THE SOCIO-POLITICAL IMPACT ON CHINESE MEDICAL THOUGHT

DURING THE SONG-JIN-YUAN TRANSITION (C.1100-1300 AD)

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Abstract

The literary works of several *ruyi* 儒醫 (Chinese scholar-physicians) of the Song-Jin-Yuan Transition (c.1100-1300 AD) are examined both for their contribution to medical development as well as their engagement in political discourse which generated a new genre of medical literature. The essential elements of this genre are: 1) reliance upon the classical medical canon for their authority but diverging to expound upon distinct medical doctrines; 2) emphasizing the status of the *ruyi* as members of elite society through references to the Confucian canon or with veiled commentaries on the socio-political crisis; and 3) they are meant to serve as part of a complete yet concise system of medicine with unique approaches to etiology, diagnosis, and treatment.

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Introduction

All peoples in all places for all time have faced threats to their health and survival. From physical injuries to infectious diseases, famines to emotional stress, people's sense of well being can be disrupted for a wide variety of reasons, and inevitably people will seek relief from their suffering. As mankind is a very creative and innovative creature, countless different methods of treatment for various diseases were developed. Those methods that were transmitted from generation to generation must have either demonstrated a statistically significant success rate over other alternatives, or were so integral to the beliefs of that society that they were perpetuated with or without evidence of efficacy. As societies increased in complexity their medical systems also became more complex, and worldwide many different systems developed out of different cultures with different paradigms in which to classify observed and experienced phenomenon. Another constant socio-political dynamic impacting these developments was that those in power were expected to care for those under their control; the result being whenever governments became involved in medicine it encouraged the formation of orthodox systems that were congruent with their ruling ideology.

In Asia there evolved three dominant systems of medicine: Chinese medicine, Indian medicine, and Arab-Greek medicine, although even these are not monolithic entities. As these systems were transmitted across the globe they merged with other cultures and beliefs under a variety of socio-political circumstances and underwent myriad transformations. Arab-Greek medicine, which was an amalgamation of Pan-Asian practices rooted in the humoral theory of Hippocrates (c.400 BC) and Galen (c.200 AD), spread westwards to Europe and eastwards to the Southeast Asian archipelago. Indian

medicine, which includes Ayurveda (Science of Life) and Buddhist medicine, spread eastwards to Southeast Asia and north to Tibet and China. Chinese medicine spread south to Vietnam and eastwards to Korea and Japan. Thus to study Chinese medical history is to gain insights into civilizations across all of East Asia.

Despite medicine being an integral part of all societies, the field of Chinese medical history is still just emerging in the West. In early works on the subject from the 1920s to the 1960s one often cannot distinguish myth and legend from history, which is itself a product of the Chinese historiography that dominated the field. During the 1970s and 1980s some serious scholarship began to emerge with researchers like Joseph Needham (1981), Manfred Porkert and Christian Ullmann (1982), Paul U. Unschuld (1985), and Nathan Sivin (1987), but these works still provided only a glimpse into the rich history of Chinese medicine. During the 1980s and 1990s English language translations of Chinese medical classics were just beginning to be published, however; even into the first decade of the 21st century only a small handful of these translations are available, and even fewer of any Japanese, Korean, or Vietnamese medical texts, despite the growing Acupuncture and Oriental Medicine (AOM) profession in the West. As many people grow increasingly dissatisfied with the Modern Western health care delivery system they often turn towards alternatives like acupuncture and Chinese herbal medicine, which has supported the incremental growth of the AOM profession. Now more and more Western practitioners are interested in understanding the history of Chinese medicine and want to be better informed about the primary sources. Therefore, the study of East Asian medical history can inform at least two different fields: history and clinical practice. Given the relatively rich supply of primary sources, there remains much work to

be done to develop a more complete and accurate understanding of the role of medicine in East Asian civilizations and the reciprocal impact of society on medicine and medicine on society. This is being taken up by a new generation of East Asian medical historians, including Donald J. Harper (1998), Marta Hanson (2003), Angela Ki-che Leung (2003), Kim Taylor (2005), Vivienne Lo and Christopher Cullen (2005), and Asaf Goldschmidt (2009).

The period under study herein, the Song-Jin-Yuan Transition (c.1100-1300 AD), is a remarkable period for intellectual historians because it generated an entirely new genre of Chinese medical literature that became classics in their own right from an entirely new class of physicians that dominated and shaped the medical system. The first thing one must consider about medical developments during the Song-Jin-Yuan Transition is that they were a product of the substantive changes that immediately proceeded this period that gave rise to a new member of Chinese elite society; the *ruyi* 儒醫 (Confucian scholar-physician). The Northern Song 北宋 (960-1126 AD) witnessed the rise of the *ruyi* due to several factors. The most significant factors were medicine's fulfillment of Confucian filial responsibilities amidst a vibrant Confucian revival, the establishment of a literary authority from which to justify one's own clinical approach and critique that of others which followed the government sponsored circulation of revised reprints of classical texts, the widespread availability of medicines from imperially sponsored pharmacies which relieved individual physicians from the burden of storing and maintaining a well stocked pharmacy of their own which allowed them to focus on literary study and exposition (as well as critiques of these same pharmacies), the growth of the private publication industry that created a platform for intellectual

exchange and allowed scholar-physicians to share their ideas amongst a wider population, and the establishment of an official education and examination system to train and validate *shangyi* 上醫 (superior physicians) in 1103, and the further elevation of status by the imperially designated title of *ruyi* in 1113. Thus, at the beginning of the Song-Jin-Yuan Transition all of the essential pieces necessary for significant developments in medical thought and the generation of a new genre of medical literature were in place.

Over the next two centuries these same five factors continued to influence medical development, but in different ways. Although filial responsibilities did not change, the Confucian intellectual climate underwent a transformation that involved the synthesis of diverse ideas and the generation of a new orthodoxy, a trend mirrored in medicine. Following in the footsteps of Confucian scholars, physicians created a new body of literature that used the authority of classical texts to promulgate alternative and distinct schools of thought and clinical practices. The imperial pharmacies continued to serve the interests of private physicians and patients, while the continued access to a diverse materia medica resulted in more diverse formularies. The private publication industry continued to grow and the improved ability to communicate medical teachings further served to secure lineages of transmission. Finally, having acquired the status of a *ruyi*, this new sector of the gentry class was the key to generating change in the intellectual field of medicine.

This was especially true of Chinese physicians in the north under the occupation of the Jurchen who built upon the momentum of the Northern Song and began moving away from annotating and commenting on the classical canon and towards the generation of new interpretations. This shift in the application of classical doctrines from the

explanatory to the conjectural spurred normal scientific development and the creation of a new body of medical literature that later doctors would revere the way writings by Song Confucian philosophers were revered by later Confucians.

Medical progress during the Song-Jin-Yuan Transition is comparable to what Thomas Kuhn (1996) identified as "normal science, an enterprise that…aims to refine, extend, and articulate a paradigm that is already in existence (p.122)." The only real revolution in Chinese medicine, as Kuhn would define it, came when Western medicine tried to replace the Chinese paradigm with its own during the pre-modern era. There are some obvious limitations to the application of Kuhn's model to Chinese medical history. First, his model is based the history of Western science in Europe beginning in the 18th century and culminating in 20th century, a period that is not comparable to medieval China. More critically, Kuhn's use of the concept of "normal science" is juxtaposed with the "scientific revolution," with their vacillation the central tenet of his thesis, so therefore, if one argues that no scientific revolution occurred during the period under study, it might be further argued that there was no normal scientific development as defined by Kuhn. Some might further argue that Chinese medicine is not a science at all, specifically as defined by modern Western scientists. However, the root of this term is derived from the Latin word *scientia*, meaning knowledge, and certainly the practice of Chinese medicine is based upon a body of knowledge with unifying theories. The fact that this body of knowledge is not entirely compatible with the body of knowledge constructed under the paradigm of Western science is not a sufficient reason to reject it as a science within this broader meaning of the term. Moreover, Manfred Porkert and

Christian Ullmann (1982), two Western medical doctors drawn to the study of Chinese medicine, asserted that:

> Chinese science fulfills all the preconditions for an exact science, which is to say that it is equipped with a *clear, unambiguous vocabulary* that is organized by means of certain rules into a system that is *consistent and free from internal contradictions*. This system has specific techniques of *observation and diagnosis* at its disposal, and on the basis of these a logical, coherent, and totally intelligible therapeutic system is constructed (p.51-52).

However, in order to apply this model to Chinese medical history one must account for the absence of scientific revolutions. Kuhn (1996) found that Western scientific revolutions occur when those in the field are faced with persistent anomalies that their current paradigm is unable to explain or puzzles they are unable to solve, leading to a crisis that allows for an alternative paradigm to replace the old by providing a better explanation for observed phenomenon or a solution to the puzzle. Such a crisis did not occur in China for at least two imporant reasons. First, the cosmological theories that form the basis of Chinese medical thought are sufficiently broad and metaphorical to allow them the flexibility to account for anomalies and solve puzzles, as opposed to the theories of modern science which are more narrow and reductionistic, often relying upon strict mathematical formulas for establishing validity. Second, not only did the types of research questions being posed by Chinese physicians not challenge the existing paradigm but they also served to reinforce it as part of the larger goal of reproducing Confucian civilization, whereas the revolutions of Western science were initially a reaction against the dominant paradigm promulgated by the Catholic Church that set off a chain of events that resulted in the construction of a new paradigm that attempted to

explain the structure and order of the universe free from all religious or metaphorical concepts. Therefore, the Song-Jin-Yuan Transition may indeed be studied for its contribution to the normal scientific development of Chinese medicine because one aim of physicians of this era was to refine, extend, and articulate the existing paradigm.

Furthermore, when seeking to understand medical thought during the Song-Jin-Yuan Transition, one must not dismiss the impact of a country in chaos. The Northern Song was faced with escalating threats from the nomadic tribes on their northern border, from the Western Xia 西夏 dynasty (?-1227) of the Tangut in the northwest to the Liao 遼 dynasty (907-1125) of the Khitan in the northeast. Then after a failed alliance between the Song and the Jin 金 dynasty (1115-1234) of the Jurchen against the Liao, warfare erupted between them which drove the Song court south of the Yangzi river as the Jin claimed hegemony over the *zhongyuan* 中原 (central plains), the cradle of Chinese civilization. For over a century the Southern Song 南宋 (1127-1279 AD) was concerned over the recovery of the lost territories in the north, which was a hotly debated topic both at court and among the myriad scholars in the south and north who had devoted their lives to preparing to take the civil service examination for a chance to serve in government. The crisis continued to escalate with the rise of the Mongol horde and the establishement of the Yuan 元 dynasty (1260-1368 AD). The tone and emphasis of the writings by many of these Confucian scholar-physicians arguably reflects their concern over the socio-political crisis.

All of these circumstances contributed to the formation of a new genre of medical literature. Asaf Goldschmidt (2009) identified the three primary genres of medical

literature during the Northern Song as Classical Medicine, Prescription Medicine, and Cold Damage, as well as some of the key *ruyi* responsible for their integration. Classical Medicine emphasizes the theories consistent with the Confucian classics such as *yin yang* 陰陽 (opposing & complementary forces) and the *wuxing* 五行 (five elemental-phases). Prescription Medicine is based on *bencao* 本草 (materia medica) collections and *fangshu* 方書 (prescription manuals) which describe symptoms and treatments, much like a recipe book. The Cold Damage genre was dedicated to understanding, interpreting, and applying the theories and treatments found in a classical text that described how wind and cold pathogens first attack the exterior and then move interiorly to cause a wide variety of diseases. Whereas Goldschmidt argued that Cold Damage was the unifying force behind this integration during the Northern Song, during the Song-Jin-Yuan Transition it was actually Classical Medicine that drove development, with the goal of unifying classical Confucian theory with contemporary medical practices. This resulted in several distinct approaches within the accepted paradigm that eventually led to a synthetic approach and the generation of a new orthodoxy. This further resulted in the generation of an entirely new genre of medical literature that reflected the newly aquired status of the *ruyi* and tried to succinctly provide a comprehensive and distinctive medical doctrine that included the essentials of etiology, diagnosis, and treatment strategies, written for a general practitioner already well versed in the medical classics.

Part I

Contextualization

Chapter 1

Prior medical developments

Chinese medicine has a very long history and yet it is herein argued that it has never undergone a real revolution, a revolution that is defined by the abandonment of an old paradigm in favor of a new one. Early archaeological evidence suggests that the origins of the theory of systematic correspondence embodied in the principles of *yin yang* and *wuxing* which has remained fundamental to Chinese medical theory and practice dates back at least 5,000 years. At the burial site of the shaman-chieftain of Xishuipo (c.3000 BC), discovered in northeastern Henan province, the human remains are flanked by what appears to be images of a dragon to his right and a tiger to his left made from clam shells, with his head oriented to the south (Underhill, A.P., & Habu, J., 2006). This imagery places the power of the *qinglong* 青龍 (green dragon) in the east and the *baihu* 百虎 (white tiger) in the west, two of the fundamental concepts in Chinese cosmology, long before any written records. The power of these creatures that embody *yin* and *yang* would later be invoked in the names of medical prescriptions from an ancient text, and these same formulas are still in widespread use today. It is further expected that as Neolithic peoples learned which plants could be used for food and which were poisonous, they passed this information down generation after generation while gradually expanding their knowledge of medicinal uses. Archaeologists have verified through phytolithic remains and pottery decorations that several substances recorded in early medical literature were being consumed hundreds or even thousands of years earlier, including; lotus, jujube, hemp, beefsteak (perilla) (Crawford, G.W., 2006), as well as peach and plum kernels (Hoizey, D., & Hoizey, M.J., 1993). Thus the paradigm that shaped the

Chinese understanding of the mechanisms of the world and the principles governing all things began as early as Chinese civilization itself and then underwent the process of normal scientific development that refined its principles and extended them to explain an ever increasing number of outwardly observed and inwardly experienced phenomenon.

Trajectory of Medical Developments Prior to c.960 AD

The further back in Chinese medical history one goes the more difficult it is to distinguish fact from fiction. The legends of antiquity are so deeply rooted in the Chinese identity that challenging these stories in order to reconstruct a more reliable understanding is fraught with danger and an increasingly limited amount of primary sources. Still some scholars have started to do just that thanks to recent archaeological discoveries of ancient medical manuscripts. If one is willing to accept the legends as metaphors for periods of normal scientific development then they do help serve as a framework for historical understanding. Given that the depth and complexity of such arguments necessitates an entirely separate treatment, an alternative approach to providing the necessary context to understand the mind of a Song-Jin-Yuan physician must be herein employed. Thus if a 12th century Confucian scholar-physician was asked to provide a brief history of the medical profession, the following are some of the essential points he would have emphasized.

Medicine was a gift from the ancient sages: Fuxi 伏羲 (c.2852 BC), the Father of Civilization; Shennong 神農 (c.2737 BC), the Divine Farmer; and Huangdi 黃帝 (c.2698 BC) the Yellow Emperor. Their wisdom was passed down through the generations and recorded during the Han dynasty 漢朝 (206 BC-221 AD), which was a golden age of China that became core to the identity of the ethnic majority: the Han Chinese. The

Huangdi Neijing 黃帝內經 (Yellow Emperor's Inner Classic) is revered as the greatest medical text ever written and the repository of all medical wisdom, and is composed of two volumes, each with eighty-one chapters. The first is the *Suwen* 素問 (Basic Questions) that expounds upon the basic theories of medicine, and the second is the *Lingshu* 靈樞 (Spiritual Pivot) that focuses on acupuncture channel theory, the classification and function of 365 distinct points on the body appropriate for needling, and other diagnostic and treatment guidelines. The *Shennong Bencao* 神農本草 (Divine Farmer's Materia Medica) documents the taste, temperature, and therapeutic functions of 365 medicinals of animal, vegetable, and mineral origin, arranged hierarchically as superior (being free of toxicity and safe for regular consumption), common (only used therapeutically and with some risk), and inferior (only used therapeutically but with great risk). This text also established the basis for formula construction. The *Nanjing* 難經 (Difficult Classic) provides clarification of difficult passages from the *Neijing*, as well as develops ideas such as the application of *wuxing* doctrine to acupuncture and pulse diagnosis, and thus is considered the first commentary on a medical classic as well as a classic itself. The last of the Han medical classics is the *Shanghan Zabing Lun* 傷寒雜病方論 (Treatise On Cold Damage and Miscellaneous Disorders) by Zhang Zhongjing 張仲景 (142-220 AD), also known as Zhang Ji 張機. This text was subsequently divided into two works by the medical official Wang Shuhe 王叔和 (210-285 AD) during the Jin 晉 dynasty (265-420 AD) and thereafter they fell into obscurity. These two books, the *Shanghan Lun* 傷寒論 (Treatise on Cold Damage) and the *Jingui Yaolue Fanglun* 金匱要略方論 (Treatise on Prescriptions from the Golden Cabinet), were later revived in the

Song. Wang Shuhe is also known for authoring the *Maijing* 脈經 (Pulse Classic), a definitive work on pulse diagnosis that has been very difficult to interpret due to its obscure writing style. The Jin also saw the production of the *Zhenjiu Jiayi Jing* 針灸甲乙經 (Systematic Classic of Acupuncture and Moxibustion) by Huang Fumi 皇甫謐 (215-282 AD) that aided study of the subject due to its methodical organization, as well as several works by the alchemist Ge Hong 葛洪 (281-341 AD). During the *Age of Division* (316-581 AD) there was an expansion of the materia medica literature with works such as the *Leigong Paozhi Lun* 雷公炮炙論 (Leigong's Treatise on Preparing Medicinals) by Lei Xiao (c.450 AD) and two herbal collections by the famous Daoist Tao Hongjing 陶弘景 (452-536 AD): the *Bencao Jingji Zhu* 本草經集注 (Collection of Commentaries on the Classic) and the *Mingyi Bielu* 名醫別錄 (Miscellaneous Records of Renowned Physicians). Tao is further celebrated for saving the *Shennong Bencao* from being lost. During the Sui 隋 dynasty (581-618 AD) the imperial official Yang Shangshan 楊上善 (c.600 AD) compiled an edition of the *Huangdi Neijing* known as the *Taisu* 太素 (Foundations of the Yellow Emperor's Inner Classic) which helped preserve this classic. This was followed by the *Zhubing Yuanhou Zonglun* 諸病源候總論 (General Treatise on the Origins of Disease) by another Sui imperial physician named Chao Yuanfang 巢元方 (550-630 AD), and these two works together established perhaps the second medical orthodoxy that continued to influence medical practice through the Tang 唐 dynasty (618-907 AD). The Tang saw further development of the materia medica with the first government sponsored book of medicine, the *Tang Bencao* 唐本草 (Tang Materia

Medica), which described 844 medicinals that were also products of the burgeoning international trade network. An important Tang physician was the Daoist Sun Simiao 孫思邈 (581-682 AD) who authored the *Qianjin Yifang* 千金 翼方 (Prescriptions Worth a Thousand Gold). Another publication by an official who worked for twenty years in the imperial medical library was the *Waitai Biyao* 外台秘要 (Arcane Essentials from an Official) by Wang Tao 往燾 (702-772 AD). Finally, the Tang scholar Wang Bing 王冰 established the definitive edition of the *Huangdi Neijing* with commentaries in 762 AD.

Medicine during the Northern Song (960-1126)

Knowledge of the evolution of Chinese medicine during the Northern Song is detailed by Asaf Goldschmidt (2009), who describes how the first four Song emperors, Taizu 太祖 (r.960-976), Taizong 太宗 (r.976-997), Zhenzong 真宗 (r.997-1022), and Renzong 仁宗(r.1022-1063), all displayed an interest in medicine and thus contributed to the increase in status for physicians. Due to the need to provide medical relief from many decades of strife following the fall of the Tang and the Five Dynasties Period (907-960 AD), early Song rulers sought to consolidate medical knowledge from the few surviving records which were described as damaged, containing omissions and errors, and were scattered across the empire. Many texts were gathered from privately owned manuscripts, with appropriate compensation provided to the original owner, which led to the official publication of compilations in the Prescription Medicine genre under Taizu and Taizong: the *Kaibao Chongding Bencao* 開寶重定本草 (Re-determined Materia Medica of the Kaibao Era) (973 AD); and the *Taiping Shenghui Fang* 太平聖惠方 (Sagely Generosity Presciptions of the Taiping Era) (982 AD). Classical Medicine was then revived under

Renzong, who ordered the revision and printing of the early Han classics, such as the *Nanjing* and the *Zhubing Yuanhou Zonglun*, and he sought to standardize the acupuncture channels and points and revive needling which had been overshadowed by the use of moxibustion. This further led to the casting of two identical life-size bronze acupuncture statues and the publication of the *Tongren Shuxue Zhenjiu Tujing* 銅人俞穴針灸圖經 (Illustrated Classic on the Points for Acu-Moxa on the Bronze Figure) by Wang Weiyi 王惟一 (1026 AD).

Goldschmidt (2009) found that following a wave of epidemics (1045-1060), Renzong established the *Jiaozheng yishu ju* 校正醫書局 (Bureau for Revising Medical Texts) which sponsored the revising, publication and widespread distribution of the Song edition of the *Shanghan Zabing Lun*. Many of the epidemics were of southern origin where the population was shifting and growing, and flourishing trade routes also became routes of disease transmission, prompting the search for a cure to these myriad illnesses plaguing Song society. Since this text was written when Zhang Ji was an official in the southern town of Changsha, Hunan province, it was deemed suitable for the treatment of these diseases of southern origin. The Bureau also published revisions of other classics, including; the *Huangdi Neijing Suwen*, the *Maijing*, and the *Zhenjiu Jiayi Jing*. In 1090, a revised edition of the *Ling Shu* was produced from extant copies brought back from Korea, thus completing the publication of the Han canon.

Scholar-officials then contributed to the bureaucratization of medical education and examination, as well as trade in medicinals. Goldschmidt (2009) finds that in order to regulate prices and ensure supplies, the Imperial Pharmacy (originally *Heji Ju* 和劑局,

Bureau of Prepared Formulas) was first established in 1076 as part of the reform movement of Wang Anshi 王安石 (1021-1086 AD), and was the first government sponsored and operated apothecary. In addition to scholar-officials serving at the Hanlin Academy's Medical Institute, Renzong established the Imperial Medical Service (*Taiyi ju* 太醫局), which oversaw the Pharmacy, and encouraged those who failed the civil service exam to pursue medical education. However, this did little to influence the availability of literati physicians outside the capital of Kaifeng, who continued to be addressed as *yigong* 醫工 (medical workers) reflecting a still lowly status.

Goldschmidt (2009) further finds that emperor Huizong 徽宗 (r.1100-1126 AD) continued to support the field of medicine and commented that it was only after the formularies of Zhang Ji and Sun Simiao were rectified by later physicians according to the cosmological teachings of the early Han classics that a system evolved that epitomized the Dao of medicine. This integrated approach characterizes the *Zhenghe Shengji Zonglu* 政和聖濟總錄 (Medical Encylopedia: A Sagely Benefaction of the Zhenghe Era) and the *Shengji Jing* 聖濟經 (Canon of Sagely Benefaction) produced at the behest of emperor Huizong in 1118. In addition to establishing a government backed orthodox approach to medical practice, this publication highlighted the theory of *wuyun liuqi* 五運六氣 (five movements and six energies). The origin of the *wuyun liuqi* doctrine is traced to the Tang dynasty physician Wang Bing and his edition of the *Huangdi Neijing* (c.762) which included seven chapters (66-71 & 74) on this topic, although the editors who published it in 1067 expressed doubts as to the authenticity of these chapters.

This theory was very influential on the medical doctrines of subsequent generations of scholar-physicians, especially during the Song-Jin-Yuan Transition.

During the end of the Northern Song many physicians remained focused on the Cold Damage genre of literature with the same of goal integration, and the S*hanghan Zabing Lun* was well suited to meet these goals being the only pre-Song text on contagious diseases of southern origin that applied the canonical *yin yang* doctrine (Goldschmidt, A., 2009). The integration of this text began with Han Zhihe 韓祇和 (c.1030-1100 AD) whose work applied classical pulse theory which was lacking in the original treatise, continued with Pang Anshi 龐安時 (1042-1099 AD) who provided diagnostic clarification, and culminated with the work of Cheng Wuji 成無己 (c.1050-1140) who integrated classical doctrines into his commentary on the *Shanghan Lun*.

Goldschmidt (2009) found that several attempts were made during the 1040s, 1060s, 1080s and early 1100s to establish medical schools under imperial auspices in the provinces and districts, but with little success. Huizong tried to rectify this by establishing the Medical College (*Yixue* 醫學) in 1103 under the Directorate of Education to train *shangyi* 上醫 (superior physicians). The College required an entrance exam and progress exams every three months, issued new titles to graduates similar to those of the civil service, and provided an abundance of published texts for the curriculum. In 1113, Huizong coined the title *ruyi* 儒醫 (Confucian scholar-physician) to further enhance their prestige by linking Confucian scholarship with medical learning and practice, and this term became increasingly common in subsequent dynasties. This was further reinforced when Huizong ordered in 1117 that the *Huangdi Neijing* be included in the curriculum of

all imperial schools alongside the *Daode Jing* (Classic of the Virtuous Way) as one of the great canons of Daoism.

Other public health initiatives were accomplished by the Song court. Under Huizong this included poorhouses, public hospitals and pauper's cemeteries, and he expanded the Imperial Pharmacy which he renamed the *Huimin Ju* 惠民局 (Bureau for Benefiting the People) (Goldschmidt, A., 2009). The Imperial Pharmacy proved to be a very profitable enterprise for the government, and was originally composed of two offices: the Office of Preparing Medicines (*Shuyao suo* 熟藥所) and the Office of Selling Medicines (*Maiyao suo* 賣藥所). The pharmacy also provided medicines free of charge during epidemic outbreaks which served as evidence of the governments concern for the welfare of the masses. The pharmacy continued operating until the Qing dynasty, relocating to the new capital during the Southern Song under Gaozong (r.1127-1162) where it was renamed *Taiping huimin ju* 太平惠民局 (Bureau of Great Peace for Benefiting the People), and expanded with several provincial branches. Significantly, while the Jin dynasty occupied the north it continued to operate the Pharmacy in Kaifeng, which served to support the continued growth of the profession. The prescriptions available from the Pharmacy were recorded in the *Jiaozheng Hejiju Fang* 校正和劑局方 (Revised Formulary of the Imperial Pharmacy) (c.1120 AD). This work had no details on diagnosis and did not integrate classical doctrines, but was basically a list of available medicaments. In 1151 it was revised and expanded into the *Taiping Huimin Hejiju Fang* 太平惠民和劑局方 (Formulas from the Taiping Imperial Pharmacy for Benefiting the

People) which was revised again in 1208 and 1252. These multiple revisions suggest a flourishing market for their products and the need to stay current with demand.

Discussion

Asaf Goldschmidt (2009) concludes his study with a discussion of the transformational impact of these four factors on medicine during the Northern Song: the elevation of physician status, the involvement of scholar-officials, the revival and dissemination of revised and printed copies of classical medical literature, and the expansion of the materia medica. He then argues that what emerged from the Northern Song was a comprehensive systematic medicine that integrated classical doctrines and practices into what more closely resembles how Chinese medicine is practiced today. However, the impact of these factors only set the stage for another phase of normal scientific development during the Song-Jin-Yuan Transition, and this in turn had a profound influence on how Chinese medicine is practiced today. Furthermore, Goldschmidt provides almost no contextualization regarding the Confucian movement that impacted all scholar-officials and literati to help explain the motivation for reviving and revising ancient literature and integrating diverse doctrines into a unified theory. What these scholars did for medicine is precisely what others did for philosophy: revive ancient literature, expound upon alternative interpretations of obscure passages, and finally integrate diverse doctrines into a unified theory. This obvious correlation is never broached by Goldschmidt, who then gives too much weight to the impact of epidemics as the driving factor behind the revival of the Cold Damage genre which somehow spurred the need to rectify this genre with Prescription and Classical Medicine, even though he

fails to demonstrate how the application of classical theory was perceived as necessary in the treatment of epidemic diseases.

The elevation of physician status during the Northern Song and the involvement of scholar-officials were very closely tied, even interdependent. Not to diminish the contribution of physicians in the private sphere, but their efforts were made possible by official policies and institutions. It is only during the Song-Jin-Yuan Transition that their status became more secure which provided them the necessary authority to offer their own interpretations as alternative doctrines of medical thought. Furthermore, had the early Song court not chosen to publish and disseminate classical medical literature it is highly doubtful that the status of doctors would have changed, and even more doubtful that the *Shanghan Lun* would have had the profound effect upon medical thought that it did. It was only because they were provided with a corpus of canonical texts that allowed scholar-physicians an authoritative source on par with the Confucian classics that physicians were accepted into elite society.

