VI Epilogue: Toward a Comparative Historical Anthropology of Medical Thought

1. THE SU WEN: DOCUMENT OF A NEW STYLE OF THOUGHT

The texts collected in the Su *wen,* as heterogeneous and at times contradictory as they may be, share at least one central feature. They reflect a deliberate break with an older tradition and the genesis of an innovative style of thought that proved to be the seed of a long-lasting new tradition. Briefly, the older tradition comprised a concept of health care on the basis of the firmly established belief that human illness was caused by demons, ancestors, and "bugs"; curing, it was believed, could be achieved by placating ancestors with prayers, by warding off demons with spells and apotropaic substances, and by killing "bugs" by means of pharmaceutical drugs.[1]

In stark contrast, the new tradition that evolved from the Su *wen* refused to assign numinous agents and bugs such a role. It focused on environmental conditions, climatic agents, and behavior as causal in the emergence of disease; on the importance of laws, structures, and morale in the explanation of illness; and, in addition to dietetics, on a new technique, acupuncture, in the prevention and treatment of ailments.

The new therapy system evolved after the unification of the empire in 221 B.C. and found expression in a large pool of texts written between the second century B.C. and the first century A.D., which in turn found entrance into compilations such as the Su *wen,* the *Nan jing,* the *Ling shu,* and the *Tai* su beginning in the first century A.D. It conveyed images of the human body and theories concerning the functioning of the human organism and its various parts that went far beyond the ideas and the knowledge expressed in the Mawangdui manuscripts and other documents reflecting the status quo of the third and second centuries B.C.

Most important, the texts collected in the Su *wen* and other Han-era compilations mark the beginning of medicine in China. Chinese civilization had developed a culture of health care in prehistoric times; the period from the late Zhou to the late Han saw the emergence of medicine as a new and distinct facet of health care. Medicine in this narrow sense is the attempt to explain disease and health of man solely on the basis of natural laws. These laws guarantee a natural order independent of place, time, and human or metaphysical beings. For the first time, "nature was indeed understood as impersonal, constant, and rule-governed."[2]

The Su *wen* is of pivotal importance as a literary source in examining these dramatic developments and in asking what stimuli may have prompted them. Based on the early bibliographic history of the text,[3] we may hypothesize that most of the contents of the textus receptus (excluding the one-third added by Wang Bing in the eighth century) was written between the first century B.C. and the second century A.D. That is, while the Su *wen* itself documents a decisive turning point in ancient Chinese intellectual history, its compilation occurred long after Chinese intellectuals had begun to write down and make known to others their insights into, their opinions on, and their knowledge of the issue of human existence, in regard to both its social and its natural environment. Hence a wealth of sources are available to examine the concepts of health and illness, the groups in society ascribing to them, the worldviews adhered to by these groups, and the socioeconomic structures in existence in China before the first century B.C. and in subsequent centuries.

The contents of the Su *wen,* then, and the literary materials preceding it offer a unique opportunity to analyze the generation of a new perspective on an old human problem: how to interpret illness and how to devise strategies to avert situations perceived as threats to one's well-being or even to one's life. The emergence of the new perspective outlined in the Su *wen* was no natural event like the eruption of a volcano or the drifting apart of the continents, and it was not a purely intentional act committed by some curious naturalists either. Rather, it was a production of knowledge and values by humans acting in what could be hypothesized as an inescapable response to far-reaching changes in their environment.

Analyzing the Su *wen,* therefore, means uncovering a large number of factors that fed into the emergence of a new understanding of man and his position in his natural habitat in ancient China from the late Zhou to the late Han era. This new understanding emerged in the minds of intellectuals, and the degree to which these intellectuals were free to substantiate their perspective with abstract theories and observable data and the degree to which external, uncontrollable influences shaped their knowledge should be a matter of central interest.

The expressiveness of the human body is rather limited; except for its tangible morphological constituents, for some liquids and colors, smells and sounds, and changes of its temperature, the organism tells the observer very little if anything about its functions.[4] Much of what therapeutic systems of ideas surmise about the organism's physiological and pathological secrets is simply a projection—a projection informed not by what is inside but by what is outside the body.

Hence the image of the organism portrayed by the Su *wen* authors reflects values posited by dominant social philosophies, as well as structural elements of the administration and national economy of the newly established unified empire. One of the tasks of the historiography of medicine is to untie the close network of ideas that is formed when data expressed by the body itself are woven together in the minds of observers with notions projected from outside. In the Su *wen* medicine, the situation is complicated further in that certain aspects of the old style of thought found their way into the new style of thought, as did, perhaps, some foreign conceptual imports.

The generation of the Su *wen* medicine allows one to examine the way in which the underlying understanding of nature is "a product of human labor with the resources that local cultures make available."[5] However, as evidenced by a first survey, a conventional constructivist point of view may not suffice to grasp as complex a procedure as was the transition from one style of thought to a new one in ancient China. Constructivism, while emphasizing the "understanding of science as a human enterprise,"[6] has as yet little to offer about the factors that have guided this human enterprise, regardless of whether the history of science, the history of medicine, or the history of natural knowledge in times and regions without modern science is concerned.

In the following, I recall some of the factors that came together to shape the style of thought and the medical knowledge publicized in the Su *wen. I* do not intend to present a complete analysis of all the social, economic, structural, and philosophical factors that shaped its texts; that would require an entire monograph of its own. My aim here is simply to offer an initial hint at the significance of the Su *wen* as a noteworthy document of ancient Chinese culture. To assess this significance, it is essential to discuss social facts and worldviews present in China during the formative period of the Su *wen*

medicine to elucidate the conditions that allowed the new perspective to appear plausible. At stake, in the words of Ludwik Fleck, is "the entirety of intellectual preparedness or readiness for one particular way of seeing and acting and no other."[7] Or, as David Bloor remarked in his discussion of Wittgenstein's later philosophical work, "the final form in which a language-game is actually played can only be understood if one knows all of the factors that underlie each move. If we just look at technical problems confronting a thinker we will not understand why this rather than that is counted as a solution. If we just look at the social circumstances (conceived in a broad and superficial way), we will not discern their connection with the rest of thought. If we filter out certain patterns of relevance, and pick out only some of the contingencies that impinge on a particular piece of discourse or concept application, we will have failed in our descriptive enterprise."[8]

Although it is tempting to apply the Wittgensteinian idea of language-games to a text like the Su *wen,* the focus of this epilogue is somewhat different. The history of natural knowledge in ancient China is a remarkable setting to test some of the paradigms that have been advanced in more recent writings on the history of Western science. Before I continue, however, a word on the application of the concept of science to the history of natural knowledge in China is necessary.

“Science" may be defined as merely another word for "knowledge"; as the latter was derived from Latin *gnoscere,* the former can be traced to *scire,* both of which can be translated as "to know." In conventional usage, however, the concept of science is resorted to in order to emphasize the highest and most trustworthy form of secular knowledge; it is the type of knowledge that is considered the basis of modern Western civilization, in particular, its advances in areas such as physics, chemistry, and technology in the course of the past three centuries.

That much of the halo surrounding the concept of science has been deconstructed by modern trends in the history of science does not diminish the outstanding reverence it still enjoys—one of the reasons being that none of the relativistic attempts at explaining away the special status of science has been able to explicate why science continues to be the preferred source of knowledge when it comes to completing tasks such as implanting an artificial hip joint or constructing a bridge over a deep valley. And yet, even though science offers the one and only theoretical guideline in the advancement of medicine and technology worldwide, the borders of science remain unclear. This is true not only in regard to so many findings that are sold as results of systematic scientific research when in fact they were discovered more or less accidentally. It is also true in regard to the historical onset of "true" science. Charles Lichtenthaeler, for example, defended ancient Greek naturalistic teachings against the label "prescientific." To use such a term, he warned, implies that one has a definition of what real science is, and this, in turn, may close one's eyes to the dynamics constantly altering the shape of the scientific pursuit. "True science," Lichtenthaeler claimed, “is always in flux. Let us beware of the illusion of something final!"[9]

Pointing out the biases and limits of contemporary "scientific medicine," Lichtenthaeler saw distinguishing between periods by means of the labels “prescientific" and “scientific" as obfuscating not only the merits of the ancients as initiators of the present but also the real meaning of science.

> What is science and being scientific in the work of a physician and researcher of nature? As far as I see, science and being scientific has three preconditions—one might speak of a scientific tripod. The first is, nature and its inherent order are perceived as a really existing research subject. The second precondition is, it is further recognized that natural phenomena repeat themselves under the same conditions continuously without change. Third and finally, the human spirit must subject itself to experience to be able to grasp phenomena mentally. No scientific achievement can come about without harmony between ratio and reality, between rational thought and what is. Those working in modern times—as important as they may otherwise be—are not the first to fulfil these three mental preconditions. These fundamentally new steps, the most difficult, most characteristic, and most decisive steps of science ever, were all taken by the Greeks in classical antiquity. The ancient Greeks were no "prescientists"; they represented originality. It is with them that we see science, truly being scientific, *in statu nascendi.* We, posterity, simply continue.[10]

These are clear words. Do they apply to ancient China too? I think so. China and Europe each took its own distinct path in the transformation of science to knowledge. Although we may think of modern Western science when we speak of systematic experiments and the search for statistical evidence, paths of science unknown to Chinese physicians and naturalists before their encounter with the West, for the past two millennia, both Chinese and Western natural knowledge have rested on the tripod identified by Lichtenthaeler. It should be one of the tasks of a cross-cultural history of science to search for the specifically Chinese and European modes of cognitive dynamics.

