriptions of drugs in *Zhenglei bencao* unsatisfactory, Li set off to expand and improve upon the *Zhenglei bencao* by compiling his own *materia medica*. After three decades of meticulous work, Li completed the manuscript and titled it *Bencao gangmu* (Comprehensive *materia medica*), the title of which was inspired by the Southern Song philosopher Zhu Xi’s compendium on history, *Tongjian gangmu*. In structuring his grand text, Li did not merely add his new

⁴³ The publishing house title (Hall of Wealth and Springtime) was added to the earlier colophon.

commentary on top of others, but also synthesized what had been said before into clear sections on nomenclature, uses and recipes. He also designed a much more “natural” system of classification according to morphological features. Altogether, the *Bencao gangmu* included entries for a total of 1,892 drugs, with citations from more than 800 medical and non-medical sources. Joseph Needham considered Li “the prince of pharmacists,” and scholars have unanimously seen it as the pinnacle of accomplishment in the entire tradition of *bencao*.⁴⁴

After Li Shizhen finished the manuscript in the 1570s, however, it took him more than two decades to find a publisher for the monumental work. Hu Chenglong (Ch: 胡承龍), putatively a commercial publisher in Nanjing, only agreed to invest in its first edition after Li painstakingly secured a preface from Wang Shizhen (Ch: 王士禎), a leading figure in the contemporary literary scene.⁴⁵ Four sons and three grandsons of Li took part in the preparatory work for the publication, which probably helped to further cut the cost. Li Shizhen himself did not live to see the completion of the first edition in 1596, and two years later, his second son traveled north to present the book to the Ming court in Beijing. What his late father and the family hoped, wrote the son in his letter to the throne, was to have the book included in the dynastic bibliography or to have it reprinted by the Imperial College of Physicians. Neither request was immediately fulfilled, however,

⁴⁴ For a summary evaluation of *Bencao gangmu* in world history of science, see Needham, *Science and Civilisation in China*, vol. 6, part 1, 308-320, and Unschuld, *Medicine in China: A History of Pharmaceutics*, 145-163. For a detailed analysis over *Bencao gangmu*'s content and scope, see Carla Nappi, *The Monkey and the Inkpot* (Cambridge: Harvard University Press, 2009). My aim here is to evaluate Li Shizhen's approach to *materia medica* in the context of other contemporary works in the genre, and use the early history of publishing *Bencao gangmu* as an example illustrative of the late Ming culture of reading.

⁴⁵ Li Shizhen personally visited Wang in the latter's estate and waited for days before getting the preface. See Wang Shizhen, preface to *Bencao gangmu*.

after an accidental fire broke out in the palace in summer of the following year, and the project was dropped altogether.⁴⁶

Again, it was official publishing in the provinces that came to the rescue of *Bencao gangmu*. In 1603, Xia Liangxin (Ch: 夏良心), then the Grand Coordinator (Ch: 巡撫) in charge of all administrative affairs in Jiangxi Province, obtained a copy of the first edition of *Bencao gangmu*. Initially intending to leaf through the book looking for cures for his recurrent “phlegm vertigo” (Ch: 痰暈), Xia was struck by its scope of erudition as well as the poor quality of printing. Showing it to his colleagues in the provincial administration of Jiangxi, Xia resolved to make a new edition for the book and raised a considerable sum among the group. Together with some surplus from the provincial budget, Xia delegated Zhang Dingsi (Ch: 張鼎思), the provincial judge (Ch: 按察使), to supervise two magistrates of subordinate counties, who were in charge of the actual work. The printing took only six months to complete.⁴⁷ The Jiangxi edition, as it came to be known, was the template for another round of reproduction in the neighboring provincial administration of Huguang.⁴⁸ In an implicit competition with Jiangxi, the grand coordinator of Huguang even obtained a preface from Dong Qichang (Ch: 董其昌), one of the most powerful figures in politics and culture of the time. While the first edition has only six extant copies today, and therefore became valuable objects of collection, the Jiangxi and Huguang edition in fact played a more crucial role in

⁴⁶ Dong Qichang, “Preface to *Bencao gangmu*,” *Rong tai ji*, juan 5.

⁴⁷ Zhang Dingsi, preface to *Bencao gangmu* (1603).

⁴⁸ Dong Qichang, preface to *Bencao gangmu* (1603). The Huguang officials maintained that since Li Shizhen was a native of the *Chu* land, it was only natural for the local *Chu* people to have an edition of the texts to themselves.

establishing *Bencao gangmu* as a masterpiece in late Ming society, serving as the template for the vast majority of later reproductions. Although Li Shizhen did not earn imperial patronage as he had hoped, it was still official endorsement that guaranteed the longevity of his work.

In 1644, the Ming capital of Beijing fell to the Manchu army, and the newly established Qing dynasty soon consolidated control over south China. The new dynasty's servants were then sent to provincial offices, shouldered with the task of recovering local order from the tumults of the war. Aside from repairing damage to the physical landscape, many promptly began rebuilding the literary and cultural heritage of the previous regime.⁴⁹ In 1657, the new governor of Jiangxi ordered the repair of the damaged woodblocks of the 1603 edition of *Bencao gangmu*, and the production of a new edition with words of praise for the new rulers.⁵⁰ A year earlier in 1656, a new magistrate appointed to Nanling County also used extra budget to repair the woodblocks of *Zhenglei bencao*, which had been funded by Wang Qiu and his sons in 1577.⁵¹ Overall, however, official publishing gradually dwindled as budgets became tighter at the provincial level, and persecution of subversive publications prevented civil servants from pursuing such activities in lieu of administrative tasks. Later, the bibliographic scholar Ye Dehui noted that the fashion of official publishing had largely disappeared by the

⁴⁹ For a more in-depth investigation on the rebuilding of local culture, see Tobie Meyer-Fong, *Building Culture in Early Qing Yangzhou* (Stanford, Calif.: Stanford University Press, 2003).

⁵⁰ Zhang Chaolin, preface to the 1657 edition of *Bencao gangmu*.

⁵¹ Yang Bida, preface to the 1656 edition of *Zhenglei bencao*.

early eighteenth century.⁵² A new norm of bureaucratic presence in cultural reproduction had set in and was there to stay.

Everyman’s Book: “The path is short, the effort is easy...”

In composing *Bencao gangmu*, Li Shizhen resembled Tang Shenwei in that both lived and practiced at the margin of political and cultural centers of the day, yet their accomplishment in *materia medica* learning went far beyond the state’s best capacity to compile the most up-to-date *bencao* text. Theirs constituted two rare moments in the entire corpus of *bencao*. The majority of texts pertaining to *materia medica* knowledge, however, took a pragmatic attitude: overall, people sought to reduce the sheer quantity of information provided in *bencao* books, and expected hands-on guidance over medical substances relevant to one’s most immediate needs in life. People in Southern Song (1127-1249) already began composing abridged versions and excerpts from the comprehensive *Zhenglei bencao*. We know of at least five titles that “picked up the essence of *bencao*” in short forms, yet most of them seemed to have been circulated only within small circles and did not survive beyond the 14th century.⁵³ Nor were the Southern Song compilers of abridged *materia medica* keen to publish their work, for it

⁵² Ye Dehui, *Shulin qinghua*, juan 7.

⁵³ The abridged Southern Song *bencao* texts were only known to us today through a bibliography listed at the end of *Baoqing bencao zhezhong* (Negotiated opinions on *materia medica* during the Baoqing reign), which also had only one copy survived today in Japan. The *Baoqing bencao zhezhong* was composed by a physician named Chen Yan living in the early 13th century, who worked on this treatise for over 30 years. The manuscript earned good reputation among a small circle of acquaintances, yet Chen did not have enough money to print it. Two officials later endorsed his work and helped him print the treatise, and the only copy surviving today was printed during the Yuan Dynasty. See Zheng Jinsheng, *Song dai bencao shi* (History of *Materia Medica* during the Song dynasty), MA thesis, Chinese Academy of Traditional Medicine, Institute of Medical History and Philology, 1981.

was assumed that the complete text of *Zhenglei bencao* was by definition superior to any partial renditions.

Meanwhile, an alternative strategy of introducing pharmacological knowledge took the form of even shorter verses, targeting a broad readership. Early Ming commercial publishers were highly active and successful in marketing medical texts, especially in printing medical primers, including the very popular “Rhymes on the nature of drugs” (Ch: 藥性賦). While a variety of such rhymes have been identified in fifteenth and sixteenth medical texts, they typically included only some 200 common drugs and their main uses, and paid no tribute to previous *bencao* literature.⁵⁴ Popular rhymes and state-commissioned *bencao* were thus reproduced, circulated and read in largely separate social spheres. While the former quickly became a must-read for any aspiring professional healers, the latter remained the exclusive domain of the learned elite.

Abridged *bencao* during the Ming thus sought to claim a niche in between the two existing genres. On the one hand, authors and editors clearly distinguished themselves from rudimentary primers such as *Rhymes on the nature of drugs*; on the other hand, however, they commonly appealed to readers by expressing frustration at the unwieldy size of comprehensive *materia medica* such as the *Zhenglei bencao*. During the sixteenth century, abridged *bencao* began to emerge in both official and commercial publishing sectors, and enjoyed increasing popularity.⁵⁵ For instance, Wang Lun (Ch: 王倫 fl. 1484-

⁵⁴ Such texts were often attributed to practicing physicians, starting from the renowned physicians Zhang Yuansu 張元素 and Li Gao 李杲 during the Jin-Yuan dynasties, and also included Ming-era practitioners such as Yan Cui 嚴萃 and Gong Tingxian 龔廷賢. For a detailed discussion on popular rhymes such as *Yaoting fu* in medical instruction, see Angela Ki-Che Leung, “Medical instruction and popularization in Ming-Qing China,” *Late Imperial China* 24.1 (June 2003): 139-142.

⁵⁵ Examples included *Bencao yueyan* (Concise words on *materia medica*), *Bencao jiyao* (Collected summary of *materia medica*), *Yaoting cuping* (Crude commentary on the nature of drugs), etc.

1492), a learned scholar-official with medical competence, frankly admitted that he couldn't help yawning and becoming drowsy when reading the "overly complex and repetitive" *bencao* texts. During his spare time as a minor bureaucrat, Wang compiled a selected summary of the quality and use of 545 drugs, incorporating pharmacological theories of recent master physicians with information excerpted from *Zhenglei bencao*. The treatise, titled *Summaries of Materia Medica* (Ch: 本草集要), appeared in print first in 1510 at a Huizhou lineage estate, and again in 1529 by an official overseeing the local salt monopoly.⁵⁶

Abridged *bencao* thus profited from the established reputation of *bencao*, yet promising its readers with a speedy course of self-study in an age of print. This sentiment clearly distinguished the Ming *bencao* authors from their forerunners in the Southern Song, whose respect for the authority of officially sanctioned comprehensive *bencao* prevented them from endorsing abridged works for the sake of mere expediency. Even Wang Lun, writing at the late 15th century, more or less endorsed this view by cautioning readers to his *Summary of Essential Materia Medica*: only beginners and scholars "with an interest in the art [of medicine]" might benefit from this work, stressed Wang. For a serious practitioner "as a professional" (Ch: 專門之士), however, he must still study the "whole book."⁵⁷ From the Jiajing reign (1522-1566) onward, however, no more apologies were seen as necessary for publishing and advertising abridged versions of *materia medica*. A scholar named Xu Xizhou (Ch: 許希周), for instance, quickly

⁵⁶ Wang Lun, preface to *Bencao Jiyao*. Quoted from Taki, *Yi ji kao*, *juan* 15. Wang's high social position as an official probably rendered his work appealing to fellow officials who were willing to reprint it. The earliest commercially published version was in 1602 by Liu Longtian in Jianyang.

⁵⁷ Wang Lun, preface to *Bencao jiyao*. Quoted from Taki, *Yi ji kao*, *juan* 15.

published his “crude commentary” on drugs in the 1540s, eager to “share my benighted opinion with [people] of the four corners of the earth.”⁵⁸ During the same decade, a scholar-turned-physician practicing in the lower Yangzi region concluded that only 200 to 300 drugs were repeatedly used in most common formula, and that a large number of medicines documented in the *Zhenglei bencao* were of no practical use to the physician. He went on to compile his own excerpt about only 500 most common drugs, and had it published by a commercial publisher in Jianyang (Figure 3).⁵⁹ The paper quality is not very high and carving somewhat rudimentary.

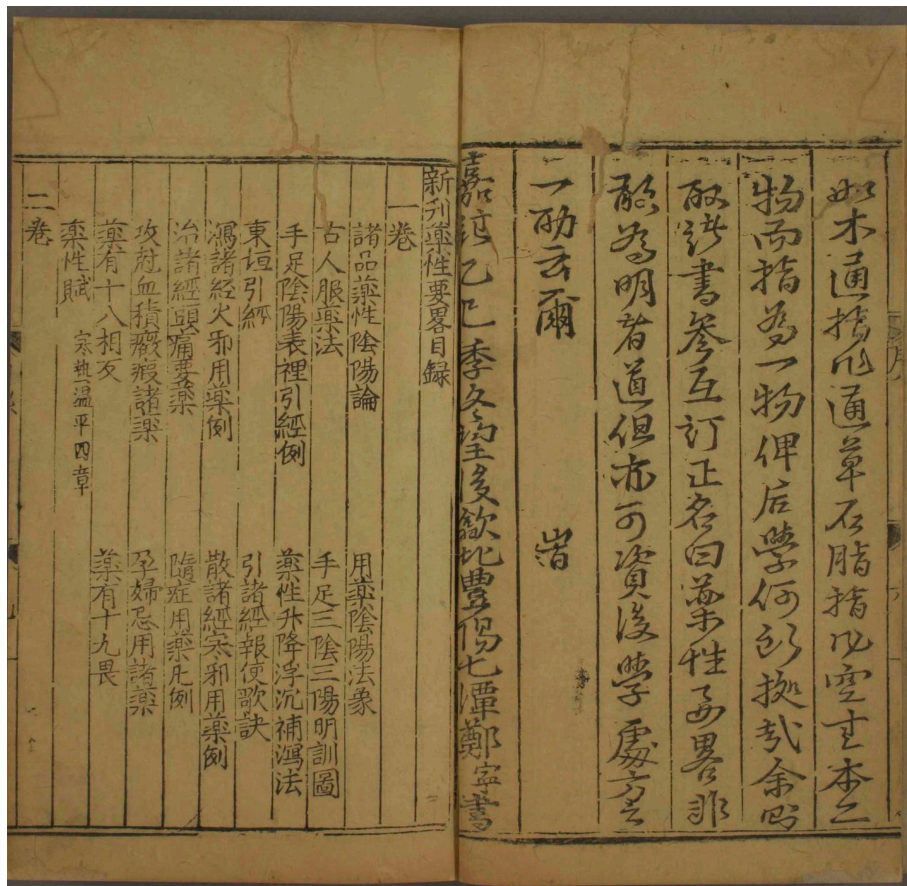


Figure 3 Page from *Yaoting yaolie* (Jianyang, 1541).

⁵⁸ Xu Xizhou, preface to *Yaoting cuping*.

⁵⁹ Zheng Ning 鄭寧, preface to *Yaoting yaolie* 藥性要略. Quoted from Taki, *Yi ji kao*, juan 15.

The mobile and versatile characters of print were clearly recognized by physicians, and their desire to achieve greater influence in a shorter time began to fundamentally transform the ways of learning and teaching within the trade of medicine. Chen Jiamo (Ch: 陳嘉謨 fl. 1560s), a renowned physician living in Huizhou Prefecture (Ch: 徽州府), was urged by his disciples to publish a *materia medica* primer text originally intended for his private pedagogical use. The primer was so helpful, the disciples insisted, that it must be publicly shared with everyone else.⁶⁰ The book, *Instruments for Beginners in Materia Medica* (Ch: 本草蒙筌), proved to be so popular that two commercial printing houses in Jinling and Jianyang produced its first edition in the same year of 1565. With its practical suggestions written in clear and concise verse, *Instruments for Beginners* remained in print well into the 1620s, when another publisher in Jinling put out an enlarged and illustrated edition.⁶¹

The most eloquent defense for abbreviated *materia medica* books showed up in a twin volume attributed to Xue Ji (Ch: 薛己 1487-1559), a highly successful court physician and prolific medical author active in the city of Suzhou. Recent philological analysis, however, has shown that this treatise, *Concise Discourse on Materia Medica* (Ch: 本草約言) could not have been written by Xue Ji, but was likely to have been a text marketed by commercial publishers later.⁶² Nevertheless, the preface constructed a clear authorial voice in stating his motivation for compiling this treatise:

⁶⁰ Chen Jiamo, preface to *Bencao mengquan*.

⁶¹ Xue Qinglu et al ed. *Quanguo zhongyi tushu lianhe mulu* (Unified bibliography of traditional Chinese medical books) (Beijing: Zhongyi guji chubanshe, 1991).

⁶² Zhang Zhibin, “Ming <Shiwu bencao> zuozhe ji chengshu kao [A study of authorship and compilation of *Dietetic Materia Medica* during the Ming],” *Zhongyi zazhi* 53.18 (2012): 1588-91.

I was born in a later age. Fortunately, all secret texts have been uncovered from their depositories, so I got to dwell in there for many years. I kept compiling indispensable and frequently used drugs from *materia medica*, grouped them into two kinds [medicinal and dietetic], and classified them by their kinds, so that the account was concise. [In doing so] my book strings worn out several times; my notes in red ink and corrections in yellow ink covered the whole page that my manuscript was almost not readable any more.

Having portrayed himself as a learned scholar immersing himself in bookish studies, the author went on to advocate for the merit of his composition:

I thought of the Divine Farmer's profound benefit to the life of mankind, which is bound to be the model of ten thousand generations. However, the complete book was so vast that one might never reach its boundary. As for this volume [of mine], the path is short, the effort is easy, and the reader's mind will not be exhausted. At one glance, all the entries and details are presented clearly in a comprehensive way. Such is the kind of book that would enliven your room upon reading it. Thereby I named this volume as *Concise Discourse*, and published it for the readers all over the four oceans. On the desktop or in the suitcase, readable and portable: all those who struggle when reading heavy volumes, can now go beyond letting bookworms eat their dust-covered collections!⁶³

On the one hand, he sought to persuade the reader that one could acquire knowledge of common medicines without striving to grasp an encyclopedia in its entirety. For most people who constantly faced threats of illness and suffering, a workable and practical knowledge of medicine and food could be of more immediate benefit than the most erudite of encyclopedia. On the other hand, the author also appealed to the well-to-do readers by emphasizing his access to “secret deposits of knowledge” (Ch: 秘籍). If one had no intention of acquiring a copy of the “complete book,” an abridged work covering 500-600 drugs provided an appealing alternative as a handy reference to cope with everyday medical needs. In sum, the success of *Concise Discourse* and similar works suggests that the market niche for abridged *materia medica* texts had been consolidated

⁶³ Attributed to Xue Ji, Preface to *Bencao yueyan*, quoted from Taki, *Yi ji kao*, juan 15.

by mid-sixteenth century in Ming society, their popularity buttressed by a solid demand for concise renderings of erudite and esoteric knowledge.

By the end of the Wanli Reign in early seventeenth century, the proliferation of abridged *bencao* had encouraged many to participate in the trend. Local gazetteers documented physicians who gave up practice in order to focus on the “immortal enterprise” (不朽業) of writing a book.⁶⁴ And it was not only physicians who considered writing and publishing as a fast path to fame. In 1602, for instance, a scholar from eastern Shanxi Province composed his own treatise, *True Interpretations of Materia Medica* (Ch: 本草真詮), by excerpting from previous works in this subject. The treatise was promptly printed by a commercial publisher based in the remote southeastern Fujian Province, although the scarcity of reference to this title in later bibliographies suggested that it probably did not do very well in the market. The primary motivation of the author, a bookish scholar named Yang Yingkui (Ch: 楊應奎), was to rectify the learning of medicine from the “lowly and base” physicians of the day. In the preface, he defended his project by recording a dialogue with a guest:

The guest questioned: “Breaking one’s arms several times makes a good physician. It is also said that do not take the physician’s medicine unless his family has been in practice for at least three generations. It is so extremely difficult to be a physician (*yi*). My friend, you just made yourself known as a Confucian scholar (*ru*). Who will trust you [on matters of medicine], if you are blinded by your own bias?”

I answered: “This is not true. The origin of medicine is in the remote past. Its learning consists of intelligence over things, and its intention entails benevolence of helping others. To have the intelligence and practice the ideal of benevolence is something that only we Confucians can do. As for this

⁶⁴ *Kuaiji xian zhi* (Gazetteer of Kuaiji), Kangxi edition, *juan* 26, 7.

book, it surely does not exhaust my capabilities, but won't it at least manifest my qualification as a Confucian?⁶⁵

In essence, Yang confidently refuted the guest's challenge with two venerated quotes from the Classics.⁶⁶ At the turn of the seventeenth century, authors of abridged *bencao* proposed that without breaking one's arms and testing one's skills in longtime practice, every man could grasp the secret of medicine by choosing the right books to read. While many physicians further established their fame by publishing their experiences, they encountered competing claims that disinterested Confucian scholars were in fact better qualified to create a more elevated form of medical learning. With its long genealogy of state patronage and accumulated erudition, the subject of *materia medica* proved especially appealing to Confucian scholars.

The Scholar's Book

The province of Henan occupies China's heartland. In early seventeenth century, Henan's glorious days as home for the capital city of the Northern Song Dynasty (960-1127) had passed for almost five centuries, as the hustle and bustle of metropolitan scenes gave way to dormant provincial life, disrupted at times by the untamable flooding of the Yellow River. The County of Qi 杞縣, a county seat adjacent to the old Song capital of Kaifeng, was home to Li Zhongli (Ch: 李中立 *fl.* 1592-1612), who is largely

⁶⁵ Yang Chongkui, "Preface," in *Bencao zhenquan*. 而难者曰：九折臂而成医、医不三世，不服其药，甚哉医之难也。吾子方以儒闻世，倘溺于所见，夫谁其信之？予应之曰：非然也。医之来尚矣。其学遍物之智也，其心道济之仁也。有其智而行其仁，此唯吾儒有焉。然则是编也，不足以尽吾儒，宁不足以见吾儒乎

⁶⁶ The former quote was a variation of the *Chunqiu Zuo Zhuan* (The Chronicles of Zuo), a history of the Spring and Autumn period (722-468BCE). The latter quote was from the *Book of Rites*, 114.

remembered today as the author of a *materia medica* text titled *Fathoming the Origin of materia medica* (Ch: 本草原始) (Map 1).

In contrast to the aggressive self-promotion in many abridged *bencao* texts, Li Zhongli was unusually reticent about his own qualifications and motivations for compiling the treatise. Still, two prefaces included in the first edition of his work hinted at how unusual it was for Li, as a good Confucian, to seriously pursue the study of medicine. Luo Wenying (Ch: 羅文英 *jinshi* 1607), an official from Qi County who had once tutored Li, expressed his reservations at the beginning of his preface in two rhetorical questions. “Mr. Li is a Confucian scholar,” wrote the mentor, “why is he writing a *bencao* book? I, who taught Mr. Li in Confucian learning, why am I writing a preface for his *bencao*?” Although he finally came to terms by emphasizing the oneness of the Confucian self and worldly things (see Chapter 2), Luo still encouraged Li to use his talent and learning in more respectable ways than the “lesser art” of medicine.⁶⁷

A second preface came from Ma Yinglong (Ch: 馬應龍), who met the young Li Zhongli while serving as magistrate of Qi between 1592-96. During their acquaintance, explained Ma, he found Li to be an intelligent young man whose command of medical knowledge was already extraordinarily good. Ma was later promoted to serve in the central Board of Rites in Beijing, where he received a request for preface from Li Zhongli.⁶⁸ If Li first met Ma as a young man of 20, he must have been close to his 40s

⁶⁷ Luo Wenying, preface to the first edition of *Bencao yuanshi*. I will discuss Luo’s low opinion of *bencao* in Chapter 2.

⁶⁸ Ma Yinglong, preface to the first edition of *Bencao yuanshi*. Ma’s life and achievements as magistrate of Qi was documented in the local gazetteer of Qi, see *Qi xian zhi* (Gazetteer of Qi County), Qianlong edition, *juan* 9, 47a; also see Ma’s hometown gazetteer, *Xu Anqiu xian zhi* (Sequel to the Gazetteer of the Anqiu County), *juan* 19, 20-21.

when he obtained the first preface from Luo Wenying in 1612. Local history documented a man named Li Zhongli gaining a *juren* degree in the provincial examination in the fall of 1612, which might have given him access to resources to have his manuscript published in print.⁶⁹



Figure 4 Page from the first edition of *Bencao yuanshi* (Siku quanshu edition), with illustration of the dried roots of wild ginger (*huangjing*). (Qi County, 1612).

The first edition of *Fathoming the Origin* was apparently produced at the Li home estate in Qi County. At the beginning of each volume, Li Zhongli signed his name as the “compiler, calligrapher and illustrator” (Ch: 纂輯並書畫), and Ma Yinglong praised him as being extraordinarily “diligent and careful” in doing so. While the textual content is mostly derived or paraphrased from the *Bencao gangmu*, the most outstanding feature of

⁶⁹ *Qi xian zhi* (Gazetteer of Qi County), Qianlong edition, *juan* 10.

Li's treatise lies in its original illustrations.⁷⁰ The carving almost impeccably reproduced what would have been an illustrated text hand-copied by a single hand. The illustrations were of much higher quality than previous printed *bencao* texts, in its meticulous depiction of both living creatures and enlarged features of their dried parts (Figure 4). Indeed, it was considered by later-day historians as one of the most "true-to-life" botanical illustrations ever produced in China.⁷¹ It is unclear, however, as to how Li learned the technique of drawing.

My key point, in any case, is that printing the treatise with private wealth enabled Li Zhongli to exert total control over the visual layout of the book as its sole author, editor and producer. For each drug, Li chose to print morphological descriptions and nomenclature in big characters, followed by main uses and selected empirical cures in half-sized characters. He also carefully included punctuation marks to facilitate in-text reading. The attention to visual presentation reflected Li Zhongli's understanding of the most basic tenets in knowledge of medicinal drugs: first, to ascertain what a certain drug looked like, both as living plant/animal and as dried form on sale in pharmacies; second, to know and understand its various names in different places and in time. Only when reliable knowledge was confirmed in those two registers could one then discuss the potential uses of the medicine.⁷² With his treatise, Li was making a subtle epistemological argument that visual representation of forms should be taken as seriously

⁷⁰ Shang Zhijun et al. LDZYWXJH, 297-9.

⁷¹ A close competitor in quality of illustrations would be *Essential Assortments of Materia Medica* (Ch: *Bencao pinhui jingyao*), which apparently never left the imperial palace. See Unschuld, *Medicine in China: A History of Pharmaceutics*, 128-144.

⁷² First edition of *Bencao yuanshi*. Li Zhongli noted in the first volume that he "only drew the root, because it's the only part used in medicine."

as texts. In the first edition of *Fathoming the Origin*, it took great effort on the Li's part to arrange text and drawing in such a way that they illustrated and illuminated each other.

The next known edition of *Fathoming the Origin* did not appear until some twenty years later. In Kunshan (Ch: 昆山), a county seat situated at the tip of the Lower Yangzi Delta, a scholar named Ge Nai (Ch: 葛鼐 *juren* 1630) decided in 1638 to reproduce two books as a twin volume in his possession: one was *Fathoming the Origin*, and the other was *New book on Discipline and Efficacy* (Ch: 紀效新書), a treatise on military strategy by the renowned general Qi Jiguang (Ch: 戚繼光 1528-1588). Born in a family of high officials, Ge Nai and his brothers became well-known for their passion of book-collecting among the high culture circle of Lower Yangzi: their collections reached as much as 30,000 fascicles, and Ge would regularly reprint anthologies and histories with his own commentary, a unique set of editions known as “the Ge blocks.” (Ch: 葛板)⁷³

The 1638 edition of *Bencao yuanshi* strikes one as altogether a very different book from the first edition. First of all, Li Zhongli's handwriting gave way to the more rigid and clear “artisan's style” (Ch: 匠體).⁷⁴ Secondly, most illustrations became separated from text in framed blocks of rectangular shape, suggesting a division of labor between the text carver and the illustrator in the process of reproduction. Lastly, the 1638 edition reversed Li Zhongli's intention to emphasize nomenclature and morphology

⁷³ Biographical details of Ge Nai are quoted from Wu Han, *Jiangzhe cangshu jia shilüe* (Beijing: Zhonghua shuju, 1981), 205.

⁷⁴ Martin Heijdra, “Typography and the East Asian Book: The Evolution of the Grid,” in Perry Link ed. *The Scholar's Mind: Essays in Honor of Frederick W. Mote* (Hong Kong: The Chinese University Press, 2009): 115-46.

by altering the visual layout: now, only the section on treatments was carved in larger font, whereas the nomenclature section was printed in small characters (Figure 5).⁷⁵ The cost of faithfully reproducing the original edition must have been so high that Ge decided to rather redesign and arrange the text on each woodblock.



Figure 5 Page from *Bencao yaunshi* (Kunshan, 1638). The table of content was handwritten by a later reader.
(Harvard Yenching Library Rarebook Collection)

In the preface to the twin volume, Ge explained his motivation for reproducing two texts on medicine and military back-to-back. He first observed that war and medicine were both charitable instruments---that is, both can “get rid of suffering and saving people’s lives,” an old rationale that many patrons of medical art used to justify

⁷⁵ 1638 edition of *Bencao yaunshi*.

their choices.⁷⁶ Ge Nai, however, went a step further by asking how could the Confucian scholar (Ch: 士) possibly help others, if he does not even know how to save his own life. One may die with honor on the battlefield, argued Ge, but “soft songs and fancy goblets” in an affluent lifestyle were also fearful enough to make one suffer from “gangrenes in the foot.”⁷⁷ What the ancient sages were able to achieve, Ge observed, was only possible with an able body. If a true Confucian sees everything in the world as directly concerning him, the care of self (Ch: 身) is surely not separable from the *Shih*'s primary task of serving the world.⁷⁸

Ge went on to make a case for the Confucian scholar not only to use medicine as an instrument of charity, but also to master the knowledge of drugs as an essential aspect of being responsible for oneself. In doing so, he offered an implicit twist to the Neo-Confucian doctrine of inner “respectfulness” (Ch: 敬). In the discourse of Song metaphysical thinkers, being respectful and observant entailed a constant effort to rid oneself blind thoughts and desires, so that one could better align his practice with the moral principles (Ch: 理) of the external world. For Ge Nai, however, “respecting oneself” (Ch: 敬其身) involved a much more mundane practice of fending off the physical threats of disease and suffering with an informed command over medicines.⁷⁹

The claim was not entirely selfish as it may sound, argued Ge, for the self may only be of

⁷⁶ Ge Nai, Preface to the 1638 edition of *Bencao yuanshi* and *Jixiao xinshu*.

⁷⁷ This is very likely to be an explicit reference to severe symptoms in what we would call diabetes today. One may speculate that the affluent lifestyle of late Ming southern literati may have in fact resulted in higher prevalence and awareness of such diseases among well-to-do families.

⁷⁸ Ge Nai, Preface to the 1638 edition of *Bencao yuanshi* and *Jixiao xinshu*.

⁷⁹ Ibid.

some use when the individual knows how to take care of the body. Following certain doctrines promoted by contemporary Philosophy of the Mind (Ch: 心學), Ge saw altruistic ends as essentially at one with self-serving motivations. It might be part of the reason why Ge decided to highlight the section on “main uses” of medicine in large characters, and downplay the prominence of the more bookish section on nomenclature and morphology in small characters.⁸⁰ In this way, Li Zhongli’s original attempt to examine the form and names of medicinal drugs as inscribed objects came to be subverted into a utilitarian selection of instruments at the disposal of the Confucian scholar. It was the 1638 edition that was further reproduced by commercial and non-commercial private publishers alike in the eighteenth century, whereas the initial edition gradually fell out of circulation.

Both Li Zhongli and Ge Nai relied on their private wealth for printing, without catering to a wider readership in the market for reading. The role of family printing (Ch: 家刻) is notoriously difficult to examine due to its extreme dispersed character: over three thousand individuals have been identified as having been responsible for the publication of one or more titles throughout the Ming.⁸¹ However, aside from a few studies on prominent examples of private publishers who dedicated themselves almost entirely to the printing of books, the bulk of the total output of books in late imperial

⁸⁰ Ibid. Ge’s argument for self care and responsibility should be understood under the context of broad intellectual transformation in the moral teachings of Wang Yangming and his followers during the sixteenth century. See William Theodore de Bary, *Neo-Confucian Orthodoxy and the Learning of the Mind-and-heart* (New York: Columbia University Press, 1981).

⁸¹ For an exhaustive bibliography of books printed in the Ming, see Du Xinfu ed. *Mingdai banke zonglu* (Comprehensive records of Ming Dynasty Printed Books) (Yangzhou: Yangzhou guji shudian, 1983).

China remains elusive.⁸² The example of Li Zhongli and Ge Nai illustrates how family printing allowed authors and compilers to compose and publish works with a diverse range of intentions and design. However, private publishers also did not have any control over alterations to the text in subsequent rounds of reproduction in other people's hands.⁸³ Li Zhongli's unique intervention to the learning of *materia medica* was unfortunately lost in the contingent and capricious world of book culture in late Ming.

The Consumer's Book

Nearly four decades after the provincial governor of Jiangxi sponsored a crucial reprint of Li Shizhen's *Bencao gangmu*, a different plan of remaking the text took place in the southeastern city of Hangzhou in 1640. Qian Weiqi (Ch: 錢蔚起 fl. 1640-1655), the main advocate for this project, had connections with many literary celebrities in the Lower Yangzi region. During the same year, he helped publishing an expanded edition of an elegant encyclopedia put together by the famous literati/artist Li Rihua (Ch: 李日華 1565-1635).⁸⁴ As an experienced cultural broker, Qian saw great potential in remaking *Bencao gangmu* for his clientele, the well-to-do landholding gentry in the Lower Yangzi

⁸² Notable examples included Mao Jin (Ch: 毛晉 1599-1659), whose private estate churned out the complete set of thirteen classics and seventeen dynastic histories in his lifetime. I will discuss his contribution to the history of *bencao* in Chapter 2.

⁸³ In some cases, the author's name had been altogether wiped out by plagiarists. For a case study of plagiarism over a late Ming popular treatise on pediatrics, see Barbara Volkmar, "The Physician and the Plagiarists: The Fate of the Legacy of Wan Quan," *Princeton East Asian Library Journal* 9.1 (Spring 2000), 1-77.

⁸⁴ Qian was involved in the publication of Li's five miscellaneous writings in 1640, *Si liu quan shu* (The Complete Book of the Four and the Six), 39 vols.

region. Working together with Wu Yuchang (Ch: 吳毓昌), a retired minor official known for his medical skills,⁸⁵ Qian Weiqi explained the merits of the new edition:

In this edition, we proofread as carefully as possible, and corrected every single error down to the strokes of the brush. We added certain omitted contents, and examined the origin of every point of doubt; besides, the *new illustrations were so expressively engraved with first-rate dexterity* [emphasis added]. The text was then perused and checked by many hands, and it took eight months to assemble and complete. With the brand new carved blocks, [this book] is bound to enjoy a wide circulation. The lifetime endeavor of Binhu [Li Shizhen] is thus immortalized in this compilation, and this compilation's vigor is to be strengthened with this edition.⁸⁶

The illustrations in the 1640 Hangzhou edition surpassed previous renderings in the quality of carving, bearing the signature of the most skilled artisans in wood engraving of the day. The highly stylized illustrations appealed to readers who read more for pleasure than for the practical end of learning medicine. Whereas later historians criticized the Hangzhou edition for sacrificing scientific accuracy for the pursuit of aesthetic effect, Qian's effort in transforming an otherwise poorly-carved medical text into an elegant artifact did succeed in attracting more rounds of reprint. In 1655, Qian entrusted the carved woodblocks to Wu Yuchang. The latter promptly issued a new edition with further editing, and proudly claimed in the preface that as “transmitters” (Ch: 傳者) of the book, they should claim at least equal credit for the success of the text as the author.⁸⁷ The Hangzhou editions remained highly popular during the Qing and resulted in numerous reprints.

⁸⁵ For biographical accounts for Wu Yuchang, see prefaces by his younger brother Wu Bentai and kinsman Wu Taichong for the 1655 edition of *Bencao gangmu*.

⁸⁶ Qian Weiqi, preface to the 1640 edition of *Bencao gangmu*.

⁸⁷ Wu Yuchang, preface to the 1655 *Taihetang* edition of *Bencao gangmu*.

The participation of literati-cultural brokers like Qian Weiqi helped transform the genre of *bencao* further into a possible subject of pleasure reading in late Ming. Around the same time, another group sought to integrate a previously separate tradition – that of dietetic guides – into the mainstream publishing market of *bencao*. The separation between expertise over foodstuff and medicine took place early on, as illustrated by the *Book of Ritual*'s designation of two medical officials in charge of “illnesses” and “diet,” respectively.⁸⁸ While common foods did appear in the earliest *bencao* corpus, treatises on the special subject of diet first assumed the name of *bencao* only during the Tang dynasty, in a text known as *Materia Medica for Dietetic Treatment* (Ch: 食療本草) by Meng Shen (Ch: 孟詵 c.621-703), and the content of Meng's text was later incorporated into the state-commissioned *Bencao* during the Song. Before the sixteenth century, the majority of dietetic treatises documented specialists' experience, bearing no direct relationship to the learned tradition of *bencao*.⁸⁹

The direction of text flow began to reverse during the sixteenth century, as more people came to be interested in excerpting content related to food from the complete book of *Zhenglei bencao* into separate treatises. Li Shizhen noted three of this kind known to him, and saw no special innovation in their content.⁹⁰ Initially, a short manuscript titled *Dietetic Materia Medica* (Ch: 食物本草) attributed to Lu He (Ch: 盧和) was read

⁸⁸ *The Rites of Zhou*, “The Heavenly Offices.”

⁸⁹ For instance, the dietetic treatise *Correct Essentials over Food and Drink* (Ch: 飲膳正要) by Hu Sihui (Ch: 忽思慧) introduced details of dietetic practice in the Mongol Yuan court. See Paul D. Buell and Eugene Anderson, *A Soup for the Qan: Chinese Dietary Medicine of the Mongol Era As Seen in Hu Sihui's Yinshan Zhengyao*.

⁹⁰ Li Shizhen, “Bencao texts in all times,” in *Bencao gangmu*, front matters, 1. The three texts that Li commented on include Wu Rui (early 14th century), *Riyong bencao* (Everyday *materia medica*), 8 volumes; Lu He / Wang Ying (fl. early 16th century), *Shiwu bencao*, 2 vols; and Ning Yuan (fl. mid-16th century), *Shijian bencao* (Reference for Dietetic *Materia Medica*).

amongst official elites, and later a prefect named Wang Ying (Ch: 汪穎) did some editorial changes over it. The two-volume treatise was eventually sponsored to print by a high official Gu Zhongxu (Ch: 谷中虛 1525-1585).⁹¹ Beginning in the late sixteenth century, however, the nimble volume gained popularity with publishers targeting well-to-do readers living in the Lower Yangzi region. Hu Wenhuan (Ch: 胡文煥 fl. 1596), a prolific author, publisher, and musician residing in Hangzhou all his life, first included Lu He's *Dietetic materia medica* in his eclectic collection of books concerning the “obtaining of knowledge by investigation of things” (Ch: 格致).⁹² Also circulating at the turn of seventeenth century was a portable edition (Ch: 巾箱本) that provided basic guidance over dietetics (Figure 5a). Twenty years later, Qian Yunzhi (Ch: 錢允治), a Suzhou bibliophile who declared himself as “having learned no medicine, but good at editorial matters,” reproduced *Dietetic Materia Medica*, attributed it to the Jin-Yuan physician Li Gao, and attached an earlier title, Wu Rui (Ch: 吳瑞)'s *Everyday Materia Medica* (Ch: 日用本草) at the end, expanding the two-volume text into ten.⁹³ In 1634, Yao Kecheng (Ch: 姚可成 fl. 1634), another active editor and publisher in Suzhou, decided to use Li Shizhen's name for a further expanded edition of *Dietetic materia medica*, an indication that Li Shizhen and his *Bencao gangmu* had gained considerable fame three decades after its initial publication. Yao, or others involved in the editorial project, even made up a long preface signed with Li's name, relating how, twenty years

⁹¹ Gu Zhongxu, preface to 1600 edition of *Shiwu bencao*. This was a later commercial edition based on the original Gu Zhongxu-sponsored edition.

⁹² Hu Wenhuan, *Gezhi congshu*, 229 juan, c.1573-1620.

⁹³ Qian Yunzhi, preface, *Shiwu bencao*, 1621 edition.

after completing *Bencao gangmu*, he decided to embark on a second project on dietetics (Figure 6). The editors promised readers that the publication of this is motivated solely by the earnest wish that every family could now “live under all climates, Chinese or foreign lands, without worrying over the palate, and roam with a full stomach!”⁹⁴

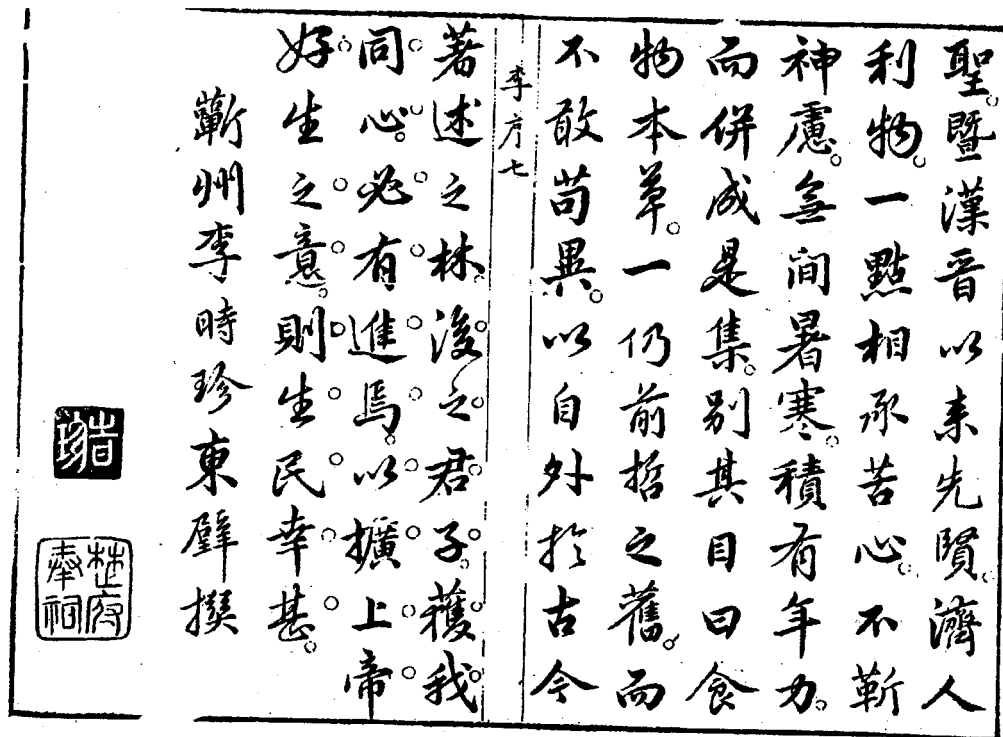


Figure 6 Forged signature and stamps of Li Shizhen in *Dietetic Materia Medica* (Suzhou, 1637) (Harvard Yenching Library, microfilm)

The reinvented 1634 edition thus attracted considerable attention in the Lower Yangzi literate circles, especially as the editors successfully acquired a preface by Chen Jiru (Ch: 陳繼儒 1558-1639), one of the most influential cultural connoisseurs and self-styled “hermit” gentry. In his signature witty prose, Chen declared himself a hopeless

⁹⁴ Pseudo-Li Shizhen, “Preface,” in the 1634 edition of *Shiwu bencao*.

gourmet (Ch: 老饕) who opened the volume not without some trepidation. And yet, the true gourmet should know some *bencao*, for

Doctors (*yi*) are those who control people's lives. Rather than entrusting my life to the whim of doctors, why not grasp my fate in my own hands? Everyday needs and dietetics is especially a realm in which I am in charge. If you know the true flavors, you will know temperance; knowing temperance, your body and mind will be both fine.⁹⁵

The success of the 1634 edition of *Dietetic materia medica* thus built on two seemingly contradictory aspects: on the one hand, the editors clearly sought to boost the book's credibility by attributing the authorship to famous physicians as Li Gao and Li Shizhen, going so far as to forge a preface and Li Shizhen's personal seals. On the other hand, however, Chen Jiru's preface promises lay readers that reading the book grants them autonomy from dependence upon physicians' expertise. While earlier excerpts of *Bencao* featured a speedy course in medicine, the revival of dietetic *bencao* as a separate sub-genre pushed toward a wider readership, appealing especially to individuals in bad need of guidance in everyday self-care and taste in cultural consumption.⁹⁶ For them, *bencao* now stood not for a special field of medicine, but resembled more an artful reference for everyday pleasure and temperance.

Conclusion: The Divine Farmer's Book

Thus far, I have followed several distinct visions of *materia medica* knowledge, as well as their changing impact on the social transmission and reproduction of *bencao* books in sixteenth century China. Indeed, the need to know about, and ways of using medical

⁹⁵ Chen Jiru, Preface to the 1634 edition of *Shiwu bencao*.

⁹⁶ Craig Clunas, *Superfluous Things: Material Culture and Social Status in Early Modern China* (Urbana, IL: University of Illinois Press, 1991).

substances are always multi-faceted at all times. What sets late Ming apart from previous eras is that access to printing and publishing resources engendered a greater variety of textual artifacts that all claimed themselves as part of *bencao*, and that no single vision, not even the long-running tradition of state patronage, could dominate absolutely. In fact, as I have shown, even the state-commissioned *bencao* required tremendous resources to remain in print, and it was the local officials, individual authors, editors, and donors, not the centralized state, who have collectively assumed that critical role. When commercial and private publishing opened up more diverse options for readers as well as authors, the state-commissioned *bencao* ceased to be the only standard reference. Instead, we now hear much more articulate and urgent calls for *bencao* knowledge to be of service to practical needs in life. The tension between the impulse to keep the “classics” in print and the need to reduce the vast body of textual knowledge into practical forms were instrumental in shaping the late Ming reading culture.⁹⁷

While traditional bibliographical scholarship focused on the book’s quality of content and execution, recent histories of Chinese book culture have emphasized the commercial publishing houses as spearheading cultural change, especially in the realms of vernacular literature. With good reason: after all, drama, popular songbooks, and fictions all flourished to an unprecedented scale starting from the Wanli reign (1572-1620).⁹⁸ The assumption implicit in this narrative is that the impetus for a new culture of

⁹⁷ Scholars have noted similar phenomenon in other cultures during the early modern period. See for example Ann Blair, *Too Much to Know: Managing Scholarly Information Before the Modern Age* (New Haven: Yale University Press, 2010).

⁹⁸ See Robert Hegel, *Reading Illustrated Fiction in Late Imperial China* (Stanford, Calif.: Stanford University Press, 1998); He Yuming, *Home and the World: Editing the “Glorious Ming” in Woodblock-printed Books of the Sixteenth and Seventeenth Centuries* (Cambridge, Mass: Harvard University Asia Center, 2012), and Lucille Chia, *Printing for Profit*.

reading had to come from the strong incentive toward pleasure and profit, a set of values inherently distinct from the previous mode of elite publishing at governmental institutions.⁹⁹ *Bencao*, however, provides an eclectic case in which official and other forms of not-for-profit private publishing remained prominent and vital in shaping the overall availability of texts throughout the Ming, while commercial publishing specialized in perfecting certain sub-genres, such as abridged *bencao* and dietetic guides. Elucidating the full complexity of the social transmission of *bencao* might yield insights applicable to other types of classical learning going through the so-called “print revolution” of early modern Chinese society. At the same time, *bencao* also constitutes a telling case of medicine’s long-term change toward book learning and amateur authorship in Ming-Qing China, a development that paralleled what happened in other technical and practical learning, such as geomancy, military arts, and astrology. I have sought to show how increased access to publishing for medical practitioners constituted both opportunity for self-promotion as much as challenge from lay authors such as Yang Chongkui and Chen Jiru. In Chapters 5 and 6, I will return to the question of practice and expertise by looking at the handling of actual medical substances in the Ming-Qing medical marketplace. In sum, it is neither accurate nor complete to reduce the impetus for cultural change in late Ming publishing solely to the pull of profit and commercialization.

⁹⁹ For a detailed description of newly emerged commercial publishing centers, see Chia, “Of Three Mountains street” for Jinling, and an edited volume on book production in Huizhou, Michele Bussotti and Zhu Wanshu eds., *Faguo hanxue* (Sinology in France), no.13, *Livres et imprimés des gens de Huizhou* (Beijing: Zhonghua shuju, 2010). Kai-wing Chow argued that the cost of books went down considerably during the Wanli reign, which resulted in a considerable change in the social makeup of readership. See Chow, *Publishing, Culture, and Power in Early Modern China* (Stanford, CA: Stanford University Press, 2004), esp. ch.1. For a comprehensive survey of late Ming mentality toward pleasure and profit, see Timothy Brook, *The Confusions of Pleasure: Commerce and Culture in Ming China* (Berkeley: University of California Press, 1998).

If we compare the field of *bencao* at 1650 with a hundred years earlier, we see that while the average length of individual titles clearly shrank, the total number of available treatises soared, and the scope of the overall genre of *bencao* greatly expanded. At the same time, however, it becomes much more difficult to keep a consistent editorial agenda between editions, or even to ascertain authorship. The fragmentation of *bencao* as a genre did not please everyone. As early as Wang Lun published his abridged *bencao* in late fifteenth century, Zhao Jizong (Ch: 趙繼宗 fl. 1490-1528), an official frustrated in his career and medical autodidact, criticized Wang and others that it makes no sense to adulterate the sagely text of *bencao* with the contemporary author's "partial interpretations" (Ch: 偏說).¹⁰⁰ The volatility and diversity of late Ming *bencao* publishing constituted a critical context for a major intellectual intervention to the field of *materia medica* in the seventeenth century, which echoed Zhao's sentiment to trace back to a fundamental understanding of *bencao* as the Divine Farmer's classic. We shall see how that movement unfolds in the next chapter.

¹⁰⁰ Zhao Jizong, *Ruyi jingyao* [Essential Learnings of the Confucian Physician] (1528).

Chapter 2 Fathoming the Nature of Drugs: Rational Pharmacy and Its Discontents

Qian Qianyi (Ch: 錢謙益 1582-1664), one of the most influential literary figures in late Ming China, spent the last fifteen years of his life in his hometown, the county of Changshu (Ch: 常熟). Qian kept a bitter sense of shame for his surrender to the Manchu conquerors, rulers of the Qing dynasty who gradually consolidated their rule over China. The writings of Qian during this period often sank into reminiscence of the world and beloved ones he had lost, first during the brutal partisan politics of the late Ming, then in the turbulent wars raging in south China during the 1640s and 1650s. When a junior scholar asked Qian to write a preface for his new treatise on *materia medica*, Qian began the piece by recalling an old friend of his, a conversation that took place some forty years ago:¹

My friend Miao Zhongchun² once lamented: Most sagely books from the ancient times were burnt to ashes in the flames lit by the first emperor of the Qin Dynasty, except for the medical books of *Plain Questions* and *Materia medica*. The vermilion text of the classic of *Materia medica* was created by the Yellow Emperor and his minister Qibo, a fundamental text showing how ancient sages perceived the true circumstances of the world, emulated the dispositions of myriad things, and achieved the ultimate efficacy and variance [of the medical art]. Students of medicine today only use [such texts] for fixing decoctions and prescribing recipes. They scratch everything on the surface without delving into any depths. This book [of *materia medica*], has been augmented by the supplementary notes of other ancient authors, but corrupted by modern-day books such as the *Systematic Materia Medica* [*Bencao gangmu*]. Students know nothing of the original text except what they happened to see and hear, and thereby the learning of medicine is degraded day by day, while classical recipes went all

¹ Qian Qianyi, “Preface to *Bencao bacui* (Selected essence of *materia medica*)”, in *You xue ji, juan 15*. For Qian’s literary career, also see Stephen McDowell, *Qian Qianyi’s Reflections on Yellow Mountain: Traces of a Late-Ming Hatchet and Chisel* (Hong Kong: Hong Kong University Press, 2009).

² Zhongchun is the courtesy name (*zi*) of Miao Xiyong.

wrong. It is from here when the slaughtering of people with medicines commence!³

The man who made these remarks, Miao Xiyong (Ch: 繆希雍 1546-1627), was known by many of his acquaintances as an “eccentric gentleman” (Ch: 奇士) from Changshu, who gave up career in officialdom early on to pursue instead Buddhist learning and other esoteric arts.⁴ He cut a formidable figure with “electrifying eyes and tough beards”, behaving like a “flying paladin.” He befriended some of the most “virtuous and brave” figures of the day, and often discussed past and present-day politics at length with them. Miao was first and foremost remembered as a master of medicine, however, and especially in the subject of *bencao* (*materia medica*).

Miao’s strongly voiced criticism of *bencao* scholarship impressed his elite literati friends not just in conversation, but he also managed to put forward his thoughts into a 30-chapter treatise called *An Exegesis of the Divine Farmer’s Materia Medica Classic* (Ch: 神農本草經疏 hereafter *Exegesis*). As its title suggests, Miao endorsed an approach to pharmacological knowledge that goes back to the *Classic of Materia Medica*, a text attributed to the ancient sage-king Divine Farmer (Ch: 神農). By emphasizing the text’s pristine status as divine knowledge survived after man-made disasters over the millennium, Miao disapproved of additions and commentary made by later authors to the corpus, especially that of Li Shizhen’s *Bencao gangmu*. In his book as in personal exchanges, Miao argued that offering an abundance of unverified information would

³ Ibid., Qian also quoted this remark in an earlier essay written for the occasion of the publication of Miao Xiyong’s recipe collection in 1633. See Qian Qianyi, “Preface to *Bencao danfang* (Simple recipes in *Materia Medica*)”, in idem., *Chu xue ji*, *juan* 29.

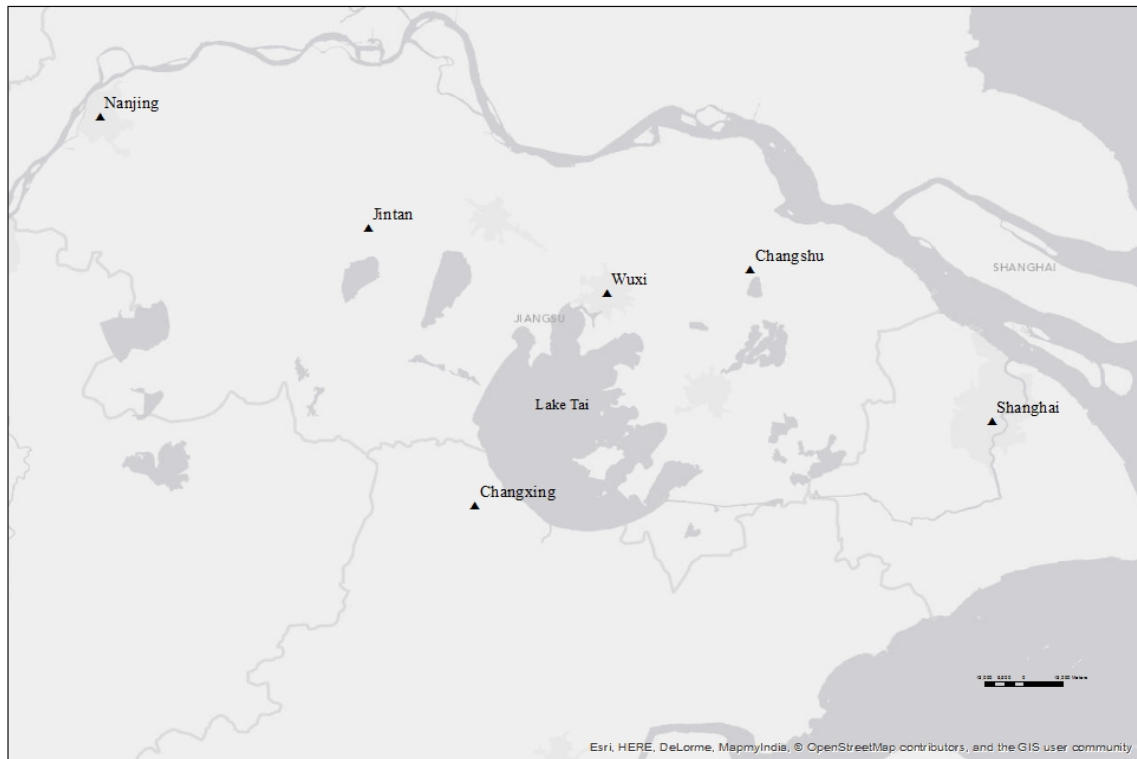
⁴ *Changshu xian zhi* [Gazetteer of Changshu County], Kangxi edition, *juan* 21, 43a. also *Zhaowen Xian zhi* (Yongzheng edition), *juan* 8, ‘solitary figures’ (Ch: 獨行), page 15a.