The expansion of the materia medica was also the direct result of the involvement of the government in the creation and continued support of the Imperial Pharmacy. Goldschmidt (2009) argues that contemporary physicians were concerned over the widespread use of over-the-counter prescriptions without consulting a qualified practitioner, and further may have perceived the Imperial Pharmacy as a threat to their livelihood. There is a superficial logic to this argument, as even today there remain concerns over balancing access to certain drugs while protecting consumers from their own ignorance, and private practitioners still struggle to compete with larger medical institutions. However, one must also consider other factors. Goldschmidt elsewhere agues

that a motivating factor for the development of a new genre of medical literature during the subsequent period was that the number of prescriptions in formularies had grown unmanageably large (up to 20,000 in the *Zhenghe Shengji Zonglu*), with the practical need to apply the ancient doctrinal basis of formula construction in order to modify a smaller number of base formulas to match the patient's condition. If this is true, then a lay person would have a very difficult time navigating the thousands of drugs available and would inevitably seek the wisdom of a local medical scholar. Further, the storage and resupply of a private pharmacy is potentially a cumbersome and time consuming process, and those who chose to maintain their own apothecary would have been delighted to find a reliable local supplier to meet their needs. Also, the fact that many scholars bemoaned the negative impact of the public pharmacies could also be viewed as an attempt at self-aggrandizement in an environment where their continued acceptance amongst elite society was perceived as tenuous.

As the Song court regrouped in the south, this momentum of consolidation accelerated in the field of medicine. The dearth of innovative medical literature from the south during these next two centuries suggests doctors were satisfied with the imperially sponsored system of medicine established by Huizong. This is not to say southern Chinese medicine as a whole stagnated in its development during the 12th and 13th centuries, but that the general trend of the Southern Song was acceptance of the orthodox system established during the Northern Song. It is in this context that one must consider the assertion by Goldschmidt (2009) that by c.1200 AD the Song medical transformation was complete. However, the transformation of Chinese medicine was just gaining momentum in the north as literati physicians of the Jin dynasty carefully examined the

available medical literature regarding both practical efficacy and doctrinal considerations and thereby generated a new genre of medical literature that evidences a vibrant diversity. These debates were meant to elucidate the principles of medicine found in the classical canon and generated new treatment strategies, and as this cycle repeated itself over the centuries the evolving system of medicine grew increasingly refined through the process of normal scientific development.

Chapter 2

The larger intellectual climate

The Northern Song experienced a flourishing of intellectual discourse among the emerging gentry class who had devoted themselves to Confucian learning and moral conduct to aid in the ordering of society and to hopefully one day serve in government. Because the availability of official posts did not increase anywhere near the rate of growth of *jinshi* 進士 (achieved scholar) degree holders, it necessitated they find some other worthwhile career. As members of the elite they also served as local community leaders and were expected to be exemplars of civilized conduct, but those who were not born into wealthy families also had to support themselves financially. Many of them served as teachers to aid the next generation as they prepared for the examinations, and many of these developed their own interpretations of the classical canon. However, some of these Confucian scholars devoted themselves to medicine, which gradually raised the status of the medical profession which in turn encouraged others to pursue this branch of learning. Furthermore, the diversity of texts on Confucian learning from the Song were certainly read by and influenced scholar-physicians of the Jin and Yuan, and the parallels of development between Confucianism and medicine are so stark that an overview of some of the leading thinkers and their ideas is needed to contextualize medical learning.

With regards to trends in Confucianism, the Northern Song is characterized by diversity while the Southern Song is characterized by synthesis and orthodoxy, whereas in medicine the Jin was characterized by diversity and the Yuan and Ming dynasties by synthesis and orthodoxy. After the court of the Song retreated south, the public sphere was replete with debates on the Confucian canon and the best way to recover the lost

territories of the north and achieve a dynastic restoration, but in the field of medicine the south had little to contribute. Contrarily, scholar-physicians in the north erupted into one of the most fervent debates in history over interpretations of the classical canon suggesting the level of discourse transcended medical matters, while the north had less to say about strictly Confucian matters.

When considering the parallels between the shifts from diversity to orthodoxy, the major difference is how the north and the south responded to the political crisis. For the Northern Song, it was politically a period of relative unification and stability that hadn't been seen in China since the Tang dynasty, and although the northern borders of Song China were perpetually threatened by the nomadic people of the steppes, the greatest stressor on a Confucian of the era was internal. It was the inability to serve as an official. In this environment a diversity of philosophical ideas were circulated based on a classical canon that had been recognized since the Han dynasty. Meanwhile in medicine, a secondary corpus of classical literature was just beginning to be widely disseminated, and the focus was on analyzing and explaining these still relatively unfamiliar texts.

Then during the Southern Song the political focus was on the external threat posed by the Jin dynasty and the need to consolidate their resources and recuperate after a bitter defeat in preparation for a dynastic resurgence. In this environment the philosophical and moral arguments also consolidated leading to the promotion of a new orthodoxy. In medicine, it appears that consolidation was also the favored approach in the south where the focus remained on the classical canon of medicine and the orthodoxy established in imperially commissioned and comprehensive reference manuals. However in the north the sense of political urgency among those loyal to Chinese civilization was

greater, but a Han Chinese scholar publishing works on the moral order of the universe would have soon fallen under the scrutiny of a Jurchen official, so this branch of learning stagnated. Since medical writings were not so closely associated with the expression of political or even moral erudition, this freedom allowed a diversity of ideas to be promulgated in the north. Then during the Yuan dynasty both the north and south needed to consolidate, so the diversity of the previous era led to another process of integration and orthodoxy.

The foremost problem of discussing the diversity of thought in both Confucian and medical learning is the nature of the sources. In Confucianism, the diversity of texts that have been preserved is in most cases the direct result of the orthodoxy established in 1241 when the Southern Song emperor Lizong 理宗 (r.1225-1264) decreed that Zhu Xi 朱熹 (1130-1200) and those philosophers that Zhu identified as part of his own lineage be enshrined in the Confucian temples connected to official schools. As Zhu Xi did not study directly under these Northern Song philophers, but only read their books, the reconstruction of this lineage is itself artificial and contrived, and furthermore is not truly representative of the actual pluralism of the period. As Hilde de Weerdt (2007) argues, although Zhu Xi initially embraced the diversity of Northern Song thought, during the last twenty years of his life he “excluded competing sources of authority in an effort to construct a narrow line of the transmission of the Learning of the Way and its principle teachers, texts, and beliefs (p.28).” This same problem applies equally to Confucian and medical treatises, because the majority of extant medical writings from this period are all part of distinct lineages of transmission that were integrated into an orthodox medical tradition centuries later. Nonetheless, a closer examination of these texts reveals that the

process of intellectual development was dynamic and contentious despite the fact that all of the schools worked within the same paradigm established by the classical canons. It is expected that the extant literature from a thousand years ago is just the tip of the proverbial iceberg of writings that must have flooded the market, but since these have not been preserved one must use the available sources to paint an albeit incomplete picture of this diversity.

Modern scientists and scholars, regardless of their field of study, frequently debate the labeling of different phenomenon, with some favoring the lumping together of as many as possible under a label that reflects their commonalities, while others favor splitting things up under labels that reflect their differences. The same is true in both fields of Chinese medical and philosophical history. As this thesis argues for the significance of the differences in understanding medical thought of the Song-Jin-Yuan Transition, some of the most influential thinkers which have collectively been referred to by some as the Neo-Confucian philosophers will instead each be assigned a label based on the ideas they emphasized that distinguished them from their colleagues. Yet it must be stressed that all of this intellectual dynamism remained rooted in the same paradigm, and none of the diverse arguments called for the abandonment of that paradigm in favor of a new one.

This traditional Confucian world view fundamentally included that a moral force pervades the universe and accounts for the myriad things and compels human beings to action. This moral impetus has been given various names, such as *tian* 天 (heaven), *li* 理 (principle), *dao* 道 (Way), and *taiji* 太極 (great ultimate). Furthermore, the goal of mankind is to be in harmony with the universe, which must be accomplished through an

understanding of the cyclical changes described by the principles of *yin* and *yang* and the *wuxing,* and by following the moral guidelines as expressed by the five Confucian ethics of *ren* 仁 (humanity and benevolence), *yi* 義 (righteousness and propriety), *li* 禮 (ritual propriety), *zhi* 智 (wisdom and resourcefulness), and *xin* 信 (honesty and sincerity), as well as the importance of the hierarchical *wulun* 五倫 (five relations), that of ruler and subject, father and son, elder brother and younger brother, husband and wife, and friend and friend. Finally, Confucianism asserts that all men are capable of achieving the goal of harmony and morality through individual effort, self discipline, and formal education grounded in the corpus of literature known as the Confucian classics. This is what it meant to be civilized.

The Song Philosophers

Zhou Dunyi 周敦頤 (1017-1073) was born in Lianxi, southern Hunan province, and held a number of official posts from 1040 to 1072 when he retired just a year before dying from illness. The two major philosophical works Zhou wrote were the *Taiji Tu Shuo* 太極圖說 (Diagram of the Great Ultimate Explained) and the *Yi Tong Shu* 易通書 (Treatise on the Book of Changes), which were edited and published by his students, as well as several short essays and poems. In the *Yi Tong Shu* Zhou expounds upon his moral theories grounded in the virtue of *cheng* 誠 (sincerity) which he believed served as the foundation for all ethics. The *taiji* 太極 (great ultimate) was both a classic Confucian and Daoist term that Zhou brought to the center of his cosmological theories. The *Taiji Tu Shuo* argued the world came into existence from nothingness in the often quoted statement *wuji er taiji* 無極而太極 (absolutely nothing and then the great ultimate). The

great ultimate is the duality of *yin* and *yang*, movement and stillness, from which emerges the *wuxing*, and it thus leads to the creation and transformation of the *wanwu* 萬物 (ten-thousand or myriad things). Zhou also invokes terms from the *bagua* 八卦 (eight trigrams) and *Yijing* 易經 (Book of Changes) to symbolize these universal forces and the physical manifestations of the myriad things. Although he also equated the *taiji* with the *dao*, Zhou Dunyi's school of thought is best labeled *taiji xue* 太極學 (doctrine of the great ultimate).

Shao Yong 邵雍 (1011-1077) was born in Fanyang, northern Hebei province, but moved south with his father when he was still young to central Anhui province, and was granted the title Kangjie 康節 (one who supported the health of moral integrity) after his death. In Anhui he studied the Confucian classics under a local magistrate named Li Zhicai 李之才 who introduced him to the doctrine of *li* 理 (principle) and a detailed study of the *Yijing*. Shao later moved to the ancient capital and cultural center of Luoyang, Henan province, where he integrated seamlessly into elite society and began calling himself *Anle Xiansheng* 安樂先生 (Mister Peace and Happiness). Shao Yong authored several works, but became most famous for his cosmology based on numbers. Building on statements from the *Yijing*, he argued that since the one *taiji* 太極 (great ultimate) produced the *liangyi* 兩儀 (two forms, eg. *yin* and *yang*), and these produced the *sixiang* 四象 (four images, eg. *taiyang*, *shaoyang*, *taiyin*, *shaoyin*), which produced the *bagua* 八卦 (eight trigrams), which leads to the sixty-four hexagrams of the *Yijing*, which accounts for all the myriad changes of the universe, that therefore all things can be understood

through numbers. Shao is noted for his circular arrangement of the sixty-four hexagrams in the *xiantian tu* 先天圖 (diagram of heaven's advancement) to explain the cyclical nature of observed phenomenon. Shao also equates *taiji* with *dao* 道 (the Way), *qi* 氣 (energy), *xin* 心 (heart-mind), and *shen* 神 (spirit) as the source of the myriad things. Shao Yong's philosophy is best labeled *shuxue* 數學 (doctrine of the numbers).

A military officer named Cheng Xiang 程向 who was impressed by Zhou Dunyi sent his two sons, Cheng Hao 程顥 (1032-1085) and Cheng Yi 程頤 (1033-1107), to study with him for a brief time, and these two Cheng's became significant contributors to the debates. Both of the Cheng brothers were born near Luoyang, and in 1057 Cheng Hao obtained the *jinshi* degree at age twenty-five, but in 1070 came into conflict with the reform policies of Wang Anshi 王安石 (1021-1086) which led to his ouster from official service until 1085 when a new emperor began his reign. However, soon after his reappointment he died at the age of fifty-three. In 1059 Cheng Yi obtained the *jinshi* degree at the age of twenty-six, but unlike his brother he repeatedly declined official appointments. Finally in 1086 he took a post lecturing the emperor on Confucian morality and soon developed many admirers, but after less than two years his critique of government policies led to his dismissal, his teachings were prohibited, and his books were destroyed. He was finally pardoned in 1106, a year before his death. The surviving literary works of both Cheng brothers are sayings and conversations recorded by their disciples and from these it is often difficult to identify which one was speaking, although scholars such as Huang Siu-chi (1999) argue that there views were significantly distinct.

Cheng Hao argued that the *tianli* 天理 (principle of heaven) was the basis for understanding the universe, using a passage from the *Li Ji* 禮記 (Book of Rites) as the source material: “unless one is able to examine oneself, the Principle of Heaven (*tian li*) will be destroyed (trans. Huang, S., 1999, p.87).” Cheng Hao also asserted that the myriad things are both produced and governed by the heavenly principle, and if one is in harmony with it all is well, but when something goes against it trouble will surely follow. Cheng Hao also asserted *ren* 仁 (humanity) is the overarching virtue of man that allows him to become aware of the heavenly principle. Although the heavenly principle is inherently good, man’s nature is a product of *qi* 氣 (vital breath or energy) and is subject to the influences of evil. Cheng argues that man must engage in moral cultivation to ensure he remains free from evil influences by increasing his awareness through tranquility, because when one’s mind is tranquil one is spontaneously and effortlessly in union with *tianli*. Thus Cheng Hao’s philosophy is best labeled the *tianli xue* 天理學 (doctrine of the heavenly principle).

While Cheng Hao cultivated a tranquil state of being, Cheng Yi was much more aggressive and outspoken while his philosophy argued for the duality of *li* 理 (principle) and *qi* 氣 (energy). Opposed to his brother’s idea of a single uniting heavenly principle, Cheng Yi believed all things have their own principle, which is why fire is hot but water is cold, or rather: “the principle is one, but its manifestations are many (trans. Huang, S., 1999, p.108).” When everything acts in accordance with its own principle, or reason for being, there is peace, but if things act contrary to their principle there is chaos. For both Cheng brothers, *li* is synonymous with *dao* 道 (the way) and the moral component

inherent in both concepts. However for Cheng Yi, *li* generates *qi*, and it is the *qi* that is composed of the complimentary forces of *yin* and *yang*. The *li* is formless, whereas the *qi* generates form. Cheng Yi further argues that man has a *xin* 心 (heart-mind) that governs the body and which when in harmony with the *li* becomes the *daoxin* 道心 (mind of the way), but is also susceptible to human desires which leads to the *renxin* 人心 (mind of man). Cheng Yi asserted that the mind is the source of *ren* 仁 (humanity), the most fundamental of the Confucian virtues. Drawing on a passage from the *Daxue* 大學 (Great Learning) he stressed the importance of *gewu* 格物 (investigation of things) to discover the underlying principle of things as part of moral cultivation, which could be accomplished through reading the classics and expounding upon their meaning, engaging in discussions about the past and the present to discriminate right from wrong, and to take correct action in dealing with one's affairs. Cheng Yi's philosophy is best labeled the *liqi xue* 理氣學 (doctrine of principle and manifestation).

Zhang Zai 張載 (1020-1077) was born in the Northern Song capital of Kaifeng, Henan province, and was orphaned at an early age leading to a life of poverty. At age 21 he wrote a letter to general Fan Zhongyan 范仲淹 (989-1052), who had just led a successful campaign against the Khitan empire in the northeast earning him a high official post, requesting to become a soldier. However, Fan identified his literary potential and persuaded him to study the *Zhongyong* 中庸 (Doctrine of the Mean). Subsequently, Zhang became interested in studying the Buddhist and Daoist canons, yet still was unable to satisfy his yearning for a deeper understanding of the world until he studied the *Yijing*. Then in 1056 after engaging in a discussion with his two nephews,

Cheng Hao and Cheng Yi, Zhang decided to study their ideas instead. In 1057 Zhang Zai passed the *jinshi* examination and was appointed to Hebei province where he continued to give lectures on the Confucian classics, but after he too criticized the reforms of Wang Anshi he lost his post.

The most famous of Zhang Zai's works was his discussion of ethics in the *Xi Ming* 西銘 (Western Inscriptions), while his cosmological approach emphasized *qi* 氣 (energy) as the driving force behind the universe and the myriad things, which he equated with *taiji* and *taixu* 太虛 (great void). Zhang argued that man's *tiandi zhi xing* 天地之性 (heavenly and earthly nature) is purely good, but that the *qizhi zhi xing* 氣質之性 (energetic and physical nature) is from whence evil arises. Zhang believed that *qi* is the transformative force that manifests as *yin* and *yang*, and through this dichotomy all things can be explained. Zhang argued that nothing is ever created or destroyed, but only transformed by *qi*, and that being and non-being are the *yin* and *yang* manifestations of this all encompassing *qi*; and therefore, one cannot be cultivated without the other. Regarding the 'investigation of things,' he stressed that to reach understanding one must study for themselves and reach their own conclusions. Zhang Zai's philosophy is best labeled *qixue* 氣學 (doctrine of the energy).

During the Southern Song, these diverse doctrines from the Northern Song were synthesized by Zhu Xi, and it was his ideas that became required learning for the civil service examinations. Born in the southern coastal province of Fujian, his life ambition was to become learned like his father who died when he was fourteen year old. He passed the *jinshi* examination in 1148 at the remarkably young age of eighteen, and was

appointed to his first official post four years later. In 1158 he was appointed as a temple guardian in Changsha, Hunan province, where he dedicated himself to the study of both classical Confucian texts and the teachings of Northern Song thinkers like Zhou Dunyi, Zhang Zai, and the Cheng brothers. Between 1163 and 1178 Zhu Xi produced the bulk of his prolific literary works on a wide range of topics while studying and teaching in Changsha. During this period Zhu Xi declined other official positions which would have taken more time away from his philosophical pursuits, but finally in 1179 he accepted the post of prefect in Nankang, Zhejiang province, where he built a temple to Zhou Dunyi as the founder of the Song Confucian revival which also included altars to the Cheng brothers. Because he was always an outspoken critic of official corruption, he was frequently demoted, yet was still appointed as the tutor of the young emperor Ningzong 寧宗 (r.1194-1224) in 1194. However he soon was critical of the emperor's counselors who then brought Zhu Xi up on charges of teaching false learning, plagiarizing, and refusing to accept public service appointments, leading to his dismissal in 1196. Zhu Xi then returned to Fujian and continued to teach and write until his death at age seventy-one.

Zhu Xi's integrative philosophy built upon the statement *wuji er taiji* 無極而太極 (absolutely nothing and then the great ultimate) to argue that the former is the source of the latter, and that within *wuji* there exists *li* 理 (principle), and within *taiji* there exists *qi* 氣 (energy), which is composed of *yin* and *yang* and accounts for the manifestation of the myriad things according to *li*. With regards to the *xin* 心 (heart-mind), Zhu Xi argued this was a bridge between *li* and *qi* that provided mankind with the unique ability to

understand their relationship and thus gain knowledge. The purpose of gaining knowledge remained the cultivation of morality, and this is accomplished through *zhi zhi ge wu* 致知格物 (extending knowledge through the investigation of things), which meant intensive study of the *Four Books:* the *Daxue* 大學 (Great Learning); the *Zhongyong* 中庸 (Doctrine of the Mean); the *Lunyu* 論語 (Analects of Confucius); and the *Mengzi* 孟子 (Mencius). After this, one must proceed to the *Five Classics*: the *Shujing* 書經 (Book of History); *Shiji* 詩集 (Book of Odes); *Yijing* 易經 (Book of Changes); *Liji* 禮記 (Book of Rites); and *Chunqiu* 春秋 (Spring & Autumn Annals). Only then could a scholar-official be expected to solve the contemporary problems facing the country. Zhu Xi also expounded upon the *dao*, bridging the Daoist notion of the *dao* as the source of all things by equating it with the *taiji* and *li*, but arguing with regard to mankind specifically it is the path of moral rectitude as argued by Confucians. Hilde De Weerdt (2007) found that both adherents and opponents to Zhu Xi's philosophy during the latter part of the Southern Song identified this as the *daoxue* 道學 (doctrine of the Way), so this is the best label.

Discussion

These five branches of Northern Song Confucianism evidence a great diversity within the accepted scientific paradigm which was followed by consolidation into state orthodoxy with the works of Zhu Xi. This same move from diversity to orthodoxy was mirrored in medicine, but lagged about a century behind, while this same type of discourse is exactly what is seen in the medical literature during the Song-Jin-Yuan Transition. Because all of these different doctrines based their authority on the same

corpus of texts and remained committed to the same accepted paradigm, some might dismiss this diversity just as some might dismiss the diversity of medical learning during this period. Nonetheless, this brief summary of the different ideas within Song Confucianism aids in the contextualization of medical thought of the period.

A disciple of the *taiji xue* who turned to the study of medicine would find the transition quite comfortable, and could make essentially the same arguments but instead use the classical canon of medicine as his authority. Had he opened his edition of the *Huangdi Neijing Suwen*, he would have read from the opening passage of the first chapter:

> 上古之人其知道者法於陰陽
> Those people of antiquity who understood the Way, their methods are from *yin* and *yang*.

Furthermore, whole chapters of the *Neijing* are devoted to detailing and explaining the myriad correspondences of the *wuxing* and their impact on the cosmic cycles and pathways of disease transmission. Thus illness is understood as an imbalance between these fundamental forces of nature, for just as they generate the *wanwu* they also generate the myriad diseases. Additionally, this doctrine may have provided the inspiration for the development of the martial art *taijiquan* 太極拳 (great ultimate fist), as this field gradually developed greater acceptance amongst the literati as a form of self cultivation as well as a therapeutic exercise recommended by physicians. The legends of *taijiquan* credit its invention to the Daoist Zhang Sanfeng 張三丰 (c.1100-1300), and although there is much debate over his actual dates, most fall within the Song-Jin-Yuan Transition. This martial art became closely tied to Chinese medicine, and evidence of at least the

martial spirit is evident in the lives of several physicians of the era. For example, Angela K. Leung (2003) found that that renowned pediatrician Qian Yi 錢乙 (c.1119) was described as “virtuous like a Confucian and righteous like a warrior (p.387),” while Pang Anshi 龐安時 (1042-1099 AD) who developed *Shanghan Lun* diagnostics was described as a lover of gambling, football, acrobatics, who despised wealth and loved justice, and was equated with the knights errant of the Warring States period.

A disciple of the *shuxue* would find ample material in the medical classics for his specific intellectual interest. Drawing again from the *Neijing* he could expound upon the significance of the five *zang* 臟 (solid organs) and six *fu* 腑 (hollow organs), the twelve regular channels of energy, the 15 *luo* 絡 (connecting) vessels, the eight extraordinary channels, the nine acupuncture needles, the 365 acupuncture points and the 365 medicinals, the eight-one chapters of the Han classics, and the list goes on and on. For example drawing directly from the *bagua* and *yijing* methodology, odd numbers are *yang* (a solid line; 一) while even numbers are *yin* (a broken line; - -), and this conceptualization led to the importance of using odd or even numbers in medical treatments in order to tonify or sedate, respectively.

The *tianli xue* offers a different emphasis in the explanation of disease causation, arguing that disease is a product of evil influences on mankind’s *qi* that arose due to his lack of self cultivation and the tranquility it engenders. This state of tranquility can further be equated with health and vitality, so it is easy to see why a Song physician would be interested in the application of this philosophy to medicine. First, it clarifies the diagnosis and second, it offers up strategies for treatment. Much of the burden fell on the

patient who was tasked with engaging more earnestly in self cultivation, but it also argued that the manifestation of disease is found in the *qi*, the ebb and flow of which is mediated through acupuncture as well as herbal medicine. This doctrine also provided the explanation for the observed mind-body connection, and foreshadowed the discussion in medical literature about emotions as an important cause of disease during the Song-Jin-Yuan Transition.

The *liqi xue* was not concerned about tranquility unless it was according to one's principle and therefore manifested in a tranquil form. Since *qi* is what generates form, it is also the source of disease manifestations and the level at which a physician can treat a condition, but the root of all illness remains the violation of one's principle. Thus tranquility is fine for someone more *yin* but not the appropriate focus for others whose temperament is more *yang*. Similarly, what is appropriate for a man is not what is appropriate for a woman, and each individual must also receive a differential diagnosis of their unique pattern. Thus a disciple of this doctrine studying medicine might emphasize the need to accurately identify patterns of disease. This would lead to the investigation of things to better understand the patterns described in the classical texts so that one could apply this wisdom in clinical practice.

A proponent of *qixue* would similarly place their medical emphasis on regulating the flow of *qi* in body, as well as integrating a discussion of the acupuncture channels into all other aspects of etiology, diagnosis, and treatment. The similarities between Zhang's theories and the laws of conservation of energy in the modern Western scientific paradigm are often pointed to excitedly by those wishing to validate the Chinese scientific paradigm by demonstrating its consistency with the norms of the authoritative

model. Of course, the similarities do not stop at the first law of thermodynamics, for *yin yang* dualism also predicts the transfer of energy from high concentrations to low and that a temperature of absolute zero cannot exist in a world composed of complimentary forces. *Yin yang* theory further predicts that for every action there is an equal an opposite reaction, that force will follow the path of least resistance, and that energy (*qi*) is equal to mass (*yin*) multiplied by the speed of light squared (*yang*). More important is to recognize that the philosophy of dualism is a feature of (almost?) every indigenous culture around the world, and that the universe will continue to function of its own accord irregardless of which paradigm mankind uses for explaining things. In other words, the ultimate scientific truth is not found in the paradigm but in the world being studied.

A follower of the *daoxue* would try to embrace all of the areas his predecessors had developed and synthesize their ideas into a single authoritative voice. A Confucian might lament that the contentious nature of the discourse has caused people to lose sight of those fundamental values they all share, and seek to emphasize areas of agreement rather than argument. One of those areas is their commitment to the classical textual tradition which must be the focus of every physician's self cultivation. Through the process of synthesis the diversity that preceded it actually generated a new corpus of classical texts. This intellectual trend from diversity to orthodoxy provided Confucian scholar-physicians of the Song-Jin-Yuan Transition with an accepted model to expound upon different theories as well as later to seek unity among them, and indeed these same texts would later be revered as classics of medicine.

Chapter 3

Medical texts as political discourse

Early in the development of Chinese medicine, texts were first and foremost a means of recording the efficacious treatment methods developed through clinical experience for later generations of doctors. Over time this developed into a sophisticated body of literature that expounded upon theory as well as method by practitioners of high social status. Because the medical profession was long considered base, medical texts were not accorded the same status as the Confucian classics; however, a Confucian's obligation to care for his parents and others ensured that these works would be given due respect. This is evident as far back as the Qin 秦 dynasty (221-206 BC) when Qin Shi Huang 秦始皇 (First Emperor of Qin) (r.221-210 BC) spared medical books during his infamous purge of texts, which further suggests that at this stage in history these texts were not widely believed to contain any political ideas, subversive or otherwise. This began to change when scholars who were not comfortable openly expressing their dissatisfaction with political affairs began to disguise their thoughts in other branches of literature, including medicine. As will be examined, many of the extant medical texts from the Song-Jin-Yuan Transition evidence engagement in this tradition of embedded political discourse; however, one must not dismiss the contribution of these physicians to the clinical practice of medicine. In much the same way as a painter or poet was expected to produce a work of genuine artistic value before their political message was given credence, doctors wishing to participate in this mode of communication had to first have something valuable to add to the medical profession.

The relationship between literature and politics in China is longstanding. In a study on the impact of Confucianism on medical ethics, Guo Jiaojiang (1995) found that the Confucian tradition's teachings on ethics and morality are inseparable from politics, and that this applied equally to medical ethics. The goal of studying the moral order of the universe was to do one's part in promoting balance and harmony for all beings under heaven. In Guo's words:

> It is held that political rule should be supported by instruction in ethics and that each and every principle and norm of ethical instruction should be adapted so as to meet political needs (p.241).

For example, it is now accepted that during the Tang dynasty Li Ao 李翺 (c.800) used his treatise on the herb *heshouwu* 何首烏 (Radix Polygoni) as a way of "concealing risky political ideas under a disguise of medical argumentation (Unschuld, Paul U., 1990, p.29)." Unschuld (1985) recounts the story from the *Heshouwu Chuan* 何首烏傳 (Report on Polygonum Root) where a man who became sterile due to excessive sexual activity finds a plant with intertwined branches, representing the teachings of Daoism and Buddhism, that he later takes as medicine to restore his reproductive vitality. The man thus represents Confucianism that is threatened with extinction unless it can be supplemented by these other philosophical teachings. These ideas of integrating the different intellectual traditions as well as expressing one's view on the matter through medical literature were embraced by scholars of the Song-Jin-Yuan Transition.

