Spirit of stone: technical considerations in the treatment of the Jade Body[1]

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The early Imperial period was a time of rapid change in medical ideas and practices in China. Manuscripts and artifacts excavated from tombs of the second century B.C. along the Yangtze river valley bring fresh insights into some of the processes involved in medical innovation in the early centuries of the empire. Through examining exorcistic practices and petty surgery to the refinement of a body sustained and nourished by physiological essences, this paper describes recurring patterns found in the changing medical techniques associated with stone, be that lancets, hot pressing stones or mineral prescription. After the transition to a culture of applying fine metal acupuncture needles, vestiges of these treatments found in early Chinese stone culture remain enshrined in both theory and practice of canonical medicine.

Maishu 脈書 (The Book of Channels) is a bamboo manuscript which was buried *c.* 186 B.C. and recovered in 1983–84 from the Zhangjiashan burial site in modern Hubei. Collectively its some six texts make up the earliest extant treatise to set out the principles and practice of acumoxa. *Maishu* (2) describes the passage of eleven *mai* 脈 'channels' that traverse the body from the limbs to the torso and head—a concept fundamental to the development of the classical medical theory that was formulated in Han times.[2] *Maishu* (4) then promotes exercise and diet as a way of cultivating the *yuti* 玉體 'jade body':[3]

> Now the reason that flowing water does not stagnate and a door that pivots does not get woodworm is because of movement. When there is movement then it fills the four limbs and empties the five viscera, when the five viscera are empty then the 'jade body' will benefit. Now one who rides in a

[1] This paper was originally prepared for the March 2000 meeting of AAS in San Diego. I am grateful to the other members of the panel, 'Embodying perfection: self cultivation traditions in pre-modern China', for their encouragement, and to Donald Harper, Li Ling and Mark Lewis for providing me with important research material. I would also like to express my gratitude to the anonymous referee who provided me with invaluable comments and criticism. The research for this paper was carried out while I was a Fellow in the History Department of SOAS and was generously funded by the Wellcome Trust.

[2] I follow Harper, who divides *Maishu* into six core texts which he describes as 'ailment list', 'eleven vessels', 'five signs of death', 'care of the body', 'six constituents' and 'vessels and vapor'. His titles indicate well the content of each text. See *Early Chinese medical literature: the Mawangdui medical manuscripts* (London: Kegan Paul International) (The Sir Henry Wellcome Asian Series), 1998, 31. The word *mai* is difficult to translate; Harper translates it as 'vessel', which draws out the early association with the arteriovenous system. See Donald Harper, *Early Chinese medical literature*, 76–95. I prefer to follow the contemporary analogy with *du* 瀆 'channel' or 'canal' found in the *Maishu* 脈書 (channel document). See Jiangling Zhangjiashan Hanjian zhengli xiaozu, 'Jiangling Zhangjiashan Hanjian (*Maishu*) shiwen' 江陵張家山漢簡脈書釋文 (hereafter '*Maishu* shiwen'), *Wenwu* 1989, 7, 74. The translation 'channel' also serves to emphasize the relationship of the *mai* to the superficial anatomical channels as defined by muscle and bone, as they were understood before the more elaborate theories of the *jingluo* and *jingmai* found in the *Huangdi neijing* 黃帝內經 (Yellow Emperor's inner canon; see notes 21 and 79 below). *Jingluo* or *jingmai* have been variously translated as 'conduit', 'meridian', 'circulation tract', etc. See Nathan Sivin, *Traditional medicine in contemporary China* (Ann Arbor: Center for Chinese Studies, The University of Michigan, 1987), 34, 122 n.11; and Paul Unschuld, *Medicine in China: a history of ideas* (Berkeley: University of California Press, 1985), 75, 81–3.