“trample and adulterate” (Ch: 趿驳) the original canon, resulting in bad practice and loss of lives.

From the very beginning, the *Exegesis* received mixed appraisals. As early as in the eighteenth century, some commentators went so far as to say that “the learning of *materia medica* dies along with *Exegesis of the Classic*,”⁵ whereas many others embraced his approach to *materia medica* in the next two hundred years. In this chapter, I seek to better understand the controversies sparked by Miao Xiyong’s *Exegesis*, using *bencao* scholarship as a case to reexamine critical shifts in natural philosophy and medical practice in 17th century China. I will first explain how and why *Exegesis* and other works made a palpable and lasting impact on the intellectual agenda of Chinese *bencao* scholarship since the early seventeenth century by locating the *bencao* authors’ common concerns with contemporary shifts in Confucian natural philosophy. I will then examine how the ascendance of this new type of *bencao* scholarship shaped interaction between doctors and laymen in medical practice, which in turn provided context to some of the most acerbic criticism of Miao Xiyong and his followers. Overall, I argue that pharmacological inquiries made in seventeenth-century *bencao* works constituted a major effort by Chinese intellectuals to seek a more intelligible and thorough understanding of the nature and uses of individual things. For those authors, the key to gaining such knowledge lay in a more rigorous and imaginative reading of texts. We begin first by locating Miao Xiyong and the immediate context for the composition of *Exegesis* in late Ming literati society.

⁵ This is a criticism that even the later editors of the *Siku quanshu* considered overly harsh. See editor’s introduction to *Exegesis* in the *Complete Four Treasuries* (*Si ku quan shu*).

Making *Exegesis*: Miao Xiyong and His Readers



Map 2 Place names associated with Miao Xiyong near the Lower Yangzi Delta

Miao Xiyong was not born into a family of medical practitioners. Rather, as a young child born to senior parents in a well-to-do family in Changshu, Miao became attracted to the esoteric arts very early on in life, and pursued his interest all his life relatively free from financial and familial constraints. He once studied Buddhist scripture with the legendary monk Purple Cypress (Ch: 紫柏), and followed the latter's itinerant journey to raise funds for building Buddhist temples. It was unclear when, and from whom, Miao learned to practice medicine, except that he probably became interested in drugs at first in order to treat his own illnesses. By the 1580s at the latest, when Miao would have been in his late thirties and forties, he was already known as a 'sojourning gentleman' (Ch: 寓公) practicing medicine in the Changxing (Ch: 長興) County of Huzhou Prefecture, across Lake Tai from his hometown Changshu (Map 2). Constantly traveling, seeing

patients, and visiting friends residing in the lower Yangzi Delta and beyond, Miao was very well acquainted with, and respected by some of the most renowned political figures of the day.⁶

Most of Miao's long-time friends were members of literati-official closely involved in activities of the Donglin Academy (Ch: 東林書院) in the nearby town of Wuxi. It has been noted that many elites of Donglin Academy respected Miao, a commoner with no examination degree, as a senior brother, and discussed with him a wide range of issues from coastal defense to local irrigation projects.⁷ The making of each of Miao's works relied heavily on private publishing resources available to him because of his unique social standing. In fact, one of the primary reasons why Miao Xiyong chose to reside in Changxing for over thirty years was likely due to his friendship with Ding Yuanjian (Ch: 丁元薦 1560-1625, *jinshi* 1586), a major figure of the Donglin Academy who stayed away from turbulent court politics in his hometown Changxing during the 1590s and 1600s. It was also through Ding Yuanjian's effort that Miao Xiyong's first medical cases and prescriptions came to be collected and published in 1613.⁸ Although the work has always been regarded as Miao Xiyong's work in medical histories, the book title, *Random Jottings from the Studio of the Early Awakened* (Ch: 先醒齋筆記), was derived from Ding Yuanjian's studio name. In the earliest printed

⁶ Qian Qianyi, "Preface to *Bencao bacui*", in *idem.*, *You xue ji*, *juan* 15. Also Qian Qianyi, "Preface to *Bencao danfang*", in *idem.*, *Chu xue ji*, *juan* 29. If Miao had been known for his medical skills for "almost forty years" when he died in 1625, then he would have begun practicing medicine in the late 1580s, a time when Ding Yuanjian returned home for mourning for the first time. Qian also mentioned that Miao began paying attention to medicinal drugs and collecting written pieces for "some fifty years", which suggests that his interest in *materia medica* might have originated in the 1570s at the latest. For Miao's involvement in a renovation project for a local temple, see *Changxing xian zhi* (Tongzhi edition), *juan* 15, page 6a.

⁷ Wang Yingkui, *Liu nan sui bi* (Casual jottings south to the willow tree), *juan* 6.

⁸ Ding Yuanjian's preface was dated to 1613.

edition, the voice of Ding dominated the entire text, and local gazetteers also attributed the work to Ding.⁹ The identity of Miao Xiyong the physician, as opposed to Ding Yuanjian the amateur patron, was by no means clear in the text itself. Miao Xiyong further edited the cases under the help of a junior friend and former-patient, Zhuang Lianzhi (Ch: 莊斂之 fl. 1620-1630s), and the new edition was published in 1622 as *Enlarged Notes on Medicine from the Studio of the Early Awakened* (Ch: 先醒齋廣筆記).¹⁰ It was also Zhuang Lianzhi and another junior friend, Kang Hong (Ch: 康宏), who edited Miao's collection of single recipes into a 19-juan volume, and persuaded a rich man in their hometown to fund the printing in 1633.¹¹

The way Miao Xiyong practiced medicine also struck contemporary observers as somewhat peculiar. He “would not bring a bag of medicine with him,” noted the local gazetteer of Changxing, but “just write prescriptions for patients, with incredibly accurate results.”¹² Moreover, “vulgar physicians” (Ch: 俗醫) often did not understand his prescription, for his way of practicing drug therapy was ‘simply different from them [the vulgar physicians].’ Ding Yuanjian praised Miao's willingness to learn from people in all walks of life, and to then share his recipes with others free of charge. Qian Qianyi

⁹ For instance, *Changxing xian zhi* (Tongzhi edition), juan 29, 34b.

¹⁰ Zhuang Lianzhi's younger brother was in charge of the enlarged edition's production. In this enlarged edition, Miao retained many first-person narratives in the first edition that clearly referred to Ding Yuanjian, yet included still more new cases narrated from the perspective of himself as “I”. The end product is a more comprehensive handbook on medicine and has been reprinted for numerous times since then.

¹¹ See Qian Qianyi's preface to the work, *Bencao danfang* (Simple recipes in *materia medica*). Yu Zhihou was a wealthy man in Zhuang's hometown, Jintan, who was known later for a scandalous episode of hoarding grains. See *Quanzhou fu zhi* (Qianlong edition), juan 50, page 50b-51a.

¹² *Changxing xian zhi* (Tongzhi edition), juan 31, 56ab

described the ways in which Miao would treat a patient in dramatic terms reminiscent of a Zen master's moment of inspiration:

He thinks deeply and observes attentively, as if deep in Zen meditation; now he closes his eyes and falls into hypnosis, and in the next moment he rises with full force, lifting his beard and rolling up sleeves, and proceeds to write a prescription and grab some medicines. He takes command and oversee things, and ideas just spring out from his [writing] fingers...¹³

Consistent with his demeanor as a loud and eloquent talker, a master in liquor brewery, in the geomancy of burial sites, and in military strategies, Miao Xiyong was remembered as an eccentric gentleman who resided among his fellow literati elites in the southeast, and shared their political agenda. His medicine, too, clearly reflected the intellectual and social concerns of his circle of friends.¹⁴

The *magnum opus* to which Miao Xiyong devoted the most care in preparation was no doubt the *Exegesis of the Classics*. Li Zhi (Ch: 李枝), an early disciple of Miao, later recalled how, for five years in Changxing, they compiled the draft of *Exegesis of the Classics*:

We went through the end of each entry to elucidate contents at the beginning, and found the right commentary coherent with the Classics; the supreme principles are thus rendered manifest. Each time when we worked out the principles of one drug, we laughed to each other, saying that even if Zhang Zhongjing and Master Cang [both famous physicians of the Han Dynasty] were resurrected to life today, they wouldn't be able to challenge us.¹⁵

The manuscript of *Exegesis of the Classics* was probably completed as early as in the 1610s with the help of Li Zhi. The manuscript was first handed for publication to Wu

¹³ Qian Qianyi, "Preface to *Bencao bacui*," The description is consistent with Ding Yuanjian's in his Preface to *Xianxingzhai biji*.

¹⁴ Miao reportedly spent a good share of his family income on making rice liquor, and taught his methods to his friends. See Qian Qianyi, *Chu xue ji*, *juan 4*.

¹⁵ Li Zhi, preface to *Xianxingzhai guang bi ji*.

Kangyu (Ch: 吳康虞), a publisher from Huizhou whose workshop was located in Nanjing.¹⁶ When the carving of woodblocks came into a halt, possibly due to financial difficulties, another publisher obtained an incomplete version of the manuscript, and soon produced an imprint of 12 *juan* in 1620 near the Huzhou Prefecture.¹⁷ Early in 1625, Mao Fengbao (Ch: 毛鳳苞), a grandnephew of Miao then in his mid-twenties, offered to publish a new edition of *Exegesis of the Classics*.¹⁸ Dissatisfied with the Huzhou edition's poor quality, Miao entrusted his own draft manuscript to Mao, who then assembled a group of young scholars and family friends to collate, proofread, and supervise the production of the book. A handsome volume, 30 *juan* in length, came out three months later at the home estate of Mao Fengbao, with a new foreword by Miao Xiyong himself (Figure 7).¹⁹

The Changshu edition of *Exegesis of the Classics* bear Mao's early studio name, Green Lord Pavillon (Ch: 綠君亭). Later on, Mao was to change his name into Mao Jin (Ch: 毛晉) and his studio name into "House of Inspiration from the Antiquity" (Ch: 汲古閣), and went on to become the most prolific and influential private publisher in the seventeenth century.²⁰ Very few studies of Mao Jin's career so far have taken notice of

¹⁶ Wu also used to socialize with Miao's monk master Zibo.

¹⁷ Gu Chengxian, "Note to Readers," 1625 edition of *Exegesis of the Classic*.

¹⁸ Mao Fengbao's father, a wealthy landowner named Mao Qing, was Miao Xiyong's nephew, and Miao once recommended him to the magistrate Yang Lian (1573-1625, martyr of Donglin Partisans) to help with local administration affairs. Mao Qing passed away in the summer of 1624, and it was possible that Miao returned to Changshu after hearing his nephew's death. See Qian Qianyi, "Epitaph for Mr. Mao," in idem., *Chu Xue Ji*, *juan* 61. Also Qian Dacheng, "Mao Zijin nianpu gao (Draft chronicles of Mao Zijin's life)."

¹⁹ Miao Xiyong, "Foreword for the publication of *Exegesis of Materia Medica*," 1625 edition of *Exegesis of the Classic*.

²⁰ Mao Jin pledged to his mother in 1628, that he would devote his whole life to the enterprise of book publishing. Aside from collating and reproducing the complete set of Confucian classics and dynastic

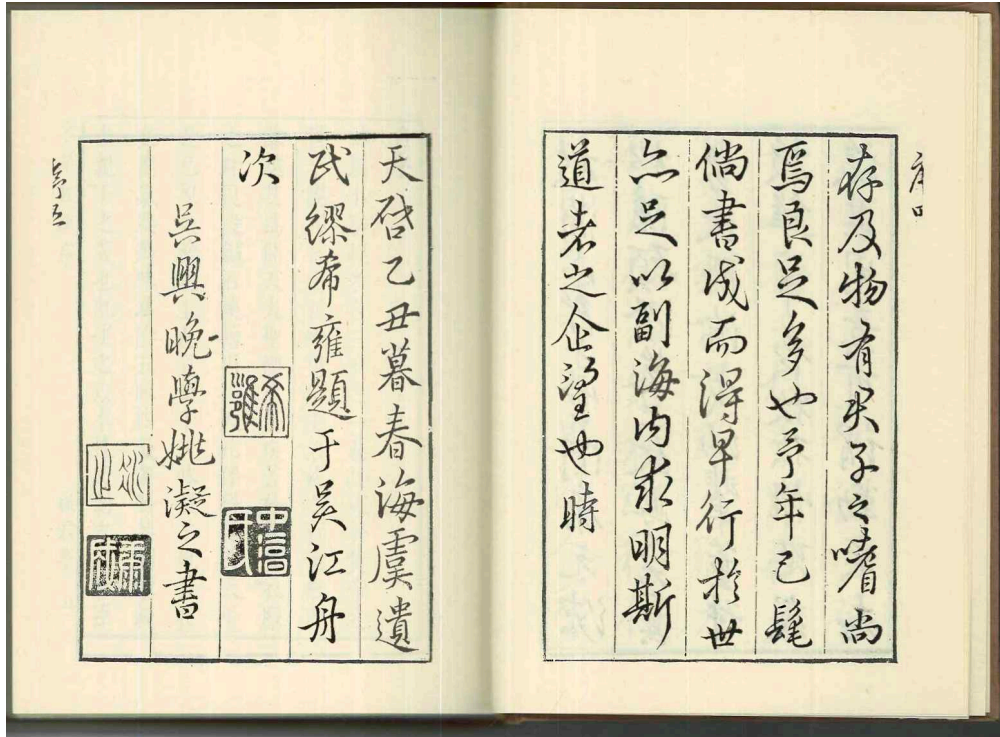


Figure 7 Page from *Exegesis of the Divine Farmer's Classic of Materia Medica* (Changshu, 1625; Reproduced in Taipei, Commercial Press, 1973, Book I)

the fledging editor and publisher's production of two works by Miao Xiyong, a close kin and senior friend: the Changshu edition of *Exegesis of the Classics*, and another treatise on the art of choosing burial sites composed after extensive travels to see the landscape all over the country.²¹ Mao Jin and a close-knit group of younger scholars, mostly connected by marital ties among the elite families of Changshu, saw it as their responsibility to edit and transmit Miao's work. In doing so, they ensured that Miao's

histories, Mao also collected and reproduced hundreds of rare titles. See Qian Dacheng, *Mao Zijin nianpu gao*. Also Ye Dehui, *Shulin qinghua*, juan 7.

²¹ The treatise on burial site is *Zang jing yi* (Auxiliary explanations to the Classics of Burial). I see a deep parallel between Miao Xiyong's intervention to the Classics of *Materia Medica* and the Classics of Burial, a topic I will treat elsewhere. See Ding Yuanjian and Miao's own prefaces in *Zang jing yi*. It seems that Mao Jin completed making the woodblocks for this text when his studio was still named Green Lord Pavillon, for the layout, page size, and signature of the two titles are virtually identical (Figure 6a and 6b). The burial treatise was then included in a later project that collected 14 sequential installments (over 200 titles) of "secret books". It was said that Miao left his mother with a friend in Changshu, and went on his own travels to the north. During this time, Miao's mother passed away at the friend's house.

proposals for the learning of *materia medica* would readily find a literate and learned readership.

In the summer of 1645, the Qing army occupied Changshu. Amidst the chaos of persecution and looting, dozens of local families took refuge in Mao Jin's estate, which Qing troops received orders not to attack. Mao continued to produce books until he died in 1659. At some point in the late 1640s, Mao wrote a poem commemorating the production of *Exegesis of the Classic* for more than twenty years. After carefully reviewing the glorious history of *materia medica* since the antiquity, Mao praised the Tang and Song courts for their extensive patronage of medicine. Jumping ahead several centuries, he then came to praise Miao Xiyong, the deceased master:

Piling up like mountains, the commentaries and books were unable to be read/
And Master Zhongchun [Miao's courtesy name] glared at this, deeply angered/
He spoke bluntly on the pros and cons [in the use of drugs], startling the guests/
And his teachings continued from the ancient sages, what a wonderful thought!/
He ordered me to cut the jujube wood, and carve it into a book/
Just as clouds dispersing from the sun's shines, the text radiates precious light...²²

Mao Jin's assertion, namely that *materia medica* writings in early seventeenth century were "piling up like mountains," echoed sentiments expressed by many who tried to adapt the received literature of *bencao* into more flexible and useful forms, as I have shown in Chapter 1. The palpable enthusiasm amongst Miao's elite advocates and acquaintances, however, pointed to differences from previous approaches that could not be explained solely by his social standing. We must delve further into specific claims of Miao in the *Exegesis*, and seek to understand how its agenda related to the larger intellectual trends in the early seventeenth century.

²² Mao Jin, *Ye wai shi* (Poems of the Countryside), page 4b-5a.

Miao Xiyong's Pharmacology I: *Bencao* and the Nature of Drugs

Advocating for Causal Explanation in Pharmacology

In his preface to *Exegesis*, Miao Xiyong maintained that the most fundamental problem for *bencao* learning was that they “talked about how this-is-so without saying why this-should-be-so”.²³ Lacking in causal explanation of *why* drugs work the way they do, the genre of *bencao* could never go beyond a confused mess of information. What he had to offer, by contrast, was to provide “direct access to the principles with which divine sages established these words,” and thereby improve the quality of therapeutics in the actual practice of medicine.²⁴

As the title suggests, the centerpiece of Miao's work is an exegetical (Ch: 疏) approach to the text of the *Classics of Materia Medica*. Miao's organization of content is indeed distinct from his predecessors: rather than quoting from other sources and organizing the pieces of information under topical sections, Miao included no list of reference, and instead emphasized his own thinking as explained in his own words. The only stand-alone quotations in the texts were those from the annotated version of *Classics*, followed by a section titled “Exegesis” that explains why the drug in question possessed such and such efficacy as indicated in the *Classics*.

²³ Miao Xiyong, “Author's Preface,” 1625 edition of *Exegesis of the Classic*.

²⁴ *Ibid.*, I translate *shu* (Ch. 疏) as “exegesis” when functioning as a noun, and “to interpret” when functioning as a verb. The etymology of *shu*, with the originally sense of “to dredge [the bed of a river],” connotes a similar sense of ongoing motion as “exegesis” (lead outward), which is absent in “interpret” (a go-between). I will discuss later why “exegesis” also echoes Miao's deliberate attempt of rendering *Classics of Materia Medica* as a sagely Scripture.

It is tempting to see the exegetical approach of Miao Xiyong as an early harbinger of the revival of classical scholarship and philology during the early Qing.²⁵ When we look closer at how he constructed his exegesis, however, he was nowhere near the mission of rescuing the ancient text itself from the muddled additions of posterity. The edition of *bencao* he worked with was probably one of the Ming editions of the 12th century *Zhenglei bencao*, a comprehensive reference that contained more than 1,400 drugs, from which Miao chose 490, a number that in fact far exceeded the original 365 kinds in the ancient canon. Also Miao did not see the classical text as the only trustworthy source of judgment, for he was vocal about learning from his contemporaries, including “woodcutters and village boys.” In other words, he was pursuing a larger idea of “classical teaching” in drug knowledge that was lost in later developments of *bencao* scholarship, rather than the retrieval of the *Classics* as an ancient text. We should not attribute to him anachronistically what he would not have thought of doing in the first place.²⁶

“Principles of the nature of drugs are all present in *bencao*.” Miao Xiyong made this remark at the very opening of his 1625 preface to the *Exegesis*. Our removal from ancient times rendered it harder for us to reach back to the “principles” (Ch: 道) of knowing drugs, and *Bencao* books had value only in so far as they served as vectors for

²⁵ Benjamin A. Elman, *From Philosophy to Philology: Intellectual and Social Aspects of Change in Late Imperial China* (Cambridge, MA: Harvard University Press, 1984).

²⁶ Late Ming authors did begin to reconstruct certain ancient medical classics in philological work. One example was Fang Youzhi (Ch: 方有執)’s reconstruction of *A Discourse on Cold Damage* (Ch: 傷寒論) by Zhang Zhongjing (Ch: 張仲景 fl. 2nd century CE). The popularity of Zhang Zhongjing’s therapeutics reached a high point in the 18th century. See Benjamin Elman, *On Their Own Terms*, 227-36. Lu Fu, a contemporary of Miao Xiyong, did seek to reconstruct the *Classics of Materia Medica*, but the work did not circulate very much and Lu’s main interest also lay elsewhere. I will discuss Lu Fu and his son Lu Zhiyi’s work on *materia medica* later in this chapter.

understanding the true nature of drugs.²⁷ The investigation into the nature of drugs, furthermore, consisted first and foremost in elucidating the fundamental genesis of all creatures. And so he began the introductory chapters of *Exegesis* with the following discussion:

When a thing is created, Heaven endorses it;
When a thing is completed, Earth supports it.
Heaven gives order, and is in charge of procreation,
thus Cold, Hot, Warm and Cool, the *qi* of four seasons circulates there;
this is *Yang*.
Earth condenses matter, and is in charge of substantiation,
thus Sour, Bitter, Pungent, Salty, Sweet and Balanced, the taste of Five
Phases nourishes there;
this is *Yin*.²⁸

In neat dyads of heaven and earth, air and soil, as well as ethereal and tangible matters, the genesis of beings in the macrocosm came to be analyzed and explicated. Furthermore, the heavenly season and earthly composition at the time of an organism's birth dictated its *qi* (Ch: 氣 or Thermogeneration) and taste (Ch: 味), two primary qualities to be considered in the context of pharmacological investigation.²⁹ Indeed, Miao reaffirmed that

When a thing has taste, then it must have *qi*, and possesses a certain nature.
This is simply the Way of *ziran* (Ch: 自然之道 lit. What-it-becomes-by-itself.)³⁰

²⁷ Miao Xiyong, Foreword to 1625 edition of *Exegesis of the Classic*.

²⁸ Miao Xiyong, *Exegesis of the Classics*, *juan* 1. Note that the introductory chapters of *Exegesis* departed and revised significantly the two-part “Prefatory Matters” (Xuli) of Tao Hongjing’s *Shennong bencaojing jizhu* (Collected Commentary on the Divine Farmer’s Canon of Materia Medica, 6th century). Instead, Miao dubbed his own introductory chapters a ‘sequel Preface’ (xu xuli), which began with a set of essays on pharmacology, followed by an index of drugs arranged by their clinical uses.

²⁹ I use a broad definition of “organism” to include plants, animals, and minerals, a conception of living beings also shared by contemporary European naturalists.

³⁰ Miao Xiyong, *Exegesis of the Classics*, *juan* 1.

Investigation into the nature of drugs thus carried weight beyond the immediate concerns of healing. For Miao and the readers he intended to reach, the study of drugs was part-and-parcel of an effort to understand the nature of things, and from there, to reflect on the principles of natural philosophy.

The dual designation of *qi* and taste as primary qualities of pharmacology was not new to Miao Xiyong. During the Jin-Yuan period (13th-14th centuries), a small group of physicians, known later as “the Four Great Physicians of the Jin-Yuan period,” attempted to reconcile empirical drug therapy with the *Inner Canon*’s cosmological formulation. Ulrike Unschuld analyzed the basic scheme presented in Wang Haogu (Ch: 王好古)’s *Materia medica Decoctions* (Ch: 湯液本草), which set up four³¹ basic categories of drugs derived from matching two basic types of *qi* (cold/hot) and two basic groups of tastes, as shown in Table 1:³²

	Yang qi (hot, warm)	Yin qi (cool, cold)
Yang taste (pungent, sweet)	mature yang	immature yin
Yin taste (sour, bitter, salty)	immature yang	mature yin

Table 1 Jin-Yuan classification of basic drug qualities

Ulrike Unschuld observed that the perfect symmetry required by the metaphysical speculations served as too weak a bridge to truly render practice coherent with theory.³³

³¹ Some versions of the scheme provided five, instead of four, basic groups of drugs, if the four cardinal directions is added by a fifth “middle” position.

³² Table made in reference to Table 1 in Ulrike Unschuld, “Traditional Chinese Pharmacology: An Analysis of its Development in the Thirteenth Century,” *Isis* 68.2 (June 1977), 224-248. On page 229, She discussed the transition from the earlier “abstract pharmacology” (providing instructions without explanation) to “applied pharmacology” during the Jin-Yuan period.

³³ Unschuld’s term for pre-Jin/Yuan pharmacology was “abstract pharmacology.” Wang Haogu’s text did little to apply his theoretical constructs in the elucidation of each drug.

Furthermore, she saw no major “further conceptual development” in this area since the 14th century in the literature of *bencao*.³⁴ My reading of Miao Xiyong and other 17th century *bencao* works, however, suggests a longer arch of development from the Jin-Yuan period. Building on the early authors’ effort to create a rational system of pharmacology, Miao Xiyong and others sought to improve the system by elucidating the modes of action for each individual substance. The shift in emphasis from generalization toward particular creatures, however, could only take place in a favorable intellectual context, one that hinged on a larger set of changes in the Neo-Confucian understanding of nature (Ch: 性) during the last century of the Ming dynasty.

Double Nature: Drugs in Neo-Confucian Philosophy

Medicinal drugs constituted a common subject of discussion between Zhu Xi (Ch: 朱熹 1130-1200) and his students. During Zhu’s long career as a master teacher and major proponent of Neo-Confucianism, he and others strove to illuminate a path towards the pursuit of *li* (Ch: 理), a concept that has been translated as “principle,” “reason,” and “coherence” of all worldly phenomena. Once “at one” with the universal principles of the world, the Confucian student would be firmly grounded to conduct him/herself morally and take up responsibility for the betterment of human society as a whole.³⁵ Zhu

³⁴ Ulrike Unschuld, “Traditional Chinese Pharmacology,” 244-5.

³⁵ Willard Peterson, “Another Look at *Li*,” *Bulletin of Sung and Yuan Studies* 18 (1986), pp. 13-31. Peter K. Bol, *Neo-Confucianism in History* (Cambridge, MA: Harvard University Press, 2008), esp. 200-2. The revival of cosmology and science during the Northern Song dynasty supplied rich resources for Neo-Confucian philosophers in their explanation of *li*, yet at the same time posed challenges for them to distinguish themselves from magicians, diviners, and Daoist/Buddhist religious groups. For a basic survey of cosmological thought during the Song, Yuan and Ming, see John B. Henderson, *The Development and Decline of Chinese Cosmology* (New York: Columbia University Press, 1984).

Xi's extensive commentary and interpretation of the Confucian classics shaped generations of scholars as the sanctioned state ideology in the subsequent Yuan, Ming and Qing dynasties. There can be no meaningful talk of individual access of *li*, however, without confronting the question of human nature (*xing*).³⁶ The question of human nature (*xing*) therefore constituted a crucial subject of debate for Zhu and his interlocutors.³⁷

At one point in Zhu's late career, he received a letter from a student named Xu Zirong (Ch: 徐子融), who posed the following question:

[You taught us that] Inert and withered materials also possess nature and *qi*. Now, [we know that] aconite is hot, and rhubarb is cold. Is this "nature" of *qi* and matter?

Upon reading the letter, another student, Chen Caiqing (Ch: 陳才卿), commented that the hotness of aconite and coldness of rhubarb were not material, but heavenly-endowed Nature. Zhu Xi agreed with Chen's judgment, and said:

Zirong thought that Nature is sensations (hot and cold), and thus considered it [drug qualities] the nature of *qi* and matter. But having a Nature is *li*. However, since the endowment of *qi* is only so much in drugs, it also had very limited *li*.³⁸

³⁶ I translate *xing* as Nature in this chapter aware of the risk of conflating *xing* with many very different meanings of the word *nature* in the Western context. My translation is based on the Aristotelian "nature" as innate/endowed quality of things.

³⁷ For over seventy years after the death of Zhu Xi in 1200, his disciples in different regions began to collect fragments of Zhu's dictums, and disseminated the text in print. The authoritative version of *Classified Conversations of Master Zhu*, finalized in 1270, classified his dictums under headings of different subject matter. The section on nature (*xing*) and *li* came to the very forefront of the book, right after the opening discourses over cosmological origins and existence of divine and ghostly beings. Following the section on Nature and *li* were discussions of general learning, comments on Confucian classics, sagely figures overtime, and criticism of heterodox. The book ended with Zhu's involvement in government and contemporary policy, and his miscellaneous remarks on literary composition. Huang Shiyi, "Preface," *Zhuzi yulei*, 1219.

³⁸ *Zhuzi yulei*. *juan* 4, "Xing-Li I"

Why was it important for Zhu and his students to distinguish a “*qi* and material nature” apart from an “originally endowed nature?” And why did medicines become suitable object of discussion in this situation?

Taking up a proposal made by Mencius regarding the intrinsic goodness of humans, Zhu Xi sought to affirm that each individual possess a common set of qualities that endowed them with the capability of becoming and acting as a moral agent.³⁹ Furthermore, Zhu based the moral nature of humans on the omnipresence of *li*, transcendental, perfect, and timeless principles of the world. This is what he meant by the “heavenly-endowed nature.” The material nature of existence, however, posed a host of problems, for anything material is subject to decay, change, and corruption: it was thus the nature of *qi* and matters that brought about distracting and destructive tendencies, blocking one’s progress toward sagehood.

In the great hierarchy of beings in Zhu Xi’s philosophical system, sages, the most enlightened creatures, possess a nature that is purest and most complete of all; then come the masses of human society, who might be slightly inferior in their material nature, but due to their innate goodness can still aspire to sagehood. The brightest of animals sometimes show moral behaviors like human, followed by the less intelligent kinds, such as lower animals, plants, rocks and metals. Zhu Xi further explained the bipartite nature of things in the metaphor of water and sunlight: *li*, like water and sunlight, is the same everywhere. In local circumstances, however, one gets different amount of water and sunlight depending on the kind of vessel used to hold water, and the extent to which shadow from the roof dim the sun. The material nature of *qi* and matter thus delimits the

³⁹ Mencius (c.372-289BC) considered the basis of moral action in each human being could be characterized as the “four sprouts” of benevolence, righteousness, humility, and intelligence. See *Mencius* 2.4.

endowed capacity of each individual being, and prevents non-human beings from achieving the same moral and intellectual faculties as human.⁴⁰

It is in this Neo-Confucian framework that we must understand Zhu Xi's peculiar definition of the nature of drugs. However closely one might look at the cut roots, asserted Zhu Xi, there could be no material basis that caused the sensation of warming and cooling. It is also appropriate for the moral necessities of *li*, that such drugs should exist for the purpose of curing human ailments: the acute sensations brought by potent drugs (as epitomized by aconite and rhubarb) should not be understood solely in terms of material qualities, but indications of the existence of a moral order.⁴¹

Although Zhu expressed no special interest in the art of medicine, his reference to the warming and cooling nature of drugs did correspond to growing contemporary interest in drug therapy.⁴² Texts that purported to teach the essential "nature of drugs" appeared in print increasingly since the thirteenth century. The Southern Song and Yuan state's proactive stance in the realm of medical administration stimulated the circulation of medical primers, intended primarily for physicians to qualify written examinations into local and central medical academies. After the subsequent Ming state ceased to conduct such exams in the fifteenth century, large numbers of primer texts, rhymed verses and

⁴⁰ For a comprehensive survey of Zhu Xi's concepts of *li*, *qi* and the specific qualities of matter (Yin-Yang and the Five Phases), see Yung Sik Kim, *The Natural Philosophy of Chu Hsi (1130-1200)* (Philadelphia: American Philosophical Society), 19-69.

⁴¹ *Ibid.* Zhu was once ambivalent about whether inert matters also have nature.

⁴² Previous analysis of Zhu Xi's "natural philosophy" has been overly influenced by a modern assumption of what "nature" is, and sought to reconstruct a coherent program of "scientific" thought by patching together Zhu Xi's isolated comments on matters of "natural science." This approach risks losing sight of the specific conditions under which pieces of specialist knowledge served to illustrate general philosophical speculations. Rather than speculating over Zhu Xi's opinion of medicine as a "lesser arts," it is more productive to see drugs as possessing a crucial place in Zhu Xi's philosophy of Nature, or the innate tendency of human and things, in the full Aristotelian sense of the term. Yung Sik Kim, *The Natural Philosophy of Chu Hsi (1300-1200)*, 230-3, 276-8.

other mnemonic aids on the “Nature of Drugs” continued to be produced and transmitted among practitioners. The *Rhymes on the nature of drugs*, for instance, was one of the most popular rendition that summarized over 300 kinds of common drugs’ main indication in symmetrical couplets, and divided them into four primary types: cold, hot, warm, and neutral. Angela Leung’s work has revealed the importance of such texts in the continuous transmission of medical practice well into the twentieth century.⁴³ My interest here is to see how such popular “Nature of Drug” texts co-evolved with the more learned and complex scholarship in *bencao* during the sixteenth and seventeenth centuries.

I argue that the term “Nature of Drug” (Ch: 藥性) played a critical role in connecting vernacular and scholarly pursuits of pharmacology into one confluence of discourse during the Ming. On the one hand, the proliferation of “Nature of Drug” primers familiarized a sizeable portion of the literate population with the names, indications, and uses of medical substances; on the other hand, Neo-Confucian teachings over the nature of human and things opened up possibilities for learned scholars to engage in discussions over pharmacology as a worthy intellectual pursuit. In the next section, I will show how efforts to undermine Zhu Xi’s bipartite formulation over nature (*xing*) facilitated a fresh look at the *bencao* literature by Miao Xiyong and others.

From Cosmological System to Study of Particulars

⁴³ Angela Ki-Che Leung, “Medical Instruction and Popularization in Ming Qing China,” *Late Imperial China* 24.1 (2003): 130-152.

The Jin-Yuan physicians organized their pharmacological theory around a key term: Mimetic Imagery (Ch: 法象).⁴⁴ The printed version of *Tangye bencao* during the fourteenth and fifteenth century almost always represent the idea in the form of a diagram, in which a homogeneous space was divided up by five circles, representing the four cardinal directions and the “center.”⁴⁵



Figure 8 Jin-Yuan pharmacological theory: Mimetic Imagery⁴⁶

⁴⁴ I will discuss my translation of *faxiang* later. Ulrike Unschuld’s translation was “regularities and manifestations.” See Unschuld, 231.

⁴⁵ The text *Tangye bencao* during the Yuan and Ming has always been transmitted as one out of ten treatises attributed to Wang’s master, Li Gao (1180-1251).

⁴⁶ This version of the image is from the Wanli edition of *Gujin yitong zhengmo quanshu* (Complete book of the medical orthodox, present and past).

According to the diagram, each circle stood for a particular phase in the cosmic cycle of reproduction that roughly matched the four seasons of a year, which in turn corresponded to a pathogenic factor and a specific type of pharmacological action (Table 2):

Season	Spring	Summer	Long Summer ⁴⁷	Autumn	Winter
Phase in cosmic cycle	Birth	Growth	Completion	Harvest	Storage
Pathogenic Factor	Wind	Heat	Moist	Dryness	Cold
Pharmacological action	Rising	Floating	Transforming	Descending	Sinking
Representative drug	ephedra (<i>mahuang</i>)	aconite (<i>fuzi</i>)		<i>fuling</i>	Rhubarb

Table 2 Correspondence of cosmic cycle and pharmacological property in Jin-Yuan medicine

The idea of “mimetic imagery,” therefore, only established five *prototypes* of drugs as derived from the cosmology of correspondence. The Jin-Yuan authors did not take the further trouble to map the numerous particular drugs onto the cosmological scheme – picking one representative drug sufficed to validate the soundness of the system. In a similar way, the popular primer *Yaoxing fu* also applied cosmology to the extent of dividing over three hundred drugs into four general categories of cold, hot, warm, and flat, without any elaboration over why each drug should be classified as such. The specific decision of applying a particular drug in certain conditions was still left to the deliberation of expert practitioners.

Medicine, perhaps more so than other “minor arts,” has received special attention since ancient times on account of its ethical importance for a good Confucian son and

⁴⁷ The task of matching Five Phases to the Four seasons necessitated the addition of “Long Summer” in medical classics such as *Suwen*.

loyal subject of the state.⁴⁸ Zhu Xi's proposal that one should achieve higher understanding of the moral order by the "investigation of things" (Ch: 格物) further encouraged Confucian scholars to elevate the learning of *materia medica* above general erudition of miscellaneous things. The advent of Mimetic imagery emerged at the same time when figures such as Zhu Zhenheng (1281-1358) and his followers were trying to transform medicine into a learned inquiry after the Neo-Confucian fashion. While historians today have paid much attention to Zhu's learned take on human physiology and therapeutic interventions, Confucian literati's attitude toward the field of *materia medica* also underwent profound transformation since the fourteenth century.⁴⁹ Importantly, as we shall see, it was the learned readers' rising interest in pharmacology that brought about a further round of rationalizing impulses in *bencao* literature in the seventeenth century.

One direction in which Ming Confucian scholars went beyond their Jin-Yuan predecessors was to further disparage plain empirical knowledge in drug therapy. As early as in the fourteenth century, physicians and scholars began to question the validity of empirical knowledge as foundation of drug therapeutics, and highlighted the importance of philosophical understanding. Wang Lü (Ch: 王履 1332-?), a renowned landscape painter also learned in medicine, questioned the foundational myth of the Divine Farmer as the discoverer of the first medicinal herbs. Such a story cannot be true, reasoned Wang, that a sagely figure like Divine Farmer should risk his own life to chew

⁴⁸ As early as in the preface to *Shanghan lun* (2nd century CE), Zhang Zhongjing proposed that learning medicine could help "heal the diseases of one's lord and parents."

⁴⁹ Charlotte Furth, "The Physician As Philosopher of the Way: Zhu Zhenheng (1282-1358)," *Harvard Journal of Asiatic Studies* 66.2 (2006): 423-459.

on every edible thing he encountered in the field. Even granted that the sage might be courageous, how could tasting alone tell him other aspects of its nature, such as the site of pharmacological action and appropriate combination with other drugs? Wang came to the conclusion that the Divine Farmer's discovery of drugs and poisons must be a fable rather than a truthful account of what really happened.⁵⁰

Late sixteenth century authors and readers of *bencao* likewise doubted the value of sensual knowledge by interpreting the Divine Farmer's myth otherwise. In doing so, the *Book of Changes (I Ching)* became a crucial source of inspiration.⁵¹ Dong Qichang, one of the most influential figures in 16th century officialdom and art connoisseur scene, also asserted that the Divine Farmer must not have tasted the herbs literally with his tongue, but must have divined their uses by contemplating the creatures with a set of eight *images* (Ch: 八象) of the world:

The Way (*dao*) is no grander than the Book of Changes. Apply it near to your body, then you have *Suwen* (the Yellow Emperor's Inner Canon); apply it far to the myriad things, then you have *bencao*. I therefore know for sure that the Farmer's divinity must lie in his tasting of the drugs via the Eight Images (of the *I Ching*).⁵²

The passage was quoted from Dong Qichang's preface to the 1604 edition of *Bencao gangmu*. While the *Bencao gangmu* itself boasted little metaphysical ambition, Dong

⁵⁰ Wang Lü, *Su Hui Ji*. For Wang Lü's life and his art, see Kathlyn Maureen Liscomb, *Learning from Mount Hua: a Chinese physician's illustrated travel record and painting theory* (Cambridge, UK: Cambridge University Press, 1993). Relationship between his painting and medical (science): pp. 85-92. First of all, isn't a sage someone whose perception goes beyond ordinary senses? Secondly, Wang argued, even if Shen Nung must taste the herb before knowing its properties for sure, how did he come to know its uses, if he did not experience every single disease as well? Lastly, some substances were too profane for a sage to put in his mouth.

⁵¹ For a survey of the *I Ching* in history, see Richard Smith, *I Ching: a Biography* (Princeton: Princeton University Press, 2012). Also idem., *Fathoming the cosmos and ordering the world: the Yijing (I ching, or classic of changes) and its evolution in China* (University of Virginia Press, 2008).

⁵² Dong Qichang, preface to the 1604 edition of *Bencao gangmu*. See idem, *Rongtai ji, juan 5*.

tried to elevate it to a higher social status by suggesting that if the Divine Farmer could know the nature of drugs without tasting them, the enlightened gentlemen may as well be able to do so by reading this book in hand. While the idea remains akin to Zhu Xi's division between transcendental imagery (*xiang*) and imperfect materiality (*qizhi*), Dong and others nevertheless cleared the way at least rhetorically, to establish the study of drugs as an important venue for the Confucian pursuit of the Way.

Study of Drugs and the Philosophy of Mind

Besides elaboration of more sophisticated cosmological frameworks, the study of drugs, as prototypes of non-human things, also gained in currency during the Ming due to an intensified concern over the wellbeing of oneself. I have discussed in Chapter 1 how dietetics and *materia medica* knowledge appealed to late Ming literati as an important resource for the preservation of life. The distinction between concerns for human affairs and non-human things was furthermore undermined at a metaphysical level.

The late fifteenth and sixteenth century witnessed the ascendance of Wang Yangming (Ch: 王陽明 1472-1529)'s Philosophy of the Heart and Mind (Ch: 心學), a school of thought and practice derived from Neo-Confucianism that appealed especially to the potential of self-cultivation. The main doctrines of Wang advocated an anthropocentric view of the world, asserting that no things existed external to the observer's mind.⁵³ While the school has often been held as going against Zhu Xi's interpretation of the investigation of things, many followers of Wang Yangming in fact

⁵³ See William Theodore de Bary, *Neo-Confucian Orthodoxy and the Learning of the Mind-and-Heart* (Columbia University Press, 1981).

showed no antipathy toward the learning of *materia medica*, but saw the discussion over things as essential aid to the wellbeing of oneself.

Deng Yuanxi (Ch: 鄧元錫 1529-1593) once studied with a former disciple of Wang Yangming. In his own writings, Deng emphasized the continued importance of erudition when intuition and revelation carried the day. For Deng, a good Confucian scholar must not overlook the importance of the study of Things, aside from contemplating over his own mind. To drive this point home, Deng compiled a voluminous anthology of past knowledge entitled *History in a Casket* (Ch: 函史), and carefully ordered its content in fifty chapters. Beginning with miscellaneous facts about the Confucian Classics, Deng then proceeded to document institutional changes in history, then record noteworthy deeds of the past, and ended the entire book with a section on “the Nature of Things” (Ch: 物性). In defense to his choice, Deng wrote:

If we are stuck with forms, then Things are Things, and I am but myself...
If we try to achieve understanding of *li*, then what concerns of me does not also concerns the Things, and vice versa? It is impossible to alienate myself from the Things even if I wish to do so.⁵⁴

Quoting extensively from *materia medica* and pharmaceutical texts, Deng considered the subject of medicinal drugs as a manifestation of the heavenly principles. “Behold the medicines,” exclaimed Deng at the end of his anthology, “does it not show the heavenly Way as the most refined, diverse, and divine!”⁵⁵

The finely illustrated first edition of *Fathoming the Origins of Materia Medica*, as I have shown in Chapter 1, was accompanied by a preface by the author’s mentor, Luo Wenying, in 1612. As a high official serving the Ming court in Beijing, Luo expressed

⁵⁴ Deng Yuanxi, *Han shi*, *juan* 80.

⁵⁵ *Ibid.*

reserved approval of his former student, again by breaking down the opposition of self and things:

If one sees Things as Things, how can they have anything to do with myself? If one sees Things as Images, however, even a piece of root, a leaf, a flying [bird], a wandering [beast], a swimming [fish], the silent coagulations and dim immanence of forms---what else could they be, if not the miscellaneous mimetic imagery of *my own Nature* [emphasis added]?⁵⁶

Although his argument hinged on the term of “mimetic imagery,” Luo differed from the Jin-Yuan physicians in seeing the material form of drugs not as imagery of a larger cosmic order, but emanating from the observer’s own changeable nature. To contemplate the ‘silent coagulations and dim immanence of forms’ is thus equivalent to appreciating the “refined, diverse, and divine” manifestations of the Way. For Philosophers of the Mind, while nothing could be said to exist external to the observer, neither should anything fall entirely outside of his or her scope of attention. Paradoxically, interest toward things intensified as a result of the popularity of Philosophy of the Heart and Mind, a school of thought usually seen as the enemy of empirical learning.

Finally, the distinction upheld by Zhu Xi and others between a perfect Heavenly-endowed Nature and a corruptible Nature of *qi* and matter seemed increasingly untenable for many during the sixteenth century. No one made the plea for *qi* and matter more eloquently than Lü Kun (Ch: 呂坤 1536-1618), an influential statesman and author of multiple popular philosophical treatises. In *Groaning Discourse* (Ch: 呻吟語), one of his best-known works, Lü meditated on Zhu Xi’s bipartite definition of nature with significant modification:

⁵⁶ Luo Wenying, preface to *Bencao yuanshi* (1612).

Nature, is a general term for *li* and *qi*. There is no part of *li* that is not good, and there is not a kind of *qi* that is all purely good. Those who say that Nature is good spoke on *li*, and those who say that Nature is malevolent or a mixture of good and back, they spoke on *qi*.⁵⁷

In this statement, Lü reiterated Zhu Xi's distinction between the perfect principles of heaven and the imperfect material configurations that one encounters day by day. For Lü, however, the perfect and imperfect were *both* aspects of nature (*xing*), and could not be severed from each other:

In fact, the world is but one bloc of *qi*. *Li* is immanent in *qi*, giving form to the myriad things, and only then we have Nature. ... All creatures in this world, large and small, animal and plants, they are all molded with *qi* from Heaven and matter from Earth, and they will eventually all return [to Heaven and Earth] without leaving a trace. ... Whereas Master Zhu [Xi] said: "What we call Heaven, it is *li*." I say: "What we call *li*, it is Heaven."⁵⁸

For Lü, heaven was not a transcendent entity that imposed a perfect order on the world. Instead, heaven and earth serve as the material source of all beings, and the principle (*li*) is immanent in the *qi* and matter that constituted all creatures. There is thus no point in seeking for a transcendent *li* outside of material beings. The common notion that materiality constituted a lower order of existence, thus unworthy of attention by philosophers of the Way, underwent intense criticism by scholars like Lü Kun and others at the turn of the seventeenth century.⁵⁹

Lü Kun's notion that all creatures from human to rock derived their existence from "qi and matter" bears strong resemblance to pharmacological theories in medical works since the fourteenth century. Yang Dongming (Ch: 楊東明 1547-1624), another notable

⁵⁷ Lü Kun, "On Nature and Fate," *Shen yin yu*.

⁵⁸ Ibid.

⁵⁹ See Irene Bloom, *Knowledge painfully acquired: the K'un-chih chi* (New York: Columbia University Press, 1987).

statesman and philosopher of the Mind, also used medicinal drugs as a convenient example to illustrate his understanding of nature (*xing*):

Wang Yangming said: “*Qi* is essentially *li*.” By saying that *qi* is *li*, it is like saying the sweetness of honey, the pungency of pepper, and the bitterness of *Berberis* (*bo*): such are their nature in themselves, and there is no other nature separate from that.⁶⁰

In contrast to Zhu Xi, who sought to separate the existence of *li* away from the immediate bodily sensations brought by medications, Yang Dongming asserted that the nature of drugs, or things in general, could not be found elsewhere except in the savoring of such sensations. A philosopher’s take on pharmacology thus should not stop with mere enumeration of the virtues of drugs, but to strive toward a coherent understanding of how each drug grew to be what it was, and why it was capable of bringing about particular bodily changes to the person who took it.

We can now look back at what Miao Xiyong tried to do in his *Exegesis*, and understand his proposal to reform *bencao* scholarship by highlighting *causal* explanations of pharmacological efficacy. In a sense, the unfolding of Neo-Confucian natural philosophy during the sixteenth and early seventeenth century already anticipated a turn away from building cosmological systems, and instead towards an inquiry of *qi* and matter as the only basis of understanding particular drugs. For his contemporary readers, the most appealing proposal of Miao Xiyong’s *Exegesis* thus lay not necessarily in recovery of the ancient Classics *per se*, but in the prospect that it is indeed possible to get a deeper understanding of *li* via a careful investigation into the material properties of

⁶⁰ Yang Dongming, *Shanju gongke*, *juan* 6 and 8. Yang originally came from the same town as Lü and the two statesmen became relatives by their children’s marriage.

individual drugs.⁶¹ As for how Miao himself and others carried out their inquiries, we must take a closer look at the main body of *Exegesis* and other seventeenth-century *bencao* texts.

Miao Xiyong's Pharmacology II: Telling Differences

From Imagery to Material Genesis: The Practice of Exegesis

Miao Xiyong was aware that he committed himself to a dauntingly difficult task. For

Drugs have five tastes, and contain four kinds of *qi*. The nature of drugs is rendered complete owing to *qi* and taste. Taking everything into account, the range of possible differences (Ch: 差別) is immense.⁶²

The quest to understand differences resonated with an influential statement made by Luo Qinchun (Ch: 羅欽順 1465-1547), namely, that although the *li* immanent in all things stays the same, each creature got a different share of it (Ch: 理一分殊).⁶³ Among the hundreds and thousands of simple drugs, many were said to have similar composition of *qi* and taste, noted Miao. And yet they possess utterly different uses in medicine. How and why this should be the case could hardly be explained entirely by words. However, one could still strive to think deeply and intently over the hints provided in previous *bencao* works, for what was said in the Classics were also words open to interpretation of meanings.⁶⁴

⁶¹ A similar proposal of explicating pharmacological effects could be found in Li Zhongzi, *Yaoping jie* (Explicating the Nature of Drugs), published first in 1622.

⁶² Miao Xiyong, "On Differences in the Nature of Drugs (*Yaoping chabie lun*)." in *Shennong bencaojing shu*, *juan* 1.

⁶³ Irene Bloom, *Knowledge Painfully Acquired*.

⁶⁴ Miao Xiyong, Preface to the first edition of *Exegesis*.

Another source of information came from the tested and effective cures already in use. For each drug, Miao collected previous treatments in a section titled “Reference for main indications” (Ch: 主治參互), critically selected from past *bencao* and medical cases, to illustrate what the *Classics* indicated as the drug’s proper range of application. Once all therapeutic claims made in the *Classics* were satisfactorily explained by the basic qualities of the drug and corroborated by past clinical reports, Miao felt that he did what he could to “exhaust all virtues of the drug (Ch: 盡其長).”⁶⁵

I use rhubarb as my first example of Miao Xiyong’s exegetical practice. He first quoted the original entry on rhubarb in the *Divine Farmer’s Classics*:

Rhubarb (Ch: 大黃). Taste: bitter. (Qi:) Cold. Exceedingly Cold. Not Poisonous.
Main indications (*zhu*): Purge congested blood [1].
Stopped blood flow and fever [2].
Break abdominal bumps and stagnated liquid and food in bowels [3].
Raids and cleanses stomach and bowels [4].
To purge the old and to generate the new, and to facilitate passage of water and grains [5].
Mediates the inner body, facilitates digestion, harmonizes the Five Organs [6].

The 5th century expanded version then added some additional uses of rhubarb:

“Pacifies the stomach and brings the *qi* down [7].
Gets rid of phlegm (*tan*), congested heat amongst the bowels [8].
swelling and fullness in chest and abdomen [9].
Treats women’s obstructed menses, swelling lower abdomen, and misc. stagnation of stale blood [10].”⁶⁶

Early authors of *bencao* saw little to no need to explain *why* rhubarb should be such a good purgative. Jin-Yuan physicians considered rhubarb as the archetypical “bitter and cold” drug in their system of “mimetic imagery,” embodying of the ultimate *Yin*

⁶⁵ Ibid.

⁶⁶ Miao Xiyong, *Exegesis*, juan 10.

tendency of the world. Since bitter is a *yin* taste and cold a *yin* kind of *qi*, rhubarb is expected to sink downwards once ingested into the body (hence it purges).⁶⁷

Miao Xiyong took rhubarb not as an illustration of cosmological symmetry, but as creature of a particular set of seasonal (heavenly) and earthly conditions. Hence he opened his *exegesis* by asserting that rhubarb

... is born out of especially generous endowment of the earthly *yin* and a deep influence of the heavenly cold spirit. Therefore, its taste is very bitter and its *qi* is very cold.

Miao often likened the evaluation over a drug's qualities to that of people: a physician must know his drugs as much as a commander-in-chief knows his soldiers. His model for the study of individual drugs thus bore strong resemblance to that of a fortune-teller who judged people by their physiognomy, or, as Qian Qianyi put it in more euphemistic terms, that of a statesman or historian, who gave authoritative evaluations for the merits and demerits of a person. Miao also complained how drugs were more difficult to work with than humans, for the former would never speak out their mind as the latter.⁶⁸

When making the critical leap from primary qualities of a drug to its pharmacological effects, Miao tried to minimize the steps of inference from one realm of cosmic correspondence to another. He also sought to explain that among all the possible uses of rhubarb indicated in the text ([1]-[10]), some were primary sites of action whereas others were but derivative effects of less importance. For instance, although claim [6] indicated that rhubarb could be used to "moderate the bowels and facilitate digestion," Miao warned readers that the benefit was only secondary, depending on the primary

⁶⁷ Ulrike Unschuld, "Traditional Chinese Pharmacology: An Analysis of Its Development in the Thirteenth Century."

⁶⁸ Miao Xiyong, *Exegesis*, *juan* 10.

action of purging. Thus it should only be administered in situations when the cause behind indigestion was real blockage, not depletion of vital forces.⁶⁹

When certain therapeutic claims in the *Canon* conflicted with the drug's qualities, Miao did not hesitate to cast doubt over the authenticity of the text. Dried ginger, for instance, was said to cure vomiting of blood in the 5th century addendum to the *Classic*. Based on ginger's pungent taste and a warm-to-hot *qi*, Miao decided that the action of ginger should be dissipating (quality of pungency) and warming, and hence effective in curing cold-induced abdominal pain, diarrhea, etc. However, a warm drug such as ginger could not conceivably alleviate the vomiting of blood (which was considered a condition of heat), and Miao thus rejected the claim as false.⁷⁰ In another example, the hot and poisonous drug of aconite was said to be effective over weapon wounds, which Miao found hardly credible. His solution was to find an alternative interpretation of the term "weapon wounds" (Ch: 金創), saying that it must have meant "congested blood after shock by cold and wind", instead of external wound with constant bleeding.⁷¹

The method of Miao Xiyong could almost be said to be *demonstrative*. By connecting primary qualities and therapeutic claims of a drug into a web of coherence, Miao sought to show how pharmacological knowledge was never merely empirical, but could always be attributed to a stable pattern of change. It was the process of working out the exegetical account of each drug that one grasped the manifestation of *li*, immanent in patterns of interaction between the human body and other creatures of the

⁶⁹ Ibid. 16b-18a.

⁷⁰ Miao Xiyong, *Exegesis*, *juan 10. juan 8*, pp.1b-2b. He already went into great lengths in explaining why ginger, when charcoaled in a pot, could also stop hemorrhage. It was held that blackened matters could induce replenishing drugs to act upon blood.

⁷¹ Ibid. *juan 10*, 1b-2a.

world. Powerful as it were, Miao Xiyong's method was also pluralistic and inconclusive, for in most cases, there could be more than one possible solution to connect the dots. Indeed, we will see how Miao Xiyong was in fact participating in, and helped to perpetuate, an ongoing debate kindled by a keener interest in pharmacology among his contemporaries.

Community of Pharmacological Learning in the Lower Yangzi Region

Debates and conversations over the nature of drugs took place in a variety of social encounters during Miao Xiyong's lifetime and continued unabated through the seventeenth century. First, scholars who associated with each other in societies (Ch: 社) during the late Ming, especially in the southeast, also conversed with each other on the subject of *materia medica*. Miao Xiyong's *Exegesis* was well known among such circles even before the revised Changshu edition of Miao Xiyong's *Exegesis* came out in 1625. Ni Yuanlu (Ch: 倪元璐 1593-1644), a talented scholar and calligrapher who had recently earned his *jinshi* degree in the highest level of civil examination, considered *Exegesis* as one of the finest *bencao* works of his time, on a par with Li Shizhen's *Bencao gangmu* (1596) and Chen Jiamo's *Bencao mengquan* (1565). Ni Yuanlu made this remark in order to praise still another new title in the subject of *materia medica*, however, which was in turn composed by his own kinsman, Ni Zhumo (Ch: 倪朱謨).⁷² He ranked the contribution by the junior Ni, entitled *Collected Discourse in Materia Medica* (Ch: 本草匯言), alongside the outstanding works by Li, Chen and Miao before him. Ni Yuanlu noted that it was especially laudable for "a young scholar busy with affairs of civil

⁷² Ni Yuanlu (32 *sui* in 1624) referred to Ni Zhumo as his "grandnephew," whereas the two probably were close to each other in age. The Ni family produced many notable officials during the late Ming.

examination” to excel in the learning over “the nature of things,” and to have a comprehensive understanding of medicine.⁷³

Collected Discourse was an unusual work. Remembered as a “quiet man interested in the antiquity” by the local gazetteer of his hometown, Ni Zhumo took to the road around the country, collected books of *materia medica*, and discussed pharmacological problems with over 140 scholars, physicians and learned monks. The exchanges between Ni and his interlocutors eventually provided material for the draft of *Collected Discourse*. The full draft, however, was not published in print until decades later, in the hands of Ni’s son and friends in 1645.⁷⁴

The diverse and heterogeneous backgrounds of Ni Zhumo’s interlocutors suggest the popularity of *discoursing* about drugs and pharmacology in early seventeenth century. At the opening of the book, Ni documented the name and hometown of twelve “mentors” (Ch: 師資) and 136 “fellow friends” (Ch: 同社) who shared their thoughts with him.

