

AWPM
Mize
1980

THE EMERGENCE OF HAN MEDICINE:

AN INTRODUCTORY STUDY

BY

JAMES P. McCORMICK

A thesis submitted in partial fulfillment of the
requirements for the degree of

MASTER OF ARTS
(History)

at the

UNIVERSITY OF WISCONSIN-MADISON

1980

Pharmacy

AJM
M12

APPROVED

Yit-Sheng Lin
MAJOR PROFESSOR

DATE

May 12, 1980

TABLE OF CONTENTS

- I. Introduction
- II. The Paradigmatic Thesis of Paul U. Unschuld
- III. The Therapeutic Systems
 - A. The Emergence of Demonological Medicine
 - 1.) Ancestor Healing
 - 2.) Splitting of the wu and the i
 - 3.) Definition
 - 4.) Criticism
 - a.) Purposeful Ghosts
 - B. Medicine of Systematic Correspondence
 - 1.) Content
 - 2.) Moral Medicine
 - C. Pragmatic Drug Therapy
- IV. The Practitioners and Their Systems
 - A. The wu Practitioners
 - B. Analysis of the fang-shih
 - 1.) Definition
 - a.) Emergence
 - b.) Social Milieu of the fang-shih
 - 2.) Appearance of the Pen-ts'ao group
 - 3.) The Shen-nung pen-ts'ao ching
 - 4.) The Ch'in-Han Formularies

C. The i and the Beginnings of the Medicine of Systematic Correspondence

- 1.) The Physician Ho, 540 B.C.
- 2.) Shun-yü as a Transitional Figure
- 3.) The Formation of the Huang-ti nei-ching
- 4.) The Southern Tradition of Chang Chung-ching

V. Conclusion

Introduction

Anyone who has tried to reach a satisfactory understanding of the emergence of medical theory and practice in China must surely share with me a deep sense of frustration. It is only within recent years that events have occurred which, hopefully, will contribute substantially to our understanding of early Chinese medicine. The recent archaeological discoveries of the Ma-wang-tui silk manuscripts and the Wu-wei bamboo medical tablets have not only given us the earliest extant medical documents but have stimulated a great deal of scholarship in the international community. This scholarship, combined with the steady advancements in our understanding of early China in general, has made it possible for us to begin to elucidate the emergence of Chinese medicine.

While I realize 'to elucidate the emergence of Chinese medicine' could hardly be done in a Ph.D. dissertation, let alone be done as a Master's thesis, I hope to be able to at least outline the major themes which have arisen in this extremely complex and sometimes volatile field. In this paper I will focus primarily on the medicine of the Han dynasty (206 B.C.-220 A.D.) for several important reasons. First of all, the most important documents either date from this period or are thought to date from this period. Furthermore, what came to be called 'orthodox Chinese medicine' has most of its philosophical tenets firmly established by the end of the Han, and finally, (and not least importantly), I find this time particularly interesting in itself.

It might be useful at this time to give in outline form (an intellectual map) what it is I am hoping to cover. Here I will be using much of Paul U. Unschuld's terminology about which I will have much to say

shortly.¹ In the most general terms, Chinese medicine evolved according to the following sequence: The earliest form of therapy was something called "ancester healing" which was prevalent during the Shang dynasty (1765?-1123? B.C.). Sometime during the Chou dynasty (1122?-256 B.C.) which followed, a system of "demonological medicine" emerged as the dominant form. Then beginning in the third century B.C. the "medicine of systematic correspondence" based on the concepts of yin-yang and the Five Phases arose in direct competition with demonological medicine and eventually surpassed it as the dominant form. Probably concurrent with all these systems there slowly evolved "pragmatic drug therapy." This was the empirically discovered simples and formulas which were handed down (sometimes secretly) from generation to generation. Another system of uncertain origin is "medicine of magic correspondence," which Unschuld only briefly deals with and seems to be similar to "The Doctrine of Signatures" in Western medicine. Sometime during the first to the fourth centuries A.D. a system of religious healing rose to prominence among certain segments of Chinese society. During the following centuries Buddhist medicine made its rise and fall and, finally, in the 13th and 14th centuries, Chin-Yüan medicine eclipsed all other forms of medicine. Chin-Yüan medicine was the transformation of traditional medicine under the influence of Neo-Confucianism. Since the last two systems emerged after the Han they will not be dealt with in this paper.

I certainly do not intend to exhaustively cover this vast expanse of medical history but, instead, will focus on three of these "systems," namely, demonological medicine, medicine of systematic correspondence and pragmatic drug therapy. These three systems can be characterised by three groups which appear to have practiced medicine during the Han.

Demonological medicine was most probably practiced by a group known as the wu or shamans. Those who practiced medicine of systematic correspondence became affiliated with the medical theory found in the Huang-ti nei-ching (The Internal Classic of the Yellow Emperor). Pragmatic drug therapy was practiced by those who became affiliated with the theory of medicine found in the Shen-nung pen-ts'ao ching (Shen-nung's Classic of Materia Medica). What I hope to do is to characterize the social and philosophical milieu in which each of these groups functioned and perhaps interacted.

The Paradigmatic Thesis of Paul Unschuld

This objective would have been much more difficult were it not for a recent work of Paul U. Unschuld.² While I do not always agree with either his approach or his interpretations, I have found his thesis helpful as a framework to begin this analysis. It must be stated clearly, however, that I do not believe in the socio-political determinism of ideas. Since I will be using some of Unschuld's conceptual constructs, it is necessary to attempt to summarize his thesis, hopefully without too much distortion.

Unschuld suggests that China evolved the eight major systems which I enumerated above and adds, "I should also like to emphasize that all of these systems were in some way or at some time conceptually interrelated."³ As a working conceptual model Unschuld uses what he calls a durable paradigmatic core and a soft coat.

"The paradigmatic core of any conceptualized system of health care consists of the basic scientific paradigm accepted by the creators of a particular therapy system. This basic

scientific paradigm supplies the causal nexus necessary to provide meaning to the occurrence of illness.⁴

He suggests that mankind has developed only three such paradigms:

"1.) The concept of causation through other-than-human persons (beings?), including gods, demons, ancestors, et al.;

"2.) The concept of causation through correspondence, as, for instance, in processes of magic correspondence, and

"3.) The concept of causation through linear (or multi-linear) cause and effect relationships between different natural phenomena."⁵

These three, he claims, "are shared by all sciences in all civilizations," and it is the adaptation of these paradigmatic cores which constitutes the "soft coat."

"The soft coat consists, for instance, of perceptions of the nature of an illness causing agent, that is, while the paradigmatic core contains the knowledge that there exists other-than-human beings which may influence human life, the soft coat may identify these beings as permanently evil (as in demonological medicine) or as capable of delivering both harm and cure as in some theistic religions). The soft coat further includes perceptions of the functions and the structure of the organism as well as the formulation of behavioral norms designed for the preservation and treatment of illness. In comparing the conceptual development of one distinct therapy system over longer periods of time we should focus our attention on changes in the

shape and structure of the soft coat of therapeutic knowledge because it is here where external factors leave their marks."⁶

Unschuld then suggests two important methodological steps to be taken in analyzing these effects on the "soft coat." The first is to trace the concepts to the point in time when they first emerged and became acceptable and meaningful to a group in society. The second step is to investigate the socio-political ideologies of the groups who either support or oppose that concept. Using "socio-economic structures" and "socio-political ideas of order and crisis" as external determinants, Unschuld offers the following theses to explain pluralism and change in medical systems:

"1.) In a community where all members share the experience of one socio-economic reality and adhere to one and the same world view, one will find only one conceptualized system of therapy which is adhered to by virtually all members of this community.

"2.) Pluralism of concepts is inevitable where, in a society, different groups coexist who experience different socio-economic realities and who differ in their perceptions of a desirable social system.

"3.) Change in dominant concepts of illness causation is inevitable in any society where basic socio-political change occurs, that is, social reorganization is reflected on the level of medical thought.

"4.) Older conceptual systems of health care which may have been dominant in former times survive in social groups which continue following a socio-political ideology which has been replaced

in its formerly dominant position by the world view of another group.

"5.) Finally, any group which, on the basis of a specific socio-political ideology, strives for political influence, or even dominance, in society will sooner or later create or, if available, support a specific set of therapeutic concepts that is consistent with its social norms while contradicting the ideology of political opponents."⁷

Unschuld admits, however, that on a practical and folk level these categories are not necessarily rigid, and eclectic and syncretistic systems may emerge.

The Emergence of Demonological Medicine

Before dealing with demonological medicine I should briefly describe "ancestor healing" which was its immediate predecessor. Information on the Shang dynasty is still very sketchy and most conclusions about Shang society and beliefs are tentative. However, based on inscriptions on animal bones and tortoise shells, we know that there was a belief that disease was caused by the ancestors or other identifiable deceased persons.

"The Shang represented a community of the living and the dead. The presence of the former was as certain as the presence of the latter. Personal and community welfare were known to depend, to a considerable extent, on a harmonious coexistence of the two groups. Conflicts between the living and the dead--due to misbehavior of the former, as, for instance insufficient appropriation of resources to the latter--were believed to have repercussions

on any possible social and individual aspect in the existence of the living. They resulted in crop failure, defeat in battles and similar problems affecting the entire community, as well as toothache, abdominal pain or other illnesses affecting single individuals. Prevention and treatment of social and personal crises required maintenance or reestablishment of a friendly attitude of the ancestors towards the living, achievable through continuous offerings and prayers as well as through adherence to specific behavioral norms."⁸

Unfortunately we do not know who in society was responsible for the curing of disease. There was probably a priest class or group of diviners who eventually acquired some healing skills. This group may have evolved into the group which is referred to as the wu-i (medicine-man). Possibly the earliest reference to the wu-i occurs in the I Chou-shu. Here King Wen, the father of the founder of the Chou dynasty, is made to say in reference to former social institutions: "In each village a wu-i was established and a hundred medicines were gathered so that it was always prepared for sickness and calamities."⁹ This group was still in existence as late as the time of Confucius (551-479 B.C.). Confucius (Lun-yü, 13:22) quotes a southern saying, "One who lacks constancy (heng) cannot be a wu-i."¹⁰ However in the Tso chuan for the year 581 B.C. there is an incident which shows that the wu and i had begun to become two separate groups.

