

The Therapeutic Response to Contagion

The Influence of Pestilence on Medical Theory and Practice in Late Imperial China

Warren M. Cochran

Abstract

In the third century before the current era BCE, devastating epidemics claimed the lives of thousands throughout the Chinese empire. The poet Cao Zhi (192 - 232 CE) recorded the calamity by writing that 'from each room came wails and cries of sorrow' (Quoted in Kuriyama, 2000). Some three hundred years later on the other side of the world, the *Anglo-Saxon Chronicle* of 664 CE noted that 'the sun eclipsed on the 5th before the Nones of May, and in the same year there was great pestilence in the island of Britain' (Shrewsbury, 1949). However, while much has been written on the socio-economic and religio-philosophical impact of epidemic disease on the apparent frailty of human existence, medical historiography has not always addressed the issue of how changing disease patterns may have influenced therapeutic strategies. The theme of this paper will focus on this aspect of medical history by considering how disease manifestations as perceived by physicians of Chinese medicine, have helped shape medical notions and determine therapeutic response.

Keywords

Antiphlogistic, contagion, deleterious, endogenous, enteric, epidemic, exigencies, febrile, infectious, nosology, pandemic, pathogenesis, pestilence, phlebotomy, plague, prophylactic, venesection.

It is difficult to perceive, in our modern age of antibiotics and scientific medicine, the terror engendered by the impact of contagion on human societies. As the medical historian Charles Rosenberg has so succinctly observed 'health or disease results from the cumulative interaction between constitutional endowment and environmental circumstance' (Vogel and Rosenberg, 1979). Certainly the deleterious influence of plague, cholera, typhus, and influenza, has in historical periods, greatly tested this constitutional endowment by exacerbating environmental circumstances.

Medical historiography affords numerous examples of such deprivations upon the health and well being of human societies, both past and present. In 1232, a severe epidemic broke out in Honan Province, China. The records list 90,000 dead in less than fifty days (McNeill, 1976). Just over a century later in 1347, merchant ships carrying the plague moored at the port of Messina. By 1351 one quarter of the population of late medieval Europe, being some 20 million souls, had been claimed by the Black Death (Goffried, 1983).

In the century between 1398 and 1495 Arabic sources record the outbreak of some 17 epidemics in the Nile valley of Egypt. The victims may have felt some comfort with their Prophet Muhammed, who wrote, 'He who dies of epidemic disease is a martyr' (quoted in McNeill, 1976). More recently,

the cholera epidemic of 1831 claimed 250,000 deaths in Hungary, while official records confirm 10.2 million victims from the same disease in India between 1910 and 1954 (McNeill, 1976).

Certainly, as one medical historian recently wrote, 'an epidemic is almost by definition frightening; numbers of unfortunates are seized with grave illness, one after another exhibiting similarly alarming and alarmingly similar symptoms' (Rosenberg, 1992). Historically, pestilence has had a profound influence on human society, both in China and the West. Contagious epidemics including cholera, typhoid fever, typhus, and plague have all had disastrous effects on both human demographics and socio-economic institutions.

As a corollary, has disease had any influence in shaping medical theory and practice? Has the therapeutic response to contagion, in either China or the West, resulted in any tangible shifts in contemporary medical activities? Some initial efforts to address these issues were explored by Guenter Risse in an earlier volume of the *Bulletin of the History of Medicine* (Risse, 1979). His academic focus was western medical history, and in this paper I wish to explore the theme further, with reference extended into the sphere of Chinese medicine.

To a large extent, it could be said that contemporary medical theory and practice has often been seen by medical historians as organised responses to contain, or at best, eradicate the pernicious influences of epidemic disease. As George Rosen advocated in an earlier paper on the biological element in human history 'man is a biological organism in a natural world containing various physical and biological elements. But man is also a social organism capable of creating a social environment which he interposes between himself and nature' (Rosen, 1957). Medicine may be viewed as a socio-cultural institution which forms part of that environment. As such, therapeutic intervention has influenced disease in human societies by lowering both morbidity and eliminating, or at least reducing, levels of mortality.