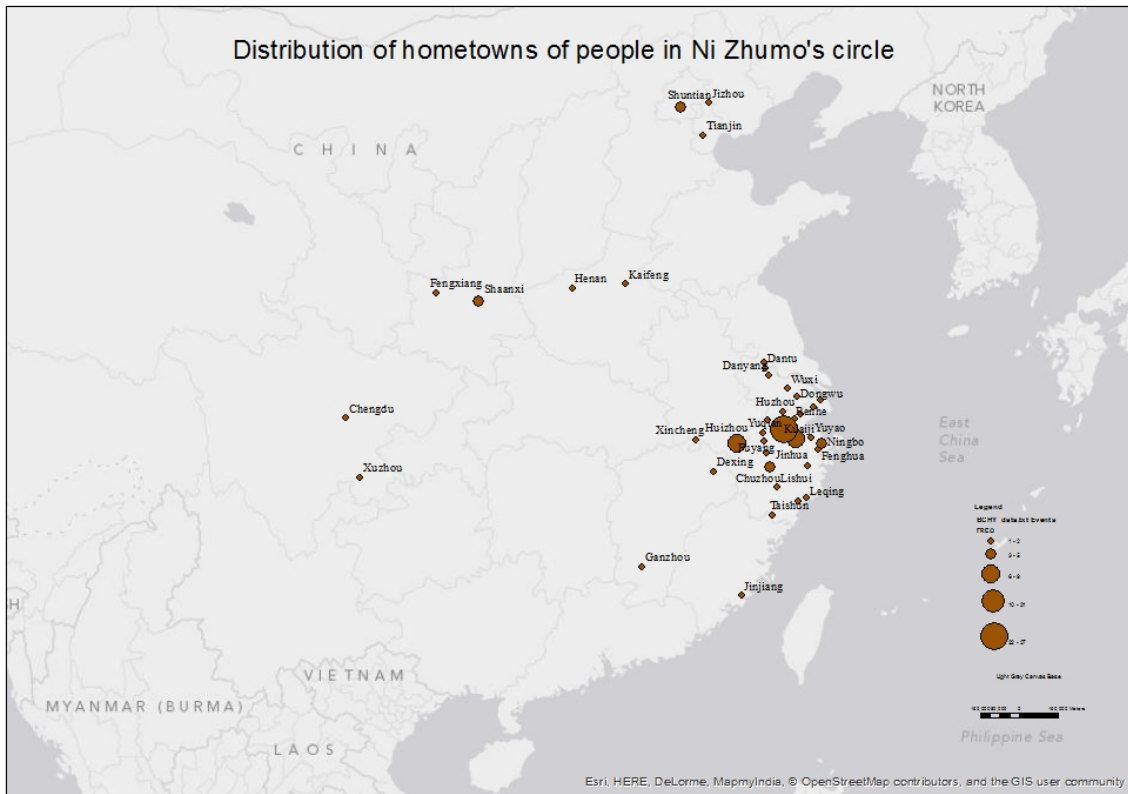
Miao Xiyong was included as the third “mentor” in the first list, and the majority of them were, in Ni’s own words, “remarkable Confucian scholars active during the Wanli reign, who were also deeply learned about medicine.”⁷⁵ Most lived in the Southern Metropolitan Region and the neighboring Zhejiang Province, although some did come from the North (Map 5). Ni recalled his countless trips “through cities and markets, as

⁷³ Ni Yuanlu, 1624 preface to Ni Zhumo, *Bencao huiyan*.

⁷⁴ Previous bibliographical information indicated that the book was first published in the 1620s. A careful reexamination of the so-called “Ming imprints” by Zheng Jinsheng and others, however, indicated that the earliest printed version of the book could only be as early as during the Shunzhi reign (1645), and the completion of certain parts could be dated to as late as the early Kangxi reign (1660s-1670s). See Zheng Jinsheng, “Editor’s notes,” in *Bencao huiyan* (Beijing: Zhongyi guji chubanshe, 2005), 769-83.

⁷⁵ Ni Zhumo, *Bencao huiyan*. List of references.

well the quiet and hidden mountain valleys,” to visit these people for their knowledge about drugs.⁷⁶



Map 3 Hometowns of people who contributed to Ni Zhumo’s *Collected Discourse*

It should be noted that in addition to direct consultations with other people, Ni Zhumo also relied heavily on written sources, seeking to expand upon Li Shizhen’s *Bencao gangmu*. He agreed with Miao Xiyong that much work needed to be done to weed out false, repetitive and superfluous information in the *Bencao* literature, and that discussion over the nature of drugs could be rendered much more explicit and rigorous.⁷⁷ Overall, Ni was keener than Miao Xiyong on collecting a diverse range of opinions and

⁷⁶ Ibid. Notes to the reader.

⁷⁷ Ibid., Notes to the reader.

experiences, but his interest in bringing the literature of *bencao* to philosophical and literary perfection was nevertheless palpable in this work.

A second form of exchange over pharmacological matters also took place in formal lectures and tutoring among the literate elites of southeast China. One hub of such activities took place in Hangzhou, capital of Zhejiang Province, around the social circles of a pair of father and son. The senior Lu Fu (Ch: 盧復), known to his acquaintances to be an enthusiast of medical learning, often held public lectures on medical matters in his home, inviting renowned physicians of the time to give lectures on subjects such as the *Inner Canon*. At least in some occasions he made a public vow to purchase some land for the purpose of supporting students of medicine and the advancement of this art. His son, Lu Zhiyi (Ch: 盧之頤), was a quiet boy who showed no particular talent for medicine in his early years. According to his own account, Lu Zhiyi in his twenties suddenly began to speak out in his mentor's lectures over problems of Cold Damage (Ch: 傷寒), and his questions were so challenging that the mentor had to resign. The junior Lu took over the lecturer's seat in the next year, and quickly earned fame for his astute observation on medical theories.⁷⁸

The father-and-son devoted their effort to the study of *materia medica*, a subject that they considered the most difficult and challenging. Lu Fu died in the 1630s before finishing his manuscript, *Erudite Discussion of Materia Medica* (Ch: 本草博議). Urged by “many gentlemen of Wulin (Hangzhou),” Lu Zhiyi reworked his father's treatise into his own manuscript, which was completed in 1643. Printing work had to be dropped

⁷⁸ Hang Shijun, “Biography of famous physician Lu Zhiyi,” in *Daogu tang wenji*, *juan* 29. One of the lecturers was known to be Wang Shaolong, another mentor of Ni Zhumo.

when the Qing army laid siege to Hangzhou in 1645, and Lu Zhiyi hastily escaped the city, only to return in the following year to find his house in ruins and the manuscript and woodblocks destroyed. He managed to recover half of the original content and publish it with remarkable speed in 1647, a treatise titled *The Quadruple Refinement of Materia Medica, Half Content* (Ch: 本草乘雅半偈).⁷⁹ Decades later, he died a blind and embittered old man, leaving still more manuscripts unpublished.⁸⁰

Aside from his father, Lu Zhiyi acknowledged Miao Xiyong as one of his major sources of influence. Lu concurred with Miao that scholars must strive to go beyond the mere empirical application of drugs, and seek to retrieve the principle (*li*) inherent in *bencao* writings. The survived edition of *Shengya* consists of two sections for each drug: Verification (Ch: 覈), of morphology and details of cultivation and pharmaceutical processing; and Meditation (Ch: 參), on the nomenclature used in *Divine Farmer's Canon*.⁸¹

Unlike Miao Xiyong, Lu put strong emphasis on the interpretation of drug names, including both names mentioned in the ancient *Classics* and the vernacular nomenclature recorded in later sources. The true virtues of a drug, argued Lu, must be identified and

⁷⁹ Consistent with his philosophy, the title of the text was intended by Lu Zhiyi as esoteric and suggestive of Buddhist Zen language games.

⁸⁰ Ibid. For the plights of the senior Lu, also see Lu's concubine Zhou's short biography in Gazetteer of Hangzhou Prefecture (*Hangzhou fu zhi*), Qianlong edition, *juan* 99, 31b. Lu made a wrong move during the war, by seeking office from the Ming prince in exile, and was then abandoned by the defeated prince. Frustrated, Lu squandered his money recklessly, and eventually became blind and bedbound in his old age. He continued to write copious notes on medical theories under the care of his concubine and daughter, before dying in his sixties.

⁸¹ Lu Zhiyi, *Bencao chengya banji*, "Notes to the reader." Lu put the strongest emphasis on the section of "Meditation." The other two parts that could not be recovered after destruction of the manuscript were Derivation (Ch: 衍), on treatments added in supplements to the *Canon*; and Judgment (Ch: 斷), on effective recipes.

corroborated from a close and imaginative consideration of the Chinese script, including both the etymology of drug names and their relationship with other ideographs in the language. On bamboo, for instance:

Meditation: Bamboo, it is a thing that has sinews and knots. That's why the characters for 'sinew' (Ch: 筋) and "knot" (Ch: 節) both have a bamboo radical. Bamboo has knots on the stalk, and its branches grow out from the knots. The knots repeats itself after three branching points, just like three Five-day period makes up of a solar term (Ch: 節). So bamboo cures overflow of *qi* caused by loss of punctual rhythm, or anxiety brought by rigid sinews. Its fruit is divine and lightens the body, because bamboo flowers every sixty years, having endured a full cycle of stem-branch combinations.⁸²

Lu's hermeneutical approach thus combined the life history of the creature (sometimes observed from his own garden), inference based on correlative cosmology and numerology, and philological associations of signs (between bamboo and the idea of 'sinew' and "knot"). In a subtle way, Lu proceeded further along the lines of his Jin-Yuan predecessors' idea of "mimetic imagery" and saw individual drugs not as belonging to a general cosmological category delineated by combinations of Yin and Yang, but as bearers of particular signs that signified components in both the macrocosmic world and the microcosmic body of humans. Bamboo, in this case, embodied the correspondence between the punctual progression of calendrical cycles and the rhythmic flow of vital breath. The attribution of meaning, however, lay not only in the discovery of a larger pattern of cosmic configurations, but also in the human institution of language and culture.

Lu also recorded some of his dialogical exchanges with "guests," who might have been present at one of the lecture-meetings held at the Lu's house:

⁸² Ibid. *juan* 4.

The guest asks: as far as I can see, bamboo grows leaves in Year One, becomes lush in Year Two, dense in Year Three, emaciates in Year Four, then further sparse in Year Five, before it dies in Year Six. How can there be such thing as flowering every sixty years?

Yi [Lu Zhiyi] says: the ancient author meant that the bamboo root could live for a Sexagenary Cycle, not just referring to the growth and death of one stalk.

The guest then asks: bamboo has knots as soon as it is born. How is it that its growth fits the seasonal cycle?

Yi says: bamboo prepares its bud in mid-winter, grows out in mid-spring, changes its leaves in mid-summer, and elongates its root in mid-autumn---how clear is its seasonal punctuation! “Growth” should not be understood merely as penetration of the earth.”⁸³

In such exchanges, the everyday experience and observation of living things were synthesized with the theoretical speculations proposed by the author, and imbued with philosophical significance.

Many similar conversations were taking place throughout the seventeenth century, primarily among literati circles in the southeast. The widespread interest in the nature of drugs also went unabated after the war and turbulence of the 1640s and 1650s. Indeed, the fall of the Ming Dynasty even resulted in the creation and circulation of more theoretically oriented works on *materia medica* in the second half of seventeenth century. Liu Ruojin (Ch: 劉若金), a retired official unwilling to serve under the Qing court, spent the rest of his life in his hometown, and devoted his attention to composing a 32-volume text titled *Narrating Materia Medica* (Ch: 本草述). An old friend and fellow literatus praised Liu’s pharmacological inquiries as having “distinguished the endowed Nature of *materia medica* and captured a glimpse into the ultimate secrets of *Yin* and *Yang*.”⁸⁴ The densely written philosophical speculations of Liu was published by his son, who earned

⁸³ Ibid.

⁸⁴ Gao Yousi, preface to *Bencao shu*.

an official title as magistrate, and rarely circulated during the 18th century until an abridged edition came out in the 1830s.⁸⁵

Discussion of pharmacological principles also continued at various elite households and among groups of physician in the Yangzi Delta throughout the seventeenth century. Li Zhongzi, for instance, continued to practice, teach, and publish his writings on *materia medica* under the Qing regime.⁸⁶ In the 1650s, he took a prolonged stay in the Guo Family's estate in Suzhou, where he tended to some patients in the family and taught the principles of medicine to Guo's young sons. One of them, Guo Peilan (Ch: 郭佩蘭), eventually ventured to write his own *materia medica* treatise titled *Synthesis of Materia Medica* (Ch: 本草匯), which took him over ten years to complete.

In his preface, Guo Peilan observed:

The Way of medicine is invisible, while the teachings about drug are very much explicitly documented in the *materia medica* writings. ... And thus I stood up and said: "The way of medicine lies in intangible principles (*li*), whereas the doctor's cures are tangible things. If we do not understand the tangible things, where should the intangible principles lie?"⁸⁷

Guo's writings reflected two essential beliefs characteristic of 17th century *bencao*: first, that knowledge of drugs constituted one of the most fundamental and urgent aspects of medicine, on which everything else depended; Second, that such understanding could, and should be achieved via a more careful and rigorous study of *bencao* literature. Both

⁸⁵ The abridged treatise was by Yang Shitai, and renamed *Bencao shu gouyuan* (An essential sketch of *Narrating Materia Medica*).

⁸⁶ The work was *Bencao tongxuan* (Accessing the essential *materia medica*), commonly seen in a set of three treatises by Li Zhongzi edited by his disciple, You Sheng (Ch: 尤乘). The work earned such acclaim that a new edition was even published by Wu Shicheng, grandson of the Ming general Wu Sangui, who surrendered to the Qing and ruled the southwestern province of Yunnan as a feudatory lord. Wu Shicheng sponsored a 1678 edition of the treatises in Yunnan.

⁸⁷ Guo published the treatise at his family estate. Guo Peilan, preface to *Bencao hui*.

beliefs, as I have tried to show, bear the clear influence of early seventeenth century authors such as Miao Xiyong, Li Zhongzi, and Ni Zhumo. We could thus conclude that the main proposal of Miao Xiyong in his *Exegesis*, namely that *materia medica* should study the causal explications of each particular drug's pharmacological efficacy, gained wider acceptance by the end of the seventeenth century. At the same time, voices of doubt against the philosophical approach to *materia medica* also began to surface, sparking off keen debates over the use and abuse of medical substances.

Miao Xiyong's Pharmacology III: Warnings over Error

On the Notion of pian: From Imbalance to Idiosyncrasy

Qian Qianyi praised Miao Xiyong's pharmacology for identifying not only what each medicine was good for, but also those situations when drugs might do more harm than benefit. Like a faithful historian, the *materia medica* scholar had to attend as well to the dangerous aspects of drug therapy. It was only in Miao's writings, said Qian, where merits and demerits of medicinal drugs came to be clearly articulated for the first time, and laid out as solid as law.⁸⁸

Qian was referring to a third section included in every entry in Miao Xiyong's *Exegesis*, "Review of Errors" (Ch: 簡誤), after "Exegesis" and "Reference for main indications." In the introductory chapters, Miao summarized his intention of writing this section as follows:

Medicines are endowed with idiosyncratic and extreme *qi* of Heaven and Earth. Even the mellow and virtuous supreme drugs, since they still possess idiosyncratic qualities, their effects must nevertheless be reckless. If one uses

⁸⁸ Qian Qianyi, Preface to *Bencao danfang*.

them in ways inappropriate for their nature, they will inevitably wreak havoc by their idiosyncratic forces.⁸⁹

The damage cannot be undone, noted Miao, when physicians fail to prescribe the right drugs to counter the illness. An astringent drug, for instance, is no good for constipation, and vice versa. Even this commonsensical principle of allopathy can be wrong at times, for in some cases it is necessary to use a “like cures like” approach. As a result, Miao considered it crucial to warn people against drug hazards.⁹⁰

A key concept to which Miao repeatedly returns to is the notion of “idiosyncrasies” (Ch: *pian* 偏).⁹¹ The Chinese term of *pian* originally refers to an uneven surface, or a slant position, and acquires a wide range of meanings including “prejudiced, slanting, remote, particular.” Miao Xiyong’s usage of *pian* departs in significant ways from the understanding of this term in earlier medical writings, and shows the clear influence of Neo-Confucian philosophy since Zhu Xi’s time. It is especially in Miao Xiyong’s understanding of *pian* that we see the originality of his approach to pharmacology.

When physicians during the Song-Jin-Yuan period (12th-13th centuries) first attempted to construct a rational pharmacological theory, the most direct source of inspiration for them came from the so-called ‘seven Comprehensive Discourses’ (Ch: 七大論), or section 66 through 74 in the received edition of the *Yellow Emperor’s Inner Canon: Plain Questions* (Ch: 黃帝內經素問). Added to the classical text for the first

⁸⁹ Miao Xiyong, *Exegesis*, *juan* 1. “Review of errors concerning the nature of drugs: A summary.”

⁹⁰ I translate the Chinese term *duizhi* (lit. treating against) as allopathy, and *congzhi* (lit. treating along with) as homeopathy. The medical orthodox in China saw both as legitimate principles of prescribing, as I shall discuss below.

⁹¹ Variations of the term include “idiosyncratic extremity” (*pianzhi* 偏至), “idiosyncratic supremacy” (*piansheng* 偏勝) and “idiosyncratic force” (*pianzhong* 偏重).

time by a commentator named Wang Bing in mid-eighth century, the ‘seven Comprehensive Discourses’ laid out a theoretical model for what happened after ingestion of food or medicine.⁹² During a hypothetical dialogue between the Yellow Emperor and his minister, *Qibo*, the latter remarked:

Now, the five flavors enter the stomach, [whence] each of them turns to its preferred organ-storage. ... If [one flavor is consumed] over an extended period, thereby increasing [its particular] *qi*, this is a regularity in the transformation of things. If this increase of *qi* continues over an extended period, this is the reason for early death.⁹³

In his commentary to this passage, Wang Bing (Ch: 王冰 fl. 762-3) first employed the concept of imbalance (*pian*) to explain the danger of excessive medication:

If the *qi* [derived from certain food or medicine] accumulate incessantly, the *qi* of certain organ will overwhelm others (Ch: 偏勝) and result in abrupt imbalance (Ch: 偏絕). Once an organ fell into an abrupt imbalance, it will result in sudden death.⁹⁴

The process of digestion thus came to be imagined as the breakdown and assimilation of five basic types of vital energy into five “depots,” or five basic physiological units, which repress or nurture each other. While a wholesome diet results in mild undulations in the relative strength of vital functions without loss of balance, drugs tend to cause more dramatic disturbances. The state of *pian* thus stood for a dangerous imbalance, which could result in sudden death of the patient.

⁹² My discussion of drug therapy in *Suwen* is based on Paul U. Unschuld, *Huang Di nei jing su wen: Nature, Knowledge, Imagery in an Ancient Chinese Medical Text* (Berkeley: University of California Press, 2003), esp. pp. 22-58 and 284-312.

⁹³ Translation is from Paul Unschuld (2003), 307.

⁹⁴ Wang Bing’s Commentary to *Suwen* 84. Note that his commentary first established the correspondence between flavor and *qi*, and used examples to substantiate the claim that taking in bitter medicines will result in an increase of hot *qi* (which in turn contributes to the overall depot *qi* of the heart).

As Jin-Yuan physicians began to incorporate *Suwen* pharmacological theory with drug therapy, the idea of *pian* also entered the corpus of *bencao*.⁹⁵ Li Shizhen gave the topic a brief review in his *Bencao gangmu*, quoting the original passage in *Suwen*, Wang Bing's commentary, and the well-known saying attributed to the master physician Li Gao (1180-1251): "Yin and Yang bring the Way, but imbalanced Yin and Yang bring disease."⁹⁶ Another master physician of the Jin-Yuan era, Zhang Congzheng (Ch: 張從正 1156-1228) even referred to the *Suwen* passage to justify his favored methods of purging, emetics, and diaphoretics (induction of sweating) over using drugs as supplement, and explained that "every drug, even licorice and bitter ginseng, is more or less poisonous!"⁹⁷ Overall, the discourse of *pian* denoted a deep anxiety toward stagnation and congestion of vital breath resulted from excessive intake of potent substances.

Readers well versed in Confucian learning, however, would have been familiar with the term *pian* in a very different context. The idea of uneven distribution provided a crucial device for Zhu Xi to draw a critical line between human nature and non-human creatures, and also to explain the unevenness of human moral behavior. Zhu repeatedly made this point to his students:⁹⁸

There is not one thing in the world that is without a Nature (*xing*).

⁹⁵ The idea of imbalance among inner organ vital functions (*piansheng*) also appeared in other Jin-Yuan medical texts such as Cheng Wuji's annotation of the *Treatise on Cold Damage*, and Hua Shou's interpretation of *Nan jing* (Classic of Difficult Questions). The popular theory of *Wuyun liuqi* (Five circuit phases and six atmospheric influences) also favored the concept of *piansheng* to denote the pathological nature of certain astrological configurations. See for instance *Sheng ji jing* (Classic of Sagely Benevolence, late 11th century), Chapter 3.

⁹⁶ Li Shizhen, *Bencao gangmu*, *juan* 1b, "Loss of balance with the five flavors (*wu wei pian sheng*)."

⁹⁷ Zhang Congzheng, *Rumen shiqin*, "On the paramount issue of supplement drugs"

⁹⁸ *Zhu zi yulei*, *juan* 4, "*Xing-Li 1*" The first sub-heading in the chapter on Nature and *li* was "On the Nature of Human and Things; On the Nature of *qi* and materials".

Question: Is it the case that humans possess all Five Phases (*wuxing*), but things possess only one?

Answer: Things also possess Five Phases. It is just that they only have them in a partial (*pian*) way.

In this exchange, Zhu Xi sought to emphasize that a common principle enabled the genesis of all beings in the world – and hence endowed every creature with a shared basis of existence, which he called “heavenly-endowed nature.” The common principle is also considered as perfect and complete unto itself, and hence in all things there remains potential of self-renewal and aspiration toward moral perfection. The uniqueness of human nature vis-à-vis other things, therefore, cannot not be explained by a qualitative difference or any “human essence,” but a *distributive* disparity: humans are simply beings endowed with the most complete and balanced nature of all; things, however, are limited by their natural shortcomings in moral development. I thus use idiosyncrasy (derived from Greek, *-krasis* “mixture”) to translate *pian* in the Neo-Confucian context: individuality and humanity here derive fundamentally from differences in mixture, not absolute otherness.⁹⁹ Continuing the dialogue cited above, Zhu Xi explained to students how the same perfect and transcendent *li* could give rise to imperfect beings:

Question: [You taught us that] both human and things are born by the same *li* of the cosmos, and substantiated by the same *qi* of the cosmos. If the Supreme Ultimate (*taiji*) is embodied in each and every thing, then the *li* in each thing surely cannot be said to be partial and incomplete?

Answer: you could say that [the nature of things] is complete and idiosyncratic at the same time. If you look at *li*, it is nowhere incomplete;

⁹⁹ By translating *pian* as “idiosyncrasy,” I am also making an analogy between the Chinese conception of peculiarity among things (and more specifically in this case, drugs) and the European notion of *idiosyncrasie* as “peculiar temperament/physical constitution of an individual.” See the OEB entry for idiosyncrasy (n.): c.1600, from French idiosyncrasie, from Greek idiosynkrasia “a peculiar temperament,” from idios “one’s own” (see idiom) + synkrasis “temperament, mixture of personal characteristics,” from syn “together” (see syn-) + krasis “mixture” (see rare (adj.2)). Originally in English a medical term meaning physical constitution of an individual.

if you look at *qi*, however, there is inevitably partiality and incompleteness.¹⁰⁰

The idiosyncrasy of things provided a lasting source of fascination for Zhu Xi. Might it be that the extremely uneven endowment of their nature in fact engendered the amazing potency of drugs? In a discussion over human physiology, Zhu Xi notes how certain rare substances, notably tiger eyes and “dragon bones,” can produce the most potent effect of strengthening the *hun* and *po* spirits of the human body. “Although they [tiger and dragon] are the strongest of things,” noted Zhu, “they both fall short in idiosyncratic aspects (Ch: 墮於一偏). While only humans get a complete [nature], we could never possess such strong constitutions!”¹⁰¹ Elsewhere, Zhu also commented on the remarkable ability for plants to “preserve their form and material” long after death, whereas the body of sensible beings, including human and animals, soon became corrupt.¹⁰² The human capacity to achieve ultimate heights in morality and intelligence, for Zhu Xi, does not come without loss of other impressive qualities. Fragile and delicate beings as we are, humans would never achieve such physical prowess and durability as other creatures. Furthermore, the idiosyncratic nature of things rendered them potent materials of invigoration for ailing humans. It is in this sense that Miao Xiyong employed the concept of *pian* in his *materia medica* works.

Miao Xiyong’s discussion of *pian* drew an affirmative sense from the Neo-Confucian delineation of human nature and the nature of things. While the ancient

¹⁰⁰ *Zhuzi yulei*, *juan* 4, “*Xing-Li 1*”

¹⁰¹ Zhu went into a fairly elaborated discussion of how dragon and tiger constituted the foremost potent beings endowed with the principles of *yang* and *yin*, and hence serve as the best medicine for pacifying the *yang* and *yin* spirits of the human body. See Kim, pp. 223-30. *Ibid.*,

¹⁰² *Zhuzi yulei*, chapter 4.

medical classics largely focused theoretical attention in human wellbeing, the study of drugs, the most potent and interesting among all non-human things, now could be seen as an essential part of the “investigation of things.” The manifestation of *li* could indeed be fathomed from the life cycle of herbs, the chirping and bumbling of insects, or the color and texture of minerals. However, Miao also sought to highlight the grave dangers of abusing of such substances. The philosopher-physician alone shouldered the responsibility of appreciating the nature of drugs, and also of warning people about its negative effects. Miao’s contemporary authors such as Li Zhongzi also concurred with him, that *materia medica* texts should be more specific in articulating what we today might call side effects, as a cautionary admonition to doctors and patients alike.¹⁰³ This move away from the status quo, however, proved to be controversial for many involved in the day-to-day practice of medicine.

Criticism from Practitioners: Yu Chang’s Alternative Model for Medical Learning

While his friends portrayed him as a passionate and valiant figure, Miao Xiyong was also remembered as overly arrogant and presumptuous, someone who would pay unsolicited visits to people deep into the night, and who once meddled with local military affairs to no avail.¹⁰⁴ His way of practicing medicine struck many as strange, and many “vulgar practitioners” could not understand the rationale behind his prescriptions, although Miao’s treatments did work “miraculously” in many cases.¹⁰⁵ After his *Exegesis* came

¹⁰³ Li Zhongzi, *Yaoting jie*.

¹⁰⁴ Shen Deqian, *Wanli yehuo bian*, *juan* 22. Also see Wang Yingkui, *Liunan suibi*, *juan* 6. Aside from his scholarly pretensions, Miao was also a master of occult arts---geomancy and selection of tomb sites were his other special skill, rarely mentioned by his high-minded literati friends. See *Jiangnan tong zhi* [General gazetteer of Jiangnan], Qianlong edition.

¹⁰⁵ *Changxing xian zhi* (Tongzhi edition), *juan* 26, 11b-12a

out, criticisms were also heard and documented throughout the seventeenth century. “Although his writing is articulate and organized,” observed one critic, “there is not that much insight in it, and the book has not been received well in public opinion.”¹⁰⁶ The so-called “public opinion” here bespeaks many practitioners’ frustration by Miao’s claim that he alone understood the true principles of *materia medica*.

In 1643, a physician named Yu Chang (Ch: 喻昌 1585-1664) published his case histories under the patronage of a retired official from his home province of Jiangxi. In his youth, Yu befriended famous literati of Jiangxi and was known for his eccentric personality. Frustrated in his pursuit of an official career, he abruptly gave up an offer and returned to Jiangxi. For a brief period of time he shaved his head to become a Buddhist monk, before giving up monastic life and turning instead to medicine. The early decades of Yu Chang’s life were thus characterized by restlessness: he seemed unable to find the right vocation.¹⁰⁷ The publication of his first medical treatises, *Inscriptions with Deep Meaning* (Ch: 寓意草) in 1643, established his fame as a master physician. The Ming dynasty fell in the following year, and Yu Chang again went into exile in search of new adventures.

In *Inscriptions* and his later works, Yu Chang asserted that the only way to achieve excellence in medicine, a high art of benevolence, was to engage in deep thinking and intuitive understanding from personal experience. Yu abhorred the notion that one could ever grasp the principles of medicine by merely reading, and he especially

¹⁰⁶ Pu Shizhen, *Xi’an du bencao kuai bian* [Quick notes on *Materia Medica* by Mr. Xi’an]

¹⁰⁷ See the biography of Yu Chang in *Qingshi gao*, *juan* 502. At one point Yu Chang was recommended to go to Beijing as a student of the Imperial Academy, where he submitted a letter to the emperor, elaborating his opinion over policy, and yet refused to serve in an office when the court sought him.

disdained people who claimed to be a “Confucian scholar” (Ch: 儒) by bookish erudition alone. Many such self-styled “Confucian physicians,” observed Yu, were in fact just mediocre scholars who had no other career option but to seek profit in medical practice.¹⁰⁸

Yu Chang stated his strong distrust of textual knowledge with regard to of drug therapy. For one thing, most people greatly prized the collection of recipes (*fang*), which offered ostensibly concrete instructions of healing. “Books without recipe” such as the *Inner Canon*, *Jiayi jing* [Canon of Acupuncture] and *Nanjing* [Canon of Difficult Questions] received scant attention. The treatise on pulse diagnosis by the 14th century master physician Zhu Zhenheng (Ch: 朱震亨), for instance, was much less popular than his other book *Methods of the Mind by Zhu Danxi* (Ch: 丹溪心法), which was filled with miscellaneous recipes.¹⁰⁹ In the subject of *materia medica*, Miao Xiyong and his *Exegesis* became a primary target of attack by Yu Chang:

As for *materia medica*, it only tells you the uses for the nature of drugs, and people did not particularly like it. When Mr. Miao published his *Exegesis*, he added a section on the dangers and errors of the nature of drugs, and everybody rushed to get hold of a copy! Why not think this way: the nature of herbs is useful for us precisely because it is idiosyncratic (*pian*). What is the point of talking about its danger and error? When you say that, many people will simply be scared away. Why not getting rid of all the drugs in *materia medica*, and only save 50 to 70 useless drugs that also impart no danger?¹¹⁰

For Yu Chang, the very popularity of books like *Exegesis* provided evidence of medicine’s degeneration into a cheap form of knowledge. As more and more people

¹⁰⁸ Yu Chang, Preface to *Yuyi cao*.

¹⁰⁹ Yu Chang, *Yuyi cao*, “On discussing illness before applying medication”

¹¹⁰ Ibid.

rushed into the trade after reading such books, the art of medicine sank deeper into a desperate abyss. When doctors and patients “only discuss drugs but not diseases,” lamented Yu, is it not the ambitious authors such as Miao Xiyong who should shoulder the blame?¹¹¹

In fact, I suggest that there was no fundamental difference between Miao Xiyong and Yu Chang’s understanding of the nature of drugs. Both agreed that drugs are composed of *qi* and matter marked by idiosyncratic (*pian*) natures, and it is precisely due to their idiosyncrasy that their efficacy in healing could be achieved. Whereas Miao Xiyong warned people against potential dangers of wrong therapeutic decisions, Yu Chang did not see it as necessary to inform non-experts. The real disagreement between the two (although they never met each other in person) lay in their attitude toward professional authority, and the role of textual knowledge in the process of acquiring expertise.

Miao Xiyong openly criticized blind reverence for book knowledge, but he was eventually persuaded to publish his own work as a vehicle of enlightenment for others.¹¹² In a sense, his entire career hinged on the transmission of successful cases and pharmacological theory in print, and the popularity of his works catering to the elite literati of the southeast. In an anecdote documented by Miao himself, his grandnephew

¹¹¹ Ibid.

¹¹² Feng Ban, preface to *Donggao caotang yi an* [Medical cases from the Hut of the Eastly Marshes]. The poet Feng Ban recalled a story about a bibliophile who specialized in collecting medical texts. Miao Xiyong once saw this collection and said to Feng Ban, “all these are misleading things!” Feng was perplexed and asked him to explain. “The art of diagnosis and prescription,” said Miao, “is grasped by the mind, but not exhaustible by words. If one applies ancient methods to treat (modern-day cases), it is like playing the lute with the pegs glued. How can it not be misleading?”

Mao Fengbao volunteered to take over the task of producing the 1625 edition of *Exegesis*, and said:

There are fewer truly talented people in the world than the middle and low types. Suppose a truly talented person comes out and gets the understanding without a teacher's help, he would still find intellectual resonance by reading your book. The poorly endowed ones are always clueless no matter what, like blind men talking about colors. Only those endowed with above-average talent will grasp the essentials by reading the book, and this will be of great benefit for them.¹¹³

Essentially, Mao and his fellow young scholars were arguing that it was the large number of “middling sorts,” fellow literati who could read and aspire to Confucian learning, who constituted a worthy audience for books like *Exegesis*. Whether they had been previously exposed to medical experience was another matter.

For Yu Chang, although he also had to transmit his ideas in the form of print, and even sought some of the same patrons in Miao Xiyong's circle, he vowed never to “adulterate sagely knowledge with [our] vulgar knowledge, like sowing beautiful silk with broken wadding”.¹¹⁴ In addition, Yu described himself as having grasped the art of medicine through inward meditation (Ch: 內照), which required the physician to think, feel and empathize with the patient, to the extent of “transforming my own body into his/her body.”¹¹⁵ This emphasis on empathy and inward cultivation of the mind reflected Yu's experience as a Buddhist monk. Later in his career, he again borrowed from Buddhist terms and sought to establish a set of disciplinary “Commandments” (Ch: 律) for practitioners of medicine, and trained numerous disciples in the Lower Yangzi

¹¹³ Miao Xiyong, preface to 1625 edition of *Exegesis*.

¹¹⁴ Qian Qianyi got to know Yu Chang during the latter's sojourn in Changshu, and wrote a poem for him in praise of his medical skills. Yu Chang, Preface to *Yimen falü*.

¹¹⁵ Yu Chang, Preface to *Yuyi cao*.

region.¹¹⁶ It was Yu Chang's belief that medicine could only be mastered under a strict regimen of inner and outer practices. To qualify as practitioner, one had to undergo hard work, and devote sincere effort to the internalization of learning into the body. Discourse about the nature of drugs and reading such books could never become meaningful training in medicine.

Yu Chang's critique of Miao Xiyong and their disagreement over medical learning reflected changing practices for physicians with regard to the manipulation of drugs. I will turn to a closer analysis of pharmaceutical expertise in Part Three of this dissertation. Here I would just like to cite one more seventeenth century physician's complaint about the endless questioning of lay clients about pharmacological matters. Feng Chuzhan (Ch: 馮楚瞻), a late seventeenth century physician, concurred with Yu Chang in his own medical treatise:

Recently so many people began to learn medicine. They only read *materia medica*, and memorize existing recipes, and matched recipes to illnesses. Occasionally, they stumble on to the right remedy, but countless is the number of those who meet a premature death [from this kind of malpractice]! What a world, that only discussed drugs but not diseases! Is it that the Heaven likes to kill off lives?¹¹⁷

Both the optimistic view championed by Miao Xiyong and others, namely that an open-ended scholarly inquiry could reveal true pharmacological causes, and the more conservative view held by Yu Chang and others, namely that experts with experience knew much better about drugs than bookish scholars, reflected the fundamental ambivalence of drugs as potential cure and poison. The immense fear of making lethal

¹¹⁶ Ironically he chose the County of Changshu, Miao Xiyong's hometown, as his base of practice from 1650-1670s.

¹¹⁷ Feng Chuzhan, *Fengshi jinnang milu*

mistakes prompted people to rely on their own thinking in Miao Xiyong's case, and elicited lamentations about mistrust from experienced practitioners like Yu Chang and Feng Chuzhan. Both sides again utilized the medium of printed books to propagate their views and criticize others. The numerous *materia medica* treatises of seventeenth century can therefore also be read as reflecting the intensified conflict between elite lay readers and experienced practitioners over the subject of pharmacology.

Despite the physicians' protest, the trend of writing and reading causal explanation of the nature of drugs continued unabated throughout the seventeenth century, and continued well into the eighteenth century. The best-selling *materia medica* text throughout the Qing Dynasty was undoubtedly Wang Ang (Ch: 汪昂)'s *Complete Essentials of Materia Medica* (Ch: 本草備要), an eclectic work that sought to combine the comprehensive content of *Bencao gangmu* with the theoretical rigor of Miao Xiyong's *Exegesis*.¹¹⁸ The compiler Wang Ang was himself not a physician by training, but loved to read medical books. About the *materia medica* books of his day, he had the following complaints:

The book of *materia medica* always makes me want to lie down and sleep. For it only commented under each drug, the organ [it targets], the conduit [it enters], its taste and *qi*, its motion [in the body] and main uses for treating illnesses. It contains no interpretation of principles (*li*), so that the reader will have something meaningful to chew upon...¹¹⁹

It is the special merit of Miao Xiyong's *Exegesis*, noted Wang Ang, to elaborate the principles of the nature of drugs. What he set out to do, in turn, was to further refine and

¹¹⁸ For Wang Ang's career as publisher, see Ellen Widmer, "The Huanduzhai of Hangzhou and Suzhou: A Study in Seventeenth-Century Publishing," *Harvard Journal of Asiatic Studies* 56, No. 1 (Jun., 1996), 77-122.

¹¹⁹ Wang Ang, "Notes to Readers," *Bencao beiyao*.

polish the prose, adding other useful information, so that the book would “open up the reader’s mind’s eye”.¹²⁰ It is no coincidence that *Complete Essentials* did become a popular introductory text on *materia medica*, and was reprinted more than 80 times during the following three centuries.¹²¹ The power of effective language and promises of deeper understanding eventually carried the day in transmitting *materia medica* knowledge, and significantly altered the meaning of medical expertise over drugs.

Conclusion

In 1641, a young scholar named Fang Yizhi (Ch: 方以智) got his first official appointment in Beijing. At the same time, he began working on two manuscripts, *Comprehensive Refinement* (Ch: 通雅) and *Notes on Principles of Things* (Ch: 物理小識). The former is a 52-chapter study of classical philology, whereas the latter, as its title indicated, collected Fang’s thoughts on the study of things (*wu*). The subject of medicine took up three out of twelve chapters in the book, focusing in turn on studies of the human body, “essentials of medicine (Ch: 醫要)” that mainly discussed treatments and pathology, and “medicinal drugs (Ch: 醫藥).”

Out of the three, Fang seemed to have paid especially close attention to the study of drugs, for he also included a separate essay titled ‘summary on the Nature of Drugs (Ch: 藥性總論)’ in the introduction. The essay opened with a general discussion of the material genesis of the myriad things, following the same approach taken by Miao Xiyong for his *Exegesis* two decades before. Fang then continued to quote previous

¹²⁰ Wang Ang, Preface to 1694 edition of *Bencao beiyao*. Also “Notes to Readers.”

¹²¹ The *Bencao beiyao* is still held as a useful introductory text for students of Traditional Chinese Medicine today.

authorities of *materia medica*, from the Jin-Yuan master physicians to erudite authors such as Shen Gua (Ch: 沈括 1031-1095).¹²² The only Ming author that he referred to was again Miao Xiyong's essay on "differences in the nature of drugs" in the *Exegesis*. Although the two probably never met, Fang clearly knew of Miao's work on pharmacology as an important source of influence. At the end of his introductory essay, Fang reflected on recent developments in *materia medica* scholarship:

Since the Tang and Song times, imperial power was mobilized to collect illustrations from all over the country, and designated famous physicians and official historians to compile [*materia medica* books]. It is fitting that such books are detailed and comprehensive enough. However, during the Wanli reign, Li Binhu [Shizhen] was able to correct five to six out of ten of its content, based on his father [Li] Yanwen's learning. After that, there are also the concise account of Miao Zhongchun [Xiyong], and selective discussion of Li Shicai [Zhongzi].¹²³

The young Fang Yizhi showed great sensitivity not only to contemporary shifts in the content of *materia medica* books, but also pointed out the changed modes of knowledge production behind it. The era of making comprehensive *bencao* books by "imperial power" was no more. In Chapters 1 and 2, I examined the emergence of new types of *bencao* texts since mid-sixteenth century, and the individual and institutional actors who enabled the circulation and transmission of pharmacological knowledge in Chinese society. As Fang observed, the contribution of individual authors marked the advent of a new era. The heroic effort of Li Shizhen and his father to correct and expand upon previous state compilations should be seen not only as the culmination of the previous model of all-around erudition, but also stimulated later authors such as Miao Xiyong and

¹²² Fang Yizhi, Introduction to *Wuli xiaoshi*. Fang first quoted from Kou Zongshi (fl. 1111-1117)'s preface to *Bencao yanyi*, then from Shen Gua's sequel to *Mengxi bitan* and preface to his collection of medical recipes. Following the quote from Miao Xiyong he then included a passage from the Jin physician Liu Wansu (c. 1100-1180). See Liu Wansu, *Suwen bingji qiyi baoming ji*, Chapter 9.

¹²³ Fang Yizhi, Introduction to *Wuli xiaoshi*.

Li Zhongzi, who championed the explanation of causes as the new intellectual agenda for *materia medica* scholarship. For Fang, the “ultimate principles” (Ch: 至理) were difficult to fathom, and one should trace (Ch: 徵) them by “the norms of things” (Ch: 物則). The study of medicine, and especially knowledge of drugs, therefore constituted a crucial subject of investigation for Fang and others in mid-seventeenth century China. As he put it himself:

Between Heaven and Earth, everything is a medicine, everything is a thing, and everything is a principle [emphasis added]. There is not one thing without *yin* and *yang*, *qi* and taste, as well as mutual interactions and transformations. Their differences derive from places and times, and so it goes for [differences among] people. While some [drugs] might work in one case but not another, or efficacious here then harmful there, all such differences will not go beyond Qibo’s delineation of “five [kinds of *qi*] by five [kinds of taste].” If so, then this is indeed easy and concise (Ch: 易簡)!¹²⁴

Fang’s thoughts in 1641 reflected well the palpable influence of Miao Xiyong and others in transforming pharmacology into a philosophical inquiry for Confucian scholars.

In this chapter, I have discussed three major aspects of Miao’s proposals and their connections with late Ming revisions to Neo-Confucian formulation of nature (*xing*) and principle (*li*). First, a decisive turn away from Zhu Xi’s bipartite formulation of nature and toward the investigation of *qi* and matter that made up each particular thing; Second, the explanation of differences among similar things by constructing a coherent narrative based on hermeneutical reading of classical text; Lastly, the recognition of the idiosyncrasy (*pian*) of things as deriving from cosmological principles and a vital issue for experts as well as lay people. Although critics lamented the diversion of attention from the proper matter of medicine toward empty debate over things, causal explanations

¹²⁴ Ibid.

did proliferate in *bencao* writings since the seventeenth century, and shaped the balance of power between medical practitioners and patients in many important aspects. The official *History of the Ming*, completed in 1739, included a short biography of Miao Xiyong right after that of Li Shizhen.¹²⁵ In general, the editors noted, practitioners of medicine should

Be erudite and master the books of people in the past, and to grasp its principles (*li*) in a comprehensive way. They should think deeply, achieve unique understandings, and corroborate that with test and verification. They should also not be deceived by private wit (Ch: 私智). Only in this way could one become famous during his lifetime and become a master for posterity.¹²⁶

Never before in official historiography had the subject of medicine been associated primarily with erudition, deep thinking, and the understanding of *li*.¹²⁷

In Chapters 1 and 2, I have shown how previous *materia medica* texts became increasingly accessible in the late Ming, while the genre evolved into a heterogeneous body of writing backed by various agenda of cultural reproduction and innovation. In Part II, I will turn to sketch out important shifts in the political economy of raw medicines during the late Ming and early Qing, and locate the consequent changes in the imagination of value and efficacy in *bencao* literature. Like in Fang Yizhi's case, philosophical inquiries into the nature of drugs were inevitably embedded in the increasingly sophisticated processes of material exchange, and remolded under the broadening horizon of the Qing Empire.

¹²⁵ Zhang Tingyu et al. *History of the Ming*, juan 299, "Biography 187." The compilers of *History of the Ming* recorded Miao's claim to retrieve the Divine Farmer's true teachings, but mistook a later publication of Miao Xiyong's recipes, *Bencao danfang* (1633), for *Exegesis* (1625).

¹²⁶ Ibid.

¹²⁷ Previous biographies of masters in "formulas and arts" (*fangji*) tended to emphasize miraculous cures, extraordinary deeds, and patronage of such figures from the state.

Part II Circulation

Chapter 3 Collecting Medicines from the Land: the Rise and Decline of Local Tribute

In his introduction to the *Collected Commentary to the Divine Farmer's Classic of Materia Medica*, Tao Hongjing (Ch: 陶弘景 456-536AD) noted how the practice of medicine depended greatly on access to the right materials. As an influential figure to the southern regimes of Qi (Ch: 齊 479-502) and Liang (Ch: 梁 502-557), Tao chose to dwell as a hermit in the mountains near the capital of Jiankang (present-day Nanjing), and pursued the study of Daoist alchemy, medicine, and other esoteric arts.¹ It was not uncommon for alchemists and physicians to travel and practice in distant mountains and sacred sites: Ge Hong (Ch: 葛洪 284-363), whose writings on the pursuit of divine transcendence had initiated Tao to this path, famously sought a official position in the deep south to get easier access to the high-quality cinnabar produced in local caves.² Writing at a time when China was divided and ruled by the so-called Southern and Northern Dynasties, however, Tao had difficulty obtaining important drugs usually found in the north and southwest. He complained:

All medicines grow in certain places and territories (Ch: 境界). Before the Qin and Han Dynasties, people talked about the feudal states [where medicines grow]. The current reference to provinces and counties [in the *Divine Farmer's Materia Medica*] must have been later revisions. Ever since [the Jin Dynasty] retreated to the south of the Yangzi River, the small and

¹ “Biography of Tao Hongjing,” in Yao Silian, *The History of Liang*, juan 51.

² “Biography of Ge Hong,” in Fang Xuanling et al., *The History of Jin*, juan 72.

miscellaneous drugs often came from places nearby, and their power and nature are inferior to those from their original places. Suppose the road to Jing (荊 Hubei) and Yi (益 Sichuan) were blocked, how could it be the same if we all use *danggui* from Liyang, and *sanjian* from Qiantang?³ This must have been the reason why [we] now treat people less effectively than previous generations.”⁴

Tao went on point out that with the severe limitation in the supply of raw drugs, southern tradesmen could no longer tell authentic medicines from bogus ones. Once it became common that people “no longer spoke about ginseng from Shangdang, and discard *xixin* [*Asarum sieboldii*] from Huayin as trash,” one could indeed do little to rectify their errors.⁵

Medical practitioners in China were well aware of the perennial dilemma that Tao raised: while knowing that the behavior and efficacy of drugs varied greatly depending on their places of origin, in reality one had to be able to work with substitutes and proceed as if they were the same. Moreover, the supply of drugs tended to change with time, often because of political and social factors that had nothing to do with the material properties of drugs *per se*. As the administrative scope of the regime expanded and shrank, for instance, the designation of authentic places also changed. Lastly, knowing where the best drugs grew alone was not enough for the assembling of a proper pharmacy, and physicians often had to make do with what their local habitat and market had to offer.

Medicinal drugs were not merely textual entities in pharmacological writings; they were always material objects to be harvested, processed, and ultimately given value

³ *Angelica sinensis* (*danggui*) and the three variants of aconite (*sanjian*) were all found mostly in the Upper Yangzi region, namely Sichuan and parts of Hubei.

⁴ Tao Hongjing, preface to *Shennong bencao jing jizhu*.

⁵ Ibid. I will discuss the “tradesmen” and their pharmaceutical practices in Part 3.

in real-world exchanges. Past investigations of traditional Chinese medicine have often focused on the encounter between physician and patient, and neglected the spheres of production and circulation of *materia medica* before they reached the hands of retail providers (doctors and pharmacists, among others). General histories of political economy in late imperial China, on the other hand, have tended to study staple commodities such as rice, textiles, mineral, and salt, while overlooking the important trade in drugs, which like many other specialized commodities circulated along a different pattern. To elucidate the pattern of pharmaceutical trade, one must pay close attention to the substantial interaction between textual knowledge, in this case the corpus of *bencao*, and the material and institutional underpinnings of the society in which the literature of *bencao* was rooted. In Chapters 1 and 2, I have examined the changing genre, readership, and agenda of Chinese *bencao* literature by situating it in the expansion of print culture and intellectual change in China since the late sixteenth century. I now turn to a study of two *circulatory regimes* that brought medicines to the consumer: Chapter 3 looks at the collection of medicines by the imperial court; Chapter 4 examines the activities of mercantile groups who specialized in the long-distance trade of *materia medica*.

Chronologically, the two regimes – state and commercial – coexisted since ancient times, but it was during the late Ming and early Qing that the rationale and operation of the former largely collapsed, and gave way to the much more sophisticated and strong presence of merchant groups. As I sketch out a structural change in the power and influence of different social actors, I will pay special attention to the co-production and transformation of certain key notions, such as authenticity and efficacy. Ultimately, I

seek to show that as much as *bencao* knowledge was shaped by the political economy of that time, cultural values thus formed also exerted influence on the everyday production and consumption of drugs in Ming and Qing times --- as well as today. Our inquiry begins with the imperial state, long recognized as the fountainhead of social distinction by virtue of its centralized political power, and its practice of collecting medicines as tribute to the ruler.

Provincial Soils: The Early Origins of Materia Medica as Local Tribute

The Central State's Perspective

Except for some specific place names, the Chinese state left no significant traces in the earliest *materia medica* texts.⁶ The survey of characteristic products of different regions, however, must have commenced very early on. According to the *Book of Documents*, a Confucian classic text that defined the basic terms of statecraft in antiquity, the Great Yu “designated tributes according to soil quality” (Ch: 任土作貢 *rentu zuogong*) in the nine provinces under his command, and local products began to be presented as tribute gifts to the centralized regime. The sea-borne Lower Yangzi region (Yangzhou), for instance, was said to have muddy soil with quality of “low of the lower grade,” (Ch: 下下) and people of Yangzhou present gold, feather, and citrus fruit as tribute items to the ruler.⁷

The collection of local tribute continued even after the Qin regime (221-206BC) replaced

⁶ *The Divine Farmer's Classic of Materia Medica* directed collectors of medicine to mountains and valleys all over the country, often in rather remote lands from the centers of political power. Specific names of provinces and prefectures mentioned in the text had only been coined in the Eastern Han Dynasty (25-220), and later commentators such as Tao Hongjing reasoned that those names must have been added no earlier than that time.

⁷ *Book of Documents*, 6.17, Preface to the chapter “Tribute of Yu.”

the ancient order of feudal states with a centralized bureaucratic system of provinces and counties (Ch: 郡縣). Throughout the imperial period, local officials were charged with the duty of collecting local tributes and sending them to the central court, and scholars generally saw local tribute as a crucial component of the ancient ideals that defined the relationship between the central court and the people.

At the peak of its power, the Tang court during the seventh century commissioned physicians and officials to edit Tao Hongjing's *Commentary of the Divine Farmer's Classic of Materia Medica*. Not surprisingly, the editors found numerous flaws in Tao's text resulting from the limitations of a southerner's perspective.⁸ They then set out to update archaic place names with contemporary administrative units, and collected reports on local *materia medica* from officials stationed all over the country. Although the original content of Tang *bencao* only survived in fragments, it is still possible to grasp the geographical range of drugs described in the Tang *bencao* from its influence on other medical texts of the time. For instance, *Supplement to Invaluable Recipes* (Ch: 千金翼方), which was attributed to the master physician Sun Simiao (Ch: 孫思邈 c.581-682), contained a section on "Medicines coming from provincial soils" (Ch: 藥出州土). In it, we read praises of the Tang state for updating the list of place names where medicines were produced, as knowledge came to perfection under the Great Tang's all-encompassing power.⁹ The author then identified the place of origin for 519 simple drugs in 133 prefectures under the Tang, and explained that drugs from other places were

⁸ Kong Zhiyue, preface to *Xinxiu Bencao*.

⁹ Sun Simiao, *Qianjin yi fang*, *juan 3*.

too common and inferior “for the purpose of presenting to the throne.”¹⁰ State consumption thus constituted a central piece in the learned discussion over drug efficacy during the Tang, and governmental offices took charge of overseeing the circulation and storage of valuable medicines at the center of political power.¹¹

The Tang *bencao* was emulated by later regimes such as the Later Shu (934-965) and the Northern Song (960-1127), giving rise to a series of revised and expanded *bencao* texts (see Chapter 1). Among those, the *Illustrated Classic of Materia Medica* (Ch: 圖經本草 1061) was intended especially as a guide to ascertaining the authenticity of drugs closely related to practice. Su Song (1020-1101), the chief compiler, expressed in his preface a deep concern over the anonymity and capriciousness of the market. He noted:

Nowadays, what the physicians are using all come from merchants in the market. The merchants, in turn, get their products from people in the mountains and fields (Ch: 山野之人). They pick and harvest herbs at any time, and there is no way to ascertain where [certain drugs] come from. How can one expect to heal illness with such drugs?¹²

The sentiment of Su Song echoed Tao Hongjing’s distrust toward “families who picked and delivered drugs” much earlier. By providing a guide as to where certain drugs could be found, the state-commissioned *bencao* served as a reliable reference for practitioners to tell true from ersatz drugs.¹³ Su also complained over the mixed quality and vulgar language in the thousands of written reports from “the experience of common physicians,” and tried his best to synthesize discrete pieces of information under each

¹⁰ Ibid.

¹¹ *Tang liu dian* [The Six Statutes of the Tang], *juan* 14. “Drugs are collected and stored every year, and the best kinds are then presented [to the court].” The laws also designated an office in charge of storage of “miscellaneous goods from prefectural soils [*zhoutu*]”, including a long list of medicines. Ibid. *juan* 20.

¹² Su Song, preface to *Tujing bencao*.

¹³ Ibid.

entry into an elegantly organized paragraph of prose.¹⁴ When applicable, the compilers also compared products sent in from various places, decided which ones were better in quality, then included woodcuts illustrating the different kinds. The *Illustrated Classic* was thus rendered possible by state apparatus, and eventually guided state consumption itself.

The state designation of drugs as the local tribute of certain places also influenced lay discourse about medicine, especially when the term “prefectural soil” (Ch: 州土) entered vernacular speech in medicinal recipes, indicating products superior in quality. In *Secret Recipes of the Provinces* (Ch: 外台秘要 c. 752), the term appeared in a few recipes, specifying that one must choose ingredients that are “really good and [coming from specific] *zhoutu*,” “*zhoutu*, firm [in texture] and superior”, or in certain cases “its *zhoutu* does not matter.”¹⁵ The political space of the unified empire, partitioned and marked with names of administrative units, thus exerted a palpable influence on the structure of contemporary notions of quality and efficacy.

The court consumption of tribute items attracted the interest of scholars not only as a matter of erudition, but also as an issue with moral significance. When a ruler was willing to cut back on the amount demanded as local tributes, this was recognized as a sign of benevolence to the people.¹⁶ Zhao Yushi (Ch: 趙與時 1172-1228), a scholar and descendant of the Northern Song imperial family, once compiled a list of local tribute

¹⁴ Ibid.