Returning to the situation in ancient China when the contents of the Su *wen* were conceptualized, one encounters some of the issues at the core of older and more recent efforts to understand and write the history of European science. The shift by a large number of intellectuals from a conceptualization of health and illness rooted in the numinous to a theorizing in terms of natural laws[11] permits us to ask questions about man's attempts to grasp "what there really is" in the world we live in and to address the issue of whether "the entities postulated" in the ancient Chinese paradigms really exist.[12]

Aside from a purely academic interest in such questions, the introduction of certain facets of traditional Chinese medicine in the West has raised a question about the need to preserve some of the theoretical foundations of classical Chinese medicine. Are these foundations required to understand Chinese medicine and practice it successfully, or can the substances and techniques used in Chinese medicine be effectively separated from their traditional background and explained in terms of Western science without becoming useless?

In this regard, it is imperative to ask whether traditional Chinese natural knowledge or modern Western science, or both or neither of them, "give[s] us a literally true story of what the world is like" and whether they are to be accepted or rejected on the basis of positivist beliefs that one is true and the other not.[13]

For the time being, however, rather than focus attention on the divide between modern Western science and traditional Chinese natural knowledge, I focus on the divide between ancient Chinese numinous beliefs and ancient Chinese natural knowledge. Neither the belief in demons or ancestors nor the acceptance of the validity of the yin-yang and five-agents doctrines was based on

experimentation, that is, on strategies to justify these belief systems by a more systematic approach than reflection, logic, and anecdotal evidence.

A question arising at this point is whether any factors can be discerned that may have contributed to an increasing plausibility or acceptance of the one and a loss of attraction of the other. As Hilary Putnam phrased it in a very different context, "Rationality requires that if two hypotheses have all the same testable consequences, then we should not accept the one which is a priori the less plausible. Where do we get our a priori plausibility orderings? These we supply ourselves, either individually or as communities: to accept a plausibility ordering is neither 'to make a judgment of empirical fact' nor to state a theorem of deductive logic; it is to take a methodological stand. One can only say whether the demon hypothesis is 'crazy' or not if one has taken such a stand."[14]

Presumably, ancient Chinese intellectuals acted as rationally as European scientists two millennia later. When the former were faced in the second and first centuries B.C. with a choice between continuing a tradition of demonological and ancestral explanations, on the one hand, and trusting new explanatory models based on systematic correspondence, on the other, many of them opted for the latter for very much the same reasons that, in the late eighteenth and early nineteenth century, European naturalists and physicians turned their backs on what was henceforth considered speculation and began to favor scientific inquiry. Empirical evidence that the latter would result in more successful therapies than the former was not at hand. The plausibility of tying medicine to modern science and only to modern science rested on a promise of greater therapeutic efficacy that required almost another century to come true.

Plausibility and promise, then, are what lead a society or distinct groups within a society to accept new styles of thought in interpreting the health and disease of man. Where, the historiographer is asked, does the plausibility of a new style of thought originate, and what is the promise that stimulates individuals to accept a new way of confronting disease, even though the old way is "known" to be helpful while the new approach can point to little if any success for quite some time to come?

Medical and nonmedical therapy systems, historical evidence suggests, are not the outcome of purely rational reasoning; rather, they result from a subconscious combination of emotion and rationality. It is the fear of dying early or of falling ill that guides the search for and the acceptance of explanatory models and remedial action in the first place. Again and again in the history of medicine and healing in the East and West, what appears to be an inevitable imprint by the social body—real or imagined—has served and continues to serve as a model for how to safeguard the personal body. What is considered successful crisis prevention and management in society promises to be appropriate also in curing the individual of his or her ills. Contemporary natural knowledge and technology inform health care only after a primary, unintentional decision on the nature of health and disease has been made. The development of the Su *wen* medicine was no exception.

2. SOCIAL FACTS, WORLDVIEWS, AND MEDICAL IDEAS: PARALLEL STRUCTURES

Part of the elite in late Zhou, Qin, and Han China appears to have lost faith in the all-encompassing validity of numinous explanatory models. A new worldview emerged that saw human existence as

depending on natural laws of systematic correspondence that pervade the universe. What changes in their environment may have provoked these dynamics? We may hypothesize that the increasingly complex states formed in the final decades of the Warring States period and in particular the united empire beginning with the late third century B.C. required and led to new forms of government.

Both the conventional ethics guiding the dealings among the various ruling families and the traditional relationships between rulers and ruled proved inadequate in the context of political structures that were very different from the feudal past. Successful government demanded an impersonal, constant, and law-inspired foundation; an increasingly complex bureaucracy served as the necessary mediator between the interests of the sovereign and his people.

The development of social order, guaranteed by social laws and rules, then, may have stimulated intellectuals to perceive a natural order, expressed in natural laws (fa) and rules (ze). We do not know the range of political interests served by the naturalization of social law and the subsequent reinterpretation of natural law as social law. After all, naturalization immunized the notion of laws in general and of social laws in particular against possible allegations that they were man-made. The two groups whose interests were at stake were the Legalists and, in their footsteps at the end of the Zhou era and in the early Han period, the proponents of Huang-Lao philosophy.[15]

It remains a matter of speculation to what extent these dynamics in China should be seen also as distant echoes of the acknowledgment of natural laws in the eastern Mediterranean only about two centuries earlier.

From all we know of the fundamental changes in ancient Chinese intellectual history, we may conclude that the physicians who transferred the paradigms of systematic correspondence to the realm of health care, that is, to an explication of normal and abnormal states of the human organism, did not act on whim but followed a trend encompassing a wider sphere of social life. That is, something was "out there" that convinced more than just one or two individuals of the necessity for change. A large segment of society, presumably a majority of the social elite, felt compelled or at least encouraged to embark on a shift from the familiar to the unknown.

This was a turn away from the plausibility of dealings with more or less anthropomorphic cohabitants of the universe, whom humans were able to placate, chase away, or even kill in times of crisis. It was a turn to a conviction of the existence of an encompassing order, active day and night, in heaven and on earth. A major representative of this new intellectual climate was the third-century philosopher Xun zi. He stated:

> The activities of heaven follow a regularity. It is not because of [the good ruler] Yao that [this regularity] exists, and it is not because of [the bad ruler] Qie that [this regularity] is destroyed. If one responds to it by building order, then good luck results. If one responds to it by permitting disorder, then bad luck results.[16]

That is, the regularity of heaven—and we might say, natural order and natural laws—is independent of man's activities. However, it is best for man to follow these laws and not to oppose them. Peerenboom has pointed out such "foundational naturalism" as the mainstay of Huang-Lao philosophy. "The way of humans *(ren dao*) is predicated on and implicated in the normatively prior way of the natural order

(tian dao).... The laws that govern society are construed as objective laws of a predetermined natural order discoverable by humans."[17]

Man himself is responsible for his good or bad luck; he cannot expect help from "heaven." The passage of the stars, the alternating brightness of sun and moon, the succession of the four seasons, the major changes of yin and yang, and the appearance of wind and rain are a few examples of many occurrences in man's environment that persist regardless of whether man loves or dislikes them. Man has to adapt to survive.[18]

Did the adoption of the yin-yang and five-agents doctrines bring ancient Chinese naturalists closer to "knowing the structure of the world"[19] than their predecessors who explained "regularities in the observable phenomena," including the seasonally changing origins of winds in various cardinal points, by the motions or acts of spirits? At least the material evidence was on their side. Even though spirit entities such as the winds and the stars belonged to the realm of the observable, the yin-yang and five-agents doctrines could point to a vastly larger battery of factual evidence. The succession of day and night, of the seasons, of the tides, and of sun and moon, the duality of male and female, and many more observable facts may have promised a closer proximity to the real structure of the world,

But was that all that drove ancient Chinese naturalists to accept the notion of an all-pervasive "legal system" of correspondences? Or was the discovery of systematic correspondence simply the ideological smoke screen required to at the same time hide and bring to fruition a widely felt desire to take things into one's own hands rather than to share power over one's existence with demons and ancestors? The origins of such a desire, if indeed it was at the root of these profound shifts in ancient Chinese intellectual history, may be too obscure to discuss here. Nevertheless, one may note that it was Xun zi again who voiced the most fervent arguments against a belief in demons and spirits.[20]

Once the shift was initiated, many of the phenomena that had been explained by recourse to demons and ancestors before (and continued to be explained this way by some social strata for two millennia) had to be explained on the basis of the new knowledge. In some regards, fundamentally new approaches were conceptualized. Ian Hacking's proposition that "every style of reasoning introduces a great many novelties including new types of objects, evidence, sentences, laws, and possibilities" applies to the scenario in ancient China.21 For the first time in Chinese history, a systematic image of the body's interior, of the various organs and their connections both among each other and with the outside world, was discussed and verbalized. The factors identified as causing this organism to stay in good health or to fall ill, however, partly remained in familiar confines and partly entered new ground. In fact, the new medical theory of the Han era resulted from an incomplete turn to the new and the adaptation of central principles of the old style of thought to a changed conceptual environment. Hence an innovative systematic approach to health and illness, based in an acceptance of the notions of an all-pervasive systematic correspondence, was fused with an ontic approach whose justification and plausibility lay in past centuries of civil war and in the equally long-established familiarity with concepts of demonic attack as causes of illness.

