Over the last decade or so of my involvement in the traditional medicine of China, both as a practitioner and an educator, a frequently asked question from patients and students alike, focuses on the antiquity and early origins of the therapeutic technique known as acupuncture. Perhaps in the efforts to afford a greater respectability to this unique method of treating human affliction, earlier proponents of this ancient art may have invented a mythological past where incipient physicians in prehistoric Chinese societies used flint, stone, and bronze needles to administer acupuncture to ailing fellow citizens as long ago as five thousand years. Unfortunately however, there is no conclusive evidence to substantiate this claim. Extant sources suggest instead that the medical technique termed acupuncture by the Dutch physician Willem ten Rhijne in 1683, may not be much over two thousand years old. I hasten to add that this conclusion does not of course, lessen the therapeutic importance of what appears to be the most recent of the traditional Chinese healing modalities.

In this paper I propose to assess the validity of this evidence and consider the hypothesis that acupuncture evolved from notions of demonic medicine and was in turn, ante dated by the therapeutic exigencies of bloodletting. The evidence to be reviewed will take the following forms:

(1) Needles or needle-shaped instruments from archaeological sites in early China.
(2) A stone tomb relief from the Later Han Period.
(3) A purported acupuncture model from an early Han tomb.
(4) Extant literary sources.
(5) The early Han grave at Mawangdui.
The most obvious, and in some ways the most polemical of the early evidence of acupuncture, is the presence of needles or needle-shaped objects in ancient Chinese archaeological sites. Certainly the early inhabitants of China had the technology to fashion tools and weapons from natural substances such as quartzite, flint, chert, and bone some 100,000 years ago. The earliest evidence of a man-made needle was discovered during excavations carried out by Pei Wen-chung in 1933 - 1934 near the site of the present Chinese capital. The ancient limestone cave of Chou-kou-tien revealed a rich assemblage of both human and animal remains, together with layers of cultural deposits dating from the Upper Palaeolithic Age, from 100,000 to 25,000 years ago. (1)

Secondary retouching is evident in shaping scrapers and points, with bone and horn implements being common in the advanced Palaeolithic industry represented in the 'Upper Cave' at Chou-kou-tien. The bone needle was found in this section of the site, being 8.2 cm long, and representing many hours of grinding, rubbing, and polishing. The eye had been perforated by a sharp stone point. (2) The skill involved in its manufacture suggests that the artisan lived closer to the end of the Upper Palaeolithic and the beginning of the early Neolithic period at about 25,000 years ago.

However, the presence of ancient needles in early Chinese sites does not of course prove that the manufacturers had in mind acupuncture as an end goal. It merely demonstrates that the technology was present in the first place. In the case of the early bone needle, it was most certainly utilised to manufacture the tailored clothes worn by the early inhabitants of the cave during the long, cold Winter nights of northern China.

The same presence of ancient needles in the archaeological sites of Zhou China (1122 - 256 B.C.E.) has been used as early evidence of acupuncture by Lu Gwen-Djen and Joseph Needham in their monumental study of its early history. (3)

The authors have suggested that the Neolithic Chinese may have used slivers of bamboo
or sharpened pieces of bone or horn, while their successors may have employed needles of bronze or even copper and tin. (4) Certainly has Ping-Ti Ho has argued in his seminal work on the indigenous origins of early Chinese culture, an incipient stage of metalworking existed in China before the classic bronze technology of the dynastic Shang at Anyang in 1300 B.C.E. He has posited a date of 1600 B.C.E. for early bronze technology in China, a view which concurs with archaeological investigation. (5) Bronze artifacts and foundry sites have been discovered at Erh-li-kang, a walled pre-dynastic Shang settlement at Cheng-chou, capital of Honan Province. First found in 1955, the earthen walls of this early urban centre have been radiocarbon dated at 3215 B.P. This date is calibrated at 1560 B.C.E. concluding that a bronze technology was in existance on the northern plains of China some 3,600 years ago. (6) Conceivably, the early Shang had the technology to manufacture needles of bronze, but I am unable to find any evidence of such instruments in their cultural assemblages after perusal of accepted sources. (7) It is most unlikely that the Shang utilised acupuncture in their healing techniques. As Paul Unschuld has postulated (8) and I have outlined in recent papers,(9) the earliest evidence of therapeutic activity in Shang China indicates the pyromantic use of turtle shells to identify disgruntled ancestors thought to bring about human affliction. Sacrificial offering was used to dissipate ancestral curses within the the therapeutic parameters of the paradigm of ancestor medicine.