¹⁵ Wang Tao, *Waitai miyao*, *juan* 18, 31 and 37.

¹⁶ Zhao Yushi praised emperor Gaozong, the founding ruler of the Southern Song Dynasty, for cutting back on local tributes immediately after ascending the throne, to relieve the burden on his subjects. In *Wenxian tongkao*, a late 13th century compendia of past political institutions, Ma Duanlin noted that the list of tribute items was of interest to him as a record of “the names of things” (*mingwu*).

items collected by the Song court in the eleventh century, in order to “broaden one’s scope of knowledge.”¹⁷ Among the 191 items that Zhao listed, medicines constituted the largest category (Table 3):¹⁸

Category	Sample items	Number of items
Precious metals	gold, silver, copper, iron ores	4
Misc. textiles	silk, patterned cloth, plain cloth	54
Furs/feather/materials for weapon/dye	dear skin, leather for making boots	13
Manufacture utensils for daily use	lacquer ware, scissors, bamboo sheets	17
Medicine/pharmaceutical material	ginseng, rhubarb, musk, honey, wax	93
Tea/other agricultural products	nuts, fruit, grain	10

Table 3 Categories of local tribute during the Northern Song Dynasty (960-1127)

From Zhao’s list, it is clear that *materia medica* constituted a primary category of tribute items for the Tang and Song state, and a major object of erudite interest for scholars.

When a centralized state acts as the strongest agent with access to resources not easily obtained elsewhere, the collection of tribute via political arrangements becomes the surest way to assemble the best kinds of *materia medica*. By way of imposing tribute quotas on the locality, the state sought to clothe its imperial household with fine textiles and furs, adorn its banquets with delicacies from all over the country, equip its army with weaponry, and also order fine furniture, cosmetics, and so on. G. William Skinner once observed that the great medieval Chinese cities mostly overlapped with the configuration of political power: the Tang and Song capitals of Chang’an, Kaifeng, and Lin’an

¹⁷ Zhao Yushi, *Bin tui lu, juan 10*. The source of his information was *Yuanfeng jiuyu zhi*, a survey of governmental institutions of the Yuanfeng reign (1078-85).

¹⁸ *Ibid.*

(present-day Hangzhou) were all described as the most developed metropolitan areas in the contemporary globe.¹⁹ The efflorescence of commerce thus hinged upon the centripetal forces brought about by a unified empire. The power of the center, as we shall see, shaped the local awareness of certain plants, animal and minerals as valuable products of the land.

Local Perspective

From the late twelfth century onwards, local gazetteers (Ch: 地方志) became a major venue for documenting local affairs, and were often compiled by leading literati and officials themselves. As the capital city of the Southern Song, Hangzhou and its vicinity were among the first localities to produce its own local history in printed form. As the compilers of local history were office-holding literati of the time, they also took care to record governmental affairs, including the presentation of local tributes to the court. Hangzhou boasted a colorful list of products during the Northern Song, ranging from fresh ginger to a thousand sheets of paper made of rattan fiber.²⁰ Under the Southern Song rule, however, the amount of tribute was further reduced to a mere thirty bundles of fine silk (Ch: 綾) per year.²¹

Materia medica also constituted a major category of local products (Ch: 物產), and were often mentioned after sections on the geographical features and cultural customs of a locality. The scheme of classification in gazetteers appeared to be much freer than the

¹⁹ G. William Skinner, "Introduction: Urban Development in Imperial China," in idem. ed. *The City in Late Imperial China* (Stanford UP, 1977), 3-32.

²⁰ *Qiandao* (reign title, 1165-73) *Lin'an zhi*, *juan 2*, page 20b, reproduced in Taipei, Dahua Shuju, 1980. "Land Tribute"

²¹ *Ibid.* *juan 2*, page 21a. A bundle equals four *zhang* (丈1.6 meters), so 30 bundles would equal to around 50 meters of textiles.

relatively stable system transmitted in state-commissioned *bencao* texts. On the one hand, many editors of local gazetteers aspired to collect as many relevant records as possible, including literary and historical anecdotes; on the other hand, fragmentary accounts of local experiences and preferences also found their way into the gazetteers, rendering the “local products” section a conglomerate of disparate genres, voices, and naming practices. In general, however, gazetteers reflected a more empirical vision by classifying things according to their most intuitive uses in local life. Medicines therefore almost always constituted a separate category from “crops,” “flowers,” and sometimes “beasts” and “insects,” whereas such natural categories would have been subsumed in the Tang and Song *bencao* as different subtypes of medicine.

For instance, the 73 kinds of *materia medica* enumerated in the 1268 gazetteer of Hangzhou (Ch: 咸淳臨安志) turned out to be a heterogeneous compilation upon closer examination. First, the editor named five archaic drugs, “for the *bencao* says they existed in Hangzhou.” Then came three kinds of medicines known as Hangzhou’s local tribute to the Song court. Among the remaining 65, many in fact came from mountains lying at the outskirts of the Hangzhou region, at least a hundred kilometers west of the city and upstream on the Xin’an River. Only a handful, the compiler noted with certainty, came from the vicinity of the city.²² The seemingly monotonous list then in fact suggested a hierarchy of knowledge and value attributed to different items: while some received greater attention as objects desired beyond the local economy, others fell outside the scope of the state-commissioned *bencao* texts. Had there not been a market driven by the imperial court, Hangzhou would not have been able to assemble a cosmopolitan

²² *Xianchun Lin’an zhi* (1268), *juan* 59.

pharmacy, which demanded access to at least several hundreds of simple drugs, a number far exceeding the seventy-three available to its environs.

Tension between the central and local perspective on *materia medica* products became more pronounced during the Ming dynasty (1368-1644CE), when local gazetteers began to be compiled in more local administrations throughout China. On the one hand, compilers of local gazetteers saw themselves as representatives of high culture, and often commented with contempt on the popular ignorance of the abundant medical resources in their immediate surroundings. Since the literati had access to the state-sanctioned knowledge of *bencao*, they sometimes accused the populace as “clumsy characters and idle people,” thus blaming the people themselves for their poverty.²³ A late Ming county gazetteer in the northwest province of Shaanxi, for instance, had the following observation:

With so many kinds of medicines, the people could have well fed themselves by selling them. Yet they would rather leave it there in the wilderness... so inept were they, on matters of making a living. ... Untapped good profits lie everywhere in the world, yet they will not exploit or tend to anything. Who, then, is to blame for their increasing misery?²⁴

In fact, the local elite also often despaired at the lack of adequate doctors, which left the populace to turn to superstitions and witchcraft. By rectifying the nomenclature and uses of local products in the gazetteer, they thus sought to educate and promote good behavior among the populace. It was also common among literati-officials serving in remote regions to obtain some common herbs by horticulture and cultivation, a phenomenon whose evolution I will discuss in greater details in Chapter 5.

²³ *Hejian fu zhi* (Gazetteer of Hejian Prefecture, Jiajing edition, 1540), *juan* 7.

²⁴ *Tongguan xian zhi* (Gazetteer of Tongguan County), Wanli edition, *juan* 3.

The local people, however, were not just passive objects of elite ridicule. Vernacular nomenclature and folk remedies sometimes found their way into gazetteers, and some editors frankly admitted that their own cosmopolitan knowledge was inadequate and even incommensurable to the wisdom of local healers. In the sixteenth century, the gazetteer of Dongxiang County (Ch: 東鄉縣 Jiangxi Province) remarked:

There are many herbs in Dongxiang that could have been used as medicines, but the local people know not how to collect them. When they need medicines, they buy them from the market. Only the surgeons would use them, but often by different colloquial names as taught by their teachers, so it was difficult to compare and confirm their names in *bencao* books.²⁵

The ambivalent attitude on the identification of useful flora and fauna in local gazetteers reflected a persistent tension between vernacular and cosmopolitan knowledge. If the gazetteer at first served mostly as receptacles and disseminators of elite knowledge at the local level, by the mid- to late Ming it gradually became an important primary source for elite scholars. Among the four hundred and forty non-medical titles that Li Shizhen cited in his *Bencao gangmu*, none was in fact a local gazetteer.²⁶ This was to change later during the Qing, when first-hand information in gazetteers composed between 1550 and 1750 became more readily available, they became valuable sources for scholars working in many fields, including *materia medica*, as we will see in Chapter 4.

Mapping Authenticity

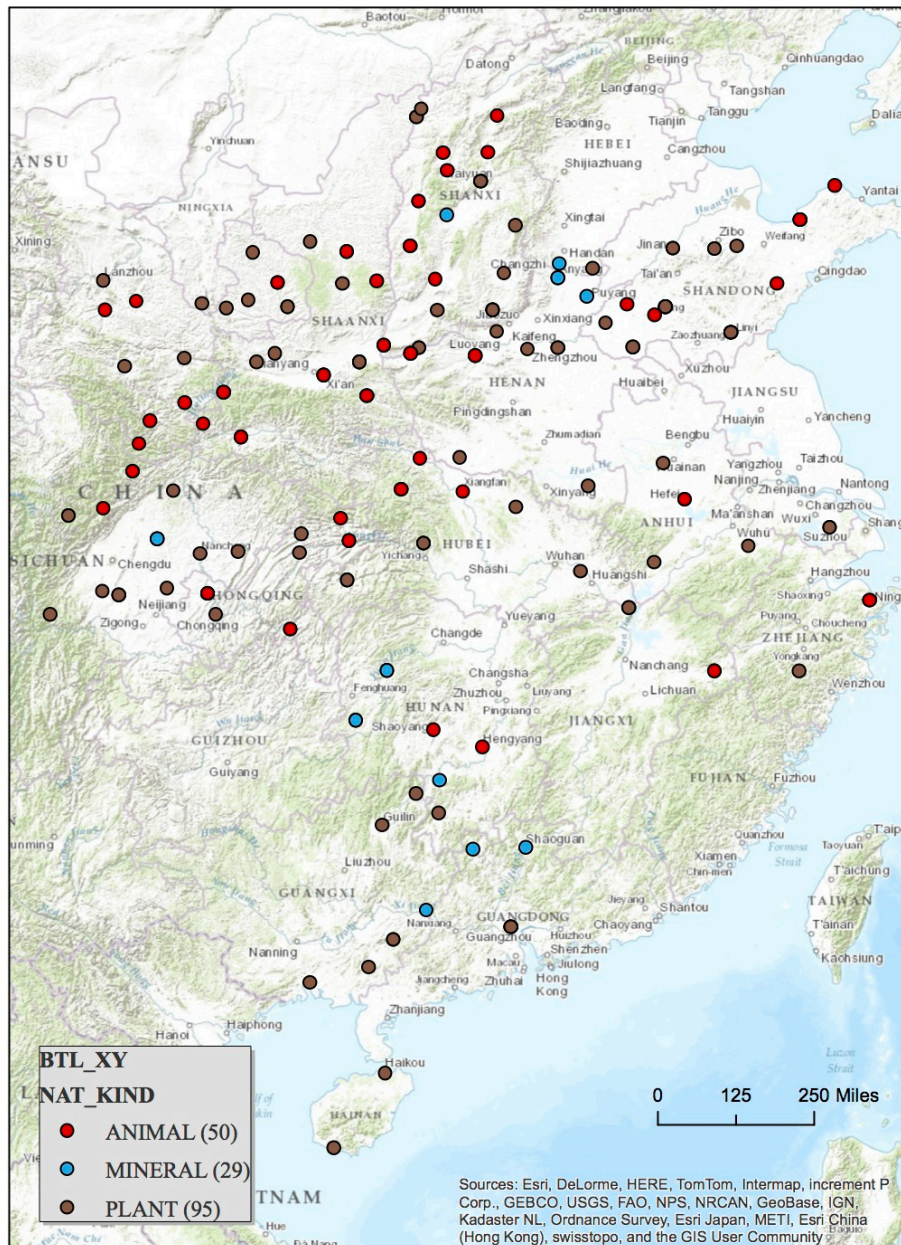
Based on the information provided in Tang, Song, and early Ming sources, we can begin to grasp the overall distribution of resources for the best *materia medica* over the *longue*

²⁵ *Dongxiang xian zhi* (Gazetteer of Dongxiang County, Jiajing edition), *juan* 1, page 34ab.

²⁶ For Li's own reference list see Li Shizhen, *Bencao gangmu*, Notes to the Reader 1.

durée. Zhao Yushi's list provides us with the first set of information that reflects more or less the practice of local tribute collection during the Northern Song (Map 6).

Source of Medicine as Local Tribute during the Northern Song



Map 4 Local administrations responsible for presenting *materia medica* tribute during the Northern Song²⁷

²⁷ Geographical analysis is conducted via the placename search engine at the Chinese Historical GIS website (http://chgis.hmhc.harvard.edu/search_form_1.php).

The first striking feature of the map is perhaps the heavy dependence on the north of the Yangzi River as major sources of medicines. Ginseng was exclusively taxed from three counties distributed in the Taihang ranges in Shanxi, and the peripheral regions of the Henan area near major mountain ranges were also rich in many traditional *materia medica*. Secondly, the collection of animal drugs is highly localized (ox bezoar from eastern Shandong, and donkey skin gelatin from western Shandong) and specialized. An annual amount of 75 ounces of musk was collected from sixteen local administrations in the north, an indication of the extent of forestation. Lastly, medicines from the south were almost exclusively collected along the pathway along Hubei, Hunan and Guangxi, reaching as far south as the Hainan Island. The entire absence of the southeast coast as well as Jiangxi reflects the overall underdeveloped status of the Gan River basin, which would eventually become a major artery for pharmaceutical trade in later periods, as we will see in Chapter 4.

From Local Tribute to Designated Procurement: Medicine in Ming Fiscal History *Auditing the Land's Wealth*

Succeeding the Mongols as rulers of China, the Ming Dynasty inherited an administrative infrastructure with marked differences from the Southern Song.²⁸ A striking change also took place in the state collection of local tributes, when the most humble substances—herb roots and tree barks---came to be harvested and circulated in very different ways, leaving at the same time indelible marks on lives and ecologies of late imperial China.

²⁸ Paul Jakov Smith and Richard von Glahn eds. *The Song-Yuan-Ming transition in Chinese history*, Cambridge, Mass.: Harvard University Asia Center, 2003).

For one thing, the Ming court's demand on its provincial administrations for *materia medica* and other local products went far beyond symbolic exchanges of small amounts. At the same time, the spatial distribution of burden was also reconfigured during the Ming, and the actual demand as reflected in statutes and local gazetteers no longer matched descriptions of drugs in previous *bencao*. For instance, Renhe County (Ch: 仁和縣), the official administration responsible for a large section of the city of Hangzhou, was responsible for turning in 50 *jin* (catties)²⁹ of *xusuizi* (Ch: 續隨子), a pungent-flavored caper seed, according to a mid-sixteenth century local gazetteer. The section on "local products" in this gazetteer was divided in two parts: while thirteen medicines, including *xusuizi*, were considered "fit for tribute to the court," another 27 kinds of medicines were named but deemed "not fit for the purpose of tribute."³⁰ A few centuries back, however, the Song state merely got three catties of the seed *xusuizi* from the mountainous Lingjing Garrison (Ch: 陵井監) located in western China.

The increased amount and changed location of tribute for something like the *xusuizi* seed reflected the Ming state's policy toward material revenue across the country. The 50 catties of *xusuizi* that Renhe County was responsible for, plus another sixty from a different locality in Zhejiang province, served the Ming court's need for this one ingredient every year.³¹ The *Collected Statutes of the Great Ming* showed that in early fifteenth century, the Ming court collected as much as 55,474 catties of *materia medica*

²⁹ One *jin* (catty) is equivalent of 605 grams.

³⁰ *Renhe xian zhi* (Gazetteer of Renhe County, Jiajing reign), *juan* 3, page 27ab.

³¹ *Shanxi tong zhi* (Union gazetteer of Shanxi Province, Chenghua reign), *juan* 6. "Wanquan County, persimmon cake 548 *jin*, medicines (*xusuizi* etc.) 20 *jin*, and thirty-four sheep." Also *Dinghai xian zhi* (Gazetteer of Dinghai County, Jiajing reign), *juan* 8, page 5a.

from the entire country, already twenty times more than its Song predecessor (about 2,634 catties). A hundred years later by the beginning of the Jiajing reign (1522-1566), however, the amount had more than quadrupled to a staggering 264,227 catties. With some effort towards moderation, the sum was reduced to 249,581 catties, when the *Collected Statutes* were revised in 1587.³² And the amount was only for substances to be submitted to the Imperial Academy of Medicine in Beijing; another 7,244 catties of medicine in addition was due to the southern capital of Nanjing, where a parallel structure of bureaucracy also demanded supply of material goods.³³ A breakdown of the total extraction of medicine from different provinces is shown in Table 4.

At the first glance, the burden of furnishing medicines for the Ming court did not fall evenly across the country, but mostly on areas with the most developed commercial apparatus and closest to the capitals, such as the two Metropolitan Regions (Ch: 直隸) in the north and south, along with the southeastern Zhejiang province. Despite the reputation of Sichuan as home of the most important medicines in Chinese *materia medica*, the Ming court did not put as heavy a burden on Sichuan as other southern provinces, which was probably due to the high transportation cost between the far western frontier and central China plains. The frontier provinces at China's northeast and Far South were also only responsible for a relatively small amount of tribute, more or less still symbolic of the lack of direct control over the distant land and peoples. One might conclude that the amount of medicines extracted by the Ming state during this period became much larger because of a stronger control over certain core regions.

³² Shen Shixing et al. eds. *Da Ming Huidian* (Collected Statutes of the Ming), 1587 edition, *juan* 224.

³³ *Ibid.*

Provincial administration	Main items in the tribute list	Total Amount (catties)
Zhejiang	Purple aster, gold leaf, etc.	31,610.5
Jiangxi	Aromatic madder, etc.	6,142.26
Huguang	Fritillary, white banded snake, cinnabar, musk, etc.	2,738.38
Fujian	Indigo, Tabasheer, etc.	2,763.931
Sichuan	Szechuan aconite, musk, rhinoceros horn, ember, etc.	14,501.75
Guangdong	Patchouli, refined camphor, red lizard, aloewood, etc.	5,771.14
Guangxi	Tropical basil, bushy sophora, refined camphor, etc.	3,821.14
Shanxi	cocklebur, musk, etc.	8,830.17
Shandong	Gastrodia, Atractylodes lancea, etc.	8,404.19 + 22,480
Henan	Chinese clematis etc.	8,492.12
Shaanxi	Bugbane, realgar, etc.	10,311.7
Liaodong	Ginseng.	800
Southern metropolitan area	Corydalis tuber, Pinellia ternata, centipede, gold leaf, Perilla, China root, etc.	c. 104,960
Northern metropolitan area	Dried chrysanthemum, locust fruit, hemp seed, skullcap root, etc.	16,884.8
Total		249,581 (~150,000 kg)

Table 4 Annual quota of raw medicines collected by the Ming court in 1587.

A host of factors may have contributed to the enhanced ability of the Ming state to extract tribute. First, scholars have shown that, interregional transportation costs all over the empire dropped considerably owing to the large-scale construction of roads and state-run outposts during the Mongol Yuan Empire. The Grand Canal was restored and further elongated, linking rice-producing lower Yangzi region with the northern capital of Beijing, making north-south traffic much easier due to the East-West orientation of most of China's natural waterways.³⁴ Not only was it now much easier for the ruling court to

³⁴ Timothy Brook, *The Confusions of Pleasure*, 36-56.

reside in the north and live on the production surplus generated in the South, it also provided a much faster route of exchange for northern and southern medicines.

Moreover, the Ming also inherited from the Yuan Dynasty a system of provincial administration, designating the affairs of collecting tax and local management to thirteen provinces, instead of over two hundred smaller prefectures.³⁵ The provincial finance officer (Ch: 布政使) was now charged with the task of overseeing agricultural taxation and labor service and coordinating the shipment of grains and silver to the court. The strengthened capacity of administering resources at the middle level – between the capital and county-level local administration – probably gave rise to a more mechanical and number-based assignment of local tribute among prefectures under one province, and counties under one prefecture. In this sense, the local tribute further lost its original meaning as a voluntary gift from the local people in submitting to the ruler, and increasingly became direct taxes upon local resources by a centralized state, managed by a hierarchical bureaucracy from the top.

For instance, the province of Zhejiang owed a total of 39,080 *jin* of raw medicines to the Board of Rites (Ch: 禮部) in both Beijing and the southern capital of Nanjing (the two destinations shared the benefit by a ratio of roughly 9:1).³⁶ Eleven subordinate prefectures were jointly and severally responsible for collecting 57 kinds of medicines in varying quantities. The porous fungus *fuling* (Ch: 茯苓), long ranged among the most commonly used medicines in the Chinese pharmacopeia, was shipped in bulk (3,000 *jin*) from four prefectures, whereas for rarer ingredients, such as the oxidized lead ore litharge

³⁵ Charles O. Hucker, “Governmental Organization of The Ming Dynasty,” *Harvard Journal of Asiatic Studies* 21 (Dec., 1958), 1-66.

³⁶ *Zhejiang tong zhi* (Union gazetteer of Zhejiang Province, Jiajing reign), *juan* 17.

(Ch: 密陀僧), only 30 *jin* were requested exclusively from the prefecture of Hangzhou.³⁷

In many cases, counties subordinate to one prefecture were then jointly assigned the task of putting together a certain amount of medicine, regardless of whether the material was in fact produced locally.

The collection of medicine constituted only one illustration of how the Ming state materially depended on localities for every function of its state apparatus. After medicines were received by the offices in the Board of Rites, the substances became supplies for the Imperial Academy of Medicine, which was in turn responsible for the care of the imperial family, its harem, important officials, as well as dispatching medicines to soldiers and cattle whenever necessary.³⁸ At the same time, the Board of Revenue (Ch: 戶部) and Board of Works (Ch: 工部) also stored materials turned in from the provinces, including large quantities of bow strings, overcoats and shoes for soldiers, dyes, specialty textiles, feathers, and calendar paper. Each year, therefore, shipments of miscellaneous goods filled the waterways and overland thoroughfares of the Ming Empire, all at the expense of local communities. The archaic logic of “designating tributes according to what the soil produces” could no longer be defended as justification for all the trouble incurred in this process.

Debate over Monetization

³⁷ Ibid.

³⁸ Shen Shixing et al. *Collected Statutes of the Ming*, juan 224.

The Ming state's voracious demand for local products soon elicited widespread discontent. A high official named Dai Xian (Ch: 戴銑 fl. 1496-1506) described the situation in a long memorial presented to the throne in 1503:

[The way we meet] military expenses today are derived from the ancient institution of local tribute. However, the annual procurement from many places was not in fact local products (Ch: 土產). For instance, numerous dyestuff and medicines come from Sichuan and Huguang, and now they are mostly procured from the core regions. As for cattle, timber, and fruit, they are abundantly produced in regions near the capital, but the burden of those items often fell on the southeast. Since they are not produced locally, people must buy them from the market via many transactions, and by the time the goods reached Beijing, they are already expensive. And there is always the problem of official corruption... As a result, it cost several times more money, for goods that are mixed in quality.³⁹

Other contemporary observers concurred with Dai Xian's observation of the wasteful and corrupt consequences of excessive extraction of medical materials. Memorials sent in by officials in early sixteenth century pointed out that large quantities of medicine were left rotting in storage every year.⁴⁰ Others reported that the bows and arrows manufactured at local districts piled up to "hundreds of millions in imperial storage, with their lacquer parts and feather stems in decay... completely useless."⁴¹ Clerks, minor officials and even high office-holders fattened their purse by hoarding medicines in the capital and selling them at high prices, and some provincial emissaries were also willing to cooperate with them for illicit profit. In 1488, a censor accused Zhou Hongmo (Ch: 周洪謨), then the powerful minister of the Board of Rites, of encouraging

³⁹ Dai Xian, "Memorial on Essentials of Good Governance," as quoted in *Gazetteer of Wuyuan County*, Republican edition, *juan* 64, 31a-32b.

⁴⁰ *Veritable Records of the Ming* (Ch: 明實錄), Hongzhi reign, *juan* 211. Also see Liu Daxia, "Memorial on relieving famine and forestalling burglary," in Chen Zilong et al. eds., *Ming jingshi wenbian* (Anthology of statecraft writings of the Ming), *juan* 79.

⁴¹ Xu Sanzhong (fl. 1577), *Caiqin lu*, *juan* 3, page 11-12 (Siku quanshu edition).

his family agents to illicitly acquire large amounts of local tribute medicines and sell them at high prices for profit. Although Zhou was forced to retire in disgrace, it was clear that by early sixteenth century, the large-scale collection of medicine was already dysfunctional and corrupt.⁴²

One potential solution to this, noted Dai Xian, was for the state to become more flexible in the practice of collecting local products. If the Boards of Revenue, Rites, and Works could have more precise knowledge of what products were truly unique and superior in certain places but not another, they should keep collecting the item as it is. For the vast majority of goods that could be easily purchased at a good price near the capital, then the state could just request the equivalent value in silver cash from the local administration. Indeed, converting payment in kind into cash would be a good deal for both official needs and the local people.⁴³

The Board of Revenue approved Dai Xian's proposal in 1505.⁴⁴ Commutations between goods and currency in payment to the state occurred early on, albeit in a different direction. It was already possible during the Song, for instance, for the locality to turn in more tributes items in return for a cut in its regular agricultural tax amount.⁴⁵ In the fourteenth century, Yunnan, a frontier province with limited agricultural production, was allowed to use "gold, silver, shells, textiles, lacquer sap, cinnabar and

⁴² The Zhou Hongmo episode was documented in *Veritable Records of the Ming*, Hongzhi reign, *juan* 19. Also see Anon., *Guan ge man lu* (Random records of the High Chancellor's Chamber), an anonymous collection of political intrigue stories, *juan* 7.

⁴³ Dai Xian, "Memorial on Essentials of Good Governance."

⁴⁴ *Veritable Records of the Ming*, Zhengde reign, *juan* 5. Hongzhi 18, month 9.

⁴⁵ Ma Duanlin, *Wenxian tongkao*, "On Land and Taxation."

mercury” as substitute for its regular agricultural taxes measured by grain.⁴⁶ In that case, rice and grain were called “original kind” (Ch: 本色) in taxation, whereas local tribute products served as the “substitute kind” (Ch: 折色). In Dai Xian’s proposal, however, it was the local products that were to be converted into payment of silver cash. While he objected to the excessive burden exerted on local people, his proposal in fact did not lift the burden off the localities, but instead fixed the same burden as a kind of surtax with equal monetary value.

It was a common understanding by many, like Dai Xian, that the large amount of “designated procurement” (Ch: 額辦) in all its disguises could be traced to the ancient institution of local tribute. Since the kinds of products for state consumption remained the same, Dai saw the inconvenience as having risen primarily out of a mismatch between supply and demand, which could be fixed by the option of monetization. Confusion and ambiguity abound in sixteenth century statecraft writings, however, at a more basic level of political philosophy: what justified the state to extract such large quantities of products from the locality, and was this not a total negation of the spirit of local tribute as voluntary gift to the court? Many local administrations in fact chose to keep the category of “local tribute” as separate from the larger amounts of extraction imposed from the top. Some local officials tried to distinguish the two different activities in the gazetteer section on taxation:

Tribute (Ch: 貢) is what people present from below; Tax (Ch: 賦) is what the state takes from above.⁴⁷

⁴⁶ *History of the Ming*, Chapter 2 on Food and Economy.

⁴⁷ *Luotian xian zhi* (Gazetteer of Luotian County, Jiajing edition).

The effort to preserve the spontaneous sense of local tribute could do little to alter the overwhelming weight of state demand. By the late sixteenth century, the so-called “Single Whip Law (Ch: 一條鞭法)” proposed to convert all taxation and services to the state into one sum of monetized payment. As the compilers of the *History of the Ming* put it, the Single Whip Law

... covers in its entirety the taxation and service of a district/county. Based on measurement of the land and census of local population, the land tax and toll tax are combined and shipped to the official. ... As for designated procurement, additional procurement, annual supply to imperial storages, and local fiscal expenditures, as well as **local tributes of the land**, all those fees are all combined into one sum. The tax one should pay is thus deduced from the landed property he owns, and he should pay in silver cash to the local government. [Emphasis added]⁴⁸

Historians of economic and fiscal aspects of Ming China often saw the transition from taxing in kind toward taxing in currency as a progressive shift in efficiency, and as evidence of the growth of monetized transactions replacing earlier barter exchange. Works by Chinese and Japanese historians have emphasized that the advent of the Single Whip Law in late sixteenth century grew out of heightened disparity in land ownership, with the consequent disintegration of the egalitarian social order as envisioned by the founding emperor of the Ming.⁴⁹ Their discussion of the “miscellaneous products” extracted by the Ming state, including medicine, has focused on the theme of commodification and monetization, namely that state demand drove up the total amount of products available on the domestic market. As historian Tang Wenji observed:

⁴⁸ *History of the Ming*, juan 78

⁴⁹ Ray Huang, *Taxation and Governmental Finance in Sixteenth Century Ming China*. Also see Kuribayashi Nobuo, *Rikōsei no kenkyū* (Tōkyō, Bunri Shoin, 1971), esp. 81-86.

When the court imposed tribute items on local prefectures and counties where the items were not produced, the local government often resorted to the collection of currencies and purchased the items from the market instead. Therefore, the transformation of local tribute into a form of tax is essentially congruent with the process of its monetization.⁵⁰

Scholars have debated to what extent state demand mattered in the overall economy of the Ming.⁵¹ *Materia medica* is distinct from manufactured goods, however, in that the increasing demand from the state on many raw medicines eventually met with ecological constraints, and the situation varies greatly from one kind of drug to another. Even if certain common herbs, such as chrysanthemum, had been domesticated early on, the supply of *materia medica* still depended predominantly on collecting from the wild. As a result, intensified state demand did not necessarily bring up the scale of production, but rather opened up the option of monetized payment earlier than other services to the state. I will examine the production of *materia medica* and formation of domestic market for *materia medica* in Chapter 4.

Here, however, I wish to emphasize not the economic, but cultural significance of the Ming state's ways of extracting medicine from the land. The old alliance between the state and the locality forged by the voluntary presentation of local tribute, on the one hand, and the survey of places in state-commissioned *bencao* books, in the other hand, became virtually ineffective by late sixteenth century. The heavy-handed extraction on

⁵⁰ Tang Wenji, *Mingdai fuyi zhidu shi* (History of taxation and labor service during the Ming), 58-64. Tang's study was based largely on the experience of Fujian province. Also see Liu Zhiwei's study of Guangdong: Liu Zhiwei, *Zai guojia yu shehui zhijian: Ming Qing Guangdong lijia fuyi zhidu yanjiu* (Between State and Society: an Institutional Study of Ming-Qing Household Registry and Taxation), (Guangzhou: Zhongshan daxue chubanshe, 1997), 149.

⁵¹ Hoshi Ayao's study of safflower (Ch: 紅花), an important dye and fodder, questioned the assumption that state demand necessarily triggered production and commercialization. See Hoshi Ayao, *Min Shin jidai shakai keizaishi no kenkyū* (A Study of Ming and Qing Social and Economic History) (Tōkyō: Kokusho Kankōkai, 1989), 156-61.

the part of the Ming state, executed via a hierarchical bureaucracy, became so rigid and demanding as to disregard local availability of the product in question. In response, the locality resorted to either purchasing medicines from the market or advocating for monetized payment, with the result that the state was no longer receiving *materia medica* from the places where they were supposedly produced. In other words, the state no longer commanded the authoritative knowledge of where to find the best kind of medicine, nor did it make an effort to rectify the situation. It is thus not surprising that no more state-commissioned *bencao* texts were produced after the early sixteenth century.

Problems with or without Money: the Local Response

Confusion over categories of taxation notwithstanding, the collection of medicines for the state, in kind or in cash, remained an obligatory task for local administrators and the community. In a manual for newly appointed magistrates, a mid-sixteenth century author reviewed the most cumbersome tasks that he should expect in his term:

Official affairs are vast and hair-splitting, and one must rely on calculations. Things such as taxation grains, salt monopoly fees, **all the converting and purchase of medicines**, construction projects for military needs...⁵²

In addition to the notoriously complicated bookkeeping demand of the regular grain tax, the magistrate had now to rely on expert clerks to calculate a composite tax rate for landowners. On their account books, therefore, medicines and other materials became abstract numbers subject to error and manipulation by cunning clerks.

Local administration did have some leeway to work around set quotas imposed on their jurisdiction. In times of natural disaster, the Ming court was often hard-pressed by

⁵² Wu Zun (*jinsi* 1547), *Chu shi lu* (Notes for Beginners of Office-Holding), n.p.

requests to cut back on its demand for tributes, to convert original payment in kind to payment in cash, or to alleviate local burdens by voiding pre-scheduled shipments of local goods. Although sometimes the court was willing to concede and show gestures of benevolence,⁵³ the Board of Rites, citing the urgent necessity of medicines at the court, often refused such requests.⁵⁴ Provincial administrations also worked out shipment plans that would be most efficient in saving transportation costs.⁵⁵

In the end, the specific tasks of collecting medicine in kind, coming up with the corresponding amount of cash, and also escorting the shipment to capital, all eventually fell on the taxable households of the locality. The cornerstone of Ming local society was constituted by the so-called *lijia* (Ch: 里甲 lit. “hundreds-and tithings”) system, which organized households into taxable units, and the family heads of every tenth and hundredth household took turns in assuming the responsibility of collecting tax and organizing labor service for the state.⁵⁶ Likewise, households took turns collecting medicines and paying for the cost of transportation. While most counties and prefectures distributed the burden evenly among all tax-paying households, other places mobilized additional resources (e.g. levies charged on households who rent out their land for salt production).⁵⁷ Households could also opt to pay for medicines and avoid their turns to

⁵³ *Veritable Records of the Ming*, Tianshun reign, first month of first year. Also *Ibid.*, Wanli reign, *juan* 193.

⁵⁴ *Veritable Records of the Ming*, Zhengde reign, *juan* 49. The Board of Rites was charged with keeping a rotating account of medicines sent in from the provinces. *Veritable Records of the Ming*, Wanli reign, *juan* 412. (P.7709)

⁵⁵ *Veritable Records of the Ming*, Hongzhi reign, *juan* 223. Also see Zhang Sheng, “Memorial over five matters,” in *Libu zhi gao* (Memorial Manuscripts for the Board of Rites), *juan* 45.

⁵⁶ For an example of service extracted from the *lijia* system (brick-making), see Timothy Brook, *The Confusions of Pleasure*, pp. 23-27.

⁵⁷ *Yizhen xian zhi* (Gazetteer of Yizhen County, Longqing edition), *juan* 6, 11.

serve the state with corvée labor.⁵⁸ In some cases, local officials negotiated with local people and reached a deal, including increasing slightly the rate of land tax to raise a communal fund for the purchase of miscellaneous items such as medicine.⁵⁹ In sum, the Ming court's massive extraction of local products created an extra occasion and incentives for local political maneuvering. The option of monetization did not always make things easier for the locality as a whole, and wealthy households sometimes leveraged such obligations to the central state to expand their own privilege vis-à-vis others.

Another group that stood to profit from the state collection of medicine was the merchants, who exploited the locality's obligation to the Ming court by offering the required items for sale, albeit at very high prices. The gazetteer of Haizhou (Ch: 海州), a southeastern coastal district, noted in 1572 that shipments of medicine from their land often got rejected by the capital officials, who had obviously been bribed by the medicine merchants, and they had no choice but to pay a unreasonably high price for some "acceptable" products. To prevent this from happening again, Haizhou opted to collect money from its *lijia* system and successfully diverted the obligation of shipping to officials at the prefectural level.⁶⁰

In still other places, even the collection of enough cash became a grave problem, for local population was often reduced to desolate poverty by trading the meager harvests

⁵⁸ *Binzhou zhi* (Gazetteer of Binzhou, Jiajing edition), *juan 2*.

⁵⁹ *Longqing zhou zhi* (Gazetteer of Longqing Department, Jiajing edition), *juan 3*. The magistrate, Liu Yunhong (Ch: 劉雲鴻), "asked the local people to get together and discuss this matter", and agreed that the total goal of collecting 1,000 *jin* of medicine should be met by taxing the landowners one half *jin* of medicine, or an equivalent 0.025 tael of silver cash, for every fifty acres (*mu*) or land they owned

⁶⁰ *Haizhou zhi* (Gazetteer of Haizhou, Longqing edition, 1572), *juan 3*.

from their land for expensive silver currency. As late as in the 1640s, people living in the mountains of Sichuan-Tibetan border still risked their lives to collect medicines, primarily the intensely bitter, yellow-colored root of Goldthread (Ch: 黃連 *huanglian*). Failing to meet the official quota of over seven hundred catties per year, some became so desperate as to sell their children for cash, in order to purchase the tribute herb from predatory merchants. Zhang Weidou (Ch: 張維斗), magistrate of Xingjing County (Ch: 榮經縣) in the 1640s, described the dismal reality in a set of poems, “Ballad of *huanglian*.”

Alas! Cold is the nature of Goldthread,
Swallowing it makes one vomit.
Its bitter taste is doubled
With such miserable sufferings!
Why not abolish the Goldthread extraction
So as to turn bitterness palatable?
But who will beat the Palace Drum [of petition]
If imperial needs cannot be denied?
By converting the payment into money,
the damage could still be undone.
Otherwise, the people will continue to suffer,
And only the moon is left to shine on the empty household.⁶¹

To help those people buy the required drugs, Zhang managed to scrape together a little money by charging levies on itinerant merchants selling cloth passing through his jurisdiction, as well as raising the license price of tea vendors.

A few years after Zhang made such efforts, the Ming court fell to the rebel army of Li Zicheng, and Sichuan suffered protracted warfare for more than ten years. On top of egregious losses of population and wealth during the massive killing and displacement,

⁶¹ *Xingjing xian zhi* (Gazetteer of Xingjing County, Qianlong edition) *juan* 9.

merchandise to and from Sichuan was also cut off for many years. A shortage of special products, *materia medica* in particular, soon became a problem for many in east China.

Negotiations over Local Tribute in Early Qing

After settling down in Beijing as the new rulers of China, the Qing regime pressed southward to combat the residual forces of rebels and Ming princes. Commercial activities froze in the wealthy lower Yangzi River delta, and people were still recovering from the shock of massacres and persecutions that followed the defeat of one Ming loyalist regime after another. At the same time, Qing officials began to be sent in to provincial administrations, and reported on local fiscal conditions. Tax breaks were granted to war-ridden regions, and the extra levies imposed by the late Ming regime were largely lifted.⁶² At the same time, however, the Qing state also pressed harder on locals to repay miscellaneous taxes owed or delayed due to the turmoil of wars.

In 1648, local communities in the Ningguo Prefecture (Ch: 寧國府) learned that provincial authorities ordered the local tribute of Goldthread (*huanglian*) to be resumed from that year. The new ruler, like the old one, badly needed cash, grain, and material supplies to fund its efforts to consolidate the new territories. Among many items in short supply were medicines necessary for the military. As supplies were cut off for the majority of merchants, the market price for medicines skyrocketed. The Qing court therefore asked provincial administrations to collect medicines in kind, rather than in

⁶² *Collected Statutes of the Great Qing* (Ch: 大清會典), Kangxi edition (hereafter DQHD-KX), 21.7; also DQHD-KX, 31.11-12

cash, to relieve the overall shortage felt for military expenses. It was decided that a sum of 1,700 catties of *huanglian* roots must be collected from Ningguo every year.

The fame of Ningguo as home for good *huanglian* could be dated back to as early as in the eleventh century. An early Song dynasty *bencao* attested that

Recently, doctors regard *huanglian* from Xuanzhou [Ch: 宣州| historic name for Ningguo] as the best. Its root has multiple knots, they weigh heavy and make sound when hit against each other.⁶³

As a result, the land of Xuanzhou presented 20 catties of the precious herb per year to the Song court, and the practice persisted well into the sixteenth century. In 1648, however, the local gentry in Ningguo decided to resist the Qing state's request for the drug. They sent people to search from the mountains, and reported back to officials that the native *huanglian* "had been completely dug out" with nothing left. In a memorial sent back to the Qing court, the governor noted that previously, all shipments of *huanglian* from Ningguo were in fact bought from the market town of Wuhu (Ch: 蕪湖) on the Yangzi River.⁶⁴ Since the actual drug could no longer be found locally, the Ningguo people were willing to pay a higher price in silver, a significant rise from 0.08 to 0.4 tael per catty. Under the lobbying of multiple local officials as well as capital officials who came from the town, the Qing court granted that two thirds of the original amount of payment could now be converted to silver. Eight years later, the Ningguo people petitioned a traveling censor again to remove any payment in kind altogether. These negotiations were

⁶³ Tang Shenwei, *Zhenglei bencao*, *juan* 7.

⁶⁴ Memorial by Li Ripeng in 1651. Database of Ming and Qing Grand Secretariat, Taipei, no. 089132-001.

recorded as a proud accomplishment and evidence of good governance in an early 19th century gazetteer.⁶⁵

Similar negotiations continued during the initial decades after the Qing conquest. At the same time, the Qing state also went back and forth in the institutional arrangements of court expenditure vis-à-vis state revenue. In 1663, the Qing court ordered all types of income, including agricultural taxes, labor levees and local tributes, to be administered through the Board of Revenue, which marked a decisive move toward the consolidation of Ming fiscal structure.⁶⁶ Medicines, livestock and calendar papers, all items received and administered by the Board of Rites under the Ming, now came under the uniform supervision of the Board of Revenue, which reduced significantly possible sources of corruption.⁶⁷ Likewise, the Board of Works' right to collect its separate source of income was eliminated.⁶⁸ No longer dependent on the tribute medicines turned in from all over the country, doctors serving the imperial pharmacy now purchased the necessary ingredients themselves, and then were reimbursed by the Board of Revenue. Since the Board had to check expenditures against actual costs, transactions between court and the Board came under discipline by bookkeeping and periodic review.

More important modifications took place in the eighteenth century. First, by the end of the Yongzheng reign, the purchase of medicines was taken off the regular duty of physicians serving the Imperial Pharmacy, and delegated to “medicine merchants” (Ch:

⁶⁵ *Xuancheng xian zhi* (Gazetteer of Xuancheng County, Jiaqing edition), 24.9-12.

⁶⁶ Zhang Tingyu et al. eds. *Qing chao wenxian tongkao* (Comprehensive Institutional History of the Qing), *juan* 2, agricultural taxes.

⁶⁷ *Collected Statutes of the Great Qing*, Kangxi edition, 78.6, and 161.19.

⁶⁸ *Regulations and Precedents in the Collected Statutes of the Great Qing* (Ch: 大清會典事例), *juan* 38.

藥商), who served as purchasing agents on behalf of the Qing court. Every three months, those merchants were to purchase medicines for the court and be reimbursed by the Board of Revenue.⁶⁹ Second, since 1792, court consumption of medicine came to be entirely underwritten by its own Imperial Household Department (Ch: 內務府), the privy purse of the emperor, separate from revenue of the state.⁷⁰ With its own steady source of income from domestic customhouses and confiscated property of officials, the Imperial Household Department replaced the powerful eunuchs of the Ming in the management of court expenditure. Meanwhile, the Qing emperors continued to receive small amounts of medicine as local tributes from officials and foreign emissaries. Free to dispose of those as private property of the emperor, the Imperial Household Department sometimes sold extra stocks back to merchants, to offset the cost of regular purchases.⁷¹ It could be said that by the end of the eighteenth century, the Qing state consumed *materia medica* primarily from a domestic wholesale market no longer tailored for the state. The privilege of extracting local tributes from the land continued to exist, but only played a marginal role in the economic life of Chinese people.

Conclusion

In this chapter, I began with the symbiotic connections between place knowledge in early state-commissioned *bencao* texts and the institution of local tribute, in which *materia medica*, along with other unique local products, was presented to the central state. The

⁶⁹ *Collected Statutes of the Great Qing*, Kangxi edition, 161.19. *Collected Statutes of the Great Qing*, Qianlong edition, 158.40.

⁷⁰ Evelyn Rawski, *The Last Emperors: A Social History of Qing Imperial Institutions* (Berkeley: University of California Press, 1998), 178-81.

⁷¹ *Regulations and Precedents in the Collected Statutes of the Great Qing*, juan 1193.

perspective on places and products, as illustrated by geographical distribution of medicines in the Tang and Song territory, constituted an important aspect of the medieval Chinese worldview. The Ming state, however, took a much more aggressive approach to extracting raw and manufactured materials, facilitated by a more hierarchical bureaucratic structure and enhanced capability of transportation. I then examined contemporary responses to the changed practice and meaning of local tribute, and the consequences of monetized payment to the state. As a result, not only did knowledge of geographical sources become largely outdated by the late Ming, the state also lost its voice of authority in forging such designations in *bencao* texts. The Qing state opted for a much more simplified fiscal structure, and court consumption of medicine came to be organized and funded largely in the form of cash transactions between the court and its purchasing agents.

The creation and metamorphosis of *bencao* corpus, then, have always been shaped by larger trends in political economy of the day. But the dynamics of local tribute and changing fiscal structures in the Ming and Qing only tells part of the story. Just as *bencao* scholarship underwent a sea change in its content, readership, and intellectual agenda in the late sixteenth and seventeenth centuries (Chapters 1 and 2), a new system of assigning value and ascertaining difference has to replace the earlier one overseen by the state. Beginning in the seventeenth century, a growing interregional trade network would, as I shall show in Chapter 4, create a map of medicines very different from that of the Tang and Song states, and one that bears strong continuity to the geography of pharmaceutical production in the twentieth century.

On the other hand, I would also like to emphasize the usefulness of examining the perspectives presented in non-medical documents, such as statutes and local gazetteers, and their relationship to similar subjects in *bencao* literature. Doing so, I argue, helps bring out the sociology of *materia medica* knowledge in sharper relief. Not only was state political power closely involved in the process of making *bencao* texts, the ways in which people evaluated, quoted, and interpreted them also often took on moral significance. A compiler of local gazetteer might cite *bencao* to showcase the power of classical learning, or he might enumerate previous lists of local tribute as an implicit criticism of present-day burdens on the local populace. Still in other situations, officials discovered the limits of orthodox *bencao* by noting the abundant novelties at the margins of empire, things that exceeded the known boundary of texts. Fortunately for us, much of their observations found their way back into later writings on pharmacology, a topic to which we shall also return in Chapter 4.

Lastly, the story of medicine as local tribute reminds us that the practice of medicine in pre-modern China had concrete economic and environmental consequences on regions where *materia medica* were produced. Past voices of protest against the overwhelming exploitation of local flora and fauna are still sobering in their poignancy, as early as in the late Ming times. “Exhausting the mountain valleys to obtain this medicine,” noted a local gazetteer in the 1570s, “is not to cure diseases but to generate more [social] ills. What good does it do to have so much of it?”⁷² The assembly of cosmopolitan pharmacies at a large scale inevitably exerts profound impact on peoples and ecologies far away from the consumer.

⁷² *Haizhou zhi* (Gazetteer of Haizhou, Longqing edition), *juan 2*.

Chapter 4 Reckoning with *Daodi*: Interregional Commerce and the Qing Imagination of Authenticity

Fang Yizhi, the scholar whose musings on the nature of drugs we encountered in Chapter 2, traveled extensively in south China in the 1650s as a monk, exile, and raised funds for the fugitive Ming princes. The experiences gleaned from his travels were later reflected in revisions to his manuscript of *Notes on Principles of Things*. In chapter 5, which was dedicated to the subject of pharmacology, the last entry was titled “Various Appearances at the Medical Market Town” (Ch: 藥市異形):

In Zhangshu, it has been said that:

Mutong from the Huai region can facilitate the flow of *qi*. Its color resembles frankincense, and has a radiate texture like spokes of a wheel ; Whereas *Mutong* from Sichuan is white in color, and can only be used as diuretics. The false kinds are in fact grapevines.

Also, *Xuanshen* from the Huai region is black, whereas *Xuanshen* from Sichuan is white; *Niuxi* from the Huai is slim and long, yellowish white in color, for use by women; *Niuxi* from Sichuan is bulky and blackish, for use by men.

All such information has not been previously recorded in *bencao* texts. Moreover, the so-called “stone lotus seed” is named thus because it is aged and dense, and sinks in water. Now there is a false kind for sale in the markets, it is bitter and pernicious to people.

Aged tangerine peel from Canton is good when its fragrance is so fierce that it goes right into the brain.¹

As someone who once sold medicine for profit during the wars, Fang probably overheard those words himself during his sojourns in Jiangxi Province. The town of Zhangshu (Ch: 樟樹), portrayed by Fang as a place where one could find abundant “drug talks” unknown in *bencao*, suggested the existence of a different group of actors, whose

¹ Fang Yizhi, *Wuli xiaoshi*, juan 5. For Fang’s life after the fall of the Ming dynasty, see Yu Yingshi, *Fang Yizhi wanjie kao* (A Study of Fang Yizhi’s Later Years), (Taipei: Yunchen wenhua, 2011).

knowledge of medical substances differed both from the state, on the one hand, and ordinary consumers like Fang, on the other hand. In this chapter, I will first trace how trade knowledge of *materia medica* evolved into a special discourse, as epitomized by a peculiar notion of authenticity (Ch: 道地), and found its expression in both elite and popular culture in the late Ming. I will then sketch out the emergence and flourishing of the town of Zhangshu as a national trade center of *materia medica*. While Zhangshu's rise began since the late sixteenth century, changed economic and demographic conditions during the Qing finally established it as one of the largest trade centers for medicines. Lastly, I will consider the rise of certain dominant value judgments, especially the imagination of the wild and homegrown in 18th century *bencao*, under the context of particular structures and patterns in the late imperial medicinal trade.

Focusing on the wholesale market of medicine has both advantages and dangers. The biggest drawback is that few primary sources has survived from the long-distance trades, both because of the ways in which trade secrets were transmitted from person to person, and also because of destruction during the 20th century. Since the late 1970s, however, the promotion of Traditional Chinese Medicine (TCM) and a revival of the private sector during the Reform Era gave rise to a new round of salvaging “tradition,” and the local people of Zhangshu, along with other medical market towns, saw it as an opportune moment to profit from the past. Now a considerable body of materials has been published based on oral histories of “old pharmaceutical artisans (Ch: 老藥工)” who had seen the last good days of the trade in early 20th century, both locally and at a

national scale.² Indeed, a modern medicinal fair has been revived in Zhangshu since the 1990s, and modern, mechanized pharmaceutical company feature photos of “old pharmaceutical artisans” in the hallway of their office buildings.

The problem with this group of sources, like many business histories, is that present incentives tend strongly to gloss over failures in the past, and overstate tales of uniqueness and success. The history of Zhangshu that they seek to promote, obviously, is not one that I desire to repeat here. By critically engaging the present business histories of Zhangshu with historical observers of the trade and their changing preferences and desires, I want to reconstruct a more realistic account of the emergence and expansion of a specialized domestic market for *materia medica*.³ No particular place was predestined to become a hub of commercial exchange, just as no business in fact developed as an embodiment of the archetypical “traditional Chinese pharmacy.” Rather, it was the range of choices and potential strategies available to historical actors at the time that I wish to explore, in order to illustrate the complexity and dynamic nature of the interregional trade in medicines.

Despite such difficulties, I see the wholesale trade of *materia medica* as a crucial component of the interregional circulation of commodities, providing a foundation on which the urban culture and imagination of the world unfolded during the late imperial period. In terms of chronology, wholesale merchants also took over from previous state institutions in mobilizing the bulk production and interregional circulation of medicinal

² For instance, Gong Qianfeng, *Zhangshu zhongyao paozhi quanshu* (A Complete Account of Chinese Pharmaceutical Techniques in Zhangshu), (Nanchang: Jiangxi kexue jishu chubanshe, 1990).

³ One of the modern-day local histories of Zhangshu that I have consulted include Sun Guoru and Huang Wenhong eds., *Zhangshu zhongyiyao fazhan jianshi* (A Concise History of Chinese Medicine and Pharmacy in Zhangshu), (Nanchang: Jiangxi kexue jishu chubanshe, 2011).

supplies, as I have shown in Chapter 3. The commercial culture of medicine during the Qing thus bears striking similarities to Traditional Chinese Medicine in our own times, yet at the same time differs from its predecessors in the Song, Yuan and Ming times. In this sense, this chapter also serves a necessary step to prepare us for Chapters 5 and 6, in which I examine the pharmaceutical ideals and practices of doctors and pharmacists, as they directly interacted with customers in a social space.

Trade and Regional Imagination of Medicinal Drugs before 1600

The western province of Sichuan had been considered particularly rich in *materia medica* since the Tang dynasty. A late tenth century author noted Sichuan as possessing the “fortune of medicine,” whereas the Tang capital of Chang’an (present day Xi’an) had the “fortune of money, fortune for the eye, and fortune for illnesses,” for the best doctors could be found there.⁴ Enclosed by Tibet to its west and northwest, and the Qinling mountain ranges extending towards the east, the lower plains of Sichuan enjoyed access to a wealth of natural resources while being relatively segregated from the turmoil and warfare of the heartlands. Trading of *materia medica*, along with other special products of the land, took place as open fairs in Sichuan during the Tang Dynasty.⁵ Multiple accounts during the Song documented a medical fair held on the ninth day of the ninth month in the provincial capital Chengdu.⁶ Some fairs had been associated with stories of

⁴ Tao Gu, *Qing yi lu*, *juan 5*.

⁵ Tang Tingyou, *Zhongguo yaoye shi* (A History of Pharmaceutical Enterprises in China), 75-77.

⁶ Chen Yuanjing, *Suishu guangji* (A Comprehensive Account of Customs around the Year), *juan 36*. Also Cai Tao, *Tieweishan cong tan* (Assorted Conversations in Tiewei Mountain), *juan 6*. ” Zhuang Jiyu, *Jilei pian* (Useless Jottings), n.p. Lu You, *Laoxue an biji*, *juan 6*.

wonder and worship at local temples, and officials often encouraged the fair to go on for three to five days.

During the Song dynasty at least, Sichuan had been regarded as home for good medicines along with the region of Guang, a notion that referred to the far southern provinces of Guangdong and Guangxi today. At that time, the term *Chuan-Guang* (Ch: 川廣) was often used to indicate the western and southern frontiers of the Song regime. When local officials during the Southern Song sponsored the construction of state-run pharmacies, they made it clear that “every product of the land and waters of *Chuan* and *Guang*” would be purchased regardless of cost. Wu Yuan, a local official for the city of Suzhou, explained that locally purchased medicines were often not authentic (Ch: 真), and only the state could make the necessary investment to ensure the quality of its merchandise.⁷ It is important to note that the awareness of *regional* superiority in certain kind of resources developed as a parallel discourse alongside the more specific designation of local tribute items to a particular county or prefecture.

At the same time during the Song, the term of *Chuan-Guang* also connoted a negative association with the places most removed from political centers, and thus the least desirable posts for literati-officials.⁸ The negative connotation of *Chuan-Guang* in an administrative context carried over well into the sixteenth century, when the newly established provinces of Yunnan and Guizhou formed a new compound, *Yun-Gui-Chuan-*

⁷ Wu Yuan, “An account of the Benevolent Pharmacy,” in *Suzhou fu zhi* (Gazetteer of Suzhou Prefecture), *juan* 133. See also a state-run pharmacy in Longxi County during the Southern Song, in *Bamin tongzhi* (Union Gazetteer of Fujian, Hongzhi edition), *juan* 61.

⁸ Yang Shiqi et al. eds. *Memorials and Deliberations of Illustrious Officials in the Past* (Ch: 歷代名臣奏議), *juan* 145.

Guang (Ch: 雲貴川廣), as the worst places to serve in office.⁹ The same regions that most considered inhabitable for metropolitan officials, however, turned out to be home to the most desirable products of the Middle Kingdom. Korean emissaries to Ming China, for instance, reportedly sought to establish trade for “*Chuan-Guang* medicines, metal utensils, and miscellaneous silk and textiles.”¹⁰ The dual imagination of *Chuan-Guang* as the land of marvels and treasures on the one hand, and hazardous, uncivilized frontier, on the other hand, thus reflected the metropolitan subject’s complex relationship with the frontier regions of the Chinese state.

In Chapter 3, I discussed the term “provincial soil,” which had been used in Tang medical texts to refer to places where particular kinds of *materia medica* were produced. The term largely disappeared, however, from recipe collections since the Song dynasty onwards, and was replaced by a neologism, *daodi* (Ch: 道地 lit. “routes and places”). The term, along with its synonym, *didao*, has come to be so commonplace in colloquial Chinese that one would hardly think twice of its historical roots.¹¹ *Daodi* was first associated to long-distance trade in early thirteenth century, when the poet and literary critic, Yan Yu (Ch: 嚴羽 fl. 1230), compared the various crafts of literature to that of

⁹ For instance, Shen Yiguan, *Jingshi cao* (Scribbles on Respectful Practice), *juan* 6.