This triumph of human enterprise over the deleterious incursions of infection upon human populations has often, in the early years of the intellectual history of medical science, been depicted as a growth or expansion of the scientific perception of disease. Hence, in the West, the endeavours of Edward Jenner in isolating smallpox, Louis Pasteur's research into both anthrax and rabies, and the pioneering work of Robert Koch in the discovery of the tuberculosis bacillus in 1882 have provided validation for this sense of an historical expansion of medical theory and praxis.

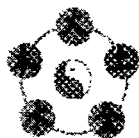
This perspective is also reflected in much of the literature of medical history, both in China and the West. Surveying the evolution of intellectual notions in Europe, Lester King has written 'at irregular intervals great discoveries have changed the whole course of medicine, but the intervening periods have not been static. They manifest a gestation of new ideas and a struggle between new concepts and the old established doctrines' (King, 1963). His book chronicles the evolution of these ideas from Hippocrates to Paracelsus, concluding with the cell theories of Hermann Boerhaave and Rudolf Virchow. The twenty succinct chapters in Erwin Ackerknecht's *A Short*

History of Medicine, which incidently includes a section on medical concepts in early India and China, also give the overall impression of an episodic journey from what he has termed 'primitive medicine' to the therapeutic apotheosis of nineteenth century scientific biomedicine (Ackerknecht, 1982). Published in 1932, Wong and Lien-Teh's chronicle on the history of Chinese medicine also has this perspective, with most of the book surveying the introduction and consequent expansion of western medical science into late Imperial China (Wong and Lien-Teh, 1932). A more recent work tracing the history of acupuncture also has the appearance of an episodic, chronicled survey (Eckman, 1996). The issues of the socio-cultural forces which shape medical notions, or the possible effects disease itself may have had in determining therapeutic strategies and outcomes are not really explored in any great depth in any of these works. In his seminal publication on the evolution of medical concepts in China, Paul Unschuld does give due consideration to the various forces present in the

He who dies of epidemic disease is a martyr

social milieu of early China which have impacted on the shaping of Chinese medicine as we know it today. This is especially evident in the sections on the protohistorical Shang and Zhou periods (Unschuld, 1985).

Certainly historians of medicine must take into account the 'zeitgeist' or climate of opinion dominant in the historical period under academic inspection. As W. H. R. Rivers wrote as long ago as 1924, medicine should be seen as a social system and that 'any principles and methods found to be of value in the study of social institutions in general cannot be ignored by the historian of medicine' (quoted in Ackerknecht, 1942). Henry Sigerist was to reiterate this sentiment writing that 'the medical historian consulting the past will first endeavour to find out what health conditions were in a given society at a given time' (Sigerist, 1951). In the intellectual spirit of this innovative viewpoint on the history of medical notions, a number of more recent works have tried to take into consideration this climate of opinion, making an acade-



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mic departure from a predilection for historical surveys of the continued evolution of therapeutic sophistication.

Some studies have often made a point of examining the preconditions for the emergence of disease as a direct corollary of human activities in the wake of rapid industrial expansion and population shifts from rural settings to urban concentrations. Such demographic relocation in recent history has correspondingly facilitated the origin, spread, and impact of contagion. This thesis has been explored in depth by William McNeill in his rather polemical account of the history of disease and its impact on social and cultural life (McNeill, 1975).

More recently, medical historians have directed their academic endeavours away from general themes in the emergence of modern therapeutics, to focus on more specific issues which address medical concepts as they exist within the frameworks of contemporary societies. Recent publications on the history of western medical science include, for example, Byron Good's study of cultural perspectives in understanding illness and healing, while Charles Rosenberg's collection of papers on pertinent themes in the history of medical ideas in the West, have been valuable additions to the growing literature in this field (Good, 1994; Rosenberg, 1992). The medical historiography of China has also been greatly enriched by such recent works as Charlotte Furth on gender in Chinese medicine, Francesa Bray on woman's health in late Imperial China, and Shigehisa Kuriyama on cultural comparisons between early Greek medicine and therapeutics during the Han dynasty (Furth, 1999; Bray, 1995; Kuriyama, 1999). Also in recent decades, historians of medicine have directed their attention to elucidating the impact of disease on a diverse range of topics including mortality rates, agricultural productivity, population shifts, human nutrition, and the effects of epidemic disease on the health policies of government agencies including famine relief. However, analysis of the possible links between disease conditions and medical theory and practice has often been neglected. This anomaly was addressed to some extent by the publication of Charles Rosenberg's seminal account of the cholera epidemic which ravaged New York City in 1832, making subsequent visitations in both 1849 and 1866 (Rosenberg, 1962).