In their efforts to substantiate the existance of therapeutic needling in early China, Lu and Needham have stressed the importance of bone needles found in various tombs, both in the Neolithic period and in a Warring States (403 - 221 B.C.E.) grave at the site of Er-li-kang already mentioned. (10) There is no evidence however to suggest that their purpose was medical. As for the suggestion that bone hairpins from Shang tombs were in fact needles, this is merely conjecture. Li Chi (1896 - 1979) the pioneer
archaeologist who directed the excavations at Anyang (1928 - 1937) has classified the 388 existing hairpins into eight types, according to typological changes in shape and design. (11) It is unlikely that such an accomplished scholar and fieldworker as the late Li Chi would have made such a fundamental error in archaeological identification. In fact, the reverse could be true, with some of the bone 'needles' used in their illustrations having been originally manufactured with the intent of elaborate coiffure! (12) Bronze needles, both plain and arrow-headed, have been located in later sites, especially in the Spring and Autumn era of the Zhou period from 722 to 481 B.C.E. Their presence has been used as evidence of the use of acupuncture by the authors of the aforementioned work. (13) They have made the point that "...... the oldest extant mentions of acupuncture take us back to the middle of the Chou (sic) period, somewhat around -600. " (ie: 600 B.C.E.) (14) The appearance of acupuncture in terms of the employment of sharp needles to influence the flow of Qi in the vessels is unlikely at this early date. If the ancient instruments were indeed manufactured for medical purposes, it is quite possible that they were used, not for acupuncture, but as lancing instruments to drain pus from purulent swellings, or to induce bleeding to relieve repletion in the vessels. Both Unschuld (15) and Harper (16) have expressed concern regarding the equating of medical lancing with acupuncture, and the suggestions by Lu and Needham that early references to the former method is evidence of the latter technique.

Certainly as Shigehisa Kuriyama has recently written, early Chinese physicians did practice phlebotomy, indicating that in the early section of the Huang Di Nei Jing, bloodletting was a common therapeutic method. (17) I shall return to the medical concept of bleeding shortly, reviewing theories of its relation to acupuncture therapy. It does appear then, that the presence of needle-shaped objects in ancient Chinese tombs can not be taken as reliable indicators of the early use of acupuncture. The gold needles
discovered in 1968 in the tomb of the Han prince Liu Sheng at Man-cheng may however have been used for acupuncture as Lu and Needham suggest. They are all about three inches long, being round in cross-section, apart from one triangular needle. (18) Although the instruments are robust, therefore suggesting phlebotomy, their comparatively recent age of 113 B.C.E. may indicate their original employment in some form of incipient acupuncture. The small hole present in the far end of each shank, is however, curious. Perhaps they were used to sew together the jade scales of the body cases of the Prince and his consort. Apparently eight pounds of gold wire was used in the mortuary process. (19)

If the discovery of pointed objects in archaeological sites may not be conclusive evidence of the early appearance of acupuncture in China, what other historical indicators are available? Interestingly enough, the earliest extant pictographic evidence of the possible employment of acupuncture for medical purposes was discovered at Weishan, Shandong Province by Liu Tun-yuan in 1972. The Later Han (25 - 220 C.E.) stone tomb reliefs from Liang-chengshan depict an ornitho-android figure supposedly taking a pulse and about to perform acupuncture on a patient with dishevelled hair. The physician is purported to be Bian Que (407 - 310 B.C.E.) a leading Zhou dynasty medical literatus who is recorded as resuscitating the comatosed Prince of Guo and developing the Si Jian, or the Four Methods of Examination. The bird-like figure resembles the gandharvas or human-headed birds of Vedic India who were traditionally regarded as skilled physicians. Lu and Needham have suggested they may represent an early cultural interchange between the two countries. (20) Alternatively, as Paul Unschuld has advocated, if the physician is indeed Bian Que, the semi-legendary healer of early Chinese medicine, it could relate to the fact that he belonged to a group of shaman-like practitioners who operated on a peripatetic basis in East China at that time, often dressed as birds. (21) It is tempting, as Lu and Needham have suggested, to assume that the bird-like figure on
the left in the third relief is holding in the left hand an acupuncture needle poised for insertion. (22) Just as conceivably, the instrument could have been intended for drawing blood. The stone relief is still not conclusive evidence of the use of acupuncture in China as early as the Third Century before the modern era.

Early acupuncture models may also provide interesting evidence of the presence of acupuncture in pre-Han (202 B.C.E. - 220 C.E.) China. The earliest extant manufactured acupuncture model is comparatively recent, being from the Northern Song Dynasty and dated at 1027 C.E. The medical official Wang Weiyi was instructed in 1026 to supervise the construction of a life-size figure cast in bronze to represent the conduits and insertion points for teaching purposes. (23) More recently, Chinese archaeologists carrying out excavations in Sichuan Province in March, 1993 discovered a small lacquered, carved wooden figurine of the human body. Unearthed from Tomb Number 2 at Mianyang, the 28cm high manikin depicts what appears to be channels. The well preserved model, apart from a missing left hand and right foot, has been dated to the Second Century B.C.E. (24) However, as Paul Unschuld has pointed out, the lines painted on the surface of the model bear no affinity with the modern conduits of acupuncture theory, and no loci points for needling are represented. Further more, because the pathways are painted in red, he has proposed that the painted lines represent conduits from which blood may be removed, rather than channels for acupuncture needle insertion. (25)