Demons, we have seen, did not appear in the Su *wen* as noteworthy pathogenic agents. In fact, a most telling dialogue in the opening lines of Su wen 13 explains that times have changed and that new concepts are required to cope successfully with the ailments of today. The existence of demons is not

rejected or even questioned explicitly; the need for a shift from demonological healing to a new perspective is suggested much more elegantly.

Huang Di asked:
I have heard that,
when [the people] in antiquity treated a disease,
they simply moved the essence and changed the qi.
They were able to invoke the origin, and [any disease] came to an end.
When [the people of] nowadays treat a disease,
[they employ] toxic drugs to treat their interior, and
[they employ] needles and [pointed] stones to treat their exterior.
Some are healed; others are not healed.
Why is this so?

Qi Bo responded:
People in antiquity lived among their animals.
They moved and were active and this way they avoided the cold.
They resided in the shade and this way they avoided the summer heat.
Internally, they knew no entanglements resulting from sentimental attachments;
externally, they did not have the physical appearance of stretching toward officialdom.

In this peaceful and tranquil world,
the evil was unable to penetrate deeply.
Hence toxic drugs were unsuited to treat their interior, and
needles and [pointed] stones were unsuited to treat their exterior.
Hence it was possible to move essence and invoke the origin and [any disease] came to an end.

The people of today are different.
Anxiety and suffering affect their interior;
taxation of the physical appearance harms their exterior.
Also, the [people] have lost [the knowledge of how] to follow the four seasons,
and they oppose the requirements of cold and summer heat.

The robber wind frequently reaches [them].
The depletion evil [is present] in the morning and in the evening;
internally, it reaches to the five depots, to the bones, and to the marrow;
externally, it harms the orifices, the muscles, and the skin.
This is why minor diseases inevitably develop into serious [problems];
serious diseases inevitably result in death.

Hence, invoking the origin cannot end [a disease any longer].[22]

With regard to the European theater, A. C. Crombie has stated "the history of science has been the history of argument."[23] The same is true, as can be seen here, for the ancient Chinese history of knowledge. This short dialogue's refutation of the old style of thought's belief in human dependence on the acts of demons and ancestors is a rhetorical masterpiece. As if in anticipation of Hacking's assertion that "there simply do not exist true-or- false sentences of a given kind for us to discover the truth of, outside of the context of the appropriate style of reasoning,"[24] the existence of demons and, therefore, the rationale of any health care based on their alleged presence are not flatly denied. Rather, the new style of thought of the dependence of human health and life on an adaptation to the natural environment is employed to explain why "invoking the cause," a well-understood code word for apotropaic practices, can no longer be effective.

That is, the new style of thought is authenticated not only for the present and the future but also for the past—since time immemorial. Techniques such as "invoking the cause" are not defamed as being antagonistic to it; they are simply depicted as superfluous now that life has changed and society has become much more complex. The notion of a deterioration of the quality of life was common to all the social philosophies proposed during the late Zhou era; to tie the argument against apotropaic practices to this ubiquitously shared conviction added to its plausibility.

Moreover, the expressions *yi jing bian qi (to* move essence and to change qi) and *yi jing zhu you (to* move essence and to invoke the origin) may be interpreted as perfect links between the old and the new; the phrase *yi jing* may have been meant here to convey two different meanings.

In the first phrase yi is to be read literally. To deny the technique "to move essence and to change qi" any further legitimation rejected the validity of the cultivation of such techniques as breathing, sex, and exercise, as proposed by the *Guan zi* and subsequent works, including the Mawangdui and Zhang jiashan medical manuscripts.[25] None of these techniques found a noteworthy entrance in the Su *wen* or the other compilations of Han-era medical texts, possibly because they were too closely associated with religious, Daoism-inspired macrobiotic hygiene and immortality practices to be accepted in a therapeutic context reflecting mainly Confucian and late Zhou, early Han Huang-Lao values.[26]

In the second phrase, yi *jing zhu you,* the term yi parallels a usage of yi in the sense of "to make an offering," "to give," attested in the *Han shu* in the phrase yi *zhen,* "to confer precious items."[27] Qi Bo, however, did not speak of "precious items"; he spoke of "essence." By the time this dialogue was written, essence and qi were by no means concepts unequivocally employed in the context of natural knowledge only. As Harper has pointed out, before the fourth century B.C., "things that were pure and refined were considered 'essence', be they the offerings presented to the external spirits or the potency of the spirits themselves."[28] Beginning with the *Guan zi,* Nei ye, of possibly the fourth century B.C., physiological theories were formulated "which fused the physical and spiritual components of the human organism, and which made vapor (qi) the source of each."[29] To state that "moving/conferring essence and invoking the origin [of an illness] " is no longer helpful is to say that, under current conditions, making offerings to external spirits to invoke the spiritual- demonological cause of an illness is meaningless.

Finally, the dialogue made use of the concept of evil, *xie*. The significance of this concept was discussed earlier and need not be repeated in detail here.[30] I should like to draw attention to it once more in its function as a convenient replacement of the notion of demons while at the same time retaining and reinforcing the plausibility of the ontic approach.

The ontic approach was to stay with Chinese medical theory until the twentieth century. One of the obvious features of its terminology is the use of military metaphors. No factual evidence could be adduced to demonstrate the existence, for example, of a camp qi (*ying qi*) and of a defense qi *(wei qi)* moving in the human organism.[31] The entire ontic approach, with its notions of attack and defence, of tracing, locating, destroying, or eliminating an enemy, "the evil" that has entered the body, was stimulated by and reflects experiences with certain types of social interactions. Does it reflect the structures of the "real" world too? Enough evidence exists to affirm that it does, at least in its basic principles. After all, it is difficult to deny the causal role of bacteria, viruses, and so on, in the generation of illness and the curative effects of tracing, locating, killing, or eliminating such microorganisms in the human organism.

However, the ontic approach originated in an environment that offered to an observer little else than frequent hostility and violence among animals, humans, and human-built social structures. It was continued from its earliest expression in demonological terms to a style of thought based on natural laws expressed in the doctrines of systematic correspondence. Two thousand years later, it was embedded in a new context, modern science, when it found expression in the disciplines of bacteriology and immunology. The ontic approach, it appears, survived from an initial stage of merely socially induced plausibility to a stage in which innumerable natural phenomena lent it credibility, to a stage in which the microscope-observed and experimentally proven existence of microorganisms and additional material evidence confirm its truth.

Has the ontic theory, from its historical beginning to its presence in modern medicine, provided a "true story of what the world is like," or is man "misled" to believe in an ontic approach in the age of science as much as he was "misled" in the age of demons? To be sure, there has been sufficient hostility and violence in his environment throughout the millennia to lend it continuing plausibility. Positivists, Bas C. van Fraassen has pointed out, "hold that two theories may in fact say the same thing although in form they contradict each other. But two theories which contradict each other in such a way can 'really' be saying the same thing only if they are not literally construed."[32]

Applied to our case, this argument causes problems. Microscopic and collateral evidence of the pathogenic role of microorganisms is available beyond doubt, but there was nothing really observable when the notions of demons arose and when subsequently wind, heat, dampness, cold, and "evil" as such were identified as intruders. Are we forced to back away from a literal construing in all three stages of what may be considered a ladder of increasingly material validation, or only in the latter two? An easy way out of this predicament would be to assume that some environmental facts led people in ancient times to construct a theory that accidentally happened to be isomorph with the truth discovered thousands of years later. On the other hand, although this appears inconceivable now, new evidence may cause some future generations of naturalists to deconstruct our present notions of bacteria, viruses, and so on, and to identify them as the "demons" of twentieth-century medicine.

Both the ontic and the systematic approach are products of the human mind, stimulated as they were by a "reciprocal dialectic of nature and culture," of self-understanding and more or less well discernible environmental conditions that, in the course of time, were substantiated by ever more reliable "scientific" facts.[33] After all, what was said of the ontic approach can be said of the systematic approach too. The laws of systematic correspondence, introduced in medicine two thousand years ago, have been replaced more recently by the laws of physics and chemistry. The basic structure of the systematic approach, however, has remained unchanged. It holds that the body is governed by the same laws as the universe. The microcosm of the human organism is an integral part of the macrocosm of the world at large.

The laws of yin and yang and of the five agents serve to explain physiological and pathological processes in the human organism; at the same time they underlie the eternal interactions influencing the most distant corners of the universe. The physical and chemical laws known to be valid on the farthest stars are, conceptualized as biophysics and biochemistry, valid also in the smallest human cell or gene. Hence to oppose yin and yang or the course of the five agents is as detrimental to health as to act against the biochemical necessities of human metabolism. The systematic approach explains it all. As with the ontic approach, in which naturalists have replaced what are now considered the illusory demons with what are now considered the really existing microorganisms, in the systematic approach we have exchanged the speculative doctrines of yin-yang and of the five agents for the truth revealed by science. But because the underlying paradigm has remained unchanged, the basic principles of ancient Chinese medicine appear familiar to us. Hence a statement in the Su *wen* as fundamental as the following is immediately plausible:

> If one follows yin and yang, then life results;
> if one opposes them, then death results.[34]

The metamessage of this sentence does not confront us with anything foreign; it is the essence of the systematic approach in medicine, then and now.

