

## The Problem with Common Physicians and its Solutions in the Northern Song Stephen Boyanton

These five [difficulties in the practice of medicine] are [here] merely stated in outline. Their subtlety reaches the point that speech cannot express it; their details reach to the point that writing cannot record them. How can vulgar people easily speak of medicine! 此五者，大概而已，其微至於言不能宣，其詳至於書不能載，豈庸庸之人而可以易言醫哉！

—Shen Gua (沈括, 1031-1095), *Excellent Formulas of Su and Shen (Su Shen liang fang 蘇沈良方*, early 11<sup>th</sup> c.)<sup>1</sup>

As for where medicine comes from, it all has its source in the two books of the Divine Farmer and the Yellow Emperor. It is profound and subtle. There is nothing which does not tally with the principle of yin and yang, the five phases, dissolution and growth, nor fail to accord with the mutually complementary ways of ruler and minister. Therefore, it is not something into which the vulgar or common can delve.

夫醫藥之來，皆源於農黃二書。其奧博微妙，莫不符契陰陽五行消長之理，脗合君臣相與之道，則固非庸流俗輩所能鉤索之也。

—Meng Zhen 孟震 (fl. late 11<sup>th</sup> c.), *Essential Formulae for Travelers (Lüshe beiyao 旅舍備要方*, 1093)<sup>2</sup>

The two authors quoted above are typical of Northern Song (960-1127) elite writing on medicine. Central to elite thought on medicine at the time was anxiety regarding the extreme complexity of illness and healing and a conviction that the typical medical practitioner of their day was hopelessly inadequate to face that complexity. This anxiety and conviction were not new. Northern Song writers on medicine could look back to a long tradition of similar complaints; however, Northern Song medical anxiety differed from its predecessors both in the frequency with which it was voiced and in the sustained nature of the efforts made by both the imperial government and private individuals to remedy the situation.

The Northern Song elite were experiencing a crisis of trust in the literate medicine of their times, and their efforts to solve this crisis reshaped the medical landscape of their society in profound ways. The solutions developed by Northern Song medical authors envisioned radical and to varying degrees incompatible reworkings of medical thought and practice, which would continue to interact with one another until the Yuan dynasty (1271-1368).

This paper falls into two parts. Part One begins by presenting the medical worries and complaints that troubled the Northern Song literati and the figure around which their anxiety

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<sup>1</sup> Author's preface, in Su Shi and Shen Gua, *Su Shen neihan liangfang*, ed. Song Zhenmin and Li Enjun (Beijing: Zhongyi Guji Chubanshe, 2009), 3. This preface comes from the no longer extant *Excellent Formula Collected by Shen (Shen cunzhong liangfang 沈存中良方)* which dates to ca. 1090. All translations and punctuation of Chinese texts my own unless otherwise specified.

<sup>2</sup> Preface, in *Siku Quanshu, Wenyuange, Dianziban*, digital ed. (Taipei: Zhongwen Daxue Chubanshe, n.d.), 4.

clustered: the common physician (*shiyi* 世醫).<sup>3</sup> I then examine the broad intellectual crisis of the Northern Song of which the medical crisis of trust was but one facet. Part Two opens with an analysis of the three methods proposed to solve the medical crisis of trust. I argue that these solutions offered radically different proposals for the reformation of medical learning and practice and the elite's relation to both. While not wholly incompatible, the three proposals differed sufficiently to render any simple synthesis of them impossible. In the absence of any means of deciding between the solutions offered, the Northern Song bequeathed to succeeding eras three separate, though interacting, approaches to literate medicine

## **PART ONE: The Northern Song Crisis of Trust in Medicine**

### Northern Song Elite "Interest" in Medicine

It has become something of a historical cliché that the Song elite were interested in medicine. Qing dynasty (1644-1911) observers were already aware of this anomaly in elite intellectual activity.<sup>4</sup> More recently it has become the subject of an entire book, and a key issue in others.<sup>5</sup> This interest has generally been read as a sign of the high or at least rising status of literate medicine among the elite,<sup>6</sup> but social historical research has tended to question such conclusions.<sup>7</sup> An examination of the motives behind those statements and actions which are seen as reflecting a rise in the status of medicine reveals a more complicated picture: medicine, as a topic of curiosity or even of serious study, had become more interesting to Song intellectuals; physicians, on the other hand, were generally despised.

Some of the evidence for the high status of medicine in the Song results from misreading later stories backward into the Northern Song. One such story, which in fact dates from the Southern Song (1127-1279), purports to relate an incident from the childhood of the Northern Song prime minister, Fan Zhongyan (范仲淹, 989-1052). In this story, Fan is said to have asked an oracle whether he will be able to rise to the position of prime minister. On receiving a negative answer, he proceeded to ask if he would be able to become a good physician. On again receiving a negative answer he became despondent about his future. When questioned by his relatives as to why he wished to become a physician, he responded,

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<sup>3</sup> The traditional translation of this term as "hereditary physician" is clearly incorrect. Many such physicians were not members of medical family lineages. Authors often urged their readers not to trust a physician whose family had been practicing medicine for less than three generations, attesting to the fact that many physicians did not have such pedigree. The translation "occupational physician" is also overly specific since some members of the Song elite took up medicine as an occupation, but were never called *shiyi*. I chose the translation "common physician" to avoid these errors and capture the conflation, common among the Song elite, between social status and medical skill. E.g., physicians like Qian Yi (錢乙, ca. 1035-1117) and Pang Anshi (龐安時, 1042-1099), whose families were *shiyi*, were no longer referred to as such once their status as learned doctors was accepted among the elite, and I have found no instance of a literatus who practiced medicine being referred to as a *shiyi* even in heated disputes.

<sup>4</sup> Jiang Chaobo (蔣超伯, 1820-1875), *Nanchun Kuyu* 南澗樞語, *juan* 6, in Tao Yuefeng, ed., *Biji zazhu yishi bielu* (Beijing: Renmin Weisheng Chubanshe, 2006), 2.

<sup>5</sup> E.g., Chen Yuanpeng, *Liang song de "shangyi shiren" yu "ruyi"* (Taipei: Wenshi Congkan, 1997); Asaf Goldschmidt, *The Evolution of Chinese Medicine: Song Dynasty, 960-1200* (New York: Routledge, 2008).

<sup>6</sup> Joseph Needham and Lu Gwei-Djen, "Medicine and Chinese Culture," in *Clerks and Craftsmen in China and the West* (Cambridge: Cambridge U.P., 1970), 265; Joseph Needham and Lu Gwei-Djen, "China and the Origins of Qualifying Examinations in Medicine," in *Clerks and Craftsmen in China and the West: Lectures and Addresses on the History of Science and Technology* (Cambridge: Cambridge U.P., 1970), 391-395; Goldschmidt, *Evolution*, 19.

<sup>7</sup> Robert Hymes, "Not Quite Gentlemen? Doctors in Sung and Yuan," *Chinese Science*, no. 8 (1987): 9-76.

The ancients had a saying, “[The Sage is] always good at rescuing people, and therefore no one is forsaken; always good at rescuing the world, and therefore nothing will be cast aside.”<sup>8</sup> ... As to being able to reach the great and the small among the people, admittedly, only a prime minister can do so, but that was already unattainable. So, for being able to realize the intention of rescuing people and benefiting the world, none compare with a good physician.<sup>9</sup>

古人有云：“常善救人，故無棄人，常善救物，故無棄物。”... 能及小大生民者，固惟相為然，既不能得矣。夫能行救人利物之心者，莫如良醫。

Later authors would summarize the moral of this story with the phrase “If you cannot be a good minister, then be a good physician (不為良相，則為良醫, or variations to that effect).”<sup>10</sup> This phrase has since been attributed to Fan by several modern scholars.<sup>11</sup> It does not, however, appear in his collected works.

The more substantive argument for a rising status of medicine during the Song is based largely on the actions of the imperial government and some of its chief representatives. The early emperors of the Song dynasty were said to possess not only interest in medicine but also competence in its practice. They sponsored the composition of several medical texts, on some of which they bestowed imperial prefaces.<sup>12</sup> Later Northern Song emperors sponsored the editing and publication of famous medical texts, the composition of a number of innovative medical texts, and the establishment official medical schools, an imperial pharmacy, a medical examination system, and a hierarchy of imperial medical officials designed to parallel the prestigious civil bureaucracy with its schools and examination system.<sup>13</sup>

These developments clearly reveal that medicine was an important preoccupation of the Song imperial government, but they do not of themselves demonstrate that the status of medicine was high. On the contrary, were the status of medicine already elevated, there would have been no need for government intervention. The Northern Song government’s<sup>14</sup> persistent concern with medicine indicates, rather, a desire to raise the status of medical practice and therefore suggests that medicine remained a low-status occupation in the eyes of the elite.

<sup>8</sup> This is a quote from the *Daode jing*, chapter 27. A more literal translation would read, “[The Sage is] always good at saving people, and therefore no one is rejected; always good at saving things, and therefore nothing is rejected,” e.g. Laozi, *The Way of Lao Tzu (Tao-Tê Ching)*, trans. Wing-tsit Chan (Indianapolis: Bobbs-Merrill, 1963), 146. Other Song authors, however, use the phrase “*jiushi* 救事” to indicate ensuring that situations turn out as positively as possible, e.g. “Since I already made rescuing the world my intention... (予既以救物為心...)” *Puji benshifang*, author’s preface, in Xu Shuwei, *Xu Shuwei yixue quanshu*, ed. Li Jushuang and Liu Jingchao (Beijing: Zhongguo Zhongyiyao Chubanshe, 2006), 83).

<sup>9</sup> Wu Zeng 吳曾, *Neng gaizhai manlu* 能改齋漫錄, *juan* 13, in Yufeng Tao, ed., *Biji zazhu yishi biele* (Beijing Shi: Renmin Weisheng Chubanshe, 2006), 738.

<sup>10</sup> E.g., Wu Weiye 吳偉業, 1609-1671, *Meicun jiacang gao* 梅村家藏稿, 44.2a, in *Sibu Congkan*, Electronic ed. (Beijing: Beijing Shutongwen Shuzihua Jishu Youxian Gongsi, 2010).