Lu and Needham have also made reference to early extant Chinese literature in their efforts to confirm the use of acupuncture as long ago as the middle Zhou period. They quote as evidence an incident in the Tso-chuan, an historical work which records events in the Zhou era. In a passage dated at 580 B.C.E., some four centuries before the appearance of the Huang Di Nei Jing, a physician by the name of Huan is requested to treat the gravely ill Prince of Chin. The disease had apparently settled between the heart
and diaphragm, and in their version of the medical event, the physician is recorded as saying ".......No ( needle ) can penetrate to it, no drug can reach it. There is nothing to be done. " (26) According to Paul Unschuld, the translation should read as "....It cannot be attacked, and it cannot be reached, because drugs will not get there! " (27) It appears that the original version made reference only to herbal medicine, the inclusion of the word needle being an interpolation based on conjecture. (28) It does appear then, that there is no extant literary material to substantiate the pre-Han use of acupuncture. Instead, the earliest reference to its existence features in an historical work published in 90 B.C.E. The eminent Chinese historian and chronicler of great events, Sima Qian (145 - 87 B.C.E.) makes an indirect reference to acupuncture therapy in Chapter 105 of his Shiji or Records of the Grand Historian, published three years before his death in 87 B.C.E. In the classic, he describes a physician by the name of Chunyu Yi (216 - 150 B.C.E.) who defends the charges of malpractice brought against him by describing the therapeutic efficacy of acupuncture, a technique apparently unfamiliar to his accusers. During the two trials, one in 167 B.C.E. followed by a second in 154 B.C.E., Chunyu Yi explained how the technique could be used to descend perverted Qi, raise fallen Qi, and effect evil influences which had entered the body. (29) The evidence he used to vindicate his medical reputation were his patient records, submitted before the Han court at Xian, and consisting of some 25 case studies, together with the personal history of his own medical education. His practice was in Qi (modern Shandong Province) and he named his teacher as Yang Qing, who transmitted the medical knowledge to him in 180 B.C.E. (30) It is uncertain if this intellectual interchange included instruction in the technique of acupuncture. This means that if the records and dates are accurate, Sima Qian was recording historical events slightly before his own lifetime and was embarking on a career commensurate
with his own family history. His father, Sima Tau, was an astrologer - archivist at the Former Han imperial court, a position Sima Qian inherited in 110 B.C.E. It is also evidence that acupuncture, although evidently not in common usage, was being used by some physicians to treat their patients slightly before 167 B.C.E. That is, of course, assuming that the trial for medical malpractice antedated the event by only a few years. The very fact that Chunyu Yi was summoned to appear before the medical judiciary to explain his actions does suggest that the therapeutic technique of acupuncture may have not been widely used in the early years of the Former Han. I think we have no reason to doubt the accuracy of the contents of Chapter 105, Patricia Ebrey writing recently: "Sima Qian was also a serious student of history who carefully mined court documents and attempted to separate his opinions from what he took as the facts." (31)

Perhaps however, the evidence from recently excavated Han tombs provide the most accurate chronology, interestingly enough, by the exclusion, rather than the inclusion, of reference to acupuncture therapy in the extant medical records unearthed. Archaeological endeavours carried out in the November and December of 1973, revealed a rich cache of medical literature which predated both the Shiji and the Neijing. Located in the northeastern section of the city of Chengsha, Hunan Province, Tomb Number 3 at Mawangdui (MWD) was shown to contain the final resting place of the son of Li Chang, Lord of Dai and Chancellor of the Kingdom of Chengsha. The wooden burial chamber, situated at the bottom of an eighteen metre pit, was sealed in 168 B.C.E. and had not been tampered with since. (32) The important extant medical manuscripts in the tomb recorded a broad range of therapeutic techniques and concepts, including moxa-cauterization, massage, cupping, gymnastics diet-therapy, and the use of pointed stones for opening purulent sores. The grave also contains the oldest extant text on Chinese herbal
medicine, being the *Wu shih-er bing fang*, or the Prescriptions Against Fifty-Two Illnesses. This important historical record cites the application of some 247 drugs, of which about 10% are based on concepts of demonic medicine. (33) The use of acupuncture however, is not mentioned. It can only be assumed, as Paul Unschuld has suggested, that the technique was unknown to the mourners who placed the medical literature in the grave with the body of their departed royal kinsman. (34) Presumably it was also unknown to the occupant who was evidently an avid bibliophile, as the tomb also contained an extensive collection of works pertaining to a number of specialist fields of enquiry, including philosophy, divination, calendrics, and astrology. (35)

So what chronological parameters exist to confirm the appearance of acupuncture as a medical technique? We have the earliest reference to its existance in the medical records of Chunyu Yi as recorded in Chapter 105 of Sima Qian's *Shiji*. As for the medical literature from Han Tomb Number 3 at MWD, their hermeneutics and dating do pose some technical problems. A wooden tablet placed in the grave indicates that it was sealed in 168 B.C.E., while examination of the skeletal remains of the body contained ascertain that it was about thirty years old at the time of death. (36) Obviously the manuscripts were written before the burial, and Donald Harper has suggested that the analysis of the script indicates that they were recorded some forty years before they appeared as grave goods in the Han tomb. (37) This means that they originate from about 200 B.C.E., suggesting that acupuncture was developed after this date.