The exigencies of the cholera pandemic, which before 1817 had been limited to the Far East, has been paralleled only by the deleterious impact of influenza in the twentieth century. During the epidemic of 1849, 5,017 New Yorkers had perished by May 16 (Rosenberg, 1962). This demographic catastrophe prompted the Metropolitan Board of Health, which was not formed until 1832, into evasive action. In many North American cities, pigs, dogs, and less frequently goats, still provided the principal means of sanitation. One tenement in Orange Street, New York was reported to have housed 106 hogs during the 1832 epidemic. As Rosenberg commented 'it was almost impossible to separate the poor from their pigs, a cheap and reliable source of garbage-fattened bacon and hams' (Rosenberg, 1962). Government legislation in response to the menace posed by contagious disease was to result not only in the establishment of cholera hospi-

tals, but also the appointment of sanitary inspectors with powers to enforce privy disinfection. Continued police persistence resulted in the flushing out of some five or six thousand porkers by the middle of June 1849 (Rosenberg, 1962). However, while the exigencies of the cholera epidemic may have forced health authorities into evasive action, no common prophylactic treatment strategies could be agreed upon by the current medical profession. The new threat to good health was combated by some with drug and lancet, while other physicians recommended keeping the patient's skin warm with such substances as cayenne pepper, mercury ointment, and calomel, Hg₂Cl₂ (Rosenberg, 1959).

To the pious, who viewed the affliction as divine punishment for the living of ungodly lives, the disease was brought about by filth, vice, and intemperance. To the current medical fraternity, indiscretions in food and drink were more likely to be at the root of the disaster. Hence it was believed that 'a pineapple or a melon was a death warrant, a dozen oysters suicide, and over indulgence in alcohol the most dangerous of all' (Rosenberg, 1959).

However, although this contemporary dietary advice from certain members of the medical profession in early nineteenth century America may have been of therapeutic relevance, it does not, by itself, constitute the emergence of novel strategies, which represent a departure from old treatment principles to deal with the new threats to good health and well being. In the late eighteenth and the early nineteenth centuries, both in China and the West, the most widespread and the most deleterious group of diseases were the fevers. The therapeutic exigencies of acute infectious diseases, in both places at a similar time, were to have profound influences on contemporary medical theory and practice. In the West, it was to result in the decline of phlebotomy as an antiphlogistic therapy, while in late Imperial China, the emergence of *Wen Bing Xue* (*Warm Febrile Disease*) theory was, to a large extent, the therapeutic response to incursions of warm, pestilential disease widespread in southern China in the late Ming (1368 - 1644) and early Qing (1644 - 1911) eras. I would now like to compare and contrast the role of contagion in the formation of new medical theories and therapeutic strategies, both in Great Britain and late Imperial China, interestingly enough, in about the same historical period.

Eighteenth century Great Britain was to experience severe epidemics of contagious fever, following in the wake of the ravages of the Napoleonic wars and the bad harvest of 1816. The impact of contagion was particularly evident on naval ships, army camps, and in His Majesty's prisons. Hence the outbreaks of large reddish or bluish spots on the skin gave rise to its contemporary appellations of ship, camp, or gaol fever. Also known as putrid, petechial, or malignant fever, it ravaged such cities as London, Liverpool, Manchester, and Carlisle (Wilson, 1978). The medical profession at the time still largely subscribed to the influential theories of William Cullen, (1710 - 1790) professor of theory and practice of medicine at the University of Edinburgh from 1773 to 1790. To Cullen, speaking from his prestigious medical chair at Edinburgh, basic fever types could be distinguished as either

full inflammatory or bodily weakness in clinical manifestation. His febrile dichotomy classed the former, with red face and full pulse as 'synocha'. Bodily reactions were severe, with heavy, laboured breathing, thirst, and sweating. Its opposite, termed 'typhus', represented a type of fever which was preceded by general lassitude and weakness, accompanied by headaches and the gradual onset of delirium (Risse, 1979).