¹⁰ Anon. *Mige yuangui zhengyao*, *juan* 5, included a proposal to fend off Japanese piracy by establishing good commercial relations with Korea. The author then listed a number of items that Koreans liked, including “*materia medica* from Chuan-Guang.”

¹¹ The term *daodi* (Ch: 道地), like many other compound terms in Chinese, could be inverted into *didao* (Ch: 地道) without changing its meaning. Also, the term *daodi* had existed in another sense, i.e. ““to negotiate beforehand, so as to set up paths and room for the future,” since the Han dynasty. The sense of indicating “authentic/genuine” commodities, however, could only be identified in literary discourse as early as the Southern Song (13th century).

textile products coming from different “routes and places.”¹² A fourteenth century drama depicted a fruit peddler’s street cries, advertising his fresh fruits as having been “produced in home gardens, and harvested from [the authentic] routes and places (*daodi*).”¹³ Late 13th century and 14th century medical recipes often instructed its users that one must find the *daodi* kind of *materia medica* in order for the remedy to be effective. One recipe, for instance, called for “*chuan* [Sichuan] *niuxi*, that is truly *daodi* [from that place].”¹⁴

From the scattered occurrences of the term in both medical and non-medical texts, we can observe a gradual transition of its usage from a more descriptive term referring to supply sources for general merchandise toward a more normative ideal for superiority and authenticity, i.e. *daodi* medicine only referred to the *materia medica* produced from certain regions, such as *Chuan-Guang*.¹⁵ In the mid-seventeenth century drama *Peony Pavilion* (Ch: 牡丹亭), the characters already joked over the “authentic *materia medica*” (Ch: 道地藥材) collection of the clown, a lousy teacher and self-styled physician, whose offerings in fact consisted of a few pieces of stale cloth and animal excrements.¹⁶ It was

¹² Yan Yu, “A letter in answer to Wu Jingxian,” in idem., *Canglang shihua* (Literary Criticism of the Deep Waves), Appendix.

¹³ Anon. *Pavilion of a Hundred Blossoms* (Ch: 百花亭), Scene 3.

¹⁴ For instance, *Pu ji fang* (Formulas of Universal Benevolence), *juan* 226. The recipe was copied from an earlier formula collection, *Dan liao fang* (Formulas of Tranquil Cabins).

¹⁵ In some recipes, drugs from *Chuan-Guang* were considered equivalent to being “good” in quality. For instance *Pu ji fang* (Formulas of Universal Benevolence), *juan* 93.

¹⁶ Tang Xianzu, *Peony Pavilion*, Scene 34, “Inquiry about Medicine.”

only during the Ming when the term *daodi* came to be habitually used as a special term for the long-distance trade of *materia medica*.¹⁷

In contrast to its predecessor, *zhou*, the notion of *daodi* as place-based authenticity proved to be much more long-lived and versatile. Less bound to state knowledge of locality and its products, the criteria of authenticity as indicated by *daodi* were dictated rather by market supply and demand. Learned *bencao* texts up to Li Shizhen's *Bencao gangmu* hardly reflected the rise of *daodi* in popular discourse, with the sole exception of *Essential Assortments of Materia Medica* (Ch: 本草品匯精要), a early-sixteenth century *bencao* compiled by a group of palace physicians under emperor Xiaozong.¹⁸ Although the text never circulated at large outside the court in the following two centuries, it nevertheless reflected an effort on the compilers' part to render past *bencao* knowledge comprehensible by introducing the colloquial term of *daodi*.

Liu Wentai, the court physician who led the compilation of *Essential Assortments*, made repeated apologies for their less-than-refined way with words. He commented in the editor's notes, however, that "books of formula and arts (Ch: 方技) do not have to be so subtle and esoteric," but written in a way that is accessible and easy to comprehend.¹⁹ The introduction of *daodi* to the section on "Places (Ch: 地)" may well have reflected this editorial preference. Working with Su Song's description of regional varieties in the 11th century *Bencao tujing*, Liu and his team added some places as known in the Ming, but

¹⁷ In Chapter 6, I will discuss literary and pictorial representations of urban pharmacies, in which "*daodi* medicine" had been featured in the shop's signs.

¹⁸ For a comprehensive introduction to the content and scope of *Essential Assortments*, see Paul Unschuld, *Medicine in China: A History of Pharmaceuticals*, 128-44. Unschuld considered this work one of the most outstanding contributions to the history of *bencao*, along with Li Shizhen's *bencao gangmu*.

¹⁹ Liu Wentai *et al.*, Notes to the Reader, in *Essential Assortments*.

did not seek to convert old place names in the Song. Instead, they provided an index of archaic versus present place names at the end of the whole volume. They also adopted much of Su Song's evaluation of quality between different regional varieties, but merely added the sub-category of "daodi" to those marked by Su as of superior quality. For instance, Su Song documented that licorice (Ch: 甘草) could be found in the region west of the Yellow River, "and also present to the east of the Yellow River." Under the sub-heading of *daodi*, editors of *Essential Assortments* added a comment in conspicuous red ink, "licorice from Shanxi province and the County of Longqing are the best (Ch: 最勝)." ²⁰

A closer look at the *Essential Assortments* reveals that the editors identified *daodi* places only for a small portion (262 out of 1,805) of its entire coverage, and all of them were drugs of plant origin.²¹ That is to say, the editors found the notion of *daodi* applicable only to some medicines. A few observations can be made from the *Essential Assortments*' selective application of the concept of *daodi*. First, it is clear that *daodi* substances must be relatively easy to obtain from the market, and cannot be rare and marvelous things, such as the half-mythical dragon bone (Ch: 龍骨). It might be that the editors found it difficult to ascertain the nature of dragon bone, not to mention where to find "authentic" dragon bone. Secondly, the product cannot be an overly commonplace thing either, such as cattle (and hence ox bezoar), wheat, or human hair, since they are presumably the same everywhere. Liu Wentai explicitly said that human body parts "are

²⁰ Ibid., *juan* 7, "Licorice."

²¹ See the mapping section in Chapter 3.

the same everywhere, so that there is little need for it to be illustrated.”²² Thirdly, the notion of *daodi* not only applied to domestic regions and administrative units, but also sometimes referred to foreign places, or routes of commerce. Among all the imported drugs, for example, the *Essential Assortments* did not have a *daodi* for frankincense (Ch: 乳香) and myrrh (Ch: 沒藥), but did designate Guangzhou and “Persian merchant ships” (Ch: 波斯船) as the *daodi* origin of *harītakī* (Ch: 訶梨勒), an important Ayurvedic medicinal plant whose seeds were used to facilitate urination. This suggests that a sustainable supply of the Indic plant had been established via Guangzhou at the beginning of the sixteenth century.

In sum, the *Essential Assortments*' adoption of *daodi* discourse suggests that *proprietary* and commercial aspects of *materia medica* knowledge had become increasingly prominent, to the extent that court physicians considered it necessary to incorporate a vernacular terminology into the learned corpus of *bencao*. Once the *daodi* origin of a particular herb became sufficiently well known, demand for the product then necessarily followed suit. How, then, did the interregional commerce of *materia medica* work to furnish urban market with its *daodi* medicines, and what was it like to pursue an individual career in that trade?

Expansion of Interregional *Materia Medica* Trade in Late Ming and Early Qing

Promises and Perils of Individual Careers

²² Liu Wentai et al. *Essential Assortments*. “Notes to the Reader.”

Although wholesale traders of *materia medica* rarely left any documents, portrayal of the trade in vernacular literature offers clues about what a typical career might have been like. Ximen Qing (Ch: 西門慶), the main protagonist in the late 16th century vernacular novel *Plum in the Golden Vase* (Ch: 金瓶梅), was a wealthy man who owned a pharmacy shop in Qinghe (Ch: 清河), close to a busy stop along the Grand Canal near the present-day border of Shandong-Hebei border. The author tells us that Ximen Qing inherited the business from his father, Ximen Da (Ch: 西門達), who made a solid fortune by “traveling to *Chuan-Guang* and trade *materia medica*” before settling down in Qinghe.²³ Ximen Qing himself, however, did not travel far into the western frontiers himself, but other men in his social circles did regularly take long-distance business trips into those region. Meng Rui, brother of one of Ximen’s concubines, relates the itinerary of his travels prior to departure (Map 5):

I will leave for sure on the second day next month, not sure for how long. I’m also going to buy paper in Jingzhou, and sell fragrant wax in Chuan-Guang. Might well be a good couple of years, and will be back when I’m done with my goods. I will take the land route of Henan-Shanxi-Hanzhou first, and return by boat via Xiajiang and Jingzhou. The whole trip will be about seven, eight thousand *li* in distance.²⁴

Map 5 Meng Rui’s itinerary

Merchants like Ximen Da and Meng Rui thus traveled back-and-forth, overland or by boat, between urban centers in the east and production sites of raw material in the west. Alongside medicine, they also dealt in products such as paper and wax, much like grocers in medieval and early modern Europe. Over time, however,

²³ *Lanling xiaoxiaosheng, Plum in the Golden Vase*, chapter 1.

²⁴ *Ibid.*, chapter 14.

when such merchants accumulated enough capital, they could open their own shop in a convenient location, and secure the source of their goods by other itinerant traders. For instance, chapter sixteen of the novel depicts the interruption of Ximen Qing's secret date with the widow Vase Lady by the arrival of several "guests from Chuan-Guang" to his shop. They want to meet Ximen in person, and make a deal by offering him a batch of "fine ingredients" with a down payment of 100 taels of silver, the remainder to be paid off several months later.²⁵ Urged to take off,

Ximen Qing curses the unsolicited guests:

Bloody bastards! They come to us only when the market is slow. If it [the goods] goes off quick, they will surely make a big fuss about it. Why such a hurry? I have the biggest shop in town. No matter how long, they will seek me out.²⁶

The traveling "guests (Ch: 客人)" that frequented Ximen Qing's shop were individual or small groups of businessmen, whose fortune depended on the vicissitudes of local market price. During the Ming, transactions of this kind often took place in counties and towns adjacent to major routes of travel, when the travelling merchant was a total stranger (hence the euphemism "guests"). Whether he could secure a lucrative deal with the local broker often depended on the discretion and strategic maneuvering of all the parties involved.

A short story, one among over sixty similar ones collected in a didactic reader for merchants published in 1617, illustrates how the transactions between a traveling merchant and local brokers might have occurred -- or failed -- in the trading town of

²⁵ Ibid., chapter 16. The previous scene was set in the first month of the year, and the guests demanded the payment to be completed by the eighth month.

²⁶ Ibid.,

Zhangshu (lit. Camphor tree) located in the Jiangxi province. Yu Dingzhi was a merchant from Yunnan. One day, so the story goes, he bought a batch of dried Gardenia fruit (Ch: 梔子) and traveled to Sichuan to sell them for over eighty taels of silver.²⁷ He then used the money to buy several loads of Angelica root (Ch: 當歸) and Sichuanese lovage (Ch: 川芎), and ship them to the town of Zhangshu. Hiring porters and renting boats cost him two taels and six ounces of silver per load. In Zhangshu he settled in a lodge run by a local broker (Ch: 牙人), who offered him ten taels per load of Angelica, and six taels per load of Sichuanese lovage. Expecting a better price for his goods, Yu was angry and refused to sell. Day after day, more guest merchants arrived in Zhangshu with several more loads of Sichuanese drugs, and the price dropped further as the supply increased. The devastated Yu left Zhangshu and headed east, finally selling off his medicines in the Jianning Prefecture of Fujian at the modest price of three tael and seven ounce per load.²⁸

The moral lesson of the story was that the wise merchant should be wary of excessive greed, and sell his goods whenever there is a decent profit in view. Although the characters and their stories were probably fictional, the story nevertheless was meant to be *plausible* to readers living in the commercial world of late Ming.²⁹ It illustrates how countless “guest merchants” (*keren*) journeyed to places laden with cultural significance, collected local products, and offered them for sale to retailers such as

²⁷ It is not clear where Yu bought the Gardenia himself from Yunnan. Early Ming sources did not note Yunnan as a production center for the plant, and the County of Xihe might be a fictional place.

²⁸ “Raising the Price and Losing the Profit,” 高擡重價反失利 in Zhang Yingyu, *New Stories on the Prevention of Trickery* (Ch: 杜騙新書).

²⁹ Richard John Lufano, *Honorable Merchants: Commerce and Self-Cultivation in Late Imperial China* (University of Hawaii Press, 1997).

pharmacies, or intermediate dealers, such as brokers in market towns like Zhangshu.

Local market price fluctuated as the availability of such goods changed by the arrival and departure of guest merchants, rendering a career in this trade adventurous and at the same time unpredictable. In the next section, I will use Zhangshu as an example to show how the growth of specialized market towns served to anchor the intersecting trajectories of merchants around the country.

The Making of a Medical Market Town: the Case of Zhangshu

In the sixteenth century the best way to access *Chuan-Guang* was to travel on boat. If one departed from the Lower Yangzi region, the waterways inevitably traversed the neighboring inland province of Jiangxi (lit. the Western route south of the Yangzi River). The northern tip of the province is connected, via the giant marshy Lake Poyang, to the Yangzi River. The southern end of Lake Poyang receives the influx of River Gan (Ch: 贛江), which originates from the north side of the mountain ranges separating present-day Jiangxi and Guangdong. Tributaries of the River Gan in turn take one westward into the hinterland of Huguang, and eastward towards the mountains bordering Jiangxi and Fujian. Home to many of China's most talented scholars and statesmen since the Song dynasty, Jiangxi was also one of the most populous and prosperous provinces in Ming and Qing China. A traveler wrote the following verse as he sailed upstream the Yangzi River via the northern corridor of Jiangxi:

West of the Head of Wu and East of the Tail of Chu/
From here, routes into *Chuan* and *Guang* diverge in two...³⁰

³⁰ Dong Ji, *Xijiao xiaoduan ji*, juan 1, "Two poems upon the passage through Jiujiang." 吳頭之西楚尾東路分川廣此俱通

Whereas countless scholars from Jiangxi headed eastward to the capitals to pursue official careers or literary fame, merchants, peddlers, and poor peasants often left the overpopulated Jiangxi and traveled westward overland or by waterways, to seek their fortunes in the hinterland. Medicines of *Chuan-Guang* were one of the most valuable merchandise that they would carry on their return trip. It was thus not surprising that Jiangxi, as an intermediate hub of travel between *Chuan-Guang* and the Lower Yangzi region, became one of the earliest wholesale centers specialized in *materia medica*.

The town of Zhangshu came to be known as one of the largest medical market in late sixteenth century. Wang Shixing (Ch: 王士性 1547-1598), a renowned traveler and essayist, evoked its activity:

The market town of Zhangshu is situated between Fengcheng and Qingjiang Counties. Tens of thousands of households are thriving there, with a myriad of merchandise coming and going from Canton and the Yangzi River. Medicines from the south and north all gathered there. It is an impressive town indeed.³¹

Zhangshu's rise as a center of interregional trade was a recent development for residents contemporary to Wang Shixing. Situated approximately five kilometers (the equivalent of ten *li*) downstream of the joining of River Gan and River Yuan, the town of Zhangshu was administered from the adjacent prefectural capital of Qingjiang (Ch: 清江) during the Ming (Figure . The story goes that local residents moved their market out of the prefectural capital to escape the heavy taxes imposed on them by Prince Ning, whose household had been stationed in the provincial city of Nanchang. Zhu Chenhao, the Prince Ning who rebelled against the Ming court in the early sixteenth century, was said to have been especially capricious and greedy. After moving their market site across the

³¹ Wang Shixing, *Guang zhi yi* (Ch: 廣志繹), *juan* 4.

Gan River to Zhangshu, merchants and itinerary peddlers frequented the area and the town of Zhangshu soon became famous.³² Not only *materia medica*, but also timber, utensils, and clothing, were being traded in Zhangshu, and sold “to the southeastern prefectures.”³³

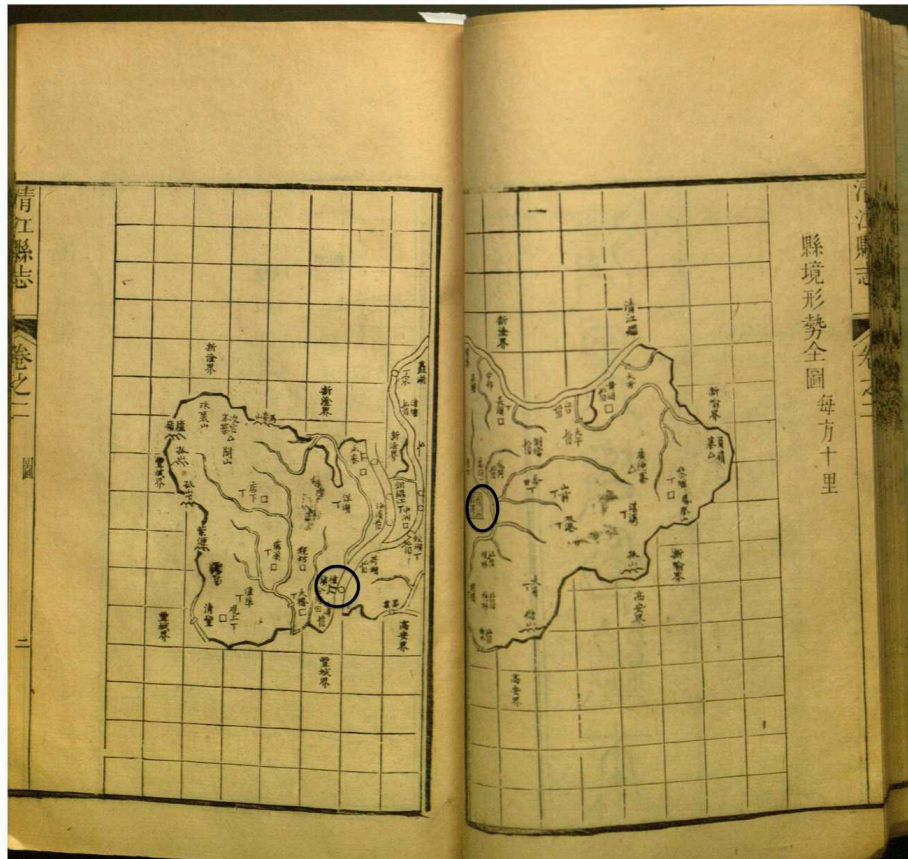


Figure 9 Location of Zhangshu (circle on the left) and the county seat (circle on the right) in the Gazetteer of Qingjiang County (Tongzhi edition)
Although Zhangshu is located at the foot of Gezao Mountains (Ch: 閣皂山)

known for its Daoist legacy and rich natural resources, most medicines for sale at Zhangshu were not locally produced. Although some local products, for instance dried

³² Guan Daxun, “Discourse on setting up tax-collecting bridge in Zhangshu,” in *Linjiang fu zhi* (Gazetteer of Linjiang Prefecture, Longqing edition), *juan* 3.

³³ Xiong Hua, “An account of the town of Zhangshu,” in *Qingjiang xian zhi* (Gazetteer of Qingjiang County, Chongzhen edition), *juan* 8. 257-8. Xiong was a native of Qingjiang County.

fruits of a kind of bitter orange, did become famous, the character of commerce in late sixteenth century was decisively interregional. According to a magistrate serving there in the 1640s, Zhangshu's fame as "medicinal dock" (Ch: 藥碼頭) in fact derived from the confluence of Chuan-Guang *materia medica*.³⁴ Merchant handbooks circulating in the late Ming also referred to Zhangshu as a town where "medicines from all over the country gathered," and trading between "merchants from north and south" took place.³⁵ As the boisterous merchants from the south dominated the market, the local magistrate in 1640s worried that trouble would arise from a situation where "strangers overwhelm the locals."³⁶

If the good fortune of Zhangshu began indeed as a result of merchants evading tax, the favorable environment remained fragile and subject to the vicissitudes of government regulation. For instance, eunuchs sent from the Ming court once raided the market for *materia medica* in the late 1590s, causing widespread disruption, and order was only restored at the intervention of a capable local magistrate.³⁷ A series of commercial taxation reforms in late sixteenth century prompted the prefectural administration to impose a heavy hand on Zhangshu merchants, with the goal of collecting at least two thousand taels of silver each year. As the Ming court encountered fiscal difficulties in the 1620s and 1630s, money to supply the aristocratic lineages was

³⁴ Qin Yong, *Qingjiang xian zhi* (Gazetteer of Qingjiang County, Chongzhen edition), *juan* 3, "local products."

³⁵ Cheng Chunyu, *Xin'an yuanban shishang leiyao* (Xin'an Original Assorted Essentials for Gentlemen and Merchants), *juan* 2. Also Anon. *Illustrated Accounts of Routes and Distances within the Unified Country* (Ch: 一統路程圖記), reproduced in Yang Zhengtai, *Mingdai yizhan kao* (A Study of Ming Dynasty Relay Stations), expanded ed. (Shanghai: Shanghai guji chubanshe, 2006).

³⁶ Qin Yong, *Gazetteer of Qingjiang County*, Chongzhen edition, *juan* 1, "Local customs."

³⁷ "Biography of Zhang Rulin," in *Linjiang fu zhi* (Gazetteer of Linjiang Prefecture, Tongzhi edition), *juan* 17, 16ab.

sought from local tax revenue.³⁸ Other mercantile interests also lobbied local government to impose additional levies on competitor's routes. A proposal to build a bridge in Zhangshu to collect levies on passing merchant ships was thwarted by a local official, who pointed out that the salt merchant from the Huai region probably pushed for the plan so as to discourage salt traffic going through Jiangxi, citing an unsuccessful precedent in the neighboring county of Xiajiang.³⁹

Trade in Zhangshu underwent further decline during the Chongzhen reign. The local magistrate attributed the depression to increased taxation and the fraudulent behavior of brokers. It only took a turn of mind, he noted, for traveling merchants along the Gan River to choose another spot to dock their boats and do the trading, leaving Zhangshu's once-bustling docks deserted.⁴⁰ The changing fortunes of wholesale market towns along China's major waterways left it uncertain by the eve of the Ming-Qing transition, how interregional trade would unfold under a new regime. Contrary to present-day reconstructions of a long-running and consecutive legacy, the early success of Zhangshu was highly fragile and contingent. To better understand how Zhangshu truly became a specialized market town for medicines, we must look at structural changes in domestic commerce and socio-demographic pattern during the first 150 years of the Qing.

³⁸ Qin Yong, *Gazetteer of Qingjiang County, Chongzhen edition*, *juan* 1, 25. "Market towns."

³⁹ Guan Daxun, "Discourse on setting up tax-collecting bridge in Zhangshu," in *Gazetteer of Linjiang Prefecture, Longqing edition*, *juan* 3. Under the original plan for salt monopoly, the inland province of Jiangxi should have been the designated market for Huai salt merchants. Due to its convenient access to Guangdong, however, Guang salt merchants frequently made their way up to Jiangxi and sold their salt at a cheaper price than Huai merchants. By lobbying local government to tax heavier on Guang ships, the Huai salt merchants could hope to gain back more ground from the illegitimate competitors. The bridge built in Xiajiang, according to Guan Daxun, did reduce traffic of Guang salt, but other commerce along the Gan River also suffered, and the bridge itself was soon destroyed in a flood.

⁴⁰ Qin Yong, *Gazetteer of Qingjiang County, Chongzhen edition*, *juan* 1, 25. "Market towns."

Supplying Metropolitan Consumers: An Ecology of Medicinal Items

Ming observers generally recognized the lower Yangzi region's superiority in its access to the best and most complete supply of consumer goods, including *materia medica*.

When a patron invited the playwright Tang Xianzu (Ch: 湯顯祖 1550-1616) to relocate to Beijing, Tang wrote a long letter pleading to remain in the south. One of the five reasons why he could not possibly live in the north included the difficulty of getting the medicines he needed to maintain his delicate health:

I have always been emaciated and weak. If I do not get to eat and repose in time, I become sick and miserable for several days. I often pick and select my own medicines, and praised the ancient sage Divine Farmer's two great contributions to mankind: the one is food, the other medicine. If I move to the North, then I would lose my dietetic rhythm in the Chen and Wu hours of the day by all these governmental meetings, and furthermore, the authentic (*daodi*) and refined medicines largely do not reach the north. What kind of superior would like to have someone who always ask for leaves and lie down on his pillows when things are piling up?⁴¹

In a humorous and vivid way, Tang well expressed a refined Southerner's horror at the exasperating and impoverished lifestyle of the North. A very material constraint for him, and perhaps many others, lay in the limited circulation of *daodi* medicines that they had been accustomed to have in the south. A native of Jiangxi himself, Tang would have been familiar with the recent prominence of Zhangshu. How complete, and how expensive, were the *daodi* kinds of medicines in the most developed urban markets in Ming China, compared to the thousands of drugs documented in erudite *bencao* texts?

One important source of information for answering this question comes from the revenue-collecting activities of governmental customhouses (Ch: 權關). Ming

⁴¹ Tang Xianzu, *Yuming tang quan ji*, Letters, *Juan* 1. "Letter to the Civil Appointment Official Mr. Si."

customhouses were mostly at the entrance to major metropolitan area and along the Grand Canal, and every private commercial vehicle (mostly boats) passing through those checkpoints were required to pay a fee proportionate to the value of goods they carried, according to a meticulous set of rules. As the printed regulations for the Customhouse of Hushu (Ch: 浒墅關) specified, goods flowing into the great city of Suzhou were first and foremost taxed by the grade and size of carrier boats, which was primarily measured by the width of the front bow from seven to twenty-eight feet (Ch: 尺).⁴² At some point during the late Ming, goods were further differentiated into four classes subject to increasing tax rates, ranging from flat (Ch: 平), additional flat (Ch: 加平), supplementary (Ch: 補), and additional supplementary (Ch: 加補). In 1655, a revised catalogue of taxable goods listed “miscellaneous *materia medica*” as subject to the highest “additional supplementary” tax rate.⁴³ A sample of taxable goods and their rates at Hushu are shown in Table 5. Different commodities were valued by the amount of additional labor (e.g. from fresh to preserved fruits), or by reputation as indicated by specific sites of production (e.g. the lotus root from Gaoyou), and taxation rate increased according to the perceived profit margin. *Materia medica* belonged to the category of commodities that were taxed at the highest rate, indicating that they entered the metropolitan market as a class of special commodity with high value and profitability than most agricultural products for everyday consumption.

⁴² Initially ships as small as five feet could be taxed. In the 1640s, ships became larger and the regulation was changed to a minimum of seven feet.

⁴³ *Hushu guan zhi* (Gazetteer of the Hushu Customs House), Kangxi edition.

Category	Sample items	Rate for 7-foot-wide boat (silver tael/shipment)	Rate for 12-foot-wide boat	Rate for 18-foot-wide boat
Flat	Bricks, watermelon, garlic, empty fishery containers	0.42	1.96	3.72
Additional Flat	Reed mats, firewood, tools, unloaded grain boats from the north	0.63	2.73	5.25
Supplementary	Grass mats, wooden shoes, plums, live chicken, oxen and sheep, young pig, local lotus root	0.84	3.92	7.84
Additional Supplementary	<i>Materia medica</i> , all kinds of oil, beans, cloth, and tea, leather, wax, fattened pig, wool, coal, preserved fruits, lotus root from Gaoyou	1.26	5.46	10.5

Table 5 Classification of taxable commodities for Hushu Customs House in early Qing

The Beixin Customhouse (Ch: 北新關) outside the city of Hangzhou followed a more meticulous tax code based on the particular content of merchandise, in addition to the basic fees charged per boat. A manuscript of regulations dated to the Ming detailed tax rates for a total of over 900 kinds of commodities divided into eighteen categories. “Miscellaneous medicines,” a category that came after “miscellaneous hides and fur” and “furniture and tools,” listed 220 kinds of *materia medica* of different value. The list was again revised during the early decades of the Qing, and the new regulation published in 1731 included 328 kinds of *maateria medica*, and tax rates for many had been reduced somewhat under the instruction of governor-general Li Wei (Ch: 李衛).⁴⁴ A comparison

⁴⁴ Xu Menghong, *Beixin guan zhi* (Gazetteer of the Beixin Customs House), Yongzheng edition, *juan* 13, “Tax regulations.”

between the late Ming and early Qing tax rates for some major kinds of medicines is shown in Table 6:

Type of <i>materia medica</i>	Ming tax rate ⁴⁵	Qing tax rate ⁴⁶
Ginseng	0.104 tael / catty	0.079 tael / catty ⁴⁷
Ox bezoar stone	2.04 tael / hundred catty	2.04 tael / hundred catty
Goldthread (<i>huanglian</i>)	2.04 tael / hundred catty	1.04 tael / hundred catty ⁴⁸
Deer velvet, misc. ointments and pills, aloe, dried centipede	0.4 tael / hundred catty	0.4 tael / hundred catty
Realgar, saffron, rose fragrance, cardamom, blue vitriol (<i>danfan</i>)	0.2 tael / hundred catty	0.2-0.1 tael / hundred catty
Group of herbs from Chuan-Guang ⁴⁹	0.08 tael / hundred catty	0.08 tael / hundred catty
Misc. common herbs	0.04-0.02 tael / hundred catty	0.02 tael / hundred catty ⁵⁰
Refined camphor	0.12 tael / hundred catty	0.12 tael / hundred catty

Table 6 Tax rate for raw medicines at the Beixin Customs House, Yongzheng reign
 Although the Qing regulations reduced the tax rate for some individual drugs, the strong parallel between the two lists still reveals strong continuities in the overall structure of the *materia medica* trade. A small number of drugs, with ginseng as the exceptional outlier,

⁴⁵ Data from *Beixin guan shangshui zeli* (Regulations of Commercial Tax for the Beixin Customs House), Ming dynasty, from *Hangzhou yunhe wenxian jicheng zongmu*, vol. 1, 352-5.

⁴⁶ Data from Xu Menghong, *Beixin guan zhi*, juan 13, “Tax regulations.” in *Hangzhou yunhe wenxian jicheng zongmu*, vol. 1, 182-4.

⁴⁷ C.f. amber utensils, 0.22 tael / catty; ivory, jade, glass, and coral utensils, artificial pearls, 0.02 tael / catty.

⁴⁸ C.f. mercury, cinnabar and bird nest, 1.36 tael / hundred catty. It is intriguing that the Qing gazetteer listed mercury, cinnabar and bird nest all under the category of “dye, glue, and lacquer” but not “misc. medicines.” It could suggest that by the early eighteenth century, the potent substances of mercury and cinnabar ceased to be used in most medical and alchemical practices.

⁴⁹ The qualifier of Chuan-Guang was not in the original source. The group of drugs, however, clearly earned its higher tax rate by virtue of being *daodi* products from (mostly) western and southern China. 枸杞, 貝母, 肉果, 肉桂, 附子, 當歸, 川芎, 羌活, 桔梗, 茯苓, 白朮, 茜草, 白附, 橘紅, 糖陳皮

⁵⁰ C.f. freshwater crab and fish, 0.04 tael / hundred catty; fresh fruits, 0.02~0.012 tael / hundred catty.

were consistently valued much more than the majority of drugs due to the perceived efficacy in medicine and the effort and cost necessarily incurred in extracting them from their native places. The case of Goldthread (*huanglian*) is especially worth noting, as the most valuable item only second to ginseng and bezoar in the whole range of late imperial Chinese *materia medica*. The majority of drugs, consisting of some 200-300 commonly available herbs, were estimated to be of similar value as local products such as fish and fruits. More often than not, drugs with higher value were also the ones most documented in *bencao* books regarding the *daodi* origin of the best kind. As I have shown in Chapter 3, for instance, the harvest of *huanglian* under state power was very laborious for the local populace. It probably also constituted one of the most valuable and lucrative items for long-distance traders. As I shall show later in this chapter, the existing disparity in value could help us to understand why the market favored the emergence of alternative varieties for expensive drugs such as *huanglian*.

A third list of customs duty was published during the Yongzheng reign (1723-1735) for the Zhejiang Maritime Customs (Ch: 浙海關) in Ningbo.⁵¹ Founded in 1685, the Zhejiang Maritime Customs checked and collected duty from mercantile ships entering and leaving from the port of Ningbo. The early eighteenth century witnessed the peak of Japanese imports of *materia medica* from China. As scholars working on the commercial archives of Nagasaki have shown, elite medicine in Edo Japan depended on drugs from China, and one ship often carried as much as tens of thousand of catties. The most popular Chinese drugs, according to Japanese record, included ginseng, licorice,

⁵¹ *Zhe hai chaoguan zhengshou shuiyin ze li* (Regulations on Customs Duty Collection, Zhejiang Maritime Customs House), 14-18.

aconite, rhubarb, and ephedra, etc.⁵² The list of Zhejiang Maritime Customs was slightly different from that of domestic custom houses:

Type of <i>materia medica</i>	Rate at Zhejiang Maritime Customs House
Ginseng	Top grade: 0.4 tael / catty Medium grade: 0.3 tael / catty Lower grade: 0.2 tael / catty
Musk, Borneo camphor (<i>bingpian</i>), Wild turmeric rhizomes (<i>yujin</i>)	0.2 tael / catty
Goldthread (<i>huanglian</i>)	2.04 tael / hundred catty
Deer velvet	0.3 tael / ten catty
Aconite from Sichuan “West aconite”	0.12 tael / ten catty 0.6 tael / hundred catty
Group of herbs from Chuan-Guang ⁵³	1~0.15 tael / hundred catty
Misc. common herbs	0.1 tael / hundred catty

Table 7 Tax rate for various raw medicines at the Zhejiang Maritime Customs

By collecting customs duty on maritime trade at an 8-10 fold higher rate than domestic trade, the Qing court stood to profit from the trade between Chinese merchants and neighboring countries. Nevertheless, we see a similar value structure that had a majority of common drugs (~200) topped by 20-30 expensive drugs whose place of origin mattered greatly in the trade. The volume of transaction of drugs only declined later in the eighteenth century, when Japan was able to furnish its pharmacies by identifying equivalent domestic species and the successful cultivation of expensive herbs such as ginseng. As economic historians have shown, the distribution of custom revenue suggested a long-term transformation in the Chinese economy from relying on the North-

⁵² Habu Kazuko, *Edo jidai, kanpōyaku no rekishi* (History of Kanpō Medicine during the Edo Period), (Osaka: Seibundō, 2010), 123-131.

⁵³ The range of more expensive drugs overlapped, but was not identical with that in the Beixin Custom House. Aconite, for instance, was valued higher than other Sichuanese drugs. A group of Cantonese drugs, including cinnamon, cardamom, and clove, were taxed at 1~2 tael / hundred catty, suggesting that they were valued more in overseas trade than in domestic market.

South axis of the Grand Canal during the Ming, toward the West-East flow of products by the end of the seventeenth century.⁵⁴ The state's altered outlook of trade was coupled with a corresponding growth of intermediate market towns for medicine, bringing new fortunes and opportunities to places like Zhangshu.

“Assembly Place for All Kinds of Drugs:” Market Towns in High Qing

Although income from the customs house made a solid contribution to the Qing court's private coffers, the state did not monitor the flow of particular commodities in any detail. In 1791, the Qianlong Emperor was intrigued when perusing a list of items purchased by diplomatic envoys sent from the Ryukyu Kingdom. Where did they buy so much rhubarb, asked the Emperor, and why would they buy “outer sea” (Ch: 外洋) commodities, such as American ginseng (Ch: 洋參) and sappanwood (Ch: 蘇木), a valuable medicine and dye, from our country? It was several years into the Qing decision to impose an embargo of rhubarb to Russia and close off the border market in Kiakhta as a diplomatic punishment. Even imports of Russian fur were banned at the southern port of Canton, for fear that rhubarb might be smuggled out in transactions with Russians. The large quantity of rhubarb acquired by the Ryukyus thus raised an alarm for the emperor, that they might have been seeking illicit profit by selling the Chinese medicine back to Russians.

Upon investigation, it turned out that the Ryukyus made their purchases in Fujian Province, where their ships landed and could stay, but “all sorts of medicine” they bought

⁵⁴ Fan I-Chun, “Long Distance Trade and Market Integration in the Ming-Ch'ing Period 1400-1850.” Ph.D. Dissertation. Stanford University, 1992. Xu Tan, “Changing configurations in commodity circulation during early Qing,” *Qing shi yan jiu* (1999, no.3).

had in fact been “transported from the town of Zhangshu in Jiangxi.” Furthermore, the rhubarb that was traded in Zhangshu was not produced there, but originally “assembled” in Jingyang County in Northwestern Shaanxi. Merchants made wholesale purchases of rhubarb, bringing them for sale in major trading towns such as Hankow and Zhangshu. Ryukyu envoys also testified that all medicines had been purchased via local officials in Fujian, including “several hundred – or thousand—catties of rhubarb,” and there has been absolutely no such thing as trading rhubarb with Russians.⁵⁵ As for the purchase of American ginseng and sappanwood, the Ryukyus claimed that it was harder for them to trade with Europeans and Siamese merchants than buying those goods in Fujian.⁵⁶

This episode suggested that a connected chain of interregional trade was firmly in place by the end of eighteenth century, a network capable of supplying large quantities (tens of thousands of catties) of a single drug to provincial markets thousands of miles away from the place of production, and rhubarb was not even a cultivatable plant by that time. It also shows how a hierarchy of trading places where drugs “assembled” – first in the native province of Shaanxi (Jingyang County, near the provincial capital of Xi’an and major route), then joining the flow of commodities along the Yangzi River waterways, and finally downstream into Zhangshu, where the northwestern herb was redistributed to traders making their rounds in the southeastern coast. Lastly, it might well be true that American and Siamese merchants would bypass the Ryukyu islands en route to China, and choose instead to arrive first in Canton, where most Western goods entered China in the 18th century. As a result, the 18th century Chinese pharmacy came to be furnished by

⁵⁵ *Veritable Records of the Qing*, Qianlong reign, 57-538.

⁵⁶ *Ibid.*

a well-established network of interregional and international trade. The association between places and goods for sale there became so tenuous that it took a special effort on the part of local officials to reveal how rhubarb reached Fujian in such large quantities.

A literatus passing by Zhangshu in 1698 wrote a poem in praise of its medicine market. Invoking the anecdote of the master alchemist Ge Hong, the poet wrote:

Why would one still need to beg for a position in Goulou
When true cinnabar can be acquired in this place?⁵⁷

The town of Zhangshu as “the assembly place for *materia medica* from Chuan-Guang, south and north” became an object of marvel for numerous poets throughout the Qing.⁵⁸ As metropolitan observers, Qing literati saw themselves as having access to a bewildering range of material wealth unthinkable for the ancients. At the same time, the invoking of virtuous hermits and legendary figures who once dabbled in the trade of medicine served as a poor fit with the reality those poets witnessed in Zhangshu. Little wonder that Fang Yizhi noted “varieties of forms” in the market of Zhangshu that had never been recorded in the learned corpus of *bencao*. Together, the gazetteers provide a fragmentary, yet convincing picture that the interregional trade of *materia medica* had developed into a sophisticated network anchored by periodic fairs held in different market towns, at which organized groups of merchants participated. The old model in which individual “guest” merchants dealt with capricious local markets had given way to a much more integrated way of doing business, toward the consolidation of production, transportation, and storage in a consecutive process.

⁵⁷ Pan Lei, *Sui chu tang ji*, *juan* 12.

⁵⁸ *Qingjiang xian zhi* (Gazetteer of Qingjiang County, Qianlong edition), *juan* 4. Other examples of poetic depiction included Qian Shiyong (1729-1807), a local literatus of Qingjiang, *Ji pu shi gao*, *juan* 1 (1744-8), 21a. “Medicine Market.” Also Chen Wenrui (b. 1748), *Shou song bo zhai chu ji*, addendum, “Bamboo songs,” page 7b.

As interregional trade of *materia medica* increased in volume and expanded in scope, it granted participants of the trade a heightened sense of opportunity as well as uncertainty and danger. The Qing state was alerted to numerous minor robberies threatening itinerant merchants, who were vulnerable targets for crime while traveling with pockets full of cash or valuable, portable goods. One such case was reported in vivid detail in 1769. Ye Tiansheng, a merchant from Cixi County (Ch: 慈溪縣), Zhejiang Province, purchased a batch of *baizhu* (Ch: 白朮), a commonly used tonic produced in large quantity in his home prefecture, and traveled with his cousin and son to Huzhou Prefecture, a distance of approximately 240 kilometers by boat. Once there, Ye sold his medicine to a wholesale dealer whose shop was known as *Yuanxing Hao*, but since it was winter time, the buyer did not have enough cash in hand. Ye waited over the new year of 1769 in Huzhou, when debts of the previous year had been customarily cleared, and finally got his payment of 100 ounces of silver, together with 52,510 copper cash on the eleventh day of the third month.⁵⁹ The next day, Ye hired a boat and headed home. That night, they were robbed by a gang of several men pretending to be official inspectors, when passing through the jurisdiction of neighboring Deqing County.⁶⁰ Local officials were unable to find the culprit within six months, and some of them were demoted. Similar cases had also been reported in early nineteenth century, whose record survived in the Grand Secretariat Archive.⁶¹

⁵⁹ One “ounce” (*liang*) of silver is equivalent of 37.8 grams. The official exchange rate is 1000 copper cash per ounce of silver.

⁶⁰ Memorial by Cui Yingjie, the Governor-general of Fujian and Zhejiang, Qianlong 34, Archive of the Grand Secretariat, no. 090536-001.

⁶¹ For instance, see the memorial by Zhang Shicheng, the governor of Fujian, in Jiaqing 16, Archive of the Grand Secretariat, no. 115100-001. Also see memorial by Wang Shaolan, the governor of Fujian, in Jiaqing 19, Archive of the Grand Secretariat, no.122979-001.

The cases capture the perils and allure of life as a trader more vividly than the literary inventions of the Ming. “Guest people (Ch: 客民)” traveled to lands that “had neither been owned nor taxed,” exchanging local products with money, then shipped such goods for sale at a higher-level marketplace for modest margins of profit. All cases reported a loss of cash around 100-200 taels of silver.⁶² Transactions between traders also customarily took place on a basis of mutual trust, and clearance of payments could take up to several months. To impose order on central trading places like Zhangshu, the Qing state adjusted its administration structure at the local level. In Zhangshu alone, for instance, a military commander (Ch: 都司, rank 4a) was stationed there in late seventeenth century, along with a local police assistant to the magistrate (Ch: 巡檢, rank 9b). In 1765, as the region had been peaceful for a long time, the military commander was moved into the prefectural capital, where as a civil official, the vice prefect in charge of taxation and criminal affairs (Ch: 通判, rank 6a), was installed in the town of Zhangshu.⁶³ In the 1824 edition of local gazetteer, the editor described the town as “comparable even to provincial capitals and great cities in the country”.⁶⁴ The political significance of Zhangshu as an interregional marketplace gradually overshadowed that of the neighboring prefectural capital.⁶⁵

⁶² The County of Ouning, when one case of robbery happened (see note 58), was known for its riches in the “ownerless and taxless mountain.” *Gazetteer of Ouning County*, Kangxi edition, *juan 7*, page 27a.

⁶³ *Qingjiang xian zhi* (Gazetteer of Qingjiang County, Tongzhi edition), *juan 2*, “Market towns,” 10b-11b.

⁶⁴ *Qingjiang xian zhi* (Gazetteer of Qingjiang County, Daoguang edition).

⁶⁵ The trend culminated in late 20th century, as previous economic centers in rural China developed into urban areas. Zhangshu became a county-level city (*shi*) in 1988, whereas the previous Qingjiang County was abolished.

Mercantile Knowledge and Qing Consumer Culture

Daodi Medicine and the Imagination of Distance

Having sketched the development of interregional *materia medica* trade, I now return to the question raised at the beginning of this chapter, namely, how mercantile activities may have shaped the general perception of medicine in late Ming-early Qing society. Lu Zhiyi, a physician and scholar active in 17th century Hangzhou, once observed that

People in the past used to obtain all their medicines from the central plains (Ch: 中原) with ease. Nowadays, most medicines are harvested from distant lands and peoples, for the ones produced nearby are by no means sufficient/adequate for use.⁶⁶

The view of Lu Zhiyi could probably reflect a sentiment shared by fellow residents in major cities at that time. Lu went on to say that the price of drugs often reflected quite accurately their quality, and urged patients to buy the most expensive medicines they could afford in matters of life and death. Moreover, when doctors tried to please their patients by prescribing cheaper grade of drugs, argued Lu, it is like “fighting hard weapons with wooden sticks.”⁶⁷ The analogy comes from Mencius’s famous dictum that even the weak could overcome the strong, for “the benevolent one conquers all.”⁶⁸ By adding a subtle twist to the analogy, Lu Zhiyi mocked the notion that if doctors make the right diagnosis and tend to the patients with good intention, less-than-perfect drugs could also achieve the effect of healing. Instead, Lu argued that good quality of life could only be bought by investing in good and authentic medicines, which often meant *daodi* medicine coming from afar.

⁶⁶ Lu Zhiyi, *Bencao shengya banji*, Notes to the Reader. See Lu’s life and work in Chapter 2.

⁶⁷ *Ibid.*,

⁶⁸ *Mencius*, Liang Hui Wang 1.5.

Knowledge of *daodi* thus became a crucial concern for urban consumers. Lu Zhiyi openly declared that it was bad to “trust everything the book says” in this matter, and called for his readers to see and compare the varieties of medicine with their own eyes.⁶⁹ A hundred years later, another native resident of Hangzhou, Zhao Xuemin (Ch: 趙學敏 1719-1805), also used the rhetoric of place to justify his efforts of writing a Supplement (Ch: 拾遺) to Li Shizhen’s *Bencao gangmu*, then the standard complete reference book on this subject. In a preface to his book dated to 1765, Zhao recorded a conversation between a guest and himself. How could there possibly be things left out of the *Bencao gangmu*, asked the guest, when Li Shizhen already went into such pains to collect everything, including as strange and marvelous objects such as the mummy and the mandrake? Would not any attempt to supplement the great work like adding a sixth finger to a perfect hand? To which Zhao replied:

Certainly, yes – but not quite! It is indeed the case that Binhu [Ch: 瀕湖 Li Shizhen’s courtesy name]’s book is learned. The kinds and varieties of things proliferate, however, since they’ve been created for a long time. As long as people always favor curious things, then marvelous and valuable goods will continue to assemble.⁷⁰

Zhao recognized the natural tendency for new products to proliferate, and for the human mind to fall captive to its own curiosity. Hence there would never be such a thing as a complete book of *materia medica*; there would always be room for revisions and additions. He then reflected on the historical development of the *bencao* corpus, emphasizing the need for every generation to renew knowledge passed down from the past. Although presumably there are only one kind of the plant *baizhu*, noted Zhao, but

⁶⁹ Lu Zhiyi, *Bencao shengya banji*, Notes to the Reader.

⁷⁰ Zhao Xuemin, *Bencao gangmu shiyi*, “Preface.”

do we know that the kind recently produced in Mountain Mao has speckled root and is very potent? Recent changes in production such as this would be lost unless someone took note of them now.⁷¹ Zhao concluded his defense by citing 17th century authors of *bencao* such as Miao Xiyong, who made admirable contributions to the field, and expressed his earnest wish to follow their lead. The guest was pleased with the answer, and a preface had thus been penned.⁷²

Zhao Xuemin was born when his father served as a local official in Fujian Province. When retired, the senior Zhao brought Xuemin and his brother back to Hangzhou, and supervised their study in Confucian classics and medicine. Zhao later recalled fondly their youthful times spent in the family library with a medical garden, and eventually he began to collate his notes on various subfields of medicine into treatises.⁷³ Among the twelve titles that Zhao claimed to have finished, the majority had been lost as manuscript by the 1820s except for two titles: One was composed with the help of an itinerant physician, who befriended Zhao and shared the secret methods with which he earned a living. Another work was the 10-chapter *Supplements of Systematic Materia Medica*. According to a later publisher's note, the original manuscript had been "covered full with edits and written paper slips glued to the top of the page."⁷⁴ It was a project that Zhao had been working on all his life.

⁷¹ Ibid.,

⁷² Ibid.

⁷³ According to his own account, Zhao familiarized himself not just with the learning of *bencao*, but also treatments of eye diseases, incantation, and pharmaceutical skills. Zhao Xuemin, Preface to *Liji shi'er zhong* (Twelve Treatises for the Benefit of the Populace).

⁷⁴ Zhang Yingchang, Editor's Note, *Bencao gangmu shiyi*.

Among the over seven hundred drugs that Zhao found outside the purview of *Bencao gangmu*, the majority were substances undocumented in Li Shizhen's classical sources. Some of the novelties most noted by later scholars included the cinchona bark, distilled "medicinal dews," tobacco, and a rich account of sweet potato cultivation and consumption. Among the drugs of plant origin, however, Zhao considered each regional variety of a previously known herb as a new object of inquiry, and went into great lengths recording what he knew and heard comparing regional varieties with each other. In chapter five, for instance, Zhao Xuemin contemplated over a kind of "local" *Fritillaria* lily bulb (Ch: 土貝母), which was allegedly distinguished by its larger size than the usual *daodi* kind from Sichuan. After citing recipes that called for the local kind, Zhao remarked:

[Beimu] produced in Sichuan is sweet and slightly bitter, whereas products from other places are just bitter but not sweet. As a medicine, it can supplement the vital breath, facilitate the discharge of phlegm, and not cold in nature. Therefore it is good for people who are depleted [in strength]. As for the *beimu* of Xiangshan, it is only bitter and cold, and its sharp nature could be seen from its ability to break down hard phlegm. As for the local *beimu*, it is exclusively good for dispersing pus and counteract poisonous abscess, and its nature is dry. The local *beimu* is so large that it is different from the smaller Xiangshan and Sichuan kinds. [*Bencao*] *gangmu* did not distinguish their uses, perhaps because at that time this kind had not been known.⁷⁵

Following this, however, Zhao cited three more observations that posed challenge to the very assumptions he just summarized. One mentioned a kind of *beimu* from eastern Sichuan that is also large in size, but not authentic (*daodi*). Another source mentioned that the *beimu* from Shaanxi Province was also large, and that the large kind had been used in textile preparation. Lastly, Zhao recalled a friend who came to visit him from

⁷⁵ Zhao Xuemin, *Bencao gangmu shiyi*, juan 5.

Sichuan in the spring of 1780, bringing a type of *beimu* that was both large in shape and sweet in taste. After all, Zhao concluded that perhaps there existed larger varieties in the *beimu* from Sichuan, and also the large *beimu* known in Zhejiang locally could also be found elsewhere. He saved the contradictory reports “for future investigation.”⁷⁶

Zhao Xuemin’s method thus incorporated a lively ensemble of voices from recipes, travel accounts, broadsheets from pharmacies (see Chapter 6), and a substantial collection of local gazetteers. The latter was unthinkable for Li Shizhen in the sixteenth century: there were fewer kinds of gazetteers being compiled locally, and also less actively circulated as during the Qing. Gazetteer editors had become much more active and vocal in expressing their views of local products since the late sixteenth century. The 1594 gazetteer of Wangjiang County (Ch: 望江縣), a border region between the lower and middle sections of Yangzi River, deprecated the received list of local products in the previous edition. The editor eventually decided to get rid of the category of “flowers” and “medicines” altogether, maintaining that no local products of Wangjiang had been ever mentioned in recipe books or the *bencao* literature.⁷⁷ Fifty years later, the next compiler of local gazetteer considered his predecessor’s choice overly harsh, and restored the section of local medicines to about forty kinds of “herbal remedies,” citing their utility as “substitutes” for doctors when the authentic drugs were in short supply.⁷⁸ In 1768, a new editor sought to revise the pessimistic evaluation of local products by restoring the deleted section in full, and noted:

⁷⁶ Ibid.

⁷⁷ *Wangjiang xian zhi*, (Gazetteer of Wangjiang County, Wanli edition (1594)), *juan* 4. Another example of deleted section on local medicines could be found in *Jiyang xian zhi*, Qianlong edition (1765), *juan* 1, 30a.

⁷⁸ *Wangjiang xian zhi*, (Gazetteer of Wangjiang County, Shunzhi edition (1651)), *juan* 6, 6a.

Most *materia medica* ingredients were supplied from all over the world, and Wangjiang only has a few. Still, they could serve as an aid for doctors.⁷⁹

In a similar way, a magistrate in the nearby Fanchang County argued that some local *materia medica* ingredients were “by no means inferior to the *daodi* ones from Sichuan.”⁸⁰ The first-hand accounts of local products, including vernacular names and sometimes their medicinal uses, constituted a major source of information for Zhao Xuemin. As local knowledge came to be incorporated into metropolitan knowledge of drugs, however, the idea of *daodi* as place-based authenticity also underwent a significant shift away from the fixed designation in classical *bencao* literature, toward a much more volatile and complex hierarchy of imagined value and efficacy. A notable by-product of this shift was the emergent imagination of the wild and the homegrown in Qing medical and popular discourses.

The Wild and the Homegrown: An Economy of Exotics

“Medicines that are best picked from the mountains, do not mix them with the homegrown kind... Or medicines that are best cultivated at home, do not mix them with those produced from the mountains.” So commented Chen Jiamo, a mid-sixteenth century physician, in a *bencao* treatise composed for his students.⁸¹ Chinese doctors and patients alike had long been aware of the remarkable effect of domestication on otherwise “wild” counterparts. In general, domestication process selected the less toxic varieties,

⁷⁹ *Wangjiang xian zhi*, (Gazetteer of Wangjiang County, Qianlong edition (1768)), *juan* 2, 92ab.

⁸⁰ *Fanchang xian zhi* (Gazetteer of Fanchang County, Kangxi edition (1675)), *juan* 5.

⁸¹ Chen Jiamo, *Bencao mengquan* (Beginner’s Guide to *Materia Medica*), “On Picking the Right Place of Production.”

generated more predictable harvests, and altered the range of dinner table delicacies. The production for Chinese *materia medica* had thus always involved work of the collector, who waded into the uninhabited mountain valleys for the precious cure, as well as that of the cultivator, whose knowledge of medicine falls largely along the same lines as a gardener or a farmer. The emphasis of value on those two modes of production, however, could shift from time to time.

The legendary physician Sun Simiao recommended the cultivation of medicinal plants as a crucial aspect of “retired living (Ch: 退居).” While at the beginning he surveyed the place of production all over the “provincial soils,” he also described methods of cultivating about 20 kinds of medicinal garden plants, such as bamboo, chrysanthemum, apricot and wolfberry, in one’s own garden.⁸² Many literati of the Tang dynasty did leave descriptions of private medical gardens, including the great poet Du Fu (Ch: 杜甫 712-770), who mentioned his own planting medicines to alleviate illness, as well as receiving medicinal herbs from friends.⁸³ Later, the practical advice of Sun Simiao gave rise to similar accounts of medicinal horticulture in compiled agricultural treatises. During the fourteenth and fifteenth century, the encyclopedia *Essential and Useful Complete Guide to Household Affairs* (Ch: 居家備用事類全集) quoted at length from the text, subtly twisted Sun Simiao’s ideal life of seclusion into a comfortable and elegant lifestyle for land-owning gentry.⁸⁴ It was the same twenty or so medicines that later got described again in late Ming gardening manuals. The maintenance of a medical

⁸² Sun Simiao, *Qianjin yi fang*, *juan* 14, “On Retired Living,” Part 6, “Cultivation and Compounding of Medicine.”

⁸³ Du Fu, “Yuan you (Journeying Faraway),” also “To Wei Youxia”

⁸⁴ Anon. *Jujia beiyong shilei quanji*. “On Cultivation of Materia Medica.”

garden became an elegant pastime for literate elite families who aspired to assume the airs of a hermit, and the text itself should not be taken as a faithful depiction of contemporary horticultural practices.⁸⁵

Another reason for the limited scale of horticultural knowledge on medicine was that the majority of medicines, especially the most valuable ones like ginseng and *huanglian*, were still hard to domesticate except sometimes in places near their natural habitat. The term “grown in wilderness (Ch: 野生)” first appeared in the state-commissioned *bencao* texts to distinguish domesticated vegetables such as sesame, garlic, eggplant, and lettuce from their “wild” counterparts.⁸⁶ At first, the terms remained descriptive, and were not necessarily associated with positive or negative connotations in itself. In the late-sixteenth century *Bencao gangmu*, Li Shizhen added more personal knowledge of domesticated medicinal plants, and commented more explicitly on the different pharmacological effects. The site of production not only came to distinguish foodstuff (cultivated) and medicine (wild) in some cases such as the Chinese yam (Ch: 薯蕷),⁸⁷ but also suggested a temporal change between ancient and modern-day practice of medicine. The wild mustard, noted Li, was originally wild and became a domestic plant after it “came to be utilized by the world.”⁸⁸ In other cases, Li commented on the

⁸⁵ For example, an “Explanatory Treatise on Cultivation of Medicine (*zhong yao shu*)” was included in *Shuibian linxia* (By the Waters and under the Groves), an anthology of elegant pastime for literati readers published in 18th century.