This historical chronology concurs with the evidence recorded by Sima Qian in the trial of Chunyu Yi who was evidently using acupuncture as a medical technique slightly before 167 B.C.E. and the lack of its mention in the textual evidence from the Han tombs which were recorded some time before 200 B.C.E. In his seminal work on the historical development of the traditional medicine of China, Paul Unschuld has expressed an opinion commensurate with this date, writing that "......in the Second
Century B.C. acupuncture was adopted, supplementing moxa-cauterization as the dominant conceptually integrated therapeutic technique of the medicine of systematic correspondence. " (38)

Historical literary evidence seems to suggest then, that the technique of acupuncture first appeared in China in the early years of the Second Century before the modern era. But what were its therapeutic antecedents and its epistemological precursors? Perhaps the literary evidence from MWD may suggest historical pointers. Although acupuncture is not mentioned in the medical manuscripts, there are references to cauterization (burning with a hot iron, or fire as a curative process) and piercing with a lancing-stone or bian.

In his recent lucid translation of these important medical records, Donald Harper has pointed out that in one of the manuscripts (MSI.C.) the physician is directed to "....cut open the vessels at the elbow and knee with a lancing-stone to release the vapor." (39)

The same manuscript recounts techniques for lancing abscesses and other purulent swellings to drain pus. (40) In fact, extant pre-Han literary records make reference to three medical techniques which antedate the acupuncture therapy encapsulated in the later sections of the Huang Di Nei Jing Su Wen soon after the Second Century before the current era.

These three therapeutic procedures, being cauterization, lancing, and bloodletting have all been purported by various historians of Chinese medicine as being the possible antecedents of needling to rectify Qi and Blood in the vessels. However, as to which of these medical techniques was more pivotal in the subsequent development of acupuncture has been the subject of much academic debate.

Both cauterization and lancing feature as therapeutic procedures in the medical literature from MWD (MSI.E.), the former being one of five forms of heat therapy. (41)
Descriptions of its medical usage include the use of an ignited cord to remove a wart, and the application of a cigarette wrapper made of moxa (*Folium Artemisiae*) leaves to treat an inguinal swelling by cauterization of the patient's crown at the locus *Baihui* (Du 20). This of course, raises the issue of possible pre-Han knowledge of acupunc-
ture points, but the same location was used to cauterize with field thistle (probably *Xiaoji, Herba Cirsii*) to treat a lizard bite. (42)

The other forms of heat therapy described in the textual evidence from Han Tomb No 3 are roasting, or the application of medical substances to the affected sections of the body before heating with fire; hot-pressing, fumigation, and balneotherapy, which is the immersion of the whole body in hot medicinal baths. (43) Unlike acupuncture however, none of these procedures, cauterization included, are dependent upon a notion of conduits. However, as Yamada Keiji has advocated, the earlier technique of cauterization may have contributed to the elaboration of vessel theory in the first place. (44)

He has also argued that both acupuncture and acupuncture points were preceded by vessel theory, rather than the reverse as is often commonly postulated. (45) In pre-Han China, cauterization was applied externally to influence the condition of the vapour in the vessels, successful treatment confirming their correct location and continued elabor-
ation. (46) In his interpretation of the origins of acupuncture, Yamada has posited that this therapeutic technique began as a science of vessels, not of points, with the former antedating the latter. Acupuncture itself, he has postulated, evolving from the procedure of moxa-cauterization. (47) This view does correlate with the textual evidence from the early Han tombs, as the treatises mention cauterization of the vessels, but not needling. These vessels, although described as only eleven and not the twelve *jingmai* of the *Su Wen*, appear to be the conceptual antecedents of the conduits of classical acupuncture.

However, although the medical literature from the Mawangdui graves confirm that
cauterization was the earlier therapeutic technique associated with vessel theory pathology. Yamada's thesis that the curative application of heat was later substituted for pricking with iron needles, does not explain how the concept of Qi flow in the channels arose in the first place. He has speculated that physicians began using needle therapy by the late Third to Second Century B.C.E., so that by the time of the *Huang Di Nei Jing*, cauterization had been supplanted by the newer technique of acupuncture. (48) This therapeutic transition involved however, not only a paradigmatic shift which indicated an understanding of vessel theory, but it also depended upon a metallurgical technology which could result in the manufacture of needling instruments from finely extruded metal. It is unlikely that the robust and crudely produced pre-Han lancing stones, which Yamada has suggested provided the model for the more recent needling instruments, could have been used to finely adjust Qi and Blood flow in the conduits. (49)