It is interesting here to parallel medical theory regarding febrile disease in the West with traditional Chinese medicine. John Huxham, writing before Cullen in 1739, used the terms 'inflammatory' and 'low nervous' in his nosology (Risse, 1979). The former, with laboured breathing, high body temperature, and rapid, full pulse could be viewed in terms of a *shi* or repletion condition. The weak and rapid pulse of the latter, with its common clinical manifestations of headaches, restlessness, delirium, and sweating represented the *xu* or vacuity condition as evidenced by Endogenous Heat in the *ying* and *xue* levels.

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Up until this time, the principal means of therapeutic intervention had been phlebotomy or the letting of blood. Influenced by the theories of Galen of Pergamum, (130 - 210 CE) venesection was the preferred method of treatment for a wide range of disorders including gout, epilepsy, arthritis, and melancholy. Although criticised by the Arabic philosopher Averroes (1126 - 1198) for his insistence on bleeding until syncope in cases of ardent fever, (see Tempkin, 1973) his declaration of phlebotomy as 'an essential remedy' in any severe disease (see Kuriyama, 1999) was to permeate medical opinion in the West until the early nineteenth century. This therapeutic predilection for the exsanguination of the sick was evident in much of the contemporary medical literature, with Marshall Hall writing in his treatise *On the Morbid and Curative Effects of the Loss of Blood* in 1830 that 'bloodletting is not only the most powerful and important, but also the most generally used of all our remedies' (quoted in Kluger, 1978). Writing in the prestigious medical journal *Lancet* three years later,

James Wardrop, a prominent nineteenth century British surgeon, advocated that 'bloodletting should be recommended in case of inflammation when the disease is in the early stages and the symptoms are not yet fully developed' (King, 1961).

The Galenic therapeutic legacy of venesection was to be challenged, however, by the medical exigencies posed by the contagious febrile diseases of the late eighteenth and early nineteenth centuries, with the new afflictions prompting the rise of alternative strategies. Writing in 1803, John Herdman, a fellow of the Royal College of Surgeons in Edinburgh, viewed the new fevers as diseases of debility, manifesting in general feelings of lassitude. Thus he advocated against the employment of bleeding and other antiphlogistic evacuations (Risse, 1979). He argued that physicians should 'draw the lancet with utmost hesitation, and having done the deed, sheath it in fear and trembling' (quoted in Risse, 1979).

Wu You Xing advocated the deleterious effects of pestilential energy or *li qi* entering the victims through the mouth, nose, or the pores of the skin

He was, instead, to parallel the supportive and nutritive therapies of Ye Tian Shi (1667-1746) and Wu Ju Tong (1758-1836) in China by recommending the use of warm wine, opium, and cordial drinks. His novel approach to the treatment of febrile disease had been echoed by John Millar, who, in his review of the prevailing diseases in Great Britain in 1770, was convinced that the inflammatory disorders were quite rare, and that 'there are few fevers in this country, in which the antiphlogistic method of cure can be used with safety' (quoted in Risse, 1979). James Hutchinson, in his doctoral dissertation in 1782, also reiterated this therapeutic viewpoint, declaring that the pure form of 'synocha' was seldom seen, with the low-grade debilitating fever or 'typhus nervosus' being much more common (Risse, 1979).

The decline of venesection and the rise of the therapeutic pre-eminence of stimulants such as opium, cordial drinks, and warm wine indicates that contemporary British physicians had felt a shift in disease patterns and adjusted their medical response accordingly.