"The marquis of Chin/Duke Ching/ saw in a dream a great demon with disheveled hair reaching to the ground, which beat its breast, and leaped up saying, 'You have slain my descendants

unrighteously, and I have presented my request to God in consequence (this would be the spirit of the founder of the Chao clan).' It then broke the great gate (of the palace), advanced to the gate of the State chamber, and entered. The duke was afraid and went into a side-chamber, the door of which it also broke. The duke then awoke, and called for the witch/wu of Sang-T'ien, who told him everything which he had dreamt. 'What will be the issue?' asked the duke. 'You will not taste the new wheat,' she replied.

"After this, the duke became very ill, and asked the services of a physician (i) from Ch'in, the earl of which sent the physician Huan to do what he could for him. Before he came, the duke dreamt that his disease turned into two boys who said, 'that is a skillful physician; it is to be feared he will hurt us; how shall we get out of his way?' Then one of them said, "If we take our place above the heart and below the throat, what can he do to us?' When the physician arrived, he said, 'Nothing can be done for this disease. Its seat is above the heart and below the throat. If I assail it with medicine it will be of no use; If I attempt to puncture it, it cannot be reached. Nothing can be done for it.' The duke said, 'He is a skillful physician.' gave him large gifts, and sent him back to Ch'in."¹¹

The remainder of the incident is rather fabulous. The wu, not being quite as fortunate as the i, was put to death.

Unschuld suggests that it was sometime during the disintegration

of the Chou dynasty, beginning about the eighth century B.C. that demonological medicine emerged.

"The social atmosphere mirrored by the concepts of demonology may quite simply be characterized as 'all against all.' Demonological medicine reflects, for a period from the eighth through the third century B.C., an ever-increasing, relentless struggle among numerous states and statelets whose rulers were engaged in annexing their neighbors' territory in their quest for supremacy. This was a period of breakdown of the social conventions of earlier times. As the relationships between political units were increasingly dominated by considerations of strategic gains, even family relationships were overshadowed by considerations of personal gain. The murder of close relatives, betrayal of political rivals as well as the killing of prisoners of war, unheard of or rarely occurring in former times, became common practice now."¹²

It is in this milieu that the ties with the ancestors, which formerly had been strong, could no longer be the basis for a system of health and disease. The sense of moral order was completely breaking down as illustrated in this mournful lament excerpted from a poem of early Eastern Chou:

"... Oh, merciless Heaven, you ought not to exhaust our crowd. You do not appear in person, you do not act yourself, the people do not trust (you); you do not take counsel, you do not give office--do not cheat the noble men; be peaceful, be moderate, do not let yourself be endangered by mean men; then

Heaven is not just, it sends down these ample quarrels; the great Heaven is not kind, it sends down these great transgressions; if noble men are moderate, the hearts of the people are at rest; if the noble men are peaceful, hate and anger are removed.--Oh, merciless Heaven, the disorder is never settled, every month it grows, it causes the people to have no peace;..."¹³

It is during this time of the disintegration of the Chinese world order when China's greatest moral philosophers began to emerge. However, it took several centuries for their ideas to penetrate deeply into Chinese society. Instead, there was a period of moral and spiritual instability where the possibility of harmony with the deceased ancestors became very difficult. This harmony:

"was superseded by a concept of evil demons constantly on the move to attack man. These demons could be checked only through the strength of certain spirits inherent in man himself, and also through alliances with certain powers occupying echelons of the spiritual hierarchy. In contrast to ancestral medicine, in demonological medicine one does not guard against future mishaps through adherence to specific social conventions in one's relations with the other-than-human members of society. The demons are omnipresent and their evil nature forces them to exploit any weakness of humans they become aware of."¹⁴

What is implicit here and stated explicitly later by Unschuld, is that now for the first time disease is caused by an amoral force. Illness is not due to a moral violation or indiscretion, but rather is due to an unpredictable, uncontrollable evil force.

While there can be no denying that this demonological concept of disease was indeed present during eastern Chou, even lasting into the Han and beyond, its position of dominance must be proved. Unfortunately, Unschuld offers no proof. One of Unschuld's main sources on demonological medicine is J.J.M. de Groot's The Religious System of China,¹⁵ which does indeed contain a wealth of translated materials from the literature of early China in which ghosts, goblins and evil spirits abound. After reading much of this material, however, one finds many examples of purposeful, vengeful (and in a sense 'moral') ghosts causing disease.

A well known example of the morality of spirits can be found in the work of Mo Tzu (470-391 B.C.?) which dates from this period. In Chapter 31 of the Mo-tzu book Mo Tzu is made to say:

"It was with this (passing away of the Sage-kings) that the world began to fall into confusion. Now what is the reason for this? It is all because of doubt as to the existence or non-existence of ghosts and spirits, and failure to understand that they can reward virtue and punish vice. If now all the people in the world could be made to believe that spirits can reward virtue and punish vice, how could the world be in chaos?"¹⁶

Then in Chapter 48 we have:

"Mo Tzu was ill. Tieh Pi came and inquired: 'Sir, you hold that ghosts and spirits are intelligent and control calamities and blessings. They will reward the good and punish the evil. Now you are a Sage. How can you be ill? Is it that your teaching is not entirely correct or that ghosts and spirits are after all unintelligent?' Mo Tzu said; 'Though I am ill, in

what way would the ghosts and spirits be unintelligent? There are many ways (besides that of offending the spirits) by which a man can contract diseases. Some are contracted from cold or heat, some from fatigue. If there are a hundred gates and only one be closed, where could robbers not enter?"¹⁷

It should be pointed out that Mo Tzu has been attacked throughout history for his defense of spirits, but the fact remains that he did represent a certain segment of literate Chinese society.

Many examples can be found scattered throughout the literature of the time which reflect vengeful attack by spirits. In the Lun Heng (Critical Essays) (a book written by the skeptical philosopher, Wang Ch'ung (27-c.97A.D.)), we find an account of the death of Prime Minister T'ien Fen, uncle of Han Emperor Wu (r141-87 B.C.):

"When the report of a quarrel which the prime minister T'ien Fen, Marquis of Wu-an, had had with the former generalissimo Kuan Fu over a glass of wine reached the emperor, Kuan Fu was imprisoned. Tou Ying attempted to rescue him, but could not save him, and the consequence was that Kuan Fu brought down capital punishment upon himself, and that Tou Ying had to suffer death likewise. Subsequently, T'ien Fen contracted a very painful disease, during which he cried, 'yes, yes,' and asked the by-standers to look. They beheld, Kuan Fu and Tou Ying sitting by his side. T'ien Fen's sickness did not release, until he died."¹⁸

In a parallel passage in the Han-shu (ch. 52) under Kuan Fu's biography

we find:

"T'ien Fen felt pain all over the body, as if he were being flogged, and cried for mercy. The emperor sent his visionist to look at him, who reported that the ghosts of Kuan Fu and Tou Ying were holding him, and beating him to death."¹⁹

The 'visionist' referred to was a shih-kuei-che or literally one who sees ghosts.

Medicine of Systematic Correspondence

Unschuld maintains that beginning in the third century B.C., the medicine of systematic correspondence was developed.

"The medicine of systematic correspondence was conceptualized by some unknown authors. Its theoretical foundations were in many cases closely linked with the socio-political concepts of order and crisis of the Confucian ideology (especially after their modification by Hs'ün-tzu) which were conceived and propagated at approximately the same time."²⁰

In the medicine of systematic correspondence, health and disease are conceptualized on the basis of linking all natural phenomena into one system of mutual correspondence. Man is a micro-cosmic manifestation of the macrocosm. This is what Needham has termed 'an organic philosophy of nature! The medicine of systematic correspondence incorporates the two streams of naturalistic philosophy which were prevalent in the third century B.C., namely, the yin-yang school and the Five Phases school. The yin-yang school had ancient roots and the Five Phases school was most fully elaborated by Tsou Yen (350?-270? B.C.) of the State of Ch'i.

Unschuld insists on a Confucian connection in the development of

this form of medical theory:

"The therapy system which in its theoretical foundations incorporated the socio-political concepts of order and crisis held by the Confucian school into a new concept of disease was a complex, syncretistic system fed, among others, by the conceptual sources of demonological medicine."²¹

While the yin-yang school and the Theory of Five Phases were not part of the Confucian school in the third century B.C., they did become incorporated into Confucianism in the Han by Tung Chung-shu (c. 179-104 B.C.), a highly influential Confucian scholar. One can see how much of what appears in the medicine of systematic correspondence would be acceptable to the Confucians, but it must be understood that in this period (second and third century B.C.) Confucianism was only one of many schools vying for acceptance. The problem of the content and influence of Confucianism, especially during the former Han (206 B.C.- 9 A.D.), is an extremely complex one. I believe it would be better to say that there was a large body of shared beliefs at this time (such as correlative thinking)²² which was being incorporated into the medicine of systematic correspondence.