<sup>11</sup> E.g., Charlotte Furth, *A Flourishing Yin Gender in China’s Medical History, 960-1665* (Berkeley: University of California Press, 1999), 63; Goldschmidt, *Evolution*, 44.

<sup>12</sup> Goldschmidt, *Evolution*, 22–26.

<sup>13</sup> *Ibid.*, 31–40, 46–57; Miyashita Saburō, “Sō Gen No Iryō,” in *Sō Gen Jidai No Kagaku Gijutsushi*, ed. Yabuuchi Kiyoshi (Kyōto: Kyōto Daigaku Jinbun Kagaku Kenkyūjo, 1967), 134–157.

<sup>14</sup> The medical reforms were actually instituted by activist regimes and were opposed by the conservative faction at the time; nevertheless, since the medical reforms were among the few reforms which were not completely dismantled under conservative regimes—perhaps due to their appeal to emperors and regents alike—I will consistently refer to these reforms as the actions of the Song imperial government as a whole.

In the case of the establishment of medical schools, a medical examination, and medical officials, surviving evidence indicates that the government's intention was indeed to raise the status of medicine in order to attract elite men to its practice. Fan Zhongyan, under whose auspices the medical schools were first established, mentioned the deplorable state of doctors in the memorial suggesting their establishment:

At the present, the capital's population is one million, [with only] a thousand some-odd physicians. Most of them learned their skills informally, and have not undergone instruction by a teacher. Their errors, harming human lives, occur on a daily basis.<sup>15</sup>  
 今京師生人百萬，醫者千數，率多道聽，不經師授，其誤傷人命者，日日有之。

Furthermore, from its inception, application to the medical school required an official statement on the applicant's family background. Although the exact purpose of this statement is not specified, a similar system was used in the civil service examination to exclude sons of merchants, peasants, and criminals.<sup>16</sup> The medical schools were therefore not created to improve the status of existing non-elite physicians, but rather to encourage elite men to become physicians. By the late Northern Song, the government's desire to attract literati to the study and practice of medicine is even more apparent. A number of changes in the schools were introduced to ensure that their structure and position within the administrative hierarchy were as close as possible to the more prestigious schools associated with the civil service.<sup>17</sup>

The Song government was not alone in its concern about the poor quality of physicians. Complaints about doctors' errors abound in Song dynasty literature. The claim that an author became interested in medicine due to watching an incompetent physician kill a relative is so frequent in the prefaces of Song medical works that one would be tempted to discount it as a literary motif were it not for the extreme personal detail in which these stories are often told. The story Wang Gun (王袞, fl. 1047-1082) includes in the preface to his formulary is typical:

In the past, I accompanied my father, (Wang) Ren, who, on the road to Huatai, became ill at a stopover. He encountered a vulgar physician who, without investigating the pattern of his pulse, recklessly prescribed a medicinal decoction, and ultimately he did not recover from the illness. Also, my mother was frequently sick. Since this went on for many years, I devoted my leisure time to the study of medical techniques.<sup>18</sup>  
 袞曩侍家君任，滑台道次得疾，遇醫之庸者，不究其脈理，妄投湯藥，而疾竟不瘳。復又母氏多病，續有年所，袞遂因公暇潛心醫術。

It is not medicine as a field of knowledge that elicits Wang's concern. On the contrary it is precisely the complexity and subtlety of medicine that makes "vulgar physicians" so problematic. As Wang had already observed:

<sup>15</sup> *Fan Wenzhengong ji, zhengfu zouyi xia*, 40a, in *Sibu Congkan*.

<sup>16</sup> Goldschmidt, *Evolution*, 48; John W. Chaffee, *The Thorny Gates of Learning in Sung China* (New York: State University of New York Press, 1995), 53, 60–61; Robert Hymes, "Social Change," unpublished ms., forthcoming in *The Cambridge History of China* vol. 5 part 2, n.d.

<sup>17</sup> Goldschmidt, *Evolution*, 51–57.

<sup>18</sup> *Boji fang* 博濟方, author's preface, in *Siku Quanshu*, 6.

Thus, people's illnesses being many and varied, the Way of medicine cannot be grasped by means of one path alone either... Those who are ignorant of the Way [of medicine], do not meticulously grasp the symptoms. When using [medicine] clinically, they are always mistaken.<sup>19</sup>

然人之疾狀多端，醫道又不可一途取也... 昧於道者，乃不詳其證候，迨乎臨用，有誤十全。

For both the Northern Song government and members of the elite with an interest in medicine, the problem was not that medical knowledge itself was inadequate, but that the wrong kind of people were learning and practicing medicine in the wrong way.

### The Status of Physicians through the Northern Song

The treatment of illness in China was never monopolized by any one group of healers or any single therapeutic method. Home remedies, often under the direction of senior household women, were usually the first resort of a sick person. Various forms of ritual healing, whether performed by spirit-mediums, unordained specialists in various Daoist or Buddhist ritual techniques, or officially ordained clergy, remained popular among both commoners and elite in spite of the odium they occasionally attracted from the government and its representatives. A plethora of itinerant healers practicing a variety of therapies were also in regular demand. At the top of the medical status hierarchy, however, was literate medicine (*yi* 醫), which claimed descent from the legendary sage-kings of antiquity and had a textual tradition of its own to bolster its respectability.<sup>20</sup>

Throughout imperial Chinese history, however, the status of medicine as an occupation was at best debatable. Before the Song dynasty (960-1279), the vast majority of the elite considered the practice and study of medicine beneath their dignity. Even literate medicine, in spite of its “classics (*jing* 經)” and “treatises (*lun* 論),” remained overwhelmingly the province of commoners. Medical texts written by literati during this period, almost the only medical texts that have survived, serve only to confirm the rarity of their authors' interest in medicine. The preface to the *Treatise on Cold Damage* opens with regret and puzzlement over the elite's lack of interest in medicine and their resulting reliance on common physicians:

I am puzzled that the literati<sup>21</sup> living in the world today never pay attention to medicine or thoroughly study the art of [prescribing] formulae ... They take their hundred years of life, the most valuable of the important things they hold, and entrust it to common physicians who are reckless in what they do. Alas!<sup>22</sup>

怪當今居世之士，曾不留神醫藥，精究方術 ... 齎百年之壽，持至貴之重器，委付凡醫，恣其所措，咄嗟嗚呼！

<sup>19</sup> Boji fang, author's preface, in *ibid.*

<sup>20</sup> Christopher Cullen, “Patients and Healers in Late Imperial China: Evidence from the Jinpingingmei,” *History of Science* 31 (June 1993): 100–104.

<sup>21</sup> The translation “literati” may not be appropriate for the term *shi* 士 in the Han dynasty, but even at that time it referred to a social elite who participated in government. Song elite readers, at any rate, would have read it as referring to people like themselves.

<sup>22</sup> *Shanghan lun* 傷寒論, author's preface, in Zhang Ji, *Zhongjing quanshu zhi Shanghan lun, Jingui yaolue fanglun*, ed. Zhang Xinyong (Beijing: Zhongyi Guji Chubanshe, 2010), 6.

The famous Tang dynasty (618-907) literati medical author, Sun Simiao (孫思邈, d. 682), complained of the same situation:

Decadent and petty men [practicing medicine] usually act deceitfully. They rely upon the teachings of the sages to make a duplicitous profit, thus causing the literati whether of court or county one and all to scorn the name of medical practice... It is puzzling. Alas! This is profoundly contrary to the original intent of the sages and worthies.<sup>23</sup>  
末俗小人，多行詭詐，依傍聖教而為欺給，遂令朝野士庶咸耻醫術之名...可怪也。嗟乎！深乖聖賢之本意。

Like their Song counterparts, literati medical authors before the Song harbored a tremendous antipathy toward common physicians, but unlike Song medical authors, their interest in and desire to reform medicine were shared by few among their contemporaries.

In the Northern Song, common physicians were part of a social stratum that Robert Hymes has termed the *lumpenliterati*. This stratum formed as a result of profound social and technological changes occurring during the Song. As printed books became more readily available and less prohibitively expensive, a wider audience than before was able to afford both literacy and at least some books. In part this allowed the rapid expansion of the literati social stratum, but it also allowed for the development of a new social stratum comprising individuals who were literate and made their living by means of literacy, but to varying degrees lacked the culture, learning, and social networks of the elite. Hymes has pointed to religious specialists, litigation masters, and common physicians as examples of this stratum. As a group, they aroused anxiety on the part of the literati, who saw them as destabilizing forces with the potential to encroach on literati privileges and powers.<sup>24</sup>

Unlike other members of the *lumpenliterati*, doctors were able, under the right circumstances, to mingle with and befriend the elite, many of whom demonstrated a new-found amateur interest in medicine.<sup>25</sup> Su Shi's (蘇軾, 1037-1101) friendship with and admiration of Pang Anshi (龐安時, 1042-1099) is well known from Su's own jottings (*biji* 筆記),<sup>26</sup> and Su's medical writings were posthumously collected together with those of Shen Gua to form the *Excellent Formulae of Su and Shen* (*Su Shen liangfang* 蘇沈良方). Numerous other members of the elite also produced medical books or made extensive notes on medical matters in their jottings.<sup>27</sup> In spite of this increasing openness to medicine as a field of study, a willingness to associate with suitably cultured physicians, and even increasing numbers of literati men practicing medicine, it remained a largely undesirable choice of profession for the literati throughout the Song. Robert Hymes' research on Fuzhou demonstrates that medicine as a literati *career* remained rare there until the Yuan dynasty. Chen Yuanpeng has questioned the general applicability of this conclusion, noting that this research was focused on only one prefecture.<sup>28</sup> However, Hymes' argument is supported the disparaging attitudes towards medicine found in the

<sup>23</sup> *Qianjin yaofang* 千金要方, author's preface, in Sun Simiao, *Sun Simiao yixue quanshu*, ed. Zhang Yinsheng and Han Xuejie (Beijing: Zhongguo Zhongyiyao Chubanshe, 2009), 11.

<sup>24</sup> Hymes, "Social Change."