Many of the *ruyi* of this period were concerned about their place among the elite of society. As Confucians they wanted to secure their status as scholars worthy of

government service, and demonstrating one's mastery of the literary tradition and ability to expound upon the theories was essential to achieving this goal. It was also essential that others were aware of one's accomplishments, so scholars shared their treatises among other literati in the same manner that scholar-artists who similarly embedded political ideas in their works shared their paintings amongst each other. Angela Ki-Che Leung (2003) details several of the social connections these physicians developed as part of their "professional networks (p.392)," often writing prefaces to each other's works. This is the intellectual parallel to the common practice of inscribing a poem on another scholar's painting as a means of demonstrating one's admiration for their work. This practice also opened the door for expressing their views on society to other literati through this avenue of prose.

During a slightly broader period (c.1000-1400) several different groups of literati from the different branches of medicine, philosophy, and art were later singled out and given the identical titles of *sidajia* 四大家 (four great masters), so it compels one to identify the similarities between them that would account for this phenomenon. Yes, they were all innovative and accomplished in their respective fields, but that alone seems to be a superficial analysis. Looking more deeply, it is clear that another commonality between these groups of masters is that they used their works to engage in political discourse. The first instance of referring to a group of literati as the Four Masters was by the Confucian philosopher Zhu Xi, who in establishing a lineage for his ideas credited the transmission from four thinkers of the Northern Song; Zhou Dunyi, Zhang Zai, Cheng Hao, and Cheng Yi. Given that Zhu Xi's teachings became orthodoxy and therefore required learning for the civil service examination for the remainder of Chinese imperial history, it is important

to note that any reference to a group of Four Masters after 1200 invokes these literati and their contributions to Confucian moral and political discourse.

Similar contributions can be found in the other fields that have been identified as having four great masters. In Yuan landscape painting, the Four Masters were Huang Gongwang 黃公望 (1269-1354), Wu Zhen 吳鎮 (1280-1354), Ni Zan 倪瓚 (c.1301-1374), and Wang Meng 王蒙 (1308-1385), who became renowned not only for the quality of their compositions but also for the embedded nationalist anti-Mongol message contained within their stylistic choices (Cahill, J., 1977). In medicine, the Four Masters and their schools were Liu Wansu 劉完素 (1120-1200) and the Cooling School, Zhang Congzheng 張從正(1156-1228) and the Attack and Purgation School, Li Dongyuan 李東垣 (1189-1251) and the Spleen and Stomach School, and Zhu Danxi 朱丹溪(1280-1358) and the Nourishing Yin School. Yet unlike the masters of landscape painting, the medical masters are rarely acknowledged by medical historians for their participation in political discourse.

P.U. Unschuld (1985) has characterized the diverse theoretical discussions as evidencing a reductionism by each of the doctrines that narrowly viewed disease causation in the same way that the *Shanghan Lun* emphasized cold as the primary pathogenic influence. This view is understandable if one examines their arguments superficially, but in many instances a more balanced approach is evident in each of their medical doctrines. One of the biggest errors made by early Western scholars like M. Porkert (1982) of this period in Chinese medical history is to assume that only four different systems were being promulgated and transmitted through the master-disciple

lineage or being debated at the imperial medical college. In fact there were many other Confucian scholar-physicians each advocating for their own doctrine, and few of them received training under government auspices while several were self-taught and others were part of a private medical lineage. The Eurocentric and even biomedical-centric claim by Porkert that little substantive scientific development occurred during the Song is predictably tied to the lack of a revolution, the abandonment of what is perceived as an outdated paradigm in favor of a new one that better accounts for observed phenomenon (which from the perspective of a medical doctor like Porkert means it moved towards the currently accepted paradigm of the West). Porkert's bias is most evident when he suggests that this era was the beginning of a long decline of Chinese medicine that would only be rectified through the integration of Western learning. Such scholarship actually detracts from our understanding of the period.

This biocentric approach is contrasted by more current scholarship on this period by Angela Ki-che Leung (2003) who argued the master-disciple lineage tradition was what defined the Jin-Yuan medical schools as opposed to the substance of their ideas which were consistent across schools (p.389). Although she acknowledges the importance of the rise of the gentry class and intellectual trends in Confucian learning in influencing medical development, she fails to recognize the vibrant intellectual climate and the subtle distinctions among the schools, nor does she account for the impact of the socio-political climate beyond lineages of transmission. More accurately, these scholar-physicians engaged in normal scientific development through the extension of existing theories to integrate the branches of etiology, diagnosis, and treatment and thereby refined the Chinese medical system. This period thus represented the beginning of a long

incline that would take many twists and turns but continue to develop new ideas and clinical methods until conflict with Western learning caused a rapid decline and threatened the very existence of Chinese medicine.

The contribution of the four great masters of this period is primarily understood as part of a movement characterized by the words of Zhang Yuansu 張元素 (c.1200) who argued in his text *Zhen Zhu Nang* 珍珠囊 (The Bag of Pearls) that *gufang xinbing bu xiang neng* 古方新病不相能 (old formulas and new diseases are not mutually compatible). A general consensus among medical historians is that physicians of the Jin-Yuan era developed innovative ideas of disease causation, new treatment strategies, as well as synthesized prior medical knowledge (Bensky, D., & Barolet, R., 1990; Buck, C., 2008; Ho, P.Y., & Lisowski, F.P., 1997; Huard, P. & Wong, M., 1972; Jiang, Y., 2007; Unschuld, P.U., 1985; Yang, S., & Li, J., 1993; Zehentmayr, F., & Clavey, S., 2010). However, this also remains a superficial analysis. Like the other innovative Confucian thinkers of the Song, these doctors used ancient literature as their authority but focused on different passages and provided alternative explanations in an effort to refine the traditional paradigm and bring their science to maturity. Statements like that of Zhang Yuansu must also be understood not only as a critique of current medical practices, but also of the state of political affairs that led to the loss of the central plains to the Jurchen. The political ideology of the Northern Song was deemed inadequate by many literati, including physicians, to the task of achieving a dynastic restoration through the recovery of the central plains.

Zhu Danxi, the last of the *sidajia*, helped put Zhang Yuansu's statement into perspective a century later in the final chapter of his *Ge Zhi Yu Lun* 格致余論 (Extra Treatises Based on Investigation & Inquiry). Zhu argued that:

> 用古方治今病　正如拆旧屋揍新屋　其材木非一　不再經匠氏之手　其可用乎
> Using old formulas to treat today's diseases, this is correct according to [the idea of] dismantling a worn out house [to fix] a broken new house. It's timbers and wood must not be the same, [for if they] do not again pass through a craftsman's hands, how is one able to use them?

In other words, old formulas are like worn out houses that need not be completely abandoned because in the hands of skilled craftsman, or in this case a skilled physician, many useful elements can be taken from them and reworked into new parts to repair or treat a relatively new house or disease. Carrying the logic further, only a foolish carpenter or physician would build a new house entirely out of worn out materials or only use old prescriptions without modification. In politics, only a foolish official would completely abandon the wisdom transmitted via the Confucian classics, but the future success of the realm depended on new interpretations and applications of the ancient teachings.

As previously established, the *Huangdi Neijing* was the unrivaled authority in medicine. Contained within that text is an abundance of passages that made medicine an excellent vehicle for political discourse. Chapter eight of the *Neijing* provided a description of the human body and the organ systems that was analogous to the structure of the government, which provided an obvious code for criticizing emperors and officials for failing in their duties:

黃帝問曰願聞十二藏之相使貴賤何如　岐伯對曰悉乎哉問也請遂言之　心者君主之官也神明出焉　肺者相傅之官治節出焉　肝者將軍之官謀慮出焉　膽者中正之官決斷出焉　膻中者臣使之官喜樂出焉　脾胃者藏廩之官五味出焉　大腸者傳道之官變化出焉　小腸者受盛之官化物出焉　腎者作強之官技巧出焉　三焦者決瀆之官水道出焉　膀胱者州都之官津液藏焉氣化則能出矣
Huangdi inquired: I wish to hear about the mutual interactions of the twelve organs. How does one compare their status? Qi Bo replied: What an insightful question you've asked! I hope my words are satisfactory. The heart; it is the office of the sovereign, spiritual brightness emanates from herein. The lung; the office of the minister and assistant, governance and regulation emanates from herein. The liver; the office of the general of the army, planning and consideration emanates from herein. The gallbladder; the office of justice, decision making and judgment emanates from herein. The middle of the chest (acupuncture point CV-17, which corresponds to the heart governor or pericardium); the office of official envoys, happiness and enjoyment emanates from herein. The spleen and stomach; the office of depositories and granaries, the five flavors emanates from herein. The large intestine; the office of the transmission of the way, transformational change emanates from herein. The small intestine; the office of enduring prosperity, the transformation of things emanates from herein. The kidneys; the office of composing strength, skill and ability emanates from herein. The three burners; the office of execution and drainage, the water pathways emanates from herein. The urinary bladder; the office of the prefectural capitals, the bodily fluids are stored herein, the energy is transformed and then able to exit.

This organizational scheme was useful both for physicians seeking to harmonize the functions of the body as well as scholars seeking to shroud their criticisms of government by discussing medical theories of etiology and pathogenesis. Thus a Confucian could at once converse about how to maintain harmony in the state and in the body, for the same paradigm informed both activities. This passage from the *Neijing* continues by providing a description of what happens when the body or the government is out of balance:

凡此十二官者不得相失也　故主明則下安　以此養生則寿歿世不殆　以為天下則大昌　主不明則十二官危　使道閉塞而不通形乃大傷　以此養生則殃　以為天下者其宗大危　戒之戒之

> In this realm of these twelve officials, it cannot result in their failure to work together. For this reason governance that is intelligent results in all under [heaven] being peaceful. Using this to nourish life results in longevity, dying [from illness] in one's lifetime is not a danger. In this way all under heaven will then greatly prosper. Governance that is not intelligent results in the twelve officials being in peril, causing the Way to squeeze shut and not be transmitted, the body consequently is greatly damaged. Using this to nourish life results in disaster, [and for] those who esteem all under heaven, the ancestors are in great danger. Pay close attention to this!

Furthermore, this was not a fleeting notion restricted to the Song-Jin-Yuan transition. Xu Dachun 徐大椿 (1693-1771 AD) in his *Yixue Yuanlei Lun* 醫學源疏論 (Treatise on the Origins and Categories of Medical Study) echoed this same principle when he stated: *zhi shen you zhi tianxia ye* 治身猶治天下也 (the regulation of the body is just like the regulation of all under heaven). While Xu railed against his contemporaries for their strict adherence to the doctrines of the *sidajia*, he also acknowledged that these masters were formulating medical theories that paralleled the political climate, as illustrated by the following passage:

> 如宋之末造中原失陷　主弱臣弛　張潔古李東垣輩立方皆以補中宮建脾胃
> For example, as the Song's end was brought about and the central plains were lost and captured; governance was weak and officials ineffectual. Those like Zhang Jiegu (Yuansu) and Li Dongyuan established prescriptions that were all used to supplement the central palace and build the spleen and stomach.

Thus it was clear to later generations of physicians that Zhang and Li were not only producing medical treatises, but also were influenced by the loss of the north to the northern barbarians and perceived the need for stronger governance to restore the dynasty. If the doctrines espoused by these two physicians evidence their engagement in this form

of discourse, it seems logical that the other scholars were as well, although they did not all identify the same strategies to bring about a dynastic restoration.

A similar organizational structure to that found in the *Neijing* was used in pharmaceutical literature as described in the *Shennong Bencao.* The preface to this work provides guidelines for formula construction that ranked the medicinals as sovereigns, ministers, assistants and envoys. Just as the members of the bureaucracy must work together, so too must the ingredients in a prescription, and according to this classic there must always be only one sovereign, two or three ministers, and five to nine assistants and envoys. This provided another means to discuss the functioning of government by constructing and discussing medical prescriptions.

During the Song-Jin-Yuan Transition the overarching concern of scholars was the loss of the north to the Jurchen in one of the most significant military failures in China's history, followed by the loss of the south to the even more formidable army of the Mongols. Therefore a theme in the medical writings of this period was rectifying this deficiency of the state. Just as political themes are evident in the medical classics, so are military metaphors. A passage from the second chapter of the *Neijing* evidences this nicely:

> 是故聖人不治已病治未病　不治已亂治未亂　此之謂也　夫病已成而后藥之　亂已成而后治之　譬猶渴而穿井斗而铸锥　不亦晚乎
> In the past sages didn't treat when there already was disease, they treated [when a person was] without disease. They didn't govern when there already was disorder, they governed when the [state] was without disorder. This is what was meant. A person's disease already manifests and then afterwards [one provides] medicine for it, chaos has already manifested and then afterwards [one attempts to] govern it, this is analogous to being thirsty and then digging a will, fighting and then forging weapons. Is this not indeed too late?

While this passage is often cited to promote the importance of preventive medicine, it similarly invokes the importance of preventive governance through a strong military. If the ruler is a sage then disorder does not break out, whereas the presence of disorder internally and warfare on the borders implies the ruler had lost the mandate of heaven. Even though the Northern Song amassed the largest professional army ever known and went bankrupt provisioning the soldiers with food and weapons, it was in fact a failure of governance and the adoption of a policy of appeasement that led to the loss of the north. Further, one must consider that despite the massive number of well-fed and well-equipped soldiers there must have been a failure in the training and preparation for warfare in a climate where their presence was viewed only as a deterrent rather than a weapon with offensive capabilities.

One of the most significant texts to be revised and reprinted by the Northern Song Bureau for Revising Medical Texts was the *Shanghan Lun*, wherein military metaphors are clearly evident. The title of the work itself provides the first example, as the term *shang* 傷 (damage) also indicates a wound or injury caused by violent trauma. Besides being injured by cold, the other dominant theme of this text is *zhongfeng* 中風 (struck by wind). Once again this invokes violent imagery of being hit by an external force. Thus physicians were engaged in battle with external disease causing influences just as the state was engaged in conflict with the northern barbarians, and since according to *wuxing* theory cold corresponds to the north, this parallel likely contributed to the widespread popularity of this treatise and the numerous commentaries.

As Dieter Kuhn (2009) points out, in 984 the Song emperor Taizong "adopted the symbolic element of fire and corresponding color red for the Song, thus legitimizing the dynasty in the cosmic order (p.36)." What this meant to everyone familiar with w*uxing* theory was that eventually the power of water from the north would inundate the central kingdom and conquer the fire of the Song, for this was also part of the same cosmic order. Therefore, the willingness of the Southern Song to retreat to the south and allow the Jurchen to take over may have been born out of a belief that they could somehow survive this conquering cycle by ceding the central plains to the north. But the final phase of water would come with the Mongols who washed the slate clean of the fire dynasty.

Just as military metaphors were used in medical literature, military literature used the same themes common to medicine and the Confucian world order. As part of the Song military build up the government sponsored the publication of the *Wujing Qishu* 武經七書 (The Seven Military Classics) which was required reading for the newly implemented military examinations. In addition to the civil service examinations which remained the primary route to an official post, the Song also implemented examinations for physicians and military officials which served to offer alternative career paths for scholars unable to pass the highly competitive *jinshi* exams. However, these other two fields were by no means equal in prestige. Robert P. Hymes (1987) referenced a statement made by the Song scholar Fan Zhongyan 范仲淹 (989-1052) which evidences the growing acceptance of medicine as an acceptable path for the literati during this period: "given that [high office] is unattainable, none can fulfill so well as a good doctor the desire to save the people and benefit the world (trans. Hymes, p.43-44)." Although military service never approached this level of acceptance among the educated class in

Chinese society, it is reasonable to expect that many of the Song literati had read these military texts, particularly those interested in understanding the failure to secure the central plains and in offering suggestions towards dynastic restoration. A clear example of the consistency in themes is evident in the following passage from the third chapter of *Tai Gong Liu Tao* 太公六韜 (Taigong's Six Stratagems):

> The spirits of the five phases are constants of the Tao. Metal, wood, water, fire and earth - each according to the conquest relationship - [can be employed to] attack the enemy. In antiquity, during the period of the Three Sage Emperors, they used the nature of vacuity and non-action to govern the hard and strong. They didn't have characters for writing; everything proceeded from the five phases. The Tao of the five phases is the naturalness of Heaven and Earth (trans. Sawyer, R.D., 1993, p.72).

This illustrates that the *wuxing* theory was to be applied in battle tactics, just as it is in medicine or government, because according to Chinese intellectuals it was the guiding principle for all things. Further, we can find in these texts the origins of the teachings that would become central to the *neigong* 內功 (internal practice) school of martial arts that was emerging during this time, and would become closely tied to the theory and practice of medicine. A central tenet of these arts is the application of emptiness to overcome strength in conformity with *yin yang* theory, a concept also found in medicine of this era.

Although the consistent use of these fundamental doctrines in political, military and medical thought is not by itself anything remarkable, the inclusion of all of these realms of discourse in medical writings is not something that has been hitherto explored to any substantive degree in English language sources. Therefore without this level of analysis those who are interested in Chinese medical history as either practitioners or

academicians have a severely limited and incomplete understanding of medicine during the Song-Jin-Yuan Transition.

What follows is a detailed examination of the contributions of several key figures of the Song-Jin-Yuan Transition to both the normal scientific development of medicine and the political discourse of Confucian scholar-physicians. These *ruyi* created a new genre of medical literature that discussed diverse doctrines of medical practice. The essential elements of this genre are: 1) reliance upon the classical medical canon for their authority but diverging to expound upon distinct medical doctrines; 2) emphasizing the status of the *ruyi* as members of elite society through references to the Confucian canon or with veiled commentaries on the socio-political crisis; and 3) they are meant to serve as part of a complete yet concise system of medicine with unique approaches to etiology, diagnosis, and treatment using a select group of prescriptions for a variety of diseases that a general practitioner was likely to encounter.

Part II

The Great Masters

Chapter 4

Liu Wansu

Liu Wansu 劉完素 (c.1120-1200), also known as Liu Shouzhen 劉守眞, was an influential physician who earned the first seat among the *sidajia* 四大家 (four great masters) of the Song-Jin-Yuan Transition (c.1100-1300). In addition to a series of prescription manuals based on his study of the Cold Damage genre, including the *Xuan Ming Fang Lun* 宣明方論 (Treatise on Carefully Analyzed Prescriptions) and the *Shang Han Zhi Ge Fang Lun* 傷寒直格方 (Direct Investigations of Formulas for Cold Damage), in 1152 Liu published a short treatise on the theories guiding his approach to medicine entitled the *Suwen Xuanji Yuanbing Shi* 素問玄機原病式 ([*Huangdi Neijing*] *Suwen*'s Profound Theories on the Origins of Disease Patterns). Hoizey, D., and Hoizey, M.J. (1993) found that late in his life Liu, who was from Hejian in Hebei province, was offered an official post three times by the Jin emperor Zhangzong 章宗 (r.1189-1208), and three times Liu declined saying he preferred to practice among the masses. As a Confucian and most likely a *jinshi* 進士 (achieved scholar) he would have perceived service in government as the highest calling, although he may have been conflicted over abandoning his patients. Liu may have felt that he could not morally serve the barbarian overlords of the central plains, while even the emperor could only admire his loyalty to his patients and thus spare him any punishment for his refusals. However, the fact that he was thrice offered a post might suggest that Liu's political leanings were in support of the new dynasty and thus the emperor eagerly sought his counsel, and it is further possible to

interpret his writings and his place among the literati physicians of this era from the perspective of a loyal servant of Jin.

The overarching theme of the *Suwen Xuanji Yuanbing Shi* is evident in its organization according the doctrine of *wuyun liuqi* 五運六氣 (five movements and six energies). Since early times, medical professionals learned the basics of astronomy and the calendrical cycles which are necessary to determine appropriate times for ritual ancestral offerings and healing ceremonies. Evidence of this was found at both the Shuihudi (Hubei province) and Fangmatan (Gansu province) archaeological sites dated to the Han period. Manuscripts from these two sites "make a visible effort to grasp time numerically, so as to distinguish between auspicious and inauspicious timing for the course of an illness and to provide a framework for statements and predictions as to the causes and prognoses of illnesses (Unschuld, P.U. & Zheng, J., 2005, p.21)." Unshuld and Zheng state that these ideas led to the theories found in the chapters that Wang Bing (c. 762 AD) inserted into the *Huangdi Neijing Suwen* (66-71 & 74). Many historians of Chinese medicine remark that this theory was increasingly popular during the Song-Jin-Yuan Transition, and that it emphasized the relationship between man's health and the environment. However among the literati physicians of this era, no one applied this theory in exactly the same way, so what superficially appeared as a commonality still represents a diversity of thought.

More specifically, the *wuyun* is equated with the *wuxing* 五行 (five elemental-phases) in the discussion of their influence over the cosmic cycles and was extended to correspondences between the elemental-phases, the solid and hollow organs, the six divisions of *yin* and *yang*, and the ten heavenly stems and the twelve earthly branches, all

of which influence the cyclical manifestation of the *liuqi*, or climactic energies that impact health and disease. This same theory was used by Chinese officials in service of the emperor to determine auspicious times for performing the expected rituals of office, and further explained the rise and fall of dynastic houses according to the conquering sequence of the *wuxing*. The moral authority claimed by the *ruyi* 儒醫 (Confucian scholar-physicians) was grounded not only in their loyalty to Chinese civilization, but their loyalty to the greater cosmic order and the ultimate moral principle. Therefore they criticized the Jurchen for choosing an inappropriate name for their reign over the *zhongyuan* 中原 (central plains) demonstrating their ignorance of the principles governing all under heaven, which was further evidence of their barbarism. Once things have been placed into the proper order then harmony can be restored to the central plains. This argument is grounded in a passage that any Confucian scholar reading this text would have also been familiar with from the *Shiji* 史記 (Historical Records) by Sima Qian 司馬遷 (c.100 BC):

> 秦始皇既并天下而帝　或曰　黃帝得土德　黃龍地螾見　夏得木德　青龍止於郊　草木暢茂　殷得金德　銀自山溢　周得火德　有赤烏之符　今秦變周　水德之時
> After Qin Shi Huang (r.221-210 BC) had already unified all under heaven and proclaimed himself the emperor, someone said: The Yellow Emperor (c.3000-2000 BC) attained the virtue of earth, and the yellow dragon and earthworms appeared; the Xia (c.2000-1500) attained the virtue of wood, and the green dragon stopped at the outskirts of the city and the grass and trees flourished; Yin (or Shang 商, c.1500-1000 BC) attained the virtue of metal, and silver overflowed from the mountains; the Zhou (c.1000-220 BC) attained the virtue of fire, and there was the symbol of the red bird. Now Zhou has transformed into Qin (221-206 BC) and it is time for the virtue of water.

Thus it was understood that the progression of dynasties followed the conquering cycle of the *wuxing*, and furthermore, that the Han dynasty represented the earth elemental phase and the initiation of another elemental cycle. Since the founder of the Song dynasty recognized their reign as representing the fire phase, in the minds of Song intellectuals it necessarily would be succeeded by the water phase. This conception of the order of the universe permeated intellectual traditions, political strategies, and medical thought.

In addition, the specific interest by Song-Jin-Yuan physicians in these most likely apocryphal chapters inserted by Wang Bing deserves additional consideration. The reason these additions to the Han classic from the Tang dynasty were accepted was because they opened the door for Song-Jin-Yuan scholars to put forth their own theories and contribute to an evolving canon of medical literature, citing the authority of Wang Bing. In other words, acceptance of these additions into the Han medical canon generated a culture of acceptance towards new interpretations of the classics. This created an intellectual environment that accepted and encouraged diversity and debate.

One distinguishing feature of this new genre of medical literature is the assertion of a scholar-physician's perception of their rightful place among the elite of society. Thus Liu begins by providing the historical context necessary to appreciate his work:

> 夫醫教者 源自伏羲 流於神農 注於黃帝 行於萬世 合於無窮 本乎大道 法乎自然之理
> Now as for those who teach medicine, the source [of their teaching] originated with Fuxi (legendary founder of Chinese civilization), flowed through Shennong (legendary Divine Farmer), poured forth from Huangdi (legendary First Emperor), was transmitted through myriad generations, was integrated with the infinite, was

> rooted in the great Way, and the methods are consistent with the principles of the natural world.

Since Shennong is credited with tasting all the plants and uncovering their medical properties which was subsequently recorded in the *Shennong Bencao*, and Huangdi is credited with sponsoring the production of medical knowledge and the writing of the *Huangdi Neijing*, this places the field of medical learning as indispensable to Chinese civilization. Liu then immediately turns to the literary field:

> 伏羲神農黃帝之書　謂之三墳　言大道也　少昊顓頊高辛唐虞之書　謂之五典　言常道也　蓋五典者三墳之末也　非無大道　但專明治世之道　三墳者　五典之本也　非無常道　但以大道為體　常道為用　天下之能事畢矣
> Fuxi, Shennong, and Huangdi's books are called the three tomes [and contain] the words of the great Way. The books of Shaohao (legendary son of Huangdi), Zhuanxu (legendary grandson of Huangdi), Gaoxin (legendary great-grandson of Huangdi), the Tang (dynastic house), and Yu (a Zhou state), these are called the five canons [and contain] the words of the eternal Way. That which surpasses the five canons, it is the branches of the three tomes, for in no case are they without the great Way, they are only devoted to the Way of enlightened treatments for generations. Of the three tomes, they are the rooted in the five canons, for in no case are they without the eternal Way, they are only used to embody the great Way, the eternal Way serves as their usefulness, they are able to bring to completion the affairs of all under heaven.

Thus Liu argues that not only is the classical medical canon rooted in the Confucian canon, it surpasses them because it developed means to promote health and longevity while embodying the great Way, and thus they are able to bring to completion the affairs of all under heaven. In a society so deeply rooted in Confucian thought, this was a bold and even audacious claim. It also is asserting that principles of good governance can also be found in the medical canon. Therefore analyzing the texts of *ruyi* during this period as participating in political discourse is certainly well grounded.

Liu then uses this context to offer both a veiled commentary on the current political crisis as well as set up his doctrine of medical practice:

> 嗚呼　餘之醫教　自黃帝之後　二千五百有餘年　漢末之魏　有南陽太守張機仲景　恤於生民多被傷寒之疾　損害橫天　因而輒考古經　以述　傷寒雜病方論　一十六卷　使後之學者　有可依據
> Alas! [There has been] a surplus of medical teachings since after Huangdi more than 2,500 years ago. During the Wei kingdom (221-265 AD) at the end of the Han dynasty (206 BC-221 AD), there was the Nanyang (Henan province) governor Zhang Ji Zhong Jing, who provided relief to the lives of the people who often suffered from diseases of cold damage. The destruction and harm overflowed the heavens. This is the reason to always investigate the ancient classics, use the narrative of the *Shanghan Zabing Fanglun* in 16 scrolls. Those who apply it after studying possess the ability to depend upon this foundation.

The dates for Zhang Zhongjing's life are 142-220 AD, which means he died right on the cusp of the Han's dynastic fall and the rise of the *Sanguo* 三國 (Three Kingdoms) period (221-265 AD). His governorship at modern day Changsha actually places him in the region dominated by the Wu 吳 kingdom (222-280), not in the north where the Wei kingdom ruled, which came to power under the notorious general Cao Cao who recruited the help of the Xiongnu (the northern nomadic tribe that had continually threatened the Han's northern border) and whose son forced the final abdication of the last Han emperor to found the Wei dynasty. This historical period in many ways paralleled the socio-political turmoil that Liu Wansu grew up in, with the loss of the north to Jurchen tribe which drove the Song court south to the region once ruled by the Wu kingdom. However, by suggesting the great master of the Han worked under the Wei may be an attempt by Liu to find or create a historical precedent for his shift in loyalties to the new dynastic house.

Therefore the comment that after treating people for cold damage the "destruction and harm overflowed from the heavens" must be considered carefully. It could just be a metaphor for the intensity of the suffering during the years of warfare and political division, and therefore be expressing deep admiration for Zhang Zhongjing's efforts amidst a comparable crisis. However, since Liu emphasizes the importance of heat pathogens in this text, an approach criticized by those who identified closely with the cold damage doctrine, he may be arguing against rigid adherence to a doctrine that may also be responsible for doing harm to people. Although like all of the Song-Jin-Yuan *ruyi*, Liu provides an overall balanced approach to address all of the six climactic energies, through a simple page count it is clear that his emphasis is on diseases caused by heat and fire.