As an example of a vestige of demonological medicine found in the medicine of systematic correspondence, Unschuld suggests that the term "evil" (hsieh), which represents the causative agent of disease in the latter system had formerly been "evil demon" (hsieh-kuei) in the former system. "Evil demon" became "evil influence" (hsieh-ch'i).²³

Unschuld offers us a useful summary of what health consisted of in

the medicine of systematic correspondence:

"Influences of subtle matter (ch'i) constituted the source of life. Man was born with a certain amount of 'primordial influences' fu-an-ch'i? which had to be replenished constantly through the intake of further influences. Emanating from many possible sources, these influences had to reach the human organism in balanced proportions. 'Too much' or 'too little' of anything was considered harmful. 'Proper' and 'evil' influences were distinguished. A normal exposure to heat or cold, to wind or moisture, etc. should supply the organism with needed 'proper influences' cheng-ch'i; any excesses brought 'evil influences' into the body, e.g., 'evil wind' hsieh-feng? or 'evil heat' hsieh-je?. Just as in demonological medicine evil spirits were known to immediately take advantage of any weakness of the human body's guardian spirits, the medicine of systematic correspondence believed that any deficiency in proper influences in the organism would invite evil influences of some sort to fill the vacant space. Deficiencies and overabundancies of influences in any of the organism's storage or consumption center wu-tsang and liu-fu together with impeded transformation, constituted the main direct causes of illness."²⁴

The storage and consumption centers referred to are the five storage orbs (hepatic, cardiac, splenic, pulmonary and renal) and the six processing orbs (gall bladder, small intestine, stomach, large intestine, and urinary bladder).²⁵ For an in-depth analysis of these and an explanation of the term 'orb' see the important work of Manfred Porkert.²⁶

The medicine of systematic correspondence, for Unschuld, is seen as "moral" while demonological medicine is "amoral":

"Whereas demonological medicine was based on an assumption that fighting, either through attack or through defense, constituted the only possible relationship man could establish with the demons constantly surrounding him, the medicine of systematic correspondence started from the recognition that man could—and should strive to—exist in harmony with the influences he is constantly subjected to. In other words, the medicine of demonology, in contrast to the medicine of systematic correspondence, excused the individual from any particular moral norms because it did not matter, in terms of health and illness, whether one was a saint or sinner, the demons could attack anyway if they were not deterred by their potential victim's strength."²⁷

Pragmatic Drug Therapy

Another major stream of medical thought which was slowly developing during the period under discussion is that which Unschuld calls pragmatic drug therapy. This stream is more difficult to deal with because it was by nature very eclectic and not very philosophical. It is not until we come to the Shen-nung pen-ts'ao ching that we can really speak of a group and as we will see shortly the formation of this group is a difficult historical problem. For Unschuld this form of medicine was mainly in the Taoist camp and remained outside the mainstream 'Confucian-orthodox' medicine until the Neo-Confucian synthesis in Chin-Yüan medicine.²⁸ This pragmatic group included many of the fang-shih

who became so numerous during the Han and about whom I will have a great deal to say shortly.

For Unschuld drug therapy was essentially 'amoral,' "the effectiveness of drugs was known to be independent of a patient's adherence to any strict moral rules of conduct." In this regard it was similar to demonological medicine and became more closely affiliated with this system than the medicine of systematic correspondence.

"The general point to be emphasized here is that while the medicine of systematic correspondence appears to have been patronized by Confucian interests, the remaining two systems were taken up by groups in society which could either not be reached by the Confucian ideology or who stood in conscious opposition to it."²⁹

The problem here, as in much of what Unschuld has postulated, is that it is true and it is not true. The truth is that there were (at least) three systems as stated. However was demonological medicine completely outside Confucian patronage? See the discussion of the wu below. Also when discussing pragmatic drug therapy we are dealing with a very heterogeneous group. Furthermore, surely the practitioners of the medicine of systematic correspondence used drugs. While acupuncture is more commonly associated with this system, drugs are discussed. Completely left out of Unschuld's analysis, for example, is the work of Chang Chung-ching also discussed below, which is essentially a drug treatise, and after Wang Shu-ho's incorporation of much material from the medicine of systematic correspondence (c. 300 A.D.), we are dealing with the use of drugs in the medicine of systematic correspondence. The point to be made here is that this issue is very complex and we

must look more closely at the groups involved. Having set the stage in a sense we must now present the actors.

The Wu Practitioners

When we look about for the practitioners of the above mentioned systems of medicine, who do we find? For demonological medicine the only likely candidate is the group known as wu, who had been associated with medicine since antiquity. As we saw earlier, the differentiation of wu and i had already begun by the sixth century B.C., but the question remains who were the wu and what did they do? Part of the confusion is due to the attitudes of the historians who have recorded their activities.

"The senses that "wu" has accumulated over the centuries-- a dancing shaman who brings down the gods, a female medium, a curer, one who behaves wantonly, and so on--suggest not diverse denotation but sparing and fitful curiosity about a single phenomenon. In view of the scant detail in the classical literature about who wu are and what they do I suggest that the word had much the same linguistic function as the English word "superstition," which conveys very little about the religious beliefs it is applied to except that the speaker is not interested in understanding them. I submit that wu is a garden-variety literary appellation for the mediums who have acted without interruption for millennia (despite administrative proscription and harassment) as intermediaries between the people of China and their hierarchy of gods."³⁰

The wu have been linked, by Needham and others, with the shamanistic practices of the Ural-Altai peoples. These shamanistic practices included magical healing and divination.

"Aided by abnormal neurotic or epileptic-like states, the shaman, who is a mediator between the spirits and men, goes into autohypnotic trances, during which he is supposed to journey to the abodes of gods and demons, afterwards announcing the results of his conversations with them"³¹

These wu were often given official state sanction, even becoming part of the official bureaucracy. In the Chou li (Rites of Chou) (a work purporting to describe the institutions of the early Chou dynasty but thought to be a later text), mentions the title of ssu-wu or wu supervisor. The duties of the wu under his command included the 'dance for rain' as well as other dances and the use of herbs and invocation of the gods to cure illnesses.³² In the Li chi or Book of Rites (another Han text dealing with earlier institutions) we find:

"When a ruler attends the funeral ceremonies after the death of a minister, he takes with him a sorcerer (wu) and an officer of invocation (chu) with a peach-wand and a reed-broom, besides a lance-bearer to protect him from maleficent spirits."³³

Much work needs to be done on the history of the wu in early China before we can really begin to understand the medical practice of this group, but in the few examples we have seen in connection with the wu, they use drugs in their practice, as well as incantations. Perhaps some of this drug lore (some magical, some non-magical) became incorporated into later pharmaceutical works.

Analysis of the Fang-shih

Another group of practitioners which has until now received very limited historical analysis is that of the fang-shih. The problem of dealing with the fang-shih is in a sense very similar to that of the wu, namely, the attitude of the historians who have been responsible for the records we now work with. Because the fang-shih are so closely associated with the group which becomes responsible for the pen-ts'ao literature, I have chosen to devote a considerable portion of this paper to an analysis of the fang-shih.

For Needham the wu and the fang-shih are essentially the same group. But as Sivin has pointed out, "Whether "wu" and "fang-shih" are synonymous depends on whether fang-shih were in fact magicians-- in other words, on whether fang always implies magic."³⁴

Max Kaltenmark offers the definition of fang as meaning only "recipe":

"What are these fang-shih?... in the Ch'in and Han the term did not always designate a well-defined category of persons, but rather all 'men with recipes.' magical and otherwise. Expressions such as tao-jen (tao has a different sense than fang here), tao-shih, tao-shu-shih [in the Ch'in and Han] designate all sorts of technicians, specialists divided into numerous 'schools' distinguished in the 'Treatise on Bibliography' of the Han shu. They include what we call 'taoists,' physicians, geographers and geomancers, diviners of every variety, astronomers and astrologers, not to mention dialecticians, political thinkers, etc., all of whom were in possession of particular recipes."³⁵

The historical context out of which the fang-shih emerge is itself fairly complicated, involving the pursuit of immortality. The pursuit of immortality was a very influential movement, especially during the Ch'in and Han. I can only briefly deal with this movement but the reader is referred to the important and scholarly works of Yü Ying-shih³⁶ and Joseph Needham.³⁷ Needham, while using much from the work of Yü, differs in both terminology and conclusions.

The pursuit of longevity is considered to be one of the most ancient and universal desires of the Chinese people. While in the Western Chou (1122-771 B.C.) only about eight percent of the bronze inscriptions contain prayers for longevity, in the Eastern Chou (480-221 B.C.) fifty percent mention longevity.³⁸ During the Eastern Chou there emerges for the first time the desire for physical immortality. This desire intensified during the Warring States Period (480-221 B.C.) with increasing references being made to 'drugs of no death' (pu-ssu chih yao) and the 'way of no death' (pu-ssu chih tao). Beginning in the third and fourth centuries B.C., stories about sea expeditions in search of immortals (hsien) and 'drugs of no death' appear in the eastern seaboard States of Yen and Ch'i.³⁹ Then we read in the Shih-chi (Historical Records):

"From the time of Kings) Wei [358-320 B.C.] and Hsüan [319-301 B.C.] of the State of Chhi the disciples of Master Tsou discussed and wrote about the cyclical succession of the Five Powers. When (the King of) Chhin became (the First) Emperor (in 221 B.C.), people from Chhi sent in memorials (bringing these theories to his notice). And the First Emperor (Chhin Shih

Huang Ti) chose them and gave them employment. Moreover from first to last Sung Wu-Chi, Cheng Po-Chhiao, Chhung Shang and Hsienmen Kao were all people from (the State of) Yen who practiced the method of (becoming) immortals by the use of magical techniques, so that their bodies would be etherealised and metamorphosed by some transmutation (hsing chieh hsiao hua). For this they relied upon their services to the gods and spirits.

Tsou Yen was famous among the feudal lords (for his doctrine) that the Yin and the Yang control the cyclical movements of destiny. The men who possessed magical techniques [fang-shih], and who lived along the sea-coast of Yen and Chhi, transmitted his arts, but without being able to understand them. From this time on one cannot count the constantly increasing number of those persons who performed deceptive wonders, flatteries, and illicit practices."⁴⁰

The number of fang-shih grew even greater under Han Wu-ti (r. 141-87 B.C.). Ssu-ma Ch'ien (145-87 B.C.?), the author of the Shi chi quoted above, personally accompanied the emperor during his sacrifices and his description of the emperor's 'addiction' is particularly poignant:

"...The emperor grew increasingly weary and disgusted with the inane tales of the magicians [fang-shih], and yet he was bound and snared by them and could not free himself, for always he hoped to find one who spoke the truth. From this time on, the magicians who came to him recommending sacrifices to this or that

deity grew even more numerous, but the results of all this are as you can see."⁴¹

Sivin, in his analysis of the fang-shih, has raised the question of whether, even in this early context just presented, the fang-shih represented a coherent group from a single tradition. His analysis, while dealing with the fang-shih over a longer period of time than I am here, is still useful for my purpose. He offers four general criteria shared by the fang-shih:

- 1.) The fang-shih usually belonged to the tiny privileged segment of the population who could read books and leave written records..
- 2.) The fang-shih himself did not usually hold high rank in the regular civil service. If he did, it tended to be obtained irregularly, most often as an imperial gesture...
- 3.) The fang-shih did not strive for the personal goals that the well-born expected of their own kind. He usually held conventional moral and political opinions, if we can rely on the record, but the stain of heterodoxy, however faint, is commonly visible...
- 4.) The fang-shih had power denied to the conventional elite-- to foresee the future, to arrogate to himself the shaping and transforming powers of natural process (tsao hua), and so on, but he lacked the full humanity, the mastery of the social way of the orthodox great."⁴²

I think what we can begin to see here is that the fang-shih constitute a heterogeneous group which contained both magical and non-magical practices.