These, of course, were not the concerns of naturalists in the times of the Han dynasty. Their primary task was to use the resources and the evidence at hand to reconstruct the human body and to establish a suitable theater in which the ontic and systematic paradigms could be applied. Hence the numbers of organs identified as core organs worth being assigned a position in the yin-yang and five-agents schemes were limited to six and five respectively,[35] and the association of these organs with the five agents, eventually adopted by the Su *wen* authors, followed the requirements of political legitimacy of the Later Han dynasty, rather than any factual evidence offered by the human organism.[36]

It may not be possible to trace the social, economic, political, and philosophical background of each and every aspect of the new medicine and to clearly distinguish that portion of its knowledge that was derived from an observation of factual evidence. Nevertheless, in the discussion of morphological, physiological, pathological, and therapeutic knowledge in the preceding survey of the contents of the Su *wen,* numerous examples of social, economic, and political imagery came to the surface. These included the new vision of the organism as an integrated whole whose individual parts depended on

each other and were linked to each other through a complex system of passageways facilitating the movement of blood and qi in the same way that the roads and canals in the newly unified empire enabled the exchange of goods and people.

This exchange was reflected in the notion of the circulation of blood and qi characteristic of the Su *wen.*[37] The superimposition of bureaucratic structures on the organism, discussed in detail in section V.4.6 above,[38] and the division of core organs in two groups of "depots" and "palaces"[39] are further cases of social imagery in ancient Chinese natural knowledge. No factual reality suggests that social functions should be assigned to morphological organs. No research design was available in the Han era to reach an understanding of the physiological functions of the various units forming the organism, and yet the Su *wen* authors were convinced they knew all this. The discussion of which organ should be considered "ruler" and the different "social" hierarchies assigned to curative and preventive drugs in the Su *wen* and in the *ben cao* literature are likewise examples of social conditions shaping natural knowledge.[40]

It is my hypothesis that in the Su *wen's* discussion of the nonacceptance of Mawangdui protoparasitology, we encounter an example of political reasoning influencing the perception of reality. Bugs existed in ancient China as they exist today, and they could be observed causing harm to crops then as now. I have argued that the ontic approach's denial of any pathogenic relevance of this reality, despite its acceptance of the idea of environmental agents entering the body and causing health problems there, may be tied to "correct" behavior's inability to control bugs. Bugs, like demons, but in contrast to wind, heat, cold, and dampness, cannot he kept away from the human body by simply following the laws of systematic correspondence. Hence they had no place in the Su *wen* medical theory and survived only in the indications of pharmaceutical literature, which was built on a different moral system.[41]

If Su *wen* theory's nonacceptance of protoparasitology is one instance of social ideology closing at least one of the observer's eyes, the Su *wen* tradition's neglect of the self-healing forces of an organism may be another. Several times in the Su *wen,* an author stated that a patient needed no treatment because his illness was expected to heal by itself.[42] That is, the self-healing forces of the human organism were observed. One may wonder, however, why no special attention was paid to this phenomenon.

In Hippocratic medicine, suffering, *pathos,* was also termed *ponos,* work, implying that the body displays efforts to restore a disturbed harmony among its functions. *Nouson physies ietroi,* “[the organisms'] natures are the physicians of the diseases," was the earliest expression of a conclusion reached by Hippocratic authors through the observation of innumerable cases of illness. It was phrased in the second millennium *natura sanat medicus curat (*[an organism's own] nature heals, the physician treats) and *vis naturae medicatrix* (medical force of [an organism's own] nature) and reflects the notion that the human organism reacts against a state of disease and attempts to overcome it. It is the physician's duty to support this "healing force of the organism's own nature." Excretions and secretions are the main modes of the organism's self-help; fever is instrumental in this process in that it cooks and separates from healthy agents those humors and any other matter that are to be eliminated from the body.[43]

Ancient Chinese medicine's systematic style of thought focused on the unimpeded flow of blood and qi, not on an appropriate mixture of the humors blood, phlegm, black bile, and yellow bile on which the Greeks had focused their attention. Nevertheless, ancient Chinese medical writings, too, offer some evidence that prognostic value was attributed to human excretions. In Su *wen 48,* as if loaned from a foreign conceptual background, intestinal, heart, and liver "flushes" are mentioned. These phenomena are occasionally accompanied by a loss of blood. Physicians are even required to examine blood temperature.[44]

These are rare examples in the Su *wen* of an acceptance of prognostic parameters that must have been arrived at through clinical observation of natural facts but which found only superficial entrance in the theoretical reasoning of vessel theory. They faintly echo the consideration devoted to excretions by the Greeks, and at the same time they document a major difference from Hippocratic medicine. If ancient Chinese clinicians ever asked whether an intestinal flush was causally linked to a disease ending without medical intervention, and if so why, then this was certainly not pursued any further and did not enter Su *wen* medical theory.

When the spleen vessel drums outside and is in the depth,
this is intestinal flush.
After a long time this will end by itself.

When the liver vessel is small and relaxed,
this is intestinal flush.
It is easy to cure.

When the kidney vessel is small and throbs in the depth,
this is intestinal flush with blood being passed down.
Those whose blood is warm and whose body is hot, they will die.

When in case of a heart and liver flush blood is passed down, too,
both depots have a disease alike.
This is curable.[45]

Here, as in similar contexts in the Su *wen,* the self-healing potential of the organism is stated, but it is neither explained nor conceptualized as a starting point for an appropriate therapy. The same applies to the *Shang han lun* of the early third century A.D. Excretions such as sweating, defecation, and urination figure prominently in the description of diseases.

Also, induced sweating, purging, and diuretics play a decisive role in *Shang han lun* treatments. At the same time, many diseases are said to end spontaneously. Again, as with the Su *wen,* one may wonder why this self-healing of human health problems was not conceptualized.

It is, of course, more legitimate to seek an explanation for a concept that is expressed in ancient Chinese medical literature than for one that is entirely absent, at least from the Su *wen.*[46] Still, in the

presence of so many parallels between ancient Greek and ancient Chinese medical reasoning, there may exist some justification in wondering about obvious differences. Both ancient Greek and ancient Chinese medicine emphasized prevention and early intervention. For example, the Greek physician Erasistratos (304-240 B.C.) concluded that

> it is after all better not to let people get sick than to cure their diseases; similarly, the helmsman of a ship will be more eager to reach port before encountering a storm than finally to arrive in port after being buffeted by the storm and enduring many perils.[47]

Perhaps only a little later, a Chinese author, whose text found entrance in Su *wen* 2, offered a similar perspective.

> The sages did not treat those already ill, but treated those not yet ill; they did not govern what was already in disorder, but governed what was not yet in disorder....
> Now, when drugs are employed for therapy only after a disease has become fully developed,
> when [attempts at] restoring order are initiated only after disorder has fully developed,
> this is as if a well were dug when one is thirsty,
> and as if weapons were cast when the fight is on.
> Would this not be too late too?[48]

This passage is noteworthy for at least two reasons. First, the basic message conveyed in the Su *wen,* despite variations in the metaphors emphasized, is identical to that voiced by Erasistratos. Second, though I am not aware of evidence to support this, the man at the helm of a ship may have been used in other contexts as a metaphor for the ruler of the state. If this is so, both in ancient Greece and in ancient China, the body and its functioning were likened, more or less directly, to the state and its well-being. The Su *wen* author repeated almost verbatim the following dictum by Xun zi (ca. 300-230 B.C.), who, incidentally, was a contemporary of Erasistratos.

> The true ruler begins to put [his state] in order while [a condition of] order [still prevails]; he does not wait for chaos to happen.[49]

The inclusion of the well and weapons metaphors added considerable plausibility to the Su wen exhortation to prevent rather than cure illness. The strongest appeal, however, was exerted by the juxtaposition of order and chaos, *luan*. As Ralf Moritz pointed out,

> The ideas of Confucius constitute a response to the cataclysmic disorder that went along with a structural change of ancient Chinese society. A world dissipated in which intrafamily morality was identical with the morality of the state. The levering of hierarchy was experienced as chaos. It is here where the fear of chaos set in which was to permeate the entire history of Confucianism. The Master reacted with his therapy to heal the world, a reconstruction program focusing on *fu li,* the restoration of rites.[50]

These words and the preceding quotations from Xun zi and from Su *wen* 2 tell us that at least the Confucian worldview must have seen little if any justification in a wait-and-see attitude toward both state and bodily crises. Given all the conceptual parallels between body and state, to believe in a self-healing force of the human organism would have meant to accept such a potential in human society too. This, of course, was not a notion prevailing in Confucian philosophy. Not to defend one's residence once the robbers had entered it but to strengthen the walls and keep the robbers out in the first place was the maxim to follow. Fear of chaos meant to prevent disorder or to react to its earliest signs as soon as possible.