Donald Harper has recently pointed out that the gold needles from the tomb of Liu Sheng (King of Zhongshan from 154 to 113 B.C.E.) may be evidence that Chunyu Yi was pricking patients with metal needles before his first trial for medical malpractice in 167 B.C.E. (50) However, as I have already mentioned, these needles are hardly delicate instruments, and they may instead have been used to phlebotomise the vessels. Although the trials of Chunyu Yi as recorded in the *Shiji* are the earliest extant literary evidence of reference to needling the vessels, it should be pointed out that only two of his treatments refer to acupuncture, while another two cases mention cauterization and fourteen describe the employment of herbal substances. (51) Again, this appears to be further evidence that the use of acupuncture was not universal in China at this time. Lu and Needham have gone to great lengths in their exposition on metal-working in early China, concluding that ".....by the time of the older part of the *Huang Di Nei Jing*,"
needles of wrought iron and mild steel were readily available to the physicians for their acupuncture." (52) While their argument for the necessary technological expertise is convincing, they have not however, addressed the pertinent issues of the therapeutic antecedents and epistemological precursors of acupuncture therapy. I tend to feel that while moxa-cauterization may have resulted in the elaboration of vessel theory as Yamada has purported, the fact that this procedure antedated needle therapy does not necessarily lead to the conclusion that it was its direct and singular therapeutic precursor. I suggest instead that the medical legacy of cauterization as evidenced in the literary records from Mawangdui, is not the needling of points on the channels to adjust their contents, but the therapeutic procedure of moxibustion which is still an integral modality of Chinese medicine today. As a therapy, cauterization seems closer in its medical administration to moxibustion, rather than the actual puncturing of sections of the skin with either lancing-stones or sharp needles. In this respect I concur with the theories of Epler (53) and Kuriyama (54) who have both posited the relevance of lancing and bleeding in the evolution of acupuncture.

Certainly the omission of the role of phlebotomy in Yamada's thesis seems to be an anomaly. As a medical technique, acupuncture is more conceptually commensurate with these incipient surgical procedures, rather than the application of heat therapy in its various forms as described in the manuscripts from the early Han tombs. The fact that the first acupuncture needles were similar in construction to the earlier lancing stones, and were used both for opening abscesses to drain pus and, in the first treatises of the *Su Wen*, to induce bleeding, seems to suggest that these two medical exigencies were more likely to be therapeutic predecessors rather than cauterization. While the textual evidence from the early Han tombs makes no reference to the therapeutic procedure of acupuncture, lancing with a *bian* or bladed stone is mentioned in the
script MSI.C. These pointed stones were evidently used primarily to treat boils and ulcers by draining pus. As Donald Harper has pointed out, this procedure was apparently an extreme measure and not really the therapy of choice. (55) Yamada has purported that the early 'needles' from archaeological sites were pointed stones and bronze scalpels designed to puncture abscesses and they are therefore quite distinct from the later, much finer instruments designed to influence the contents of the vessels. (56) With regards to the role of lancing in the evolution of needling vessels, Paul Unschuld has recently concluded that it is unlikely that the relatively modern technique of acupuncture arose in a monolinear sequence from primitive petty surgery involved in draining purulent sores. (57) However, the technique may represent an early conceptual precursor, having its origins in notions of demonological intrusion, and providing stimulus for needling to influence Qi and Blood in the conduits.

While medical lancing may in fact have provided a degree of intellectual and physiological impetus for the therapeutic needling of the vessels, I tend to regard the procedure of bloodletting as being a more likely antecedent. This theory has been expounded most convincingly by Dean Epler in his pathbreaking exposition on the origins of acupuncture in an earlier publication in the Bulletin of the History of Medicine. Drawing heavily on the early chapters of the Huang Di Nei Jing Su Wen, he has written that ".......the passages in the Plain Questions on bloodletting are explicit: the practitioner is instructed to stick a needle in a given site so that blood flows out." (58) In his paper, he traces what he purports to be the sequential development of the employment of needles from the earlier technique of drawing blood, to the later procedure of needling the vessels to influence their contents. This involved, over a passage of time, a transition from the principal purpose of needling to effect the removal of blood, to focus in a therapeutic sense, on the pneuma or Qi, to effect a balance of the two substances in the channels (59) The only weakness in his hypothesis, as Donald Harper
has alluded to, is the apparent paucity of extant literary references to the therapy of bloodletting prior to the *Su Wen.* (60) He has raised a valid point, I feel, when questioning the conjecture of Miyashita Saburo, who in 1959, proposed the existence of phlebotomy in the Shang Dynasty, based on oracle bone inscriptions. (61) This opinion has been used by Epler as evidence of the antiquity of bloodletting. As Harper has pointed out however, Miyashita's interpretation of the oracular evidence as pertaining to the letting of blood remains unvalidated. (62)

It is unlikely, given the principal Shang conception of ancestor medicine, for either phlebotomy or venesection to have been a dominant medical intervention at this early stage. I do, however, concur with Miyashita's suggestion that the use of stone or flint needles for bleeding, had in their origins, notions of the extirpation of malevolent spirits thought to be the cause of human affliction. (63) As we will see later, when the epistemological precursors of acupuncture are considered, this was more likely to have occurred in late Zhou China, rather than in the era of the dynastic Shang.