"Fang-shih is not a social grouping toward which people align themselves, but rather an imputation of aims, powers, or behavior that the historian does not share. People become fang-shih in the eyes of others because of what they have done, not where in society they were born. Their social backgrounds may be like those of non-fang-shih. Outside of technical skills and an identity that is nonconformist in a specific way (while perhaps highly conformist in other ways) they may or may not have anything in common with other fang-shih.⁴³

Sivin has based his analysis partly on the recent work of Ngo Van Xuyet⁴⁴ which deals with the fang-shih in the Later Han. Ngo suggests that in the highly syncretistic world of that time there was no clear line of demarcation between the philosophies of the Confucians and that of the fang-shih. Many of the Confucians of the time were steeped in the esoteric writings (ch'an-wei, the prognostic texts and apocryphal writings) while the fang-shih were for the most part versed in the canonic literature. Both groups shared the same symbolic language of yin-yang, Five Phases and Tao, and essentially elaborated similar philosophies based on a common conception of the correspondence between man and Heaven and the reciprocal influence between the world of man and the order of the universe. They also shared a common belief in divination, and prophecies, but it was in their social orientation that they diverged. The Confucians sought to become the pillars of the established order, while the fang-shih more or less sought to remain outside it.

The Confucians (again following Ngo) believing they had perceived

the natural and social universe as totally organized and that they had understood the exact role each member of society was to play in this organization, regarded as heretics all those who departed from the established order. At the same time the Confucians in performing their official duties were in a sense performing ritual magic. The practice of divination, the performance of the sacrifices for rain and the yearly exorcisms were all performed with the (at least tacit) approval of the Confucians.

On the other hand the magic of the fang-shih was perceived as something private and anarchic which was cultivated in a way which was neither controlled nor controllable. "The Confucians could not allow these practices and condemned them as esoteric, accusing the fang-shih of relying on spirits and demons and maliciously exercising their talents of divination to confuse the people."⁴⁵ It was not that the Confucians did not believe in the existence of spirits and demons, but rather that they never sought to enter into private communication with the transcendent world.⁴⁶

The Appearance of the Pen-ts'ao Group

It is within the Chinese world just described that the tradition which was to become the pen-ts'ao (pharmaceutical) tradition emerged. The first known mention of the word pen-ts'ao is in the Han shu where an important event for the year 31 B.C. is discussed. The pursuit of immortality which had so obsessed the first Ch'in Emperor had led to the establishment of many sacrificial halls. The number of halls grew

during Han Wu-ti's reign and the sacrifices were revived under Han Hsüan-ti (r. 73-49 B.C.). Finally, by the year 31 B.C., the number of sacrificial halls had reached 683, resulting in a memorial to the throne by K'uang Heng and Chang T'an complaining of the situation. As a consequence "more than 70 'expectant appointees' (tai-chao) such as exorcists (hou-shen), fang-shih, assistants (fu-tso and shih-che) and pen-ts'ao were sent home."⁴⁷

It is obvious from the context that the use of the word pen-ts'ao would mean one who is knowledgeable in pen-ts'ao. The original meaning of this term has never been completely understood. Pen can have the meaning of 'basic,' 'origin' or 'fundamental,' or act as a verb meaning 'to do according to,' while ts'ao has the meaning of 'grass' or 'herb.' Pen-ts'ao could have had the meaning of 'one who cultivates a way according to herbs' or 'a technique based on herbs.'

The belief that pen-ts'ao in the Han shu meant 'one knowledgeable in pen-ts'ao' is reinforced by the second known appearance of the word. In the year 4 A.D., Han P'ing-ti (r. 1-5 A.D.) in an attempt to upgrade the state of knowledge in his realm, had called to the capital all those with special knowledge:

"Summoned were those in the whole country who were knowledgeable in the lost classics, the old records, astronomy, calender, music, philology, history, fang-shu and pen-ts'ao as well as the Five Classics, the Analects, the Classic of Filial Piety, and the Erh-ya. A small chariot was made available for their journey. Several thousand were able to make it."⁴⁸

In both these early references 'those who were knowledgeable in pen-ts'ao' are closely associated with the fang-shih or with the body of knowledge known as fang-shu. The first medical context in which the term pen-ts'ao occurs is in the biography of Lou Hu, a minor official during the time of Wang Mang (r. 9-23 A.D.).

"Lou Hu tzu Chū Chūn-ch'ing was from Ch'i. His father was a physician; medicine having been practiced in his family for generations. When he was young he followed his father to Ch'ang-an, where his father practiced medicine. They entered the homes of the wealthy families. Lou Hu mastered the medical classics, the pen-ts'ao, and the fang-shu [literature] amounting to several hundred thousand words."⁴⁹

From this short biography three rather significant points can be made. First, the medical and related literature by the early years of the first century A.D. was already quite extensive. Second, pen-ts'ao was in some way related to the medical literature, and finally, the state of Ch'i was still somehow associated with the techniques of the fang-shih.

The Shen-nung pen-ts'ao ching

The text which is considered to be the earliest work of the pen-ts'ao tradition which has survived to the present is the Shen-nung pen-ts'ao ching or, Shen-nung's Classic of Materia Medica, or simply the Pen-ching. The transmission and dating of this text is difficult to determine. The importance of the work, however, cannot be denied.

Since this work was from an early time taken as the central core of most later works known as pen-ts'ao, most of the original text has been preserved.

No work entitled Shen-nung pen-ts'ao ching appears in the I-wen-chih or 'Bibliographical Section' of the Han shu. The only text, in all of the works associated with medicine in the I-wen-chih, to be associated with the name Shen-nung is a work entitled Shen-nung Huang-ti shih-chin or 'The Dietary Prohibitions of Shen-nung and Huang-ti.'⁵⁰ Possibly the earliest reference to the Pen-ching appears in Chang Hua's Po-wu-chih or 'Records on the Investigation of Things', a text supposed to date from c. 290 A.D. Chang quotes from a text entitled Shen-nung-ching or 'Shen-nung's Classic.'⁵¹ In this excerpt the three-fold classification of the Pen-ching is clearly evident. Chang also quotes from another text (if it is another text) entitled Shen-nung pen-ts'ao. The text already contains information which in later texts is attributed to the commentary of Wu P'u (c. 260 A.D.).⁵²

The dating of the text cannot be dealt with in any greater detail here, but it "is generally considered to be of Early Han (1st or -2nd century), even containing Chou and Warring States material, though not finished until the end of the Later Han."⁵³

From an analysis of the contents of the Pen-ching, there can be no doubt that this text represents the ideas of a school (or of several schools) which was in some way connected with the longevity cults of the Han. The division of drugs into three classes is described in the introduction:

"The upper class of drugs contains 120 kinds. These are the Rulers (chun). They are capable of prolonging life (yang-ming) through correspondence with Heaven. They are without toxicity (wu tu) and can be taken in large quantities and taken for prolonged periods of time without causing injury to man. Those who wish to 'lighten their body' (ching-shen), increase their 'vital energy' (ch'i), prevent aging and increase their lifespan [should follow the way] based on [drugs] of the upper class.

The middle class of drugs contains 120 kinds which are the Ministers (ch'en). They are capable of nourishing man's natural attributes (yang-hsing) through correspondence with Man. They can be toxic or non-toxic depending on the propriety of their use. Those who wish to prevent illness or to tonify [the body] [should follow the way] based on [drugs] of the middle class.

The lower class of drugs contains 125 kinds. These are the Assistants and Emissaries (tso-shih). They are capable of curing illness by correspondence with Earth. They are highly toxic and cannot be taken for long periods of time. Those who desire to expel the [conditions of] coldness or hotness and noxious forces, or to dislodge deep-seated accumulations and to cure diseases [should follow the way] based on [drugs] of the lower class.

The three classes total 365 kinds [of drugs]. This is to follow the 365 degrees. One degree corresponds to one day, thus completing one year."⁵⁴

The connection with the longevity cults becomes even more evident

when we consult the individual drug monographs. In this regard Needham comments:

"Significantly the Pen Ching never speaks of becoming an immortal (chheng hsien) or ascending to the heavens (fei thien) but always confines its remarks to longevity, lightness of body and length of years in such phrases as chhing shen, yen nien, tseng shou, etc."⁵⁵

While this statement is generally true there are exceptions. For example under the entry for t'ai-i (yü) yü liang (a natural form of ferric oxide), we read:

"If taken for a long time [it will allow you] to withstand cold and heat, to be without hunger, lighten the body, [be able] to fly a thousand li and [become] an immortal (shen hsien)."⁵⁶

Another rather unusual entry is that for Tse-hsieh (water plantain). Here we are told:

"If taken for a long time the eyes will be brightened and the power of hearing will increase. [It will allow you] to be without hunger, to extend [your] years, lighten the body, [your] face will become lustrous [and you will] be able to walk on top of the water (neng hsing shui shang)"⁵⁷

A commonly occurring phrase in the Pen-ching is to kill (sha) or expel (ch'u) the Three Worms (san ch'ung). There was a belief that the body of man was composed of three chambers or fields with a Worm or Cadaver (shih) in each one. These Worms or Cadavers received their nourishment from ch'i or energy contained in the food that was consumed. These Worms were ultimately responsible for the illness, death and

decay of the body. Developing out of this conception was the technique of avoiding disease, and ultimately death, by starving these Worms to death or expelling them from the body.⁵⁸ This conception would also help to explain the common occurrence of the expression pu-chi or no-hunger.