In this sense, changing disease patterns had significant

influence on contemporary medical theory and practice in eighteenth century England. The therapeutic transition from belief in the prophylactic benefits of bloodletting in the treatment of contagious febrile disease, to the employment of supportive therapies in the form of alcohol, opium, and Peruvian bark, represented a major change in contemporary medical opinion, equating to a large extent, with shifting perspectives on the theory and practice of medicine in the West. Was there an historical corollary in the Far East? Is there evidence of a corresponding therapeutic transition within the medical profession in response to changing disease patterns in late Imperial China? The proponents of the Warm Febrile Disease theory and their subsequent schism with the more traditional supporters of the theories embodied in the *Shang Han Lun (Treatise on Cold Damage Disorders)* seem to indicate that there was. I would now like to consider the concept of contagion in the traditional medicine of China, and attempt to elucidate its impact on developing medical theory and practice. Certainly, in historical periods, the Far East has had its fair quota of epidemics. An epidemic in Shansi and Hopei claimed 200,000 lives in 1358, with 78,400 dying in the 1408 epidemic in Kiangsi and Szechwan provinces. The Shantung epidemic of 1525 resulted in 4,128 deaths, with outbreaks of pestilence occurring in some part of the Chinese empire almost every year from 1733 to 1911 (McNeill, 1976).

But how did contemporary medical literati in Imperial China view contagion? Kuriyama stated that traditional Chinese doctors themselves put no emphasis on the subject (Kuriyama, 2000). He has recently argued that perusal of a dozen or so comparatively modern accounts of Chinese medicine is unlikely to reveal any extended discussion on the theme of contagionism (Kuriyama, 2000).

Whilst this might be true, physicians in the early modern period certainly recognised the possibility of actually 'catching' a disease by contact with those who had succumbed to the pernicious clutches of pestilence. Chao Yuanfang, writing in the *Zhubing yuanhou zonglun* (610 CE) for example, advised against a person with open sores mounting a horse. He wrote that 'the sweat, horsehairs, dirt, urine, and saddle blanket all contain poisons. If the poisons enter the sore, they can cause inflamed swelling, aches, and pains, fevers. If they enter the stomach, the person may die' (ZBYHL, juan 36, 143. Quoted in Kuriyama, 2000).

Writing in the late Ming era, Zhang Jiepin (1563 - 1640) advocated the inhalation of noxious elements in causing pestilence, suggesting the burning of aromatic incense or the chewing of biscuits made from Fujian aromatic tea, if one was entering an area infested with plague (Kuriyama, 2000). The early Qing physician Xiong Lipin warned against touching the bedclothes of people who were suffering from epidemic fevers, urging the relatives to keep a safe distance from corpses and the coffins of those taken by the plague (Kuriyama, 2000). This therapeutic sagacity is paralleled in the West at about the same time with the actions of William Pulteney Alison at the New Town Dispensary, Edinburgh, in 1815. In checking the spread of fever contagion, he advocated the prompt removal of those afflicted to the Edinburgh Royal

Infirmity, or at least their separation from healthy persons. He also stressed the importance of 'the fumigation, white-washing and cleaning of the rooms, clothes, and bedding in which they (ie: the sick or the dead) have lain' (quoted in Wilson, 1978).

But perhaps it was the early theories of the Ming medical literatus Wu You Xing (1582 - 1652) who best exemplifies contemporary theories of contagious infection in China during the mid Imperial era. During his lifetime, outbreaks of plague decimated the provinces of Hebei, Shandong, and Zhejiang. In his *Theory of Epidemics* (1642) he advocated the deleterious effects of pestilential energy or *li qi* entering the victims through the mouth, nose, or the pores of the skin (Kuriyama, 2000).