[3] '*Maishu* shiwen', 74. On the dating of the Zhangjiashan tomb in Hubei and the identity of its occupant, see Zhangjiashan Hanmu zhujian zhengli xiaozu, 'Jiangling Zhangjiashan Hanjian gaishu' 江陵張家山漢簡概述, *Wenwu* 1985, 1, 9–15.

Bulletin of SOAS, **65**, 1 (2002). 99–128.

> carriage and eats meat, must (fast and purify themselves?)[4] in Spring and Autumn. If they do not (fast and purify themselves?) then the *mai* will rot and cause death.[5]

In the few references to a 'jade body' in the received literature from Warring States and Han times we find a vision of perfection, or the body of a beautiful woman.[6] But in the case of the *Maishu* acumoxa texts this perfect body is a physiological entity with a technical reality that borrows from ideas originating in self-cultivation culture.

In the *Maishu* (4) quotation above we find that movement 'fills the four limbs and *empties* the five viscera'. Techniques of breath-cultivation and therapeutic gymnastics in late Warring States and early Imperial literature often echo and sometimes subvert these priorities: there is breathing and dispersing *qi* 氣 (the fundamental stuff of life) outwards into the limbs or, in contrast, filling the body and inner bowels through the orifices. The following quotation from Mawangdui *Shiwen* 十問 (Ten Questions) promotes both techniques:

> The way to breathe *qi*: it must reach to the extremities .... Breathing must be deep and sustained. Fresh *qi* is easy to hold on to, *qi* that has been kept over night is ageing, fresh *qi* creates long life. The one who is good at putting the *qi* in order causes the *qi* that has been kept overnight to disperse during the night and fresh *qi* to collect in the morning by penetrating the nine orifices and filling the six cavities.[7]

Many early breathing techniques also involve holding the breath and contracting the anus to move inner *qi*.[8]

Western Han breath- and sexual-cultivation texts generally conceive of the body as a physiological entity made up of the triad *qi*, *shen* 神 (a manifestation of the 'spirits') and *jing* 精 'essences'.[9] A technique found in both breath and sexual-cultivation, *yubi* 玉閉 'the jade closure' refers to sealing these fluids and essences.[10] Here the Mawangdui text, *Shiwen*, describes how to sustain vigour, and ensure longevity by absorbing a woman's essences into the body.

> In the cultivation of lengthening life secretly use the jade closure. At that moment when the jade closure opens, the illumination of the spirit arrives and accumulates. As it accumulates, it will be manifest. When the jade closure firms the essence, this will make the jade spring imperturbable. Then the hundred afflictions will not increase and thus you can live long.[11]

[4] 洽 is not attested in received literature, but from the context and the shape of the graph, which depicts water and a mouth-like opening, we may assume that it refers to some kind of technique to remedy a sedentary life and over-eating.

[5] '*Maishu* shiwen', 74.

[6] Collected in *Morohashi*, vol. 7, 803.

[7] *Mawangdui Hanmu boshu*, vol. 4, 147.

[8] These are described in Donald Harper, 'The bellows technique in *Laozi* V and Warring States macrobiotic hygiene', *Early China* 21, 1995.

[9] *Jing* may refer to the finest *qi*, to reproductive essences, often manifest as semen.

[10] *Bi* 閉 'closure' in later Daoist literature emphasizes the act of enclosing an inner space and containing and accumulating the body's essences within. See, for example, *Mawangdui Hanmu boshu*, vol. 4, 146.

[11] Also translated in Harper, *Early Chinese medical literature*, 390–91 and n.2. The Mawangdui burial mound is located in the north-eastern section of Changsha 長沙, Hunan, formerly the Western Han Kingdom of Changsha, and was excavated in the early 1970s. It contains three tombs. Tombs no. 1 and no. 2 belonged to the Lord of Dai, Li Cang 利蒼, and his wife (who was buried in tomb no. 1). Tomb no. 3, from which the manuscripts were excavated, was occupied by one of their sons, who died in 168 B.C. at the age of about thirty. For the excavation report see Hunansheng bowuguan and Zhongguo kexueyuan kaogu yanjiusuo, 'Changsha Mawangdui er, sanhao Hanmu fajue jianbao' 長沙馬王堆二，三號漢墓發掘簡報, *Wenwu* 1974, 7, 39–48. Details of the find are also given in the introduction to *Mawangdui Hanmu boshu*, vol. 1. See Harper, *Early Chinese medical literature*, 4 regarding the wooden tablet in Mawangdui tomb no. 3 that records the burial date. *Mawangdui Hanmu boshu*, vol. 4, 131–41.