Finally, some mention must be made about the incorporation of elements of demonological medicine into the Pen-ching. Frequent mention is made throughout the work to kuei-chu or ghost possession. We find a definition of kuei-chu in the Chou hou pei chi fang or 'Handbook of Medicines for Emergencies' attributed to the fourth century alchemist Ko Hung (283-343 A.D.):

"Demonish maladies are, according to Koh Hung, the corpse-maladies which have their place among the five shih [corpses], and they embrace also all injury caused by kwei and sie [hsieh]. There are from thirty-six to ninety-nine forms of them. In general they make man alternately cold and hot (feverish), cause secretion of fluid matter, dejection and speechlessness, so that it is impossible to ascertain from him what makes him suffer, even though there is no one spot on his body which does not ache. During the lapse of years and months he is wasted away and his functions cease, and death is the end of this. And after his death the disease passes over to people about him, with the result that his whole family may be destroyed."⁵⁹

This brief excursion into the contents of the Shen-nung pen-ts'ao ching must suffice for our purpose in this paper. However, I

believe it has been shown clearly that there is a strong philosophical affiliation between the content of the Pen-ching and the fang-shih of the Han. Because part of the intent of the analysis of the Pen-ching was to show this affiliation, I have tended to down-play the more mundane but no less important aspect of this work, namely, the accumulated knowledge about drugs. There can be no doubt that this text contains the distillation of many centuries of drug use. The more pragmatic aspect of pragmatic drug therapy is probably better seen in two other Ch'in-Han texts, namely, the drug formularies.

The Ch'in-Han Drug Formularies

Two important documents have recently come to light in China. The oldest is the silk manuscript found in the Han tomb at Ma-wang-tui, which has been named "Wu-shih-erh-ping fang" or 'Formulas for Fifty-two Diseases.'⁶⁰ This manuscript is considered to be the oldest Chinese medical document extant, dating from early Ch'in (221-207 B.C.). The other document is the collection of drug formulas on bamboo strips and wooden slabs found at Wu-wei in Kansu province, known as the Wu-wei Han-tai i-chien or 'The Han Medical Inscriptions from Wu-wu.'⁶¹ This collection of bamboo and wood documents is thought to date from the first century A.D. Thus, these two documents represent examples of drug literature from the beginning of the Former Han to the Later Han, and give us an opportunity to view the development of pharmaceutical knowledge during the Han.

Theoretical considerations in both documents are completely

absent. The Ma-wang-tui silk manuscript definitely represents a more primitive stage in pharmaceutical knowledge than the Wu-wei documents. The formulas in the silk manuscript do not follow any specific order nor do they employ any of the standard Han units of measure. Anatomical knowledge is almost completely absent except for references to the heart (hsin) and bladder (p'ao), and no relationship is seen between disease and any specific organ. The silk manuscript lists 280 formulas for fifty-two diseases and employs almost 240 different drugs. Many of the drugs do not appear in either the Pen-ching nor the Ming-i pieh-lu (a work which included most of the drugs between the time of the formation of the Pen-ching and the time of T'ao Hung-ching (456-536)). Included among the formulas are several incantations for certain diseases, and among the many dosage forms used in the formulas are medicinal baths, medicinal vapors and many plasters. What we have, in effect, is a fairly extensive body of pharmaceutical knowledge which is devoid of any philosophical considerations. When this document is compared with the other silk manuscripts found in the same tomb, the contrast becomes even more striking. It would appear that we are dealing with two different traditions. The other manuscripts (discussed briefly below) are clearly in the medicine of systematic correspondence tradition.⁶²

The Wu-wei documents, on the other hand, show a striking sophistication when compared to the Ma-wang-tui formulary. Although there is no philosophical content here either, the form has become standardized. The knowledge of internal organs is more apparent and now we have a definite correlation between some internal organs and disease states,

although this is not dealt with very extensively. Many of the formulas are specifically indicated as being secret, which appears to have been a fairly common practice during the Han.⁶³ Unfortunately none of these documents furnish us with any information about the people who used them.

After this rather extensive analysis of pragmatic drug therapy and its affiliation with the fang-shih we must now return to the medicine of systematic correspondence and its practitioners one last time.

The i and the Beginnings of the Medicine of Systematic Correspondence

To pick up the progress of the medicine of systematic correspondence, we must once more return to the sixth century B.C. For the year 540 B.C. the Tso chuan gives a very extended and illuminating account of Chinese medical thought, as Needham puts it, "in statu nascendi."⁶⁴

The marquis of Chin became ill and the earl of Cheng sent an emissary to inquire about his illness. The emissary was informed that according to the diviners, the ruler's illness was inflicted on him by the spirits (shen) of Shih-ch'in and T'ai't'ai, but the historians of Chin did not know who they were. The emissary was asked if he knew who these spirits were. Tzu-ch'an, after a lengthy description of who these spirits were, added this:

"But these two spirits cannot affect your ruler's person. The spirits of the hills and streams are sacrificed to on the unseasonable occurrence of snow, hoarfrost, wind, or rain. Your ruler's person must be suffering from something connected with his movements out of the palace and in it, his meat and drink,

his griefs and pleasures; what can these spirits of the mountains and stars have to do with it.

"I have heard that the superior man (divides the day) into four periods; the morning, to hear the affairs of the government; noon, to make full inquiries about them; the evening, to consider well and complete the orders (he has resolved the issue); and the night, for rest. By this arrangement (of his time), he attempers and dissipates the humours /ch'i/ (of the body), so that they are not allowed to get shut up, stopped, and congested, so as to injure and reduce it. Should that take place, his mind loses its intelligence, and all his measures are pursued in a dark and confused way. But has not (your ruler) been making these four different periods of his time into one? This may have produced the illness.⁶⁵

Tzu-ch'an then gives a discourse on the impropriety of having sexual relations with the concubines of the same family name as the ruler. After the marquis heard what Tzu-ch'an had said, he proclaimed him to be a "superior man of vast information."⁶⁶

The marquis then asked for the help of a physician from Ch'in. The earl of Ch'in sent the physician Ho. Ho said:

"The disease cannot be cured,--according to the saying that when women are approached, the chamber disease becomes like insanity /ku/. It is not caused by spirits nor by food; it is that delusion which has destroyed the mind. Your good minister will (also) die; it is not the will of Heaven to preserve him."

"The marguis said, 'May women (then) not be approached?'

"The physician replied, 'Intercourse with them must be regulated. Hence there are the five regular intervals. Or the

slow or quick, from beginning to end, they blend in one another. Each note rests in the exact intermediate place; and when the five are thus determined, no further exercise on the instruments is permitted. Thus the superior man does not listen to music where the hands work on with licentious notes, pleasing the ears but injurious to the mind, where the rules of equable harmony are forgotten. So it is with all things. When they come to this, they should stop; if they do not do so, it produces disease. The superior man repairs to his lutes, to illustrate his observance of rules, and not to delight his mind (merely)."⁶⁷

Ho then goes on to give a six-fold classification of the causes of disease which would become more fully elaborated during the Han:

"(In the same way) there are six heavenly influences /liu ch'i/, which descend and produce the five tastes /wei/, go forth in the five colors /ssu/, and are verified in the five notes /sheng/; but when they are in excess /jen/ they produce the six diseases /chi/. Those six influences are denominated the yin, the yang, wind, rain, obscurity, and brightness. In their separation, they form the four seasons; in their order, they form the five (elementary) terms. When any of them is in excess, there ensues calamity. An excess of the yin leads to diseases of cold; of the yang, to diseases of heat; of wind, to diseases of the extremities; of rain, to diseases of the belly; of obscurity, to diseases of delusion; of brightness, to diseases of the mind /hsin/. (The desire of) woman is to the yang, and (she is used in the) season of obscurity. If this be done to excess, disease is produced of internal heat and utter delusion. Was it possible

for your lordship, paying no regard to moderation or to time, not to come to this?"⁶⁸

From these passages we can already see how the medicine of systematic correspondence was beginning to form. In the first passage of Tzu-ch'an we can see how disease was at first 'diagnosed' by the diviners as being caused by spirits. Tzu-ch'an after eliminating the possibilities of spirit causation offers his two 'natural' causes, the first being the improper regulation of the ruler's activities, which cause the stoppage, shutting up or congestion of ch'i and the second being the sexual relations with women of the same family name.

The physician Ho further elaborates the 'natural' cause of the marquis' illness by also eliminating spirit causation or improper diet as responsible. In his discourse on the six heavenly influences we can see quite clearly the direction medical theory is taking. There is the groupings of four seasons, five flavors, notes, etc. and the six influences and the idea of an 'excess' as causing disease.

Shun-yü as a Transitional Figure

In the Shih chi there is an entire chapter devoted to the biographies of two famous physicians. Robert F. Bridgman has translated the entire chapter into French and added extensive notes and a useful analysis of medical thought of the time.⁶⁹

The first biography, that of Pien Ch'iao, seems to be a composite of several semi-legendary figures having the same name. Bridgman feels the biography of Pien Ch'iao was written down during the time of the author of the Shih chi, possibly by some physician of the time. Needham on the

other hand uses this biography as an "authoritative source" for the year 501 B.C.⁷⁰

In dealing with the second biography we are on much firmer historical ground. Shun-yü was born c. 216 B.C. and practiced medicine in the State of Ch'i before becoming Granary Intendant in 177 B.C. Because of some political transgression he was taken to court, but eventually pardoned. As part of the conditions of his pardon he was required to divulge much of his medical knowledge. Some of the questions asked of him include: Which diseases he was capable of treating, whether he possessed any books, who he received his medical instruction from, who he had treated and where they lived, etc. The results of this inquiry were recorded and preserved in the Imperial library where Ssu-ma Ch'ien consulted them and preserved them intact for posterity.⁷¹

Shun-yü I, by his own account, informs us that in his youth he loved the study of medicine and drugs, but found many of them ineffective. He later received secret instructions from a septuagenarian practitioner living in the capital city of the State of Ch'i. Shun-yü I also received several books from his teacher which are quoted from in several of Shun-yü's responses, preserved in the Imperial library.