Wu You Xing (1582 - 1652)

His precursor in this respect, Tao Hua (1369 - 1450) phrased it poetically by writing with regard to the penetration of polluted breaths 'when the walls and barriers (of a fortress) are not solid, bandits dare to enter. If one's vitality is strong, pathogenic influences have difficulty invading' (quoted in Kuriyama, 2000). Wu You Xing's theories of the invasion of pestilence also parallels the view of Galen and his concept of 'pestilential seeds' or 'loimus spermata'. This early Greek medical philosopher had argued that plagues were spread by breathing putrid air, inhaled from corpses left unburnt after battles, or from the rotten gases emitted by swamps and pools in the hot summer months (see Natton, 1983). In his treatise, *On the Different Types of Fever* (c. 178 CE), Galen recorded that even in apparently well individuals, 'seeds of disease' may lurk, and under certain conditions, a recurrent attack of an intermittent fever could recur (Natton, 1983).

Both Galen's 'pestilential seeds' and Wu You Xing's *li qi*, could be seen as an incipient form of 'germ theory' with the latter's concepts of contagious disease anticipating the research of Louis Pasteur (1822 - 1895) by some two centuries or more. Wu You Xing's aetiological concepts were to result



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in the rejection of the earlier theories of Zhang Ji as recorded in the *Shang Han Lun* during the Eastern or Later Han dynasty (25 - 220 CE). Traditionally, Chinese physicians had seen sickness in terms of the dichotomy of somatic vulnerability and climatic intrusion. Rather than subscribe to the negative influences of invasion by pathogenic wind cold, he attributed the contagious epidemics of his time to be the result of *za qi* or specific kinds of disease induced by specific types of pathogens. This break with what Kuriyama has termed 'meteorological orthodoxy' posited a new ontological conception of illness which attributed it to the intrusion by certain alien pathogens (Kuriyama, 2000).

This new theory of disease causation was engendered by the appearance of acute, epidemic febrile diseases, which, from the biomedical nosological perspective, included smallpox, scarlet fever, and the various forms of plague. The principal clinical manifestations of thirst, pyrexia, skin eruptions, and delirium, were to challenge the orthodox medical fraternity imbued with the doctrines of cold febrile disease. Of the 113 herbal formulas contained in the *Shang Han Lun*, only two specifically addressed the complications of endogenous pathogenic heat. Both prescriptions, *Bai Hu Tang* and *Da Cheng Qi Tang*, were formulated in response to repletion heat in *yang ming*. The therapeutic response to epidemic fevers in the mid to late Qing era was to result in a schism with the adherents of the older theories of external pathogenic cold disorders. This breach with therapeutic tradition was engendered from historical circumstances and is exemplified by the contributions of the best known successors to Wu You Xing, being Ye Tian Shi and Wu Ju Tong.



Ye Tian Shi (167-1746)

However, although the therapeutic contributions of Ye Tian Shi and Wu Ju Tong in late Imperial China were instrumental in facilitating (outlining) Warm Febrile Disease Theory as an independent system, it was the novel and innovative medical concepts formulated in the Jin and Yuan dynasties

(1115 - 1368 CE) which provided the impetus and initiated the schism with the earlier proponents of the School of Cold Damage. In this respect, the medical theories of both Li Dong Yuan (1180 - 1251 CE) and Zhu Dan Xi (1281 - 1358 CE) were seminal. Their therapeutic predilection for both tonifying the earth and nourishing the *yin* respectively, were formulated in direct response to changing historical circumstances and exemplify new medical responses engendered by the deleterious incursions of warm contagious fevers. As the medical scholar Zhang Yuan Su, who also became the mentor of the young Li Dong Yuan, was to write 'No movements of *Qi* are identical, and ancient times and modern times differ. Hence the ancient formulas are helpless for treating modern disease' (Yang and Li, 1993).

These 'modern' diseases as such, were also the result of changing historical circumstances in late medieval China. In 1276, the grandson of the great Mongol leader Ghenghis Khan (1162 - 1227 CE), Kublai Khan (1216 - 1294 CE)

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sacked the capital of the Southern Song dynasty at Hangzhou. By 1279, he was proclaimed Emperor of the Yuan dynasty which was to rule China until the Ming finally defeated the so called 'barbarians' in 1368. The defeat of the sophisticated empire of the Song (960 - 1279 CE) by an alien, nomadic tribal people must have had severe repercussions in the minds of contemporary medical literati. However, while the psychological effects of external conquest may help to explain the therapeutic diversification exemplified by the *Jin Yuan Si Da Ja*, or the Four Great Schools of the Jin and Yuan dynasties, it was the exigencies of the ensuing military struggles and resulting bloodshed which must have impacted most on the therapeutic outlook of the contemporary Chinese medical fraternity. The widespread occurrence of famine, sickness, and death which followed in the wake of the internecine conflict demonstrated, I believe, the therapeutic inappropriateness of earlier treatment strategies formulated in response to climatic intrusion as exemplified in the *Shang Han Lun*.