Hence crisis prevention and immediate reaction, not complacency or even negotiations with a respected partner, were the strategies recommended to statesmen and physicians alike for managing their respective "bodies." While clinical reality was taken into account to the degree that it was acknowledged that some diseases end by themselves, the ideological environment of vessel theory medicine may have barred ancient Chinese observers from attributing to the physical or social body a nature that was able to act responsibly on its own behalf. The Confucian Legalist ruler was not prepared to take into account the movements of the social body to manage its own crises; he imposed his government.

It is the *Nan jing,* the unprecedentedly systematic Chinese classic whose origins may date to the first or second century A.D., that offers a conceptual basis for diseases ending by themselves. Rather than resort to a kitchen metaphor that sees harmful humors cooked and discarded by the nature of the body, as the ancient Hippocratic texts had it, the author of the *Nan jing* took to the five-agents doctrine to explicate why certain diseases end in death and why others require no medical intervention.

In *Nan jing* 13, a discourse on situations in which a patient's complexion and the movement in his vessels disagree, death is said to be looming if the movement in the vessels is associated with an agent capable of overcoming the agent associated with the patient's complexion. That is, if the movement in the vessels is one associated with the lungs and with metal, this could prove fatal if the complexion is associated with the liver and with wood, because usually metal is able to destroy wood. If, however, the agent associated with the complexion is the son of the agent associated with the movement in the vessels, the disease will heal by itself, because a son will receive no harm from his mother.[51]

Although we encounter an explanation here of the observable fact that some diseases end by themselves, the model offered is different from that arrived at in Hippocratic medicine. The organs, in ancient Chinese medicine, were seen as agents either hostile to each other, hence the winner-loser relationship of interagent domination, or as friendly to each other, hence the mother-son relationship of interagent generation. The physician is the observer of this theater. In some cases he joins the fight to support the weak; in others he does not have to intervene.

This relation between physician and organism parallels the relation between a wise ruler and his people. The ruler looks upon these people from above. He knows that he has to beware of social unrest, and he does not believe that once such unrest has broken out the people are able to return to peace and harmony by themselves. Hence he watches closely and acts immediately. He is aware, however, that some conflicts, such as those between mother and son, bear no danger. In such cases no intervention is necessary. Perhaps the ancient Greek view reflected another attitude, that is, one of an

organism—be it social or biological—that is often able to handle its problems itself, without immediate intervention by its rulers.

To sum up this deliberation on the status of the organism's self-healing potentials in ancient Chinese medicine, it is safe to say that the natural fact that some diseases end by themselves was observed and received conceptual attention. Differences in the political philosophy, that is, in the outlooks on the functioning and ideal governing of social systems, between the creators of Hippocratic medicine in ancient Europe and of medicine in ancient China may have led to the formation of paradigms characteristic of the two traditions. Fung Yulan included in his *Short History of Chinese Philosophy* a few paragraphs discussing the impact of maritime and continental environments on the formation of philosophies in the civilizations of ancient Greece and China.

> The Greeks lived in a maritime country and maintained their prosperity through commerce. They were primarily merchants.... Merchants are townsmen. Their activities demand that they live together in towns. Hence they have a form of social organization not based on the common interest of the family so much as on that of the town. This is the reason why the Greeks organized their society around the city state, in contrast with the Chinese social system, which may be called that of the family state, because under it that state is organized in terms of the family. In a city state the social organization is not autocratic, because among the same class of townsmen, there is no moral reason why one should be more important than, or superior to, another. But in a family state the social organization is autocratic and hierarchic, because in a family the authority of the father is naturally superior to that of the son.[52]

Since we are talking here about the formative period of Chinese medicine, the Han era, the conclusions reached by Fung Yulan may have something to them even if applied to the differences between ancient China and ancient Greece in the conceptualization of self-healing forces. If we accept the lasting influence of archaic, rural family structures on social organization and, hence, the outlook on social relations in Chinese civilization, it may well be that the singularly autocratic position of the "father," be he the biological father in a family or the emperor in the empire, contributed to a notion, shared by Confucianism, Legalism, and Huang-Lao philosophy alike, of an organism requiring guidance—strong guidance—to maintain its functions.

If we were to apply Fung Yulan's comparison to the development of ancient Greek medicine, it should be no surprise that the egalitarian tendency characterizing the elite group of merchants supported a belief in a partnership between the "physicians" innate in human nature and the physicians attending to human health. After all, ancient Greek medicine, like ancient Chinese medicine, was not formed to appeal to society in general; Hippocratic medicine and the medicine of systematic correspondence were conceptualized by and for social elites. Hence they were bound to reflect the worldviews and social organization of these elites.

3. PHILOSOPHICAL KEY TERMS IN A MEDICAL CONTEXT

So far, I have hypothesized the construction of Han-era medicine by tracing parallels in the structures of the socioeconomic environment of the late Zhou, Qin, and Han era and the emerging medicine of systematic correspondence. In the following I wish to point out further ties between Zhou-, Qin-, and Han-era social ideologies and the contents of the Su wen by examining the appearance in this text of some key terms originating in specific philosophical views. For example, in Su wen 25 we find the following statement:

> Covered by heaven, and carried by the earth,
> all the myriad beings have come to existence.
> None has a nobler position than man.
>
> Man comes to life through the qi of heaven and earth;
> he matures in accordance with the laws of the four seasons.[53]

"For the Confucian," to quote Michael Loewe, "man was the center and the measure of all things. Human beings possess certain qualities that set them apart from the other creations of nature and make them potentially the most valued living things on earth."[54] In contrast, Daoist philosophy held that "man is but one of the myriad creatures of nature, but he is bound by a built-in tendency to regard himself as master of the others. Only by escaping from this constraint, by accepting that his comprehension is subjective and delusory, and by rejecting man-made values in favor of those of dao, can a man shake himself free of his limitations."[55] It would be very difficult to fit the above passage from Su wen 25, into such Daoist thinking.

When applying labels such as Daoism, Legalism, and Confucianism, we should be careful to distinguish between an early period, the Spring and Autumn and Warring States eras when authors wrote works that could be termed Daoist, Legalist, or Confucian, on the one hand, and a later period of the Han dynasties, when the distinction between these schools was no longer such a sharp one. Also, the increased attention devoted to Huang-Lao philosophy following the recovery of several manuscripts from tomb no. 3 at Mawangdui in 1973 has shown that newly available documents may offer fresh insights in that they reveal philosophical currents meandering between the hitherto established main currents that were not previously fully recognized.

> Many eminent Confucians in Han times who had been adherents of other schools of thought were converted through the official education system. After a nominal conversion, such men tended to continue to think and act in accordance with principles found in the philosophic systems to which they had originally given allegiance, expressing these in Confucian terms. Thus, eclectic strains of thought, originating from the late Warring States period and sustained by the pragmatic attitude of the early Former Han government, continued to develop under the nominal dominance of Confucianism.[56]

In this sense, the Su wen is eclectic. Nevertheless, as some of the structural parallels pointed out above suggest, the authors who contributed to the corpus leaned more to Confucian or late Zhou, early Han Huang-Lao notions than to anything else.
Basically, the notions of disease causation and therapy in the Su wen parallel both the social structures of the united empire and the worldview supporting these structures. The bodily organism was perceived much the same as the national organism. Various individual units furfilling different functions were considered to form a complex whole. The well-being of this complex whole was thought to depend on the exchange of resources among its parts. Stability of the state was guaranteed as long as its inhabitants observed morality and laws. Punishment of those who acted against morality and laws led to bodily mutilation or even death. Stability of the body, that is, health, was guaranteed as long as the exchange between the various functional units continued and as long as the inhabitant of the body observed certain rules. This is the basic message of Su wen 1 when it states:

When essence and spirit are guarded internally,
where could a disease come from?

Disease, the reader of this rhetorical question is informed, can be avoided as long as a person's behavior serves to guard the organism's central material and nonmaterial constituents, that is, essence and spirit. The advice to follow certain rules (ze) or laws (fa) is linked to the promise of health. This is, of course, in contrast to a Daoist conviction that the material body per se cannot escape illness. A late, albeit pre-Tang commentary introduced this notion into Su wen 68:

Without physical appearance there is no suffering.[57]

Apart from this and some other isolated statements, Daoist concepts are absent almost entirely from the Su *wen.* This may be surprising at first sight considering the fact that among all the philosophical schools of the Warring States period, Daoism paid greatest attention to man's position in nature. *Wu wei,* a prominent Daoist motto, implied a request to know nature lest one risks acting against nature. Hence one might expect that a huge text such as the Su *wen,* expounding the laws of nature and their relationship to the human organism, should reflect first of all Daoist social and natural philosophy. The opposite is true. Daoism found its expression in health care traditions of its own, with the literature on materia medica documenting the social interests of Daoism most impressively. Texts like the Su *wen,* the *Ling shu,* and the *Nan jing* very much neglected pharmaceutical approaches; the treatment emphasized here is bloodletting and its sequel acupuncture, that is, therapies directed at the flow of blood and qi in the vessels linking the individual organs, or—as one might also say—function centers in the human body.
Acupuncture in particular was not meant to bring a sick organism back to harmony with nature, as the Daoists might have preferred it; it aimed at restoring a complicated system of exchanges among different centers of production and consumption. In other words, acupuncture serves to maintain a

system that runs counter to the social structures conducive to peace and harmony demanded by the Daoist worldview. As the well-known passage from the *Dao de jing* states:

> Let there be a small land with few inhabitants: even if there were inventions that would reduce the amount of labor tenfold or one-hundredfold, the people would not use them; the people would die twice before they would depart from this place. Perhaps there would be boats and wagons, but no one would travel in them; perhaps there would be weapons, but no one would practice with them. There would be no writing, except for knots in a rope; the people would be satisfied with their food, content with their clothing, happy with their shelter, and would take delight in their [simple] customs. The closest settlement might be so near that one could hear the rooster crow and the dogs bark, but the people would grow old and die without having gone there.[58]

Clearly, the situation that had arisen in China following the unification of the empire was very different from the one envisaged by the author of the *Dao de jing.* While the *Dao de jing* requested "to assist rulers by pointing out to them the Dao, rather than use the army to oppress the world,"[59] the new structure established by the rulers of Qin had been made possible only by military means. Its continuing welfare rested on ever-intensifying economic exchanges between formerly separate settlements. An ever-increasing bureaucracy required written documents rather than knots in a rope, and Confucian education recommended ancient texts as guidelines for a future moral conduct.
Given the structural parallels between Qin and Han society and the vision of the organism in the new medicine and given the transfer of terminology from the public domain to the morphology, physiology, etiology, and pathology of the human body, including the identification of the term used for healing the ills of the human body, *zhi,* with the term used for ordering or governing the state, it may not be such a surprise any longer that Daoists stayed away from this body of knowledge and concentrated on the effects of natural substances instead. Hence the arena of the vessel theory-based medicine remained an almost exclusive domain of Confucian thought and of that "sophisticated political philosophy that, on a most general level, represents a synthesis of classical Daoism and Legalism"[60] and that supported the notion of the complex empire and became known as Huang-Lao philosophy.
It is at this point that we fully understand the significance of the dialectic assignment of Huang Di to the tradition of a medicine informed by notions of a centralized state governed by a central ruler, bureaucracy, and law abidance and of the association of the mythical founder of agriculture Shen Nong (the "Divine Husbandman") with the tradition of pharmaceutical health care. In his study *Sanctioned Violence* in *Early China,* M. E. Lewis demonstrated how Shen Nong stood

> in direct opposition to the figures of the huntsman and warrior (represented by the Yellow Emperor, i.e., Huang Di). Through his miracles and creations he delivered men from the necessity of the hunt, the eating of flesh, and the drinking of blood, and he thereby made possible a human existence that required no violence whatsoever.... This mythic opposition of the creator of agriculture to sanctioned killing . . . reflects the political program of the philosophical adherents of

> the Divine Husbandman. The claim that all men should devote themselves to agriculture was an explicit rejection not only of artisanry and trade, but more importantly of any ruling elite that harvested the fruits of taxation rather than those of the fields. The rejection of any government suggests also the repudiation of the punishments and military power that ultimately enforced government authority.[61]

Any reader of the earliest Chinese works on pharmaceutics will soon realize that killing was an integral aspect of the effects attributed to drugs in the organism. The violent nature of many natural substances described in the *Shen Nong ben cao jing* of the first century A. D. seems to contradict the historical "model to condemn those who ruled through sacrifice, blood oaths, and warfare" associated with Shen Nong in the *Lü shi chun qiu.* And yet to destroy an enemy—be it a bug or a demon—within the body may have been legitimate even in the eyes of agriculturists and was not to be confused with the abhorred killing of fellow men.

When the first materia medica was compiled in the Later Han dynasty, Shen Nong may have been the only antipodean available in Chinese mythology to stand up against the symbol of Huang Di. To attribute to him the founding of the pharmaceutical tradition—a development evidenced first in the *Huai nan zi*, a work reflecting notions of natural philosophers at the court of Liu An (179-122B.C.)—and to add the name of Shen Nong to the title of the first Chinese drug compendium may have been meant to signify a general tendency in the political program of the supporters of the pharmaceutical tradition.

Shen Nong's way of health care by means of pharmaceutical substances embodied the ideals expressed in Chapter 80 of the *Dao de jing;* the Huang Di medicine symbolized the complex state and its bureaucratic hierarchies. In one of the Huang-Lao manuscripts, the text offers advice to the ruler "that he must conform his actions to the principles of Heaven and Earth.... He must conform his laws and regulations to the ever-changing principles of the cosmos.... [W]hen action is called for, he must act immediately, ruthlessly, but dispassionately."[62] It may well be that such notions guided some of the authors of the Su *wen* texts.

The passage quoted above from Su *wen* 25 refers not only to the extraordinary position occupied by man in his natural environment; it also contains a reference to *fa "law,"* a central value of the Legalist school as well as of Huang-Lao philosophy. In the eyes of philosophers and statesmen like Shang Yang (390-338 B.C.), fa meant the laws required to rule a state. Hence the most eminent of all Legalist theoreticians, Han Fei (d. 233 B.C.), defined laws together with statecraft as "the instruments of kings and emperors."[63]

The reference to *fa* in the quotation from Su *wen* 25 is rather inconspicuous. It is only in conjunction with quite a few other occurrences of the term *fa,* that is, of the concept of law or pattern, in the context of the Su *wen* that it is possible to imagine its origin here not in pure Legalist but in Huang-Lao thought.

Su wen 56, too, has a passage referring to *fa.* Six times a statement appears that is not really required in this technical medical context. Six times the author repeats the phrase *shang xia tong fa*, "the same law [applies] above and below."[64] The author's motivation to intersperse this stereotypical

four-character statement here six times is unclear. It corresponds to similar statements found in varying contexts elsewhere in the Su *wen.* For example,

zuo you tong fa

"The same law applies to the left and right"[65]

jiu xin tong fa

"The same law applies to old and new"[66]

Only a third such phrase,

yu qi tong fa

"The same law applies to the remaining qi"[67]

represents a direct link to physiology.

These statements may be considered coincidental. At first glance, and abstracted from its current medical context, "the same law applies to above and below" reads like a sociopolitical exhortation, and one is tempted to think of the Legalists' emphasis on everybody alike being subject to law enforcement. The problem is, this everybody alike includes everybody except the ruler. A statement *shang xia,* "above and below," if read as a sociopolitical metaphor, however, can refer only to the ruler and his people. This, however, was not the idea cherished by Legalism. In Chapter 5 and at the end of Chapter 6, Han Fei speaks of "eminent ministers and ordinary men", of "noble men and commoners", and of "those near the ruler and those distant to the ruler" as those of higher and lower status who are equal in front of the law; the ruler himself always stands above the law.

The six *shangxia tongfa,* "the same law applies to above and below," then make political sense only in the context of Huang-Lao philosophy. The *shang xia tong fa* statements of the Su *wen* may have been informed by notions pointed out by R. P. Peerenboom in his analysis of one of the philosophical manuscripts *(Jing fa,* "Canonical Laws") recovered from tomb no.3 at Mawangdui in 1973: "Most obviously, the ruler himself is bound by the laws. His actions are restricted. In the eyes of the law, he is to be treated like everyone else."[68] In the words of Robin D. S. Yates: "The treatises emphasize that the ruler himself must abide by the law that emanates out of the transcendent, nameless, formless Dao, which is the origin of all phenomenal things in the universe. According to Peerenboom's interpretation, the ruler is not above the law, which is the position of legalists like the philosopher Han fei zi, but rather is constrained by the law and the Dao."[69]

The following quotation is noteworthy because it is part of the introduction to Su *wen* 77. Such introductory statements are often editorial additions, preceding the purely medical contents of a discourse. The present quotation is a good example; it places the practice of medicine in a philosophical context. In contrast to the passages quoted above, here we may be sure of an intentional wording, most likely meant to convey a programmatic message. Hence it should be no coincidence if we encounter key terms associated with specific social philosophies.

The art of the sages,
it sets an example for all mankind.

Judgment and mind
must be based on laws and rules.
If one follows the classics and observes the calculations and
accordingly practices medicine with due reverence
this will be beneficial to all mankind.[70]

"Judgment," *lun cai, is* required of rulers by the Legalist Han Fei.[71] The term zhi yi, translated as "mind," was first used by the Confucian philosopher Xun zi, the teacher of Han Fei, who became the foremost Legalist thinker.[72] Fa and ze, "laws" and "rules," are mainstays of Legalism and Huang-Lao philosophy. In other words, if medicine is to be practiced in a way that relieves people of its ailments, its practitioners had better follow the same precepts that the Legalist and Huang-Lao worldview had prescribed for society. The references to the example set by the sages and the demand to follow the classics, however, have their origin in Confucian thought.

The mingling of Legalist, Huang-Lao, and Confucian concepts in the quotation from Su *wen* 77 is exemplary of the philosophical eclecticism of the Han era. One encounters it in a further editorial addition, this time not at the beginning but at the conclusion of a discourse:

If the Way is carefully observed as the law [demands],
the mandate of heaven will last long.[73]

These final lines of Su *wen* 3 do not require a medical context. Their only purpose is to emphasize that following the law is a sure way if not the only way to longevity. Such a statement may have appealed both to Legalists and to proponents of Huang-Lao philosophy. However, the reference to the heavenly mandate reflects a Confucian concept. The mandate of heaven is a key notion of Confucianism. It was central to the social doctrine of the philosopher Dong Zhongshu (179-104B.C.), and it was the subject of an essay by the historian Ban Biao (A.D. 3-54): Wang ming lun, "On the mandate given to kings." Here, Ban Biao voiced a widely held opinion that "all men, from the Son of Heaven in his nobility to the pauper in his distress, have their appointed mandate."[74]

How is this mandate to be exhausted to its full length? As the author of the final lines of Su *wen* 3 proposes, by adherence to law. Proponents of a pure Confucianism, of course, should have seen this a little differently. Proponents of a pure Daoism would not have found pleasure in this proposal at all. The final lines of Su *wen* 3 reappear at the conclusion of Su *wen* 74, in a significantly more medicalized wording—an indication that the association of Confucian and Huang-Lao maxims with the medicine of systematic correspondence was more than merely coincidental.