These responses include twenty-five case histories. In the twenty-second case history we have a rather extended discussion of what may be considered the oldest example of pharmacological theory in Chinese medical literature now extant. Because I have worked on this passage myself, and because of my interest in early pharmacological theory, I am presenting the entire passage here:

"Sui, the personal physician of the Prince of Ch'i had become ill and prepared for himself the Five Mineral drug which he had taken. I visited him and he said to me, 'I have become ill. Would you please examine me?'

"After examining him I told him, 'You are suffering from Internal-hotness /chung-je/. The Discourse says, 'Those suffering from Internal-hotness, who are unable to urinate /normally/ should not take the Five-mineral drug.' Minerals (shih) when used as drugs are caustic (ching-han). If you take them and are unable to urinate as frequently /as normal/ you should quickly stop taking them /otherwise/ you will begin to appear swollen.'

"Sui replied, 'Pien Ch'iao said, 'Yin minerals are used to treat yang diseases and yang minerals are used to treat yin diseases.' It is the case that drugs have forms /which have the qualities of/ yin or yang or /the qualities of/ Water or Fire. Therefore when there is Internal-hotness treat it with a yin-mineral yielding form (yin-shih jou-chi). When there is Internal-coldness (chung-han) then treat it with a yang-mineral unyielding form (yang-shih kang-chi).'

"I replied, 'What you have said is far from true. Although Pien Ch'iao said something like that, you must carefully examine /the patient/, set up systems of measures /for drugs/, establish regulations /for their use/, find the appropriate amounts, and suit /the drug to/ the /patient's/ appearance and pulse, /then consider/ the pattern (fa) of external and internal excesses or insufficiencies

/in the distribution of yin and yang?/ and whether there is agreement or opposition /between them/, /further/ consider whether the patient is agitated or tranquil /in order to/ harmonize /the drug/ with his breathing, /it is only/ then that you can decide /on the proper treatment/. The Discourse says, 'One who has a yang disease inside and a yin appearance responding on the outside, cannot be treated with caustic (han) drugs nor acupuncture.'

It is the case that caustic (han) drugs when they enter the inside, the heteropathic-ch'i (Porkert's term) (hsieh-ch'i) is depressed even deeper. The Diagnostic Methods says, 'In a case where there are two yin /symptoms/ manifested externally and matched by only one yang /symptom/ internally, unyielding (kang) drugs cannot be used.'

When unyielding drugs enter, they agitate the yang /ch'i/ and the yin symptoms of weakness are increased and the /internal/ yang symptoms become more obvious, the heteropathic-ch'i is circulated and becomes deeply trapped at the shu /locus point/. When the patient becomes angry he develops an /external/ abscess (chu).

More than one hundred days after I had told /Sui/ about this, he actually did develop an /abscess/ on his breast, it then entered /in the region/ of the clavicle and he died.

This is to say that the treatises as general accounts must be adjusted /to the situation/. If an unskilled practitioner somehow does not know the real meaning of the literature, then yin and yang will be mistreated. 72

The level of sophistication of the theory in this passage is quite striking when we realize this passage was written (c. 167 B.C.) at almost the same time as the Ma-wang-tui formulary was being placed in Han tomb No. 3. We can see that by the second century B.C., at least in the tradition Shun-yü I was involved with, a pharmacological theory had begun to be elaborated.

We would like to know more about the tradition Shun-yü belonged to but the records are silent. We can only infer from Pien Ch'iao and Shun-yü I's biographies that the normal procedure for the transmission of medical knowledge was from a master to disciple, much of the transmitted knowledge being considered secret. Both Pien and Shun-yü had teachers who had reached advanced age and wished to transmit their accumulated knowledge to someone they saw extraordinary talents in. Nothing is known of where these teachers had received their knowledge or training.⁷³

Formation of the Huang-ti nei-ching

It is now believed that the work which we know as the Huang-ti nei-ching was in its formative stages during the time of Shun-yü I. Yamada Keiji has analyzed several of the medical documents from Ma-wang-tui (I have only been discussing the drug treatise). He believes that some of them are precursors of certain chapters in the Huang-ti nei-ching. Yamada feels that since the silk manuscripts should be dated from early Ch'in (221-207 B.C.) and that some of these documents are thought to have been incorporated into the Nei-ching, the Huang-ti nei-ching should be considered no earlier than Han. Furthermore, after an analysis of the Nei-ching itself, Yamada believes the dialogue form of the text represents

several different groups which were vying for supremacy. The oldest and strongest was that of the Huang-ti group represented in the text by chapters in which Ch'i Po appears.⁷⁴

This is a very interesting theory, of course. Unfortunately, we know very little about the transmission of the text of the Nei-ching from its supposed Han compilation to its edited editions in the Sui (581-618 A.D.) and T'ang (618-907). Likewise, we know very little about the practitioners who used the text or texts.

The Southern Tradition of Chang Chung-ching

If the Huang-ti nei-ching can be considered the most influential text in the medicine of systematic correspondence tradition, the Shang-han lun or 'Treatise on Disorders Attributable to Cold Factors' must be considered the second most influential. Chang Chung-ching (probably 152-219 A.D.) was an official of Changsha, the capital of the State of Ch'u in the south. Very little is known of him other than that he was the supposed author of the Shang-han lun and a book of drug formulas, the Chin-kuei yao-lueh. The Shang-han lun elaborates a sixfold system of disease based on three pairs of yin-yang. In the original text there was no Five Phases concepts at all in contrast to the Huang-ti nei-ching. However, in Wang Shu-ho's edition (c. 300 A.D.) of Chang's work Wang freely added Nei-ching concepts including Five Phases theory.⁷⁵

With the work of Chang Chung-ching we come to the close of the Han and must also come to the end of our analysis of the progress of the medicine of systematic correspondence.

Conclusion

Having criss-crossed the Chinese historical scene several times, we must now reflect on what we have seen. I believe that during the Han a great deal of progress was being made in medical knowledge. The Han milieu is a fascinating mixture of contradictions, a world permeated with spirits and ghosts and at the same time producing men of incredible rationalism (to us) such as Wang Ch'ung. It was a time of immortality cults and a time of the elaboration of the very sophisticated medical theory of the medicine of systematic correspondence.

Having used Unschuld's paradigm as a starting point of this analysis, we can now look back and evaluate it. I believe the paradigm is useful but it has many faults. First, the very concept of demonological medicine must be better defined to include the many cases of purposeful ghosts. Secondly, pragmatic drug therapy also must be better defined.

Pragmatic drug therapy contains such a large range of beliefs that it is difficult to make any general statements which will represent them all. For example, to say the effectiveness of drugs does not entail adherence to any strict moral rules of conduct will not hold true for much of the drug literature. We need to know much more about how the drugs were used and by whom. I have spent a considerable portion of this paper (reflecting my own area of interest) trying to evaluate the group of practitioners who might have been responsible for much of this early drug literature. I think from that analysis it can be seen that in many instances the taking of drugs did entail adherence to strict moral rules. The moral rules might not have been those of established State Confucianism, but of a totally different kind. The pursuit of longevity or

even immortality involved an enormous commitment by the individual to practice many techniques such as breath control, meditation, sexual practices and the taking of drugs. But even in the more mundane usage of drugs we must know the context in which the drugs were being used. I simply cannot accept Unschuld's thesis on this point without further elaboration.

The medicine of systematic correspondence (Oh, if only there were a shorter term!) is a system which is most commonly considered as the Chinese medicine. Fortunately much work is being done on the early development of this system. The Ma-wang-tui texts are of particular importance here. However I have not spent as much time on this development as I have on its precursors. I felt the materials found in the Tso Chuan and the materials from Shun-yü I's biography were important enough to warrant extensive coverage. Another reason for their inclusion is that these excerpts dealt with real people, not social and political terms or purely abstract beliefs. This is my bias.

In the research for this paper I have made every attempt to consult the original sources for all translated materials. In so doing I have come to realize how essential an intimate knowledge with the ancient sources is for a clearer understanding of the emergence of Chinese medicine. In the future I hope to develop that 'intimate knowledge.' Recent studies have contributed greatly to our understanding of this early period but much remains to be done.

FOOTNOTES

- 1.) Paul U. Unschuld, "Concepts of Disease in Ancient China: The Case of Demonological Medicine," Journal of Medicine and Philosophy (forthcoming, 1980). I am using a copy supplied by the author. Since the paging of the published edition will be different, I will omit page numbers and simply cite it as Unschuld, 1980a.
- 2.) Ibid.
- 3.) Ibid.
- 4.) Ibid.
- 5.) Ibid.
- 6.) Ibid.
- 7.) Ibid.
- 8.) Ibid.
- 9.) Ch'ow Tse-tzung, "The Childbirth Myth and Ancient Chinese Medicine: A study of aspects of the wu tradition," in David Roy and Tsien Tsuen-tzien (eds.), Ancient China: Studies in early civilization, Hong Kong, 1978, pp. 43-89, p. 70.
- 10.) Ibid. p. 70
- 11.) See also, Burton Watson, Early Chinese Literature, New York, 1962, pp. 64-54, "When the physician arrived, he told the duke, 'I can do nothing for your illness. It is situated above the diaphragm and below the heart, where treatment cannot affect it, acupuncture will not penetrate, and medicine will not reach. There is nothing I can do.'" Watson's anatomical translation is closer than Legge's.
- 12.) Unschuld, 1980a
- 13.) Bernard Karlgren, "The Book of Odes," Bulletin of the Museum of Far Eastern Antiquities 16 (1944: 171-256; 17 (1945): 65-99; 16: 233-34.
- 14.) Unschuld, 1980a
- 15.) J.J.M. de Groot, The Religious System of China, 6 vols., Leyden, 1892-1910. See especially vols. 4, 5 and 6. This work contains a wealth of information. However, de Groot's translations reflect his