<sup>25</sup> *Ibid.*; Chen Yuanpeng, *Liang Song de "shangyi shiren."*

<sup>26</sup> E.g., Su Shi, *Su Shi sanwen quanji* (Jinri Zhongguo Chubanshe, 1996), 1702.

<sup>27</sup> Chen Yuanpeng, *Liang Song de "shangyi shiren,"* 133; Tao, *Biji zazhu yishi bielu.*

<sup>28</sup> Chen Yuanpeng, *Liang Song de "shangyi shiren,"* 32-33.

jottings literature and popular drama as well as the very efforts made by those seeking to increase the status of medicine, whether private individuals or government officials.<sup>29</sup>

### The Northern Song Crisis of Trust

Medicine was not the only field in which Northern Song thinkers displayed anxiety, doubt, and a sense of a need for new principles and practices in a changed world. The elite of the Northern Song were aware of many of the transformations occurring in their world, and some of its members sought to develop new responses to the new situations in which they found themselves. They recognized the differences separating them from their Tang dynasty forebears which made a return to the institutions, policies, and customs of the past impossible. Though often looking to the past for inspiration and guidance, they argued against slavishly imitating past solutions when dealing with present problems and actively put forward new solutions to the difficulties of their times.<sup>30</sup> The activist mentality and the many innovative reform efforts of the Northern Song have rightly been seen as indicative of an optimistic sense of the possibility of making the world better, but the roots of that mentality and those efforts lay in an anxious awareness of the presence of new and unprecedented challenges to both state and society.<sup>31</sup>

This awareness of something fundamentally new in their era is reflected most clearly in Northern Song elites' concerns regarding their identity. The changing nature of the literati social stratum destabilized elite identity, raising questions about what it meant to be a literatus and what his appropriate role was within society. Peter Bol has argued that the prodigious, innovative, and contentious output of Song statesmen and social thinkers was in large part driven by these questions, and that the ultimate success of the Learning of the Way movement (*Daoxue* 道學) was primarily due to its ability to provide satisfactory answers.<sup>32</sup> Furthermore, the limits of acceptable elite activities were in flux to such an extent that even those in the highest echelons of the elite had difficulty knowing where the boundaries might lie. If Ouyang Xiu's (歐陽修, 1007-1072) experiments in novel forms of elite involvement in the arts and literature were largely successful,<sup>33</sup> his experiments, with Fan Zhongyan, in justifying novel forms of political organization among officials collided disastrously with boundaries which proved far more solid than he anticipated.<sup>34</sup> Even the question of elite membership itself was more problematic than before. Novel social institutions, such as charitable estates to help maintain a lineage's elite position, and the revival of older social practices, such as genealogy-writing to prove a family's pedigree, reveal the degree of anxiety the elite felt about justifying and maintaining elite status.<sup>35</sup>

<sup>29</sup> Hymes, "Not Quite Gentlemen?," 51–56. My own research, as seen in this paper, has revealed further confirmation of the Northern elites' distrust of common physicians.

<sup>30</sup> Peter Bol, *Neo-Confucianism in History* (Cambridge: Harvard University Asia Center, 2008), 7–8; Robert Hymes and Conrad Schirokauer, eds., "Introduction," in *Ordering the World: Approaches to State and Society in Sung Dynasty China* (Berkeley: University of California Press, 1993), 40; Thomas H. C. Lee, ed., "Introduction," in *The New and the Multiple: Sung Senses of the Past* (Hong Kong: Chinese University Press, 2004), xxi–xxiv.

<sup>31</sup> Hymes and Schirokauer, "Introduction," 1–3.

<sup>32</sup> Peter Bol, *"This Culture of Ours": Intellectual Transitions in T'ang and Sung China* (Stanford University Press, 1994), 334.

<sup>33</sup> Ronald C. Egan, *The Problem of Beauty: Aesthetic Thought and Pursuits in Northern Song Dynasty China* (Harvard University Asia Center, 2006), 7–59, 109–161.

<sup>34</sup> Ari Daniel Levine, *Divided by a Common Language: Factional Conflict in Late Northern Song China* (University of Hawaii Press, 2008), 10, 47–56.

<sup>35</sup> Chaffee, *Thorny Gates*, 161–162; Hugh R. Clark, "Reinventing the Genealogy: Innovation in Kinship Practice in the Tenth to Eleventh Centuries," in *The New and the Multiple: Sung Senses of the Past*, ed. Thomas H. C. Lee (Hong Kong: Chinese University Press, 2004), 237–286; Robert Hymes, "Marriage, Descent Groups, and the

Disputes over the elite status-claims of families, and the privileges that went with such claims, reached the courts of local magistrates, and examination candidates protested the participation of men whose family background they deemed unfit—whether the sons of wealthy merchants or members of the *lumpenliterati* trying to edge their way in.<sup>36</sup> The dangers and opportunities produced by these uncertainties stimulated both anxiety and a remarkable outpouring of efforts to resolve the pressing questions surrounding elite identity.

Solutions, however, were more easily conceived than agreed upon. Peter Bol describes what he terms a “crisis of culture” beginning in the late 8<sup>th</sup> century. At the core of this crisis lay a separation between cultural forms (*wen* 文) and the Way (*Dao* 道) or moral values. A series of failures on the part of the Tang government, most notably the disastrous An Lushan rebellion and the government’s inability to reestablish effective central rule thereafter, convinced many scholars that imitating ancient and revered cultural forms did not necessarily bring the desired results. The scholars who sought to remedy this situation turned to a personal understanding of the Way as the missing component in restoring the efficacy of cultural forms—in particular, of writing (*wenzhang* 文章)—in transforming the individual and society. In emphasizing the importance of personal understanding, however, these thinkers undermined the possibility of the shared values necessary to their goal of restoring a normative social order.<sup>37</sup> The ramifications of this collapse of shared norms reverberated throughout the Northern Song, with each social thinker or statesman identifying a different source for shared values. As Conrad Schirokauer and Robert Hymes have noted, a common feature of Song social thought was a concern for the “nature and locus of authority.”<sup>38</sup> More specifically, this issue resolved into two related questions: what were the sources or grounds of authority and in what type of individual or group could this authority be vested.<sup>39</sup>

The crisis that Bol describes, however, was not limited to revered cultural forms, debates held at court, or the highest echelons of society. The quotes from elite medical texts cited above display anxiety over the grounds of medical authority and the qualities of the proper doctor. Likewise, the arguments over who was and was not a member of the elite reveal similar concerns about the grounds of elite identity and the characteristics which should distinguish the elite from others. Moreover, worries about the grounds of trust and the identification of trustworthy individuals even reached into mundane aspects of life. In an analysis of material found in the jottings of Hong Mai (洪邁, 1123-1202), Robert Hymes finds such worries in discussions of religion, marriage, business transactions, and many other areas. The frequency of these anxieties led him to argue for a, “pervasive concern with truth, falsity, fakery, and pretense in Song elite and commoner culture.”<sup>40</sup> My own study of the medical jottings literature supports this suggestion: the most common medical jottings from the Song are complaints about betrayals by doctors and pretense on the part of the new medical officials.<sup>41</sup> The crisis of culture that Bol discusses was a pervasive feature of Song intellectual life at least among the literati elite, and

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Localist Strategy in Sung and Yuan Fu-Chou,” in *Kinship Organization in Late Imperial China, 1000-1940*, ed. Patricia Buckley Ebrey and James L. Watson (Berkeley: University of California Press, 1986).

<sup>36</sup> Hymes, “Social Change.”

<sup>37</sup> Bol, *This Culture of Ours*, 109.

<sup>38</sup> Hymes and Schirokauer, “Introduction,” 36.

<sup>39</sup> *Ibid.*, 37.

<sup>40</sup> Robert Hymes, “Truth, Falsity, and Pretense in Song China: An Approach through the Anecdotes of Hong Mai,” in *Zhongguo Shixue Di 15 Juan*, 2005, 23.

<sup>41</sup> E.g., Shen Gua, *Mengxi biji*, *juan* 1, in Tao, *Biji zazhu yishi biele*, 1; Hong Mai (洪邁, 1123-1202), *Yijian zhi* 夷堅志, *ding zhi*, “*Wu zhi sha ren*,” in *ibid.*, 739–740; *Yijian zhi*, *geng zhi*, “*Yongyi sha ren*,” in *ibid.*, 740–741.

perhaps reaching into the lower social strata as well. Why were the issues of trust, doubt, and the need for authoritative knowledge so prevalent in Song writing?

The importance of trust in social order has been remarked upon since antiquity.<sup>42</sup> Discussions of the role of trust in the production of knowledge, though far more recent, are by no means new. Writing in the 19<sup>th</sup> century, Georg Simmel observed:

... existence rests on a thousand premises which the single individual cannot trace and verify to their roots at all, but must take on faith. Our modern life is based to a much larger extent than is usually realized upon the faith in the honesty of the other. Examples are our economy, which becomes more and more a credit economy, or our science, in which most scholars must use innumerable results of other scientists which they cannot examine.<sup>43</sup>

Likewise, the pragmatist philosopher, William James, noted that, “Truth lives, in fact, for the most part on a credit system.”<sup>44</sup> More recently, the trust-dependent nature of knowledge has become an important issue in science studies. Speaking from a philosophical point of view, John Hardwig argues that, since it is impossible for any individual to verify all of the data upon which any but the simplest conclusions rest, “The trustworthiness of members of epistemic communities is the ultimate foundation of much of our knowledge,” and therefore, “In order to qualify as knowledge (or even as rational belief), many epistemic claims must meet ethical standards. If they cannot pass the ethical muster, they fail epistemologically.”<sup>45</sup> In the words of Steven Shapin, speaking from the point of view of social history, knowledge depends on a “moral economy” of trust, and such a moral economy can only be created and maintained by a community.<sup>46</sup>

Communities, however, are dependent for their existence upon social order, and social order, in its turn, is dependent upon trust. Trust is thus constitutive of and produced by the community, and any serious disruption to social order threatens production of knowledge by disrupting the moral economy of trust.<sup>47</sup> Solutions to such crises of trust must address both social order and the validity of knowledge. A new moral economy of trust must be formed by creating a community which shares a consensus about what sources of knowledge are reliable and which individuals or groups are trustworthy wielders of those sources; hence, as Steven Shapin and Simon Schaffer observe, “Solutions to the problem of knowledge are solutions to the problem of social order.”<sup>48</sup>

The momentous changes occurring in all areas of life from the late Tang through the Song—particularly the radical changes in the composition, status, and justification of the elite

<sup>42</sup> Steven Shapin, *A Social History of Truth: Civility and Science in Seventeenth-Century England* (Chicago: The University of Chicago Press, 1995), 8–15.