If the Way is carefully observed in accordance with the law,
a myriad cures are achieved in a myriad [cases] taken up.
Qi and blood will assume a proper balance and
the mandate of heaven will last long.[75]

Turning now to an examination of further occurrences of key terms and value words of Confucianism in the Su *wen,* we notice that neither the term li, signifying the rites to be observed in social relationships between social partners such as rulers and subordinates, father and son, husband and wife, nor the term *ren*, "humaneness," found use in the Su *wen. Yi,* a Confucian key value commonly translated as "righteousness" in Western literature, appears just three times.
Early Confucian texts defined yi as follows.

> Yi is that which is right to do *(Zhong yong, Doctrine of the Mean,* 5th C. B.C.)

> The exemplary man bases his conduct on yi; he practices *it* by means of the rites li *(Lun yu, Confucian Analects,* 5th C. B.C.)

> *Ren is* man's heart; yi is man's way *(Meng zi, The Writings of Mencius* ca. 300 B.C.)[76]

Xun zi, a contemporary of Meng zi, defined yi as "following the structures."[77] That is, he considered yi as "conformity with an order or a system of norms which is considered as correct, rational, or natural."[78]
Yi is not the lawful behavior resulting from a fear of being punished or from a desire to be rewarded, and it is not the behavior resulting from a Daoist attitude of wu *wei,* that is, of not counteracting the natural course of developments.[79] Yi is a conscientious behavior following moral norms; it is an attitude springing forth from humaneness in one's heart. This goodness is either inborn, as Mencius claims, or it has to be generated by education, as others had it. At any rate, the ability and intention to do what is right, that is, to conform with a system of norms, is the basis of a conduct that is appropriate, whatever the situation may be.
Given that the entire text of the Su *wen* consists of more than 88,000 characters, three occurrences of the term yi should be considered irrelevant. Nevertheless, it is not without significance to note that all three uses of the term are closely related to acupuncture. Acupuncture, as we had seen earlier, is the therapeutic technique per se associated with vessel theory, that is with attempts to manipulate the flow of blood and qi in the conduits connecting the organs or function centers in the human body. As I have argued above, this was not a health care approach closely related to Daoist principles, and this, in turn, may explain why the three appearances of a key Confucian value term such as yi in the Su *wen* are all related to the practice of needle therapy, acupuncture, the method of choice to avert the prime anathema of Confucianism: *luan,* chaos, disorder.
Confucianism, like all the other social philosophies conceptualized in ancient China, had emerged during a period of increasing social disorder. But it is not exaggerated to identify, as Moritz does, *Chaos Angst* as a foremost constitutive element of Confucian philosophy in particular. I have discussed above some of the conceptual consequences this attitude may have elicited in medical thought; in the following quotation from Su *wen 27, yi,* to do the right thing in any given situation, and *luan,* here in the sense of rebellion, that is, creating chaos, are mentioned together. The final four characters of the first sentence, *zhen bu ke fu,* "what is correct cannot be reinstated," are reminiscent of

one of the core ideals of Confucians in a world they saw on a slope of deterioration: *fu li,* "the restoring of the rites," was believed to be the most effective remedy. Obviously, in medicine the concept of li had no place; the restoring of what is correct was a most suitable conceptual bridge between political morality and medicine. In a medical context, "correct" refers to the correct, that is, regular, qi.

If one punishes where there is no transgression,
this is called a great error.
If one rebels against the grand norms,
the true [qi] cannot be restored.

If [a practitioner] treats a repletion as if it were a depletion,
if he considers evil [qi] as if it were true [qi] and
if he applies the needles disregarding what is right to do,
contrary [to his intentions] he will be a plunderer of qi
in that he removes the proper qi of [that] person.[80]

In a society built on law, great care should be taken to punish only those who have committed crimes lest the system of punishment and reward appears unreliable and loses its guiding function. Punishment, as described in this Su *wen* quotation, is not the "draconian instrument of terror of the Qin Legalists Shang Yang and Han Fei."[81] It is a reflection, in a medical context, of the insistence by Huang-Lao philosophy that "each punishment fit the crime. For punishments and rewards to miss the mark is to violate the normative order."[82]
The concept of "grand norms" could be claimed by Confucians and Legalists alike. It appears in what might be a Confucian context in a statement in the historical work *Zuo zhuan* in the definition of *li,* "rites." The *Zuo zhuan* says:

Rites *(li)* are the grand norms (da jing) of the kings.[83]

Another early source is the *Lü shi chun qiu,* a work written by an eclectic named Lü Buwei (d. 235 B.C.), who, however, is most often termed a Legalist.[84] He wrote:

If [a ruler] prefers not to encounter obstacles, he should treat scholars generously. If [a ruler] wishes not to risk his position, he should capture the masses. If [a ruler] prefers not to summon misfortune, he should be fully prepared. These three are the grand norms of the rulers of mankind.[85]

Finally, the grand historian Sima Qian, in his preface to his "Historical Records," *Shi ji* of 90 B.C., linked the term to the course of nature. He wrote:

> Now spring generates, summer grows, autumn collects, and winter stores. This is the grand norm of the Way of heaven.[86]

Returning to the passage quoted above from Su *wen* 27, at first sight the author moved from the general in the first sentence to the specific in the second, that is, from political morale to a medical theme. And yet it is difficult to read the second sentence without becoming aware of a certain philosophical background too. To mistake a state of repletion for a state of depletion is, in the present context, first of all a medical statement. To mistake evil for what is true or correct could occur both in a medical situation and in a broader political or moral context. Yi is the way to avoid such mistakes, not only in one's general conduct, but also in the practice of acupuncture. To abandon the right norms has severe consequences, as the final characters demonstrate in a succession of medical and general statements.

It may well be that the author who wrote the lines in Su *wen* 27 did not intend to reeffirm Confucian or Huang-Lao values in a medical context. Most likely he was imbued with these concepts to such a degree that when he attempted to emphasize a certain behavior in medicine as the one and only correct behavior, he could not think of any other arguments to lend plausibility to his request. However, it should also be kept in mind that philosophical texts of the time used yi sometimes in the morally neutral sense of, for example, "standard," "meaning," or "purpose."[87] In view of its use in Su *wen* 27, both moral and morally neutral meanings could apply. Perhaps such an ambiguity was intended by the author. After all, he could have used a homophone yi , "a correct behavior required in a specific situation," if he had intended to give more neutral, technical advice.

The second appearance of yi in Su *wen* 54, is the phrase *yi wu xie xia*, obviously a quote from an unknown source that was commented on by the Su *wen* author. Seen isolated, the four characters y*i wu xie xia* do not reveal any medical connection. They could translate literally as "do the right thing, do not what is evil, when lowering (something)." By commenting on the phrase *yi wu xie xia,* the author of Su *wen* 54 gave a definition of a conduct based on yi: *yu duan yi zheng ye*. In a moral context, *duan* and *zheng* are often interchangeable; the present statement might be translated as "one must strive for correctness and uprightness." Given that the quotation and the commentary appear in the Su *wen,* a medical reading is required. I interpret the verb *xia* in the quotation as "to lower a needle," to insert a needle when practicing acupuncture, and the terms *duan* and *zheng* as referring to the positioning of the needle, that is, "upright" and "proper," the latter in direct opposition to *xie,* "improper," "evil." Hence, in the translation, the full passage reads:

> As for
> "do what is right to do, do not what is evil, when lowering [the needle],"
> that is, one should [hold the needle] upright and properly.[88]

In other words, it is only the medical context that makes us read this as a medical statement. When a Chinese read these lines two thousand years ago, he may have been informed and influenced by both levels, the medical and the moral.

Similarly, the third appearance of yi in the Su *wen* combines a behavior recommended by Confucian morale with the practice of acupuncture, even though, at least at first glance, yi may have been meant here to simply convey, once again, the meaning of its homophone yi, "a correct behavior required in a specific situation":[89]

When [the moment] has come to deploy [the needle],
the interval [between decision and action] must not even [be as long] as the blinking of an eye.
The hand is moved with full concentration,
the needle shines and [its shape] is even.
The sentiments are calm and [one] concentrates on what is right to do [here].
[This way] one observes the changes as they happen.[90]

4. CONCLUSION

The question raised by Bloor in *Knowledge and Social Imagery,* what processes go into the creation of knowledge,[91] is as pertinent in the context of the development of medicine in ancient China as it is in the study of modern European science. Readers of the Su *wen* will find an abundance of morphological data gained from viewing both the exterior and the interior of the human body. Just as the ancient Chinese saw a nose and two eyes and termed them nose and eyes, they knew of the stomach, the kidneys, and the gall as separate functional units and labeled them accordingly. Consumption of food and beverages and the excretion of more or less solid and liquid refuse through upper and lower orifices were recognized, of course, as primary functions of the body; bleedings, ulcers, and headache, to name but a few, were perceived of as abnormal and unwelcome states requiring explanation and therapeutic action.