- 19th century prejudices as can be seen in this rather colorful description of Chinese treatments for mental illness: "Lacking, as she does, correct pathological science, we cannot but expect to be sumptuously regaled by China's medical authors with the grossest nonsense when we search their writings for explanations of mental disease." Vol. IV, p. 89.
- 16.) Fung Yu-lan, A History of Chinese Philosophy, Derk Bodde (trans.), 2 vols., Princeton, 1952, Vol. I, pp. 98-99.
- 17.) Ibid. p. 99.
- 18.) Alfred Forke (trans.), Lun-Heng I. Philosophical Essays of Wang Ch'ung II. Miscellaneous Essays of Wang Ch'ung, reprint of the 1907 and 1911 editions, New York, 1962, Vol. I., p. 217. See also the useful chapters on demons and related materials in Chapters 15 through 18.
- 19.) Ibid. p. 217.
- 20.) Unschuld, 1980a
- 21.) Ibid.
- 22.) Joseph Needham, Science and Civilization in China, 6 vols., planned, Cambridge, 1954- , see especially Vol. II, pp. 279-291. Hereafter cited as Needham, SCC.
- 23.) Unschuld, 1980a.
- 24.) Ibid.
- 25.) The term processing orbs is taken from a forthcoming translation by Nathan Sivin, Traditional Medicine in Contemporary China.
- 26.) Manfred Porkert, The Theoretical Foundations of Chinese Medicine: Systems of Correspondence, Cambridge, Massachusetts, 1974; see especially chapter 3.
- 27.) Unschuld, 1980.
- 28.) Unschuld, 1980a, and see especially Ulrike Unschuld, "Traditional Chinese Pharmacology: An Analysis of Its Development in the thirteenth Century," Isis 68 (1977): 224-248.
- 29.) Unschuld, 1980a.
- 30.) Nathan Sivin, "Taoism and Science," a paper presented at the Third International Conference of Taoist Studies, Unterägeri, Switzerland, 1-9 September, 1979, pp. 19-20; hereafter cited as Sivin, 1979.
- 31.) Needham, SCC, Vol. II, p. 132.

- 32.) Chow Tse-tsung, "Ancient Chinese Medicine," p. 68.
- 33.) Lionel Giles, "Wizardry in Ancient China," The Aryan Path 13 (1942): 484-89, p. 484.
- 34.) Sivin, 1979, p. 18.
- 35.) Ibid. p. 19
- 36.) Yü Ying-shih, "Life and Immortality in the Mind of Han China," Harvard Journal of Asian Studies 25 (1965): 80-122. Hereafter cited as YÜ, 1965.
- 37.) Needham, SCC, see especially Vol. II, pp. 139-154.
- 38.) H. G. Creel, The Birth of China, New York, 1937, p. 333.
- 39.) YÜ, 1965, p. 92.
- 40.) Needham, SCC, Vol. II, p. 240, from Ch. 28 of the Shih chi.
- 41.) Burton Watson (trans.), Records of the Grand Historian of China, 2 vols., New York, 1961, Vol. II., p. 69.
- 42.) Sivin, 1979, pp. 71-72.
- 43.) Ibid., p. 72.
- 44.) Ngo Van Xuyet, Divination magie et politique dans la China ancienne, (Bibliothèque de l'Ecole de Haute Etudes. Section des Sciences Religieuses, 78) Paris, 1976. See especially pp. 64-66. Hereafter cited as Ngo, 1976.
- 45.) Ibid., p. 65.
- 46.) Ibid, p. 65.
- 47.) Han shu, ch. 25B 13a, in Erh-shih-wu shih. See also Paul U. Unschuld, "The Development of Medical-Pharmaceutical Thought in China," Comparative Medicine East and West 5 (1977): 109-115, 211-231, p. 114. Hereafter cited as Unschuld, 1977. For the events surrounding this event see Michael Loewe, Crisis and Conflict in Han China 104 B.C. to A.D. 9, London, 1974; especially chapter 5, "K'uang Heng and the Reform of Religious Practices--31 B.C.", pp. 154-192.
- 48.) Han shu, ch. 12.9ab. See also Homer H. Dubs, The History of the Former Han Dynasty, 3 vols., Baltimore, 1938-1955, Vol. III, p. 84.
- 49.) Han shu , ch. 92.7b. Also compare Unschuld, 1977, p. 114.

- 50.) Han shu, ch. 30.51b. For an exhaustive study of the ancient literature for references to Shen-nung see: A.C. Graham, "The Nung-chia 'School of the Tillers' and the Origins of Peasant Utopianism in China," Bulletin of the School of Oriental and African Studies 42 (1979): 66-100. Points of interest for my study here include "As for Shen-nung, the Hsi Hsing episode in Mencius (c. 290 B.C.) is his very first appearance in Chinese literature.", p. 68; quoting from the Huai-nan-tzu book (c. 120 B.C.), "Vulgar people mostly honour the past above the present; therefore those who cultivate a Way [wei tao che] have to credit it to Shen-nung or the Yellow Emperor before it can be taken seriously."; also from the Huai-nan-tzu, we find the locus classicus for Shen-nung's connection with medicine. "In ancient times the people ate herbs and drank water, picked fruit from the trees, devoured the flesh of wasps and mole crickets; there was always much suffering from diseases and poisoning. Then Shen-nung taught the people for the first time to sow the five grains, to appraise the soil, judge between dry and humid, fertile and stony, high and low. He tested the flavours of a hundred herbs, the sweetness and bitterness of springs of water, and enabled people to know which to approach and which to shun. During this time, in a single day he would come on seventy poisons." p. 85. (Emphasis added.)
- 51.) Chang Hua, Po-wu-chih, ch. 7. lab, the Pai-pu ts'ung-shu chi-cheng, edition.
- 52.) Ibid., ch. 7.7b, the quotation is in reference to the making of amber from chicken eggs. This connection with the Pen-ching appears as the commentary of 'Wu P'u quoted in the T'ai-ping yü-lan quoted in the reconstruction of the Pen-ching by Sun Hsing-yen and Sun P'ing-i. Ssu-pu pei-yao edition, ch. 1.45b.
- 53.) Needham, SCC, Vol. V, pt. 3, p. 46.
- 54.) Shen-nung pen-ts'ao ching, hereafter cited as SNPTC, ch. 1.1a, ch. 2.1a, ch. 3.1a. The text also appears in most works which were considered to be in the mainstream of the pen-ts'ao tradition. Compare the translation in Unschuld, 1977, pp. 212-13. For a discussion of the whole pen-ts'ao tradition see: Paul U. Unschuld, Pen-ts'ao. 2000 Jahre Traditionell pharmazeutische Literatur Chinas, Munich, 1973 (which is currently being translated into English). Also for a useful survey see: Nathan Sivin, "Li Shih-chen," in Charles C. Gillispie (ed.), Dictionary of Scientific Biography, 15 vols., New York, 1970-, Vol. VIII, pp. 390-398.
- 55.) Needham, SCC, Vol. V. part 3, p. 46.
- 56.) SNPTC, ch. 1.8a.
- 57.) Ibid., ch. 1.19a. Both this drug and the previous one just mentioned are described in T'ao Hün-ching's commentary as also appearing in the

- Hsien-ching or 'The Classic of the Immortals' or maybe it simply refers to the classics of the hsien-cults. The rather unusual properties of both these drugs are also mentioned in the Hsien-ching. See T'ao Hung-ching's commentary in the Ching-shih cheng-lei ta-kuan pen-ts'ao, Tokyo, 1970 (reprint), ch. 3.27a and ch. 6.66a.
- 58.) Max Kaltenmark, Lao Tzu and Taoism, Roger Greaves (trans.), Stanford, 1969, pp. 123-26. Also see Ngo, 1976, pp. 204-205.
- 59.) de Groot, Vol. V., p. 683.
- 60.) Ma-wang-tui han-mu po-shu cheng-li hsiao-tsu, "Ma-wang-tui han-mu ch'u-t'u i'shu shih-wen," (Interpretation of the medical documents excavated from a Han tomb at Ma-wang-tui) II, Wen-wu No. 9, (1975): 35-48; Chung I-yen and Ling Jang, "Wo-kuo hsien-i fa-hsien-ti tsui-ku i-fang--Po-shu 'Wu-shih-erh-ping fang'," (The oldest drug treatise ever discovered in our country--The document on silk 'Formulas for fifty-two diseases'), Wen-wu No. 9 (1975): 49-60; Akahori Akira, "Medical Manuscripts Found in Han Tomb No. 3 at Ma-wang-tui," Sudhoffs Archiv, 63 (1979): 297-301; Yamada Keiji, "The Formation of the Huang-ti Nei-ching," Acta Asiatica 36 (1979): 67-89, hereafter cited as Yamada, 1979.
- 61.) Three articles from Wen-wu, No. 12 (1973) have been translated by Edwin J. Allen, Jr. Although some of the technical terminology does not translate well, it is still a useful source: Kansu Provincial Museum, Wu-wei Hsien Cultural Center, Kansu Province, "Report on the Excavation of a Han Tomb at Han-T'an P'o, Wu-wei Hsien," Chinese Sociology and Anthropology 8 No. 1, (1975): 33-54; Medical Historiography Department of the Chinese Medicine Research Institute, "The Importance of Han Medical Inscriptions at Wu-wei for Medical History," Ibid., 55-81; Lo Fu-i, "A Contribution Regarding the Han Medical Strips from Wu-wei," Ibid. pp. 82-90. I have used the photographic reproduction of the tablets and the modern Chinese commentary in: Kansu sheng po-wu-kuan, Wu-wei hsien wen-hua kuan, Wu-wei Han-tai i-chien, Peking, 1975; and the annotated Japanese translation of Akahori Akira, "The Han Medical Documents on Wood Discovered at Wu-wei," (in Japanese) Tōhō Gakuhō (Kyoto), 50 (1978): 75-107.
- 62.) Yamada, 1979.
- 63.) Not only are many formulas described as chin or secret but many are marked not to be transmitted. Also see below in the discussion of Shun-yü I and Pien Ch'iao.
- 64.) Joseph Needham with Lu Gwei-Djen, "Medicine and Chinese Culture," in Joseph Needham, Clerks and Craftsmen in China and the West, Cambridge, 1970, pp. 263-293, p. 266.
- 65.) Legge, Tso chuan, Vol. V, p. 580.
- 66.) Ibid., p. 580.