We will see in the course of this paper that techniques to lead *qi* to the limbs as well as the intention of enhancing *qi*, *shen* and *jing* established in early self-cultivation remain enshrined in transmitted medical literature and surviving traditions of medical practice.

Despite the fact that *Maishu* (4) recommends movement and diet as ways of caring for the *mai* of the 'jade body', *Maishu* is not a treatise on self-cultivation. It simply uses self-cultivation priorities to model new medical techniques. After *Maishu* (4) there is a short text differentiating body constituents, followed by *Maishu* (6), which gives us the earliest extant reference to acupuncture (inasmuch as acupuncture can be defined as body piercing to normalize the flow of *qi*).

> The channels are values by the sages. As for *qi*, it benefits the lower body and harms the upper; follows heat and distances coolness. So, the sages cool the head and warm the feet. Those who treat illness take the surplus and supplement the insufficiency. So if *qi* goes up, not down, then when you see the channel that has over-reached itself, apply one cauterisation where it meets the articulation. When the illness is intense then apply another cauterisation at a place two *cun* 寸 above the articulation. When the *qi* rises at one moment and falls in the next pierce it with a stone lancet at the back of the knee and the elbow.

Thus, the sage physician draws *qi* down and out through the limbs by applying cautery and a stone lancet to open the channels at the joints. Here we have the technical elements of self-cultivation embraced within new medical ways to project *qi* away from the head and body towards the limbs. On the first impression there seems to be a contradiction between the crude nature of the intervention (surgery with stone) and the object of intervention (*qi*). But this would be to underestimate the potency of stone in early Chinese medical culture.

Spirit of stone

What, then, was stone in early Chinese culture? With the pervasive influence of *wuxing* 五行 'five agent' (wood, fire, earth, metal and water) theories of generation and conquest in Han political, philosophical and scientific thought it is easy to overlook the importance of the agent *shi* 'stone' 石 in early Chinese attitudes to the mysteries of life and death.[12] The 石神 'Stone Spirit' itself was one of seven medical treatises given to the former Han physician Chunyu Yi 淳于意 (fl. 154 B.C.) by his teacher Yang Qing 陽慶 and recorded in *Shiji* 史記 'The Record of the Historian', but it is no longer extant.[13] Probably Chunyu Yi's text was a treatise on *yaoshi* 藥石 'mineral drugs', as distinct from either needling stones or plant products. Chunyu Yi criticizes his

[12] Stone as a generative force and, unusually, as aligned with the *wuxing* 'five agents' of water, wood, metal, earth and fire, is evident in the *Tai chanshu* 胎產書 (Book of the Generation of the Fetus), one of the silk manuscripts excavated from the Mawangdui burial site. Translated in Harper, *Early Chinese medical literature*, 371–84. *Wuxing* has been variously translated as 'five agents', 'five phases', 'five processes' or 'five elements'. The five '*xing*' are not equivalent to the elements of early Western philosophic thought. The translation 'elements' suggests a material constituent and lacks the dynamic of quality and movement inherent in the early concept of *xing*. 'Phases' concentrates exclusively on the division of time and the passage of the seasons—and 'process' seems to bring a mechanistic quality to what is fundamentally a natural metaphor. 'Agents' refers generally to their influence in a process in a general sense and avoids the pitfalls of time and substance inherent in the other translations. See the discussion in Angus Graham, *Disputers of the Tao: philosophical argument in ancient China.* (La Salle, IL: Open Court, 1999), 340–56.