<sup>43</sup> Georg Simmel, *The Sociology of Georg Simmel* (New York: Free Press, 1964), 313.

<sup>44</sup> William James, *Pragmatism and The Meaning of Truth* (Cambridge: Harvard University Press, 1978), 100.

<sup>45</sup> John Hardwig, “The Role of Trust in Knowledge,” *The Journal of Philosophy* 88, no. 12 (December 1991): 694, 708.

<sup>46</sup> Shapin, *A Social History of Truth*, 22–27, 34–36.

<sup>47</sup> Steven Shapin and Simon Schaffer, *Leviathan and the Air-Pump: Hobbes, Boyle, and the Experimental Life*, Reprint (Princeton: Princeton University Press, 2011), 283–298; see also Diego Gambetta, “Mafia: The Price of Distrust,” in *Trust: Making and Breaking Cooperative Relations*, ed. Diego Gambetta (New York, NY, USA: B. Blackwell, 1988), 158–175, which discusses the consequences of a breakdown in trust, but focuses on issues other than knowledge-production.

<sup>48</sup> Shapin and Schaffer, *Leviathan and the Air-Pump*, 332.

social stratum— disrupted the economy of trust within Chinese elite society. The resulting crisis was felt in many different sectors of society, and the attempts to remedy this crisis created a period of intellectual and social foment. In view of breadth of this crisis, I follow Shapin and term it a crisis of trust, rather than a crisis of culture.

In the sphere of medicine, the crisis of trust among the elite was as severe as it was in spheres of literary learning and statecraft. Northern Song medicine witnessed a period of intense competition as differing approaches were put forward by elite authors to resolve the crisis of trust. The solutions offered differed in fundamental ways, but they were in agreement on one point: the condemnation of common physicians.

### The Problems with Common Physicians and their Medicine

In the case of medicine, the Song elite's anxiety was no doubt heightened by the increasing numbers of epidemics with which they were threatened.<sup>49</sup> The perceived inability of common physicians to deal with the new illnesses may have increased the opprobrium with which they were viewed by the Song literati, but while elite authors were aware of certain aspects of their new epidemiological situation, they placed responsibility for the failure of medical treatment squarely at the feet of common physicians.

*Lumpenliterati* physicians might look (to an outsider) quite similar to members of the literati. They were literate, and their medical practice was based on the study of texts, but their literacy, their relationship with texts, and their ethical standards all differed from those of the literati as they were coming to define themselves. It was on precisely these points that Song elite medical authors criticized them. Not only were their medical practices and understanding impugned, but their methods of learning, business practices, and personal character were also maligned.

Unfortunately, while traces of what appear to be common physician practices and formulae are found in Northern Song elite medical texts, they are never explicitly identified as such.<sup>50</sup> Furthermore, physicians like Qian Yi (錢乙, 1035-1117) and Pang Anshi, who may have come from a *lumpenliterati* background, only wrote books after they had been accepted in elite society. Both what they chose to write and how it was received were therefore altered. The only surviving evidence of Northern Song common physicians' ideas and practices, therefore, are the criticisms elite medical authors leveled against them. While such sources must be used with caution, there are reasons to believe that what they report is basically accurate: first, many of their criticisms are not found in elite criticisms of physicians before the Song; second, the criticisms are consistent without repeating one another; third, they are consistent with what little we do know of the practices of physicians prior to the Song; and fourth, they are consistent with some of the idiosyncrasies found in early Song medical texts (before the Bureau for Revising Medical Texts began its publications) and texts by figures like Qian Yi and Pang Anshi, whose families were common physicians. Finally, even if these criticisms are not accurate portrayals of

<sup>49</sup> Asaf Goldschmidt, "Epidemics and Medicine during the Northern Song Dynasty: The Revival of Cold Damage Disorders (Shanghan)," *T'oung Pao* 93, no. 1 (March 2007): 53–109; A. Morabia, "Epidemic and Population Patterns in the Chinese Empire (243 BCE to 1911 CE): Quantitative Analysis of a Unique but Neglected Epidemic Catalogue," *Epidemiology and Infection* 137, no. 10 (June 4, 2009): 1361–1368.

<sup>50</sup> In the Southern Song (1127-1279), some texts would explicitly claim common physician provenance, such as *Effective Formulae from Common Physicians* (*Shiyi dexiaofang* 世醫得效方), but their contents are at the very least framed by the doctrines of the new medical canon, discussed below. It is doubtful that they are truly reflective of common physician practice, though they may have been important avenues by which certain formulae or other practices of common physicians gained entry into the new elite medicine.

how common physicians practiced in the Song, they are accurate depictions of how the elite viewed the practice of common physicians. Since the actors responsible for the medical changes I am examining were all members of the elite, it is the viewpoints of the elite which are important for this argument.

The most frequent accusation made by elite medical authors was that common physicians' approach to medicine was too facile. As suggested by the quotes which opened this paper, the elite were deeply impressed by the overwhelming complexity of illness and healing. Illnesses came in myriad forms, diagnosis required tremendous skill and experience, knowing which medicinal to use required long study, and variations in the environment due to location, the seasons, and the particular climate of a given year further muddled the picture. According to elite authors, common physicians' approach to medicine was too simple to take account of this mass of complexity.

In treating cold damage illnesses, for example, common physicians often made use of only two treatment methods, sweating and purging, and determined which was to be used according to how many days had passed since the illness commenced:

Of old, people had a saying, "For the first two days, [the illness] is in the skin. By the fourth or fifth days, it has transmitted to the organs." Therefore, when it is in the skin one can promote sweating; when it has transmitted to the organs, one can purge. Among those who today study [medicine], there are none who do not revere this as a fixed doctrine. Thus they do not realize that just as there are people who are vacuous or replete, so there are illnesses which are mild or severe; just as there are illnesses that are mild or severe, so there are transmissions which are slow or fast... Those who are good at practicing medicine should thoroughly examine the pulse in order to precisely locate the illness. That is all.<sup>51</sup>

古人有言 “一日二日在於皮膚，四日五日傳之藏府” 故皮膚之間可汗，傳藏府之間可下。世之學者未嘗不宗之為定論。然不知人之有虛實則病之有輕重，病之有輕重則傳之有遲速... 善為醫者當審察其脈，審其病之所在而已。

The famous doctor and official, Zhu Gong (朱肱, late 11<sup>th</sup>-early 12<sup>th</sup> c.), also complained of this practice:

One cannot inflexibly use day-counts [in prescribing]. Sweating, vomiting, and purging should be used according to the pattern [presented by the ill patient].<sup>52</sup>  
不可拘以日數，發汗吐下，隨證施行。

For literati medical authors, the complexity of illness demanded a more subtle approach.

According to elite authors, proper diagnosis required distinguishing many aspects of an illness, but common physicians seldom went beyond the most basic differentiations. Xu Shuwei

<sup>51</sup> Shi Kan (史堪 late 11th-early 12th c.), *Shi Zaizhi fang* 史在之方 (early 12<sup>th</sup> c.), *juan shang*, in Qiu Peiran, ed., *Zhongguo yixue dacheng sanbian*, vol. 4 (Changsha Shi: Yuelu Shushe, 1994), 468.

<sup>52</sup> *Nanyang huroren shu* 南陽活人書, *juan* 6, question 46, in Zhu Gong and Pang Anshi, *Zhu Gong, Pang Anshi yixue quanshu*, ed. Tian Sisheng (Beijing: Zhongguo Zhongyiyao Chubanshe, 2006), 54.

(許叔微, 1080-1154),<sup>53</sup> one of the most ardent critics of common physicians, provides a taste of the complexity of illness as seen by literati medical authors and the failure of common physicians to meet their standards:

I see common physicians treating cold damage and only naming it a yin pattern or a yang pattern. But Zhongjing had three yin and three yang [patterns]. Even within a single pattern there are also those that lean to surfeit and those dominated by dearth. It is necessary to clearly differentiate the character [of the illness] and in which channel is it located... Moreover, as in greater yin and lesser yin [patterns], even within a yin pattern there are [differences of] supplementing and draining. How can one stop at saying [an illness] is a yin pattern!<sup>54</sup>

予見世醫論傷寒，但稱陰證陽証，蓋仲景有三陰三陽，就一證中又有偏勝多寡，須是分明辨質，在何經絡... 且如太陰、少陰，就陰証中自有補瀉，豈可止謂陰証也哉！

At stake in the subtlety of diagnosis was the determination of correct treatment. Misdiagnosis or failure to understand the doctrines that should guide diagnosis and treatment not only made treatment ineffective, it could also directly harm the patient:

Commonly, when doctors treat cold damage illness, if they encounter [a case where] the evil *qi* is in the exterior, they do not distinguish whether the evil *qi* is shallow or deep or whether the pattern of the pulse is vacuous or abundant. They just rely on the [presence of a] floating pulse, seize on an exterior-effusing medicine, and prescribe it. Should the strength of the medicine exceed the measure, then it causes nosebleeds, spitting-up of blood, a macular rash, or contraction of the four limbs...<sup>55</sup>

凡醫者治傷寒病，遇其邪氣在表，並不分邪氣之輕重，脈理之虛盛，只憑脈浮，便將發表藥一例投之，務期汗多為快，藥力過劑，遂致衄血、吐血、發斑、四肢居攣...

In the eyes of their opponents, the simplistic diagnoses and treatments of common physicians could never manage adequately the immense complexity and subtlety of illness and healing.

A similar problem noted by elite authors was the tendency of common physicians to use formulae without an adequate grasp of when those formulae should or should not be used. Shen Gua recorded that the formula, Lesser Bupleurum Decoction (*xiao chaihutang* 小柴胡湯), was used to treat cold damage indiscriminately:

Common people merely know that Lesser Bupleurum Decoction treats cold damage. Without asking what pattern [the patient presents] they just take it. Not only does it have no positive effect, there are also those whom it harms...<sup>56</sup>

世人但知小柴胡湯治傷寒，不問何證便服之，不徒無效，兼有所害...