Such an explanation is the core concern of medical and other health care systems of ideas. To arrive at such an explanation in medicine relies on natural laws, but it has never been neutral science, neither in most recent times nor two millennia ago. The explanatory models proposed by medical systems are the close networks of ideas, alluded to earlier, that are formed when data expressed by the body itself are woven together in the minds of observers with notions projected from outside. In a cross-cultural perspective, there is not much freedom to list the morphological details of the body and to perceive its most essential functions. Also, as the ubiquitous appearance of the ontic and systematic approaches in medical systems suggest, there is not even much if any freedom in how to interpret disease and health. But on top of these anthropological constants colorful variations appear, reflecting the idiosyncrasies of culture, of physical and social environments, and of specific outlooks on the world as it is and as it should be.

Presumably, the social imagery, to name only three examples, in the novel interpretations of the human organism by the Su *wen* authors, in the disappearance of protoparasitology from vessel theory-based medicine, and in the emphasis on "law and order" as a guarantee of human health was not sought deliberately. Historical evidence suggests that the human mind in conceptualizing the human organism has rarely been capable of creating models independent from the conceptualization of the political

organism. In general, the perception of social crisis and the perception of bodily ills are two aspects of one and the same style of thought.

Apparently we are confronted here with a cognitive principle in medicine and health care that transcends cultural borders. This principle, if it then exists, is responsible for the phenomenon noted above that the basic styles of thought underlying Chinese medicine, that is, the ontological and systematic approaches to an understanding of health and disease, are identical to those styles of thought underlying historical European and modern Western medicine. The experiences of aggression and defense are common to all humankind. These experiences form the basis of all medicine. They are covered by a secondary conceptual layer informed by different socioeconomic realities, physical environments, and political philosophies.

Because neither Chinese nor European civilization could be called homogeneous over the past two and a half millennia in terms of worldviews progagated and existential circumstances experienced, neither of the two could be identified with one representative system of medical thought. The philosophical and socioeconomic heterogeneity of Chinese and European civilization is reflected in the heterogeneity of the conceptual layers surrounding the core ideas of its medical and health care systems. The Su *wen* is an invaluable source to validate these conclusions.

Unschuld's Footnotes (pp. 381-383)

1. For the gamut of therapeutic means of major and minor importance resorted to around 200 B.C., see Harper 1998.
2. Peerenboom 1993: 41.
3. See above, I.2.
4. I owe the term "expressiveness of the [human] body" to Kuriyama 1999.
5. Golinsky 1998: 47.
6. Ibid., x.
7. Fleck 1979: 64.
8. Bloor 1983: 110.
9. Lichtenthaeler 1989: 116.
10. Ibid.
11. For a discussion of natural laws in ancient China, see Bodde 1957, 1979; Peerenboom 1993: 81-84.
12. Van Fraassen 1980: 6 f.
13. Ibid., 8.
14. Putnam 1971: 67.
15. For a brief discussion of an association of Huang-Lao thought with the contents of the *Huang Di nei jing,* see Ma Boying 1994: 249 f.
16. *Xun Zi* chap. 17, Tian lun, Xun zi yin de, p. 62, line 1.
17. Peerenboom 1993: 4. "I argue that there is a notion of transcendence in Huang-Lao thought. That is, in the Huang-Lao system the natural order has normative priority over the human world. It is not a matter of humans fashioning the Way, but of following the Way" Ibid., 5.

18. *Xun Zi* chap. 17, Tian lun, Xun zi yin de, p. 62, line 8.

19. Van Fraassen 1980: 73.

20. See, for example, *Xun zi,* chap. 19, Li lun, *Xun zi yin de, p.* 75, line 122; chap. 21, Jie bi, *Xun zi yin de, p.* 81, line 75.

21. Cited in Hacking 1992: 1 l .

22. Su *wen* 13-82-7.

23. Hacking 1992: 3.

24. Ibid., 13.

25. Harper 1998: 78.

26. "There is little, if any, direct support for immortality practices to be found in the Huang-Lao thought of the *Boshu."* Peerenboom 1993: 257. Peerenboom 1993: 261 contends that "Huang Lao did resurface in the Han in conjunction with immortality practices and religious Daoism." It is noteworthy that the three Han compilations of first century B.C. and A.D. texts, i.e., the Su *wen,* the *Ling shu,* and the *Nan jing,* resisted any temptation to include these popular approaches to health care. The ideological positions of their authors must have been firmly established.

27. *Han shu,* chap. 87, Yang Xiong zhuan shang. *Han shu,* vol. 11, 3552.

28. Harper 1998: 119.

29. Ibid.

30. See above, V.8.3.

31. See above, V.5.3.

32. Van Fraassen 1980: 11.

33. Lewis 1990: 213.

34. Su *wen* 2-14-4.

35. See above, V.4.7.

36. See above, V.3.5.

37. See above, V.5.1, 6.5.

38. See above, V.4.6.

39. See above, V.4.7.

40. See above, V.11.1.

41. See above, V.7.1.

42. See, for example, Su *wen* 28-176-10, 48-265-1, 48-267-1.

43. Neuburger 1926: 5-8.

44. Su *wen* 48-266-1.

45. Su *wen* 48-265-5.

46. At least I am in good company when I search for an explanation of something that remained neglected in China while it was developed in Europe. Rolf Trauzettel recently published a study answering the puzzle why the Chinese, prior to modernity, never considered the shadows of persons, mountains, buildings, and so on, as possible structural elements in the composition of drawings and paintings. Trauzettel 2000. For sure, shadows were as visible to the Chinese and the Europeans as was

the self-limiting nature of some ailments. Cultural factors accounted for variations in the ways these facts were recognized.
47. Edelstein 1967: 307-308.
48. Su *wen* 2-14-5.
49. *Xun zi,* chap. 3, Bu gou. *Xun zi yin de, p.* 7, line 20. Yang Jialuo 1971:27.
50. Moritz 1998:76.
51. *Nan jing,* the Thirteenth Difficult Issue. See Unschuld 1986a: 170. See also p. 237, the Seventeenth Difficult Issue, for the remark "a cure will occur by itself without any treatment."
52. Bodde 1966: 25-26.
53. Su *wen* 25-158-2.
54. Loewe 1986a: 654.
55. Ibid, 693
56. Ibid., 770.
57. Su *wen* 68-400-4
58. *Dao de jing,* chap. 80. Trans. mod. Bauer 1976: 34.
59. *Dao de jing,* chap. 30.
60. Peerenboom 1993: 2.
61. Lewis 1990: 177-178.
62. Yates 1997:25.
63. Liao 1959: 212.
64. Su *wen* 56-289-5.
65. Su *wen* 74-537-5.
66. Su *wen* 74-454-7
67. Su *wen* 74-506-3
68. Peerenboom 1993: 101; also ibid., 76-78, in particular p.78: "significantly, *contra* Legalist thought, even the ruler must abide by the law."
69. Yates 1997:22.
70. Su *wen* 77-553-6.
71. Liao 1959:320.
72. *Xun zi,* chap. 2, Xiu shen, "If someone cultivates his will and sense of purpose, he will then look down upon riches and eminence. If he gives due weight to the Way and what is congruent with it, he will have slight regard for kings and dukes" (trans. mod. Knoblock 1988: 154). *Xun zi yin de, p.* 4, line 19.
73. Su *wen* 3-22-6.
74. Loewe 1986b: 736; de Bary et al. 1960: 193 ff.
75. Su *wen* 74-545_7
76. Moritz 1998: 84-86.
77. *Xun zi,* chap. 15, Yi bing; chap. 27 Da lüe. *Xun zi yin de, p.* 56, line 66; p. 96, line 20.
78. Tessenow 1991: 82 f.

79. In a different sense, the notion of *wu wei* was by no means absent from the original teachings of Confucius himself. In the *Confucian Analects* it is stated, "to have done nothing *(wu wei)* and yet have the state well-governed—[sage-king] Shun was the one! What did he do? He merely made himself reverent and correctly occupied his royal seat" (XV:4). De Bary et al. 1960: 35.
80. Su *wen* 27-173-5.
81. Peerenboom 1993:99.
82. Ibid.
83. *Shi san jing zhu shu,* vol.2, p. 2078 (bottom).
84. Schmidt-Glintzer 1990: 68.
85. *Lü shi chun qiu zhu zi suo yin,* sec. 20.7: Jiao zi, p. 136, line 5.
86. *Shi ji,* chap. 130, vol. 10, p. 3290.
87. In *Der Chinesische Moralbegriff "i" (The* Chinese Moral Concept of Yi), Tessenow lists several usages of yi without moral undertones. Tessenow 1991 :37 and 328, note 85.
88. Su *wen* 54-283-5. In a morally neutral reading, the passage quoted here from *Su wen* 54 could also be read as "Do not lower [the needle] with an evil intention."
89. Tessenow 1991: 100.
90. *Su wen* 25-162-7.
91. Bloor 1991: 5.