Miyashita, in his thesis, has also made references to similar practices of venesection evident in other historical settings. This involved not only the contemporaries of the pre-Han Chinese, but also featured in Western medical historiography. The procedure does seem to reflect a degree of therapeutic universality. This commonality, as Kuriyama has postulated, may be rooted to some extent, in the ubiquitous nature of human physiology. (64) As such, phlebotomy was widely subscribed to by leading physicians both in the United Kingdom and in the United States of America, at least up until the middle of the Nineteenth Century. (65)

Lester King, writing on the bloodletting controversy prominent in Scottish medical circles during the 1850's, has noted that up until that time, "...blood-letting was the main-stay of the so-called antiphlogistic regime, the chief remedy against inflammation and certain types of fever." (66) Leading physicians of the day, including James Wardrop were in accordance with this procedure, writing in the prestigious medical
journal *Lancet* in 1833, that bloodletting should be recommended in cases of inflammation, when the disease was in the early stages and the symptoms were not fully developed. (67) His medical contemporaries on the other side of the Atlantic also advocated the bleeding of their patients. In his *Lectures on Blood-letting*, published in 1839, the Philadelphian physician Henry Clutterbuck was to succinctly record that with regards to the procedure of phlebotomy, the "....good effects, when properly administered, are, in most cases, so immediate and striking as not to be mistaken." (68)

In the 1849 edition of the medical textbook *Practice of Medicine*, John Eberle was to record that "....the first and most important remedial measure in the treatment of acute peritonitis is blood-letting." (69)

This same therapeutic enthusiasm for the exsanguination of the sick is apparent in the contemporaries of the early Chinese, with the Greek physician Galen of Pergamon (c 130 - 201 C.E.) prescribing phlebotomy for such ailments as gout, epilepsy, pleurisy, dizziness, and even melancholy. (70) Although his illustrious medical predecessor Hippocrates of Cos (c 460 - 375 B.C.E.) could hardly be considered a disciple of venesection, his *Corpus* does contain some seventy references to bloodletting, even although they are relatively short treatises. (71) It does appear however, that Hippocrates may have initiated the procedure, possibly at about the same time as its therapeutic employment in pre-Han China.

The incorporation of this technique into the early Chinese healing modalities has raised a number of contentious issues, especially with regards to its role in the origins of acupuncture. As Donald Harper has recently pointed out, the manuscripts from the tombs at the early Han site at Mawangdui contain no reference to the letting of blood. He has even suggested that the technique may have been developed simultaneously with the procedure of acupuncture as physicians began to needle the vessels. (72) While it is true, as Harper has asserted, that literature from the Han graves make no mention of
phlebotomy, as Kuriyama has recently pointed out, Yamada's thesis on the employment of bladed stones and bronze scalpels to both puncture boils and release blood, indicate that venesection was a common procedure before the tombs were sealed in 168 B.C.E. (73) Kuriyama, in fact has argued that in antiquity, both Chinese and early Greek healers phlebotomised their patients. (74) In his illuminating recent study of the divergence of Greek and Chinese medicine, he makes the point that in contrast to the physicians of ancient Greece who, especially under the influence of Galen, continued to expand the practice, in China it fell into decline in the early Imperial era. (75) Consequently in the early treatises of the *Su Wen*, there are frequent references to the letting of blood. As Dean Epler has pointed out, of the total of 81 chapters, about one third are Tang dynasty (618 - 907 C.E.) interpolations, while the remaining sixty or so passages were composed by an unknown number of authors at different historical periods, probably from the Third to the First Century before the modern era. (76) These earlier original treatises make frequent reference to bleeding, with Chapter 36 for instance advising that in the treatment of malaria, "one should puncture the artery on the surface of the foot and perform blood-letting." (77) In cases of back pain, *Su Wen* 41 recommends needling the vessels in the popliteal fossa, until the blood turns from purple to bright red. (78) Maruyama Masao has even suggested that bleeding is the main form of therapy described in the *Su Wen*. (79) However, by the late Han period, the popularity of bloodletting had declined, so that the canonical classic the *Nanjing*, compiled in the First and Second Centuries of the current era, makes no reference to the procedure.

There appears to exist then, a commonality of therapeutic technique between phlebotomy and acupuncture. Topological bleeding in early China, and the insertion of fine needles to adjust the contents of the vessels, are kindred medical techniques, positing, as Kuriyama has suggested, often similar or even identical connections between local sites
Notes