To better appreciate Liu's doctrine one must first examine the structure of the entire treatise. The first section of this text briefly discusses the *wuyun* in five short passages. Although already brief, Liu provides an even more concise summary at the beginning of the text that states:

> 諸風掉眩　皆屬肝木　諸痛癢瘡瘍　皆屬心火　諸濕腫滿　皆屬脾土
> 諸氣膹郁病痿　皆屬肺金　諸寒收引　皆屬腎水
> All wind trembling and dizziness, each are categorized as liver-wood. All pain, itching, ulcerations, and sores, each are categorized as heart-fire. All damp swellings and fullness, each are categorized as spleen-earth. All *qi fen* depressed diseases and atrophy, each are categorized as lung-metal. All cold constraint and tightness, each are categorized as kidney-water.

The second section is much longer, and discusses the *liuqi* in six subsections in the following order; *feng* 風 (wind), *re* 熱 (heat), *shi* 濕 (damp), *huo* 火 (fire), *zao* 燥 (dry),

and *han* 寒 (cold). Under wind there is only a very brief discussion (although this was also a principle disease agent in the *Shanghan Lun*). Under heat there are 34 disease headings that are discussed sometimes at length. Damp covers 8 disease headings, while fire has 22. Finally dry has only 3 and cold has 9 disease headings. Thus a total of 56 diseases discussed in this text are related to heat and fire, compared to 20 diseases for all other pathogens. There is another, perhaps even more remarkable feature of Liu's list of the *liuqi.*

Anyone familiar with the medical classics and discussions on exterior pathogenic influences would have questioned Liu's inclusion of fire. In the *Neijing*, fire was first and foremost recognized as one of the five elemental-phases, one of the eight trigrams of the *bagua* 八卦, and a correspondence of *yang*, that served together with *yin* and the other elements as part of the governing principles of the universe. As a member of the *wuxing*, it also had a physical correspondence in the natural world, and so the phrase *ru huo zhi re* 如火之熱 (resembling the heat of fire) was used in regards to symptoms of illness. But equating fire with the climactic influences directly responsible for causing sickness was an idea first introduced by Wang Bing in chapter 66 of the *Neijing*:

> 寒暑燥濕風火　天之陰陽也　三陰三陽上奉之　木火土金水火　地之陰陽也　生長化收藏下應之
> Cold, heat, dry, damp, wind, and fire; they are the *yin* and *yang* of heaven, the three *yin* (*taiyin*, *shaoyin*, *jueyin*) and three *yang* (*taiyang*, *shaoyang*, *yangming*) above revere them. Wood, fire, earth, metal, water, and fire; they are the *yin* and *yang* of earth, birth, growth, transformation, harvest, and storage below comply with them.

This passage is actually quite strange despite its use of familiar phrases. As already mentioned, the inclusion of fire among the climactic factors was new, and may have been an attempt to rectify the additional *zangfu* associated with the fire element, the *xinbao* 心包 (pericardium) and *sanjiao* 三焦 (three burners), with their own climactic influence separate from the heart and small intestine. The pericardium had already been relegated to a lower status as evidenced by the common reference to the *wuzang liufu* 五臟六腑 (five solid and six hollow organs), so this may represent an intellectual revival of these systems. Even stranger here is Wang Bing's repetition of fire in the list of the now six elemental-phases. While some might discount this as a copying error, it appears again immediately following this passage, as if to reinforce for the reader that this was intentional. This might again be calling attention to the two *zangfu* pairs associated with fire and the need to rectify this with two fire phases. This at least would account for Wang Bing's contribution.

To explain why Liu Wansu was compelled to elaborate on this passage in his own doctrine requires another layer of analysis and might be found in the context of the socio-political crisis. The Song dynasty represented the fire phase when it ruled all under heaven, but it had been defeated by the Jin and driven from the central plains. The continued existence of one dynastic element of fire in the south and another ruling element in the north, be it metal or water, was generating continued disharmony that could only be rectified with the completion of the *wuxing* transformation. Therefore the additional fire element represented by the Song had become a disease causing influence, and only with the elimination of the surplus fire element could fire be eliminated from the list of pathogens.

A good example of Liu's doctrine is found in his discussion of *long* 聾 (deafness) under the section on fire. Any reader would be drawn to this passage because it is one of the longest discussions under any of the disease headings, under one of the longest subsections. In this context, Liu's discussion of deafness seems to minimally be very important to him, and perhaps he thought others should listen closely to what he had to say on the matter. The character for deafness 聾 is composed of the phonetic element *long* 龍 (dragon) perched atop an *er* 耳 (ear). The dragon has always been associated with the emperor and is a symbol of imperial power. Because the image is of a dragon blocking the ear's ability to hear, restoring health requires the dragon be removed from his seat. The core of Liu's doctrine is that the fire elemental-phase tends to be excessive while the water element tends to be deficient, and since according to the conquering cycle of the elements water is supposed to overcome fire, this imbalance is at the root of many diseases. Thus Liu argues:

> 夫豈知水火之陰陽　心腎之寒熱　榮衛之盛衰　猶權衡也　一上則必一下　是故高者抑之　下者舉之　此平治之道也
> So how is it possible to know the *yin* and *yang* of water and fire, the cold and hot of the heart and kidney, the flourishing and defending of the vigorous and decrepit, and still weigh the advantages and disadvantages? If there is one above then there must also be one below, and the reason is that which is high represses the other, and that which is below rises up against the other. This is the Way of harmonious treatment (or governance!).

Since the context is medical, the use of the character *zhi* 治 is usually translated as "treatment," however; the same character is commonly used in the Confucian context as "governance" or the ordering of all under heaven. Thus Liu could be alluding here to the

inevitable decline of one dynasty and the rise of the next according to the conquering cycle of the *wuxing*. Later in the same passage he continues:

> 經曰　寒因熱用　熱因寒用　亦是治熱類也　故治病之道　寫實補衰平而已矣　或謂病熱為火實水虛　反言腎虛為冷　心迷正理　不敢用對証寒藥誤以食前服其助陽熱藥　欲令下部水勝　退上焦心火
> The classics said: if cold is the cause, heat is used, if heat is the cause, cold is used. Also, this is classified as the treatment of heat. Thus this is the Way of treating disease: drain the excess and tonify what is decrepit, and there will be harmony thereafter. Perhaps this is called diseases of heat from fire excess and water deficiency. Paradoxically it is said when kidney deficiency is considered cold, the heart is confused as to the correct principle, it doesn't dare use the correct conformation and cold medicinals. Mistakenly using food before taking medicine, they are assisting the *yang* hot medicinals. Wanting to command the lower section of water to victory, they defeat the upper *jiao* of heart fire.

Although this lengthy rant falls under the topic of deafness, it appears he is expounding upon a fundamental truth that he believes explains many things. This argument is repeated in various forms through out the text, but one must consider that he also saw this principle applicable to the political crisis.

If we accept that Liu was willing in principle to serve the Jurchen, the meaning of this passage is that the Song dynasty had reached a state of excess and was being overcome by water, but the stubborn refusal of Song loyalists to accept the cyclical change resulted in a state of disharmony. In the Confucian hierarchy of relationships it begins with the emperor and his subjects, and their can be only one son of heaven. Therefore the political strategy Liu is espousing is to drain the excess fire through the abdication of the throne by the first emperor of the Southern Song Gaozong 高宗 (r.1127-1162) who still reigned when this text was published in 1152, and then tonify the

decrepit water through loyalty to the Jin who like all people are capable of being civilized and governing morally.

Chapter 5

Chen Yan

Another excellent early example of this new genre of literature is provided by Chen Yan 陳言, also known as Chen Wuze 陳無擇. While the exact dates of his life are unknown, his *Sanyinji Yibing Zhengfang Lun* 三因極一病證方論 (Treatise on Proven Formulas based on the Three Ultimate Causes of All Diseases) appeared c.1174 and helped to launch this intellectual movement that became more narrowly identified with the *sidajia*. The content of the work leaves no doubt that Chen Yan considered himself a *ruyi*. Given average life spans, it is possible that like Liu Wansu, Chen Yan grew up during the political crisis that drove the Song court south and led to the occupation of the central plains by the Jin dynasty. Paul U. Unschuld (1985) describes this work as "an often reprinted handbook of etiology (p.175)," but it is much more. This text has the three essential elements of this new genre and thus should stand alongside the literature of the *sidajia* when considering the Song-Jin-Yuan Transition.

The title of Chen Yan's book immediately invokes the authority of the classical canon. Chen is most remembered for his categorization of the three ultimate causes of disease, and by so doing he is referencing the works of Zhang Zhongjing 張仲景 (142-220 AD), specifically; the *Jingui Yaolue Lun* 金匱要略論 (Discussion of Prescriptions from the Golden Cabinet). In the opening chapter Zhang provided his own discussion of etiology based on three categories:

> 夫人秉五常因風氣而生長　風氣雖能生萬物亦能害萬物　如水能浮丹亦覆丹若五臟元真　道暢人即安和　客氣邪風中人多死

> Generally speaking, man is under the influence of the five eternal causes from the environment (lit. wind energies) in which he lives. Although the environment is able to generate the myriad things it is also able to harm the myriad things. It is like how water is able to float cinnabar as well as to cover cinnabar. It resembles the original genuineness of the five *zang* (solid organs). [When] the Way is unimpeded, people approach peace and harmony. [When] the guest *qi* of evil wind strikes mankind, most will die.

This passage reiterates the patho-mechanisms from the *Shanghan Lun* 傷寒論 (Treatise on Cold Damage) of being struck by wind, and identifies all evil influences as originating outside oneself. Zhang then reduces all the possible disease influences into three categories:

> 十般疢難不越三條 一者經絡受邪入臟腑 為內所因也 二者四肢九竅血脈相傳壅塞不道 為外皮膚所中也 三者房室金刃虫獸所傷 以此詳之病由多盡
> Of the ten sorts of difficult diseases, they don't exceed three types; As for the first, [when] the channels and collaterals receive the evil it enters the *zangfu* (solid & hollow organs), this serves as the internal cause of disease. As for the second, the four limbs, nine orifices, and blood vessels mutually transmit obstructions and blockages and they don't flow freely, this serves as the external [cause], it is the skin and flesh which is struck [by evil]. As for the third, it is sexual indiscretion, and insects and beasts which do damage. [If you] use this explanation of disease causation [you will find] it is the most comprehensive.

Thus, of the three categories, only the third places any responsibility on the individual for maintaining his health; by controlling his sexual appetite, and perhaps avoiding wild animals. The internal causes are actually external evils entering via the acupuncture channel system which then transmits the pathogens interiorly, whereas the external causes are the result of evil striking the surface and obstructing the limbs or orifices. Of course this also suggests that if one lives in harmony with the Way then it will lead to

peace and good health, so that the exterior evil influences will be unable to invade the body.

Although Chen Yan also identified internal, external, and miscellaneous causes of disease, he diverged from Zhang's model in order to better differentiate the interior from the exterior. However, he shows his reverence for the classics by the way he structures his argument to mirror the format of the original but with a contemporary flavor:

> 夫人稟天地陰陽而生者　蓋天有六氣　人以三陰三陽而上奉之　地有五行　人以五臟五腑而下應之　於是資生皮肉筋骨精髓血脈　四肢九竅　毛發齒牙　唇舌　总而成體
>
> Now as for people's endowment, it that which is generated from heaven and earth, *yin* and *yang*. The far reaches of heaven possess the six *qi* (environmental factors), and people use the three *yin* (*taiyin, shaoyin, jueyin*) and three *yang* (*taiyang, shaoyang, yangming),* and raise them to high esteem. Earth possesses the five elemental-phases, and people use the five *zang* (solid organs) and five *fu* (hollow organs) and are humble in response to it. From this endowment comes the generation of skin, muscles, sinews, bone, essence, marrow, blood, vessels, the four limbs, the nine orifices, the body and head hair, the teeth, lips and tongue. Altogether these become the human body.

Thus Chen also begins by providing the context for his model, but with the momentum generated during the Northern Song of integrating Classical Medicine with the Cold Damage and Prescription Medicine genres, Chen describes a world that operates according to the laws of *yin* and *yang* and the *wuxing*. His reference to the five *zang* and five *fu* is unusual, and may have been his own attempt at reconciliation of the *wuxing* model. He pays homage to Zhang by citing the three *yin* and three *yang* which were the basis for his diagnostic model in the *Shanghan Lun,* and tangentially references the *wuyun liuqi* model as well. Chen then builds on this by using correspondences of these laws to describe his alternative model;

> 外則氣血循環　流注經絡　喜傷六淫　內則精神魂魄志意思　喜傷七情　六淫者　寒暑燥濕風熱是　七情者　喜怒憂思悲恐驚是
> There is an exterior and then the *qi* and blood circulate and flow through the channels and collaterals. Their contentment is damaged by the six excesses. There is an interior and then it is refined into the *shen* (spirit of the heart), *hun* (ethereal spirit of the liver), *po* (corporeal spirit of the lung), the willpower (kidney), and the intellectual capacity (spleen). Their contentment is damaged by the seven emotions. As for the six excesses, they are cold, summer-heat, dryness, dampness, wind, and heat. As for the seven emotions, they are happiness, anger, worry, consternation, sadness, fear, and fright.

Thus Chen substitutes the six climactic energies for the more ambiguous reference to external evils, but more importantly he identifies the emotions and spirits of the five *zang* organs as the internal cause of disease. This is also consistent with *wuyun liuqi* theory, but while Liu emphasized the six energies, Chen provides more clarification of the five phases and their emotional-spiritual correspondences. No longer is disease viewed as only originating from an exterior source. Chen argued that it is unchecked emotions that cause disharmonies in the internal organs that lead to the manifestation of physical diseases. Of course, Chen was not the first to propose this theory which can also be found in the opening passage of chapter 66 of the *Neijing*, the first chapter inserted by Wang Bing that leads to the discussion of *wuyun liuqi* theory:

> 天有五行　御五位　以生寒暑燥濕風　人有五藏　化五氣　以生喜怒思憂恐
> Heaven possesses the five elemental-phases, the five imperial posts, which generate cold, (summer) heat, dry, damp, and wind. Man possesses the five depots (solid organs), they transform the five energies, which generate happiness, anger, consternation, worry, and fear.

There are two likely reasons for Chen's revived and revised model of disease causation. One reason could be that it was a response to the emotional suffering caused by the years of warfare and strife that affected the masses during the Song-Jin political crisis. Just like Zhang Zhongjing before him, he still recognized the danger of external influences, but he extended this theory to argue the internal response to exterior stressors is also important to consider. Critics of his system like Unschuld (1985) point out that he doesn't in turn offer up any prescriptions for emotional disorders, but this misses the point. Chen Yan was not generating a branch of psychology in medicine, but was only discussing the etiology of physical diseases. His clinical approach remained focused on treatments based on pattern conformation, or as he often repeats; *zhengzhi* 証治 (conformation & treatment).

Another reason for this model is that Chen Yan was invoking the authority of the Confucian canon, and thus enhancing the reputation of *ruyi* among the literati. Although Chen again does not use the classical sources verbatim, he must have been aware of the original reference to the seven emotions from the *Liji* 禮記 (Book of Rites) (c.500-220 BC):

> 故聖人耐以天下為一家以中國為一人者　非意之也　必知其情　辟於其義　明於其利　達於其患　然後能為之　何謂人情　喜怒哀懼愛惡欲　七者弗學而能
> Therefore those sages who enduringly consider all under heaven as a single family and consider the central states as being one people, they do so without thinking about it. They must have knowledge of their feelings, [so that they may] penetrate by their righteousness, enlighten by their advantages, comprehend by their mistakes, and only afterwards will they be able to accomplish it. What are the emotions of mankind called? happiness, anger, sorrow, fear, love, hate, and desire. As for these seven, one does not need to study them to be able to [have them].

Chen's list also begins with the same two characters for happiness and anger, but he uses different characters for fear and sadness or sorrow. However, he adds worry and consternation, both of which appeared in the *Neijing* list, as well as fright while eliminating love, hate, and desire. This shift in emphasis also suggests he was responding to the political crisis, particularly since emotions like love, hate, and desire suggest the person is actively engaged in these and may even feel that these emotions are under his control, whereas worry, consternation, and fright evoke feelings of helplessness and victimization.

The other interesting component of Chen's list is in regards to the six excesses he describes. It appears he recognized the same concern with rectifying the additional *zangfu* of the fire element with an additional climactic influence, but his solution is to use *re* 熱 (heat) and *shu* 暑 (summer-heat), and not the elemental-phase of fire. This is consistent with an interpretation of Chen's work as the product of a Song loyalist. As Liu's book came out earlier than Chen's, it is possible Chen was aware of Liu's argument and was offering an alternative model to his other compatriots.

The second *juan* 卷 (scroll) of Chen's work is entitled *Taiyi xiye* 太醫習業 (a great physician's clinical practice), and it exemplifies the scholar-physician's perception of their place in society. The length to which Chen expounds upon the similarities between a Confucian and a doctor suggest he was trying to persuade an audience that was still unconvinced of their worthiness. As such, he was a great spokesperson for the *ruyi* of the Song-Jin-Yuan Transition:

> 為儒必讀五經三史諸子百家　方稱學者　醫者之經 素問 靈樞 是也　史書即諸家　本草是也　諸子　難經　甲乙　太素　中藏　是也　百家　鬼遺　龍樹金鏃刺要　銅人　明堂　幼幼新書　產科保慶　等是也
> To be considered a Confucian one must recite the five classics, the three histories, all of the masters, and the hundred schools; this is the prescription for calling someone learned. For those who practice medicine the classics are the *Suwen* (Basic Questions) and *Lingshu* (Spiritual Pivot). The books of history refer to all the schools of materia medica literature. All the masters [include] the *Nanjing* (Difficult Classic, by Bian Que), [*Zhenjiu*] *Jiayi* [*Jing*] (Systematic Classic of Acupuncture and Moxibustion, by Huang Fumi), *Taisu* (Grand Basics, by Yang Shangshan), and *Zhongzang* (Central Viscera, by Hua Tuo). As for the hundred schools, they include the *Guiyi* (Ghost Offerings), *Longshu* (Dragon Tree), *Jincu Ciyao* (Golden Arrow Needling Essentials), *Tongren* (The Bronze Man), *Mingtang* (The Bright Hall), *Youyou Xinshu* (New Book of Pediatrics), and *Chanke Baoqing* (Obstetrics and the Preservation of Celebration).

Here he equates these two classical canons, Confucianism and medicine, similar to the way Liu Wansu compared the three tomes of medicine to the five canons Confucianism. By drawing these comparisons Chen is not only finding equivalences in the two literary authorities, but is also competing with his Confucian brethren. Chen does not argue that since they are equivalent a doctor need only study the medical texts, instead he is pointing out that a *ruyi* is well versed in both branches of literature, and therefore his accomplishments exceed the average Confucian. To drive this point home, Chen continues this line of discourse with four parallel passages:

> 儒者不讀五經　何以明道德性命　仁義禮樂　醫不讀靈素 何以知陰陽運變德化政令
> As for Confucians, [if] they don't recite the five classics, how will they comprehend the virtuous Way and the nature of life [itself]; benevolence, propriety, etiquette, and enjoyment? As for physicians, [if] they don't recite the *Ling* [*Shu*] and *Su* [*Wen*], how will they understand the shifting movements of *yin* and *yang*, their power, transformations, and official decrees?

In the first passage, Chen both cites the importance of the five classics revered by Confucius and then lists the four virtues as listed by the philosopher Xunzi 荀子, as opposed to those listed by another Warring States (c.500-220 BC) philosopher, Mengzi 孟子 (Mencius): *ren* 仁 (benevolonce), *yi* 義 (righteousness), *li* 禮 (ritual), and *zhi* 智 (wisdom). This may indicate Chen Yan's philosophical leanings, as these two were renowned for their debate over the moral nature of man. Xunzi thought man was easily influenced by evil and needed ritual and discipline to keep these tendencies under control. Mengzi argued man is innately good and through self-cultivation his goodness will become manifest. Xunzi's ideas were embraced by the Legalist tradition that advocated strict laws and harsh punishments under a strong central authority and counseled the First Emperor of Qin, whereas Meng Zi's philosophy was elevated to orthodoxy as one of the Four Books of Zhu Xi. Since the most likely audience of this work would be other Confucian scholars, either physicians or even officials in service of the Jin, his citing of Xunzi may have been a response to the conquering of the north by the Jurchen and an attempt at drawing a parallel between the Jin and the Qin dynasties. This theme will be seen again, forming a pattern that supports this argument. Chen continues:

> 儒不讀諸史　何以知人材賢否　得失興亡　醫不讀本草　何以知名德性味養生延年
> Confucians that don't recite all the histories, how will they know the people's capabilities and values, gains and losses, their uprising and their running away defeated? Physicians who don't recite the materia medica, how will they understand the names, virtues, natures, and flavors [of medicinals, and how to] preserve one's health and extend the years.

This passage seems to build on the previous analogy by pointing out the deficiencies of scholar-officials in managing the government at the fall of the Northern Song and the humiliating retreat to the south. He continues to subtly point to perceived failings of the Confucians:

> 儒不讀諸子　何以知崇正衛教　學識醇疵　醫不讀難素 何以知神聖工巧妙理奥義
> Confucians that don't recite all of the masters, how will they know to esteem the correct and guard the teachings, studying and memorizing purely and unblemished. Physicians who don't recite the *Nan* [*Jing*] and [*Tai*] *Su*, how will they know the spiritual, sacred, and exquisite, the profound meaning of the extraordinary principle.

Since the Song were unable to maintain control over the central plains, many scholars perceived it as a failing of officials, and the remedy was to be found in new interpretations of the classical canon that could lead to a dynastic restoration. Thus Chen points out how these scholars only memorize the classics but fail to generate any new ideas of their own, a mistake he intends to rectify in the field of medicine. Chen continues once more:

> 儒不讀百家　何以知律歷制度　休咎吉凶　醫不讀雜科　何以知脈穴骨空奇病異証
> Confucians that don't recite the hundred schools, how will they know the rules and regulations of government institutions, the relaxed and the calamitous, the auspicious and the inauspicious? Physicians that don't recite the miscellaneous branches [of medicine], how will they know the pulse, the [acupuncture] sites, the bones and the hollows, the strange diseases and unusual conformations.

Here Chen may be including Song philosophers and even himself as members of the hundred schools, and again suggesting it was a failure of innovative thinking that led to

the political crisis. This passage also previews Chen's diagnostic emphasis which will be examined later.

After this section, Chen makes another revelation as to his philosophical leanings when he cites the famous Legalist philosopher:

> 韓子曰　形而上者謂之天　形而下者謂之地　介於其兩間者謂之人
> 人受天地之中以生　莫不稟二氣以成形
> Han [Fei] Zi (c.250 BC) said: the form above is called heaven, the form below is called earth, and that which comes between these two things is called mankind. Man receives the middle [position between] heaven and earth so as to live, and everyone receives the two energies so as to become form.

Although this passage only refers to man's place in the cosmos, it also is part of the Confucian debate over the fundamental nature of the universe, and the purpose for understanding this is for a scholar to better serve as an official and restore Chinese civilization to the central plains. Therefore Chen is directing scholars to the Legalists for answers to the political crisis, again believing that they already followed this authority but did not truly understand its significance. In this context an obscure reference from the opening of the first *juan* that seems terribly out of place begins to make more sense:

> 六朝有高陽生者　剽竊作歌訣
> [During] the Six Dynasties (265-581 AD) there lived Gaoyang, who plundered and robbed while singing poems.

Gaoyang was the personal name of emperor Wenxuan of Qi 齊文宣帝 (r.529-559 AD), the first emperor of the Northern Qi 北齊 (550-577 AD), who began his reign by promoting officials to posts based on merit and commanding a powerful military. A Song

loyalist would have admired Gaoyang's policies towards creating a meritocracy during an era dominated by autocracy, and further lamented that the Song army was not as strong as that of Gaoyang and thus unable to defend the central plains. Thus at first glance Gaoyang appears as a hero who fulfilled Song ideals; however, he later became a cruel tyrant after his defeat of the northern Khitan nomads in 553. Thus the analogy Chen may be drawing is between Gaoyang and the ruler of Jin, who recently conquered the Khitan Liao dynasty (916-1125 AD) before turning to attack the Song, and thus it may reveal a deep fear that the new dynasty will become an age of tyranny, just like the Qin and the Northern Qi.

The first *juan* of the *Sanyinji Yibing Zhengfang Lun* is dedicated to diagnosis according to the pulse, while etiology by the three ultimate causes of disease is only a small portion of the second *juan*, while the remaining sixteen are devoted to treatment, for a total of 18 *juan*. Chen frames pulse diagnosis as the first among the *wuke* 五科 (five branches of medicine):

> 五科者　脈病証治及其所因
> The five branches are the pulse, [knowledge of] diseases, [pattern] conformation, treatment, and how the disease was caused (etiology).

These five branches are ordered sequentially, just like the clinical encounter it begins with an assessment of the pulse quality, which is matched with the physician's knowledge of diseases that enables him to confirm a diagnostic pattern and prescribe an appropriate treatment. Only then does Chen raise concerns over etiology as one of the branches of medicine. Chen elaborates on the importance of the pulse:

> 脈為醫門之先　雖流注一身　其理微妙　廣大配天地　變化合陰陽　六氣緯虛　五行麗地　無不揆度　是以聖人示教　有精微其象之論　後賢述作　為太素難經之文
> The pulse serves as the primary [diagnostic method] of physicians. Even though it flows through a person's body, its principle is wondrously subtle, its vastness merges with heaven and earth, its transformations are according to *yin* and *yang*, the six *qi* weft into emptiness, the five elemental-phases adhere to the earth; nothing doesn't get investigated or considered. This is what was used by the sages when they were teaching for it possesses the subtle essence and is the manifestation of theory. Later virtuous [men] spoke of it and put it into action, as in the *Taisu* (Grand Basics) and the *Nanjing* (Difficult Classic) literature.

Subsequently Chen expounds upon the theory of pulse diagnostics, and provides a description of twenty six different pulse types and their clinical significance. The remaining majority of Chen's text is a discussion of various diseases, the signs and symptoms of conformation, and treatments based primarily on herbal formulas. This section fulfills the third criteria of this genre, which is that it serves as a stand alone guideline to clinical practice according to Chen's doctrine. It appears that one of the concerns of Song-Jin-Yuan physicians is that that while the basic theoretical body of knowledge had not been sufficiently developed, there was a seemingly exponential rise in the number of prescriptions being recommended in imperially sponsored texts, far more than was manageable in clinical practice. Thus this new genre of medical texts were meant to both extend the theories as well as be much more concise regarding treatment, for these doctors recognized that one can still make modifications to a smaller number of formulas in order to treat the myriad presentations of individual patients.

Chapter 6

Zhang Yuansu

Zhang Yuansu 張元素 (c.1140-1220 AD) is often celebrated as one of the founders of this intellectual movement in Chinese medicine during the Song-Jin-Yuan Transition, but information on his background remains limited and his contribution to medical development evidenced by his extant writings has not been fully appreciated. Furthermore, just as he is the third physician to be examined herein, it would be more accurate to say that Zhang helped to build momentum for this movement that began much earlier. Perhaps the most detailed account comes from Asaf Goldschmidt (2009) who concluded that during the occupation of northern China by the Jurchen, the integration of the three genres of medical literature promulgated by the Northern Song court (classical medicine, prescription medicine, and cold damage) continued with the works of secular physicians like Xu Shuwei 許淑薇 (c.1140) and Zhang Yansu during the Jin dynasty. Goldschmidt then provides a cursory explanation of Zhang's system which introduced a more sophisticated classification system of medicinals aligned with classical doctrines including acupuncture channel theory. Other works on Chinese medical history provide even less insights into the life of Zhang Yuansu and the substance of his learning.

The dates for Zhang Yuansu's life are uncertain, with Unschuld (1986) figuring them to be c.1130-1210 based on his association with other known figures of the era and a reasonable lifespan of eighty years. However using this same logic it is better to move these dates forward by at least ten years, therefore; this study uses c.1140-1220, as here explained. An acquaintance of Zhang was another *ruyi* and the first of the formally acknowledged *sidajia* of this period; Liu Wansu (1120-1200). Liu's argument regarding

the significance of heat and fire as pathogenic influences is the central theme of Zhang and Liu's interaction. The substance of this interaction is that Zhang was much younger and more inexperienced than Liu and yet was able to succeed where his senior had failed. The difference of Zhang being either 10 or 20 years Liu's junior is not enough to make either date incredible. Moreover, Zhang Yuansu was the sole teacher of Li Dongyuan 李東垣 (1189-1251), also known as Li Gao 李杲, the third of the *sidajia* whose name became synonymous with his *Piwei Lun* (Treatise on the Spleen and Stomach) and the earth elemental-phase which those organs represent. Using the proposed dates of c.1140-1220, Li would have been only 31 when his teacher died, as opposed to 21 using Unschuld's dates which leaves him scarcely enough time to learn from the old master. For example, Li's student Luo Tianyi 羅天益 (c.1220-1300), whose dates are also is question, studied with him for 10 years which is a reasonable span of time when learning within a master-disciple lineage.