⁸⁶ Tang Shenwei, *Zhenglei bencao*, *juan* 24 (sesame), 27 (bitter lettuce), 29 (garlic, eggplant).

⁸⁷ *Ibid*, *juan* 27.

⁸⁸ Li Shizhen, *Bencao gangmu*, *juan* 14.

availability of “wild” and “cultivated” varieties of the same herb, but did not dwell in any length in their medicinal virtues.⁸⁹

Authors of *bencao* since the seventeenth century, however, became more opinionated about the advantageous quality of “wild” versus homegrown products. Lu Zhiyi, for instance, insisted that although plum trees are prevalent, when used as a medicine, it would be best to harvest from “the wild-grown trees, or those whose branches had not yet been grafted.”⁹⁰ Zhang Lu (Ch: 張璐), a physician residing in seventeenth-century Suzhou, noted that the common kinds of *zhu*, a common tonic, were all “grown and irrigated” varieties and thereby inferior to the kind from Yuqian county, where the herb was “grown in the wilderness,” and thus possessed “purer *qi*.”⁹¹ Nearly a century later, Zhao Xuemin echoed the observation, and listed “Yu (於 shorthand for the Yuqian County 於潛縣) *zhu*” as a separate entry in his *Supplement to Bencao gangmu*. Zhao reported in further details about the merits of wild *zhu* picked from two localities of Yuqian, and compared them with several accounts describing still more local varieties of *zhu*. The superior kind, noted Zhao, came from the Crane Hill near the county seat, and the shape of the root “is complete with the long neck, wings and claws of crane; the skin is thin with yellow hues. If you cut it open, there are vermilion-colored dots in the texture.” The usual kind of *zhu* supplied in bulk from Huizhou, however, was vernacularly known as “the fecal *zhu* (Ch: 糞朮),” for the plant was cultivated and

⁸⁹ Ibid, *juan* 16.

⁹⁰ Lu Zhiyi, *Bencao shengya banji*, *juan* 5.

⁹¹ *Zhu* was identified as two species belonging to the genus *Atractylodes* by modern botany. Zhang Lu, *Benjing fengyuan* (Exploring the origin of the classic on *materia medica*), *juan* 1.

nourished with human waste, and its root surely looked nothing like the neck of a crane.⁹² At the end of the entry, Zhao recorded another variety of wild *zhu* brought by a friend in 1791, a rare kind produced only in small batches (20-30 catties) each year, and also resembling a crane in its shape.⁹³ Within the category of “wild” versus “homegrown,” therefore, Zhao eagerly collected still more varieties and described their features and value, much like a judicious connoisseur.

Overall, the late seventeenth and eighteenth century *bencao* texts shared a preference for the “wild” varieties of *materia medica* over the homegrown.⁹⁴ The notion that domestic cultivation would somehow impart an “impure quality” to a medicinal plant was unseen in previous *bencao*, but reflected a general shift in the perception of wilderness as pure, potent, and therefore valuable. The perceived virtue of wilderness sometimes led to unfounded judgments in *bencao* writings of that time: Wu Yiluo (Ch: 吳儀洛 c.1704-1766), a physician whose *bencao* treatise revised many errors in Wang Ang’s *Bencao beiyao*, noted that aconite in Sichuan,

had previously grown in the wild; the harvest was rare, the price was high, and its power was quite strong. Recently, it has come to be cultivated, the harvest is more abundant, but the price has dropped and its power has become quite impotent [thin]. Local people preserved it with salt, which further weakened it.⁹⁵

⁹² Zhao Xuemin, *Bencao gangmu shiyi*, juan 3.

⁹³ Ibid.

⁹⁴ Notable exceptions were mostly domesticated herbs that often marketed as foodstuff at the same time, such as mint (Suzhou), Chinese yam, and chrysanthemum. In those cases, the *daodi* kind has always been a cultivated variety from specific localities, often produced as cash crop.

⁹⁵ Wu Yiluo, *Bencao congxin* (Following New Knowledge of *Materia Medica*), juan 4.

It was notable that the cultivation of aconite in parts of Sichuan in fact began at least since the early twelfth century.⁹⁶ Wu Yiluo's complaint about the poor quality of present-day aconite rather reflected his assumption about the disparity between the wild and the homegrown. Ironically, the imagination of the wild reached its peak precisely at a historical moment when wilderness receded to an unprecedented extent from the everyday life of city dwellers in the Lower Yangzi region.

By the late eighteenth century, the terms “wild” and “homegrown” have become accepted trade epithets that marked the hierarchy of value in commercial exchange. An increasingly elaborate and successful trade network within China and abroad only fostered the growing metropolitan desire for the wild, and urban consumption in turn drove up production and provided the incentive for tapping resources from even more distant places. While the worship of wilderness propelled soaring demand on products like wild ginseng, the traditional practices of cultivation and collection also gave way to new modes of organizing production. Yan Ruyi (Ch: 嚴如煜), a Qing official at the turn of the nineteenth century, reported large-scale “farms” (Ch: 廠) of *huanglian* in the remote mountains near the “tri-provincial” borderland of Shaanxi and Sichuan, and Henan. Among the local products, two kinds of *materia medica*, *houpu* and *huanglian*, were considered the most authentic (*didao*) and “circulating to faraway places (Ch: 行遠).” Contrary to popular belief, Yan pointed out that those drugs were in fact all artificially cultivated in the deep mountains:

The ancient woodlands have long been cleared here, and the *houpu* and *huanglian* here are hardly wild. *Houpu* saplings are planted on plain slope and patchy terrains, and some are as thin as a brush pot. The trees grow to

⁹⁶ Yang Tianhui, “Zhangming fuzi ji (On the Aconite of Zhangming),” in Zhao Yushi, *Bin tui lu*, juan 3.

the size of a cup or a bowl in several to a dozen years, and they then yield good *houpu* bark. As for *huanglian*, it is cultivated in grooves and valleys of cleared mountain land. Merchants buy an enclosure with a circumference of several tens of *li*, and plant *huanglian* all over. Since it takes up to ten years for the plant to grow up, they rent the land to “shed people (Ch: 棚民)” to take care of the herb, and each *huanglian* yard needs several dozen households. In general, the quality of medicine is the best when the mountain is high and the valley is deep.⁹⁷

Yan Ruyu’s astute observation revealed the questionable status of categories like “wild” and “homegrown” at the turn of the nineteenth century. The lucrative trade of *daodi* medicine gave incentives to merchants and migrant tenants to alter ecologies of the forest, and artificially transform those into specialized production sites of *materia medica*. An herb as untamed as *huanglian* came to be semi-domesticated in this process, yet preserved at the same time the lure and promise of the wild. The interregional trade of medicine in the nineteenth century was to develop into more sophisticated forms of organization, which handled an unprecedented amount and variety of medicines flowing from the “wild” peripheries of the empire toward urban consumers. Again, space and places came to be coded as a primary reference of value in the drug trade.

Ascertaining Daodi: An Insider’s View

As Yan Ruyu’s account for “*huanglian* yards” suggested, merchants in the Qing played a crucial role in turning a local product into an authentic (*daodi*) commodity on the domestic market. In order to profit from the trade, they had to see, smell, touch and taste, mobilize all the senses in order to get the best deals. The merchant also had to be familiar not only with where a commodity could be obtained, but also where it could be

⁹⁷ Yan Ruyu, *Sansheng bianfang beilan* (Referendum for the Defense of Tri-Provincial Borders), *juan* 9, “Products of the Mountains,” 15b.

most profitably sold. A late Ming merchant's guidebook urged its readers to learn "the subtle essences of the principle of things", for profit only comes when one "buys and sells according to the time of the year".⁹⁸ This was also true for merchants of *materia medica* in their dealings with *materia medica*. As Fang Yizhi learned from late 17th century Zhangshu, merchants had the exclusive knowledge of the differences between products coming from different places, and to market them in ways suitable for different customers.

Although I was not able to locate writings left by merchants active in the 17th and 18th centuries, a later manuscript titled "Complete Guide to Places of Production for the Harvest of Drugs" (Ch: 採藥出產指南全卷) provides a precious glimpse into the world of a wholesale medicinal merchant in Qing China. Undated, the manuscript recorded the author (who signed his name as Zhang Guozhong)'s advice for how and where to buy a total of 262 *materia medica* ingredients in a casual and pragmatic tone (Figure 10). According to Paul Unschuld and Zheng Jinsheng's bibliographical note, the text relates stories taking place during the Jiaqing reign (1796-1820), and at another occasion the "Guangxu reign of the Qing." The author also refers to provincial administrations with the old terminology of prefecture, department, and county, and talks of the state as "Mandarin office" (Ch: 官府). Although the text was initially paginated with traditional Suzhou numerals, later users apparently added Arabic numerals on top of each page. Multiple seals of ownership also indicate that the manuscript was probably owned by an experienced person familiar with the wholesale trade of medicine in the nineteenth

⁹⁸ Cheng Chunyu, *Shishang leiyao*.

century, but later used and passed down via many hands well into the early decades of the twentieth century.⁹⁹

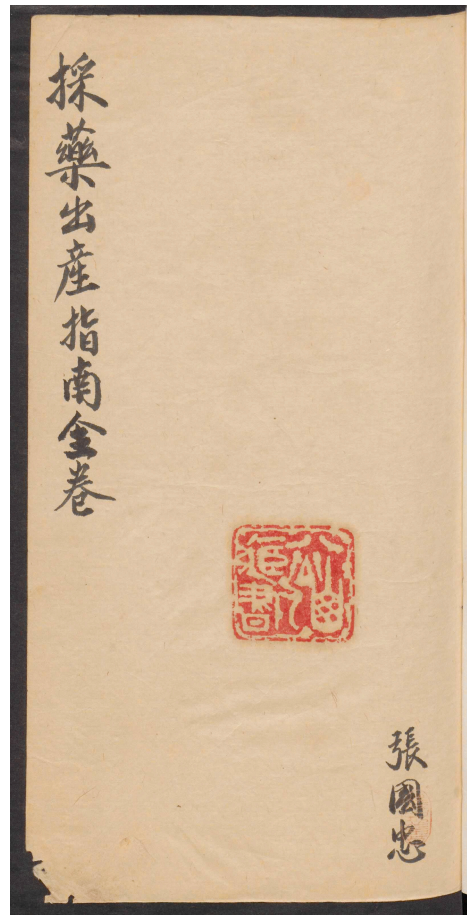


Figure 10 Title page of *Complete Guide* with author's signature. (Staatsbibliothek zu Berlin -Preußischer Kulturbesitz, East Asia Department, shelf mark: Slg. Unschuld 8808.)

For each drug, the author describes places of origin for three grades of quality: “the very best” (頂佳／為上), “second best” (Ch: 次之), and “still less good” (Ch: 又次之). Although he frequently remarks on the authenticity (*daodi*) of products, the notion does not map simply onto the “very best” grade, but instead was associated with a number of disparate realms of practice. First of all, the status of *daodi* is only given to

⁹⁹ See Paul Unschuld and Zheng Jinsheng, *Chinese traditional healing: the Berlin Collections of Manuscript Volumes from the 16th through the early 20th century*. Berlin ms. 8808, 採藥出產指南全卷

trusted sources of supply whose quality of goods sustained the test of time. For instance, although certain products are recognized as having “superior quality,” he does not refer to them as *daodi*.¹⁰⁰ Secondly, the status of *daodi* is also upheld by the social organization of merchant groups, for the author recommends trusting only galangal ginger brought by “the merchant group of Suzhou” (Ch: 蘇幫) as the authentic kind.¹⁰¹ It was also sensible to know whether substances from a certain region were wild or cultivated, as in the case of lacquer tree sap, for the wild kind was “durable like copper and iron, and most authentic (*daodi*).”¹⁰² Finally, the “bulk-dealer” (Ch: 辦莊者) is challenged to train his own senses to distinguish authentic from lesser and fake products: one should look for places where products were harvested clean and “sand-free,”¹⁰³ be familiar with the specific texture, color, and smell of crude drug specimen from different origins,¹⁰⁴ and even know a few easy tests that would come in handy. The best “wild *huanglian*” from Yunnan, we were told, should release a dense, greenish fluid when immersed in a bowl of clean water.¹⁰⁵ Indeed, “one should always examine closely and carefully, so as to recognize authenticity (*daodi*)!”¹⁰⁶

At the same time, the author was also keen to talk about the many hidden tricks that upholds or undermines authenticity. One should not believe in the claim of

¹⁰⁰ *Complete Guide*, no. 137 *dangshen*

¹⁰¹ *Ibid.*, no.56

¹⁰² *Ibid.*, no. 110 lacquer

¹⁰³ *Ibid.*, no. 48

¹⁰⁴ *Ibid.*, no.73 and fuling no 159 rhinocero horn

¹⁰⁵ *Ibid.*, *huanglian*; Also see no.175 *danxing*, and no. 219 amber

¹⁰⁶ *Ibid.*, no. 18, *baikou*

authenticity for some drugs, such as the famed gelatin glue (Ch: 阿膠) allegedly made of donkey skin, for the production process is known to be so easy to adulterate, that “only the gods could tell the authentic (Ch: 真) from the fake.”¹⁰⁷ Furthermore, it is difficult for the novice to learn the variety of trade names (Ch: 花名), as well as the directionality of flow associated with each kind, for over two hundred common drugs.¹⁰⁸ The best grade of rhubarb, for instance, is mostly sold in Guangdong, and the bulk product packaged for this market was colloquially known as “foreign batches (Ch: 洋莊).”¹⁰⁹ Aside from the *daodi* medicines, it is also important to be able to sell the lesser grades at a cheaper price: since the authentic *maidong* tubers (Ch: 麥冬) from Hangzhou is so expensive, instructs the author, it is good to know which grades sell well in the northern and southern provinces, respectively. As for the usual kind of “knotted *maidong* (Ch: 節冬)” it is used everywhere alike.¹¹⁰ In some cases, one should not even trust seemingly well-established claims to *daodi* status by other people. For instance, the fungus *fuling* picked from the southwestern frontier mountains of Yunnan was considered the most precious and *daodi* during the Qing. Recently the supply from Yunnan was mostly faked by *fuling* produced in the inland province of Anhui, “just for a desirable price.”¹¹¹ The warnings and insights of the author suggested that although urban pharmacies invariably

¹⁰⁷ Ibid., no. 86, ejiao,

¹⁰⁸ Ibid., no. 222,

¹⁰⁹ The observation confirmed that rhubarb was one of the most popular export *materia medica* in 18th and 19th century from China. Ibid., no. 233,

¹¹⁰ Ibid., no. 37

¹¹¹ Ibid., no. 59

claimed to offer *daodi* medicine to customers, in reality the claim of authenticity has to be formed, contested, and upheld in a complex network of activities.

Unlike authors of *bencao* texts, the author of *Complete Guide* gained his knowledge of drugs primarily from his experience in the trade. He wrote drug names in colloquial language, often substituting difficult characters with easier homophones. It suggests that the author's knowledge of drugs was predominantly aural in origin instead of *bencao* books. He also in more than one occasion went beyond practical details of business, and speculated over how drugs had been created in the world. The substance of amber, said he, came out from "old pine trees in deep mountains, bitten by a tiger."¹¹² In another note, he told the story of how collectors of fragrant resin must first undress before approaching the "glowing trees" at night in the deep mountains of Guangdong, lest the serpentine and beasts guarding the treasure saw them as clothed humans.¹¹³ The secret of killing a snake from Qizhou was to wait until he comes out of hibernation. The collector would place tiny blades in front of the snake's dwelling, and simply wait for the snake to emerge out of the cave upon the lethal trap.¹¹⁴

Medicinal merchants heard and collected stories from the localities that they frequented, and their travels extended well beyond the usual trajectories of literati-officials. The calendar of a merchant featured annual trading fairs at domestic markets such as Zhangshu, seasons of harvest for various drugs in their native places, and the rhythmic flow of capital between lenders and business enterprises. The author of *Complete Guide* related how in Zhejiang, "guest" businessmen would visit production

¹¹² Ibid. no. 219 amber

¹¹³ Ibid., no. 27

¹¹⁴ Ibid. no. 230

sites in the coastal Xiangshan County every year during the Qingming Festival, inspect the fields of *beimu* lilies, and settle deals.¹¹⁵ Their access to local resources were not always open: for collectors of wild peony roots in Jiangxi, local residents shut down the mountains to outsiders from the tenth month each year until the sixth month of the following year.¹¹⁶ An unusual passage reveals how wholesale dealers, known as “guests of the Western Mountains” (Ch: 西山客), hunted for the best cinnamon bark at the Sino-Vietnamese border:

Guests of the Western Mountains arrive at the Prefecture of Kaihua, and then to the Crossing of Jiaozhi [Sino-Vietnamese border], before proceeding in two separate routes. The first route leads to Mengla, and the second route to Thanh Hoá (*qinghua*), an inhabitable land for twenty-four stops, and early travelers pick firewoods for the followers to use. The products [cinnamon] from these two routes are most abundant. The Guests then sell the goods back to Kaihua, ... and the cinnamon is packed in the city of Mengzi. Those from Thanh Hoá are then known as Jiaozhi cinnamon, and those from Mengla are called Mengzi cinnamon. ... The wholesale dealer should carefully distinguish the different kinds of products and their prices, although fake ones are many and true ones are few.¹¹⁷

This passage reveals how epithets of places had been added to raw products in the transactions between wholesale dealers. The luxuriously rich flavor of cinnamon bark thus came to the metropolitan consumers of Qing China pre-packaged by mercantile reconstruction of places, its market value bolstered by the extreme toil of dealers as well as the cultural association of potency with remote land and wilderness. If we map the sub-provincial place names mentioned in *Complete Guide* (blue dots in Map 8), the pattern is markedly different from the 11th century distribution of tribute sources (Map 6, or red triangles in Map 8).

¹¹⁵ Ibid. no. 36, Zhe(jiang) beimu.

¹¹⁶ Ibid. no. 45, peony root.

¹¹⁷ Ibid., no. 130.



Map 6 Distribution of sub-provincial place names in *Complete Guide*

I suggest that interregional trade can help us understand a different kind of geography – not only that of urban development as Skinner has contributed so fundamentally to our understanding; - but also the variegated level of familiarity toward faraway places required for people involved in the trade. They were those who supplied metropolitan consumers of the late Qing with medicines claimed as *authentic* not only from the wild, the faraway and the strange, but also the close-at-hand, the homely, the taken-for-granted ingredients of cure harvested as by-products of an agrarian society.

Conclusion

In 1893, the reform-minded scholar Chen Qiu (Ch: 陳虬 1851-1904) proposed that in order to revive Qing China's faltering agriculture, local communities should strive towards raising the "profits of the earth (Ch: 地利)." To explain what he meant by "profits of the earth," Chen explained that

In China, the effort of agriculture is still under-exploited. For fruit, mulberry trees, and bamboo are not like *materia medica*, which must obey its designated authentic places of origin (*daodi*). Furthermore, even *daodi* medicines nowadays cannot be taken for granted, for the earthly conditions changed a lot. Recently, Japan has reaped enormous profits by cultivating *materia medica* and selling its goods from the East Ocean (Ch: 東洋) in our markets and shops.¹¹⁸

Chen went on to propose that if China could send a team of experts to inspect the condition of soil and propagate the cultivation of *materia medica*, this too could become a lucrative investment.

Chen Qiu's comment strikes us today as strange, for the local context has been relatively hidden from the manufacture of biomedical drugs in our times, whereas a sense of universal standardization has come to be upheld by a comprehensive set of scientific tools to ascertain the quality and purity of drugs regardless of the site of production.¹¹⁹ The notion of *daodi* and place-based authenticity, however, had been established over a long time and had become deeply entrenched in the consciousness of Chen Qiu's contemporaries. As I have shown in this chapter, the systematic designation of places as authentic sources for *materia medica* derived from state power in the Tang and Song

¹¹⁸ Chen Qiu, *Zhi ping tong yi* (General Discourses on Peaceful Governance), *juan* 5, "Essential Proposals for the Times."

¹¹⁹ For reflections on the persistent spatial politics in pharmaceutical R&D, see Adriana Petryna, *When Experiments Travel: Clinical Trials and the Global Search for Human Subjects* (Princeton: Princeton University Press, 2009).

Dynasties, but came to be largely dominated by mercantile activities during the Qing. The emergence of interregional trade centers, such as Zhangshu, in the sixteenth century, gave rise to increasingly elaborate networks of long-distance commerce, and the cultural preference for *daodi* medicine gave rise to an increasingly sophisticated network of production, purchase, transportation and sales buttressed by the activities of countless merchants.

Although the actors rarely wrote down their experience beyond their trade, commerce left indelible marks on the metropolitan imagination of pharmacological efficacy. As the Qing Empire expanded its control over frontier regions, merchants of *materia medica* also followed suit, with the unintended consequence of altering previous designations of *daodi*, as manifest in heated discussions over the wild and the homegrown in *materia medica* writings. Just when an urban culture rapidly consolidated and extracted more goods and materials from the periphery, the latter broke free from a fixed projection of knowledge and description from the center, and entered the metropolitan imagination as objects of desire, potency, and deliverance. In Part III, we follow the merchants and *materia medica* into the clinical encounters between healer and patients, and ask how the materiality of cures shaped notions of expertise and trust in the medical marketplace of late imperial China.

Part 3 Social Practices

Chapter 5 Masters of the Medicine Chamber: Pharmaceutical Expertise in Textual and Social Spaces

In 1636, the Portuguese Jesuit Alvaro Semedo (c.1585-1658) set sail back to Europe after serving the mission in China for more than two decades. Upon his return, Semedo composed an extensive report on the state of affairs in the “great and renowned monarchy” governed by rulers of the Ming Dynasty (1368-1644CE), and the account was subsequently translated into various European languages. Aside from supplying detailed information on China’s state apparatus, law, and religion, Semedo paid especially close attention to how worldly commerce was carried out on the ground. In his brief survey of Ming China’s medical learning, Semedo testified to the existence of an interregional commercial network specializing in raw medicines, which I have described in Chapter 4. Of the abundant supply of dry “herbs, roots, fruits, seeds, etc.,” Semedo noted especially the unusual way in which drugs were being dispensed:

[B]ut of all others the Physicians are well provided; because they never write any receipt, but give the medicine themselves to the patient whom they visit, And all is done at the same visit, therefore the Physician hath alwayes following him a boy, carrying a Cabinet with five drawers, each of them being divided into more than fourty little squares; and all of them furnished with medicines ready ground and prepared.¹

The physician’s medicine cabinet as described by Semedo thus reveals to us the intimate relationship of the physician with his therapeutic arsenal: portable, capacious and

¹ Alvaro Semedo, *The History of that Great and Renowned Monarchy of China* (London: E. Tyler, 1655), Chapter 11, 56. Semedo returned to China soon afterwards, lived through the Ming-Qing transition turmoil, and died in Guangzhou (Canton) in 1658.

divisible into small drawers, the cabinet epitomized its owner's claim to expertise in the handling and compounding of *materia medica*.

The subsequent century was to witness not only the fall of Ming Dynasty in 1644 and the consolidation of Manchu rule under the newly founded Qing Dynasty, but the intimate bond between physicians and medicinal drugs, the predominant means of healing, was also to loosen and dissolve by the end of China's prosperous long eighteenth century. Nakagawa Chūei, a Japanese official in charge of foreign trade in the port city of Nagasaki, compiled an account of Chinese customs under the Qing Dynasty based on his interviews with Chinese merchants who came to stay in Nagasaki for business, and the report was first published as a book in 1799. The norm for medical practice of the day, according to Nakagawa's native informants from Qing China, was described as follows:

There is totally no such thing that medicines are dispensed from the physician. No matter how grave and acute the illness is, physicians do not bring their own medicines. They only take their medicine cabinet when invitations [from the patient] come from rural and remote places. This is because there is no pharmacy in rural areas, and the distance is too far from a market, so that it becomes the case that physicians would bring their medicine cabinet with them.²

Both vignettes of medical practice in China were narrated and intended for the curious eye of foreign readers, and paid close attention to how practitioners operated in social contexts, including details that were often left out in Chinese accounts. Given that Semedo was living and traveling mostly in central and south China, the region where the majority of Chinese merchants sojourning in Edo Japan would have come from, there seemed to be a decisive shift happening within some 160 years in the ways in which

² Nakagawa Chūei, *Shinzoku kibun* (Ch: 清俗紀聞 An recorded account of Qing Customs), Tokyo, 1799. All translations from Chinese and Japanese sources in this chapter are mine.

physicians dispensed medicinal drugs.³ How did physicians change, from always dispensing their own remedies to only reluctantly doing so for certain patients? And how did business come to people who ran pharmacies, which were, at least according to Nakagawa's informants, mostly located in urban area? What kind of insights can that change reveal to us, about the relationship between expertise over pharmaceutical techniques and the social identity of medical practitioners in the *longue durée* history of healing in China? Having explored in turn *materia medica* knowledge and the circulation of drugs in previous chapters, I now turn to examine the social practice of drug therapy by focusing on two groups: physicians and pharmacists. This chapter takes as its central concern the construction (and challenge) of the physician (Ch. 醫) 's pharmaceutical expertise in both textual space of the medical corpus and the social space of the practitioner's shop. In Chapter 6, I will then turn to the social identity of pharmacists.

The previous historiography of medical practitioners in China tended to take the physician's status as healing experts for granted. As Nathan Sivin reminds us in a recent essay, however, since no guild-like institution capable of licensing and regulate practitioners existed in imperial China, it can be highly anachronistic and misleading to apply professional categories from the historical experience of medieval and early modern Europe.⁴ Meanwhile, the lack of professional guild by no means indicated a

³ Most ships departing to Nagasaki from China during the eighteenth century were embarked from major coastal commercial cities in southeast China. The Tokugawa Shogunate installed officials in Nagasaki to monitor and regulate both trade with Westerners (mainly Dutch ships) and Chinese, and medicinal drugs constituted one of the major types of export commodity from China to Japan in the 17th- early 18th century. Given the prominent value of Chinese herbal drugs perceived by contemporary Japanese, It is understandable why Nakagawa might have been especially interested in asking whether physicians delivered their own remedies.

⁴ Nathan Sivin, "Therapy and Antiquity in Late Imperial China," in Miller and Louis, *Antiquarianism and Intellectual Life in Europe and China, 1500-1800* (Ann Arbor: University of Michigan Press, 2012), 222-233.

social space devoid of any mechanisms for distinguishing expertise.⁵ It is rather that we are obliged to find new analytical categories and ways of assessing expertise based on close reading of historical sources. Throughout this chapter I use the term *physician* advisedly to translate *yi*, as someone who practiced medicine for a living, as opposed to *amateurs* who might be very learned in medical canons, or as we shall see, pharmaceutical matters.

My inquiry is built upon recent works that have adopted productive approaches to critically examine the social identity of physicians. The works by Charlotte Furth and others on the emergence of “Confucian physicians” (Ch: 儒醫) in the 12th-14th centuries show that many Confucian scholars gave up attempts to obtain governmental office, and instead took up medicine as an alternative career. By emphasizing their learning as “Confucian physicians,” elite doctors sought to carve out a niche for themselves, as distinct women and illiterate practitioners.⁶ Another line of inquiry taken by Angela Ki-Che Leung and others looks at the decline of state intervention in the business of running pharmacies and local medical academies, designating “medical households” (Ch: 醫戶) and examining physicians for promotion into the Imperial Academy of Medicine.⁷

⁵ Also as Sivin noted, “Medicine’s integration within [mainstream, Confucian] culture changes over time.” see idem., “Therapy and Antiquity in Late Imperial China.” The term *daifu* (Ch: 大夫), which originally denoted an official rank, came to be used to refer to physicians exclusively relatively late. Although the term carried a sense of top-down authority similar to that of doctor, the source of said authority derives from lay bureaucracy instead of a guide of experts.

⁶ See for instance the work of Charlotte Furth, “The Physician As Philosopher of the Way: Zhu Zhenheng (1282-1358),” *Harvard Journal of Asiatic Studies* 66.2 (2006): 423-459; Robert Hymes, “Not quite gentlemen? Doctors in Sung and Yuan.” *Chinese Science* 8 (1987): 9-76; Yi-Li Wu, *Reproducing Women: Medicine, Metaphor, and Childbirth in Late Imperial China* (Berkeley: University of California Press, 2010).

⁷ See Angela Ki-Che Leung, “Medical Instruction and Popularization in Ming Qing China,” *Late Imperial China* 24.1 (2003): 130-152. Also idem., “Medical Learning from the Song to the Ming,” in *The Song-Yuan-Ming Transition in Chinese History*, ed. Paul Jakov Smith and Richard von Glahn, (Cambridge, Mass.: Harvard University Asia Center, 2003), pp. 374-398; also see Reiko Shinno, “Medical Schools and

Lastly, many scholars have looked closely at medical cases, private writings and vernacular fiction to reveal a range of volatile and complex interactions between physicians and patients in imperial China. Their findings show that the physician by no means enjoyed any edge of power vis-à-vis the patient during late imperial period, but was frequently involved in ruthless competition and painstaking negotiations over therapeutic decisions with the patient's family.⁸

Historical scholarship on drugs in China, on the other hand, has just begun to combine insights gleaned from philological studies of the textual corpus of *materia medica* with the understanding of practice.⁹ The pioneering works of Zheng Jinsheng and Qiu Zhonglin have located a rich body of records on pharmaceutical trade and practice in China.¹⁰ The overall narrative that they adopted, however, is a teleological one that sees new developments in pharmaceutical expertise as inevitable outcome of socio-economic progress. Without sufficient questioning of who were the practitioners, and who created

the Temples for the Three Progenitors in Yuan China: A Case of Cross-Cultural Interactions,” *Harvard Journal of Asiatic Studies* 67.1(2007): 89-133. For a closer look at popular conception of lineage physicians, see Chao Yuan-ling, “The Ideal Physician in LIC: The Question of San-shih,” *EASTM* 17 (2000): 66-93.

⁸ See Christopher Cullen, “Patients and Healers in Late Imperial China: Evidence from the Jinpingmei.” *History of Science* 31 (1993): 99-150. Also Tu Feng-en, “Zeyi yu zebing: Ming Qing yibing jian de quanli, zeren yu xinren (Choosing Physicians, Choosing Illnesses: Power, Responsibility, and Trust between Physicians and Patients in Ming and Qing China),” *Chinese Social Historical Review* 11 (2010): 149-169.

⁹ In Chapters 1 and 2, I review scholarship on the history of *materia medica* as a long-standing tradition of learning, and explain why 17th and 18th centuries stood as a crucial period of transformation in the status of pharmacology.

¹⁰ See especially Zheng Jinsheng, *Yaolin waishi* (An Externalist History on Drugs) (Guilin: Guangxi shifan daxue chubanshe, 2007); Qiu Zhonglin, “Mingdai de yaocai liutong yu yaopin jiage (Circulation of *materia medica* and the price of drugs in Ming China),” *Zhongguo shehui lishi pinglun* (*Chinese Social Historical Review*) 9 (2008): 195-213.

the source texts with which current inquiries are based, it is often difficult to grasp the unique combination of historical conditions that shaped medical practice in each period.¹¹

What if we turn our attention away from physicians' interaction with other social groups (patients, competitors, charlatans), but focus instead on the dynamic relationship between humans and healing substances---in the case of late imperial China, the myriad kinds of "herbs, roots, fruits, seeds, etc.," that were turned into decoctions, pills, powders, and ointments ready for administering to the patient?¹² My inquiry will proceed along two interrelated lines: on the one hand, I reexamine the changing nature and style of pharmaceutical instructions in the textual corpus of traditional medicine by analyzing the sociological formation behind the articulation of technical expertise into textual accounts, informed by Pamela Smith's work on artisanal knowledge in early modern Europe.¹³ On the other hand, I seek to reconstruct the social space in which pharmaceutical work took place by drawing from visual and literary depictions of physicians' practice, following the lead of Steven Shapin and others in highlighting the importance of spatial context for the practice of science and medicine.¹⁴ By juxtaposing the contours of change in both

¹¹ Li Chunxing, a Taiwanese practitioner who completed a detailed survey and anthology of pharmaceutical knowledge in China, saw the Ming and Qing Dynasties as an era pharmaceutical techniques were highly developed, whereas the overall output of texts dedicated to this subject was only few, and mixed in quality. See idem., *Zhongyao paozhi fazhanshi* (A history of pharmaceutical developments in traditional Chinese Medicine) (Taipei: National Institute for Chinese Medicine, 2000).

¹² This can be seen as an extension of Paul Unschuld's approach to the study of expertise and medical ethics in China, as formulated by the guiding question of *who* uses and controls medical resources. See Paul Unschuld, *Medical Ethics in Imperial China: a Study in Historical Anthropology* (Berkeley: University of California Press, 1979), 16.

¹³ Pamela H. Smith, *The Body of the Artisan: Art and Experience in the Scientific Revolution* (Chicago: University of Chicago Press, 2006); also see Eric H. Ash ed., *Expertise: Practical Knowledge and the Early Modern State* (Chicago: University of Chicago Press, 2010), and Alisha M. Rankin, *Panacea's Daughters: Noblewomen as Healers in Early Modern Germany* (Chicago: University of Chicago Press, 2013), esp. Ch.3.

¹⁴ Steven Shapin, "The House of Experiment in Seventeenth-Century England," *Isis* 79 (1988): 373-404.

textual and social registers, I seek to shed new light on the ongoing tension between ideals of learning and of social status as epitomized in the case of pharmaceutical expertise.

Notes at the Margin: Pharmaceutical Instructions in Early Medical Texts

The need to process “raw” products into “cooked” consumable form has been central to all cultures with a pharmaco-centric tradition of healing. Early China was no exception. In chapters 3 and 4, I have described the how people collected plants, hunted animals, and excavated minerals, as well as how the raw materials then acquired value in regimes of exchange. The raw materials, however, still needed to be picked and cleaned, processed into smaller pieces, and preserved in storage if not used immediately. In addition, for the preparation of compound drugs, one still needed to weigh the ingredients separately, mix them well, and concoct them into appropriate dosage forms, the most common kinds of which included pills (Ch: 丸), powders (Ch: 散), ointments (Ch: 膏), elixirs containing cinnabar or other mineral ingredients (Ch: 丹), and medicinal tinctures (Ch: 藥酒).¹⁵ In this chapter, I use the term *pharmaceutical expertise* in reference to both the further refinement of raw ingredients and the process of manufacturing compound drugs.¹⁶

The earliest records of pharmaceutical activity appear in China around the beginning of the Common Era. One such text was discovered on bamboo slips excavated

¹⁵ More potent tinctures emerged after the technique of distilling hard liquor became widespread in China after the Mongol Conquest in late thirteenth century.

¹⁶ Modern pharmacology developed the term crude drugs, as opposed to “pure” ones refined by chemical procedures. I use “crude drugs” and “raw ingredients” interchangeably in this chapter.

from ancient tombs in the 1970s. Later known as “Recipes for Fifty-two Illnesses” (Ch: 五十二病方), the text documents a total of more than 280 recipes, and provides specific instructions on how to prepare over 60 single drugs at the end of each recipe. For instance, the poisonous tuber of aconite must be repeatedly rinsed under running water, and the root of peony has to be cut into small pieces. Some herbs are to be dried by exposure to the sun, while others should be kept in the shade. Some minerals can be pulverized under high heat. For cooked soybeans, it is best to preserve them soaked in alcohol.¹⁷ All procedures could have been readily carried out in a household with basic equipment of stove and cookeries, and indeed, terms such as “to roast” (Ch: 炮) and “to broil” (Ch: 炙) employed in such pharmaceutical instructions could also apply to the preparation of food.

By the first century of the Common Era, medical corpus in China has already developed into distinct genres including the so-called “Medical Classics” (Ch: 醫經), which addressed issues such as the makeup and physiology of the living body, cosmological correspondences, regimen for a good life, and treatments with acupuncture and other devices, and the more practically-oriented “Classical Recipes” (Ch: 經方), which consisted of recipes attributed to legendary figures and renowned practitioners.¹⁸ The handling and preparation of drugs occurred mostly in the latter category, almost always in the interstitial space at the end of recipes. In the “Medical Classics,” however,

¹⁷ Shang Zhijun, “*Wushier bingfang yaowu paozhi gaikuang* (Summary of pharmaceutical techniques in the *Wushier bingfang*),” *Zhongguo zhongyao zazhi* (Journal of Chinese Traditional Medicine) 7.6 (1982), 17-20. Also see Donald Harper, *Early Chinese Medical Literature: the Mawangdui Medical Manuscripts* (New York: Kegan Paul International, 1998).

¹⁸ The two categories first appeared in the bibliography of the Han princes Liu Xiang and Liu Xin (c. 1st century BCE), which was later incorporated by the great historian Ban Gu in the Section on Art and Literature (*Yiwenzhi*) in the official history of the Dynasty, *Book of Han*.

drugs did not receive much attention as a therapeutic system, falling far behind in status compared to acupuncture, massage, and dietary and physical regimen in the *Yellow Emperor's Inner Canon*.¹⁹

Although the emergence of *bencao* texts as a separate genre in the 3rd-6th centuries carved out a genre dedicated to discussion of single drug qualities and uses, it did not immediately take up pharmaceutical techniques as an important subject either.²⁰ The first systematic discussion of pharmaceutical expertise appeared in the introductory chapter of the 6th century treatise, *Collected Commentary to the Divine Farmer's Classic of Materia Medica* (Ch. 本草經集註), which was compiled by the renowned medical author and Daoist adept Tao Hongjing (c. 456-536). In Chapter 3, we have discussed Tao's remarks on the regional nature of drug supply as bound by political situation of his time. In the same treatise, Tao also gave the earliest articulation of the problematic relationship between physicians and pharmaceutical suppliers:

As for the numerous physicians, they do not know drugs at all, but solely rely on tradesmen (Ch: 市人). The tradesmen then even cared less to differentiate [good from bad], but delegated the task to collecting and delivery persons (Ch: 采送之家). The collectors and delivery persons' practice was clumsy, and it is difficult to tell authentic from fake, and good from bad. They would, for instance, bleach minerals with vinegar, straighten the fine roots of *xixin* by soaking in water, steam *huangqi* with honey to make it sweet, and sprinkle angelica (*danggui*) with liquor to moisten.²¹ They would even fake appendages and natural colors. Such practices are hard to change because they have been in use for a long time.²²

¹⁹ For therapeutics involving drugs as discussed in the *Yellow Emperor's Inner Canon*, see Paul U. Unschuld, *Huang Di nei jing su wen: Nature, Knowledge, Imagery in an Ancient Chinese Medical Text* (Berkeley: University of California Press, 2003): 284-313.

²⁰ For an overview of early *materia medica* texts, see Ch.1.

²¹ *Xixin*, *Huangqi* and *Danggui* are all commonly used herbs in traditional pharmacopeia.

²² Tao Hongjing, "Prefatory Matters," *Bencao jing jizhu*.

Although it was often dispiriting to examine the quality of raw ingredients available on the market, noted Tao, one could at least do something to improve the techniques of pharmaceutical compounding (Ch: 合藥). One common error, he noted, was to “weigh and mix medicines without accounting for the amount lost in peeling and preparation.” Furthermore, one had to keep a vigilant watch over servants who, when concocting medicines for the master, were liable to steal expensive ingredients and replace them with inferior materials. If therapy failed because faulty dosage, it was the “medicine men” (Ch: 藥家) who had to shoulder the blame, not the physician who made the diagnosis and prescription.²³ He went on to elaborate the nitty-gritty details of weighing units, and of making ointments, pills, powder or tincture, as well as what drugs should never be boiled too hard, what poisonous parts must be removed before compounding, etc.

Tao Hongjing’s detailed instructions about compounding and his complaints about the erroneous practice of “medicine men” became the model for similar discussions found in later *materia medica* texts over the next millennium.²⁴ Authors referred to pharmaceutical procedures in descriptive terms such as “to roast” (Ch. 炮), “to broil” (Ch. 炙), “to temper with fire” (Ch. 燒煉), “to refine and to make” (Ch. 修治) and finally “combinative compounding” (Ch. 和合).²⁵ Although authors sometimes summarized

²³ Ibid.

²⁴ For the expansion of *materia medica* as a genre and its fragmenting trend in late 16th century market of printed books, see chapter 1 in this dissertation. For a detailed discussion of Tao Hongjing’s influence on later medical writings, see Zheng Jinsheng, *Yaolin waishi*, 170-172.

²⁵ A typical usage of these terms is included in a 7th century text, Sun Simiao’s *Essential and Invaluable Recipes for Emergency* (*Beiji qianjin yaofang*), 1.7. Sun also followed Tao’s lead to devote a section to pharmaceutical principles, noting that doing so would make it easier for the reader to grasp than finding them in individual recipes. He also distinguished “modern recipes” (*jinfang*) to which a common body of

their experience in pharmaceutical practices into a dozen or so “rules” to follow, the majority of pharmaceutical instruction was still attached as supplementary information to recipes, which alone carried the authority over the technical handling of drugs in day-to-day practice. As Sun Simiao, a prolific and influential medical author noted, “it profits one to follow the recipe (Ch: 方), and it dooms one to disobey it.”²⁶ Later compilations of *materia medica* often included more and more recipes, and as a result, piecemeal information of pharmaceutical instruction also accumulated at the margins of the medical corpus as a whole.

Physician’s Art and Livelihood: Running a Medicine Chamber

The subsidiary status of pharmaceutical knowledge within the recipe literature persisted well into the Northern Song Dynasty (960-1127), a time when the court invested unprecedented resources in to compiling giant collections of recipes and the study of medical classics.²⁷ The authority that went with the official status allowed compilers, often physicians serving at the court themselves, to discourse at length about specific details of pharmaceutical procedure. Whereas the crushed powder of crude drugs had often been used prior to the 12th century, people found it cumbersome to weigh, and messy to prepare (powdered drugs tend to aggregate and stick to bottom of the pot when

pharmaceutical principles can generally apply, from the “Classical recipes,” which contained specific instruction under each entry. It can be seen as an attempt at simplifying the form of recipes in the Chinese tradition.

²⁶ Ibid.

²⁷ Asaf Goldschmidt, *The Evolution of Chinese Medicine, 960-1200* (London: Routledge, 2009), and T.J. Hinrichs, “Governance through medical texts and the role of print,” in Lucille Chia and Hilde de Weerdts eds., *Knowledge and text production in an age of print: China, 900-1400* (Leiden: Brill, 2011), 217-38.

boiled). Instead, it was considered better to cut drugs into thin and regularly shaped pieces, which are easier to distinguish by looking, and tend to produce perfect clear decoction. The term “decoction pieces” (Ch: 飲片) first appeared in the thirteenth century and has been used since then to refer to crude drugs processed for the purpose of decoction.²⁸

During an era of state initiatives to promote medical learning, the private practice of medicine flourished during the Song Dynasty. Kaifeng, the capital city of the Northern Song dynasty, boasted numerous practitioners specializing in “raw and cooked” medicines.²⁹ The street scenes of Kaifeng could be partially gathered from the Song dynasty painting, *Along the River during the Qingming Festival* (Ch: 清明上河圖), which was attributed to Zhang Zeduan, a statesman-painter active around the turn of the twelfth century. Starting from tranquil suburban groves and fields, the scroll painting unfolds, leading the viewer’s eye along the river, portraying the hustle-and-bustle of life and commerce in and around the city.³⁰

²⁸ For an overview of shifting pharmaceutical practice during the Song Dynasty, see Zheng Jinsheng, *Yaolin waishi*, 177-183.

²⁹ Kaifeng was probably the largest city in the early twelfth century world. Also see Ma Jixing, “Songdai de minying yaoshang (Private trade of pharmaceuticals during the Song),” *Zhongguo yaoxue zazhi* 27 suppl. (1992), 1-6.

³⁰ Scholars of art and urban history have debated intensely the discrepancy between the Qingming Scroll’s presentation of a city and textual records left by contemporary observers. The assumption, however, that the exquisite details in the painting must have faithfully “represented” the actual city of Kaifeng, is groundless. My purpose here, as well as my subsequent analysis of later “vernacular painting” of city scenes in this chapter, is to treat the pictorial representation of medical practice as an icon, whose evolving iconography can nevertheless reveal ideas of how spaces of healing had been conceived over time. However, elements of convention and trope did blend in the fashioning of each painting. For instance, once Zhang Zeduan portrayed child patients in the *Qingming Scroll*, subsequent replicas also tended to repeat this scene, with a strong cultural emphasis on caring for the young child (almost always a boy). However, it is decidedly not the case that physicians of the day treated predominantly children patients.



Figure 11 Zhang Zeduan, *Along the River during the Qingming Festival*, middle detail (Doctor Zhao's studio), Palace Museum, Beijing, China³¹

Two medical practitioners' shops have been portrayed near the busiest neighborhoods in the city center: the first one's shop sign is only partially legible, "Yang Family's Clinic for --- Illnesses," and the second shop features a clear sign that reads "Medical Officer Zhao's Family" (Ch: 趙太丞家). Both shops hint at the status of the owner as having obtained a rank of some sort in the Imperial Academy of Medicine.³² In addition, the second shop of Mr. Zhao displays two signs advertising their special remedies, and the more clearly legible one reads "True Recipe Fragrant Pill, Treats

³¹ Accessed from Harvard Fine Arts Library, Visual Collections - Slides and Digital Images 1979.24975 <http://via.lib.harvard.edu:80/via/deliver/deepLinkItem?recordId=olvwork52020&componentId=FHCL:1145801>

³² The title *Taicheng* is a generic term that could have referred to the "Vice director of the Imperial Academy of Medicine."

Alcoholic Injury.” (Ch: 治酒所傷真方集香丸) Doctor Zhao himself is portrayed as examining a small child held by one elderly woman (Figure 11). By displaying a sign of the “Fragrant Pill” in a prominent advertisement, physician Zhao might have been perceived as featuring his possession of an “authentic recipe,” possibly his skills in compounding the drug at his shop, and sought to sell it to the patient for a price. Meanwhile, drugs were only one among many possible services provided by the physician, who presided over the shop as master of the space of healing.

From the thirteenth century onwards, medicinal drugs took up a more central role in the practice of physicians. The most explicit indication for this was that some physicians began to call their shop of practice “medicine chambers” (Ch. 藥室), an old euphemism that once referred to a Buddhist monk’s enclosed space for self-cultivation.³³ Throughout the late thirteenth to fourteenth century, it was especially common for physicians practicing in the southeastern region of Jiangxi, Anhui and the Lower Yangzi Delta to invite renowned literati of the day to write epigraphs for their medicine chambers. Many physicians learned how to practice in a lineage of medicine that lasted for several generations, and connected with Confucian literati via familial ties or successful treatment of the latter’s acquaintances. It was often the case that when a young physician took over family practice, the medicine chamber would be renamed with lofty allusion to Confucian ethical ideals, such as Benevolence (Ch: 仁) and altruism. A learned Confucian scholar was often invited by the physician to write an essay of endorsement to elaborate on the deep meaning of the title, and to praise the practitioner’s

³³ One example is a Tang Dynasty poem composed by Yang Heng, entitled “Written on Master-Immortal Xuanhe (a monk)’s Medicine Chamber.” In other contexts it could also refer to a Daoist practitioner’s studio for alchemy.

virtue and skills. Like the term “medicine chamber” itself, drugs dispensed by the physician in question often received utmost attention in such epigraphs: the practitioner might be praised as one who “gives medicines that always work,” “presents good medicine and works miracles,” “dispenses medicine regardless of the wealth or poverty of patient,” among others.³⁴ In this context, therefore, a good physician was one who managed to master the secret power of *materia medica*, yet would not profit unjustly from it.

In practice, however, it was a mundane task for the physician to keep the shop open and productive, and to gain a good reputation for his remedies. The renowned physician Zhu Zhenheng (Ch: 朱震亨 1281-1358) gave his disciples extensive advice on how to run a medicine chamber well. Five out of Zhu’s ten rules concerned the manufacture and dispensing of drugs:

Rise early and sleep late, do not leave your shop even for a moment. When a patient comes, make a careful diagnosis, and dispense the drugs. Never ever entrust it to your helper (Ch: 郎中).

...

Price [your remedies] according to the local custom; this is good for yourself and also will not annoy your fellow practitioners. Rather give away drugs for free, but do not lower the price.

...

When dispensing a remedy for the first time, write out the prescription according to the Classical recipes. Do not invent fake drug names or write nonsense secret recipes, for people will later scold you on that.

As for helpers and compounding workers, only hire a couple of them, depending on your income. Don’t say that it makes your shop look good with more helping hands. Although the labor is cheap, lodging and food are very expensive.

If you receive soliciting gifts from brothels or theatre troupes, such as tea, fans and handkerchief... never accept any. Return them with a couple packs of decoction medicine.³⁵

³⁴ Examples include Yang Weizhen (Ch: 楊維禎 1296-1370)’s epigraph to practitioner Liu Benren (Ch: 劉本仁 his name literally means “rooted in benevolence”), in Yang Weizhen, *Dongweizi ji*, *juan*. 27.

³⁵ For a detailed discussion of Zhu’s practice and his idea of medical learning, see Charlotte Furth, “The Physician As Philosopher of the Way.”

From Zhu's advice, we can see that drugs had become the focal point of assessing a physician's service, attracting attention at the same time from the patient, fellow competitors, as well as the social partners with which the physician might find himself interacting. The work of pharmaceutical preparation also involved employees who typically boarded in the same household (Zhu also suggested entrusting financial matters to female members of the household).³⁶ The physician's practice was thus also reflective of his moral character and capability as the head of a household.

A scene of healing in the sixteenth century vernacular fiction *Plum in the Golden Vase* depicted how physicians might have interacted with patients in the dispensing of remedies. A lady fell ill in the household of Ximen, who, as we have seen in Chapter 4, ran a lucrative business of wholesale apothecary in the prosperous canal city of Linqing. The master invited a "lineage physician" (Ch: 世醫) surnamed Ren to treat her, and paid him a handsome fee in silver. Promptly afterwards, a "heavy bag" of medicine was delivered to the Ximen family, which included a package of mixed ingredients for decoction as well as a paper pack of more expensive compound pills. Instructions on how to prepare the decoction was written on the package, signed with seal of "Lineage Physician Ren's Medicine Chamber."³⁷ In contrast, Qiu Zhonglin noted that women healers interacted in a more informal way with female patrons, and were typically paid less for their medicine.³⁸

³⁶ The advice was passed on to his disciple Liu Zongnong, and later included in Zongnong's son, Liu Chun's treatise on miscellaneous illnesses. Note that Liu Chun only shared the texts with an official under the latter's urge, and the cost of publication was paid entirely the official out of his salary. Liu Chun, *Za bing zhi li* (Examples of Treatments for Miscellaneous Illnesses), 1a.

³⁷ Anon., *Jinpingmei* (*Plum in the Golden Vase*), chapter 54.

³⁸ Qiu Zhonglin, "Mingdai de yaocai liutong," 10-11.



Figure 12 Attributed to Qiu Ying, *Along the River during the Qingming Festival* (late 16th century), details (medicine chambers). Liaoning Provincial Museum, Shenyang, China.³⁹

³⁹ Reproduced in *Ming Qing minsu hua xuanji* (Selected Genre Paintings of the Ming and Qing), (Tianjin: Tianjin renmin meishu chubanshe, 2007), vol.1.

Pictorial depictions of Ming medicine chamber survive in a group of late 16th - early 17th century genre paintings, which are collectively known as “the Suzhou scrolls” (Ch: 蘇州片). The Suzhou scrolls borrowed common compositional schemes, pictorial motifs and even the very title from the 12th century original “Qingming scroll” by Zhang Zeduan. At the same time, painters substituted features of costume, architectural style, and typology of shops with contemporary scenes in late Ming Suzhou, the commercial hub of China’s prosperous Lower Yangzi Delta. In order for the paintings to sell well, dealers forged signatures of the acclaimed artist Qiu Ying (Ch: 仇英 c.1494-1552), who resided in Suzhou and was most famous for his portrait and landscape paintings. Scholars now generally agree that no evidence indicates that any of the Suzhou scrolls were in fact by Qiu Ying himself, and that they were probably produced instead towards the end of the sixteenth century.⁴⁰

My inquiry here will focus on the depiction of medicine chamber in the Suzhou scrolls. There are three medicine chambers depicted in the pseudo-Qiu Ying Suzhou scroll collected by the Liaoning Provincial Museum, which is considered highest in quality among all the extant replicas. The first is a quiet house standing right inside the city gate, with a sign standing at its entrance: “Medicine chamber for men and women, internal and external illnesses.” Further down, another medicine chamber opens its entrance to the street, advertising itself as specializing in pediatrics. One physician

⁴⁰ See for instance Ellen Johnston Laing, “Suzhou Pian and other dubious paintings in the received oeuvre of Qiu Ying,” *Artibus Asiae* 59. 3/4 (2000): 265-295; and also see contributions of Wang Zhenghua, Yu Hui and Yang Chenbin in the edited volume, *Qingming shanghe tu xinlun (New findings on the Qingming Scroll)* (Beijing: the Forbidden City Press, 2011). Late sixteenth century was the time when the original Song Dynasty Qingming scroll emerged from private collections in the south, making it possible for anonymous artists to study and copy it, while grafting many contemporary Suzhou scenes into the painting.

wearing a high hat takes the pulse of a boy, emulating a motif in the original Song painting, while another physician sits alongside, writing a prescription. A third “medicine chamber” in this work is a shop opening to a back street along the river, and only the physician himself is visible in the room. A sign identifies the owner as a specialist in “internal injury and miscellaneous illnesses.” (Figure 12) ⁴¹

In sum, medicine chambers in the Suzhou scrolls were portrayed as orderly spaces of healing, in the midst of a lively and boisterous urban scene. The physician remained at the center of the medicine chamber, equipped with his medicine cabinet. Although his name and rank were no longer proudly featured at the entrance of the shop, his claim to special skills and his medicines still took center stage. Helpers and women members of the household, however, were not depicted at all. In chapter 6, I will use 18th century Qing paintings of city scenes to illustrate another turn in the pictorial representation of healing spaces.

Pharmaceutical Primers: Consolidating Technical Knowledge in Texts

“Physicians treat illnesses, and make medicines (Ch: 製藥) to be used for that purpose.” So remarked Luo Zhouyan (Ch: 羅周彥), a physician active in early seventeenth century who published an influential anthology of previous medical authors. Three chapters out of the 14-chapter text were devoted to the subject of drugs. While chapters 5 and 6 discussed practical rules in prescribing drugs, chapter 4, “Investigation into the Nature of Drugs” (Ch: 藥性考), gave a summary of the basic qualities of the most common drugs.

⁴¹ The copy of the painting I consulted was the reprint in 2007. Instead, it was the specialty that became highlighted in each case: internal medicine, external medicine, pediatrics, or internal injury. The division of specialties matched loosely the official designation of thirteen medical specialties since the Yuan Dynasty (1271-1368)

Within chapter 4, the text was in turn divided in two: first came a list of basic uses of drugs, composed in the style of rhymed verse, and each sentence was followed by Luo's detailed notes. The second half of chapter 4 dealt exclusively with the "methods of making [medicine] (Ch: 製法)," which is to say, what a physician should know in the subject of pharmaceutical preparation. From here, I will try to discern how masters of the medicine chamber sought to convey their experience in text, and why they might think of publishing them.

In the pharmaceutical section, Luo contended that the ability to handle and compound *materia medica* was essential for the physician. It is easier for a physician to stock up crude drugs from the market, noted Luo, but more challenging to find drugs that were properly prepared. Thus the physician would do well to "use his free time for the preparation of drugs," so that remedies were at hand when needed.⁴² The main body of the text, however, consisted also mainly of rhymed verse composed to facilitate memorization of otherwise technical and unsystematic information. Some shorter rhymes enumerated pairs of drugs that should never be used together, and still others taught people how to protect substances in storage from decay. Many such rhymes circulated in print since the fourteenth century, when writings of some renowned physicians first appeared as books.⁴³ However, Luo Zhouyan also edited and rearranged such rhymes according to his own experience of working with drugs. It could be said

⁴² Luo Zhouyan, *Yizong cuiyan* (Ch: 醫宗粹言 Essential Discourse of the Medical Orthodoxy), vol.4, 20ab.