<sup>53</sup> Although Xu published all of his medical texts during the Southern Song, he came of age and lived most of his life under the Northern Song. This is reflected in his writing, which shows far greater similarity with Northern Song medical texts than with those of the later Southern Song. I therefore treat him as a Northern Song medical writer.

<sup>54</sup> *Shanghan jiushilun* 傷寒九十論, *zheng* 23, in Xu Shuwei, *Xu Shuwei yixue quanshu*, 62.

<sup>55</sup> Han Zhihe 韓祇和 (fl. 11<sup>th</sup> c.), *Shanghan weizhi lun* 傷寒微旨論, *juan xia*, “*Bian hanxia yaoli qingzhong pian*,” in Zhu Pangxian and Wang Ruoshui, eds., *Lidai zhongyi zhenben jicheng*, vol. 3 (Shanghai: Shanghai Sanlian Shudian, 1990), 21.

<sup>56</sup> Shen Gua, *Su Shen liangfang*, *juan* 3, in Su Shi and Shen Gua, *Su Shen neihan liangfang*, 86.

At the other end of the spectrum, one of Xu Shuwei's case records complains of common physicians' resistance to using a formula when it was appropriate:

A strong boy in the village contracted cold damage. His body was hot and his eyes ached. His nose was dry and he could not sleep. He was constipated, and all positions of his pulse were large. He had already [been sick] for a number of days. The previous evening he began to sweat profusely. I said, "Quickly use Greater Bupleurum Decoction to purge him. The assembled doctors were shocked, saying, "In a yang brightness illness with spontaneous sweating, his body fluids are already exhausted. A honey enema should be used. Why would you use Greater Bupleurum Decoction?"<sup>57</sup>

鄉里豪子得傷寒，鼻乾不眠，大便不通，尺寸俱大，已數日矣。自昨夕，汗大出。予曰：“速用大柴胡湯下之。”眾醫駭然曰：“陽明自汗，津液已竭，當用蜜兌，何故用大柴胡藥？”

Greater Bupleurum Decoction (*da chaihu tang* 大柴胡湯) is a powerful purgative formula. The other doctors' concern is that forceful purging will harm the boy, whose body fluids they believe have already been desiccated by the combination of severe fever and profuse sweating. Xu Shuwei, however, does not back down from his position:

I said, "This is one of Zhongjing's miraculous points which has not been transmitted. How would you gentlemen know about it?" I argued forcefully. Finally, they used Greater Bupleurum Decoction. After taking two doses, [the boy] recovered.<sup>58</sup>

予曰“此仲景不傳妙處，諸公安知之。”予力爭竟用大柴胡，兩服而愈。

Xu accuses his common physician opponents of being overly hesitant due to their ignorance of the correct use of this formula as discussed in its source text.

Xu's rather brusque rebuttal of his interlocutors reveals one of his primary reasons for opposing common physicians: the nature of their medical learning. Common physicians learned medicine by apprenticeship to a master. Initially, learning would take the form of observing the master, receiving oral instructions, and being guided in the memorization of texts. When the master decided the student was ready, he would transmit the actual medical texts to the student, meaning that the student would copy the texts and the master would orally impart explanations of the text's meaning. Texts were not necessarily transmitted in their entirety or in any given order; as a result, the medical texts possessed by common physicians resembled compilations more than treatises, and the full content of a medical text (in this case the *Treatise on Cold Damage*) was seldom available.<sup>59</sup> Xu's comment that, "This is one of Zhongjing's miraculous points which has not been transmitted," accuses his common physician adversaries of faulty and incomplete learning. Xu, on the other hand, based his medical knowledge on study of the original texts themselves. His commentary on this case record makes this point explicit:

<sup>57</sup> *Shangha jiushi lun, zheng* 14, in Xu Shuwei, *Xu Shuwei yixue quanshu*, 61.

<sup>58</sup> *Ibid.*

<sup>59</sup> Nathan Sivin, "Text and Experience in Classical Chinese Medicine," in *Knowledge and the Scholarly Medical Traditions* (Cambridge: Cambridge University Press, 1995), 77–86; David Joseph Keegan, "The 'Huang-Ti Nei-Ching': The Structure of the Compilation; the Significance of the Structure" (PhD Dissertation, University of California, Berkeley, 1988), 219–247.

Discussion: In discussing yang brightness [illness] Zhongjing says that in yang brightness illness, in the case of those with profuse sweating, urgently purge them. [And yet] people frequently say that when there is already spontaneous sweating, if you further purge [the patient], will this not make both their exterior and their interior vacuous?... The common people seldom read...<sup>60</sup>

論曰：仲景論陽明云：陽明病，多汗者，急下之。人多謂，已自汗，若更下之，豈不表裡俱虛也... 世人罕讀...

Xu's preferred method of learning is that of the literati: the meticulous study of texts, possibly assisted by a teacher, but ideally resulting in a direct relationship between the student and the texts studied. He holds that the common physicians' approach to learning, in which texts are secondary to a master-disciple relationship, is defective.

A final front in the war on common physicians was their purported ethical standards. The Confucian tradition had long objected to the quest for personal profit, and though Song dynasty merchants could amass great fortunes in the burgeoning economy of the times, their cultural status remained low. Although many literati families were engaged in commercial activity, they were careful to maintain their perceived status through education, marriage, and culturally appropriate displays of wealth. Similarly, elite physicians and their eulogists repeatedly emphasized the altruistic nature of proper medical practice and denounced the practice of medicine as a means of amassing profit. Common physicians practiced medicine as an occupation and, of course, expected to be paid, leaving themselves vulnerable to elite criticism. Hong Mai, writing in the Southern Song (1127-1279), recounts the story of a doctor who, having already been paid 300,000 copper coins for his services—a very substantial sum—insists on further payment before he will complete the treatment.<sup>61</sup> While this story should not be taken at face value as an accurate record of the fees paid to doctors, it does reflect elite anxiety over the possibility of extortion on the part of unscrupulous physicians. Xu Shuwei linked the desire for profit with the decline he perceived in the effectiveness of medicine over the centuries:

Why were the ancients so ingenious, while contemporary people are unable to reach [their level]? I have pondered this [problem]. The ancients used this [medicine] to save people, so heaven bestowed [medicine's] Way. Later people used this [medicine] to produce profit; therefore heaven was miserly with [medicine's] techniques and did not lightly confer them...<sup>62</sup>

何古人精巧如是，而今人之不逮也？予嘗思之。古人以此救人，故天畀其道... 後人以此射利，故天嗇其術，不輕畀予...

A further example of the ways in which practicing medicine for profit corrupted common physicians was found in the practices of secrecy surrounding their medical formulae:

The common people, when they obtain an efficacious formula or acquire an unusual technique, seal it away and keep it secret, cautiously fearing only that other people might

<sup>60</sup> *Shanghan jiushi lun*, zheng 14, in Xu Shuwei, *Xu Shuwei yixue quanshu*, 61.

<sup>61</sup> *Yijian zhi, dingzhi*, juan 10, in Tao, *Biji zazhu yishi bielu*, 741.

<sup>62</sup> *Puji benshifang*, authors preface, in Xu Shuwei, *Xu Shuwei yixue quanshu*, 83.

learn of it. This is wishing to benefit oneself only, and is not the broadly loving heart of a humane person.<sup>63</sup>

今之人，有得一效方，獲一奇術，乃緘而秘之。惕惕然惟恐人之知也。是欲獨善其身，而非仁人泛愛之心也。

Humaneness (*ren* 仁) was considered the cardinal Confucian virtue and the epitome of a true gentleman's character. To accuse a man of lacking humaneness was therefore simultaneously to state that he had no place among gentlemanly society. As Shapin noted, the boundaries of trust are identical with the boundaries of the community.<sup>64</sup> The perceived ethical shortcomings of common physicians placed them outside of the moral community that elite society was defining for itself.

The attacks on common physicians' style of learning and ethical standards reveal that beneath the varied criticisms of elite medical authors, there lay a more fundamental problem with common physicians: they were not members of the literati elite. Their knowledge of medicine was learned in non-literati ways; they held themselves to ethical standards that differed from those which the elite attributed to themselves; and the criteria by which they justified their diagnoses and treatments appeared inadequate to someone with a literati education. How could they be anything but untrustworthy?

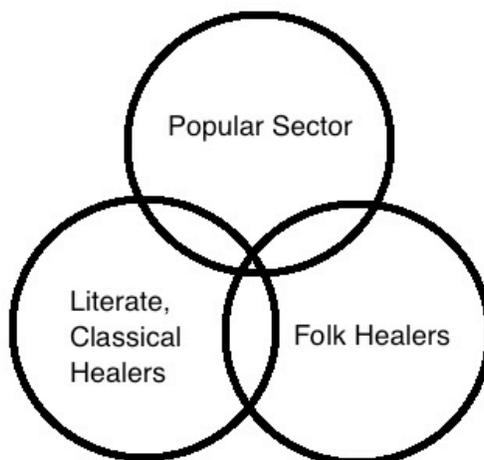
## **PART TWO: Solutions to the Crisis of Trust in Medicine**

Drawing on Arthur Kleinman's division of modern healthcare in Taiwan into three sectors, Christopher Cullen argues that healing during imperial times was divided into a three sectors: literate, classical healers who were physicians of various sorts, folk healers who practiced a wide range of ritual therapies, and a popular sector comprised of practices passed down within and among families, friends, neighbors, etc. (figure 3-1). Though he acknowledges the distinction between common physicians and literati who practiced medicine as an occupation, Cullen placed both groups within the literate, classical healers healthcare sector.<sup>65</sup> This portrayal appears to be fairly accurate before the Song dynasty, but the Song elite's concern over the poor quality, as they perceived it, of common physicians resulted in the creation of a new sector of healthcare practices within Chinese society which I term "literati medicine." Literati medicine was medicine by the elite, for the elite, and was designed to remove, as completely as possible, common physicians from elite healthcare. Cullen's principal source, the novel *Plum in the Golden Vase* (*Jinping mei* 金瓶梅, 1612), dates from the late Ming dynasty (1368-1644), by which time it is possible that common physicians had been absorbed as the lowest level of literati medical practitioners. Such was definitely not the case, however, during the Song, Jin, and Yuan dynasties. During this period, not only was animosity against common physicians high, but the very nature of literati medicine also remained contested and uncertain. For these reasons, I propose a modification to Cullen's scheme for the period of the Song through the Yuan, adding a fourth healthcare sector, "literati medicine," and renaming his "literate, classical healers" sector as the "common physician medicine" sector (figure 3-2).