67.) Ibid., p. 580

68.) Ibid, p. 581

69.) Robert F. Bridgman, "La medecine dans la Chine antique," Melanges chinois et bouddhiques, 10 (1952-1955): 1-213; also see Robert F. Bridgman, "Traditional Chinese Medicine," in John Z. Bowers and Elizabeth F. Purcell (eds.), Medicine and Society in China, New York, 1974, pp. 1-21, although this summary is much less interesting.

70.) Needham with Lu, see footnote #64, p. 269.

71.) Bridgman, 1974, p. 6.

72.) Shih chi, ch. 105. 49-50. See also, Bridgman, 1952-1955, pp. 42-43; and the partial translation in Needham, SCC, Vol. V, part 3, pp.46-47.

73.) Shih chi, ch. 105

74.) Yamada, 1979, pp. 88-89.

75.) Hans Agren, "Empiricism and Speculation in Traditional East Asian Medicine," a paper presented at the First International Symposium on the Comparative History of Medicine--East and West, Susono-shi, Japan, October 22-29, 1976, p. 8.

BIBLIOGRAPHY

- Agren, Hans, "Concepts of Psychiatric Interest in Chinese Traditional Medicine," paper presented at the Fourth International Symposium on the Comparative History of Medicine--East and West, Susono-shi, Japan, October 21-27, 1979.
- Agren, Hans, "Empiricism and Speculation in Traditional East Asian Medicine," a paper presented at the First International Symposium on the Comparative History of Medicine--East and West, Susono-shi, Japan, October 22-29, 1976.
- Akahori, Akira, "Medical Manuscripts Found in Han Tomb No. 3 at Ma-wang-tui," Sudhoffs Archiv, 63 (1979): 297-301.
- Akahori, Akira, "The Han Medical Documents on Wood Discovered at Wu-wei" (in Japanese), Tōhō Gakuhō (Kyoto), 50 (1978): 75-107.
- Bridgman, Robert F., "La medecine dans la Chine antique," Melanges chinois et bouddhiques 10 (1952-1955): 1-213.
- Bridgman, Robert F., "Traditional Chinese Medicine," in John Z. Bowers and Elizabeth F. Purcell (eds.), Medicine and Society in China, New York, 1974, pp. 1-21.
- Ching-shih cheng-lei ta-kuan pen-ts'ao, Tokyo (reprint) 1970.
- Chow Tse-tsung, "The Childbirth Myth and Ancient Chinese Medicine: A study of aspects of the wu tradition," in David Roy and Tsien Tsuen-t sien (eds.), Ancient China: Studies in early civilization, Hong Kong, 1978, pp. 43-89.
- Chung I-yen and Ling Jang, "Wo-kuo hsien-i fa-hsien-ti tsui-ku i-fang--Po-shu 'Wu-shih-erh-ping fang'," (The oldest drug treatise ever discovered in our country--The document on silk 'Formulas for fifty-two diseases'), Wen-wu No. 9 (1975): 49-60.
- Creel, Herlee, G., The Birth of China, New York, 1937.
- Dubs, Homer H. (trans.), The History of the Former Han Dynasty, 3 vols., Baltimore, 1938-1955.
- Epler, Deane Chandler, Jr., The Concept of Disease in Two Third Century Medical Texts, University of Washington, Ph.D. Dissertation, 1977.
- Forke, Alfred (trans.), Lun-Heng I. Philosophical Essays of Wang Ch'ung, II. Miscellaneous Essays of Wang Ch'ung, 2 vols., reprint of 1907-1911 editions, New York, 1962.
- Fung Yu-lan, A History of Chinese Philosophy, Derk Bodde (trans.), 2 vols., Princeton, 1952.

- Giles, Lionel, "Wizardry in Ancient China," The Aryan Path 13 (1942): 484-89
- Graham, A.C., "The Nung-chia 'School of the Tillers' and the Origins of Peasant Utopianism in China," Bulletin of the School of Oriental and African Studies 42 (1979): 66-100.
- de Groot, J. J. M., The Religious System of China, 6 vols., Leyden, 1892-1910.
- Han shu, Erh-shih-wu shih edition.
- Huang-ti nei-ching, Ssu-pu pei-yao edition
- Huard, Pierre and Wong Ming, Chinese Medicine, New York, 1968.
- Kaltenmark, Max, Lao Tzu and Taoism, Roger Graves (trans.), Stanford, 1969.
- Kansu Provincial Museum and Wu-wei Hsien Cultural Center, "Report on the Excavation of a Han Tomb at Han-T'an-P'o, Wu-wei Hsien," Edwin J. Allen, Jr. (trans.), Chinese Sociology and Anthropology 8 No.1 (1975): 33-54.
- Kansu sheng po-wu-kuan, Wu-wei Hsien wen-hua kuan, Wu-wei han-tai i-chien, Peking, 1975.
- Karlgren, Bernard, "The Book of Odes," Bulletin of the Museum of Far Eastern Antiquities 16 (1944): 171-256; 17 (1945): 65-99.
- Lau, D.C. (trans.), Mencius, Baltimore, 1970.
- Lee, T'ao, "Achievements of Chinese Medicine in the Ch'in (221-207 B.C.) and Han (206 B.C.-219 A.D.)," Chinese Medical Journal 71 (1953): 380-96.
- Legge, James (trans.), The Ch'un Ts'ew with the Tso Chuen, in The Chinese Classics, 5 vols., Hong Kong, 1970, Vol. V.
- Legge, James (trans.), Li Ki [Li chi], in The Sacred Books of the East, Vols. 27 and 28, reprinted, Delhi, 1966.
- Liu Po-chi, Chung-kuo i-hsueh shih, Yang-ming-shan, Taiwan, 1974.
- Lo Fu-i, "A Contribution Regarding the Han Medical Strips from Wu-wei," Edwin J. Allen, Jr. (trans.), Chinese Sociology and Anthropology 8 No. 1 (1975): 82-90.
- Loewe, Michael, Crisis and Conflict in Han China, 104 B.C.-A.D. 9, London, 1974.

Ma-wang-tui han-mu po-shu cheng-li hsiao-tsu, "Ma-wang-tui han-mu ch'u-t'u i-chu shih-wen," (Interpretation of the medical documents excavated from a Han tomb at Ma-wang-tui), II., Wen-wu No. 9 (1975): 35-48.

Major, John S., "Research Priorities in the Study of Ch'u Religion," History of Religions 17 (1977): 226-243.

Medical Historiography Department of the Chinese Medicine Research Institute, "The Importance of Han Medical Inscriptions at Wu-wei for Medical History," Edwin J. Allen, Jr. (trans.), Chinese Sociology and Anthropology 8 No. 1, (1975): 55-81.

Na Chi, Pen'ts'ao hsueh (Pents'aology), Taichung, Taiwan, 1974.

Needham, Joseph, Science and Civilization in China, 6 vols. planned, Cambridge, 1954- .

Needham, Joseph with Lu Gwei-Djen, "Medicine and Chinese Culture," in Joseph Needham, Clerks and Craftsmen in China and the West, Cambridge, 1970, pp. 263-293.

Ngo, Van Xuyet, Divination magie et politique dans la Chine ancienne, (Bibliothèque de l'École de Haute Etudes. Section des Sciences Religieuses, 78), Paris, 1976.

Palos, Stephan, The Chinese Art of Healing, New York, 1971.

Po-wu-chih, Chang Hua, Pai-pu ts'ung'shu chi-cheng edition.

Porkert, Manfred, The Theoretical Foundations of Chinese Medicine: Systems of Correspondence, Cambridge, Massachusetts, 1974.

Robinet, Isabelle, "Metamorphosis and Deliverance From the Corpse in Taoism," History of Religions 19 (1979): 37-70.

Shang-han lun, Ssu-pu pei-yao edition.

Shen-nung pen'ts'ao ching, (reconstruction of Sun Hsing-yen and Sun P'ing-i), Ssu-pu pei-yao edition.

Shryock, John K., The Origin and Development of the State Cult of Confucius, New York, 1932.

Shi chi, Taipei, 1978.

Sivin, Nathan, "Li Shih-chen," in Charles C. Gillispie (ed.), Dictionary of Scientific Biography, 15 vols., 1970- , Vol. VIII, pp. 390-98.

- Sivin, Nathan, "Taoism and Science," a paper presented at the Third International Conference of Taoist Studies, Unterägeri (Switzerland), 1-9 September, 1979.
- Sivin, Nathan (trans.), Traditional Medicine in Contemporary China, forthcoming.
- Unschuld, Paul U., "Concepts of Disease in Ancient China: The Case of Demonological Medicine," Journal of Medicine and Philosophy, (forthcoming, 1980).
- Unschuld, Paul U., Pen-ts'ao. 2000 Jahre Traditionelle pharmazeutische Literatur Chinas, Munich, 1973.
- Unschuld, Paul U., "The Chinese Reception of Indian Medicine in the First Millennium A.D.," Bulletin of the History of Medicine 53 (1979): 329-45.
- Unschuld, Paul U., "The Chinese Ku: Conceptual Equivalent of the Evil Eye?" Journal of the American Oriental Society (forthcoming, 1980).
- Unschuld, Paul U., "The Development of Medical-Pharmaceutical Thought in China," Comparative Medicine East and West 5 (1977): 109-115; 211-231.
- Unschuld, Ulrike, "Traditional Chinese Pharmacology: An Analysis of Its Development in the Thirteenth Century," Isis 68 (1977): 224-48.
- Veith, Ilza (trans.), The Yellow Emperor's Classic of Internal Medicine, Berkeley, 1973.
- Waley, Arthur, The Nine Songs: A Study of Shamanism in Ancient China, London, 1956.
- Watson, Burton, Early Chinese Literature, New York, 1962.
- Watson, Burton (trans.), Records of the Grand Historian of China, 2 vols., New York, 1961.
- Watson, Burton (trans.), The Complete Works of Chuang Tzu, New York, 1968.
- Welch, Holmes, Taoism: The Parting of the Way, Boston, 1971.
- Yamada Keiji, "The Formation of the Huang-ti Nei-ching," Acta Asiatica 36 (1979): 67-89.
- Yü Ying-shih, "Life and Immortality in the Mind of Han China," Harvard Journal of Asian Studies 25 (1965): 80-122.