⁴³ See Angela Ki-Che Leung, "Medical Instruction and Popularization in Ming Qing China." A master thesis in Chinese in 2010 was dedicated to the study of *materia medica* rhymes in Yuan-Ming-Qing times, see Ji Zhenghan, "Gu bencao gefu de wenxian yanjiu (A philological study of rhymes and poems in traditional *materia medica* texts)," Master thesis, Chinese Academy of Traditional Medicine, 2005. The publishers involved in the initial transmission of Jin-Yuan era physicians were not only driven by commercial interest; many important works, such as the *Ten Titles by Mr. Dongyuan* (Li Gao), were in fact collected and sponsored for publication by middle-tier bureaucrats.

that rhymes and other mnemonic aids served as effective teaching tools for practicing physicians, while at the same time allowing flexibility for adaptation to local needs.

The term that Luo Zhouyan used for pharmaceutical expertise, “methods of making,” carries multiple connotations including “to fabricate,” “to make,” and its homonym “to put under control” (Ch: 製). Chen Jiamo (fl. 1565), a physician who also lived and practiced in the Huizhou Prefecture (Luo Zhouyan was also from Huizhou), used a related term *zhizao* (製造), literally “to make and to manufacture,” and listed a different classificatory system for pharmaceutical methods. For Chen, water and fire constituted the two major agents in the process. There were four ways of preparing drugs with fire: to calcine metals over fire, to roast, to broil, and to stir-fry; three ways of preparing with water: to soak, to moisten, and to wash; two ways of preparing with both fire and water: to steam, and to boil. Chen enumerated over a dozen additional ingredients such as alcohol, ginger, vinegar and milk, which were known to achieve specific effects over crude drugs.⁴⁴

Chen Jiamo composed the guide to pharmaceutical practice as one section in the introductory chapter of his *Materia Medica for the Help of Beginners* (Ch: 本草蒙筌), a text originally intended only for his students, as I have described in Chapter 1. Both Chen Jiamo and Luo Zhouyan’s texts crystallized in writing the pharmaceutical skills of physicians who routinely prepared their own remedies. The style of the text also carried clear trace of the transition from oral to written knowledge – an abundance of verses, couplets, and vernacular terms that were designed to facilitate memorization. Unlike some of the most popular primers of the day, such as rhymes on pulse diagnosis and the

⁴⁴ Chen Jiamo, *Bencao mengquan*, introduction.

nature of drugs, pharmaceutical expertise was more heterogeneous and harder to teach with a uniform text. Having laid out a set of general principles, Chen Jiamo only suggested several possible ways to prepare each drug, and his methods might well have been different from those of others.

The late Ming witnessed a concerted effort to assert and consolidate the “orthodox” physician’s authority in a published medical corpus. Enormous compilations of medical learning, such as the 100-*juan* *Comprehensive Guide to the Medical Tradition in the Past and Present* (Ch: 古今醫統大全, published in 1556) and the *Complete Book of Past and Present Medical Orthodoxy* (Ch: 古今醫統正脈全書, published in 1601), facilitated the transmission of experiences and rules previously taught mainly through hands-on instructions. At the same time, individual physicians active at the turn of seventeenth century such as Luo Zhouyan and Zhang Jiebin (Ch: 張介賓 1563-1640) also fashioned their own corpus as a comprehensive intervention to medical theories, with *materia medica* and pharmaceutical techniques as one crucial aspect of concern.⁴⁵ Gradually, the need to assert personal authority in print overshadowed down-to-earth advice on running the day-to-day business of a medicine chamber. And it was also during the late sixteenth century when another major upheaval in pharmaceutical discourse took place.

Reinventing Master Thunder in an Affluent Age

⁴⁵ Zhang Jiebin was an especially prolific author. *The Complete Works of Mr. Jingyue* (Zhang’s alias), was a 64-chapter book first published in 1624, and chapters 48-49 constituted a stand-alone treatise titled *Corrective Remarks on Materia Medica* (Ch. 本草正).

Two decades after Chen Jiamo completed his primer, a very different set of pharmaceutical texts entered the scene of Ming medical publishing. The first one, *The Lord Taiyi's Divine Pharmaceuticals and Nature of Drugs* (Ch. 太乙仙製藥性), was printed in 1582 in a commercial publishing house in southeast Fujian. A certain Wang Wenjie claimed to be the chief compiler and proofreader of the text. Five years later in 1587, a person named Yu Yingkui edited a compilation titled *Imperial Academy of Medicine's Complete Guide to Materia Medica Rhymes and the Thunder God's Pharmaceuticals* (Ch: 太醫院補遺本草歌訣雷公炮製), published by another printer in Fujian, and subsequently reprinted in Nanjing by the same shop. A third text, titled *New Edition of Master Thunder's Pharmaceutical Handbook* (Ch: 新刊雷公炮製便覽) was published no later than 1591, and edited by someone named Yu Ruxi.⁴⁶

The most obvious connection amongst the three titles was that they all appealed to a Master Thunder (Ch: 雷公).⁴⁷ They also all quoted pharmaceutical instructions from the same text. This common source, perhaps not surprisingly, was *Zhenglei bencao*, the authoritative compendia for *materia medica* endorsed by the Northern Song state in the early twelfth century. What the three late-sixteenth century pharmaceutical texts did in

⁴⁶ See Li Chunxing, *op. cit.*, 88-89. All three compilers seemed to have come from a strikingly narrow geographical region: Wang Wenjie, east of Fuzhou Prefecture; Yu Yingkui, Shangrao County (about 200 km east of Fuzhou), and Yu Ruxi, Linchuan (an archaic name of Fuzhou). The commercial printing houses also belonged to the same batch of shops that often operated in both traditional centers of woodblock printing (Jianyang) and major urban markets (Nanjing). The strategic location of the Fuzhou area in eastern Jiangxi rendered it relatively easy to forge a liaison with printing houses in Jianyang, and traditionally the path between eastern Jiangxi and the lower Yangzi Delta was also much trotted by literati and people from all walks of life.

⁴⁷ “Lord Taiyi” in the title of the first text was a well-known alias attributed to Master Thunder since the early 15th century.

common, however, was to systematically pick out one type of quote out of the compendia – a text entitled *Master Thunder's Discourse on Pharmaceuticals* (Ch. 雷公炮炙論).⁴⁸

Scholars now dated the text of *Master Thunder* as initially composed by a 5th century practitioner named Lei Xiao (Ch: 雷斅)⁴⁹, and later expanded by Hu Qia (Ch: 胡洽) in the tenth century, incorporating drugs and techniques developed in the intervening centuries.⁵⁰ The main body of *Master Thunder* consisted of instructions on how to “deploy” (Ch: 使) over three hundred kinds of medical substances. Tang Shenwei, as he compiled the *Zhenglei bencao* in the 12th century, included the pharmaceutical content of *Master Thunder* in the description of many common drugs. He also went out of his way to insert the preface of *Master Thunder* into the introductory chapters of *materia medica*. This major editorial move suggests that Tang probably saw *Master Thunder* as possessing some extraordinary merit. As a result, readers between the 12th and 16th century almost always got to know *Master Thunder* in the peculiar context of *materia medica* compendia.

If the content of *Master Thunder* could be said as a more-or-less practical, if often extravagant, instruction of pharmaceutical processes, its preface is essentially a dazzling display of sympathetic magic and miraculous cures: a tree touched by a salmon will wither away, while sprinkling with a dog's bile juice would save it; bone powder of a male rat can make fallen teeth grow out again; rubbing the juice of *banxia* plant can help

⁴⁸ I will refer to the text as *Master Thunder* as shorthand.

⁴⁹ Hence the name Lei (meaning thunder) gave rise to the euphemism *Master Thunder* (*Leigong*).

⁵⁰ See Zhang Shichen and Guan Huai, “*Leigong paozhi lun chengshu niandai xin tan* (New Inquiries on the Date of Composition of *Master Thunder's Pharmaceuticals*),” *Zhongguo zhongyao zazhi* (China Journal of Chinese *Materia Medica*) 25.3 (2000), 179-183.

a leper grow his fallen eyebrow and hair. This text, however, elicited interest from many leading scholarly figures during the Song dynasty. The polymath statesman Shen Gua (Ch: 沈括 1031-1095), for instance, quoted the claim from *Master Thunder* that a piece of cassia wood nailed into a giant tree will cause the latter to wither, as an example of the unique and occult nature of things.⁵¹ Later in the twelfth century, the erudite scholar Hong Mai (Ch: 洪邁 1123-1202) also marveled at the wondrous phenomena described in *Master Thunder*. “Physicians nowadays rarely use only one drug to cure grave illnesses,” remarked Hong, “and I shall just copy them for my own reference.”⁵² As Confucianism during the Northern and Southern Song Dynasties sought to integrate natural philosophy into its core corpus of teachings, the explanation of magic and occult qualities of things topics gained legitimacy in scholarship.⁵³ The remarks of Shen and Hong perhaps explain in part why Tang Shenwei, also writing during the twelfth century, featured *Master Thunder* prominently in his editorial project of *Zhenglei bencao*.

Despite the scholarly interest on this text, the gap between *Master Thunder* instructions and contemporary practice remains most pronounced, and this is clearly illustrated by Li Shizhen (1518-1593)’s approach in his *Systematic Materia Medica* (*Bencao gangmu*).⁵⁴ Instead of layering commentaries added by generations of scholars,

⁵¹ Shen Gua, *Mengxi bitan*, Ch.4.

⁵² Hong Mai, *Rongzhai si bi* (Fourth Installment of Rong Studio’s Random Jottings), *juan* 3. For Hong Mai’s writings and his interest in recording miracle tales, see Valerie Hansen, *Changing gods in medieval China, 1127-1276* (Princeton: Princeton University Press, 1990).

⁵³ For a survey of cosmological thought in Song-Yuan-Ming China, see John Henderson, *The Development and Decline of Chinese Cosmology* (New York: Columbia University Press, 1984). I also discuss the role of drugs as key metaphor in the development and shifts of Neo-Confucian natural philosophy in Chapter 2.

⁵⁴ For a close reading of *Bencao gangmu*’s structure, epistemological practice and perennial significance, see Carla Nappi, *The Monkey and the Inkpot: Natural History and Its Transformations in Early Modern China* (Cambridge, MA: Harvard University Press, 2009).

Li Shizhen reorganized the information under each entry into a series of topical categories, and “pharmaceutical preparation” (Ch: 修治) was one of them. In the section for each drug, Li first duly copied the *Master Thunder* quotes from *Zhenglei bencao*, then frequently added his honest observation of contemporary practice, which was often much more pragmatic and simpler than methods recommended in *Master Thunder*. For instance, *Master Thunder* recommended preparing raw scallion stalks by “crushing along the stalk, mixing well with green prunes, steaming for one day and night, getting rid of the prunes, grinding the stems into paste, and use after drying under sun.” To which Li Shizhen simply noted, “Harvest, and dry under shade.”⁵⁵ For someone who worked closely with *materia medica*, the extravagant procedures of *Master Thunder* might be of archaic interest but probably had little relevance in practice.

Turning back to the three late-sixteenth century titles on *Master Thunder* discussed at the beginning of this section: against the long textual genealogy of *Master Thunder* as part of the *materia medica* compendia, the three late Ming texts sought precisely to undo the situation by collating, painstakingly, piecemeal quotes of *Master Thunder* from each entry in the compendia. They then reprinted *Master Thunder* quotes along with the succinct main entry of each drug (a drug’s name, basic qualities, and a handful of main uses), usually printed in larger font than later commentaries.⁵⁶ This was a very peculiar editorial decision that had never occurred before: to ignore the large body of notes, observations and tried-and-true recipes supplied by generations of commentators, but to highlight perhaps the two most archaic components of the compendia. Essentially, such

⁵⁵ Li Shizhen, *Bencao gangmu*, chapter 26.

⁵⁶ Most large-font entries were originally quoted from the *Divine Farmer’s Canon* or its supplementary added by Tao Hongjing in the 6th century.

books promoted *Master Thunder* onto a much higher level of prestige than it had previously occupied. They were not aiming at the market for half-literate trainees either; the number of drugs included in the three newly made *Master Thunder* texts ranged from six to nine hundred, considerably higher in comparison to more radically abridged primers (~200-300 common drugs) in circulation at the time.⁵⁷ One had at least to be enthusiastic enough toward the archaic prose of the *Divine Farmer's Canon* and *Master Thunder* to be able to go through these volumes.

Overall, the reemergence of *Master Thunder* texts in the late sixteenth century marked an approach to the problem of pharmaceutical knowledge that was distinct from those related by practicing physicians. Whereas the latter insisted on flexibility and pragmatic instruction, the former imposed an air of archaic mystery over the mundane practice of handling and processing drugs. What was the practical implication of this sudden burst of interest in *publishing* and *reading* about an archaic pharmaceutical text in the late sixteenth century? Who would in fact take pleasure in reading about strange methods of preparing exotic materials, such as the elixir of amethyst, and the bone of dragons? We must look elsewhere than the actual practice of physicians of the day, to find the audience for the revival of interest in *Master Thunder*.

Private Medicine Chambers and the Elite Endorsement of *Master Thunder*

One of the late sixteenth century *Master Thunder* texts, the one edited by Yu Ruxi, found its way into the imperial court and became the template for an exquisite manuscript titled

⁵⁷ Wang: over 1,200 drugs. Yu Yingkui: at least 961 in Table of Contents. Yu Ruxi's compilation contained 968 drugs. See Chapter 1 for the emergence of shorter *materia medica* primers in early 16th century.

Complete Synopsis of Master Thunder's Pharmaceutical Preparations (Ch: 補遺雷公炮製便覽). The manuscript, which consists of four bound booklets with colored illustrations on each leaf, only emerged out of a private collection and was made available for public access during the 1990s. Unequivocally dated to 1591, the manuscript added illustrations of pharmaceutical procedures for over 900 drugs. The cover image (Figure 13) portrayed a gentleman wearing a purple-bordered yellow robe, and holding a calabash bottle in his hand. Seated at the center of the image, he oversaw nine artisans busily engaged in processing raw medicines with various tools. The artisans then appeared repeatedly in the manuscript showcasing different techniques of pharmaceutical preparation as depicted in the *Master Thunder* text. Aside from its exquisite detail and finish, the image intrigues us above all by its deliberate manipulation of spatial arrangements. It depicts a variety of instruments that we expect to see---mortar and pestle, cutting blades, red-hot stove and pot, a basin of water, to name but a few, but overall, it can not be taken as a faithful representation of any actual pharmaceutical workshop. The intense labor and attentive handicraft, so vividly represented by the artisans' suspended gestures, were portrayed in the midst of a serene and empty space. As the intended imperial audience of the manuscript indicated, *Master Thunder* pharmaceutical texts appealed at least to one group that might readily embrace its agenda: the rich and the leisured.



Figure 13 Page from *Buyi leigong paozhi bianlan* (illustrated ms. c. late sixteenth century).

Beyond the realm of reading, the social elite of late Ming China also sought to embrace pharmaceutical practices by constructing their own medicine chambers. The term for medicine chamber (Ch: 藥室) originally emerged as a euphemism for places

where religious practitioners, mostly Buddhist (and sometimes Daoist), pursued alchemical/pharmacological cultivation in the mountains, secluded from the mundane world and where most divine herbs and mineral substances could be readily found. Many poems and stories emerged during the ninth and tenth centuries about the pharmaceutical exchange between mountain dwellers and city residents.⁵⁸ Later, the medicine chamber gradually became a literary allusion commonly employed to refer to a person's otherworldly aspirations. Bearing clear influence from the Tang poetic tradition, many authors during the 16th century alluded to "medicine chambers" as a literary practice of creating a transcendental world out of words, and also in reference to pharmaceutical endeavor as an appropriate pursuit for retired officials.

The location of such undertakings, however, was no longer the real wilderness of the mountains; increasingly, elite private households set up their own medicine chambers in cities. On the one hand, it would have been easier to purchase all the necessary ingredients in a city market. Access to wholesale market for the interregional trade of *daodi* (authentic) medicines replaced proximity to the natural resources of the remote mountains as the most desirable location for pharmaceutical pursuits. On the other hand, the private medicine chamber often times also manufactured medicines for the very worldly purpose of charity and social exchange with others. The early sixteenth century painter Qiu Ying once wrote to one of his patrons asking for payment with "the newly-made *xiqian* pills (Ch: 豨簽丸) at your household"---an expensive and fancy remedy that

⁵⁸ One story went that a local official went into the mountains to "pick medicinal herbs" and got lost. Deep into the mountains, he encountered an immortal, who dwelled in a hut with a medicine chamber. The immortal fed him a pill, which immediately appeased his hunger, and was able to foretell the visitor's future fortunes. In a sense, medicine chamber stood for the liminal space between the worldly and the transcendent, and the pills manufactured in it capable of delivering one from the former to the latter. See Kang Pian, *Ju tan lu* (Record of Uninhibited Conversations), c.895CE.

he believed could alleviate his chronic arthritis.⁵⁹ The alternative imagination of the private medicine chamber in late Ming thus illustrated a popular aspiration of nurturing and monitoring one's own life, especially in the lower Yangzi urban centers.⁶⁰

One of the most popular guidebooks on the art of living, *Eight Discourses on the Art of Living* (Ch: 遵生八箋), in fact gave a detailed description of how to set up a medicine chamber at one's home. The author, Gao Lian (Ch: 高濂 1573-1620), described the chamber as such:

Choose a quiet room, with no noise of chicken and dogs. Set up one altar for the sage-king of medicine; one large table with smooth surface fit for compounding of medicine; one large iron roller, one stone mill, one small roller, two mortars of different sizes, one pearl grinder, one pounding mortar, three regular sieves, two fine mesh sieves, one broom, one clean cloth, one copper cauldron, one stove fan, one pair of fire-tongs, two weighing scales of different sizes, one medicine cabinet, one medicine container. As for Jars, bottle gourds and bottles, prepare as many as possible. Lock the room when not in use.⁶¹

Gao then devoted the last chapter of his book to an extensive list of desirable medicines. I argue that the archaic and miraculous claims in *Master Thunder* held great appeal to private masters of medicine chamber, who did not practice for a living, but would go into any lengths to recreate an ancient recipe that promised to deliver one from suffering and pain. We will test this hypothesis by examining who the early advocates for *Master Thunder* were, and whether they in fact practiced medicine.

In 1622, Qian Yunzhi, a book collector and cultural entrepreneur in the city of Hangzhou, prepared to publish *Explications over the Nature of Drugs* (Ch: 藥性解), a

⁵⁹ James Cahill, *The Painter's Practice: How Artists Lived and Worked in Traditional China* (New York: Columbia University Press), 1994, page *.

⁶⁰ See Chen Hsiu-Fen, *Yangsheng yu xiushen: Wan Ming wenren de shenti shuxie yu shesheng jishu* (Nourishing life and cultivating the body: writing the literati's body and techniques for preserving health in the late Ming), (Taipei: Daoxiang chubanshe, 2009).

⁶¹ Gao Lian, *Zunsheng bajian*, volume 7.

bencao treatise by the learned author Li Zhongzi (Ch: 李中梓 1588-1655), whose intellectual pursuits we have discussed in Chapter 2.⁶² Qian felt strongly that although Li's commentaries were excellent, the absence of any pharmaceutical information would reduce the volume's appeal. He decided to fix this by excerpting contents from *Master Thunder* and adding them at the end of Li Zhongzi's notes, while conspicuously changing the title into *Master Thunder's Pharmaceuticals and Explanations to the Nature of Drugs* (Ch: 雷公炮製藥性解). As Qian predicted, the text later became one of the most popular medical texts up until the twentieth century.⁶³

Another instance of *Master Thunder's* popularity among elite amateurs also involved editorial adaptation of a physician's own text. Miao Xiyong, whose exegetical writings on *bencao* I discussed in Chapter 2, included a set of pharmaceutical notes along with the initial publication of his medical cases in 1613. Those pharmaceutical notes of Miao Xiyong consist of brief instructions on the identification and preparation of over seventy common drugs, and resemble Li Shizhen and Chen Jiamo's pragmatic and flexible account of how to handle common drugs. When an expanded edition of his cases was published a decade later in 1622, Miao decided to expand the section on pharmaceuticals by incorporating the text of *Master Thunder*, as urged by Zhuang Lianzhi, a disciple and previous patient. The volume on pharmaceutical processes now became a much more elaborate treatise mixing archaic and contemporary pharmaceutical methods, and its location was also moved from the beginning of medical cases to the very

⁶² For a detailed discussion on why Li decided to provide a set of explanatory comments for the popular *Verses*, see chapter 2.

⁶³ Qian Yunzhi, Preface, *Leigong paozhi yaoxing jie*, 1622 edition. Leung, "Medical Popularization and Instruction," 139-40.

end, constituting a separate chapter (*juan*). In 1642, another disciple of Miao Xiyong further edited the pharmaceutical chapter and reprinted it under a separate title, *Magnificent Methods of Pharmaceutical Process* (Ch: 炮炙大法). Some scholars today refer to it as the only work dedicated to the preparation of drugs in the Ming. We can see, however, that it was rather via a gradual process of revision that Miao Xiyong's personal experience came to be fused with the archaic appeal of *Master Thunder*. Contrary to his initial intention, Miao Xiyong's text contributed to the eventual confirmation of *Master Thunder*'s canonical status in late Ming circle of medicine.

Reining in the Unruly Nature of Drugs: Pharmaceutical Expertise as Confucian Ethics

Aside from the pursuit of a good life, the art of pharmaceuticals also began to carry deeper philosophical resonance for the non-practitioner audience. In 1714, Zhang Guangdou (Ch: 張光斗), a local gentleman in Hebei Province, sponsored the production of a new edition of the *Master Thunder* treatise. He opened his preface with the first segment of *Doctrine of the Mean*, one of the Four Books in the Confucian canon:

Master Zisi [grandson of Confucius] said: "What Heaven has conferred is called the Nature (*xing*); an accordance with this nature is called the Path (*dao*) of duty; the regulation of this path is called Instruction (*jiao*)."⁶⁴ I say that all the books ever written on medicinal drugs are all rooted in this principle. How so? The various natures of drugs---Yin and Yang, soft and hard---are conferred by Heaven. If therapy is conducted in accordance with its benign nature, drugs can save lives; if the partial nature is abused in therapy, it can also kill people. That is why we need sagely figures to *regulate this path*---to regulate (Ch: 修) is to manufacture (Ch: 製) it. Whereas the *materia medica* books teach heavenly-conferred nature, the book of *Master Thunder* discusses instruction, that is to say, education.⁶⁵

⁶⁴ James Legge, *The Doctrine of the Mean*, Chapter 1.

⁶⁵ Zhang Guangdou, Preface to *Supplementary to the Nature of Drugs and Master Thunder's Pharmaceutical* (Zengbu leigong yaoxing paozhi), edition 1714.

Zhang clearly laid out why pharmaceutical expertise mattered as a worthy pursuit for a Confucian scholar. Zhang's opinion concerning the nature of drugs was clearly shaped by recent developments in 17th century *materia medica*, which encouraged investigation of pharmacological action in terms of cause and effect.⁶⁶ For him, discussions of the nature of drugs should by definition focus on the innate property of things, whereas pharmaceutical practice then stood for the extent to which human agency could control and change the innate property of things. Pharmaceutical expertise, therefore, became a fundamental metaphor of instruction and education over the unruly, and potentially harmful nature of drugs, just like a good Confucian scholar and teacher should concern himself with the education and molding of human nature.

The argument put forward by Zhang Guangdou assumed that pharmaceutical preparation somehow subdues the malign tendencies in the nature of drugs. Another possible argument was put forward by a group of physicians active in late seventeenth century Hangzhou. Zhang Zhicong and his disciples saw the main purpose of pharmaceutical processing as enhancing, rather than subduing and controlling, the innate propensity of things. Whereas it was common practice to soak aconite roots (Ch: 附子) for an extended time in water to reduce their toxicity, Zhang Zhicong proposed to heat it up under fire, so as to enhance the hot nature of aconite with still more heat. For a cold drug such as goldthread (*huanglian*), however, Zhang Zhicong believed it a better strategy to soak its bitter roots in water to enhance its coldness. He fiercely opposed the idea of preparing drugs with the opposite quality to “curb in” its unruly nature, and argued that doing so would be equivalent to letting a soldier fight with his hands and feet

⁶⁶ For a more detailed discussion on the theoretical turn of 17th century *materia medica*, see Chapter 2.

bound.⁶⁷ His ideas won followers among contemporary readers, and were later further elaborated by the prolific medical author Chen Nianzu (Ch: 陳念祖 aka. Chen Xiuyuan, 1753-1823).

Essentially, however, there was little fundamental difference between those who saw the main purpose of pharmaceutical preparation as enhancing, and those who advocated subduing the innate propensities of drugs. This is because both camps aligned pharmaceutical procedure with human artifice and agency, a key metaphor for educating and molding natural endowment, which had always been a crucial issue in Confucian moral philosophy. What used to be a pragmatic, flexible subject in the hands of physicians began to assume an ethical significance that resonated far beyond the occupational circle of practitioners. On a metaphorical level, to debate over pharmaceutical preparation of drugs became an indirect way to talk about human nature and education. Who could still say that discussions about treating a poisonous drug with fire or water was a minor, unworthy question for a Confucian gentleman?

A treatise titled *Definitive Guide to the Art of Pharmaceuticals* (Ch: 修事指南) was also published around the same time in the early 18th century. Its compiler, a “Confucian physician” named Zhang Rui (Ch: 張叡), once served in the Imperial Academy of Medicine to treat members of the imperial household. In the text, Zhang Rui also sought to consolidate the status of pharmaceutical expertise with a different approach. He opened his preface by dismissing physicians who merely followed empirical experience:

⁶⁷ Zhang Zhicong, *Bencao chongyuan* (Veneration towards the Origin of *Materia Medica*).

There are raw and cooked medicines, so the manufacturing of drugs also has its own pharmaceutical art. How can one be so careless as to say that any chopped pieces would do? Recent medications have little consideration for pharmaceutical processes, and it is unfortunate that the art has not been widely transmitted. Why not bear in mind that the Divine Farmer discovered medicinal herbs, and Master Thunder created pharmaceutical expertise?⁶⁸

In one stroke, Zhang Rui managed to highlight *Master Thunder* as the single orthodox origin of pharmaceutical expertise. He also dismissed previous compilations that claimed to follow *Master Thunder* as bogus attempts to profit by the fame of the text, and offered an erudite and authentic survey of the art in his own text. The content of Zhang Rui's treatise, however, merely consisted of quotes from *Master Thunder* with the additional notes by Li Shizhen, which often offered contradictory instructions. Later historians of medicine saw the treatise as almost entirely useless, for it "merely copied others with no new insights."⁶⁹ If we look at the work in the context of *Master Thunder*'s social transmission, however, we shall see that Zhang Rui actively sought to consolidate the text's canonical status by offering a "clean version" devoid of commercial taint. For a text to become canon, it had first to be reproduced with such goal in mind.

As a result, by the mid-eighteenth century, no author with any pretension to medical learning could afford to ignore *Master Thunder* and the subject of pharmaceutical preparation. Patient and physicians alike came to pay close attention to the ways in which raw ingredients were prepared, and take care to avoid using drugs that were processed in the "wrong" way. The archaic text was thus fully revived, gaining new life in an age of affluence and anxiety over the recovery of ancient canons.

⁶⁸ Zhang Rui, *Xiushi zhinan*, preface.

⁶⁹ Li Chunxing, *op. cit.*, 88.

Conclusion: the Empty Medicine Chamber

As pharmaceutical theory and literature gained popularity among elite readers, pressure mounted for physicians to produce state-of-the-art medications in their medicine chambers. While it was still considered eccentric in early seventeenth century for Miao Xiyong to treat patients only by writing prescriptions, a few decades later, more physicians opted to do without making their own medications. Some came to doubt whether it was possible for ordinary physicians to make adequate remedies at all. A doctor practicing in mid-eighteenth century reflected on pharmaceutical activities among practitioners, observing that

Physicians on the market today have insufficient funds, and often collect fresh herbs [to make medicines] in cases of emergency. They don't realize that medicines have place-based authenticity (*daodi*); if *bencao* books do not record them, then their names have not been rectified. Who knows where the ingredients come from? Even if the medication is fine, it is definitely not the right way of practice.⁷⁰

If doctors began to scrutinize their own practice in this way, then only relatively well-to-do practitioners could afford to make medications with *daodi* ingredients and sophisticated procedures.

The polymath scholar and physician Xu Dachun (Ch: 徐大椿 1693-1771) offered one of the most trenchant critiques of contemporary pharmaceutical practice. Many methods in circulation at the time, noted Xu, were expensive procedures “conjured up by people who crave exotic things, and used to deceive rich people.”⁷¹ For Xu, it was a

⁷⁰ Huang Tingjing, *Mujing dacheng* (Comprehensive synthesis of eye diseases), “On making and using medicines.” 市医费力不继，辄采鲜卉应急，弗思药有道地，本草不录则名号不正，而道地奚自，纵合式非王道耳。

⁷¹ Xu Dachun, “On Pharmaceutical Preparation,” in *Yixue yuanliu lun* (醫學源流論 Treatise on the origins and flows of medical learning).

shame that physicians gradually ceased to stock up and prepare their own remedies. Although rich patients might compound medicines for themselves, it would be a great waste if they made a lot and consumed very little. As for the commercial pharmacies – they would never prepare drugs that would not sell well, if very few people ever needed them. Who else other than the physician, asked Xu, has the incentive (and indeed obligation) to prepare a wide variety of good medicines, to cope with various exigencies in practice?⁷² Elsewhere, however, Xu admitted the fact that it is costly to prepare medicines in one’s own shop, and most physicians of his day were either too poor or too lazy to invest in the art of compounding. While the physician liked to showcase his learning by only writing a prescription, patients acquiesced by paying a lot of money for the prescription alone. The resultant popularity of simple decoctions, noted Xu, amounted to a lamentable loss of the therapeutic procedures passed down from antiquity. This is why grave illnesses were now hardly ever cured. No matter how difficult it is, urged Xu, his fellow physicians had to “sharpen the tools before undertaking the work” by preparing compound remedies in advance.⁷³

In the nineteenth century, the physician’s loss of pharmaceutical expertise became a subject of ridicule and jest. A collection of humorous couplets paired up the “empty medicine chamber of physicians” to “bookless reading room of scholars,” making fun of superficial social distinctions (scholars, physicians) without the backing of substance

⁷² Ibid., “On how physicians must prepare their own medicine.”

⁷³ Xu Dachun, *Shen ji chu yan* [Humble opinions on discretion over illnesses], “On therapeutics.” 今之醫者既乏資本又惜功夫古方不考手法無傳寫一通治煎方其技已畢而病家不辭遠涉不惜重聘亦祇求得一煎方已大滿其願古昔聖人窮思極想製造治病諸法全不一問

(books, medicines).⁷⁴ The chasm between title and reality provoked uneasy laughter, and the golden days of specialized medicine chambers were forever gone. In the next chapter, I will turn to examine pharmacists and their services in eighteenth century Chinese society, and show how their enterprising efforts shaped popular expectations about the medical marketplace in the Qing Dynasty.

⁷⁴ The anthology of jokes was published in Suzhou, 1879. See *Duyiwo jushi* (Resident in the Den of Coziness and Solitude), *Xiaoxiao lu* (Book of Laughters).

Chapter 6 Pharmacist's Progress: Manufacturing Promise in the Qing Medical Marketplace

In Chapter 5, we have seen how Chinese physicians gradually lost control over the pharmaceutical processes of medications as a result of increased pharmaceutical knowledge among laypeople on the one hand, and inadequate financial resources to purchase from the wholesale market of *materia medica*, on the other hand.

Contemporary physicians, however, made sense of their dilemma by finding a long genealogy of precedents in previous *bencao* literature. As early as in the fifth century, Tao Hongjing already criticized physicians' blind dependence on "market people (Ch: 市人)." Greedy and ignorant, the "market people" threatened to undermine the physician's good intention of physicians by supplying them with adulterated and inferior ingredients. Physicians and learned authors like Tao sought to delineate a pure realm of healing by purging commercial incentives from it, and the true knowledge of *bencao* was intended to serve as a reliable guide for practice. In reality, however, medical practitioners in the late imperial period not only came to rely increasingly on commercial actors for their supply of *materia medica*, but their practice had also to adapt to changing social spaces of healing in urban and rural contexts. In this chapter, I turn to examine a group of pharmacists whose businesses were established prior to the end of the eighteenth century, and the ways in which they claimed expertise in the medical marketplace.

Previous historical accounts of traditional Chinese pharmacy have drawn a wealth of information from modern-day narratives, absorbing the biases and blind spots inherent in them. In his study of modern Chinese consumer culture, Sherman Cochran chose five

cases of Chinese pharmacists active in the twentieth century and examined their marketing strategies. Among the five cases, the first and only traditional pharmacy was the famed Beijing-based business *Tongren Tang* (Ch: 同仁堂 the Hall of Shared Humaneness). Based on materials published by the company, Cochran showed how members of the Yue family used innovative business strategies to revive their family business in late Qing, and eventually achieved national and international prominence.¹ The problem with this modern-day business history, however, is that it tends strongly to glorify the company's own past. Indeed, by portraying *Tongren tang* and the Yue family's exceptional commitment to honesty and moral standards, *Tongren Tang* today continues to profit from its own iconic status in the history of traditional Chinese medicine. One might wonder whether the story of *Tongren tang* was unique, and whether the experience of businesses in the same sector reflected larger trends in Qing society and culture.

What Cochran has dubbed as the “Olde Shoppes” of traditional Chinese pharmacy took advantage of surging nationalism in their competition with Western-style pharmacies since the early 20th century. The processes by no means stopped there: consumption of traditional-style foods and medicine among the urban population returned in full force with the economic boom of the 1990s.² There is a danger, however, in taking the tales of old pharmacies at face value and uncritically accepting the claim that certain practices were in fact embodiments of a timeless “tradition.” In this chapter, I

¹ Sherman Cochran, *Chinese Medicine Men* (Cambridge, MA: Harvard University Press, 2006), Chapter 2. The main source of information is the company's own account of its past, *Beijing Tongren tang shi* (Beijing: Renmin ribao chubanshe, 1993.)

² Judith Farquhar, *Appetites: Food and Sex in Postsocialist China* (Durham: Duke University Press, 2002) and her co-authored work with Zhang Qicheng, *Ten Thousand Things: Nurturing Life in Contemporary Beijing* (New York: Zone Books, 2012).

seek to show how pharmacies like *Tongren tang* emerged as a viable type of business in Qing society, and how their strategies of establishing pharmaceutical expertise differed from, and even clashed with other types of practitioners. I will then reconsider the appropriateness of speaking of “patent medicine” in Qing China. Overall, the realm of healing lost its asserted autonomy from the realm of commerce by the nineteenth century, and pharmacists loudly asserted themselves as the reliable moral agent of healing.

Changing Representation of Pharmacy and Pharmacists in Qing China

In Chapter 5, we examined the three different medicine chambers in a late-sixteenth century scroll depicting the Suzhou urban landscape. While the medicine chambers featured the specialties of physicians, an apothecary shop in the same painting presented distinct characteristics as a fourth space associated with *materia medica*, in addition to the three medicine chambers depicted in the same painting. In contrast to the physician-dominated medicine chambers, all of which were located in residential quarters, the apothecary shop (Figure 14) was located in a busy commercial section of the city, sandwiched between a dealer of antique art and a shop where one could recast bits of silver into standard ingots. The interior space was also smaller than the medicine chambers, but more densely populated, with at least two customers waiting on a bench, two clerks chopping herbs into small pieces, and still two more clerks weighing and laying out the ingredients neatly on a white sheet. Once the prescription was assembled, the customer would walk away with wrapped medicines, stepping back into the busy streets where a fan peddler called out to passers-by.



Figure 14 Attributed to Qiu Ying, *Along the River during the Qingming Festival* (late 16th century), middle detail (apothecary shop). Liaoning Provincial Museum, Shenyang, China.³

The shop's prominent sign reads "Authentic *materia medica*" (Ch: 道地藥材).

As if to substantiate the claim, strings of fresh and dried plants hang from the shop's walls, and overflowed from its shelves and cabinets. Calabash containers were customarily used to store powdered ingredients and some compound pills manufactured in batch. The painter also captured an interesting detail: from the ceiling of the shop, a reptile-shaped animal with intact tail and four limbs oversaw the shop from the top. The animal was probably a specimen of *tuó* (Ch: 鼉), a small-sized freshwater alligator native

³ Reproduced in *Ming Qing minsu hua xuanji* (Selected Genre Paintings of the Ming and Qing), (Tianjin: Tianjin renmin meishu chubanshe, 2007), vol.1.

to the middle and lower Yangzi waterways. According to Li Shizhen, the skin of *tuo* had been known for its capacity to kill insects, and therefore “apothecaries nowadays often hang it in the hall, saying that it could dispel moths and worms [to prevent the fresh *materia medica* from decay].”⁴ The position of the *tuo* in the representation of a Chinese apothecary posed an intriguing parallel across the late sixteenth century globe: one is reminded of the prominent depiction of a crocodile specimen among the collection of curiosities by the Neapolitan apothecary Ferrante Imperato (1525? – 1615?).⁵ In important ways, however, the two reptiles embodied distinct modes of knowledge and enabled different social dynamics (Figure 14). Whereas Neapolitan visitors to Imperato’s collection were meant to marvel at the display of the crocodile’s impressive form, Chinese apothecary clerks and customers paid no explicit attention to the *tuo* as a strange and extraordinary creature.

The contrasting representations of Suzhou and Neapolitan apothecaries were conditioned by the growth of global commerce and changing regimes of knowledge production, and also reflect crucial differences in the social status of the apothecary in the two urban communities. The symbolic and pharmacological efficacy of the *tuo* was implied in the day-to-day practice of the apothecary trade, while remaining intelligible for learned inquiry such as Li Shizhen’s. Whereas Imperato’s museum (and its representations) catered to the tastes of elite visitors, the nameless apothecary shop in the Suzhou scroll occupied a subordinate status to the impressive medicine chambers in the hierarchy of medical expertise.

⁴ Li Shizhen, *Bencao gangmu*, *juan* 43.

⁵ See discussions of Imperato’s “museum” in Paula Findlen, *Possessing Nature: Museum, Collecting and Scientific Culture in Early Modern Italy* (Berkeley: University of California Press, 2004), Chapter 1.



Figure 15 Reptiles in early modern apothecaries, Suzhou and Naples

While medicine chambers featured personified experience in the figure of the owner-physician, the apothecary shop manufactured trust by advertising its supply of “authentic (*daodi*)” *materia medica*.⁶ As I discussed in Chapter 4, the term *daodi* emerged in the thirteenth century as a mark of superior quality among products coming from different regions. To advertise *daodi* medicine was thus to underline the shop’s access to reliable sources in the interregional trade, as this type of business was customarily referred to as “raw medicine shop (Ch: 生藥鋪).” The “raw” materials then had to be transformed into “cooked (Ch: 熟)” forms by other practitioners, primarily physicians who then dispensed compound drugs to patients. The division of labor between the raw and the cooked, authentic *materia medica* and compound drugs, stood for an effort to differentiate products offered by the realm of commerce, on the one hand,

⁶ I use the word *apothecary* to translate the “medicine shop” as distinct from the “medicine chambers” presided by physicians, for the etymology of *apothecary* (from *apothēkē*, “storehouse”) retains a similar connotation of dealers of *daodi* interregional trade. I will use *pharmacy* and *pharmacist* to refer to later enterprises in the Qing, where pharmaceutical expertise came to be highlighted more than its predecessors.

and the healing arts, on the other hand. In a late Ming short story, an apothecary owner described his business relationship with physicians as follows:

I only accept cash when other people buy medicine from me except for physicians who practice in shops, who are my long-term customers. If they need anything, they just take it from me and leave a note on the account book. I collect money from them every season [three months] or every month according to the sums, and this is called half-loan-half-cash.⁷

In this story, the main protagonist relied on the apothecary shop owner's help to establish himself as a pediatric physician. In this and other late Ming literary representations, apothecaries were often portrayed as possessing more financial and political resources than physicians.⁸ The balance of power was to further tilt toward the former, and indeed pictorial representations of the medical marketplace continued to change during the Qing dynasty.

The Suzhou scrolls inspired later artists to follow up on the subject of urban landscape, and in 1736, five painters serving the Qing Imperial Academy completed a new version of *Along the River during the Qingming Festival*. The much expanded painting retained certain key structural elements of the Song original, including the meandering river, the magnificent city wall, bustling street scenes, and a full-loaded boat narrowly passing under a bridge. Details of the Qing painting, however, warrant closer comparison with the Song dynasty original, as well as with the late Ming Suzhou Scrolls. The practice space of two doctors appeared now as private quarter adorned with none other than signs clearly stating their specialties, one in pediatric medicine and another in

⁷ Feng Menglong (1574-1646), *Xing shi heng yan*. "Daoist Li walks among the Cloud."

⁸ In the late 16th century novel *Jin ping mei*, for instance, the main protagonist Ximen Qing was an owner of a big apothecary shop. A rich and influential figure in the town, he hired a gang to beat up a practicing physician, Jiang Zhushan, who happened to marry a woman Ximen desired, and drove him out of business. When his concubine fell ill, Ximen could secure the best service from a "lineage physician" named Ren.

the exorcist use of incantation (Ch: 祝由). The term “medicine chamber (Ch: 藥室),” however, was never used. Familiar pictorial elements from previous artists also appeared in the 1736 Qing Court rendition’s portrayal of pharmacies. For instance, clerks chopped herbs inside and in front of the shops, and the pieces were then exposed to dry in large bamboo trays, sometimes on the roof of the house.

Meanwhile, some new iconographic features came to be associated with the pharmacy in the Qing painting. First, in both scenes the painters depicted the unloading of large packages from carts and carrying poles, with the deliverymen waiting for the pharmacy owner to check out their goods (Figure 16). Second, the sign advertising “*daodi* medicine” was now replaced by more elaborate claims, such as “Our shop purchases and ships our own *daodi* medicine from Chuan-Guang-Yun[nan]-Gui[zhou],” which emphasized the proprietary relationship with long-distance trade.⁹ Thirdly, at least one shop featured not only raw ingredients, but also “decoctions made-to-condition according to our own method.”¹⁰ The strings of herbs that were hanging from the apothecary shop’s walls, however, were nowhere to be seen, nor was the *tuo* alligator. The explicit display of raw and freshly-picked medicine in the Suzhou scrolls seemed to have given way to a more abstract representation of *daodi* authenticity – as long as shipments kept coming from afar, the shop must have had ways of securing the best supplies.

⁹ According to 18th century accounts, it was typical for Beijing pharmacies to advertise their goods as having “shipped by the shop from Chuan-Guang-Yun-Gui.” See for instance a collection of couplets by Liang Zhangju, *Qiao dui lu* (Collection of Wonderful Couplets), *juan* 3. The two actual shop signs formed a perfect pair in the symmetry of their words.

¹⁰ Signs for one of the pharmacies were not legible.

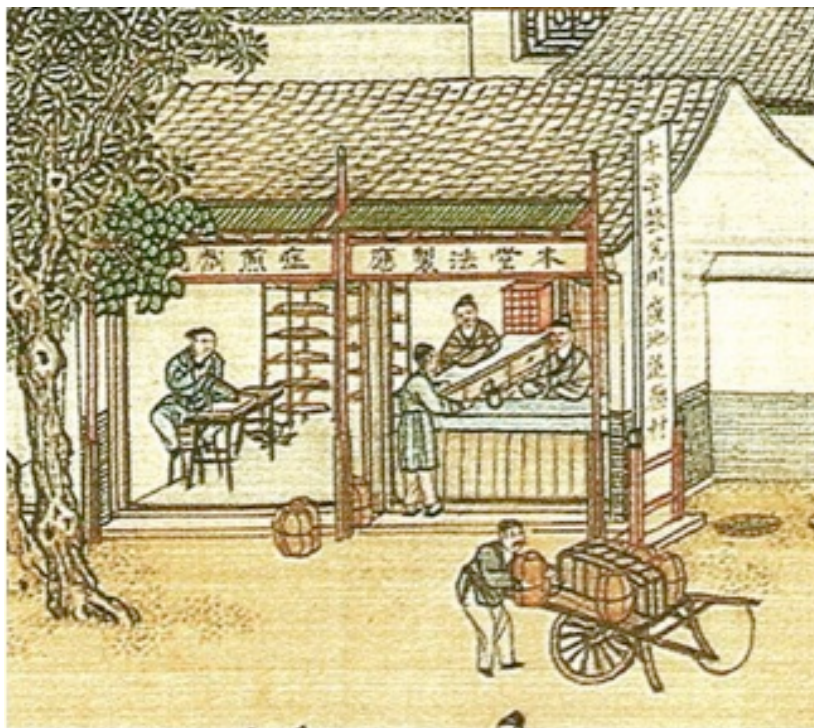


Figure 16 Chen Mei et al. Qing Imperial Academy of Art, *Along the River during the Qingming Festival*, details (Pharmacies). National Palace Museum, Taipei.¹¹

¹¹ Reproduced in *Ming Qing minsu hua xuanji* (Selected Genre Paintings of the Ming and Qing), (Tianjin: Tianjin renmin meishu chubanshe, 2007), vol.3.

A similar shift in the representation of healing spaces can also be found in Xu Yang (Ch. 徐揚 fl. 1751-59)'s *Prosperous Suzhou* scroll, a masterpiece of urban landscape executed for the Qianlong emperor in 1759.¹² Xu depicts two pharmacy shops in this painting, borrowing elements again from previous works, such as the herb-cutting clerk, large plates of herbs on rooftop, the customer walking away with his order in hand, and long-distance packages being unloaded in front of the shop. The shops feature still more advertisement signs, including “*daodi* medicine,” “*Chuan*-tribute medicine,” “Please ask for ginseng inside,” and especially compound medicines - “pills, powders, ointments and elixirs (Figure 17).” In addition, Xu depicts two more shops not found in previous examples of the genre: a patent medicine stand outside the city wall, catering to a busy crowd on the waterfront dock, and a wholesale merchant’s storehouse dealing ginseng and other medicinal ingredients, including “miscellaneous products” from Yunnan and Guizhou. In contrast, the physician’s medicine chamber is entirely missing from the scene.

As each artist must work within the iconographic tradition and contingent expectations of the commission, the portrayals of pharmacies should not necessarily be taken as realistic representations. Still, the iconography of healing spaces hints at a gradual, but distinct, process of transformation in the social space of healing and pharmaceutical expertise. The two 18th century works were especially products of imperial commissions with a strong tendency to over-represent stereotypes of benevolence, resourcefulness, and prosperity. At least, however, the heterogeneous

¹² Facsimile of Xu Yang’s *Prosperous Suzhou* is reproduced from the 1999 edition published by *Wenwu chubanshe*.

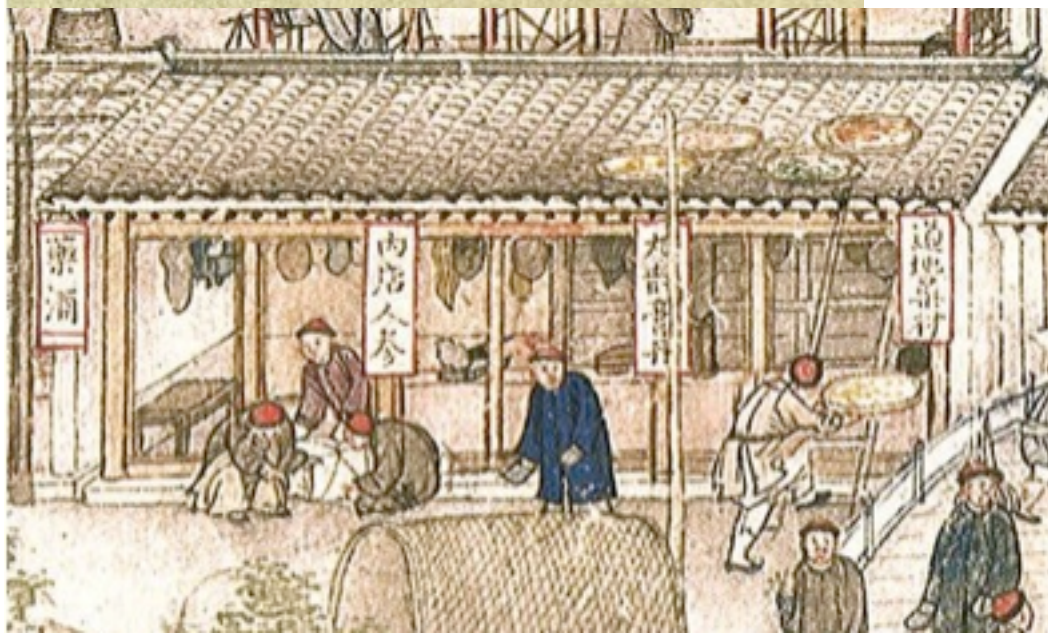


Figure 17 Xu Yang, *Prosperous Suzhou*, details (pharmacies). Liaoning Provincial Museum, Shenyang, China¹³

iconic representations of urban apothecary and pharmacy shops remind us that business organizations and their strategies of survival necessarily changed with their times. In the

¹³ Reproduced in *Ming Qing minsu hua xuanji* (Selected Genre Paintings of the Ming and Qing), (Tianjin: Tianjin renmin meishu chubanshe, 2007), vol.2.

following sections, I draw from a variety of sources to reconstruct the distinct history of pharmacies during the Qing.

The Raw and the Cooked: Medical Shops in Urban History

Early Chinese notions of healing were often not separate from the manufacturing and dispensing of drugs, and “medical shops (Ch: 藥鋪)” were constantly mentioned as the working space for physicians (Ch: 醫). The mid-Tang poet Zhang Ji (Ch: 張籍 c. 767-830), for instance, complained in a poem that

In Chang’an there’s little means of living for the invalid
Medical shop doctors (Ch: 藥鋪醫人) had random fees to demand!¹⁴

The Northern Song doctors also dispensed their own medicines, along with all walks of practitioners. In his detailed reminiscence of the Northern Song capital’s grandeur, Meng Yuanlao (Ch: 孟元老 fl. 1103-1147) named over a dozen businesses and noted their locations in the streets and alleyways of the city. Many of them were “high-ranking medical official’s medical shop (Ch: 金紫醫官藥鋪),” known for specializing in pediatric medicine, dental and throat conditions, or obstetrics, etc. In the same breath, Meng mentioned shops owned by doctors with official titles, such as “Household of Defense general Ban,”¹⁵ and eye-catching vernacular shop names, such as

Silver Baby
Dr. Du the Golden Hook
Dr. Ren the Big Shoe

¹⁴ Zhang Ji, “To the Daoist Ren.” As a result, Zhang wrote to a Daoist, asking him to predict his future fortunes.

¹⁵ The official title of “Defense general (*fangyu*)” seems to have been a popular title for doctors in the Northern Song. An anecdote told of how a “doctor of the marshes (Ch: 草澤醫)” gained the title as a reward for curing the empress dowager’s cataract. See Hong Mai, *Yi jian jia zhi*, “Defense general Xu.”

*Ugly Granny's Medical Shop*¹⁶

From an ordinary patient's point of view, then, the trade of medicine earned its keep by delivering material cures, and the source of the practitioner's expertise did not matter much.

The distinction between “raw” and “cooked” medicine as separate businesses became more pronounced in the Southern Song. The trend is likely to be related to the opening of state-sponsored philanthropic pharmacies in the late eleventh century, the only kind of business that Meng Yuanlao referred to as specializing in “cooked medicine (*shu yao*).”¹⁷ The subtle shift of terms reflected the perception of state pharmacies as a new model in medicine, which stood to profit from the pharmaceutical procedures alone without the backing of a healer-practitioner. Asaf Goldschmidt has shown how the Northern Song state's proactive stance in propagating medical knowledge and philanthropy supplied a collection of “Official Formula (Ch: 局方)” for the operation of the pharmacies. The supply of ingredients was uniquely guaranteed by the state's access to local tributes, and the earnings of the pharmacy then fed back to government coffers.¹⁸ Within a few decades, similar shops of “cooked medicine” owned by private owners were opened, clearly imitating the official counterpart. A Southern Song list of businesses in the capital, for instance, enumerated several private “cooked medicine” shops as well as “raw medicine” ones.¹⁹ The private shops competed with the state pharmacy, as the latter

¹⁶ Meng Yuanlao, *Dongjing menghua lu*, *juan 2* and *3*.

¹⁷ Meng Yuanlao, *Dongjing menghua lu*, *juan 2* and *3*. There was only one shop he mentioned as specializing in “raw medicine.” in *juan 3*

¹⁸ Asaf Goldschmidt, *The Evolution of Chinese Medicine: Song Dynasty, 960-1200*, Chapter 6.

¹⁹ Wu Zimu, *Meng liang lu*, *juan 13*.

came to be plagued by corruption and dysfunctional management. The Official Formula, however, continued to be prescribed and manufactured by doctors and private pharmacies for many centuries.

Like its state-run precursors, owners of the “cooked medicine” shops were not necessarily practitioners with expertise in healing. The scholar and poet Zhou Mi (Ch: 周密 1232-1298) in an account of Lin’an urban life described the source of supply for medical shops:

People of the capital are proud and idle. In business, they often buy ready-made products from the manufacturing workshops (Ch: 作坊), gaining the meager profit of one tenth [of the total worth].²⁰

“Raw medicine in pieces for decoction” and “cooked medicine in pills and powders,” Zhou tells us, were among the common products made in the capital’s “manufacturing workshops,” along with other retail merchandise such as steamed buns, roasted animals, preserved candy jujubes and kumquat tangerines.²¹ The 13th century account of Zhou Mi has frequently been cited as an early reference for this type of hybrid business of “raw” and “cooked” drugs. As we have seen, however, the original source was merely describing the operation of “workshops” that manufactured “raw” and “cooked” drugs, and then sold them to retailers. Zhou also clearly stated that retailers would acquire the products in batch, sometimes on a loan, and share their gains with the workshops at the end of the day. Raw and cooked medicines were produced and sold in the same networks as food, and no specific expertise in healing was necessarily involved in the transaction.

²⁰ Zhou Mi, *Wulin jiushi*, *juan* 6, “Manufacturing workshops (*zuo fang*).”

²¹ *Ibid.*

The sales of raw and cooked medicines remained separate in the late 16th century Suzhou Scrolls, as we have seen: the apothecary specializes in dealing in authentic (*daodi*) raw ingredients, whereas the physicians' medicine chambers dispensed "cooked" cures directly to patients. It was only in depictions of urban pharmacy shops during the Qing, as in the paintings by court artists and Xu Yang, where both raw ingredients and "cooked" compounds were marketed under the same roof. When and how, then, did this type of all-around business emerge, and how did the relationship between apothecary-suppliers and doctors' medicine chambers change as a result? We might begin to see the answer in Qing pharmacies' own descriptions of their founding moments.

Founder Stories and Marketing Rhetorics of Qing Pharmacy

Tongren tang opened for business in the 41st year of the Kangxi reign (1702), on the south side of the Dashilan commercial district outside the inner city gate facing the Forbidden City. In a catalogue of the pharmacy compiled four years later, the founding owner Yue Fengming (Ch: 樂鳳鳴) called his business a "medicine chamber (*yaoshi*)," and attributed the original plan of *Tongren tang* to his father, Yue Zunyu (Ch: 樂尊育). According to Yue Fengming, Yue Zunyu used to be a minor official in the Imperial Academy of Medicine. Having had rich experience in medicine, the senior Yue was especially good at "telling subtle differences of authentic [*didao*] materia medica," and the compound medicines he made were popular and efficacious. The junior Yue Fengming thus pledged to carry forward his father's good will by establishing a business that would

Follow the *Recipes at Hand*, and distinguish the products' places of origin;

Complex as the pharmaceutical procedures are, never skip human labor; Costly as the ingredients are, never compromise on standard for materials. The Gods and ghosts will judge us, and our products will respond to all sorts of illnesses. In this way, I will not betray the ideals of my deceased father.²²

This paragraph became the mainstay of advertising slogan for *Tongren tang* later in the nineteenth and twentieth centuries. Popular histories of *Tongren tang* often cite this passage as evidence for the Yue family's extraordinary moral commitment to making good medicines, and link *Tongren tang*'s business success in the past and present to its superior morality.²³ In his study of pharmaceutical enterprises in the United States, historian Jonathan Liebenau pointed out that the "image-makers" in the pharmaceutical industry have long associated their business with "standards and a moralistic stance higher than other industries."²⁴ It is thus not extraordinary that Yue Fengming and subsequent owners of *Tongren tang* employed a language of high moral standards to promote their products. What warrants further investigation, however, is the concrete ways in which the pharmacy's moral claims resembled or departed from ways of declaring medicine's altruistic ideals by other practitioners.

The dual claims in Yue Fengming's manifesto, namely that of material and technical authenticity in pharmaceutical processes, proved to be a leitmotiv of Qing pharmacist literature. At heart of *Tongren tang*'s business strategy was the rhetorical

²² Yue Fengming, "Preface," in *Tongren tang yaomu*, Guangxu edition (1889).