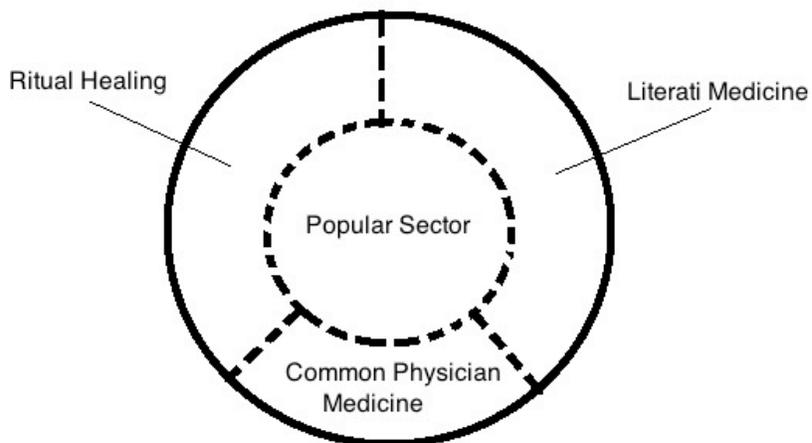
<sup>63</sup> Wang Gun, *Boji fang* 博濟方, author's preface, in Zhu Pangxian and Wang Ruoshui, eds., *Lidai zhongyi zhenben jicheng*, vol. 9 (Shanghai: Shanghai Sanlian Shudian, 1990), 1.

<sup>64</sup> Shapin, *A Social History of Truth*, 36.

<sup>65</sup> Cullen, "Patients and Healers in Late Imperial China," 100–103.



**Figure 3-1: Cullen's Chart of the Healthcare Marketplace in Late Imperial China<sup>66</sup>**



**Figure 3-2: My Modification of Cullen's Chart for the Song-Yuan**  
(In addition to dividing Cullen's "Literate, Classical Healers" sector into a "Literate Medicine" sector and a "Common Physician Medicine" sector, I have renamed his "Folk Healers" sector as a "Ritual Healing" sector in recognition of the fact that practitioners and consumers of ritual healing came from all levels of society.)

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<sup>66</sup> Adapted from *ibid.*, 103.

### Three Approaches to Resolving the Crisis

Literati medicine was created as a solution to the crisis of trust in medicine, but what form that solution should take was far from clear during the Northern Song. The methods Song elite authors proposed for improving medicine were diverse not only in the range of solutions offered as a whole, but even in the range found within a single text. Broadly speaking, three basic approaches can be found within the medical writing of this period: the collection of proven formulae, the appeal to authoritative sources, and the development of a literati-physician approach to medicine. Far from being mutually exclusive, they were used in varying combinations by most authors, the mixture often varying depending on the topic at hand. In spite of this eclecticism, most authors displayed a preference for one or the other of the solutions—a preference which I argue reflected deeper commitments regarding the ideal medical knower.

### The Characteristics of the Proven Formulae Approach

Authors who collected proven formulae held that, given the complexity of illness and its treatment, the only way to be certain of a treatment's usefulness was to have witnessed its efficacy. They therefore collected medical formulae, and occasionally other forms of medical treatment, the effectiveness of which was personally confirmed by themselves or by someone they deemed reliable. The preface to one of the earliest surviving examples, Wang Gun's *Formulae for Abundant Aid* (*Bojifang* 博濟方, 1047), explains the author's method:

I abundantly picked out secret formulae for over twenty years. The formulae that I obtained numbered over seven thousand. All of them were passed down in old family books, and I obtained them through relatives and old friends... Since I selected from among them those which are particularly essential, their therapeutic effect can be relied upon. Formularies must be proven.<sup>67</sup>

博採禁方，逾二十載矣。所得方論，凡七千餘道，皆傳之於家牒，得之於親舊... 因於其中擇尤精要者，理療可憑，方書必驗。

Wang culled his formulae from old books passed down in the families of relatives and friends. Other authors were more eclectic in the sources of their formulae. Shen Gua, in the preface to his *Excellent Formulae* (*Liangfang* 良方) states his criteria for choosing formulae:

As for what I call excellent formulae, the proof [of their effectiveness] must have been personally witnessed...<sup>68</sup>

予所謂良方者，必目睹其驗...

An examination of the sources he used includes formulae passed down within his family, formulae reported to him by others he deemed trustworthy, and formulae from well-respected medical texts whose efficacy he felt was well-established. Proof of a formula's effectiveness could be accepted second-hand or even third-hand, provided the ultimate source of the formula was a reliable individual who had personally witnessed the formula's use.

<sup>67</sup> Author's preface, in *Siku Quanshu*, 6–7.

<sup>68</sup> Author's preface, in Su Shi and Shen Gua, *Su Shen neihan liangfang*, 4; Shen Gua's *Liangfang* now only exists as a combined text including material by Su Shi 蘇軾 (1037-1101).

In the individual entries of his formulary, Shen Gua shows us what proving a formula meant to him in actual practice. Following the formula for Aconite and Schizonepeta Pill (*wujing wan* 烏荊丸), Shen states:

This medicine is particularly miraculous in treating bloody stool. One person after another has obtained good results [using this formula]. Within a single year, I have already seen several people with bloody stool take this [formula] and recover.<sup>69</sup>  
此藥療腸風下血尤妙，累有人得效，予所目見下血人服此而瘥者，一歲之內已數人。

Longer proof statements could include one or multiple case records of the formula's use or quotes reporting what Shen was told about the formula's effects.

Generally, collections of proven formulae eschewed discussions of medical doctrine. Each formula was preceded by a description of the conditions for which the formula was useful. These descriptions were often quite short:

To treat nosebleed: Japanese Thistle Powder<sup>70</sup>  
治鼻衄: 刺薊散

They could, however, be far more detailed. In any case, they are notable for the relative absence of attempts to explain the cause of the illness in terms of yin and yang, the five phases (*wuxing* 五行),<sup>71</sup> and the functions and interrelationships among organs. Precisely this sort of explanation was of great importance to proponents of the literati physician approach, and its absence in proven formulae collections is the clearest distinction between these two approaches. A comparison between the explanations provided by a proven-formulae text and a literati-medicine text will help to clarify this distinction. The first example is taken from *Essential Formulae for Travelers* (*Lüshe beiyao* 旅舍備要, 1093), by Dong Ji (董汲, fl. Late 11<sup>th</sup> c.). The second example is taken from Xu Shuwei's *Efficacious Formulae for Universal Aid* (*Puji benshifang* 普濟本事方, 1132), which, though it included proof statements for many of its formulae, remained strongly committed to a literati-physician style of learning and practice.

Pinellia Transform Phlegm Pill: Treats phlegm repletion [causing] nausea and vomiting, dizziness and a muddled feeling, heart palpitations, a cold back, soreness of the arm, coughing up of spittle, and discomfort of the epigastrium.<sup>72</sup>  
半夏化痰丸 治痰實，噁心嘔吐，頭目昏暈，心悸背寒，臂病涎嗽，膈不快。

Job's Tears Powder: Treats dampness that damages the kidney, [causing] it to fail to nourish the liver. The liver then spontaneously generates wind, thus forming wind-

<sup>69</sup> *Juan 2*, in *ibid.*, 72.

<sup>70</sup> Su Shi and Shen Gua, *Su Shen liang fang*, *juan 7* in *ibid.*, 181.

<sup>71</sup> The five phases—metal, water, wood, fire, and earth (*jin, shui, mu, huo, tu* 金、水、木、火、土)—represented five archetypal classes of activity arranged in two cycles—one of generation and one of conquest. All things could be categorized into one of the five and the relations among the five were then held to govern the relations of the things classified as well. The system was commonly applied to the relationships among organs in the body.

<sup>72</sup> *Lüshe beiyao*, in *Siku Quanshu*, 7.

dampness, which pours into the tendons and bones of the four limbs or enters the shoulder bone,<sup>73</sup> causing extreme pain in flesh, and gradually enters into the fingers.<sup>74</sup>  
 薏苡仁散 治濕傷腎，腎不養肝，肝自生風，遂成風濕，流注四肢筋骨，或入在肩  
 髃，肌肉疾痛，漸入在指中。

The proven formulae text provides more detail on symptoms, but doctrinal and causal explanation are limited to the initial statement that the illness is due to “phlegm repletion (*tanshi* 痰實).” By contrast, the literati-physician text provides slightly less detail regarding symptoms but explains causation in great doctrinal detail.

A lack of reverence for famous pre-Song medical texts often accompanied proven formulae authors’ disinterest in medical doctrine and causal explanation. Of the surviving authors Shen Gua was the most outspoken in this regard, rejecting the famous Tang dynasty medical texts by Sun Simiao and Wang Tao 王燾, though even Shen quoted with approval and occasionally at length from the Han dynasty works of Zhang Ji, which were highly revered by both common physicians and advocates of a literati-physician medicine.<sup>75</sup>

Finally, all proven formulae texts take the form of a formulary: a listing of formulae and the conditions they treat. This choice of genre reflected both the authors’ lack of interest in doctrinal discussions and their focus on what they perceived as the practical task of amassing a large number of useful formulae. Unlike the other two approaches, advocates of this approach self-consciously used the term “proven formulae (*yanfang* 驗方)” to label it, often including this term in the titles of their formularies.

### The Characteristics of the Authoritative Source Approach

Authors who relied on the authoritative source approach, as the name conveys, attempted to produce trustworthy medical texts by taking all their information from a source or sources which they deemed possessed impeccable credentials. The precise authority chosen varied widely, but three broad categories can be distinguished: famous medical texts, respected family lineages, and imperial medicine.