The depletion which resulted from the irregular ingestion of food, manifesting as *nei shang* or internal damage as Li Dong Yuan phrased it, necessitated a new therapeutic response. His *Pi Wei Lun* (*Treatise on the Spleen and Stomach*) of 1249 CE placed emphasis on the tonification of the Centre, employing sweet, warm medicinals like *ren shen* (Radix Ginseng) and *bai zhu* (Rhizoma Atractylodis) to invigorate centre *qi*, and using cool, pungent herbal agents like *chi hu* (Radix Bupleuri) and *sheng ma* (Rhizoma Cimicifugae) to raise the clear *yang qi*. His most well known formula, *Bu Zhong Yi Qi Tang* is the apotheosis of this therapeutic strategy.

To his historical successor, Zhu Dan Xi, the medical focus was to shift to nourishing the *yin*, which he posited in his treatise *Dan Xi Zhi Fa Yin Yao* (*The Heart and Essence of Dan Xi's Method of Treatment*, 1347 CE) as always tending to be vacuous. This natural disposition of *yin* to become depleted was further exacerbated by the ravages of warm pestilential fevers, endemic in much of late medieval and early Imperial China. Shifting the therapeutic focus from climatic intrusion to preserving the *yin*, Zhu Dan Xi and the proponents of the *Zi Yin Pai* (Nourish the Yin School) advocated the employment of bitter, cooling herbs like *huang bai* (Cortex Phellodendri) and *zhi mu* (Radix Anemarrhenae) to clear vacuity heat and nourish *yin*. This approach is exemplified in his formula to nourish *yin* and downbear fire, being *Da Bu Yin Wan*. In addition to the two cooling herbs already mentioned, the formula also contains *shu di huang* (Radix Rehmanniae Glutinosae) and *gui ban* (Plastrum Testudinis).

This new therapeutic response to contagion is evident in the medical strategies of his successors, demonstrating further how changing disease patterns have helped shape medical notions and determine new therapeutic responses. The most well known of these successors, and a major proponent of *Wen Bing Xue*, Ye Tian Shi lived in the early Qing period, a time when epidemic disease was widespread throughout the Chinese empire. In his compilation of epidemics in China, Joseph Cha lists a total of 33 visitations occurring from 1667, when Ye Tian Shi was born, until his death in 1746 (see McNeill, 1976). Many were of the warm, pestilential form, including smallpox, scarlet fever, and plague.

Contemporary medical debate however, often centred on the contagious/non-contagious dichotomy in the *Wen Bing Xue* nosology. Some scholars considered that warm pestilence should be distinguished from warm disease *per se* by the contagious nature of the former. To Wu You Xing, they were one and the same. Writing in his *Wen Yi Lun* (*Theory of Epidemics*) he stated that 'hot diseases are the same as warm diseases, but are also called warm pestilence because they go from door to door, recruiting everyone, like the forced labour campaign from which no one is immune' (quoted in Wen and Seifert, 2000). As many of the warm diseases do include acute contagious disorders such as smallpox and scarlet fever, and as the treatment strategies are similar, perhaps the therapeutic distinction is rather arbitrary.