²³ For instance, Bian Dongzi, *Guo bao Tongren tang* (*Tongren tang* the national treasure). Popular history of *Tongren tang* also placed strong emphasis on imperial patronage granted to *Tongren tang* as the purchasing agent for the Qing court. However, *Tongren tang* was neither the only imperial agent, nor did its alleged connection with the court render its claims to morality unique from other pharmacies, as I will show below.

²⁴ Jonathan Liebenau, *Medical Science and Medical Industry: The Formation of the American Pharmaceutical Industry* (Baltimore: Johns Hopkins University Press, 1987), viii. Also see Ch.2 "The development of the pharmaceutical industry, 1818-90" pp.11-26.

claim that “ancient recipes (Ch: 古方)” were efficacious beyond doubt. If a drug fails to cure, there had to be a problem either with the authenticity of the ingredients or the process of refining (processing) them.²⁵ Therefore, if the pharmacy could get both aspects right, then its products were certain to work. It is intriguing that the “ancient recipes” cited by Yue Fengming reached back to the *Recipes at Hand* (Ch: 肘後方) attributed to the ancient master Ge Hong (284-363). Later in this chapter, I will show that the products of *Tongren tang* in fact bear little resemblance to the actual *Zhouhou* recipes of the fourth century. It might have served, however, to establish a rhetorical connection of the pharmacy not with contemporary practitioners, but with an ancient name that had acquired semi-divine status in popular belief.

Yue Fengming traced the origin of *Tongren tang* to the personal skills and wishes held by his father, a physician, and hence referred to the shop as a “medicine chamber.” In virtually no other occasions, however, did the term “medicine chamber” occur again, and later owners saw themselves no longer as physicians, but guardians of pharmaceutical knowledge passed down from the founding ancestor. Descendants of the Yue family once described the family business as gradually keeping in the lineage “only pharmaceutical, not medical knowledge (Ch: 知藥不知醫).”²⁶ The pharmacists of *Tongren tang* therefore portrayed themselves as pious and honest businessmen, and an extraordinary kind at that, who placed the welfare of others higher above their desire for profit. They thus frequently invoked the supernatural power of the heaven and deceased

²⁵ Yue Fengming, “Preface.”

²⁶ *Yue Chonghui jushi fangtan lu* (An Interview with Mr. Yue Chonghui), (Taipei: Guoshi guan, 2013), 41. Yue Chonghui thought after the generation of Yue Pingquan, the managers themselves knew very little about medicine. Also known as “transmission of pharmaceutical skills but not medical knowledge.” 傳藥不傳醫

ancestors, in order to vouch for the piety with which they adhered to the instructions in “ancient recipes.” Another well-known slogan of *Tongren tang*, “No one sees how we compound / but Heaven knows our pious mind,” exemplified the pharmacists’ constructed self-image as pious agents of honesty and truth.

Similar rhetoric can be found in virtually all the pharmacist literature of the Qing that survives today. Advertisement and promotion of Qing pharmacies often took the form of freely distributed recipe collections intended to “prolong the people’s life (Ch: 壽世).” In the preface to one such pamphlet dated to 1724, the owner of a pharmacy in Shandong vouched for his “hidden and firm” resolution to “stay distinct from the profit-chasing fellows.”²⁷ Although the wording was different, he also emphasized the two major virtues of his product, namely, the *daodi* authenticity of ingredients and pious attention to pharmaceutical procedures.²⁸ The source of his recipes, noted the owner, came from years of experience with the “outstanding formula of the ancients,” and that he was finally able to select a few hundreds from the “overwhelmingly voluminous literature.”²⁹ Similar sentiments were also present in a mid-eighteenth century catalogue of another major pharmacy in Beijing, *Henian tang* (Ch: 鶴年堂 the Hall of Crane Longevity), in which the owner confessed that he “had not mastered my family’s art of medicine,” but at least could strive to “insure the authenticity of *didao* medicine, and the

²⁷ Ma Dongxu, “Preface,” *Taihe tang shoushi fangshu*.

²⁸ Ibid.

²⁹ Ibid.

appropriateness of pharmaceutical procedures.”³⁰ The pharmacist might have descended from a line of physicians, but no longer practice as one.

My last sample of a surviving Qing pharmacy catalogue was published in the city of Guangzhou (Canton) in south China. The shop, *Jingxiu tang* (Ch: 敬修堂 Hall of Respectful Compounding), was founded by Qian Shutian (Ch: 錢澍田), an itinerary merchant-turned-pharmacist. A native of Cixi County (慈溪縣) near the southeastern port Ningpo, Qian is remembered today as a traveling silk merchant, who accidentally cured the son of a wealthy man during his sojourn in Canton. The patient’s father then invited Qian to stay and provided him with funds to open a shop in 1790.³¹ At the same time, however, we know that Cixi was a major hub for the interregional *materia medica* trade during the Qing, and that Qian Shutian’s pharmacy business in Canton continued to fund his family members back in Cixi.³² The success of *Jingxiu tang* during the Qing was not as unique as its modern-day reincarnated company likes to say.

If we take the 1790s as the approximate period for the pharmacy’s founding, a decade later, Qian felt the need to further advertise his products beyond the immediate community of Canton. In 1804, he compiled a promotional pamphlet titled *Discourses on the Drugs of Jingxiu tang*, printed it, and distributed it to customers without charge. In the preface, Qian recalled his early interest in the “collection of medicines,” and how he was able to accumulate a small number of recipes that he personally compounded and

³⁰ Wang Ji 王繼, “Preface,” in *Henain tang zhiyao mulu*.

³¹ <http://www.jxt.com.cn/index.html> accessed Feb. 6, 2014. Also <http://www.baike.com/wiki/%E6%95%AC%E4%BF%AE%E5%A0%82>

³² For a modern account of Cixi’s mercantile tradition, see <http://www.nbchzx.com:88/xq110/news.asp?id=3744>

tested, out of the large number of recipes already known. To ensure readers of the quality of his remedies, Qian again invoked the dual standard that the drugs were “authentic (*daodi*) and not fake, and expertly prepared to perfection.”³³ The same set of advertising rhetoric and strategies was thus central to the construction of pharmacist identity as a worldly figure who transcended mercantile greed out of a moral calling for doing good. Behind a similar set of occupational ideals, however, the substance of service and products provided by different pharmacies reveal deeper patterns of medical culture in late imperial China.

Ancient Recipes and “Pious Creations”

Qing Pharmacies often advertised their products in print, making adjustments in content as the scope of their business shifted. The offerings of *Tongren tang*, for instance, began with a small collection of tested recipes that Yue Zunyu gathered during his career at the Imperial Academy of Medicine. According to a late 19th century owner’s note, after the shop’s opening in 1702, the owner Yue Fengming continued to

... browse many titles when not occupied with shop business. He began with the famous doctors in the early years of our dynasty, and traced their teachings back to the ranks of Qibo and the Yellow Emperor. Once he found an ancient recipe appropriate for use, he would study it carefully and compound it according to the ancient method, without concern for cost in buying the ingredients. After five years, the pills, powders, ointments and elixirs are neatly and completely laid out.³⁴

At that point, the first edition of *Pharmaceutical Catalogue of Tongren tang* was printed and distributed for free, and “Scholars and merchants” traveling from the provinces to

³³ Qian Shutian, “Preface,” in idem., *Jingxiu tang yaoshuo*.

³⁴ “Preface 2,” in the 1888 edition of *Tongren tang yaomu*.

Beijing would visit the shop to buy medicines as explained in the catalogue. The offering of the pharmacy continued to expand in the nineteenth century, as the able owners Yue Pingquan (Ch: 樂平泉 1810-1880) and his wife oversaw a major revival of the business.³⁵ The late 19th century catalogue boasted of “several dozen to a hundred kinds” of recipes that Yue sought to collect and reproduce in his shop. Some of these new “pious creations (Ch: 虔誠創造)” of Yue Pingquan, claimed the catalogue, even fell beyond the scope of old recipe literature, and were to be kept as precious secret of the shop.³⁶

The two prefaces of *Tongren tang*'s catalogue thus reflected two different visions of what a pharmacy should offer. The early-18th century preface by Yue Fengming was predicated upon the belief that “old recipes must work.” While the ingredients of many famous compound medicines had been disclosed in popular recipe literatures, Yue argued that merely knowing the recipe was not enough, and that a considerable investment was necessary in order to guarantee the authenticity of ingredients and their proper preparation. In this regard, pharmacies could boast a competitive edge over individual practitioners, who had less purchasing power in the interregional market of *materia medica*. For instance, the 1889 edition of *Tongren tang*'s catalogue boasted the shop's “exclusive access” to the “authentic (*didao*)” deer velvet produced in northeast China. It also emphasized that the source of their *huangqi* (Astragalus), a common ingredient in many tonic preparations, came exclusively from the Kuren area in Mongolia, whereas

³⁵ See Cochran, Chapter 2.

³⁶ “Preface 2,” in the 1888 edition of *Tongren tang yaomu*. For a descendant's fond recollections on the catalogue, see Yue Chongxi, *Bainian Tongren tang*, 77-92. According to Yue Chongxi, Yue Pingquan used his “pious creations” to compete with rival businesses and buy back shares of *Tongren tang* previously owned by non-family members.

other grocers in Beijing only got “wild woody fibrous root” produced in Shanxi.³⁷ In fact, the vast majority among the 485 remedies listed in the 1889 edition of *Tongren tang*’s catalogue could be identified as mentioned in previous medical literature.³⁸ The familiarity of a large number of common remedies, together with a strong claim to authentic ingredients and preparation procedures, facilitated communication amongst physicians, patients, and different pharmacies. In fact, a large number of such “ancient recipes” remain the mainstay of *Tongren tang*’s regular offerings today.

During the late nineteenth century, however, the pharmacy’s advertising strategy veered towards emphasizing new remedies exclusively manufactured by the shop, and kept as a trade secret. Some “pious creations” of Yue Pingquan were variations of previously known remedies, often with more audacious claims for their efficacy. The “tiger bone tincture,” for instance, was mentioned as early as during the Tang dynasty as a semi-magical cure for “wind” illnesses, and passed down in a variety of forms in recipe literature ever since.³⁹ Records of a patient actually taking the tincture as a cure, however, only began to emerge in the early seventeenth century, as two medical cases told stories of elite patients residing in urban centers of the Lower-Yangzi region.⁴⁰ By featuring the exotic substance as an exclusive product of the pharmacy, *Tongren tang* was essentially offering its customers an opportunity to experience the miraculous efficacy of

³⁷ *Tongren tang yaomu*, “Category of Tonics.”

³⁸ While the classification of drugs resembled other collection of recipes at that time, the catalogue provided no instructions over how to prepare them, nor included any list of ingredients.

³⁹ Sun Simiao, *Qianjin yao fang*, *juan* 24, 37, 59.

⁴⁰ One case concerns the death of Gu Qiyuan (*jins* degree 1598), who mistakenly drank too much “tiger bone tincture” during convalescence of a major illness, and died after taking cooling drugs. Li Zhongzi, *Yi zong bi du*, *juan* 6. Another case was a successful cure with the tiger bone tincture by Shi Pei (fl. 1621-7), a physician from the same home town as Li Zhongzi. *Xu ming yi lei an*, *juan* 17.

tiger bone previously known only from books. Similarly, the capacity of black ink to stop internal hemorrhage was first documented in the Song-dynasty *Zhenglei bencao*, but was rarely mentioned in pre-Qing recipe literature. By crafting a special “Eight Treasures Medicinal Inkstick” (Ch: 八寶藥墨) and marketing it as an emergency pediatric cure for all kinds of hemorrhage, *Tongren tang* essentially transformed a claim rooted in literary sources into a tangible commodity.⁴¹

The distinction between “ancient recipes” and proprietary medicines was also manifest in the catalogue of *Jingxiu tang* in early nineteenth century Canton. Qian Shutian, the merchant-turned-owner of the pharmacy, featured over a dozen “tested (Ch: 經驗)” remedies first in the catalogue, apart from another 50-70 compound medicines under the category of “Preparations according to the Ancients (Ch: 遵古炮製),” 18 of which were added to the catalogue as a separate sequel.⁴² In the preface, Qian clearly associated his own personal experience a few secret recipes, comparing them to “gold that has been repeatedly refined, deployable as one wishes.”⁴³ In contrast to *Tongren tang*, which began with the manufacturing of “ancient recipes” and later came to feature more secret remedies, *Jingxiu tang* might very well have begun with a few effective secret remedies and gradually acquired the capacity to concoct a wider range of regular compound medicines.

In sum, I argue that the existing *bencao* and recipe literature played an essential role in the commercial success of Qing pharmacists, who sought to transform previous

⁴¹ Tang Shenwei et al. *Zhenglei bencao*, juan 13.

⁴² Qian Shutian, *Jingxiutang yao shuo*, table of contents. In the printed version the term *paozhi* was written differently as 泡製 than the conventional characters 炮製.

⁴³ *Ibid*, Preface.

pharmaceutical knowledge into proprietary assets for their own advantage. While a standard set of “ancient recipes” constituted the core of regular offerings by urban pharmacies, a shift toward novel and secret remedies (as indicated by the Latin term *nostrum remedium* [our remedies] widely used in European pharmacies) was manifest by the nineteenth century. Ironically, the intimate connection between recipe and practitioner came to be reenacted in Qing pharmacies. Whereas physicians asserted themselves as masters over the material as well as the vital processes, pharmacists only claimed expertise in the pharmaceutical preparation of the substances, and withdrew from responsibility over diagnosis and prognosis. They astutely claimed their role as nothing more than a pious mediator between texts and substances.

Secret and Open Knowledge in Qing Pharmacist Literature

Although pharmacists claimed to follow “ancient methods” in making their products, their catalogues usually mentioned no technical details of preparation, probably out of fears that competitors might steal their secret remedies. In fact, it was often in pharmacy shops that new technological procedures came to be adopted first. A notable example is distillation of “medicinal dew (Ch: 藥露),” a dosage form that had not been used much by Chinese practitioners prior to the Qing dynasty. Twenty-three kinds of “medicinal dew” appeared in Zhao Xuemin’s *Supplement to Bencao gangmu* as a new entry in the category of “Waters.” A method transmitted into China from the “Western Oceans,” the colorless distilled waters were seen as the essences that would not cause as much “stagnation in the body” as regular decoctions. Zhao proclaimed the medical benefits of many distillations from “medical broadsheets (Ch: 藥帖)” distributed by three

pharmacists in eighteenth century Hangzhou. Broadsheets from different pharmacists often differed from each other: while pharmacist Jin claimed that distilled water of loquat leaves cured coughs, for example, another pharmacist Xu used it for stomach complaints.⁴⁴

In selecting recipes from previous medical literature, Qing pharmacists went beyond the previous distinctions among medical specialties. The advertisement of “pills, powders, ointments, and elixirs (Ch: 丸散膏丹)” has become a commonplace term today, but prior to the Qing the four dosage forms were rarely mentioned together. Pills and powders, on the one hand, belonged to the realm of internal medicine for the general physician, who sought to moderate the pharmacological effect. Wang Haogu summarized the options available to fellow physicians of the thirteenth century:

In sum, decoction soup (Ch: 湯) is used to purge (Ch: 盪), in the treatment of major illnesses; powder (Ch: 散) is used to dissipate (Ch: 散), in the treatment of acute illnesses; pills (Ch: 圓) are meant to be slow (Ch: 緩), for it cannot rid the illness very quickly, but intended as a mild and durable treatment.⁴⁵

Employing a philological principle to interpret a term with homonyms, Wang’s learned explication of different dosage forms had an enduring impact on the writings of later physicians. The term “ointment and elixir,” on the other hand, referred customarily to preparations used in external treatment by surgeons (Ch: 外科). A seventeenth century recipe of “black gold ointment” instructed the practitioner to

⁴⁴ Zhao Xuemin, *Bencao gangmu shiyi*, juan 1

⁴⁵ Wang Haogu, *Tangye bencao*, juan 1. “Examples of using pill and powder medications.”

Use only one ingredient – the purging croton (Ch: 巴豆). Remove the shell, blacken by stirring on heat, and grind to an ointment-elixir -like paste. Spread on the wound.⁴⁶

The combination of internal medicine (pill and powder) and external medicine (ointment and elixir) in pharmacists' offerings itself testifies to the different nature of pharmacists' self-claimed expertise from physicians, who largely worked only with remedies transmitted in one specialty. As I discussed in Chapter 5, the late seventeenth century also witnessed a parallel decline of specialty practice among elite physicians, as a result of heightened philosophical interest in the nature of drugs. Renowned physicians such as Ye Gui (Ch: 葉桂 1667-1746) included successful internal treatment of external wounds in his casebook as a manifestation of the power of rational medicine.⁴⁷ The popularity of such writings indicates that distinctions among medical specialties were being rendered superfluous for master physicians who claimed deep understanding in physiology and pharmacology. Similarly, Qing pharmacists also defied previous distinction of specialties by making and selling any remedies they could lay hands on, be it gynecological, pediatric, or surgical recipes.

Eclectic collections of recipes from previous literature, rather than embodied expertise over the transformation of substances, thus served as the bedrock of Qing pharmacists' claim to pharmaceutical expertise. Later business histories of *Tongren tang* often described how owners of the pharmacy, especially Yue Pingquan (1810-1880) and his second wife Xu Yefen (Ch: 許葉芬 1827-1907), took special care to make sure that every step in the pharmaceutical process followed the recipe's instruction. By

⁴⁶ Wang Kentang, *Zhengzhi zhunsheng*, *juan* 103. The preparation was recommended to treat severe carbuncle abscess on the back (*fabei*).

⁴⁷ Ye Gui, *Linzheng zhinan yi'an*, *juan* 8, "On Sores and Abscess."

advertising their use of expensive utensils, such as a golden heating pot and silver stirring spoons, the pharmacist rendered manifest his/her strict adherence to the received text.⁴⁸ To add aura to their collections, they often told vivid stories of how the shop acquired and treasured the recipes. A certain “divine elixir for the sufferings,” for instance, was advertised as an opportune finding by “previous owners of the shop” from an extraordinary man, and subsequently lost in storage. Anxious to find the recipe and unwilling to make fake products, the Yue family finally “rediscovered it recently inside an old book.”⁴⁹ In the catalogue, products were featured as “secret preparation (Ch: 秘製)” and “pious preparation (Ch: 誠修),” claims that served to further transform public knowledge into the private possession of the enterprise.

It is true that many of the advertising features may have been added in the 1889 edition of *Tongren tang*'s catalogue. While it remains difficult to reconstruct the composition of pharmaceutical expertise in an eighteenth century pharmacy, historical documents of *Wanquan tang* (Ch: 萬全堂), a sister pharmacy founded by another branch of the Yue family in early eighteenth century, suggested that the shop employed about 15-20 apprentices in early nineteenth century.⁵⁰ Most of the young workers shared boarding and meals at the shop, carrying out manual tasks of cutting, rinsing, grinding, and compounding *materia medica*, whereas only the very high echelon of managerial

⁴⁸ The story was also attributed to the wealthy merchant Hu Xueyan (1823-1885), whose pharmacy in Hangzhou, *Hu Qingyu tang*, was known for its golden pot and silver spoon.

⁴⁹ *Tongren tang yaomu*, “Elixir that rescues the sufferer and brings back the soul.”

⁵⁰ Liu Yongcheng and He Zhiqing, “Wanquan tang de youlai yu fazhan,” *Zhongguo shehui jingji shi yanjiu* [Chinese Socio-Economic Historical Review] (1983, no.1): 1-16. The original materials of *Wanquan tang* came into the hands of Deng Tuo (1912-1966), who was chief editor of the *People's Daily* during the 1950s. Deng was interested in using the pharmacy as a case study of economy and labor during the Qing, but this project was interrupted by his subsequent political marginalization and eventual suicide during the Cultural Revolution.

personnel, usually core members of the Yue family, could access and handle the most expensive ingredients behind closed curtains. Experienced managerial staff also accompanied the owner to make annual purchase from the wholesale market each year, and building sustaining connection with trustworthy suppliers.⁵¹

Early in the forty-ninth year into the Qianlong reign (1784), two strange guests visited the shop of *Tongren tang* in Beijing. The primary goal of this visit was not to buy any remedies, but to present an album of botanical drawings to the most knowledgeable staff of the shop, and ask them to identify as many as possible from the fifty plants. It turns out that the guests, Hong Zhicheng (Ch: 紅之誠) and Jin Wenhe (Ch: 金文和), came all the way from the Ryukyu Kingdom as visiting students in Qing China, and that the specimens were entrusted to them by a Ryukyu scholar who identified himself as Wu Jizhi (Ch: 吳繼志).⁵² From 1782 until at least seven years later, albums of Ryukyu plants arrived periodically at the emissary enclave in the southeastern provincial capital Fuzhou, where Ryukyu students stayed and associated with local notables. At least eighteen Chinese interlocutors received the Ryukyu guests' request, studied the album, and wrote their answers on a separate blank sheet. Among them were local officials, scholars, physicians who happened to travel to Fuzhou for family business, as well as an itinerant surgeon. When their answers were brought back to Ryukyu, Wu Jizhi would read them, send specimens back with additional questions if necessary, and eventually compile the

⁵¹ According to memoirs by *Tongren tang*'s descendants, the temple fair at Qizhou (present day Anguo County in Hebei Province) would hold all transactions until agents of *Tongren tang* arrived at the scene. See Yue Chongxi, *Bainian Tongren tang: Yue jia chuangshi yiwang* (Taipei: Sixing wenhua, 2013), 110-114.

⁵² For Ryukyu students in China and their activities in Fuzhou, see Hukazawa Akihito, *Kinsei Ryūkyū Chūgoku kōryūshi no kenkyū*, 29-58, 161-194.

exchange into a treatise titled *Zhiwen bencao* (Ch: 質問本草 *Materia Medica in Questions and Answers*).⁵³

The only party contacted by two Ryukyu students' brief sojourn in Beijing was three senior staff at the pharmacy *Tongren tang*, Deng Lüren, Zhou Zhiliang, and Wu Meishan. They were also the *only* pharmacists involved in the entire exchange lasting for over eight years.⁵⁴ Out of a total of fifty plants presented to them, Deng, Zhou and Wu identified fourteen kinds “that are included in the book *Bencao gangmu*” and two “customarily seen in our shop,” and wrote a short note to accompany their answers. Two years later, one of the Ryukyu guests again returned to *Tongren tang* with more botanical illustrations, and the three staff again identified over twenty kinds for him, after “checking the extensive literature of the Han, Tang, Song dynasties as well as our own times.”⁵⁵ This suggests that *Bencao gangmu* and other medical works served as regular references for the everyday operation of the pharmacy, especially for pharmaceutical methods (Ch: 製法). For instance, Wu Jizhi collected a local variant of rhubarb, describing it as a plant that

.. sprouts in spring. Height of the stalk is approximately 5-6 inches, slightly purple in color. The leaves wither in the ninth and tenth months [of the year], and its root contains yellowish juice.⁵⁶

⁵³ Modern historians have reason to suspect that *Zhiwen bencao* was in fact planned and executed by the physicians serving the Satsuma Domain of Edo Japan. By then, Satsuma has long been exerting its influence in Ryukyu (modern-day Okinawa Prefecture of Japan) for a couple of centuries. Some even doubted whether Wu Jizhi was in fact an actual person, or whether he completed the manuscript in Japan, which was subsequently printed and held by the Satsuma Daimyo. See Higashionna Kanjun, “Shitsumon Honzō to sono chūsha,” in Harada Nobuo ed., *Yakuchū Shitsumon Honzō*, 586-604.

⁵⁴ Besides those visited by the students in China, informants also included merchants and other Chinese passengers who arrived in Ryukyu and Satsuma during the 1770s and 1780s by commerce or due to shipwreck.

⁵⁵ Deng, Zhou, and Wu's response letters, in *Zhiwen bencao*, front matters.

⁵⁶ *Zhiwen bencao*, “Outer volume,” *juan* 4.

Three interviewees responded to the illustration in different ways:

Lu Shu (1784, a physician experienced with the collection of herbs in the wild): this is also called “bald-leaved vegetable.” In my hometown people use it to make soup, and it is sour in taste. Its root has juice and pungent in taste. This is local (Ch: 土) rhubarb, and most effective in curing skin scabies.

Chen Wenjin (1782, a scholar-physician): this is rhubarb in pieces. However, considering the different natures of drugs owing to the *didao*, please take caution in using this drug.

Zhou, Deng, and Wu (1784): this is local (*tu*) rhubarb. It purges heat, but too cool [in nature]. It can be applied to relieve fire poison, and the whole plant is used in medicine.⁵⁷

While the scholar-physician seemed most concerned with the differences between the local variant rhubarb and the authentic (*didao*) rhubarb customarily found in the Chinese market, the other physician and the pharmacists readily recognized the local variant for its distinct virtues. Moreover, while the physician showed most understanding of the plant’s morphology and everyday uses, the pharmacists were most keen on pointing out the specific parts fit for compounding (the entire plant, vs. root, leave, seed, etc.), and used vague, vernacular terms (“fire poison”) in describing its uses. Sitting in the shop, going to the wholesale market, and handling harvested substances did not require one to be familiar with the plant in its natural habitat. The pharmacist, however, dealt not only in the *daodi* kinds of *materia medica*, but also local variants fit for different uses. Their pharmaceutical expertise thus had one foot in the world of learned medical literature, and another in the vernacular, undocumented domain of folk wisdom.

Pharmacy and Everyday Life in Beijing

⁵⁷ Ibid.

People living in late Qing recognized the existence of two types of pharmacies: one group of businesses became rich just by selling one kind of secret preparation “for hundreds of years;” the general “cooked medical shops,” however, featured a wide range of compound medicines readily recognizable by physicians and patients alike.⁵⁸ Opinions varied as to which pharmacy was good for what purpose. One popular guide for travelers to Beijing featured over twenty kinds of patent medicines, and mentioned *Tongren tang* only as a good place to buy Tiger Bone Tinctures.⁵⁹ For general “pills” and decoction medicines, however, the author recommended two different pharmacies located adjacent to *Tongren tang*.⁶⁰ Still other anecdotal accounts portrayed *Tongren tang* as a frequent stop for provincial travelers, where they could buy remedies like “All-Purpose Ingot” as gifts to acquaintances back home.⁶¹ Intense competition among pharmacies in one city resulted in the proliferation of businesses seeking to imitate successful products and shop names. In certain cases, several dozens of such “generic” shops competed with each other in the same alley.⁶²

The catalogue of *Tongren tang* did not include prices for its remedies, but other Qing pharmacies provided price charts that give us some sense of the cost of medications during the Qing. Regular pills with herbal ingredients were sold for the amount of silver weighing 3~10% of the medicine itself, powders by bottle, and ointment-poultice by piece. Remedies with animal-origin ingredients are more expensive: a common pill

⁵⁸ Xia Renhu, *Jiu Jing suoji*, *juan 9*

⁵⁹ *Dushi congzai*, *juan 5*.

⁶⁰ *Ibid.*

⁶¹ Xu Ke, *Qing bai lei chao*, “Agriculture and Business”, *juan 9*.

⁶² *Ibid.*

containing ox bezoar was sold at 0.03 tael of silver *per pill* by *Henian tang* in Beijing during the 1750s, and 0.04 tael by *Jingxiu tang* in Canton in early nineteenth century.⁶³ Deer horn, deer velvet, turtle, and tiger bone also ranked among the most expensive remedies, costing up to 30%~70% of the ingredient's weight. *Jingxiu tang* also gave customers the choice between a remedy called "ginseng-renewal pill" at the high price of 0.5 tael per pill, and the "ginseng-free" version of the same drug at 1/10 of the price.⁶⁴ Certain patent medicine shops in Beijing charged equal weight of silver in exchange for a certain number of pills.⁶⁵

The diary of a scholar living in early nineteenth century Beijing provides an unusual glimpse into the role of pharmacies in a commoner's everyday life. The diarist has been identified as a middle-aged bannerman named Mu Qixian (Ch: 穆齊賢), who eked out a living in Beijing by serving as a house tutor for a prince, and later worked as private instructor of Manchu and Chinese for youngsters in the Eight Banners. The surviving part of his diary covers non-consecutive periods between 1828 and 1835. It was remarkable that although Mu was born into a Han Chinese family, he chose to write his diary in Manchu, with the exception of certain proper names in Chinese. While the manuscript has been studied for its rich information on the social and cultural world of a nineteenth-century bannerman, I am primarily interested in how Mu Qixian documented his effort to furnish medical care for himself and for his family members.⁶⁶

⁶³ Xi *Henian tang yao mu*; Qian Shutian, *Jingxiu tang yao shuo*, table of contents.

⁶⁴ Qian Shutian, *Jingxiu tang yao shuo*.

⁶⁵ Xu Ke, *Qing bai lei chao*, "Agriculture and Business," *juan 9*.

⁶⁶ Guan Kang, "Xian chuang lu meng yan jiu," Master thesis (Zhongyang minzu daxue), 2011.

On the first day of the eighth year of the Daoguang reign (1828), Mu visited a pharmacy named *Zungu tang* (Ch: 遵古堂 The Hall of Obeying the Antiquity) and met a friend there.⁶⁷ In the second month he took some of the compound pill *Zuojin wan* (Ch: 左金丸), a remedy first mentioned in the writings of 14th century master physician Zhu Zhenheng. Feeling relieved by the drug's capacity to calm his "Liver Fire," which he thought had been stoked in turn by repeated frustrations, Mu continued to take this medicine sporadically for most of that year, and he frequently bought the pill at a second pharmacy *Baoyuan tang* (Ch: 保元堂 The Hall of Conserving Primeval Vitality).⁶⁸ Meanwhile, he experienced a major episode of fever in the fifth month, had to see a physician who also seems to have been his friend. The latter took the pulse, prescribed a decoction, and adjusted the prescription when Mu came back again in three days. The symptoms finally went away after ten days. In the seventh month Mu again experienced severe heartburn, went to see the same friend, and took his prescription. On the next day, however, Mu not only took the prescribed decoction, but also went out to buy a poultice from peddlers near the so-called Scorpion Temple, a popular retail neighborhood near the commercial district where *Tongren tang* was located.⁶⁹ Mu dealt with two episodes of bowel complaint in the summer months by taking a special kind of fermented yeast cake. While he sometimes bought the freshly prepared cake from the shops, he also occasionally received it as gift from friends.⁷⁰ His interest and close attention to diet are reflected in his detailed recording of daily foods, as well as at one point, he sent his

⁶⁷ *Xian chuang lu meng* (XCLM), *juan* 1.

⁶⁸ *Ibid.*

⁶⁹ *Ibid.*

⁷⁰ *Ibid.*

nephew to borrow the book *Dietetic bencao* from an acquaintance, along with an introductory manual for playing the zither.⁷¹

Living on meager salary and stipend from his pupils, Mu never bought any expensive remedies from pharmacies for himself. As his financial situation got worse, he never mentioned again buying moderately fancy medicines like *Zuojin wan*, and paid off his debt with the pharmacy in 1829, a total of 6,000 copper coins.⁷² In early summer of 1829, Mu's wife gave birth to a boy, whom he named Mu Lu. When the baby suffered from sores on his head in winter, Mu was instructed by his mother to go to the pharmacy *Tongren tang* to buy some refined lard salve. In the subsequent two months Mu paid another two visits to the pharmacy, spending two hundred copper coins each time.⁷³ Not only was this the only time *Tongren tang* was mentioned in the diary, Mu also went specifically for a cheap commodity that was not even listed in the pharmacy's catalogue. When the boy again suffered from a malignant ulcer on his cheek in early 1830, however, the grandmother sent Mu Qixian to invite a physician named Pan. The office of Doctor Pan, "Hall of Astute Discretion," was located within walking distance from Mu's residence. After going to the Doctor's office in the morning, Qixian then went about his own business during the day, including shaving his head. When he returned home later in the day, the doctor had already come to look at the sick child, determined that he was suffering from a mild version of "plague-like illness," and left a prescription. Mu Qixian went out again to another pharmacy to fill the prescription, when rain started to fall, and

⁷¹ Ibid.

⁷² Ibid. *juan 2*.

⁷³ Lard is frequently used in folk medicines as a base material for making salves. When mixed with honey and other herbs, the salve is frequently used to treat external ulcers and reduce inflammation. Ibid.

prepared a decoction soup right away that evening. The decoction did not seem to work that well, however, for five days later Mu bought five packs of poultice bandage from still another pharmacy for only fifty copper coins, and applied one of them on his son's swelling cheek. Five days later, the diarist noted that the boy's ulcer was getting better.⁷⁴

For the most part, the Mu family's medical decisions came from Mu's mother, who seemed to be knowledgeable about folk remedies, as well as Mu Qixian himself. The family frequently relied on pharmacies for cheap remedies like lard and poultice, and when Mu Qixian's economic situation worsened, he stopped buying "ancient recipe" compounds like *Zuojin wan*. The family only resorted to a physician's visit when the most fragile member, the boy Mu Lu, got very sick, and even in these circumstances they did not hesitate to switch medicines when the doctor's prescription did not work. They were able to get over frequent minor complaints until disaster unexpectedly struck in 1835, when Mu Lu, the sixth-year-old boy, again fell sick with high fever.

This time, instead of calling the doctor out for a visit, Mu Qixian took his son to see Doctor Pan, who took the boy's pulse and prescribed a decoction.⁷⁵ Two days later, a palpable swelling about three inches wide appeared in the boy's left abdomen, and developed into a painful tumor. The father and son saw Doctor Pan twice in three days, braving a severe sandstorm, and the boy's condition got worse. When urged to change doctors, Mu Qixian resorted to divination according to the ancient classic *Book of Change*, got a favorable result, and decided not to switch doctors.⁷⁶ Meanwhile, he visited the grandfather of a friend, who worked for a pharmacy *Tianran tang* (Ch: 天然堂

⁷⁴ Ibid. *juan* 4.

⁷⁵ Ibid. *juan* 5.

⁷⁶ Ibid.

“Hall of Natural Remedies”), and obtained from him a poultice for external application and a “powder medicine (Ch: 面藥)” for ingestion. It was unclear whether Mu in fact paid for this medication. Around the same time, another family friend recommended a Muslim healer who was good at massage. Although he had some suspicion against Muslims, Mu Qixian decided to try him without taking his powder medicine, and dismissed him after three days.⁷⁷

Twenty days later, the *Tianran tang* old man came to see the boy and told Mu to stop using his remedies, and to see another doctor surnamed Fu. A student of Mu, however, recommended Doctor Meng, and Mu dutifully invited both to examine the boy. While Doctor Fu diagnosed Mu Lu as suffering from “severe swelling of liver,” Doctor Meng later prescribed a decoction for “stagnant wind and cold” while prohibiting the patient from drinking cold water. Mu Lu’s condition improved after taking Doctor Meng’s prescribed decoction for ten days, although the bump in his abdomen was still there. Relatives came to see the boy, inquiring after Doctor Meng’s address. Two months later, Mu Qixian managed to buy some quality silk worth 6,800 copper coins on credit, and gave it together with four pieces of embroidery as gift to Doctor Meng. For the friend’s grandfather who offered poultice and powder from *Tianran tang*, Mu also gave four embroidery pieces and three pounds of steamed bread. Since their help was offered on friendly terms, Mu chose to reciprocate with concrete gifts instead of money.

All seemed well until Mu Lu’s illness relapsed in early summer. Mu Qixian again visited Doctor Meng and another person, only to receive a very pessimistic prognosis from both. He began to seek divine instruction in temples, asked fortunetellers in the

⁷⁷ Ibid.

street, and again sought help from relatives and friends, who offered exotic remedies such as Asafoetida (Ch: 阿魏), snake poison, and “divine recipes” obtained after prayer at temples. Doctor Meng eventually refused to come to see the patient, nor even to give Mu his powder medicine. The desperate father went home and bought all kinds of toys, wooden swords, and fruits for his dying son on his way. He even ordered a tombstone, as well as paper animals and carts to be burned at the funeral. At night, the father and son went through their belongings to decide which items were to be “brought” into the underworld. The next morning, grandmother proposed to invite Doctor Meng over for a final attempt, and the dying boy told her not to bother. In pain and agony, Mu Lu died hours before noon.⁷⁸

Yu Yue and the Two Faces of Medicine

Mu Qixian’s diary ended abruptly a month after Mu Lu’s tragic death. Distraught over the painful loss of her grandson, Mu’s mother fell sick, lost her appetite, but vehemently refused Mu’s plea that she should see a doctor.⁷⁹ Even when it was too late, the notion of seeing a doctor represented a persistent gesture on the family’s part to keep intervening in the course of disease, whereas patients themselves often expressed resignation to fate. At the same time, the family also mobilized all its own resources to try to find a “magic bullet” that might work. To alleviate the protracted suffering of Mu Lu, relatives and friends brought in all sorts of remedies not ordinarily accessible for the family: the Muslim stranger, the snake poison prepared by the aunt, and exotic substances brought

⁷⁸ Ibid.

⁷⁹ Ibid. *juan* 5.

from the Western frontiers. This assemblage of medicinal substances operated independent of the patient family's interaction with regular physicians, and different therapies were often tried in parallel. As Mu Qixian wandered the streets of Beijing to get his doctor's prescription filled, he also picked up poultices from peddlers, bought "ancient recipe" pills from trusted pharmacies, and consulted temples for a divine prescription. The realm of healing thus extended far beyond the immediate contact between patient and physicians into the social space of the market, as a host of substances changed hands in a variety of transactions.

The experience of losing family members could have a dramatic impact on one's trust in medical practitioners. The case of Yu Yue (Ch: 俞樾 1820-1906), a prominent scholar and author, is a notable example of such sentiment during the nineteenth century. In 1879, Yu lost his wife to whom he had been married for forty years, after seeing several family members passing away in the previous decade.⁸⁰ The collection of Yu's writings after 1879 included an essay titled "On the Abolition of Medicine (Ch: 廢醫論)." Seething with anger and sharp criticism of medicine's ineptitude, the essay came to be hailed in the twentieth century as one of the earliest calls for the abolition of Traditional Chinese Medicine.⁸¹ Apologists of traditional medicine, on the other hand, emphasized that Yu's essay was written as an emotional response to his wife's death, and that Yu himself in fact revised his stance in a later essay, "On Medicine and Medication (Ch: 醫藥論)," in which he acknowledged the efficacy of medication. After all, Yu

⁸⁰ Rania Huntington, "Memory, Mourning, and Genre in the Works of Yu Yue," *Harvard Journal of Asiatic Studies*, Vol. 67, No. 2 (Dec., 2007), pp. 253-293

⁸¹ For a comprehensive account of the ideological debate surrounding traditional medicine's place in China's modernity, see Sean Hsiang-lin Lei, *Neither Donkey nor Horse* (forthcoming).

himself still depended on medication to enjoy a long life into the eighties, and frequently donated medicine as a philanthropic deed. How could a person with such inconsistent stances be held as the forerunner of Chinese medicine's enemy?⁸²

Jing Tsu's recent work interpreted the apparent discrepancy in Yu Yue's attitude toward medicine by separating his criticism of medical texts, and the text-based learning of medicine, from the substantial practice of traditional medicine itself.⁸³ I argue that drugs constituted a critical nexus from which Yu Yue derived his complex thoughts over the art of medicine, and that the changing boundary between the realm of healing and commerce that I described here and Chapter Five constitutes an important context for understanding Yu's reasoning. Yu Yue's writings on medicine should be seen as neither precocious prophesy of traditional medicine's decline nor inconsistent ramblings in response to personal tragedy. Instead, I will show how Yu, as both learned scholar and consumer, astutely reframed his position by appropriating contemporary pharmacists' claim over pharmaceutical expertise.

As Jing Tsu points out, Yu's early anti-medicine treatise primarily selected the *textus receptus* of medicine as the target of its attack. While he claimed to have modeled his essay after the Tang dynasty scholar Li Hua (Ch: 李華 715-766)'s criticism of turtle shell divination, Yu's argument is constructed quite differently. Whereas Li questioned the propriety of killing turtles, the most long-living and intelligent creature, for the mere use of dispelling human doubt, Yu sought first and foremost to unsettle the classical

⁸² See for instance Ding Zhaoping, "From 'On the Abolition of Medicine' to 'On Medicine and Medication,'" *Zhongyiyao wen hua* (2007.2): 15-17. Hao Xianzhong, "Yu Yue 'Fei yi lun' ji qi sixiang genyuan fenxi," *Zhonghua yishi zazhi* 34.3 (2004): 187-90. Zhao Hongjun, *Jindai Zhong xi yi lunzheng shi*. Expanded ed. (Beijing: Xueyuan chubanshe, 2012).

⁸³ Jing Tsu, presentation at Princeton Institute for International and Regional Studies, February 2011.

status of medical learning with philological weapons. In ancient texts the word “physician (*yi*)” was used interchangeably or as a pair with “magician-shamans (*wu*),” and the *Inner Canon*, argued Yu, was no more than yet another treatise attributed by such magicians to the ancient sage-king Yellow Emperor. Likewise, the term *bencao* appeared in historical records only during the Later Han dynasty, and could by no means be attributed to the ancient sage Divine Farmer.⁸⁴ Moreover, Yu Yue notes how ancient sages like the Duke of Zhou and Confucius not only did not resort to medicine when their family and students were sick, but in the case of Confucius, also refrained from taking unknown medicines. In the *Annals of Spring and Autumn*, Confucius tells the story of a lord’s sudden death after taking a medicine presented by his son. Yu Yue interpreted this story as a warning against taking or recommending any dubious remedies at all. The right way to maintain health is thus to be especially cautious and vigilant over “lifestyle” matters, to “prevent illness even before it arises.”⁸⁵ Just as Li Hua considered turtle shell divination and supernatural beliefs as useless for the morally upright ones, Yu Yue saw medicine as useless for those who already knew the art of living.

In his latter essay “On Medicine and Medication,” however, Yu reiterated largely the same set of argument on the shared origin of physicians and shamans, while allowing for an alternative – indeed even older origin of “pill and powder” medications, the kind that he would take himself, buy from pharmacies like *Tongren tang*, and freely distribute

⁸⁴ Yu Yue, “On the Abolition of Medicine,” in *Chun zai tang quan shu (Yu lou za zuan)*, juan 45, 1-13.

⁸⁵ *Ibid.*

among friends.⁸⁶ Again, it was a reference in the classic *Book of Ritual* that served as Yu's departure point:

The *Quli* [Subtle Rituals] said: If the medical man (*yi*) has not been in practice for at least three generations, do not take his medicine. There are famous doctors whose grandchildren know nothing about medicine, and also people who practice medicine while their father and grandfather do not. How could this saying make sense? For I see that the medicine here refers to the pills and powders, and “medical men [*yi*]” here people who sell medicines. Thus it is simply saying it is only safe to take the medicine when the good quality became famous after three generations.⁸⁷

Yu then connected his reading of the classical passage directly to pharmacy businesses documented in Song dynasty sources, as well as the actual shops of his time, such as “*Tongren tang* in Beijing, *Mu Taishan tang* in Suzhou, and *Ye Zhongde tang* in Hangzhou.” The second son of Yu married the daughter of a businessman whose family had been “famous for its remedy of acute diarrhea (*sha*)” for over two hundred years. Yu considered the longevity of such businesses as testament to not just “three generations” worth of good reputation, but over ten generations. It was successful entrepreneurs like his brother-in-law who were worthy of the title of medical practitioner (*yi*), not those who “take pulses and write prescriptions!”⁸⁸

How, then, did he explain the origin of these effective remedies? Having unseated the Divine Farmer and other ancient sages as the initial source of pharmaceutical expertise, Yu proposed a story of trial-and-error:

The very early human residents all eat fruits of herbs and trees. When they fall ill from arrhythmic climate, they accidentally eat certain herb and trees and recover. In the beginning they do not notice it, then are surprised by it,

⁸⁶ Yu Yue, “On Medicine and Medication,” in *Chun zai tang quan ji – Bin meng ji bu bian*, juan 6, 13-16.

⁸⁷ Ibid.

⁸⁸ Ibid.

and tell each other about it. They thus either make powders by drying and cutting [the herb and fruits] into small pieces, or combine several kind, and use liquid to compound one pill. And this is the origin of our pills and powders today.⁸⁹

It was only later, explained Yu, that those who were especially good at such matters claimed themselves to be “physicians [yi],” as a distinct group of experts. While the emergence of physician-dominated medicine did have some benefit in the beginning, the practitioners had become so corrupt and harmful that the society would do well to abolish them, leaving only the *empirically* efficacious remedies. In this way, Yu Yue essentially argued that human knowledge over the material efficacy of drugs both preceded the emergence of physicians [yi] as a group of experts, and also remained more reliable and beneficial than the latter. He readily bought into the Qing pharmacists’ rhetoric that drugs had to be effective when manufactured in the right way, and tested by accumulated experience of past customers. Even if even if there were once physicians who truly understood the inner workings of heaven and mankind, it is not worth the risk of seeing many bad doctors, in the hope of finding a good one.⁹⁰ In other words, in the world of Yu Yue, there was not, and probably should not be a separate realm of true medicine beyond the world of commerce.

In his recent reformulation of the history of healing in both Eastern and Western traditions, Paul Unschuld saw it as a prolonged struggle between true “medicine,” rational efforts to construct order, models, and laws of physiology and pathology, and

⁸⁹ Ibid.

⁹⁰ Ibid.

“non-medical healing,” which resorts to supernatural powers to give meaning to human illness and suffering. Unschuld further argues that the “true medicine” is always molded by contemporary ideals of politics and society, and is thus culturally-specific in the evolution of healing traditions.⁹¹ At its most extreme, this vision of medical history resembles a series of separate world-images with relativistic truth-claims incommensurable with each other. Yu Yue’s proposal, then, would mean a complete unseating of the dominant model of “true medicine” and letting patent pharmaceuticals to rule the world.

In this chapter, I have shown how pharmacies during the Qing developed business forms distinct from apothecaries in previous eras, as reflected in changing representations of the pharmacy shop in urban landscape paintings. The expansion of production in urban pharmacies into an enterprise not only with access to the interregional wholesale market of raw ingredients, but also proprietary knowledge over making compound remedies, encroached upon a realm of healing previously dominated by physicians. As pharmacists advertised their products in printed catalogues, they were essentially drawing from a common source of “ancient recipe” literature, while adopting different strategies in fashioning their own secret, proprietary remedies. In so doing, the growth of pharmacists’ presence gradually came to alter the social space of healing, as customers now relied less on physicians’ prescriptions to obtain effective remedies. By the nineteenth century, families with limited means like that of Mu Qixian relied on pharmacies and a circle of gift exchange except in urgent situations. Some elite scholars such as Yu Yue, however, also expressed deep misgivings toward physicians’ ability to

⁹¹ Paul U. Unschuld, *trans.* Karen Reimers, *What Is Medicine? Western and Eastern Approaches to Healing* (University of California Press, 2009).

heal, vesting their hopes in turn on major urban pharmacies. Belief in the material efficacy of drugs now overshadowed confidence in human understanding of medicine.

Conclusion

Zhang Deyi (Ch: 張德彝 1847-1918) served as translator for the Qing diplomatic mission to Europe in 1870, in the aftermath of the Tianjin Massacre.¹ After a pleasant two-day trip to the Palace of Fontainebleau in early summer of 1871, Zhang returned to Paris and wrote a short passage in his diary:

Although the medicine chambers of the West are called medical shops, but there is no *materia medica* inside. One only sees gigantic glass bottles displayed in an orderly way at the shop windows, and the contents are red, green, blue, or yellow in color. At night, they are dazzling when lit up with light. It is said that the shops only sell pills, waters, tinctures, powders, and ointment preparations that they made, and there is no such thing as our decoction pieces (*yin pian*).²

Zhang's casual observation on Western pharmacies provides an interesting point of comparison with Matteo Ricci's description of medicine in China I cited at the beginning of this dissertation. The materiality of drugs is featured prominently in both accounts, and yet neither traveler based their judgment of the soundness of a country's medicine on what their medications looked like.

The situation began to change rapidly towards the end of the nineteenth century, as reform-minded critics came to see traditional medicine as ineffectual, and the differences of Chinese and Western remedies also took on not just formal, but *ontological* significance.³ Later on in the early twentieth century, criticism of traditional medicine

¹ Knight Biggerstaff, *The Ch'ung-Hou Mission to France, 1870-1871* (Tientsin, 1935).

² Zhang Deyi, *San shu qi* (The Third Account of Wonders), *juan* 5. During the mission's yearly sojourn in Paris, Zhang kept a diary of their daily activities, including his first-hand witness of the Paris Commune, which he referred as rebel of the "red-head partisans (Ch: 紅頭黨)."

³ See for instance the influential intellectual Zheng Guanying (1842-1922)'s comments in *idem*, "On the Way of Medicine," in *Qing jingshi wen san bian*, *juan* 6.

being ineffectual gained momentum as a powerful metaphor for the push toward national reform in writings of progressive authors such as Lu Xun.⁴ Building on earlier missionary work on the Chinese *bencao* literature, the British pharmacist Bernard E. Read (1887-1949) began to create a complete translated index and reference list for Chinese medical substances, a project that was to outlast his long career in China for the next forty years.⁵ Under the young Republic of China, a new generation of Chinese botanists and pharmacologists joined in the massive project of bringing Chinese *bencao* in line with the modern classification of organisms, substances, and disciplines. Zhao Yuhuang (Ch: 趙燠黃), a young pharmacologist trained in Japan, visited the annual medical market in Qizhou and surveyed several hundreds of substances available for sale.⁶ In 1930, the first modern pharmacopeia came out under the supervision of the Harvard-trained doctor and Minister of Health, Liu Jui-heng (Ch: 劉瑞恆). In his vision, the pharmacopeia was to only include substances and crude drugs congruent with international standard at that time.⁷ It was not until thirty years later that substances in traditional *materia medica* returned to the national pharmacopeia as a separate volume

⁴ Lu Xun, “Preface to the first collection of short stories, *Call to Arms*” in *Selected Stories of Lu Hsun*, trans. Yang Hsien-hi and Gladys Yang, (New York, Oriole, 1972).

⁵ Read taught at the Rockefeller-sponsored Peking Union Medical College since 1909, before moving on to work for the Henry Lester Institute in Shanghai in the 1930s. Bernard E. Read and Liu Ju-ch’iang, *Bibliography of Chinese Medicinal Plants from the Pen Ts’ao Kang Mu* (1596 A. D.), Peking, Dept. of pharmacology, Peking union medical college, in collaboration with the Peking laboratory of natural history, 1927.

⁶ Zhao was actively involved in wartime production of pharmaceuticals in the 1930s and 1940s, and his work remains influential for pharmacologists working with crude drugs of TCM today. Zhao Yuhuang, *Zhongguo xin bencao tu zhi* (New Illustrated Materia Medica of China), Institute of Chemistry, Academia Sinica, 1931. Also idem., *Qizhou yao zhi* (An account of medicines at the market fair of Qizhou).

⁷ *Zhonghua yaodian* (Pharmacopeia of China), 1930.

under the People's Republic.⁸ For the first time in history, the ontological chasm between “Chinese” and “Western” medicine now came to be embodied in parallel institutions and classificatory schemes.⁹

How, then, do I propose to revise this familiar narrative of bifurcation? In the preceding chapters, we have followed *materia medica* into disparate realms of actors and activities in late imperial China: authors wrote and sought to publish *bencao* books; philosophers and physicians debated the usefulness of a rational pharmacy. The imperial state sought to collect its medicines from local people, while later acquiesced to rely on long-distance trade run by merchant groups. As doctors and pharmacists competed to assure customers of the material worth of their service, notions of expertise and efficacy came to be re-imagined in the Qing medical marketplace. Taken as a whole, this dissertation thus highlights the central role of drugs in the organization of healing in Chinese society *prior to* the 20th century chasm between “tradition” and “modernity.” Looking at the ways in which drugs are assembled - in textual discourse or socio-economic exchanges - not only opens up a productive venue for historical inquiry into everyday life, but also reminds us of the historicity of tradition itself. Specifically, I would like to highlight again the transmission and interpretation of *bencao* knowledge in the late Ming and Qing (Part 1), the consolidation and expansion of interregional trade under state demand and market formation (Part 2), and the ultimate tendency of *bencao*

⁸ *Zhonghua renmin gongheguo yaodian* (Pharmacopeia of People's Republic of China), 1963. Part I includes 446 kinds of Chinese *materia medica* and 197 compound medicine; and Part II included 667 kinds of chemical, antibiotic, and other Western medicine ingredients. This was not the first pharmacopeia made under the PRC; the 1953 edition resembles the Nationalist 1930 pharmacopeia in content and structure.

⁹ Nathan Sivin, *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, 1987).

to evolve from elite culture toward a plebeian but increasingly homogeneous “urban culture” in the eighteenth century (Part 3).¹⁰ No matter what stance one might like to take in the symbolic confrontation between biomedicine and TCM today, it remains true that *both* sides entail a set of institutions and practices embedded in the political, economic, social, and ecological conditions. In other words, the late imperial period constitutes a critical formative stage for traditional Chinese medicine to exist as it does today.

Armed with this history, we can now better understand the extremely polarized image of Traditional Chinese Medicine (TCM) in today’s world of healing. On the one hand, ingredients of Chinese medicine, especially herbals, have attracted massive followings in China and abroad as an allegedly “natural” and harmless alternative to the now-notorious overuse of chemical and antibiotic drugs since the 1970s. As centers of holistic herbal healing mushroomed in urban centers around the globe, critics of TCM have increasingly drawn international attention to the “dark side” of its medication. Celebrities such as the Duke of Edinburgh have repeatedly denounced the excessive consumption of animal drugs in TCM, as an estimated £12 billion worth of wildlife products was illegally sold to China as medicinal ingredients, threatening many species already on the verge of extinction, such as the tiger and rhinoceros.¹¹ The farming of black bear and the cruelty involved in the extraction of bile from living animal, has also

¹⁰ My observation of medicine echoes Susan Naquin and Evelyn Rawski’s insight, that many forms of elite literati arts “were nearly swamped in the sea of eighteenth-century urban culture.” See Susan Naquin and Evelyn Rawski, *Chinese Society in the Eighteenth Century* (New Haven: Yale University Press, 1987), 72. Also see Ginger Hsu’s discussion of transition from literati culture to “national culture,” in *idem.*, *A Bushel of Pearls: Painting for Sale in Eighteenth-Century Yangchow* (Stanford, CA: Stanford University Press, 2001).

¹¹ “Duke of Edinburgh hosts talks with on threat to wildlife posed by traditional Chinese medicine”, *Telegraph*, January 13, 2013.

provoked recent public outrage both in China and overseas.¹² While both sides seem to have grasped some indisputable reality, taken together, the Janus-faced image of TCM is well worth pondering: How can the same kind of medicine be both vegetarian and carnivore, peaceful and violent, progressive and backward, while embodying a human-environment relationship that is at the same time harmonious and exploitative?

My response to the apparent contradiction would be that we need a more sophisticated understanding of both materiality of medicine and culture itself. The praise and criticism both take a partial reading of what was considered the “essence” of Traditional Chinese Medicine, without considering whether the claims were historically realized in social practices at all. A corollary from my study of drugs in late imperial China thus shows how materiality refuses to be subsumed as a crystallized form of “material culture,” or the perfect embodiment of a set of ideas. To grasp the operative experiences of medicine, my findings indicate that we must go back and forth constantly between texts and objects, the public and the proprietary domains of society, and the purest distillations of cosmological thought and the profit-driven reckoning of the medicine men. In the end, a drug-centered history of medicine in late imperial China eventually leads to a understanding of materiality as moving assemblages of cultural (semiotic), economic and social conditions, a notion resonant with the so-called “material turn” in contemporary cultural theory and humanities.¹³ The way out of the ideological

¹² Hundreds of black bears have been “rescued” and kept in NGO care centers, and many pharmaceutical companies were forced to close down their bile farms. See Mark McDonald, “Finally, Outrage in China Against Bear Farming”, *International Herald Tribune*, February 20, 2013.

¹³ Tony Bennett and Patrick Joyce eds. *Material Powers: Cultural Studies, History and the Material Turn* (London: Routledge, 2010) Introduction, 1-21. The thrust of the “material turn” is an anti-Hegelian one, which argues that the dichotomy between matter and idea, and the subjugation of the former under the latter (or the Marxist reversal of it) have ceased to be productive in understanding. Also see Bruno Latour,

confrontation between cultural systems of healing thus lies first and foremost in questioning any essentialist reading of “culture,” and in recognizing both as resulting from the interpenetration of disparate spheres of practice. In the broadest sense, we must never cease to reflect on how to live and how to heal, with medicines serving as the bridge between the world and ourselves.

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