Texts which relied upon famous medical works took the form of a digest, selecting those formulae which the author considered the most effective or the most practical. Guo Si’s (郭思, fl. 1082-1125), *Precious Essentials of Formulae worth a Thousand Gold* (*Qianjin baoyao* 千金寶要, 1114), selected what he considered the most useful formulae from the Tang dynasty *Essential Formulae worth a Thousand Gold* (*Qianjin yaofang* 千金要方, 652). No preface for the text survives, but the selection of formulae reflects an interest in simple, easily prepared treatments.<sup>76</sup> Appeals to the authority of family lineages of medicine were apparently common. The *New Book on Children* (*Yoyou xinshu* 幼幼新書, 1150), for example, lists twelve books with titles in the form *Mr. X’s Family Transmission* (*X shi jiachuan* X 氏家傳) and three others with titles in a

<sup>73</sup> “Shoulder Bone (*jianyu* 肩髃)” is also the name of an acupuncture point (LI-15) located near the prominence of the acromion. I am inclined to read it more generally in this instance since “In the fingers (*zhizhong* 指中) is not the name of any acupuncture point.

<sup>74</sup> *Puji benshifang*, *juan* 3, in Xu Shuwei, *Xu Shuwei yixue quanshu*, 107.

<sup>75</sup> *Su Shen Liang Fang*, preface and *juan* 3, in Su Shi and Shen Gua, *Su Shen neihan liangfang*, 3, 82–83.

<sup>76</sup> Guo Si and Sun Simiao, *Qianjin Baoyao*, *Sun Zhenren Haishang Fang*, ed. Su Li, Yang Chengzu, and Jiang Xiao, *Zhongyi Guji Zhengli Congshu* (Beijing: Renmin Weisheng Chubanshe, 1986).

different form but also attributed to particular families.<sup>77</sup> More such texts are known from other sources, but very few have survived, making it difficult to generalize about their content. The final category of authoritative source—appeals to imperial authority—is known only through titles preserved in bibliographies and other sources. Judging from the relatively small number of titles recorded, it seems to have been the least common type of authoritative source text. This may be due to the fact that the Northern Song government published a large number of texts on its own initiative, making the claim to possess the “secrets” of imperial medicine ring hollow.

Due to their low rate of survival, it is difficult to generalize about texts which primarily relied on the authoritative source approach. On the basis of the small number of extant Northern Song representatives and the rather larger number of surviving Southern Song texts of this type, it is likely that their content varied widely, adhering for the most part to a format and style similar to the proven formulae texts, but sometimes invoking the doctrines and explanations found in literati-physician texts.

### The Characteristics of the Literati-Physician Approach

At the heart of the literati-physician approach was a conviction that medicine should be learned and practiced in ways which accorded with literati sensibilities and practices. Medical learning, like other domains of literati learning, was fundamentally textual. Unlike supporters of proven formulae, for whom all texts were created equal, and proponents of authoritative sources, who might choose a single text as particularly reliable, advocates of literati-physician medicine formed a canon of medical classics parallel to the canon of classical learning (*ruxue* 儒學) and composed of surviving pre-Song medical works. They saw these texts as links between themselves and the origins of medicine in the writings of the sage-emperors of antiquity—particularly the Yellow Emperor (*Huangdi* 黃帝) and the Divine Farmer (*Shennong* 神農).<sup>78</sup> Like Northern Song scholars of literary and Confucian texts, however, supporters of the literati-physician approach did not value the medical classics as mere cultural forms for imitation; rather, they sought to use the concepts and principles contained in these texts to help them uncover the root (*ben* 本) or source (*yuan* 源) of an illness, knowledge of which made a successful treatment possible:

Therefore, those who are good at practicing medicine must, once an illness has appeared, first investigate its source, determine how it was transmitted and contracted, scrutinize its generation and conquest [according the five phases],<sup>79</sup> distinguish its coolness and heat, coldness and warmth, differentiate whether it is above or below, interior or exterior, whether the true [*qi*] or the evil [*qi*] predominates, whether it is vacuous or replete... Each of these has its standard and one cannot err in the slightest.<sup>80</sup>  
故善為醫者，一病之生，必先考其根源，定其傳授，審其刑剋，分其冷熱寒溫，辨其上下內外，有真有邪，有虛有實... 各有其常而不可差之分毫也。

<sup>77</sup> Liu Fang 劉昉, *juan* 40, “*Shidafu jiachuan*,” in Qian Yi and Liu Fang, *Qian Yi, Liu Fang yixue quanshu*, ed. Li Zhiyong (Beijing: Zhongguo Zhongyiyao Chubanshe, 2005), 975.

<sup>78</sup> See, for example, *Shanghan lun*, Song editors’ preface, in Zhang Ji, *Zhongjing quanshu*, 303.

<sup>79</sup> All editions of this text read “punishment and conquest (*xingke* 刑剋),” a term which I have been unable to locate. I have translated it here as “generation and conquest (*shengke* 生剋),” the closest term which would fit the context, though a scribal error of *xing* 刑 for *sheng* 生 seems unusual. For more on the five phases see note 54 above.

<sup>80</sup> Shi Kan, *Shi Zaizhi Fang, juan xia*, “*Weiyi zonglun*,” in Qiu Peiran, *Zhongguo yixue dacheng sanbian*, 4:482.

Literati-physician medical texts are thus distinguished by a combination of reverence for the medical classics and an emphasis on doctrinal explanation for illnesses.

In terms of genre and style, the literati-physician approach's commitment to a textually and doctrinally rich form of medical learning led to far more variety than was characteristic of the other two approaches. In addition to formularies, the supporters of literati-physician medicine composed treatises on subtle points of doctrine,<sup>81</sup> collections of questions and answers for pedagogical use,<sup>82</sup> commentaries on the medical classics,<sup>83</sup> mnemonic rhymes to help students memorize the essence of the classics,<sup>84</sup> and even—for the first time in Chinese history—collections of case histories to illustrate the process of diagnosis and treatment.<sup>85</sup> In their literary diversity and sophistication, as in other ways, literati-medicine texts sought to approach the standards of elite learning and culture.

### Literati Dilettantes or Literati Physicians?: The Ideal Medical Knower

Throughout the Northern Song, the three approaches to resolving the medical crisis of trust coexisted in harmony. Their supporters did not attack one another; instead, they all participated in the joint attack on common physicians. Moreover, as noted above, there was a large degree of interpenetration among the three. Shen Gua authored what might be considered the paradigmatic collection of proven formulae but cited some of the same texts literati-medicine advocates included in their canon. Xu Shuwei was a fervid supporter of the literati-medicine approach but cited case records in support of his arguments in all but one of his four extant texts.

The overlap of the three approaches was made possible by a set of assumptions they shared in common: (1) medicine is both important and abstruse, (2) common physicians are unreliable, and (3) some new foundation of authority must be sought to validate medical knowledge and practice. The third assumption was the point on which the three approaches differed one from another, each relying on a different source of authority to resolve the medical crisis of trust. The proven formulae approach insisted that experience alone should arbitrate the value of therapeutic technique. The authoritative source approach, more modestly, looked to various widely valued authorities—famous texts, family lineages, or the imperial government—as arbiter. The literati-physician approach chose to rely on a set of texts, the medical canon they were in the process of forming. As shown by the examples of Shen Gua and Xu Shuwei, however, even on this point it remained possible to harmonize the three approaches. Experience could be shown to validate the formulae in the revered texts of the literati-physician canon, which, owing to their long-standing fame and more recent imperial publication, could easily claim to be authoritative sources of medical knowledge.

If a community of trust in medicine was to be formed, however, in addition to agreeing upon an authoritative foundation for medical knowledge, it was also necessary to agree upon what type of person could be trusted to produce medical knowledge on that basis. Who was an

<sup>81</sup> E.g. Cheng Wuji 成無己, *Shanghan mingli lun* 傷寒明理論, in Cheng Wuji, *Cheng Wuji yixue quanshu*, ed. Zhang Guojun (Beijing: Zhongguo Zhongyiyao Chubanshe, 2004), 151–192.

<sup>82</sup> E.g., Zhu Gong, *Nanyang huoren shu*, in Zhu Gong and Pang Anshi, *Zhu Gong, Pang Anshi yixue quanshu*, 1–139.

<sup>83</sup> E.g., Cheng Wuji, *Zhujie shanghan lun* 注解傷寒論, in Cheng Wuji, *Cheng Wuji yixue quanshu*, 1–150.

<sup>84</sup> E.g., Xu Shuwei, *Shanghan baizheng ge* 傷寒百證歌, in Xu Shuwei, *Xu Shuwei yixue quanshu*, 1–36.

<sup>85</sup> E.g. Xu Shuwei, *Shanghan jiushi lun*, in *Ibid.*, 51–80.

ideal medical knower? On this point, the proven formulae and authoritative sources approaches differed irreconcilably with the literati-medicine approach.

Supporters of the first two approaches assumed that common physicians would remain the primary practitioners of literate medicine. The formularies produced within these two approaches were intended as guides for home use, to avoid as much as possible the risks of consulting common physicians. The formularies produced by advocates of these two approaches were often lengthy and made no effort to facilitate retention of the contents by a student. Instead, these texts were usually organized topically—grouping formulae by the illness they treated—to facilitate searching for a remedy when it was needed, and they emphasized simple, easily prepared remedies. For the authors of these texts, the ideal medical knower was a literatus with enough knowledge of medicine to make use of formularies to treat his family and friends but who did not practice medicine as an occupation, in short, a medical-dilettante literatus. Medicine might be a dignified and even laudable interest for a literatus to cultivate, but the practice of a medicine as an occupation was still beneath the dignity of the elite.

By contrast, the proponents of the literati-medicine approach were vociferous promoters of the high status of medicine as an occupation. They argued that medical practice was not only an acceptable occupation for members of the elite but also a noble choice which provided a means of benefiting the people. The story of Fang Zhongyan's youthful desire to become a doctor, recounted above, aptly expresses the convictions of literati-physician medicine's supporters. Xu Shuwei, characteristically, surpassed even that story in his praise of the virtues of medical practice:

The Way of medicine is great. With it, one can nourish life, complete the body, fulfill [one's allotted] years, and benefit all under heaven and generations to come...<sup>86</sup>  
醫之道大矣。可以養生，可以全身，可以盡年，可以利天下與來世...