In response to the incursions of warm pestilence, it was Ye Tian Shi who completed the break with traditional Cold Damage Theory by the publication of the *Wen Re Lun* (*Trea-*

tise on Warm Febrile Disease) in 1746. Written in response to the deleterious impact of pestilential fevers on contemporary Chinese society, this important work detailed his quadripartite explanation for the pathogenesis of warm disease through levels of *wei*, *qi*, *ying*, and *xue*. The medical exigencies of the new threat to good health in early modern China required contemporary physicians to either adjust old treatment regimes, or as in the case of Ye Tian Shi, develop new ones. Observing the effects of pathogenic endogenous heat on the body, he emphasised the importance of nourishing the *yin* and preserving the *jin ye* or body fluids. This therapeutic approach is best exemplified by his formula *Yi Wei Tang* which contains sweet and cool herbal medicines including *sha shen*, (Radix Glehniae Littoralis) *mai dong*, (Radix Ophiopogonis) and *yu zhu* (Rhizoma Polygonati Odorati) to preserve the *yin*, moisten dryness, and allay thirst.

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campaign from which no one is
immune**

This same therapeutic orientation to nourish *yin* and clear vacuity heat resulting from the incursions of warm febrile contagion was continued by his historical successor Wu Ju Tong. During his lifetime, the continuing menace of epidemics, including scarlet fever and smallpox, ravaged human settlements in southern China. He continued the further elaboration of the effects of warm febrile pestilence by developing a system for the differentiation of syndromes according to the *San Jiao*, expounding his theories in the *Wen Bing Tiao Bian*, or *Detailed Analysis of Warm Diseases* published in 1798. This important work, being a cornerstone of *Wen Bing Xue*, contains many important formulas used today for incursions of warm febrile disease. These include *Yin Qiao San*, *Sang Ju Yin*, *Zeng Ye Tang*, and *Sha Shen Mai Men Dong Tang*.

In this paper I have attempted to elucidate the impact of febrile disease on shaping medical opinion, both in China and the West, assessing, as a corollary, its influence in determining new therapeutic strategies. As Guenter Risse pointed out, physicians need to 'understand that diseases are not immutable realities but temporary conceptual constructions

used to account for patterns of distress recognised and accepted by society' (Risse, 1979).

Certainly in historical times, this distress has often manifested as extreme anguish and despair following the devastating effects of acute, infectious contagion. Demonstrating the universal frailty of human existence in this respect, the words of Agnolo di Tura seem pertinent here. Writing on the ravages of the plague of Siena in 1348, he was to lament that 'I, Agnolo, also called the Fat, buried my five children with my own hands. And there were also those who were so sparsely covered with earth that the dogs dragged them forth and devoured many bodies throughout the city. There was no one who wept for any death, for all awaited death. And so many died that all believed it was the end of the world' (quoted in Aberth, 2001).

Today, the plague has lost much of its mystery and horror. The success of scientific medicine in the eradication of virtually all acute infectious diseases which afflict human societies however, has now been paralleled by an increase in the chronic, degenerative illnesses including multiple sclerosis and cancer. These new patterns of disease, reaching global proportions in the case of AIDS, have had profound effects on medical theory and practice, challenging further the need for practitioners of both biomedicine and traditional therapies to adjust their treatment strategies to meet the demands of more recent threats to human well-being. Complementary medicine does have an important role in this respect.

With the acculturation of the traditional medicine of China into western societies in the 21st century, we as practitioners need to be cognisant of necessary modifications in both our theory and practice to meet the challenges of modern, industrialised societies. Perhaps the future directions of traditional Chinese medicine, both in China and the West, will be guided by lessons from the past. Its leading proponents in historical times, including Ye Tian Shi and Wu Ju Tong, were successful in treating current diseases because they were able to adjust strategies of intervention to confront the new health challenges of contemporary Chinese society. The strength of Chinese medicine lies in its historical durability which, in part, relates to the inherent therapeutic flexibility of its paradigm.

As Lester King once wrote on the nature of illness in a philosophical sense, 'disease is the aggregate of those conditions which, judged by the prevailing culture, are deemed painful or disabling' (King, 1954). Differing socio-economic, climatic, and cultural factors have, in historical perspective, manifested in a wide variety of human disorders, both in China and the West. The continued academic inspection of possible connections between disease, medical theory, and treatment strategies will contribute not only to an understanding of the evolution of medical paradigms, but it may indicate future directions for their further growth and expansion. In this respect, traditional Chinese medicine is no exception.

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