(4) Gwei-Djen and Needham, 69.
(10) Gwei and Needham, 73.
(12) See the illustrations on p72 especially.
(13) Gwei and Needham, 69.
(14) ibid, 69
(18) Gwei and Needham, 74.
(19) ibid, 74.
(20) ibid, 87.
(22) Gwei and Needham, 85.
(26) Gwei and Needham, 78.
(27) Unschuld, 1985, 373.
(28) Ibid, 374.
(29) Ibid, 92-93.
(30) ibid, 92-93.
(33) Unschuld, 1985, 38.
(34) Ibid, 94.
(36) Ibid, 4.
(38) Unschuld, 1985, 97.
(40) Ibid,
(41) Ibid, 95.
(42) Harper, op.cit., 95
(43) Ibid, 95.
(44) Ibid, 92
(45) Kuriyama, *Bloodletting*, op cit.,
(46) Harper, 92
(47) See Kuriyama, 22-23
(48) Harper, 92
(49) Ibid, 93
(50) Ibid, 92
(51) Ibid, 94
(52) Liu and Needham, 76
(55) Harper, 94
(56) Kuriyama, 22
(57) Unschuld, 1985, 95
(58) Epler, op cit., 1980, 350
(59) Ibid, 356
(60) Harper, 94
(61) Ibid, 94
(62) Ibid, 94
(63) See Epler, 349
(64) Kuriyama, 24
of treatment and remote sites of pain. ( 80 ) One such example is the phlebotomising of
the popliteal vein to relieve back pain with venesection, and needling the locus Weizhong
( BL 40 ) to achieve the same therapeutic effect. Hippocratic topological bleeding also
posited this same connection, while bleeding the right elbow for liver pain and taking
blood from the left elbow for disorders of the spleen. ( 81 ) However, while phlebotomy
was to become the cornerstone of Galenic humoralism and influence Western medical
techniques up until the middle of the Nineteenth Century, by the time of the death of the
physician from Pergamon in 201 C.E., acupuncture had become the dominant somatic
therapy of the traditional medicine of China.

The reason for this therapeutic transition is unclear, although a number of interesting
theories have been purported. Maruyama Masao has argued for example, that unlike
the Western focus on the superficial veins in topological bleeding, the early Chinese
physicians often concentrated on sites located on major arteries. Certainly the instruct-
ions were often explicit, with the early chapters of the Su Wen advising the practitioner
to stick a needle in a given site so the blood flows out freely. ( 82 ) Masao has proposed
that misuse of this therapy may have been draconian on occasions, eventually resulting
in the abandonment of phlebotomy. I concur with Kuriyama however, who regards this
speculation as being rather unconvincing. ( 83 )

More recently, Dean Epler has suggested that the transition from letting blood to the
therapeutic focus on needling to rectify Qi in the vessels was accompanied by a corres-
ponding increase in the emphasis on cosmological influences pertinent in the early years
of the Later Han. ( 84 ) The cosmological imperatives of the system of correspondences
and the theory of the Five Phases, inchoate in the four or five centuries leading up to the
unification of the Chinese empire and the emergence of Han dynastic imperialism,
meant that there was an absence of the necessary epistemological requirements for
acupuncture to emerge in a therapeutic sense in the first place. (84) There is certainly a degree of validity in this explanation, although as I have advocated in a recent paper, the philosophical antecedents of the doctrine of Yin / Yang and the theory of the Five Phases may be traced back in time to both Shang and Zhou China, and in the Han era what takes places is a crystallisation of earlier intellectual notions. (85) He is correct however, as Yamada has posited, in arguing that the emergence of the technique of acupuncture depended upon a sophisticated knowledge of vessel theory. His explanation is still not sufficient to explain the transition from bleeding to needling.

Perhaps the most original and innovative explanation for the transition from phlebotomy to acupuncture in the early decades of the Former Han is the recent thesis of Shigehisa Kuriyama, who has contrasted two contemporary societies who both, in earlier times, used venesection to cure the sick. (86) As he has pointed out, although the early Greeks recognised the deleterious effects of depletion, the therapeutic preoccupation of physicians such as Galen was with *plethora*. The general conception was that stagnant plethoric excess could become putrid, thereby generating fevers. (87) Phlebotomy was a therapeutic necessity to forestall inflammation. Believing that inflammation arose from the flux of blood, Galen subscribed to the prophylactic benefits of both menstruation and epistaxis, thereby reflecting the medical viewpoint of his precursor Hippocrates of Cos. (88)

While the Han Chinese medical literati also acknowledged the pernicious influences of a surfeit of exogenous pathogenic factor or *Shi*, they placed equal emphasis on the concept of *Xu* or depletion of endogenous vital energy. Repletion in early Chinese medical epistemology always presupposed the complement of vacuity. Chapter 28 of the *Su Wen* encapsulates this conception by describing *Shi* as an ascendency of heteropathic influences (*xieqi*) and *Xu* as a depletion of essential breaths (*jingqi*).
This dichotomy of superfluity and paucity inherent in the medical epistemology of the Han Chinese, contributed, as Kuriyama has argued convincingly, to a divergence of therapeutic techniques in Greek and Chinese medicine. While phlebotomy was to remain the *sine qua non* of Galenic medicine, in the early decades of Imperial China it was to be supplanted by the medical procedure of acupuncture. Letting blood, it was to be realised, may reduce fullness in the vessels, but it could not, in a Chinese medical sense, ever tonify hypofunction. As Kuriyama has advocated, "implicit in the split of bloodletting and acupuncture, then, was the divide between fears of corruption and and fears of dissipation." (89)

In contrast to the Greek physicians, the Han Chinese medical experts could never see the curative effects of either hemorrhoids or nosebleeds. Hence, as Kuriyama has also posited, the demise of venesection related to an emergence of somatic integrity which pursued the conservation of vitality with equal therapeutic enthusiasm as the dissipation of pathogenic factors. Hence, whereas phlebotomy concentrated on repletion, it became apparent in the early decades of the Former Han, that needling was not only able to disperse excess, but it was also efficacious in supplementing deficiency.