The generic breadth and innovative features of literati-physician texts reflect their authors' commitment to medicine as an occupation. They are often explicitly pedagogical elucidating fine points of theory or providing easily memorized summaries of the medical classics. The proponents of literati-physician medicine envisioned a new kind of physician, a literatus who brought the education, textual practices, and ethical commitments of the elite to the study and practice of medicine. I call such doctors literati physicians. They simply called themselves physicians (*yi* 醫 or *yizhe* 醫者),<sup>87</sup> for they saw themselves the only practitioners of the authentic medicine passed down from antiquity. Those who did not meet their standards they denigrated as vulgar doctors (*yongyi* 庸醫), common physicians (*shiyi* 世醫), or medical workers (*yigong* 醫工). Medicine was a literati occupation, and anyone who did not at least conform to the norms of elite learning and behavior was unqualified as a physician.

At the same time, literati-physician medicine's emphasis on textual learning also produced a radical change in the way physicians learned medicine. If medical learning, like the more well-established field of literary learning (*wenxue* 文學), was rooted in texts, it became possible to study medicine by oneself.<sup>88</sup> Even if one studied with a teacher, the relationship

<sup>86</sup> *Puji benshifang*, author's preface, in *Ibid.*, 83.

<sup>87</sup> In the late Northern Song, a new term *ruyi* 儒醫 would be developed. It may be translated as "literati physician" and was used to indicate a physician with the literary learning expected of a literatus, but the term was not widely used at this time, Goldschmidt, *Evolution*, 56–57.

<sup>88</sup> Chen Yuanpeng, *Liang Song de "shangyi shiren,"* 116–127.

between the teacher and the students was no longer that of master and disciple, but rather that of a classical teacher and his students. The teacher helped to explain and supplement the texts, but the primary act of learning occurred between the students and the texts themselves. It was therefore possible to study with multiple teachers simultaneously, and no bonds of secrecy were laid on the material learned.<sup>89</sup> By altering the nature of medical learning, the supporters of the literati-physician approach made the practice of medicine more palatable to the elite, for whom textual learning was the norm.

The sharpness of this distinction between the three approaches on this point is made clear by a comparison of the authors of extant Northern Song formularies (see table 3-1).<sup>90</sup> Not one author of a proven formulae or authoritative source text was a practicing physician, while all but one of the authors of literati-medicine texts are known to have been practicing physicians as well as literati. The exceptional literati-physician author, Shi Kan, was almost certainly a physician, judging by the section in his text titled, “General Treatise on Practicing Medicine (*Weiyi zonglun*),” but biographical data on him is lacking. The division into three approaches on the basis of the authority chosen as the foundation for medical knowledge thus conceals a more basic partition into two approaches characterized by the choice of ideal medical knower. If the three approaches were reconcilable in terms of their preferred source of medical knowledge, they were absolutely irreconcilable on this issue.

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<sup>89</sup> Angela Ki-che Leung, “Medical Learning from the Song to the Ming,” in *The Song-Yuan-Ming Transition in Chinese History* (Cambridge: Harvard University Press, 2003), 387; Yiyi Wu, “A Medical Line of Many Masters: A Prosopographical Study of Liu Wansu and His Disciples from the Jin to the Early Ming,” *Chinese Science*, no. 11 (1994): 44–45.

<sup>90</sup> I have limited the comparison to formularies since proven formulae authors did not work in other genres.

Formulary	Author	Approach Used	Physician?
<i>Formulae for Abundant Aid</i> , 1047 博濟方	Wang Gun 王袞	proven formulae	no
<i>Shi Zaizhi's Formulae</i> , 1085 史載之方	Shi Kan 史堪	literati-physician	probably
<i>Oral Instructions and Formulae for Pulses and Patterns from the Secret Treasure of the Family Transmission</i> , 1085 傳家秘寶脈證口訣並方	Sun Shang 孫尚	literati-physician	yes
<i>Essential Formulae for Travelers</i> , 1093 旅舍備要方	Dong Ji 董汲	proven formulae	no
<i>The Sagely Powder Formula</i> , ca. 1100* 聖散子方	Su Shi 蘇軾	proven formulae	no
<i>Excellent Formulae of Su and Shen</i> , early 12 <sup>th</sup> c.* 蘇沈良方	Su Shi, Shen Gua 蘇軾, 沈括	proven formulae	no
<i>Precious Essentials from Formulae Worth a Thousand Gold</i> , 1124 千金寶要	Guo Si 郭思	authoritative source	no
<i>All-Saving Formulae to Guide the Perplexed</i> , 1127 全生指迷方	Wang Kuang 王貺	literati-physician	yes
<i>Family Treasures for Preserving Life</i> , 1127 衛生家寶	Zhang Yong 張永	literati-physician	yes
<i>Efficacious Formulae for Universal Aid</i> , 1132 普濟本事方	Xu Shuwei 許叔微	literati-physician	yes
<i>Formulae for Universal Aid from Chicken Peak</i> , 1133 雞峰普濟方	Zhang Rui 張銳	literati-physician	yes

**Table 3-1: Extant Formularies by Northern Song Authors**

\* These medical texts of Su Shi and Shen Gua are difficult to date. They were compiled by others after the authors' deaths. Shen Gua did produce a now-lost text titled *Shen Cunzhong's Excellent Formulae* (*Shen Cunzhong liangfang* 沈存中良方, ca. 1090), and a text titled *Su Xueshi's Formulae* (*Su Xueshi Fang* 蘇學土方) was compiled ca. 1100.<sup>91</sup>

### CONCLUSION: The Unresolvable Dilemma of Song Medicine

Harry Collins has observed that in modern scientific discourse, experiment can only serve as a test to decide between propositions when it is already known what the outcome of the experiment ought to be. Otherwise, there is no way of being certain that the experiment was not invalidated by some error in its performance. If we do not know what a successful outcome to the experiment would look like—as we typically do when we wish to use an experiment to answer a question—a potentially infinite regress is produced which he terms “the experimenter’s regress.”<sup>92</sup> As he explains using the example of modern experiments designed to detect gravity waves:

<sup>91</sup> For further discussion of the problems surrounding these texts see Su Shi and Shen Gua, *Su Shen neihan liangfang*, 263–264; and Ma Jixing, *Zhongyi wenxianxue* (Shanghai: Shanghai Kexue Jishu Chubanshe, 1990), 180.

<sup>92</sup> Harry Collins, *Changing Order: Replication and Induction in Scientific Practice* (University Of Chicago Press, 1992), 83–84, 127.

What the correct answer is depends on whether there are gravity waves hitting the Earth in detectable fluxes. To find this out we must build a good gravity detector and have a look. But we won't know if we have built a good detector until we have tried it and obtained the correct outcome! But we don't know what the correct outcome is until... and so on *ad infinitum*.<sup>93</sup>

The endless loop of the experimenter's regress can only be broken by finding criteria outside of the experiment itself by which to decide which outcomes count as successful. In contemporary scientific practice, the regress is closed by a social process of consensus building in which a small group of interested parties, which Collins calls the "core group," decides how the experimental results will be interpreted. These core groups are private, not because they exclude outsiders by rule, but because outsiders lack both the technical knowledge and the socialization necessary to participate in the discussions of the group. The closed nature of the core group makes resolution of the experimenter's regress possible by limiting the size of the group which will negotiate to determine the meaning of experimental results and by obscuring the socially contingent process by which they did so.<sup>94</sup>

Song medical thinkers did not engage in experiments, but they did rely on experience as a guide to which approach to medicine was the most successful. The supporters of the three approaches genuinely believed that the methods they advocated would yield the best medical results, but it is notoriously difficult to assess the results of therapeutic interventions. The variability of illness, the incorrect actions of patients, the incompetence of the doctor, and the fickleness of climate could explain any given instance of a treatment's failure. Like modern experimenters, Song medical thinkers found themselves in a position where the only way to evaluate the three approaches was to start from an assumption about which one was correct and evaluate therapeutic results accordingly. Unlike modern experimenters, Song medical thinkers did not have recourse to private core sets to resolve this dilemma. Medicine in the Song remained an open subject. Any educated individual could learn enough by self-study to enter the debate, and sick people and their families felt no compulsion to accept a doctor's advice as better founded than their own. The nature of the conflict between the three approaches was such that it could not be resolved on formal or experiential grounds, and the social mechanisms for resolving it were lacking. Ultimately, therefore, it was not possible for Northern Song medical authors to resolve the crisis of trust in medicine, and the Northern Song bequeathed a fractured medical heritage to the periods that followed.

The resolution of this dilemma did not occur until the Yuan dynasty (1273-1368), when social and political changes led to large numbers of the literati taking up medicine as an occupation.<sup>95</sup> From that point on, literati medicine was literati-physician medicine. In the meantime, all three approaches continued to have representatives, but the literati-physician approach grew increasingly dominant, vastly out-producing the other two approaches in terms of medical texts and—of course—well-known physicians.

The Northern Song crisis of trust in medicine arose at the intersection of large-scale changes in social life, intellectual activity, and epidemiological burden. Its resolution, therefore, had to address not only medical doctrine, but also the structure of the healthcare marketplace and

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<sup>93</sup> Ibid., 84.

<sup>94</sup> Ibid., 84, 142–145.

<sup>95</sup> Hymes, "Not Quite Gentlemen?," 64–66; Reiko Shinno, "Promoting Medicine in the Yuan Dynasty (1206-1368): An Aspect of Mongol Rule in China" (PhD Dissertation, Stanford University, 2002).

the social grounds of valid medical knowledge. It is best understood in the context of the Tang-Song transition as a particular manifestation of the broader crisis of trust or culture that was affecting the Northern Song elite as a group. Just as the Learning of the Way (*Daoxue* 道學), ultimately succeeded in rearticulating the nature and practice of elite identity in the new circumstances of the Song world, so too did literati-physician medicine ultimately succeed in redefining the medical and social practice of literate medicine for the new elite.

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