Biographical information on Zhang Yuansu comes primarily from four sources: a preface that was written by Zhang himself for his concise materia medica the *Zhenzhu Nang* 珍珠囊 (Bag of Pearls); a preface that was written by his disciple Li Dongyuan for his treatise *Yixue Qiyuan* 醫學啟源 (Expounding on the Origins of Medical Studies); a biography in the official history of the Jin compiled during the Yuan dynasty (1260-1368); and a commentary on his medical contributions by the Ming dynasty (1368-1644 AD) physician and naturalist Li Shizhen 李時珍 (1518-1593 AD). The latter two have been translated in full by Unschuld (1986) and will be compared herein with translations of the former. The first thing that is revealed is that the two latter biographies were drawn

directly from the prefaces of Zhang's manuscripts, but it is the sections that are not included in the official history that reveal a richer image of his life.

Both prefaces begin similarly, but immediately a difference is noticed. In the *Bag of Pearls* it begins:

> 历代諸家本草潔古珍珠囊　時珍曰書凡一卷金易州明醫張元素所著
> [Drawing upon] materia medica [literature] from previous generations and various schools of thought; Jiegu's *Bag of Pearls.* The timely *Pearl* says it is an ordinary book of one volume written by Jin [dynasty] Yizhou (Hebei province) enlightened physician Zhang Yuansu.

On the other hand, the preface to *Expounding the Origins* begins:

> 先生張元素字潔古易水人也
> Master Zhang Yuansu, styled Jiegu, the man from Yishui.

A discrepancy over his place of origin is immediately apparent; either Yizhou or Yishui. The first thing to consider is that it is simply an error, substituting *shui* 水 for *zhou* 州, characters that could have been confused during a late night of transcribing. Hoizey, D., and Hoizey, M.J. (1993) suggested that Yizhou was later renamed Yishui, but this seems unlikely and appears to be an attempt to rectify the difference between these two passages. If these two prefaces were actually written before the official history of Jin was written then one would expect that the name Yishui would have been used in the latter if it had become the new name of the town, but instead the official history also indicates Zhang was from Yizhou. Yizhou is still the name of a place in both Hebei and Liaoning provinces, while Yishui is a city in both Shandong and Hubei provinces. Since an

acquaintance of Zhang was Liu Wansu who was from Hejian province in Hebei, just south of Beijing and west of Bohai Bay, we can reasonably place Zhang in Yizhou (Hebei province) which is just northwest from Hejian and a similar distance from Beijing, the site of the northern Jin capital. However, this doesn't answer the question of whether this is simply errata or suggestive of a deeper meaning.

Another possible interpretation of this passage is that Zhang is being described by his disciple as a man of 'shifting waters' or having a mastery of profound and esoteric learning. A more intriguing possibility is that his student intentionally blundered in order to draw attention to their challenge against the Jurchen's claim to be the dynasty of the metal (*jin* 金) elemental-phase, instead assigning it to the water phase. Thus the text may more accurately be read as "Master Zhang Yuansu, styled Jiegu, the man from Yi[zhou] under the Shui [dynasty]." This theme of water conquering fire according to *wuxing* theory is prevalent in the literature of the period and can be understood as relevant to either the individual patient or the society as a whole.

Both prefaces continue by acknowledging Zhang Yuansu's status as a member of the intellectual elite. Zhang's own remarks on this matter are succinct:

> 元素字潔古举進士不第去學醫
> Yuansu, styled Jiegu, was recommended to be a *jinshi* but was not posted, [so he then] went on to study medicine.

He thus establishes his legitimacy as first and foremost a scholar of the Confucian tradition, who achieved, albeit without the final realization of an official position, what most others could not in the extremely competitive climate of government service,

passing the highest level of the civil service examination. Of course, Zhang would have sat for the examination in the north under the Jurchen, where the government would have been suspicious of Song loyalists penetrating their court. This could have contributed to the reasons why he was not given an official post and instead turned to the study of medicine. More details of this personal crisis for Zhang are revealed in the preface written by Li Dongyuan:

> 八歲試童經　廿七經義登科　犯章庙諱出落 于是怠仕進
> At eight years old he was tested in the children's classics and by twenty-seven he [understood] the significance of the [Confucian] classics and became accomplished in this branch of learning (e.g. passed the *jinshi* examination). [However] he violated the rules [regarding the use of] sacred forbidden words and was expelled and dropped [from the roster of *jinshi* degree holders], and because of this [violation] they neglected to make him an official.

Although he may have mastered the classics by age twenty-seven, Unschuld's (1986) translation of his official biography repeats his childhood accomplishments but instead says he participated in the *jinshi* examination at the age of thirty-seven in the subjects of classics and essay. Certainly the earlier age would be a more impressive scholarly credential and the discrepancy may be an attempt by Yuan historians to detract from this accomplishment, or it may be that he first sat for the exam at the younger age but it took several attempts before he finally passed. Nonetheless, his examination success firmly roots him as a member of the elite with a reverence for the classical textual tradition.

That Zhang Yuansu successfully out competed other literati struggling to achieve the most prestigious status, but was subsequently dismissed for what might be argued was a typographic error (assuming it was not an intentional attack on conventions) giving him

no options but to study a profession that was only marginally accepted by elite society further suggests he harbored some resentment towards the entire socio-political environment and discontentment with the flawed examination system that produced officials whose policies led to the loss of the central plains to foreign aggressors. Although his own preface seems to mention this as a trivial fact, Li's preface and the official history of the Jin both emphasize the unfortunate circumstances that led him to study medicine. His subsequent struggle to master the healing arts is documented in the preface by Li:

> 遂潛心于醫學　廿余年雖記誦廣博書　然治人之术不出人右
> Thereupon he submerged his heart in the study medicine, and for more than twenty years although he read aloud recordings from an extensive amount of books, it was as if he couldn't surpass [ordinary] people's [understanding of what is] right about the art of treating people.

To the modern Western ear this might sound like Zhang was an inept physician who blundered his way through two decades of practice before coming to any understanding of what he was doing, and that is not an entirely incorrect assessment. The practice of medicine is an inherently difficult task with experience one of the most important teachers. As a highly educated man he was necessarily fluent in the current orthodoxy and would have been able to apply in a cook-book fashion basic prescriptions for a wide variety of ailments just as any other mediocre physician could do; however, his frustration and dissatisfaction was likely found in the limited effectiveness of this approach. Thus from an Eastern perspective his experience gives him the credibility to

deviate from the standard after identifying its weaknesses and finding solutions within the accepted scientific paradigm.

It is at this point that Zhang has a breakthrough, as documented by Li:

> 其夜夢人柯斧長凿　凿心開竅　納書數卷于其中　見其題曰　內經主治備要　駭然惊悟　覺心痛　只為凶事也　不敢語人
> That evening he dreamed of a person swinging an axe and digging a deep hole, a hole into his heart that created an opening into which he accepted a book with an inscription that said: *Complete Essentials Governing Treatment from the [Yellow Emperor's] Inner Classic.* Suddenly shocked and scared he had an awakening while his sleeping heart was aching, and convinced that it was an unlucky affair he didn't dare speak to others [about the dream].

Although he is at first disturbed by this dream, it symbolizes a pivotal moment in Zhang's intellectual development when he begins to realize the essence of the lessons gleaned from the classics. This dream may also be the reason for the frequent use of the term *xinfa* 心法 (heart-mind-core methods) in this text and other medical literature of the period. While still conforming to the existing medical paradigm, it was his application of these theories to the materia medica that has been the focus of his contribution to medical development which motivated other scholar-physicians to reexamine their own approach to clinical practice. In Zhang's own words from the *Bag of Pearls*:

> 深闡軒岐秘奥叁悟天人幽微　言古方新病不相能　自称家法
> Profound explanations, lofty divergences, and holding back the obscure (e.g. putting forward the practical), [from these] three [you will] realize heaven and man's mysterious subtleties. It is said old formulas and new diseases are not mutually compatible. One must weigh the [different] schools of thought and their methods [of treatment].

Herein is the often quoted passage that epitomizes the Song-Jin-Yuan medical transformation. Unschuld (1986) suggests Zhang's famous phrase of old prescriptions and new diseases was a response "against the outmoded, dogmatized laws of society, which led to the demotion of the young candidate in his bid for an official career (p.103)." However, this same phrase can be understood as a commentary on the larger socio-political context, as many literati of the early Southern Song realized the old way of doing things led to the collapse of the empire and the new circumstances cannot be dealt with in same manner as before. This was an especially vigorous sentiment among Song loyalists in both the south and the north who yearned for a dynastic restoration brought about through the recovery of the central plains. However, this passage must also be read as a preface to a materia medica wherein an innovative classification system is being proposed that integrates *yin yang* doctrines and acupuncture channel theory with proven medicinal actions to guide the process of formula construction and modification based on a diagnosis that arises from within the same paradigm. This ability to make additions, subtractions, substitutions, and dosage adjustments to standard prescriptions was, and continues to be, the foundation of Chinese internal medicine practice and the essential skill required of a scholar-physician. Thus Zhang continues:

> 辨藥性之氣味陰陽 厚薄 升降 浮沉 补瀉 六氣 十二經 及隨証用藥之法 立為主治 秘訣心法要旨 謂之珍珠囊 大揚醫理 靈素之下一人而已
> Differentiate medicinals by their properties of *qi* and taste, *yin* and *yang*, thickness and thinness, ascending and descending, floating and sinking, supplementing and draining, the six [climactic] energies, and the twelve channels, in order to follow the method of the proven uses of medicinals. This foundation serves to govern treatment, [comprised of] secret ways, essential methods, and important points; this is the meaning of the *Bag of Pearls*. Make this medical principle known

> everywhere! [Even] for a simple person of low status it is efficacious and basic and that is all.

What Zhang was saying is that if one studies the properties of medicinals and assigns them to these categories it will serve as the foundation for a simple and effective system of medical treatment. Interesting here is his use of the term *li* 理 (principle) in his call to "make this medical principle known everywhere," which is otherwise not a common term in medical nomenclature but was central to the intellectual trends of Confucianism. With this subtle reference Zhang is arguing that his approach provides the definitive explanation for the function of medicinals, or the manifestation of their therapeutic actions, based on his grasp of the larger cosmic principles governing the world as revealed to him through *gewu* 格物 (the investigation of things). For Confucians this investigation focused on the classical canon to understand their true meaning which had become obfuscated over the centuries, and similarly Zhang focused on the extension of classical theory as transmitted via the textual tradition. However textual study alone would not suffice in the field of medicine where demonstrated efficacy trumps theoretical eloquence, thus Zhang also draws on his twenty years of clinical experience and his investigation of things through practice.

An erroneous depiction of the contribution of Zhang Yuansu is given by the eminent Sinologist Paul U. Unschuld (1986) who argued that Zhang's systematic integration of classical doctrines to the materia medica was fundamentally flawed:

> As admirable as this system was from the theoretical point of view, however, it nevertheless formed a construction whose application in daily medical practice was considerably limited, if not, considering the requirements, impossible (p.112).

Unschuld states that because Chinese physicians could not examine the effects of an herb "within the organism itself (p.112)," they resorted to assigning medicinals to classical categories based only upon assumptions about their effects. This is clearly just a bias towards the modern mechanistic medical model that *a priori* negates anecdotal evidence based on clinical experience in favor of microscopic analysis of phenomenon in an environment of artificially imposed limitations. In this paradigm, a placebo-controlled randomized clinical trial is the only way to definitively prove that certain substances increase urination, promote sweating, or stop diarrhea. Unschuld demands all systems of medicine be "an objectively reconstructable referential system (p.112)" but rejects the use of alternative theories that already exist within the same paradigm as adequately accounting for variances when another theory is applied in order to meet this standard. Or in other words, he won't allow the argument that other accepted theories have already accounted for the variances, therefore they are labeled inherent contradictions that invalidate the entire system. To drive home his illogic, he turns from Zhang's system to attack the entire diagnostic and treatment foundation of clinical practice upon which Zhang's system relies for its application. To do this Unschuld used a 1973 study he did that found many Taiwanese practitioners of Chinese medicine expressed doubts about their diagnostic skills. He then used this lack of confidence to essentially argue that all of Chinese medicine is too complex for anyone to master, including Zhang Yuansu. This account does not do justice to the remarkable ingenuity of this scholar physician and certainly does nothing to illuminate the substance of his learning.

The brilliance of Zhang Yuansu's *Bag of Pearls* is its brevity. The number of substances in the Chinese materia medica had grown extremely large, burying the bits of clinically relevant information in a sea of sometimes contradictory advice and natural history. The recently published and imperially sponsored *Jingshi Zhenglei Daguan Bencao* 經史證類大觀本草 (Daguan Materia Medica, Classified & Verified from the Classics & Histories) (1108 AD) listed a daunting 1,744 medicinals from a wide spectrum of plant, animal, and mineral substances, far more than one practically requires and certainly more than the majority of doctors could even reasonably keep stocked in their apothecaries. The *Bag of Pearls* lists only 112 medicinals, and clearly his selection was based on those with the greatest versatility as well as their frequency of occurrence in classical formularies. Further, the entries on each medicinal are very brief, and this is why he introduces a new classification method according to the *yin yang* doctrine. This method helps him summarize the functions of medicinals in a simple phrase, making the need for lengthy entries on their demonstrated effectiveness superfluous. This classification system is based on the following six groups:

chun yang	純陽	pure yin
yin zhongwei yang	陰中微陽	yin more than yang
yang zhongzhi yin	陽中之陰	yang within yin
yin zhongzhi yang	陰中之陽	yin within yang
yang zhongwei yin	陽中微陰	yang more than yin
chun yin	純陰	pure yang

An example of how this was applied can be seen by comparing the entries of two medicinal from opposite sides of the spectrum, one pure *yin*, and one pure *yang*:

Huang lian 黃連 (Coptidis Rhizoma)
苦　純陰　瀉心火　心下痞　酒炒酒浸　上頸已上　與芫花　菊花　僵蠶　款花相反
Bitter, pure *yin*. Drains heart fire and drains masses from the heart. Wine fried or soaked in wine it ascends to the neck and continues ascending. Mutually incompatible with *yuan hua* (Daphne Flos), *ju hua* (Chrysanthemi Flos), *jiang can* (Bombyx), and *kuan* [*dong*] *hua* (Tussilaginis Flos).

Qiang huo 羌活 (Notopterygii Radix et Rhizoma)
甘苦　純陽　太陽經頭痛　去諸骨节疼痛非此不能除　亦能溫膽　太陽風藥也
Sweet and bitter, pure *yang*. [Treats] *taiyang* channel headache, goes to all the bones and joints, and as for aches and pains there is no case where this [medicinal] cannot eliminate them. Also able to warm the gallbladder, and is a *taiyang* wind medicinal.

In these examples, one can quickly identify the primary actions of the medicinals to either clear heat or warm, although temperature is not always the primary reason for being so classified. Other medicinals are characterized by their movements or actions in treating disease. Zhang keeps his descriptions limited to the primary clinical function, and he adds incompatibilities to ensure safety. He also describes how the function of some medicinals can be altered through methods of preparation like soaking in wine, thus getting more diverse actions from his limited pharmacy. Zhang also assigns channels to several medicinals, a recent trend traced to Kou Zongshi 寇宗奭 in his *Bencao Yanyi* 本草衍義 (Dilitations on the Materia Medica) (1119 AD) who introduced the term *guijing* 歸經 (channel tropism). This becomes another convenient way to quickly reference the actions of medicinals and continues to be used in future materia medica, although Zhang's unique *yin yang* classification system eventually faded away.

A more apparent reference to Southern Song and Jin political and military conflict follows in Li Dongyuan's preface as he describes what happened following Zhang Yuansu's disturbing dream:

> 自是心目洞徹　便為傳道軒岐　指揮秦越也
> Eventually he looked into his heart and understood completely; excrement is what serves as commentaries on the Way, with their lofty ambiguities, [as if they are] commanding the [armies of] Qin all over again.

Keeping in mind Sima Qian's historiography, Zhang and Li are invoking the precedent of the water phase of Qin being conquered by the earth element of Han in order to strengthen their argument that the Jurchen do not represent metal, and should be overthrown nevertheless. These men may also have been aware of Chen Yan's references to the Qin is his text. Notably, Zhang's biography in the official history of the Jin contains no such reference to previous dynastic conflicts.

Not only did the Song founder declare fire as his representative virtue in the cosmic cycles of the *wuxing*, but the Song court also implemented policies that revived the Confucian vision of government first conceived of during the Zhou dynasty while intellectuals debated cosmology and morality just as the Hundred Philosophers did under the auspices of the red bird. According to *wuxing* theory the water elemental-phase corresponds to the northern direction, homeland of the barbarians that had harassed the central kingdom's borders since the dawn of the empire, and like the floodwaters of the yellow river the power of water swept across the central plains again with the arrival of the Jurchen. Scholars took refuge in the precedent that although the initial impact is far reaching and devastating, the water phase may be short lived like the fifteen years of Qin

rule. Then when earth conquers water it will usher in another four hundred years of peace and stability to all under heaven. Thus in Li's retelling of this conflict he assigns those Confucian scholars in the service of the Jurchen to the role of Qin officials who are ignorant of the true meaning of the classics. This expectation may also explain the Southern Song's policy of appeasement towards the north, choosing to spend their time in moral self-cultivation rather than embark on military aggression to retake the central plains; passively awaiting the next phase of the *wuxing* cycle.

The yearning for a resolution to the dynastic crisis and a return to political stability became acute during the lives of both Zhang and Li. In 1206, a Mongol warlord named Temujin took the title of Genghis Khan (1155-1227 AD) and united the various nomadic tribes of northern steppes into the most formidable army the world had ever seen. Because the Jurchen had also come down from the steppes, subjugation of the Jin dynasty was made a priority of his early reign. He launched his first invasion in 1211, but quickly realized his awesome cavalry was not well suited to siege warfare which was required to take the walled cities of China. Nonetheless, in 1215 they sacked the northern Jin capital near modern day Beijing, but the Jin emperor fled south to the southern capital at Kaifeng. Yang Shouzhong and Li Jianyong (1993) found that after the battle an epidemic broke out in the capital that left over a million dead. However after this victory at Beijing, Genghis turned his attention to conquering the west, leaving all of China in shock.

In both prefaces the true authorship of these texts is emphasized against what must have been confusion about the substance of the various schools of thought emerging in the 12th century. Apparently some people thought that Zhang's *Bag of Pearls* was written by his student Li Dongyuan, so Zhang tried to set the record straight:

> 後人翻為韵語 以便記誦 謂之 東垣珍珠囊 謬矣 惜乎止論百品 未及遍評
> Afterwards people will cross over to become attuned to the refinements, that which is conveniently recorded and [when] read aloud [provides the] meaning of these [refinements]. [Referring to this text as Li] Dongyuan's *Bag of Pearls* is a mistake, and that is all. Treasure [these pearls of wisdom] by stopping discussion of the hundred commodities, [for] one has not yet reached an all around judgment [until they have read the *Bag of Pearls*].

Zhang not only encourages other physicians to cross over to his improved classification system but also is concerned that his accomplishments will be credited to his disciple. This concern was echoed in Li Shizhen's biography of Zhang, but was not included in the Jin history. Since Li Shizhen was at that time working on the most comprehensive materia medica ever known, the *Bencao Gangmu* 本草綱目 (Grand Compendium of the Materia Medica), he may have been sympathetic to Zhang's concern's over intellectual property rights. Zhang concludes his preface by highlighting another case of mistaken identity, this time with Liu Wansu:

> 又著 病機氣宜保命集 四卷 一名 活法機要 後人誤作河間劉完素所著 偽撰序文詞調于卷首以附會之 其他潔古諸書 多是後人依托 故駁雜不倫
> Also by this author, *Opportunistic Diseases & Qi Appropriate to Protecting Life*, one volume in four chapters, also known under the name*; Living Method Opportunity Essentials*. Afterwards people erroneously made connections between Liu Wansu [and Zhang Yuansu] as the one who wrote these, deceptively composed the prefaces in rhymes as in the chapter headings and thereby attached their association to it. It is his, Jiegu's various books, many of these later people depended upon, therefore mixing these [scholars] together is not logical.

This passage indicates Zhang was also concerned that credit would go to his rival Liu Wansu, also known as Liu Shouzhen. As fate would have it, Zhang was remembered as

the author of the *Bag of Pearls* but was not counted among the *sidajia* as were his rival and disciple.

The rivalry between Zhang and Liu is memorialized by Li in the preface to *Expounding the Origins* and repeated in the official history of Jin. The story revolves around their differing approaches to treatment:

> 异日守真病傷寒八日誤下証　頭疼脈緊 嘔惡不食 門人侍病 未知所為　請潔古診之　至則守真面壁不顧也　潔古曰　何視我直如此卑也　診其脈　謂之曰　脈病乃爾　初服某藥犯某味藥乎　曰　然　潔古曰　差之甚也　守真遽然起曰　何謂也　曰　某藥味寒　下降　走太陰　陽亡　汗不徹故也　今脈如此　當以某藥服之　守真首懇大服其能　一服而愈　自是名滿天下
> It's strange how one day [Liu] Shouzhen fell ill from cold damage and eight days [later] the mistake of draining was proven. [Shouzhen had] a headache and tight pulse, ferocious vomiting and no appetite, while disciples or hangers-on (lit. men at the door) attended to the illness, but they had absolutely no idea regarding the reason why [he was ill]. So they begged Jiegu to examine the patient. He arrived and then Shouzhen faced the wall and didn't acknowledge him. Jiegu said: why regard me as correct compared to this inferior [treatment which has jeopardized his life]? He examined the patient's pulse, and as for the meaning of the pulse he said: the pulse [reveals that] the disease is consequently thus. First of all, why are some medicinals given and other flavors and medicines rejected? Jeigu said: it is like this; it is their extremes of difference. Shouzhen suddenly arose and asked: what is the meaning of this!? He said, a specific medicinal's flavor is cold, draining and capitulating, it goes to the *taiyin* and *yang* escapes, [thus] sweating doesn't penetrate the condition. Now [when] the pulse is similar to this, one should use a specific [warm] medicinal in the prescription. Shouzhen was supremely respectful, and a large dose of this [formula] was able to in a single dose result in a cure. From this [Zhang's] name filled all under heaven.

The lesson in this story is that Liu (and his disciples) misidentified his illness as being caused by heat and subsequently prescribed cold medicinals that made the condition worse. Such actions are indicative of the doctrine espoused by Liu in his writings, however; this story also reveals that Zhang was opposed to his views and to at least some degree supported the Cold Damage doctrine. More than half of the medicinals in the *Bag*

of Pearls are categorized as *yang* 陽 or warm natured, further suggesting he was an adherent to the idea that cold was the dominant pathogen.

Yet the story of the rivalry between Liu and Zhang may go deeper than medicine. Their conflict may have originated from differing political loyalties. Some of Zhang's animosity towards Liu could stem from his being stripped of his *jinshi* credentials and denied a post, while Liu was thrice offered positions and refused each time. But this dynamic may be the result of Zhang remaining a Han loyalist while Liu aligned himself with the ruling Jin. If one considers that their quarrel was on this level it makes more sense that Zhang would oppose Liu's doctrine, since Zhang himself called for other scholar-physicians to be innovative.

Following this clinical scenario, Li continues by characterizing Zhang's approach to medicine:

> 潔古治病　不用古方　但云　古方新病　甚不相宜　反以書人
> 每自從病處方　刻期見效　藥不如攫　當時目之曰神醫
> [When] Jiegu treats an illness he doesn't use old formulas, only saying that old formulas and new diseases are to the utmost not mutually compatible, and he rebels against those people who rely upon [old] books. Often one must follow the disease to manage the formula, during the course of treatment observe the effects [of the formula], the medicinals should not be like they were [hastily] seized, one should take time to look upon them and let the spirit of the medicine speak [to you].

Once more Zhang's famous phrase from the *Bag of Pearls* is reiterated by Li, emphasizing how those who merely apply medicine straight out of prescription manuals are not superior physicians. To "follow the disease to manage the formula" means to make modifications to classical prescriptions based upon the unique presentation of each

patient, and this can only be accomplished with a thorough understanding of the patient's pattern of disharmony and the properties of the individual ingredients in a formula. Furthermore, by observing the effects of the treatment the physician must continue to make modifications to the prescription to ensure it matches the patient's signs and symptoms as they recover. Thus the superior physician is careful and methodical, and takes the necessary time to study the patient's condition and to choose the appropriate treatment. Perhaps Zhang was concerned that Liu had failed to carefully observe and consider the situation.

As Li's preface closes, there is a section where several characters are unreadable (rendered as □ below), with references to the previously mentioned *wuyun liuqi* 五運六氣 (five movements and six *qi*) theory on the cosmic cycles:

> 壬辰遺失 □ □ □ 存者惟
> *Ren* (ninth heavenly stem) and *chen* (fifth earthly branch) omissions and mistakes…and thoughts of that which exists.

In *Expounding the Origins*, Zhang assigns the heavenly stem *ren* to the urinary bladder, which corresponds to the water element, and he assigns *chen*, which also corresponds to the dragon (symbol of imperial power), to the stomach and the earth element. To provide a possible explanation for this section is to again use the *wuxing* model and corresponding dynastic houses to assert that Han Chinese will conquer the Jurchen and once again rule over the central plains. The choice of *fu* (hollow) organs is interesting, in that the northern barbarians are equated with the urinary bladder whose primary function is to store and excrete waste, rather than the paired *zang* (solid) organ the kidney which is

recognized as the gate of life and stores the *jing* 精 (essence), while the dynasty to come is equated with the stomach, which receives pure food and is the source of all *yin* in the body. “Omissions and mistakes” may therefore be referencing the choice of metal as the Jurchen’s elemental-phase, rather than the correct choice of water. Otherwise this section is obscure and difficult to assess.

While his prefaces place him among the society’s elite, the body of his work is a more focused and practical guide to medical practice. *Expounding the Origins* begins by reviewing the organ-channel connections with the elemental-phases, heavenly stems, and earthly branches. Zhang follows this up with a no-nonsense approach to clinical practice:

> 夫人有五臟六腑　虛實寒熱　生死逆順　皆見形証脈氣　若非診切無由识也　虛則補之　實則瀉之　寒則溫之　熱則涼之　不虛不實　以經調之此乃良醫之大法也
> Generally speaking, people have five *zang* (solid) and six *fu* (hollow) organs, [and these suffer from] deficiencies and excesses, cold and heat, life and death, as well as the back and forth movement [between these *yin yang* pairs]. For each and every [illness] examine its form and confirm the energy of the pulse (e.g. rectify your observations and pulse readings to form a pattern diagnosis). Were it not for examining the correspondences, [a doctor would be] without the means to understand [the patient’s condition]. If there is deficiency then supplement it, if there is excess then drain it, if there is cold then warm it, if there is heat then cool it, if there is neither excess nor deficiency then use the channels to move [the *qi*] around. This is truly the great method of fine physicians.

What is notably different in Zhang's advice from other medical works of the period is that it is neither framed as received wisdom from medical sages as recorded in the classical medical canon, nor does it draw frequent comparisons with the Confucian canon. This may in part be due to his ouster from *jinshi* membership that left him bitter and uninterested in justifying his actions according to accepted societal norms, while on the

other hand it may also represent increased acceptance by elite society and a resultant confidence.

In addition, Zhang offered an alternative model of disease causation from his colleagues. As evidenced in the preface, Zhang and Liu Wansu were both acquaintances and rivals, and so Zhang was surely aware of Liu's proposed theory on the importance of heat as a pathogenic influence, and it appears he was also aware of Chen Yan's theory on the three categories of disease causation. In response, Zhang wrote this section in *Expounding the Origins* entitled *si yin zhi bing* 四因之病 (the four causes of disease):

> 外有風寒暑濕　天之四令無形者也　內有飢飽勞逸　亦人之四令有形者也
> 一者　始因氣動而內所成者　謂积聚癥瘕　瘤氣　癭氣　結核　狂聲癲癎
> 二者　始因氣動而外有所成者　謂癰腫瘡瘍　疥癩疽痔　掉瘛浮腫　目赤慓脒者痓　胕腫痛癢　三者　不因氣動而病生於內者　謂留飲癖食　飢飽勞逸　宿食霍亂　悲恐喜怒　想慕憂結　四者　不因氣動而病生於外者　謂瘴
> The exterior has wind, cold, (summer) heat, and dampness. They are the four seasons of heaven and they are without form. The interior has famine, gluttony, toil, and laxness. These are also the four seasons of people and they have form.
> As for the first [cause], in the beginning it causes the *qi* to move and the interior has that which becomes [various diseases], these are called accumulations forming abdominal masses, tumor *qi*, goiter *qi*, consumption (tuberculosis), madness, vexation, derangement, and convulsions.
> As for the second [cause], in the beginning it causes the *qi* to move and the exterior has that which becomes [various diseases], these are called carbuncles, swellings, skin ulcerations and sores, scabies, leprosy, deep ulcerations, piles, shaking, convulsions, overflowing edema, those diseases with red eyes and flaming gizzards, and the bowels swollen, painful, and itching.
> As for the third [cause], it does not cause the *qi* to move and those diseases generated from the interior are called taking drinks and being addicted to food, famine, gluttony, toil, and laxness, lodging and food, sudden turmoil, sorrow, fear, happiness, anger, longing, yearning, and worrying altogether.
> As for the fourth [cause], it does not cause the *qi* to move and those diseases generated from the exterior are called miasmas.