Archaeological and extant textual evidence seems to suggest then, that the therapeutic procedure of acupuncture first appeared in China in the early decades of the Second Century of the modern era. As I have also indicated, it appears to have originated from the medical exigencies of letting blood. But if this indeed represented its therapeutic antecedents, what were its epistemological precursors? I think to provide answers it is necessary to consider the influence of demonic medicine in the Warring States era. As I have suggested in earlier papers, the socio-economic dislocation and internecine warfare engendered by the collapse of central authority in the latter centuries of the Zhou Period contributed towards a certain disquiet in early pre-Han Chinese society.
This was to result in the general conception of human affliction being the result of the intrusion by malevolent demonic forces, rather that the punitive action of disgruntled ancestors. (90) As a corollary, the therapeutic emphasis was to shift from the placation of spiteful ancestral beings to the extirpation of malignant spirit forces called kuei. This new aetiological atmosphere was encapsulated by the medical scholar Han Fei (d. 233 B.C.E.) who expressed a common prevailing attitude when he wrote "...when a person falls ill, it means he has been injured by a demon." (91)

Demonic medicine was to represent, as Linda Barnes has recently pointed out, the loss of a connection between individual people and individual deceased beings. (92) The attendant chaos inherent in the closing centuries of the Zhou dynasty was to result in the transition of the belief in specific causes of human affliction by identifiable ancestors to a general view of disease resulting from negative action by unidentifiable evil spirits. This background of uncertainty was to see the rise to pre-eminence of the Wu, a group of shaman healers whose original role involved inducing storms to over-come drought. On certain occasions, hordes of Wu-shamans would ".....race shrieking through the city streets, enter courtyards and homes, thrusting their spears in the air in an attempt to expel evil creatures. " (93)

In an earlier work, Arthur Waley was also to record that "..... intermediaries used in the cult of the spirits were called wu. They figure in old texts as experts in exorcism, prophecy, fortune-telling, rain making, and the interpretation of dreams. Some wu danced, and they are sometimes defined as people who danced in order to bring down spirits....they were also magic healers. " (94) We even see their therapeutic influence in the early Chinese pictograph for 'healer' which consists of a lower half depicting the character for wu, while the upper half combines a quiver and arrow on the left and a lance or spear on the right. (95)
What I am suggesting here is the genesis, in a symbolic sense, of an incipient form of acupuncture with the therapeutic intent of expelling unwanted demonic intrusion. The origins of this new medical procedure, pricking the skin to release the deleterious effects of malevolent invasion, it is posited, arose in response to notions of demonology, and could have conceivably resulted in its extrapolation firstly to blood, and then to Qi. This transition, from venesection to acupuncture, was to take place some time between the closing stages of the Warring States era at around 250 B.C.E. and the trials of Chunyu Yi in 167 B.C.E. By the time of the appearance of the Nan Jing in the First to Second Centuries of the modern era, the transition was complete.

In his illuminating lectures given at the University of Rochester in 1990 to honour the founder of American anthropology, Lewis Henry Morgan (1818 - 1881), Byron Good expressed the sentiment that "....medicine formulates the human body and disease in a culturally distinctive fashion." (96) This insightful perspective on the human response to affliction underpins paradigms of medical epistemology in all societies, both ancient and modern. Certainly it was the true of the early pre-Han Chinese whose identification of the role of malevolent spirits in the aetiology of disease was to provide the intellectual impetus for the origins of therapeutic needling. This impetus, which was to later result in what was perceived as loss of internal equilibrium by external invasion, was to ultimately provide the necessary stimulus for the emergence of the therapeutic exigencies of firstly letting blood, and then eventually the employment of acupuncture needles to rectify the contents of the vessels.

The former technique, as we have seen, was universal, and to a large extent, reflected the ubiquitous nature of human physiology. The latter medical procedure was unique to China, evolving out of the socio-cultural milieu engendered by the collapse of central authority during the period of the Warring States.
In this paper I have attempted to establish chronological parameters for the emergence of the technique of acupuncture, suggesting that archaeological and textual evidence validate its first appearance in the early decades of the Former Han, just over two thousand years ago. As for its therapeutic and epistemological precursors, the unique historical experience of early Chinese society provided the necessary intellectual impetus. In this sense, the sentiments of Rene Dubos (1901 - 1982), the microbiologist responsible for the discovery of antibiotics are pertinent. As he was to succinctly record, "...each civilization has a pattern of disease particular to it. The pattern of disease is an expression of the response of man to his total environment." (97)