This model is very different from those of Liu and Chen. Zhang only is concerned with four of the climactic factors. He does not include dryness as both Liu and Chen did, which he may have perceived as a result of heat or malnourishment rather than a cause in itself. Zhang also settles on *shu* 暑 to represent heat, rather than *re* 熱 (heat) or *huo* 火 (fire) or both. Earlier Zhang had made it a point to explain that although it is common to say *wuzang liufu* (five solid and six hollow organs), it is a matter of fact that the pericardium is the sixth *zang.* Not only did Zhang assert that there was no need to use various terms for heat, there need not even be five climactic factors. Four was sufficient for Zhang. Yet like all Confucian scholar-physicians, Zhang must have looked to the *Huangdi Neijing* to inform his theories, and thus would have read this passage from the fifth chapter:

> 天有四時五行　以生長收藏　以生寒暑燥濕風　人有五藏　化五氣　以生喜怒悲憂恐
> Heaven possess four seasons and five elemental-phases, these are used to generate, grow, and harvest the depots (solid organs), and they are used to generate cold, heat, dry, damp, and wind. Man possess the five depots that transform the five energies, and they are used to generate happiness, anger, sadness, worry, and fear.

Thus what was good enough for the *Neijing* in referring to heat was good enough for Zhang. Although modern interpretations equate *shu* 暑 (summer-heat) with extremes causing conditions such as heat-stroke, it is clear that the definition of *shu* 暑 was not agreed upon during the Song-Jin-Yuan Transition. Chen Yan had suggested that heat is a distinct pathogen from the type of heat generated during the summer, whereas Liu distinguished between heat and fire. Liu Wansu may have thought summer-heat and heat

were equivalent, and so he substituted *re* for *shu*, and then to add emphasis to his theories he added *huo* as a form of extreme heat. When Zhang chose to use only four climactic factors, he returned to the original use of *shu*, and only *shu*, which of course grounds him in the classical authority while juxtaposing himself against his rivals. Zhang then innovates by deleting dryness, and therefore his revised list of exterior pathogens appears to be a direct rebuttal in this debate.

Zhang also inserted a new model of emotional causes of disease. While Liu Wansu emphasized the exterior causes of disease, Chen Yan described exterior and interior causes, specifically the seven emotions: happiness; anger; worry; consternation; sadness; fear; and fright. Not to be outdone, Zhang also put forth his own list of seven emotions that can lead to illness: sorrow; fear; happiness; anger; longing; yearning; and worrying. Zhang's addition of *xiang* 想 (longing or over-thinking) to the list found in the *Neijing* is similar to Chen's 'consternation,' but whereas Chen adds 'fright,' Zhang adds 'yearning.' While the political upheavals during Chen's lifetime adequately explain his addition of 'fright,' Zhang's longing and yearning for a Han dynastic restoration may have been the impetus for adding these emotions to the list of internal pathogenic forces.

Chapter 7

Zhang Congzheng

The second of the *sidajia* of the Song-Jin-Yuan Transition is Zhang Congzheng 張從正 (1156-1228), also known as Zhang Zihe 張子和, and an aggressive approach characterized his medical doctrine. Charles Buck (2008) found that Zhang Congzheng passed the prefectural level civil service examination and became a local official, while on the side he became self taught in medicine and started practicing privately until between 1217 and 1221 he served as an imperial court physician. Hoizey, D., and Hoizey, M.J. (1993) as well as Peter Eckman (1996) found that Zhang served as an army doctor, which must have been his post during this time. Buck also found that after resigning from public service after four years he became an itinerant *bell doctor* at the age of 65. This was an occupation associated with those of low social status, which begs the question of why this choice of profession at this point in his life? After the Jurchen had been bludgeoned by the Mongol incursions and emperor and his court took refuge at their southern capital at Kaifeng, the entire Jin empire would have been in great distress. If Zhang had been called to serve as a physician to the Jurchen army he would have encountered many patients suffering from traumatic injuries, and may have had a unique insight into the state of military readiness of the Jin dynasty to withstand either another Mongol assault or a Song offensive. A reasonable explanation for his resignation and demotion in status is that Zhang had fallen into disfavor with the rulers during this time of crisis, and his new profession may have been a condition of sparing his life.

If one accepts that medical literature by *ruyi* during the Song-Jin-Yuan Transition reflects engagement in political discourse, then the position taken by Zhang is the most

aggressive of all; the foreign invaders must by attacked and purged from the central plains. If ever the time was right for a dynastic resurgence by the Song court in the south it was after this Jin defeat by the Mongols. During Zhang's wanderings his reputation continued to grow, and he attracted a following of scholars and disciples who in 1228 upon his death published the *Rumen Shiqin* 儒門事親 (A Confucian's Duties to their Parents). Buck argues that Zhang Congzheng was included among the *sidajia* "in recognition of his obvious scholarship and the importance of his realisation that the xie-zheng axis had become neglected in the previous centuries (p.45)." This *xie-zheng* 邪正 (evil & upright) axis is easily correlated with barbarians versus Confucians, and so it must further be argued that he was included among the *sidajia* because of his political ideology. Unschuld, P.U. (1985) emphasized how Zhang recognized the importance of climactic influences, but focused on problems caused by *xie* (evil) or *keqi* 客氣 (guest energy), and the expulsion of these pathogens from the body. In addition to the opening passage from the *Jingui Yoalue Lun* quoted earlier when discussing Chen Yan's three causes of disease, the term *keqi* appeared only twice in the *Suwen*, first in chapter 65, and at the end of chapter 71, a Wang Bing addition, where at the end of a lengthy discussion on the proper order of the *wuyun liuqi* the Yellow Emperor has an important question for his court physician:

> 帝曰　假者何如　歧伯曰　有假其氣　則無禁也　所謂主氣不足客氣勝也
> The emperor asked: as for a false [element suppressing the correct], what does this resemble? Qibo said: if there is false energy then it cannot be endured. That which is called the governing energy was insufficient and the guest energy was victorious.

It seems likely that Zhang Congzheng was referencing this passage to highlight the argument that the Jin represented a false element suppressing the natural order of things which cannot be endured. Thus because the governing power of the Song to dominate the central plains was insufficient, this allowed the northern barbarian guests to be victorious. Until proper order is restored through the expulsion of the unwelcome guests, disharmony will continue under heaven.

The *Rumen Shiqin* readily fills the requirements of this new genre of medical literature. This handbook includes many of the more commonly used strategies for addressing a wide variety of medical conditions, and therefore serves as a complete doctrine of medical practice. Like other scholars of this period, Zhang uses such methods as supplementation for deficiency diseases that arise internally, but it was his advocating for the use of strong diaphoretics, emetics, and purgatives for expelling external evils for which he was best known. The justification for this strategy is firmly grounded in the classical medical canon, with Zhang able to cite both the *Huangdi Neijing* and the *Shanghan Lun*. Furthermore, as someone dedicated to the Confucian tradition, the meaning of Zhang's book title is both obvious and at the same time replete with multiple layers of implication. Although Unschuld, P.U. (1985) suggests that the name of the book may have been chosen by his disciples who published the work after Zhang's death, one should consider that the disciples would have minimally been influenced by their close association with their teacher when making this choice. In an official preface to this book written during the *Jiajing* 嘉靖 (honored peace) reign period (1522-1566) of the Ming dynasty (1368-1644), it states:

> 是書也　戴人張子和專為事親者著　論議淵微　調攝有法　其术與東垣丹溪並傳　名書之義　蓋以醫家奧之　非儒不能明　藥品酒食　非孝不能備也
> As for this book, it was the honorable Zhang Zihe, devoted to fulfilling his duties to his parents, who is the author. It is a treatise discussing deep subtleties which has methods for taking good care of oneself. His skill is comparable to [Li] Dongyuan and [Zhu] Danxi in merging the transmitted teachings. The significance of the book's name surpasses its usefulness to medical masters [due to] its profundity. In no case is a Confucian not able to be enlightened, [and with these] medicinal products of wine and food, in no case is filial piety unable to be provided.

Thus it was recognized that Zhang's medical treatise spoke to matters beyond those of the medicine, which for a Confucian was to order all under heaven. The most apparent meaning is that since it is a son's duty to care for his parents in their old age when a variety of chronic ailments are sure to arise, then being knowledgeable regarding current standards of medical care was an important part of that duty. This was a long standing expectation among the Chinese, for example Goldschmidt (2009) cites the writings of the Daoist alchemist Sun Simiao 孫思邈 (581-682 AD) who criticized elites who could not properly care for their parents as failing in their Confucian duty. Thus in the same preface it continues:

> 故曰　為人子者　不可不知醫　予幼失怙　慈親在堂
> Therefore it is said: in serving people, sons cannot be able to not know medicine. One is bestowed with children for when they have lost others to rely upon; familial caring resides in this relationship.

However on another level, whether it was a son serving his parents, or an official serving the emperor, there were certain duties that were inexorable. One of these duties, annual sacrifices to the ancestors and tending of the graves, was made impossible for the countless Chinese who fled south during the war with the Jurchen in the north. Just as

there was concern by the court officials for the condition of the imperial tombs and the inability of the emperor to perform the proper rituals at these sites required for the long term prosperity of his reign, the same problem troubled displaced peasants and gentry across the land. The only option for returning home was a Chinese dynastic restoration and the reoccupation of the *zhongyuan* 中原 (central plains), which required that the foreign invaders be attacked and purged. Thus when the nomadic Mongols conquered the Jurchen militarily but did not attempt to establish a new government it opened a window of opportunity for a Han Chinese mobilization to expel any remaining guests. The northern tribes had a long history of raiding the farms along the border, and even though the recent incursions were more violent and destructive, it appeared that this trend was going to continue indefinitely. The intervening half century of uncertainty must have weighed heavily on Song loyalists in the north wondering why the South did not take advantage of this situation. It was understood that returning Han rule to the central plains was also a Confucian's duty to his parents, and by reading Zhang's book all other Confucians would arrive at the same realization of the need for aggressive military action.

Zhang's medical writings further reveal the validity of this contextualization. In his first chapter he presents an overview of his medical doctrine that is going to lead to his argument for attack and purgation. His opening statements set the tone:

> 方有七　劑有十　舊矣　雖有說者　辨其名而已　敢申昔人已創之意而為之訂
> Of prescriptions there are seven, of medicinal-preparations there are ten, and these are time-tested. Although there are those with explanations, one may differentiate by their names and that is all. [I shall] dare to explain the meaning of the complete achievements of former peoples and consider their conclusions.

While others have attempted to explain the efficacy of time tested treatments and wisdom of the ancient masters, only their names are remembered and not their reasoning; however, Zhang will boldly succeed where others have failed. Zhang Congzheng never passed the *jinshi* examination but none the less perceived himself as a member of the elite, even when he was working as an itinerant *bell doctor*. Thus his boldness is evident in these words, and his martial background may have further influenced his opinions on the type of actions most likely to solve the current socio-political crisis. Therefore just like other *ruyi* of the Song-Jin-Yuan Transition, he makes several efforts to include references to not just medical classics like the *Huangdi Neijing*, but also Confucian classics like the *Liji* 禮記 (Book of Rites) and the *Yijing* 易經 (Book of Changes) and its commentaries. This further suggests, along with the book's title, that he identified himself with the gentry class and wanted to demonstrate his mastery of these texts to reclaim his status. The interjection of classical references serves to draw attention to larger issues:

> 夫方者　猶方术之謂也　易曰 方以類聚　是藥之為方　類聚之義也
> Therefore of prescriptions, it is still called the art of prescriptions. The *Yi* [*Jing*] (Classic of Changes) says: the different directions are grouped together. This is how a medicinal serves in a prescription (e.g. like the sovereigns, ministers, assistants, and envoys), and this is the meaning of grouping [different] things together.

The four-character phrase referenced herein is actually part of an eight-character phrase from the commentary at the end of the received edition of the *Yijing* known as the *Xicishan*g 繫辭上 (The Great Treatise I), and which also appears in the *Liji* under the section *Yueji* 樂記 (Musical Records). This whole phrase is; *fang yi lei ju, wu yi qun fen*

方以類聚物以群分 (different directions are grouped together, different things can be distinguished from the rest).

In the *Yijing* this passage follows a description of the order of the cosmos:

> 天尊地卑　乾坤定矣
> Heaven's veneration and earth's humility, [the trigrams of] *qian* (heaven) and *kun* (earth) are the source of stability [in the cosmos].

This reference by Zhang could be understood as describing how the order of the universe is mirrored in the construction of a medicinal formula, with individual ingredients both being grouped together to work towards a common goal, while each ingredient plays a different role in the treatment. It is evident that this is in part what Zhang is referring to when he clarifies the meaning, for in later passages he identifies the roles of sovereign, minister, assistant and envoy for the seven prescriptions and ten medicinal preparations.

In the *Liji* these eight characters follow a variation of this description of the cosmos:

> 天尊地卑　君臣定矣
> Heaven's veneration and earth's humility, the sovereign and his ministers are the source of stability [in the cosmos].

If a scholar was knowledgeable of the first reference, they were also likely knowledgeable of the second. While this also could be read as a reference to the role of medicinals in a prescription, it more directly suggests the importance of expelling the foreign invaders and establishing Han rule for the stability of the central plains in the power vacuum forming after the Mongols battered the Jurchen in the north. The *Yijing*

passage has more of a Daoist idea of the order of the universe that is governed by cosmic forces, whereas the *Liji* is more Confucian in that the state of things ultimately depends upon the moral authority of the sovereign and his court. With the absence of stable rule in northern China, this could be a call for dynastic resurgence.

In his essay, Zhang continues to make classical references:

> 或曰 方謂五方也 其用藥也 各据其方 如東方瀕海鹵斥 而為痈瘍
> 西方陵居華食 而多頯腫贅瘿 南方瘴霧卑濕 而多痹疝 北方乳食
> 而多臟寒滿病 中州食雜 而多九癉 食癆 中滿 留飲 吐酸 腹脹之病
> 蓋中州之地 土之象也 故脾胃之病最多
> Someone said: As for directions, they are called the five directions. As for their use of medicinals, each [is used] according to its direction. For example, the eastern direction is close to the sea and is coarse and inhospitable, and results in painful ulcerations. As for the western direction, the imperial tombs dwell in resplendent feasts, but there are many big-headed calluses and overgrown goiters. In the southern direction there is miasma, fog, and low-lying dampness, and there are many hernial obstructions. In the northern direction milk is eaten, and there are many organs [afflicted by] cold and diseases of fullness. In the central districts the food is diverse, and there are many of the nine febrile-diseases, hunger and consumption, fullness of the center, retaining fluids, vomiting of sour [fluids], and abdominal swelling diseases. Encompassing the soil of the central districts is the appearance of the earth (elemental-phase), therefore diseases of the spleen and stomach are extremely abundant.

In this case the reference of the *wufang* 五方 (five directions) is from the *Liji*, in the chapter *Wangzhi* 王制 (Royal Regulations), wherein it discusses the *wufang zhi min* 五方之民 (five directions of people) of ancient China:

> 中國戎夷 五方之民 皆有其性也 不可推移
> Those in the Central Kingdom [are surrounded by different peoples such as] the Rong (ancient peoples of the west) and Yi (ancient peoples of the east). There are five directions of peoples and they each have their nature which cannot be forcibly changed.

The *Liji* goes on to describe the four barbarians tribes of east, south, west, and north, and thus implies that the fifth direction, the center, is where the civilized people dwell. The *Liji* again refers to the *wufang zhi min* to emphasize how their languages are mutually unintelligible and their lifestyles incompatible. While Zhang uses this to point out that the different directions are prone to different diseases, and then later how they are the source of different types of useful medicines, it also highlights the perception of civilized Confucian society occupying the central plains surrounded by barbarians. Thus driving the barbarians out of the center is necessary to restore order to all under heaven.

Zhang's use of the term *wufang* also references a book of divination based on the *Yijing* and written during the Western Han dynasty (206 BC-25 AD) by Jiao Yanshou 焦延壽 called the *Jiaoshi Yilin* 焦氏易林 (Jiaoshi's Forest of Change). Hexagram 39 (water over mountain), *Jian* 蹇 (obstruction), is given the following reading:

> 五方四維　平安不危　利以居止　保有玉女
> The five directions and the four dimensions, peace and tranquility are not in peril. It is advantageous to use your place to stop, preserve possession of the jade woman.

If this reference were intentional, which it may be since other references to this same text are found later in Zhang's book, then it may also indicate optimism for the future of the central plains and a Han restoration.

In the second *juan* 卷 (scroll) of the *Ru Men Shi Qin*, Zhang earnestly argues for the validity of his attack and purgation strategy. However, he recognizes that health is a

balance between not enough and too much, and therefore it is not always appropriate to attack:

> 人身不過表裏 氣血不過虛實 表實者裏必虛 裏實者表必虛 經實者絡必虛 絡實者經必虛 病之常也 身工之治病者 先治其實 後治其虛 亦有不治其虛時 粗工之治病 或治其虛 或治其實 有時而幸中 有時而不中 謬工之治病 實實虛虛 其誤人之迹常著 故可得而罪也
> Mankind's body merely consists of the exterior and interior, blood and *qi* are merely susceptible to depletions and excesses. In the case of an exterior excess, the interior must be deficient, [otherwise the condition would not have occurred], when the interior is in a state of excess, then the exterior must be weak. In the case of excess in the channels, the collaterals must be deficient, and when the excess is in the collaterals, the channels must be depleted. This is the way illness has always manifested. The way a skilled clinician treats an illness, first he treats the excesses, and later treats the deficiencies, and he also knows there are instances when you don't treat someone's deficiencies at all. The way a vulgar clinician treats an illness, maybe he treats the deficiency, maybe he treats the excess, and some of the time he gets lucky, some of the time he doesn't. The ways a false clinician treats an illness, he adds to the excesses and depletes the deficiencies, his mistakes result in the relentless suffering and deception of the people, and therefore he obtains the rank of a criminal.

Thus Zhang argues that only skilled physicians realize the importance of attacking and purging first before turning to supplementation. Following this passage, he details the mistakes made by other physicians and then makes the following comparison:

> 如鯀湮洪水 不知五行之道
> [Inferior physicians] resemble Gun (the legendary emperor Yu's father) being obliterated in the flood waters, not knowing the Way of the five elemental-phases.

Here again, Zhang makes a classical reference and invokes the origin myths and legends of early Chinese history. Yu was one of the sage kings of the Xia dynasty (c.2000-1500 BC), which according to Sima Qian obtained the power of the wood elemental-phase and

was conquered by Shang and the power of *jin* 金 (metal). In one story Yu was tasked by the presiding king Yao to control the flooding that had tormented them for years. Yu passed the responsibility on to his father Gun who constructed dikes that subsequently failed and caused another catastrophe. Yu then decided to dig a canal to redirect the waters, but he had to move a mountain of earth to accomplish this feat which ultimately saved the kingdom, probably increased agricultural production through improved irrigation, and elevated Yu to the throne.

By recollecting this story of Gun, Yu, and floods, Zhang is emphasizing the significance of the *wuxing* correspondences. By electing to build dikes, Gun chose the use of wood (or metal if they were built of stone) to control water, which violates the rules of the paradigm. A superior physician would know that only earth can control water, and so Zhang is comparing himself to Yu in that they both understood this concept and had the solution to save the kingdom. As the Jin dynasty had selected the wrong elemental-phase to conquer the fire dynasty of the Song, and thereby allowed them to continue to exist in the south, they committed the same mistake as Gun. Zhang Congzheng realized that such a mistake was disastrous for the Jurchen just as it was for Gun, for they too were destroyed by another northern aggressor that brought the power of water like a flood onto the central plains. Zhang may have believed that the short reign of the water phase was coming to an end and centuries of earth were to follow.

This four character phrase referring to Gun is also found in the *Jiaoshi Yilin* under the 64th hexagram *weiji* 未濟 (not yet completed), with the trigrams fire over water, in which it says:

鯀湮洪水　佞賊為禍
Gun is obliterated by the flood waters, sycophantic rebels bring misfortune.

The structure of this hexagram suggests an impending change, where the fire above and the water below will switch positions to become *jiji* 既濟 (already completed), represented in the preceding hexagram. Additionally, as the last of 64 hexagrams it also signaled a return to the beginning, such as a return to the earth elemental-phase which corresponds to both the Han dynasty and the time of the legendary Yellow Emperor who founded Chinese civilization. Zhang may have then believed that a resolution to the crisis was imminent, for he again invokes these same four characters, this time to counter the critics of his attack and purgation methodology:

> 其餘有邪積之人而議補者　皆鯀湮洪水之徒也　今予論吐汗下三法　先論攻其邪　邪去而元氣自複也
> For those with a surplus and people that possess evil accumulations but advocate for tonification, all of them are disciples of Gun being obliterated in the flood waters! Now [I] bestow this treatise on the three methods of vomiting, sweating, and purgation, it is the first treatise to attack this evil, [with this method] the evil is dispelled and the source *qi* is itself recovered.

Zhang does not condemn the practice of tonification, which includes all forms of physical and moral self-cultivation, but instead condemns the supplementing approach when the circumstances call for attacking the evil that has accumulated within the body and occupied the central plains.

Zhang's use of the term *yuanqi* 元氣 (source energy) is interesting because despite becoming a common term in modern Chinese medical discourse, classically it was more commonly used in early Confucian and Daoist texts: the *Chunqiu Fanlu* 春秋

繁露 (Spring & Autumn Numerous Revelations); the *He Guan Zi* 鶡冠子 (The Bird Crest Master); the *Hanshu* 漢書 (History of the Han Dynasty); and the *Hou Hanshu* 後漢書 (History of the Later Han Dynasty). The character *yuan* 元 first appears in the *Huangdi Neijing Suwen* in reference to the acupuncture point *guanyuan* 關元 (sealing the source), also known as Ren-4, located three *cun* 寸 (proportional inches) below the umbilicus which is the center of the *dantian* 丹田 (cinnabar field) that corresponds to the *jing* 精 (essence) of the kidney, once thought to be the source of immortality. The next appearance is in the titles of chapter 66, *tianyuan ji dalun* 天元紀大論 (great treatise recording the source of heaven), and chapter 71, *liuyuan zhengji dalun* 六元正紀大論 (great treatise on the correct record of the six sources), the first and last of the apocryphal chapters inserted by Wang Bing during the Tang dynasty that emphasized the *wuyun liuqi* theory, wherein *yuan* is equated with heaven and the motion of the five elements which is responsible for the progression of the seasons which are associated with the six climactic energies. However, the specific term *yuanqi* first appearrd in the *Nanjing* 難經 (Difficult Classic), chapter 14, during a discussion of a positive prognosis based on a patient's pulse:

> 脈有根本　人有元氣　故知不死
> The pulse has a root, [so] the person has source *qi*, therefore one knows he will not die.

Thus it appears that despite the turmoil, Zhang remained optimistic for the future, but realizes the outcome is dependent upon having source *qi*. It further appears others agreed

with Zhang, for the term *yuanqi* becomes increasingly popular in the literature of this period.

A more familiar reference would be to *yuan* 原 (source) which more frequently appears in the *Neijing*, most notably in connection with a classification of acupuncture points called *yuan*. These source points are understood to draw upon the *jing* of their associated organ, and are further associated with the earth elemental-phase. These two characters *yuan* are similar in sound as well as meaning, for *yuan* 元 can mean source, origin, primary, while *yuan* 原 in addition to referring to a plateau or plain can also be translated as source, origin, or primary. Thus the stated goal of recovering the source *qi* can easily be interpreted as recovery of the cradle of Chinese civilization along the Yellow River valley and across the *zhongyuan*, allowing the *wuxing* cycle to continue to the next phase of earth.

Chapter 8

Li Dongyuan

The third of the designated *sidajia* was Li Dongyuan 李東垣 (1180-1251), also known as Li Gao 李杲, and his medical doctrine revolved around the spleen and stomach, the paired *zangfu* of the earth elemental-phase. Li was from Zhending, Hebei province, and Yang Shouzhong and Li Jianyong (1993) described how Li was born into a very wealthy family with significant land holdings and mingled with high ranking officials and other elites of society, but after the death of his mother he believed he had failed in his Confucian duty to care for his parents and so turned his attention to the study of medicine. Thereupon he paid Zhang Yuansu a sizable sum of money to be accepted as his student. As a Confucian, Li would have been well versed in the Confucian canon, and when he began to study medicine he surely poured over the Han medical classics as well as the numerous formularies in circulation, but it was under Zhang's tutelage that Li became accomplished in the field and gained the necessary clinical experience to produce several innovative prescriptions still used today. Li's writings also demonstrate the emerging trend of integrating the diverse doctrines espoused by other *ruyi* of the period while still fulfilling the other criteria of this new genre of medical literature. Li's most influential theories on etiology and diagnosis are introduced in the *Neiwai Shang Bianhuo Lun* 內外傷辯惑論 (Clarifying Doubts on Internal & External Damage Treatise) and elucidated in the *Piwei Lun* 脾胃論 (Treatise on the Spleen & Stomach) which he published in 1249 just before his death, while his formularies are cataloged in several other texts: *Yixue Faming* 醫學发明(Medical Innovations); *Huofa Jiyao* 活法機要 (Life Method &

Mechanisms Essentials); *Yaoyong Faxiang* 藥用法象 (Rules on the Use of Medicinals); and the *Lanshi Micang* 蘭室秘藏 (Secrets from the Orchid Chamber).

Li's teacher was Zhang Yuansu, and one of Li's students was Wang Haogu 王好古 (fl.1298-1308 AD) who authored a very important materia medica collection called the *Tangye Bencao* 湯液本草 (Materia Medica of Decoction). Although Hoizey, D., and Hoizey, M.J. (1993) identified Wang was a student of Zhang Yuansu, Unschuld, P.U. (1986) identified Li as Wang's teacher. Clearly the influence from the *Bag of Pearls* is evident in Wang's work, however, this makes the dates for Zhang Yuansu more incredible. If Zhang died as late as 1220, and Wang only lived a short time after his materia medica was completed, there could be as much as 90 years of temporal distance between these two men. Even if Wang lived to be 100 years old, he would only have been 10 years old when Zhang died. In the *Tangye Bencao* numerous references to the ideas of Li Dongyuan are found, which makes it even more likely that Wang was Li's student and thus could trace his lineage back to Zhang Yuansu.

Li's most widely recognized student was Luo Tianyi 羅天益 (c.1220-1300), also known as Luo Qianfu 羅謙甫, a native of Zhengding in Hebei province, who studied for 10 years under Li and then later served as an imperial doctor in the army. In estimating the dates for Luo one must again assume that Luo was a young man in his twenties when be began studying under his master, and then continued for ten years until his master's death. Angela Ki-che Leung (2003) argues the Yuan dynasty witnessed the strengthening of the master-disciple relationship with strong bonds of loyalty, whereas earlier it was common to study under different teachers. For example, Leung found that Li Dongyuan

only studied with Zhang Yuansu, to whom he paid a thousand gold pieces, and Li's disciple Luo Tianyi also studied only with Li who provided him with food, lodging and money to care for his family so that he could focus on his medical studies. Although evidently Luo was from a humble background, he still managed to assert his elite status as a *ruyi* after gaining some social recognition, perhaps due to his a association with Li. According to Leung, Luo criticized physicians of lower social status, known as *fuyi* 福醫 (fortunate doctors) or *suyi* 俗醫 (vulgar doctors), remarking that their clinical experience and demonstrated efficacy are not equal to the scholarly tradition of *mingyi* 明醫 (intelligent doctors).

Luo Tianyi and his master Li Gao may have equated these doctors with magicians and exorcists, for although the literature of this era places emphasis on more tangible mechanisms of diseases causation and treatment, the belief in supernatural causes of disease and their treatment through shamanic rituals and spirit mediums continued. Edward L. Davis (2001) documented in his study on *Society and the Supernatural in Song China* the significance and prevalence of these beliefs; therefore, it cannot be persuasively argued that a revolution in Chinese medical science occurred that moved from supernatural to natural causes and treatments of disease, as both paradigms coexisted, or rather both were part of the same the paradigm. Davis points out that a spirit-medium might perform an exorcism as well as refer a patient to a pharmacist, while calling upon a spirit-medium for treatment of disease was pervasive throughout all levels of society, from the peasant to the scholar-official. Ritual performances, recitation of incantations, and the use of talismans remained core practices within segments of the Chinese medical profession. Yet evidently the *ruyi* considered this medical approach to

be inferior, for in the preface to the *Lanshi Micang*, Luo juxtaposes his admiration for his teacher with his concern over such vulgar practices:

> 夫吾師合生氣之和　道五常之性　使疾疢不作而無妖祲短折　起死扶傷　令六合成寧　萬世攸賴
> As for my teacher, he has coalesced with the harmony of *qi* and the nature of the Way's five virtues. As for the causes of disease and sickness he doesn't pretend and [can explain etiology] without [blaming] goblins and vapors weakly rolling over and arising from the dead to inflict injuries and commanding the six notes to become tranquil, which the myriad generations are content to blame.

Li Dongyuan's work further suggests he was concerned over the socio-political environment, while as someone already firmly rooted in elite society the overt need to augment the status of physicians is not evident in his writings. Amidst the turmoil of the escalating violence from the north, it is unthinkable that this did not have an impact on his view of the world. Genghis Khan died in 1227 and was succeeded by his third son Ogodei (c.1186-1241) as the Great Khan of the Mongol empire in 1229. Ogodei first expanded his empire through the conquest of Russia and Eastern Europe, and established the first capital of the Mongol empire in Qaraqorum, in central Mongolia. Ogodei then turned to finish the destruction of the Jin, which was accomplished with the sacking of the southern Jin capital at Kaifeng in 1234. However, after the death of Ogodei in 1241, an internal power struggle back at Qaraqorum drew away the attention of the Mongols and meant the central plains were essentially abandoned by their conquerors until 1251. Leung (2003) found that Li's friend Yuan Haowen 元好問 (1190-1257) argued that the *Piwei Lun* was an attempt to analyze the great epidemic that occurred after the fall of Kaifeng to the Mongols which forced Li to flee with Yuan to Shandong.

In the preface to the *Piwei Lun* Yuan Haowen begins by stating:

> 天之邪氣　感則害人五臟　八風之邪　中人之高者也　水穀之寒熱感則害人六腑　謂水穀入胃 其精氣上注於肺 濁溜於腸胃 飲食不節而病者也　地之濕氣　感則害人皮膚筋脈　必從足始者也
> As for the evil *qi* of heaven, if affected [by it] then harm is done to people's five *zang* (solid organs), and the evils of the eight winds strike the highest of people. As for the hot and cold of water and grains, if affected [by it] then harm is done to people's six *fu* (hollow organs). What is called water and grains enter the stomach, it essence and *qi* ascend to focus on the lungs, the turbid slips away into the intestines and stomach. Those whose food and drink are not regulated will have disease. As for the damp *qi* of the earth, if affected [by it] then harm is done to people's skin, sinews, and vessels, they must follow from sufficiency first.

Yuan is stating that Li also had his own three tiered classification system of etiology that shows influences from the *Jingui Yaolue Lun* and included climactic influences that invade the body and affect the internal organs, unbalanced diet and lifestyle, and a damp earth energy that attacks the exterior of the body. This further recalls the classic trilogy of heaven-man-earth, and places personal responsibility for health at the center of this relationship. Personal responsibility is emphasized by identifying the need for a well regulated diet in accordance with the seasons which people must follow to maintain a healthy digestive system.

Li Dongyuan's medical doctrine was focused on the role of the spleen and stomach in health and disease. The spleen and stomach are the paired *zangfu* of the earth elemental-phase which governs the entire digestive system, and so his doctrine is sometimes referred to as the Earth Element School. Li was not the first to focus his doctrine on specific organs, for Asaf Goldschmidt (2009) found that Xu Shuwei 許淑薇 (c.1140) introduced the debate over which organ is most important; the spleen or kidney,

with Xu favoring the latter. As has previously been argued, the Song dynasty was identified with the fire phase, and therefore in the minds of Confucians the Jin dynasty, despite the fact that the northern barbarians chose metal as their reigning element, is actually representative of the water phase which according to *wuxing* theory will conquer fire. However, the fact that the Jin occupied the central plains while a Song emperor sat on a throne in the south generated a cosmic disharmony. The only hope for a harmonious future was the establishment of the next dynasty that would take the place of both the erroneously labeled Jin and the weak and worthless Southern Song by ushering in the age of the earth elemental-phase. This ordering of all under heaved was a Confucian's responsibility to society, and thus Li writes in the opening of the *Piwei Lun*:

> 故夫飲食失節　寒溫不適　脾胃乃傷　喜怒憂恐　損耗元氣　資助心火
> 火與元氣不兩立　火勝則乘其土位　此所以病也
> Therefore, as for food and drink losing their [moral] integrity (being disloyal), [and consuming] cold and warmth unsuitably, the spleen and stomach only then are damaged. Happiness, anger, worry, and fear reduce and deplete the source *qi*, and this provides support to the heart fire. [Heart] fire and the source *qi* cannot together remain, and if fire is victorious then it takes advantage of the earth position, this is the reason for disease.

As the source of nourishment for the whole body, the failure to be loyal to the needs of the spleen and stomach is to cut your self off from life. This is an eternal truth and not subject to the whims of emotions that also generate illness, much as those who remain loyal to the Song prevent the succession of dynasties to proceed harmoniously. Or as Li argues, "fire and the source *qi* cannot together remain," for this fire will damage the earth phase and only lead to further suffering. This passage may also be referencing Zhang Congzheng's statement regarding the need to attack and purge the invading evils in order

to recover the source *qi*. The term *yuanqi* (source energy) appears to have been gaining popularity in medical literature, especially in passages that seem to reference the socio-political crisis. Interesting again is Li's use of the couplet *shijie* 失節 which can mean being disloyal to the dynasty or by extension to Confucian civilized society, or losing one's moral integrity, a necessary precursor to disloyalty. This seems a logical argument for a Confucian residing along the course of the Yellow River watching the disintegration of the ruling dynasty and the appearance of a power vacuum created by the nomadic Mongols who had historically been more interested in raiding the border for supplies and returning to their nomadic way of life.

Li Dongyuan's medical doctrine is evident in his discussion on formula construction. For example, he begins his discussion on this topic by stating:

> 至真要大論云　有毒無毒　所治為主　主病者為君　佐君者為臣　應臣者為使　一法力大者為君
> *The Great Treatise on Reaching the Genuine Essentials* says [a medicinal] having toxicity or not having toxicity depends upon how it is used in treatment. Those [medicinals] that govern the disease are considered the sovereigns, assistants to the sovereigns are considered the officials, and those that respond to the officials are the envoys. In one method, the mighty and powerful are considered the sovereign.

The argument that a medicinal is only toxic if it used inappropriately in treatment is a concept that remains essential in the practice of Chinese herbal medicine, and implies the primacy of differential diagnosis. As other physicians have argued before him, to supplement excesses and drain deficiencies is a criminal act that can kill a patient. The categorization of medicinals as sovereign, ministers, assistants, and envoys is found in the *Shennong Bencao*, but Li feels it is important to emphasize how the strongest and

most powerful medicinal in a prescription is often considered the sovereign, with the obvious parallel in the realm of politics also on his mind. This process of discovering what the most mighty and powerful actions of medicinals are so that they can be used safely and effectively is one of the core features of normal scientific development.

In Li's approach to formulas construction one can see the influence from his master, Zhang Yuansu. Although he doesn't adopt the identical system, the similarities are nonetheless evident:

> 凡藥之所用　皆以氣味為主　補瀉在味　隨時換氣　氣薄者　為陽中之陰　氣厚者　為陽中之陽　味薄者　為陰中之陽　味厚者　為陰中之陰　辛甘淡中熱者　為陽中之陽　辛甘淡中寒者　為陽中之陰　酸苦鹹之寒者　為陰中之陰　酸苦鹹之熱者　為陰中之陽　夫辛甘淡酸苦鹹　乃味之陰陽　又為地之陰陽也　溫涼寒熱　乃氣之陰陽　又為天之陰陽也　氣味生成　而陰陽造化之機存焉
>
> Generally as for how a medicinal is used, each one is used according to its *qi* and flavor, [the ability to] tonify or drain resides in the flavor, and follows the seasonal changes of *qi*. As for the lightness of *qi*, it is considered *yang* within *yin*, as for the thickness *of qi*, it is considered *yang* within *yang*. As for the lightness of flavor, it is considered *yin* within *yang*, the thickness of flavor is considered *yin* within *yin*. Hot [medicinals] that are acrid, sweet, and bland are considered *yang* within *yang*, and cold [medicinals] that are acrid, sweet, and bland are considered *yang* within *yin*. Cold [medicinals] that are sour, bitter, and salty, they are considered *yin* within *yin*, and hot [medicinals] that are sour, bitter, and salty are considered *yin* within *yang*. As for acrid, sweet, bland, sour, bitter, and salty, they are only the *yin* and *yang* of flavor, and they are also considered the *yin* and *yang* of earth. As for warmth, coolness, cold, and heat, they are the *yin* and *yang* of *qi*, and they are also the *yin* and *yang* of heaven. *Qi* and flavor generate completion, and *yin* and *yang* produce the essential existence of transformation therein.

Li may have been trying to simplify Zhang's method by focusing in on a medicinal's characteristics of hot (*yang*) and cold (*yin*) temperature and *qi* (*yang*) and flavor (*yin*), but since he does not provide like Zhang did in his *Bag of Pearls* any concrete examples of

how this system can be applied to specific medicinals in the form of a concise materia medica it is more difficult to assess the usefulness of this system.

Although supplementation of the spleen and stomach was an important focus of Li's work, he was not averse to other methods. It seems he was aware of the ideas promulgated by Zhang Congzheng and his attack and purgation methods to drive foreign invaders from the body. Thus Li argues:

> 凡治病服藥　必知時禁　經禁　病禁　藥禁　夫時禁者　必本四時升降之理　汗下吐　利之宜　大法春宜吐　象萬物之發生　耕耨科斫　使陽氣之鬱者易達也　夏宜汗　象萬物之浮而有餘也　秋宜下　象萬物之收成　推陳致新　而使陽氣收也　冬周密　象萬物之閉藏　使陽氣不動也
> In regards to treating disease and administering medicine, one must know the seasonal prohibitions, the channel prohibitions, the disease prohibitions, and the medicinal prohibitions. As for the seasonal prohibitions, one must follow the four seasons' principle of rising and falling, so that sweating, purgation, and vomiting can benefit appropriately. A great method would be in spring it is appropriate to induce vomiting; it is comparable to the effusion and generation of the myriad things, [or to] ploughing, hoeing, dividing, and chopping, and as for the richness of the envoy's *yang qi*, it is easily attained. Summer is appropriate for sweating; it is comparable to the floating of the myriad things and having a surplus. Autumn is appropriate for purgation; it is comparable to the harvesting to completion of the myriad things, pushing the explanation to deliver anew, and the envoy's *yang qi* is collected. In winter one must be very careful; it is comparable to the closing and concealing of the myriad things, and the envoy's *yang qi* doesn't move.

Li uses the temporal sequence to show how the first three methods may be tried early on in the year, but in the winter one must not use such harsh methods. But Li is not arguing one should only supplement deficiencies in the winter season, but in the winter of a disease when the body has been weakened by the fight with the pathogenic influences. To purge at that point would lead to further debilitation. Similarly, had the barbarian incursion into the central plains been immediately repulsed the problem could have been

solved in the springtime, while later it needed to be pushed out from a deeper level which might have succeeded if the *zhengqi* 正氣 (correct *qi*) could be mustered to launch an attack. But during Li's time it was the winter, and with the fall of the Jin and the Mongol return to the north there was no longer a need to attack, but to rise up and strengthen internally to restore harmony to the central plains.

One of the most debated ideas introduced by Li Dongyuan is the concept of *yin* fire, especially as it relates to his original prescription *buzhong yiqi tang* 補中益氣湯 (tonify the center and supplement the *qi* decoction). Yongping Jiang (2007) states:

> One of the most common confusions regarding Bu Zhong Yi Qi Tang concerns the use of warm herbs to treat heat; this is often discussed but there seems to be no universally accepted explanation (p.31).

For Jiang, the answer lies in interpreting *yin* fire to mean heat generated from a damp stagnation, so supplementing the spleen with warm herbs will eliminate the dampness and thus the source of the heat. In addition Jiang argues that *yin* fire can also be from *qi* stagnation that results from weak *qi* that needs reinforcing with warm medicinals. Although these are clinically rationale approaches, Jiang's argument fails to address the words of Li Dongyuan on *yin* fire, which he dismisses because:

> It doesn't matter what Dr. Li calls it, however, the important thing to remember is that these terms have a different meaning than what is meant today (p.32).

Remarkably, Li's was so satisfied with his own explanation that almost identical passages leading up to the same prescription *buzhong yiqi tang* appear in both the *Neiwai Shang Bianhuo Lun* and the *Piwei Lun.* So it is worth examining Li's explanation:

> 心火者陰火也　起於下焦　其系击於心　心不主令　相火代之　相火　下焦胞絡之火　元氣之賊也　火於元氣不兩立　一勝則一負　脾胃氣虛　則下流於腎　陰火得以乘其土位
> Heart fire is *yin* fire. Arising from the lower *jiao*, it (*yin* fire) systematically strikes at the heart, and the heart cannot govern or command, and the ministerial fire acts on behalf of it. As for the ministerial fire, it is the lower *jiao* fire of the womb collateral, it is the thief of the source *qi*. The [ministerial] fire and the source *qi* cannot stand together. One victory and then one defeat. If the spleen and stomach *qi* is deficient, then [*qi*] flows downward from the kidney, thus *yin* fire obtains the advantages of the earth position.

It would seem Li is asserting very strongly and without equivocation that *yin* fire is heart fire. In a modern understanding this would be a specific pattern of *zangfu* differential diagnosis based on the appearance of specific symptoms such as palpitations, red complexion, insomnia, a red tongue and a rapid pulse. This formality was not standardized in the same manner a thousand years ago, but according to *wuxing* theory the heart is associated with the fire elemental-phase and as such is susceptible to the influence of heat, it is also understood to be the sovereign of the *zangfu* system and the phase that generates earth. Further, Li argues *yin* fire arises from below to attack the heart, which would most likely indicate a pathogenic influence from the kidney and the water phase. This statement could have been in response to Liu Wansu who argued that "when kidney deficiency is considered cold, the heart is confused as to the correct principle." But Li is saying when ministerial fire, not cold, from the kidney usurps the throne, this is what prevents the true sovereign of the heart from ruling. This idea was picked up by Zhu

Danxi 朱丹溪 (1280-1358), the fourth of the *sidajia* from the Yuan dynasty, who argued that when *yin* is deficient the relative excess of *yang* manifests in the symptoms of an illness.

Li is also describing human pathology in a way other Confucians would understand, the governance of the sub-celestial realm. The subject of this passage is *yin* fire which is heart fire, but the heart would not arise from below, so *yin* fire must refer to the water phase which everyone knew was in a conquering relationship with fire. Thus Li says the true emperor cannot govern or command because it has been conquered by water and the ministerial fire associated with the kidney is sitting on the throne instead. The reproductive organs are also correspondences of the water phase, but more importantly Li is arguing the governance of the central plains and the source *qi* as been stolen by this usurping element. Once more, Li appears to be referencing Zhang Congzheng's assertion that evil *qi* and source *qi* cannot stand together. In Li's version the ministerial fire, which acts like a thief, is the evil that needs to be eliminated. With the fall of the Jurchen and the withdrawal of the Mongols, the concern over external evils invading was abated. The remaining problem was the need for a new dynasty, one that could secure the power of earth to ensure a stable and prosperous future. Thus the false fire serving as the emperor was the primary threat to the central kingdom. The Song emperor needed to abdicate and allow a new dynasty to emerge in harmony with the *wuxing* cycle.

Li then goes on to explain the larger theories one needs to consider when choosing the appropriate way to deal with the identified problem:

> 傷其外為有餘　有餘者瀉之　傷其內為不足　不足者補之　內傷不足之病　苟誤認作外感有餘之病　而反瀉之　則虛其虛也　實實虛虛　如此死者　醫殺之耳
> Damage to the exterior is considered having a surplus. As for having a surplus, drain it. Damage to the interior is considered an insufficiency. As for an insufficiency, tonify it. As for diseases of interior damage from insufficiency, if careless mistakes identify and act upon the exterior [as if it is] being affected by having a disease of surfeit, and contrary [to the actual deficient condition the physician instead] drains the patient, then it makes the deficiency more deficient. Adding to excess and depleting deficiencies, it is as if those who died were killed by the physician.

Therefore strategies like those offered by Zhang Congzheng that involved attack and purgation were only useful for externally contracted illnesses, but once the body is depleted the appropriate course of action in supplementation. This includes ensuring a sufficient food supply and clean water, as well as physical and moral self-cultivation through exercise and studying the classics, which will lead to following the proper order among the five relationships, beginning with ruler and subjects. Li then provides his plan of action: *buzhong yiqi tang.* Li was so committed to tonfiying the center and raising the *yang qi* that he included several modifications to this prescription in the *Piwei Lun*, including; *tiaozhong yiqi tang* 調中益氣湯 (harmonize the center and supplement the *qi* decoction), and *qingshu yiqi tang* 清暑益氣湯 (clear summer-heat and supplement the qi decoction).

While the *liuqi* or external climactic influences were of less concern to Li Dongyuan, he tried to provide clarification on the differentiation between summer-heat and heat, and even cites his teacher in this ongoing debate:

> 潔古云　動而得之為中熱　靜而得之為中暑　中暑者　陰証　當發散也
> 中熱者　陽証　為熱傷元氣　非形體受病也
> [Zhang] Jiegu says: that which moves and obtains it is considered being struck by heat. That which is calm and obtains it is considered being struck by summer-heat. As for being struck by summer-heat, it is a yin conformation, one should effuse and disperse. As for being struck by heat, it is a yang conformation, it is considered heat damaging the source *qi*, yet in no case does the form of the body receive disease.

The difference between movement and stillness is used to distinguish heat from summer-heat, with heat being a *yang* and more aggressive pathogen, and summer-heat being a more *yin* and passive disease causing influence. Using dispersing methods to counter the stillness and eliminate heat are internally logical, but how heat can damage the source *qi* without causing disease is more problematic. Recognizing that his readers will be confounded, Li explains further:

> 若虛損脾胃　有宿疾之人　遇此天暑　將理失所逢時代化　必困乏無力
> It resembles deficiency harming the spleen and stomach; they harbor the diseases of people. Encountering the heavenly summer-heat, when the principle is lost one thereby encounters a period of transformation; one must be surrounded by those exhausted and without strength.

Li appears to be arguing that heat is a deficiency problem similar to malnutrition, and that it is malnutrition that leads to the diseases of people. On the other hand, Li argues that summer-heat is generated from the heavens, and leads to transformation and possibly famine. To make sense of this one must consider that according to the *wuxing* generation cycle spring corresponds to wood and wind, summer to fire and heat, fall to metal and dry, and winter to water and cold; earth corresponds to damp but does not rule a season of its own, but governs the transformation between seasons. Therefore for *re* 熱 (heat) and *shu*

暑 (summer-heat) to coexist, *shu* needs to be included under the earth element, together with dampness or humidity which accounts for its *yin* classification. While the period of transformation may be the change of seasons, it also can refer to the change of dynasties. In that interim between the fall of the Jin and the rise of the Yuan, Li Dongyuan must have felt that his time was also one of transformation and exhaustion.

As Li draws to the end of the *Piwei Lun* he invokes the classical canon just like his predecessors. Once more it seems he intended to provoke thought on larger issues:

> 名與身孰親　身與貨孰多　以隨侯之珠　彈千仞之雀　世必笑之
> 何取之輕而棄之重耶
> Fame compared to life, which is [more] cherished? Life compared to wealth, which is more [cherished]? [If someone resembles] using the pearl of the marquis of Sui to shoot a bird from a great distance, [then] generations must laugh at this. How can someone take this lightly and discard something of importance?

The first ten characters are drawn directly from the *Daode Jing* 道德經 (Classic of the Virtuous Way) by Laozi 老子 (c.500-220 BC) and would be well known to any Confucian. It also sets up the reference to the subsequent passage that invokes a story from another Daoist classic, the *Zhuangzi* 莊子 (Book of Master Zhuang), from a chapter called *rang wang* 讓王 (yielding of kings) that discusses the succession of rulers, and states that men will indeed chase after fame and wealth, and therefore the cultivation of the self is deemed more important in this Daoist classic than governing all under heaven. This is comparable to how the marquis of Sui used his pearl unwisely and tossed it away. Li may have been concerned that his wisdom, just like the ideas found in his teacher Zhang Yuansu's *Bag of Pearls*, will be tossed away by those who do not grasp his

doctrine. Yet Li also realized that someone would seek to fill the power vacuum, and he hoped that this would end the chaos of this transformational period and usher in the earth phase for a long reign of peace and stability. Thus Li concludes the *Piwei Lun* with this image:

> 氣乃神之祖　精乃氣之子　氣者　精神之根蒂也　大矣哉　積氣以成精　積精以全神　必清必靜　御之以道　可以為天人矣　有道者能之　予何人哉　切宜省言而已
> *Qi* is the ancestor of spirit and essence is the son of *qi*. As for *qi*, it is the root and stem of the essence and spirit. How great it is! The accumulation of *qi* becomes the essence, and the accumulation of essence perfects the spirit. One must be clear and calm, imperially taking up the Way, so one can be considered a man of heaven. Those that possess the Way are able to do it, what man shall be bestowed? It is definitely appropriate to use words sparingly, and that is all.

It was thought that when the dust finally settled and all under heaven was returned to order, a new emperor would receive the mandate of heaven and there would follow a prolonged reign of peace under the auspices of the earth element.

In 1251, the same year of Li Dongyuan's death, Mongke (r.1251-1259) became the next Great Khan to rule the Mongol empire after a bloody internal power struggle. Mongke and his brother Qubilai endeavored to conquer the Song, but once more their cavalry tactics that were so effective on the steppes and to a lesser degree on the north China plains, proved problematic in the southern terrain of marshes and waterways. Mongke died on the campaign, and after another four years of internal fighting over succession, Qubilai Khan (r.1264-1294) became ruler of the Mongols. In 1272 he started construction of a new capital at Beijing, called Dadu 大都 (great capital), and issued an edict declaring the Mongol dynasty in China would be known as the Yuan 元 (source).

David Morgan (2007) found that this may have been suggested by a Chinese advisor as a way of gaining the allegiance of the Chinese population. It is clear from the medical literature of the Song-Jin-Yuan Transition, that this segment of the elite population was expressly concerned over the recovery of the source *qi*. By declaring his dynasty the Yuan, Qubilai attempted to gain legitimacy by asserting that the source *qi* had indeed been recovered. In 1279 Qubilai was finally able to topple the Southern Song, and for better or worse, all under heaven was again united.

Conclusion

This study demonstrates that Chinese medicine during the Song-Jin-Yuan Transition (c.1100-1300 AD) underwent a process of normal scientific development as evidenced by a vigorous intellectual debate intended to extend and refine the theories governing the accepted paradigm, and furthermore: the substance of this debate was not just discussions of etiology, pathogenesis, diagnosis, and treatment, but transcended medicine in order to clarify the theories which explained all phenomenon in the universe so that order could be restored to the *zhongyuan* (central plains). Significantly, all of the leading thinkers of this period lived and practiced in the Jin dynasty which ruled over the central plains, where the impact of the socio-political crisis was most severe. On their southern border the Jin were continually faced with the Southern Song and their claim that the North should be returned to Han Chinese rule, while on their northern border they had to face the rapidly escalating threat of the Mongol horde that was determined to conquer all of Asia. In the center of this turmoil medical debates raged on amongst the *ruyi* (Confucian scholar-physicians). The illnesses of the individual were understood to be the illnesses of society, and vice versa, and this emerging elite class took up the responsibility to cure these diseases by returning to the wisdom found in both the Han medical classics and the Confucian canon. This led to the generation of a new genre of medical literature, one that moved from the explanatory to the conjectural and thereby spurred normal scientific development.

There are three essential elements of this new genre. First, all of these *ruyi* demonstrated mastery of both the Han medical classics and the Confucian canon, and this served as their authority when making their arguments. The breadth of this literature

allowed them the freedom to highlight different passages and use those in support of their alternative theories and distinct doctrines, with no need to directly disprove or invalidate their rival's arguments because they used the same authority. Through the process of this debate, each successive generation of scholars was able to consider a broader range of possibilities and weigh the merits of increasingly diverse arguments before settling on their own standard of care.

As for the second feature of this new genre of medical literature, it reflects the emerging elite status of the doctor in Confucian society. As a member of the literati he would be expected to not only cite the classical texts that were the basis for his argument, but he also should be concerned with matters on a grander scale. Based on the content and tone of their writings it has been herein argued that the *ruyi* were either intentionally engaged in a political discourse using their branch of learning as a vehicle, or minimally they were profoundly impacted by the larger socio-political crisis such that it sub-consciously influenced their dialogue. Although this author is persuaded by the evidence for the former scenario, the latter would be hard to dispute. One cannot meaningfully study the intellectual history of Chinese medicine during the Song-Jin-Yuan Transition and not consider the impact of the socio-political context.

Thirdly, this new genre of medical literature represented discrete systems of clinical practice. All of these *ruyi* had access to the Han medical classics as well as a plethora of more contemporary works, some of them encyclopedic in nature. This volume of material had become cumbersome and likely was not all of equal therapeutic value. So each of these physicians sought to develop their own system of medical practice, one that was still based on the accepted paradigm but which emphasized distinct approaches to

diagnosis and their own collection of prescriptions. This further served to generate distinct lineages, both through direct master-disciple relationships as well as the generation of this new corpus of literature from which other *ruyi* could pick and choose ideas, and thus align themselves with a tradition of scholars. This in turn was fueled by the burgeoning private publication industry that gave literati physicians a platform for intellectual exchange.

The most fervent debates among the *ruyi* of the Song-Jin-Yuan Transition were in regards to the external and internal causes of disease. The Confucian canon contributed to these debates because these books also used the same cosmological paradigm and discussed the same etiologies. Several of these texts referenced climactic factors like wind, cold, and heat in relationship to human suffering, while the *Liji* provided a list of seven emotions that can disrupt social harmony: happiness; anger; sorrow; fear; love; hate; and desire. The Han medical classics also provided alternative models that detailed internal and external causes of disease. The *Shanghan Zabing Lun* provided the precedent of categorizing three causes of disease, but these focused on external factors and were insufficient for Confucians dedicated to internal self-cultivation. Chapter 5 of the *Huangdi Neijing*, an early chapter considered by many as original material, introduced the revised model of external climactic factors and internal emotional causes of disease. This included (summer) heat, dry, damp, cold, and wind externally, and happiness, anger, sadness, fear, and worry internally. Thus the *Liji*'s list of emotions differed from the *Neijing,* not only because the former used sorrow (*ai* 哀) which evokes images of grief and mourning, while the latter used sadness (*bei* 悲) which also evokes images empathy

for the suffering of others, but also because the *Neijing* dropped love, hate and desire and instead added worry (*you* 憂), for a total of five in concordance with the *wuxing*.

Then in chapter 66 of the *Neijing*, the first of the apocryphal treatises inserted by the Tang physician Wang Bing wherein he developed *wuyun liuqi* theory, two different lists of climactic factors, emotions, and even elemental-phases were added. In the first reference, Wang Bing repeats the earlier list of climactic factors exactly, but for the five emotions Wang substituted consternation (*si* 思) for sadness, perhaps because he believed this emotion included aspects of both sadness and sorrow. Then in the second reference Wang produces a list of elemental-phases that repeats the element fire, for a total of six phases, and since he lists these six phases (wood, fire, earth, metal, water, and fire) twice in this chapter it is clear that this was not a transcribing error. To rectify the number of climactic factors (previously 5) with the six phases, Wang drops (summer) heat (*shu* 暑) and adds heat (*re* 熱) and fire (*huo* 火). Song-Jin-Yuan Transition physicians then sought to rectify all of these inconsistencies and provide their own models.

In Liu Wansu's model, he reaffirmed the number of elemental-phases as five, but followed Wang Bing's inclusion of heat and fire instead of (summer) heat. He then followed this up by arguing that these two hot climactic factors were the dominant cause of disease in direct rebuttal against the more popular cold damage doctrine. In treatment he focused on cooling the pathogenic fire and nourishing the deficient water that is supposed to conquer fire according to *wuxing* theory. As for emotions, Liu had little to say. Chen Yan on the other hand argued for the earlier model of seven emotions from the *Liji* as opposed to five as found in the *Neijing*, but generated his own list that synthesized

different aspects of these classics. First Chen dropped love, hate, and desire, and substituted sadness for sorrow. He further added consternation and worry, and introduced the emotion of fright (*jing* 驚). As for Chen's six climactic factors, he rejected the use of fire as a pathogen and instead argued for heat and summer-heat, and thus furthered the debate over the correct definition of these characters and the nature of external pathogenic influences. Zhang Yuansu rejected this synthetic approach and instead offered a reductionist model. Zhang's seven emotions were decreased in status among the internal pathogens, below the more dominant factors of famine, gluttony, toil, and laxness. Further, Zhang returned to the use of sorrow from the *Liji* and used worry from the *Neijing*, but he also dropped love, hate, and desire like his predecessors, and instead introduced longing (*xiang* 想) and yearning (*mu* 慕) to the list. Zhang also offered a revised list of external factors that was reduced to four with the deletion of dryness, and which exclusively used *shu* 暑 (heat or summer-heat) instead of *re*-heat or *huo*-fire.

While Zhang Congzheng did not join in the debate over these lists of pathogens, he clearly emphasized the external factors as predominant over the internal. His doctrine of attacking and purging of external evils and guest *qi* suggests Zhang believed the nature of the pathogen was not as important as its forceful elimination. His stated goal was the recovery of the source *qi*, which occupies the center of the internal environment. Li Dongyuan on the other hand attempted to clarify the arguments made by earlier *ruyi*, but did not provide his own updated list of pathogenic factors. He proposed that external factors are excesses that should be drained while internal factors were deficiencies that needed supplementing. Li argued that neither the heart-*yin* fire nor the ministerial fire associated with the kidney-water phase can coexist with the source *qi*. This brings

together ideas from Liu Wansu who recognized fire as the dominant pathogen, and Zhang Congzheng who identified the threat to the source *qi*. Furthermore, Li tried to clarify the difference between summer-heat and heat, and thus lent support to Chen Yan's model while again emphasizing his concern over the impact of these pathogens on the source *qi*.

Just as the schools of thought in Confucianism may all be labeled, there exists the temptation to label all of the different medical doctrines as has been done for the *sidajia* (four great masters), but ultimately the great diversity amongst all of these scholars is as plentiful as their names, and so only their names are needed to differentiate their ideas. Although the master-disciple relationship was increasingly important, none of these disciples were content to accept the system of their master, and so all of them were important in the trajectory of medical development both during the Song-Jin-Yuan Transition and for centuries afterwards, right up to the present. For example, strictly from the perspective of normal scientific development, the impact of the doctrines of Liu Wansu and Zhang Congzheng on Chinese medicine was profound. While their own original formulas were minimally influential, Marta Hanson (1997) found that the momentum of their ideas was carried forward into the *wenbingxue* 溫病學 (doctrine of warm diseases) which flourished during the subsequent Ming 明 (1368-1644 AD) and Qing 清 (1644-1911) dynasties, contributed numerous new prescriptions still used today, and profoundly influenced medical identities. From the perspective of transmission, Angela Ki-che Leung (2003) found that the teachings of the first of the *sidajia*, Liu Wansu, were transmitted to the monk Jingshan 荊山 who moved to Jiangnan and transmitted it to Luo Zhiti 羅知悌 (fl.1253-1258) who then transmitted it to Zhu

Zhenheng 朱震亨 (1282-1358), the fourth and last of the *sidajia*. Zhu Zhenheng, also known as Zhu Danxi, was instrumental in blending the formularies from these distinct doctrines and contributed to the ongoing debate on theoretical issues.

To stress the political significance of the writings of the *sidajia* once more, the concluding remarks of Zhu Danxi in the *Ge Zhi Yu Lun* 格致余論 (Extra Treatises Based on Investigation & Inquiry) helps to clarify their intentions:

> 遂取東垣方藁 手自抄錄　乃悟治病人當如漢高祖縱秦暴周武王縱商之後
> Thereupon I retrieved [Li] Dongyuan's prescriptions and copied them myself by hand. Only then did I understand treating patients should be similar to how Han Gaozu (r.206-195 BC) overcame Qin's cruelty, and how the Martial King of Zhou overcame the Shang's [cruelty] thereafter.

To put this phrase into context, the chapter begins by questioning the methods of Zhang Congzheng, who proposed that diseases were the result of external evil influences which must be strongly attacked and purged from the body. It has been argued that this was a metaphor for the invasion of the barbarians and the recommendation that they be attacked and purged from the central plains. Then after the Jurchen were defeated by the Mongols, Li Dongyuan argued for the need to internally strengthen both the military and the political resolve to reclaim and defend the center. By the time the Mongols had subjugated all of China, Zhu subsequently realized that their ideas were correct. It was time again to strengthen internally in order to attack and purge, and just as the two exemplary dynasties of the past, the Han and Zhou, were able to overcome the cruelty of oppressive regimes, so too must the Yuan dynasty be overthrown by the legitimate successors to this foreign occupation of the central kingdom. Thus Zhu Danxi, after

arguing for the importance of supplementation reconsiders Zhang Congzheng's advice and concludes:

> 于是定為陰易乏　陽易亢 攻擊宜詳審　正氣須保護
> Thus it was decided to consider that *yin* is easily exhausted, and *yang* is easily overconfident (excessive), attacking and assaulting is suitable if one carefully examines [the situation], the righteous *qi* must be able to defend and protect.

Significantly, there is no discussion of recovering the source *qi*, for the Yuan had already made that claim, but instead Zhu states the *zheng* 正 (righteous) *qi* that must be called upon to defend and protect Chinese civilization against another external evil, just as Zhang had argued a century earlier. Therefore one must consider that the transmission of these texts among scholars for whom medicine was but one of many interests was in large measure due to these underlying political themes.

The impact of the Song-Jin-Yuan Transition on medicine was not limited to China. Zhu Danxi's doctrine of supplementing of *yin* together with Li Dongyuan's tonification of the center formed a doctrine that spread to Japan. During the middle of the Muromachi period (1333-1568), several Japanese physicians and scholars traveled to China where they learned about the latest developments in Chinese medicine and philosophy. The most notable of these was Tashiro Sanki 田代三喜 (1465-1537), who went on a twelve year (1486-1498) visit and mastered the medicine developed by the *sidajia.* Of all of these, it was the teachings on supplementation promoted by Li Dongyuan and Zhu Danxi, together with the revival of the *Shanghan Lun* (Japanese: *Shokanron*) which were most influential on Tashiro Sanki, who returned to Japan and founded the *Goseihoha* 後世方

派 (Latter-Day Method School), also known as *Rishu Igaku* 李朱醫學 (School of Li-Zhu Medicine) (Ozaki, N.T., 1980). This cross cultural exchange resulted in the distinct trajectories Japanese medicine followed up until the present, where the impact of this period in Chinese medical development remains evident.

The most profound impact of Chen Yan's work is the importance of differentiating the spirit and emotions in generating internal diseases from the external climactic or miscellaneous causes, and thus Chen also helped to clarify the difference between emotions and supernatural causes of disease. The importance of mind-body medicine from henceforth is immeasurable, and many modern discussions of etiology in the field of Chinese medicine hark back to Chen Yan's work. Even Western medical proponents are gradually being persuaded as to the importance of emotions towards maintaining or regaining health. Because he was not included among the *sidajia*, there is much that has not been appreciated about the work of Chen Yan. Similarly, Zhang Yuansu is best known for his statement regarding the incompatibility of old formulas and new diseases, but this hardly distinguishes his contribution to normal scientific development. The most interesting idea put forth by Zhang regarding medical practice was his application of *yin yang* theory to the materia medica. Just like Chen Yan, Zhang was not a member of the *sidajia* and so his ideas were not given the same weight by later scholars, and his specific innovations have faded away. Even today, little thought is ever given to the wisdom found in his *Bag of Pearls*. However as the teacher to Li Dongyuan, who in turn had at least two influential disciples in Wang Haogu and Luo Tianyi, his legacy was profound.

Limitations of this Study and Directions for Future Research

The first limitation to acknowledge is the inexperience of the author is translating Classical Chinese language texts in general and medical texts in particular. More accomplished translators are likely to find flaws in this work, some of which might directly impact the validity of the arguments herein. Due to the inherent subjectivity of translating these texts some decisions on how these passages were rendered into the target language could be defended, but where outright errors were committed the author welcomes criticism, accepts blame, and will endeavor to correct these deficiencies in future work.

The second limitation that stands out is the decision to focus on only five of the influential physicians of this period. This choice was based on several factors, most importantly temporal constraints and the availability of primary source materials. Regarding the latter, the author continues to search out materials for future investigations, and regarding the former: it has been said that there are no perfect theses, only finished and unfinished ones. The contributions of several physicians mentioned in this study, such as Wang Haogu and Luo Tianyi, did not get explored and yet hold the promise of contributing to the arguments herein. Even among the five physicians detailed there is much more that has not been adequately researched, with the focus in this study on their primary doctrines and their role as *ruyi*.

Given the identified 200 year time span of the Song-Jin-Yuan Transition and the availability of sources, several other *ruyi* could be studied with the goal of integrating their contribution into this analysis of the socio-political impact on medical thought. This could include: Cheng Wuji 成無己 (c.1050-1140) whose *Zhujie Shanghan Lun* 注解傷寒

論 (Annotations on the Treatise on Cold Damage) has been identified as contributing to the integration of classical medicine and the cold damage genre; Xu Shuwei 許淑薇 (c.1140 AD) whose *Leizheng Puji Benshu Fang* 類證普濟本書方 (Formulary of Classified Patterns for Popular Relief) has been identified as contributing to the integration of classical and prescription medicine; and Yan Yonghe 嚴用和 (c.1253 AD) whose *Ji Sheng Fang* 濟生方 (Formulas to Aid the Living) contributed many important new formulas. Another less explored feature of this new genre of medical literature is that it increasingly placed personal responsibility for health at the center of their doctrines. *Yangsheng* 養生 (nourishing life) is an important branch of Chinese medicine, and the Song-Jin-Yuan Transition also had a significant impact on its development.

In framing this discussion, a cursory summary of what a *ruyi* of this period would have known about Chinese medical history was provided for context; however, a more compelling case could be made by providing a translation of relevant sections of the *Yishuo* 醫說 (Medical Discussions) which was compiled by Zhang Gao 張杲 (c.1189 AD) during the early phase of this transitional period and is the earliest extant history dedicated to Chinese medicine. A *ruyi*'s reconstruction of medical history during this turbulent period would predictably reveal another layer of analysis in the debates.

To take this limitation on contextualization further, another area of research would be to better define the current standard of care at the outset of the Song-Jin-Yuan Transition in order to juxtapose this with the ideas promulgated by the *ruyi*. At the end of the Northern Song, the emperor Huizong (r.1100-1126) sponsored the compilation of medical encyclopedias that represented the standard of care in Song China. These

publications included; the *Shengji Zonglu Zuanyao* 聖濟總錄纂要 (Medical Encyclopedia: A Sagely Benefaction) which was originally composed of 200 volumes (26 extant) and was a comprehensive survey of all branches of medicine, the *Zhenglei Bencao* 證類本草 (Proven Effective Materia Medica) which was renamed the *Daguan Bencao* 大觀本草 (Materia Medica of the Daguan Reign Period) by Huizong, and the *Taiping Huimin Hejiju Fang* 太平惠民和劑局方 (Formulary of the Pharmacy for Benefiting the People in the Taiping Era). In addition, an alternative glimpse of this orthodoxy could be found in the *Taiyiju Zhuke Chengwen Ge* 太醫局諸科程文格 (Model Exam Papers for Diverse Courses Given by the Imperial Medical Service) which was compiled by He Daren 何大任 (c.1212 AD). This standard could then be used to measure the degree of innovation being proposed by the *ruyi* of this period.

Another limitation that represents a further area for future research was the lack of a comparative analysis of the different formularies from this period, and how each master was impacted by the expansion of the materia medica in response to the increased availability of medicinals from the Imperial pharmacies. In medicine as in other fields, if your theories do not lead to demonstrable outcomes then those theories must be reexamined and ineffective methods derived from untenable theories must be abandoned in favor of new ones. A review of these formularies could uncover influences from classical prescription manuals, contemporary and imperially sponsored medical encyclopedias, and original formulas by other *ruyi* from this new genre of medical literature. The increased use of imported medicinals during a time of flourishing international trade also deserves closer scrutiny, from how they were described and

categorized in various materia medica collections, to their prominence in formularies, and how this served to drive further scientific development.

Similarly, details of the lesser known contributions of several *ruyi* herein have not been exhaustively studied, especially those not included among the *sidajia*. For example, Chen Yan's lengthy discussion on the pulse has not been given any attention either in this study or any other. Reconstructing Chen's pulse system and comparing it to classics like the *Mai Jing* 脈經 (Pulse Classic) by Wang Shuhe 王叔和 (265-316 AD) as well as other *ruyi* of this period would certainly provide further insights into the medical debates of this era. Another compelling area of research is to reconstruct Zhang Yuansu's innovative classification system of the materia medica and how it was applied by examining his own formularies. The learning of Chinese herbal medicine has long been recognized as a difficult task, and modern students and practitioners of this profession are always interested in innovative ways to aid in understanding the role of medicinals in a formula as well as efficient and practical methods for applying this medical system in the treatment of patients. Zhang may still have something important to offer us today.

Yet despite all of these limitations, this was an extremely useful study because a detailed comparison of these arguments by these five men had not previously been accomplished in the English language. For anyone interested in deepening their understanding of the theories and practices of Chinese medicine, this should prove a very enlightening manuscript. Furthermore, this study was able to frame this vibrant intellectual debate in the context of the socio-political environment and for the first time proposed a theory on how it influenced medical thought. While many have been willing to propose that there was such an impact, no one has been able to come forth and

demonstrate what that impact actually was, and so even if this study fails to persuade all who consider these arguments at least they are now considering the question more seriously. Further research into this period is expected to reveal more areas of etiology, pathogenesis, diagnosis, and treatment that were being hotly debated by Confucian scholar-physicians, and it is predicted that more evidence of a discourse on the larger socio-political context will be uncovered.

Bibliography of Primary Sources

Chen, Yan 陳言. (1174 AD). *Sanyinji Yibing Zheng Fanglun* 三因極一病證方論 (Treatise on 3 Categories of Pathogens). Beijing, People's Republic of China: *Zhongguo Zhongyiyao Chubanshe* 中國中醫藥出版社 (Chinese Medicine Publisher of China). Reprinted 2007.

Chunqiu Fanlu 春秋繁露 (Spring & Autumn Numerous Revelations). (c.206 BC-25 AD). Retrieved February 20, 2011 from http.//ctext.org/pre-qin-and-han.

Hanshu 漢書 (History of the Han Dynasty). (c.111 AD). Retrieved February 20, 2011 from http.//ctext.org/pre-qin-and-han.

He Guan Zi 鶡冠子 (The Bird Crest Master). (c.500-220 BC). Retrieved February 20, 2011 from http.//ctext.org/pre-qin-and-han.

Hou Hanshu 後漢書 (History of the Later Han Dynasty). (c.400 AD). Retrieved February 20, 2011 from http.//ctext.org/pre-qin-and-han.

Jiao, Yanshou 焦延壽. (c.100 BC). *Jiaoshi Yilin* 焦氏易林 (Jiaoshi's Forest of Change). Retrieved January 4, 2011, www. http://ctext.org/pre-qin-and-han.

Laozi 老子 (Old Master). (c.500-220 BC). *Daode Jing* 道德經 (Classic of the Virtuous Way). Retrieved February 10, 2011 from http.//ctext.org/pre-qin-and-han.

Li, Dongyuan 李東垣. (1180-1251 AD). *Yi Xue Fa Ming* 醫學发明(Medical Innovations), *Huo Fa Ji Yao* 活法机要 (Mechanisms & Methods of Life), *Lan Shi Mi Cang* 蘭室秘藏 (Secret Book Kept in Chamber). People's Republic of China: *Zhongyi*

Guji Chubanshe 中醫古籍出版蛇(Ancient Records of Chinese Medicine Publishers). Reprinted 2000.

Li, Dongyuan 李東垣. (1249 AD). *Pi Wei Lun* 脾胃論 (Treatise on the Spleen & Stomach). Beijing, People's Republic of China: *Renmin Weisheng Chubanshe* 人民卫生出版社 (People's Hygiene Publishers). Reprinted 2005.

Li, Gao 李杲. (1189-1251). *Neiwai Shang Bianhuo Lun* 內外傷辯惑論 (Puzzling Internal & External Injury Treatise), in *Siku Quanshu* 四庫全書 (Complete Collection in Four Treasuries) (Reprinted 1998; CD SK306). Wuhan, People's Republic of China: *Wuhan Daxue Chubanshe* 武漢大學出版社 (Wuhan University Publishing House). (Originally published 1782 AD)

Liji 禮記 (Book of Rites). (c.500-220 BC). Retrieved February 1, 2011 from http.//ctext.org/pre-qin-and-han.

Liu, Wansu 劉完素. (c.1200). *Suwen Xuanji Yuanbing Shi* 素問玄機原病式 (Etiology based on the Su Wen). Beijing, People's Republic of China: *Zhongguo Zhongyiyao Chubanshe* 中國中醫藥出版社 (Chinese Medicine Publisher of China). Reprinted 2007.

Liu, Wansu 劉完素. (c.1200). *Shang Han Zhi Ge Fang Lun* 傷寒直格方(Direct Investigations of Formulas for Cold Damage). In *Siku Quanshu* 四庫全書 (Complete Collection in Four Treasuries) (Reprinted 1998; CD SK306). Wuhan, People's Republic of China: *Wuhan Daxue Chubanshe* 武漢大學出版社 (Wuhan University Publishing House). (Originally published 1782 AD)

Liu, Wansu 劉完素. (c.1200). *Xuan Ming Fang Lun* 宣明方論 (Treatise on Carefully Analyzed Prescriptions). In *Siku Quanshu* 四庫全書 (Complete Collection in Four Treasuries) (Reprinted 1998; CD SK306). Wuhan, People's Republic of China: *Wuhan Daxue Chubanshe* 武漢大學出版社 (Wuhan University Publishing House). (Originally published 1782 AD)

Mengzi 孟子 (Book of Mencius). (c.500-220 BC). Retrieved February 1, 2011 from http.//ctext.org/pre-qin-and-han.

Nanjing 難經 (Difficult Classic). (c.200 AD). Retrieved February 20, 2011 from http.//ctext.org/chinese-medicine.

Wang, Bing 王冰. (c.800 AD). *Huang Di Nei Jing* 黃帝內經 (Yellow Emperor's Internal Classic). People's Republic of China: *Zhongyi Guji Chubanshe* 中醫古籍出版蛇 (Ancient Records of Chinese Medicine Publishers). Reprinted 2003.

Xunzi 荀子 (Book of Master Xun). (c.500-220 BC). Retrieved February 1, 2011 from http.//ctext.org/pre-qin-and-han.

Yixue Yuanlei Lun 醫學源疏論 (Treatise on the Origins and Categories of Medical Study) by Xu Dachun 徐大椿 (1693-1771 AD), in *Siku Quanshu* 四庫全書 (Complete Collection in Four Treasuries) (Reprinted 1998; CD SK310). Wuhan, People's Republic of China: *Wuhan Daxue Chubanshe* 武漢大學出版社 (Wuhan University Publishing House). (Originally published 1782 AD)

Zhang Yuansu 張元素 (c.1140-1220 AD). *Zhang Yuansu Yixue Quanshu* 張元素醫學全

书 (Complete Collection of Zhang Yuansu's Medical Studies). Beijing, People's Republic of China: *Zhongguo Zhongyiyao Chubanshe* 中國中醫藥出版社 (Chinese Medicine Publisher of China). Reprinted 2006.

Zhang Yuansu 張元素. (c.1140-1220 AD). *Bing Jiqi Yibao Mingji* 病機氣宜保命集 (Mechanisms of Qi Diseases & Collection for the Protection of Life), in *Siku Quanshu* 四庫全書 (Complete Collection in Four Treasuries) (Reprinted 1998; CD SK306). Wuhan, People's Republic of China: *Wuhan Daxue Chubanshe* 武漢大學出版社 (Wuhan University Publishing House). (Originally published 1782 AD)

Zhang, Zhongjing 張仲景 (142-220 AD). *Jin Gui Yao Lue Lun Zhu* 金匱要略論註 (Annotated Discussion of Prescriptions from the Golden Cabinet), in *Siku Quanshu* 四庫全書 (Complete Collection in Four Treasuries) (Reprinted 1998; CD SK305). Wuhan, People's Republic of China: *Wuhan Daxue Chubanshe* 武漢大學出版社 (Wuhan University Publishing House). (Originally published 1782 AD)

Zhang, Zihe 張子和. (1228 AD). *Ru Men Shi Qin* 儒门事亲 (Confucian's Duties to Their Parents). People's Republic of China: *Dier junyi daxue chubanshe* 第二軍年醫大學出版社 (Second Military Medical University Publishers). Reprinted 2008.

Zhouyi 周易 (Book of Changes). (c. 475 BC - 221 BC). Retrieved January 13, 2011 from http.//ctext.org/pre-qin-and-han.

Zhu, Danxi 朱丹溪. (c.1350 AD). *Zhu Danxi Yixue Quanshu* 朱丹溪醫學全書

(Complete Collection of Zhu Danxi's Medical Studies). Beijing, People's Republic of China: *Zhongguo Zhongyiyao Chubanshe* 中國中醫藥出版社 (Chinese Medicine Publishing House of China). Reprinted 2006.

Zhuangzi 莊子 (Book of Master Zhuang). (c.500-220 BC). Retrieved February 10, 2011 from http.//ctext.org/pre-qin-and-han.

References

Bensky, Dan, & Barolet, Randall. (1990). *Chinese Herbal Medicine: Formulas & Strategies.* Seattle, WA: Eastland Press.

Buck, Charles. (2008). Zhang Cong-zheng and the Attack and Drain School. *Journal of Chinese Medicine*, 88: 41-48.

Cahill, James. (1977). *Treasures of Asia: Chinese Painting*. New York, NY: Rizzoli International Publications, Inc.

Crawford, G.W. (2006). East Asian Plant Domestication. In Stark, M.T. (Ed.), *Archaeology of Asia* (pp.77-95). Malden, MA: Blackwell Publishing.

Davis, Edward L. (2001). *Society and the Supernatural in Song China.* Honolulu, HI: University of Hawai'i Press.

De Weerdt, Hilde. (2007). *Competition over Content: Negotiating Standards for the Civil Service Examination in Imperial China (1127-1279).* Cambridge, MA: Harvard University Asia Center.

Eckman, Peter (1996). *In the Footsteps of the Yellow Emperor: Tracing the History of Traditional Acupuncture.* San Francisco, CA: Cypress Book Company.

Goldschmidt, Asaf. (2009). *The Evolution of Chinese Medicine: Song Dynasty, 960-1200*. New York, NY: Routledge.

Guo, Jiaojiang. (1995). Chinese Confucian culture and the medical ethical tradition. *Journal of Medical Ethics*, 21(4):239-246.

Hanson, Marta E. (1997). *Inventing a Tradition in Chinese Medicine: From Universal*

Canon to Local Medical Knowledge in South China, the Seventeenth to the Nineteenth Century. A Dissertation in History and Sociology of Science, University of Pennsylvania. (UMI No. 9814853)

Hanson, Marta. (2003). The *Golden Mirror* in the Imperial Court of the Qianlong Emperor, 1739-1742. *Early Science and Medicine*, 8: 2. Koninklijke Brill NV, Leiden.

Harper, Donald J. (1998). *Early Chinese Medical Literature: The Mawangdui Medical Manuscripts.* London, U.K.: Kegan Paul International.

Ho, P.Y., & Lisowski, F.P. (1997). *A Brief History of Chinese Medicine* (2nd Ed.). Singapore: World Scientific Publishing Co. Pte. Ltd.

Hoizey, D., & Hoizey, M.J. (1993). *A History of Chinese Medicine* (trans. Paul Bailey). Vancouver, BC: UBC Press.

Huang, Siu-chi. (1999). *Essentials of Neo-Confucianism; Eight Major Philosophers of the Song and Ming Periods.* Westport, CT: Greenwood Press.

Huard, Pierre, & Wong, Ming. (1968). *Chinese Medicine.* (trans. From the French by Bernard Fielding). New York, NY: McGraw-Hill Book Company.

Hymes, Robert P. (1987). Not Quite Gentleman? Doctors in Sung and Yuan. *Chinese Science,* 8:9-76.

Jiang, Yongping. (2007). A Return to the Original Understanding of Bu Zhong Yi Qi Tang. *Journal of Chinese Medicine*, 85:31-35.

Kuhn, Dieter. (2009). *The Age of Confucian Rule: The Song Transformation of China*. Cambridge, MA: The Belknap Press of Harvard University Press.

Kuhn, Thomas. (1996). *The Structure of Scientific Revolutions, Third Edition*. Chicago,

IL: The University of Chicago Press. (First edition published 1962)

Leung, Angela Ki-che. (2003). 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, MA: Harvard University Press.

Lewis, Mark Edward. (2009). *China's Cosmopolitan Empire: The Tang Dynasty.* Cambridge, MA: The Belknap Press of Harvard University Press.

Lo, Vivienne, & Cullen, Christopher. (Eds.) (2005). *Medieval Chinese Medicine: The Dunhuang medical manuscripts.* New York: RoutledgeCurzon.

Morgan, David. (2007). *The Mongols, Second Edition.* Malden, MA: Blackwell Publishing.

Needham, Joseph. (1981). The History and Rationale of Acupuncture and Moxibustion. In Joseph Needham, *Science in Traditional China*. Cambridge, MA: Harvard University Press.

Ozaki, Norman Takeshi (1980). *Conceptual Changes in Medicine During the Tokugawa Period*. A Dissertation in the History of the Health Sciences, University of California, San Francisco. (UMI No. 8104166).

Porkert, Manfred, & Ullmann, Christian. (1982). *Chinese Medicine.* New York, NY: Henry Holt and Company.

Sawyer, Ralph D. (trans.) (1993). *The Seven Military Classics of Ancient China*. Boulder, CO: Westview Press. (Based on the Ming edition of the Song publication)

Sivin, Nathan. (1987). *Traditional Medicine in Contemporary China*. Ann Arbor, MI: University of Michigan Center for Chinese Studies.

Taylor, Kim. (2005). *Chinese Medicine in Early Communist China, 1945-63*. New York,

NY: RoutledgeCurzon.

Underhill, Anne P., & Habu, Junko. (2006). Early Communities in East Asia: Economic and Sociopolitical Organization at the Local and Regional Levels. In Stark, M.T. (Ed.), *Archaeology of Asia* (pp.121-148). Malden, MA: Blackwell Publishing.

Unschuld, Paul U. (trans.). (1990). *Forgetten Traditions of Ancient Chinese Medicine; The I-hsueh Yuan Liu Lun of 1757 by Hsu Ta-ch'un.* Brookline, MA: Paradigm Publications.

Unschuld, Paul U. (1985). *Medicine in China: A History of Ideas.* Berkely, CA: University of California Press.

Unschuld, Paul U. (1986). *Medicine in China: A History of Pharmaceutics.* Berkeley, CA: University of California Press.

Unschuld, Paul U., & Zheng Jinsheng (2005). Manuscripts as sources in the history of Chinese medicine (translated from German by Mitch Cohen). In Lo, V., & Cullen, C. (Eds.), *Medieval Chinese Medicine: The Dunhuang medical manuscripts.* New York: RoutledgeCurzon.

Yang, Shou-Zhong & Duan, Wu-jin. (trans.) (1993). *Extra Treatises Based On Investigation & Inquiry; A Translation of Zhu Dan-xi's Ge Zhi Yu Lun*. Boulder, CO: Blue Poppy Press. (originally written c.1300 AD)

Yang, Shou-zhong, & Li, Jian-yong (trans). (1993). *Li Dong-yuan's Treatise on the Spleen & Stomach*. Boulder, CO: Blue Poppy Press. (originally written 1249 AD)

Yang, Shou-Zhong. (trans.) (1998). *The Divine Farmer's Materia Medica: A Translation of the Shen Nong Ben Cao Jing.* Boulder, CO: Blue Poppy Press. (Originally written c.100 BC)

Zehentmayr, Franz, & Clavey, Steven. (2010). Neo-Confucian medical theory and practice. *The Lantern*, 7 (1):12-22.