[13] *Shiji* 105, 2798. References to (Beijing: Zhonghua shuju, 1962).

colleague Sui 遂, physician to the King of Qi 齊, who takes the potent, heating prescription *wushi* 五石 'five stones' when it is contra-indicated. Sui's death from ingrowing abscesses is consistent with long-term arsenic poisoning, arsenic being one likely constituent of *wushi*.

The Han élite frequently took minerals such as lead, mercury, cinnabar and arsenic to preserve their bodies, if not also for pleasure. In death ritual, knowledge of the disinfecting and rot-preventing function of cinnabar is apparent in neolithic corpses found buried in thick layers of cinnabar. Some Han corpses have been found stuffed with cinnabar and with death shrouds soaked in it.[14] Yet other stones, such as the five coloured stones buried with the King of Nanyue 南越, could confer the power of permanence and preservation from their very presence in the tomb.[15] Interred stones and ores undoubtedly had a demon-quelling influence.[16]

Stone, and jade in its own distinctive way, determined a sacred space wherein the body would not decay. The corpses of Prince Liu Sheng 劉勝 (d. 113 B.C.) and his wife Dou Wan 竇綰 were protected with several layers of jade; jade orifice plugs and jade *bi* (originally forming part of some kind of shroud) were followed by a complete jade armoury for the body. Their coffins were also lined with jade. Finally, placed between two of Liu Sheng's coffins, there was a small, seated jade figure inscribed with the words *gu yu ren* 古玉人 'ancient jade person', surely the most distinctive image of the potential for Liu Sheng's immortality.[17] *Yuyi* 玉衣 'jade funerary clothing' was in use as early as the Eastern Zhou period and it seems likely that by Han times the image of the élite 'body of jade' was embedded in popular imagination.[18]

Thus jade, as the most refined form of stone, became a metaphor for physical immortality. Lesser stones could cut, cool and hot press the body; some could also be a dwelling place for spirits, a protective and generative force as well as a stimulant in mineral form.[19] By the second century B.C. all these qualities accumulated to the concept of medical stone and came to bear on the transformation of medical technology using *bian* 砭 and/or 鍼石 *zhenshi* and *chan* 鑱, different kinds of lancing stones.[20]

[14] Traces of all these minerals were found in the corpse of the near perfectly preserved countess of Dai, buried in the Mawangdui burial mound in 168 B.C. See Li Ling 李零, 'Shiti fang gu, yejing he liandan' 尸體防腐・冶金和煉丹 in *Wenwu tiandi* 1992, 4, 17–18.

[15] Scattered in an orderly fashion around the King of Nanyue's Han tomb (*c.* B.C. 122) were all kinds of medicinal minerals. Most unusually, at the base of the southern wall on the western side of the coffin chamber, were five coloured stones. *Xihan Nanyuewang mu, shang* 西漢南越王墓上 (Beijing: Wenwuchubanshe, 1994), 141.

[16] An inscription on a pottery vessel of Eastern Han date (193 A.D.) reads: '(Let) those who practise the Dao bury five stones whose essences will pacify the tomb (and thus) benefit sons and grandsons'. tr. Carole Morgan, 'Inscribed stones', in *T'oung-pao* 82, 1996, 338–9 and *Wenwu* 1980, 1, 95. See also Wang Yucheng 王育成, 'Dong Han daofu shili' 東漢道符釋例 in *Kaogu xuebao* 1991, 1, 54.

[17] All mentions of *yuren* 玉人 in the received literature up until the end of the Western Han period refer to jade workers, rather than people of jade.

[18] I am indebted to Donald Harper for pointing out the jade suit discovered in tomb D9M1 at a Wu 吳 site in Suzhou at Zhen shan 真山. See *Zhenshan dong Zhou mudi* 真山東周墓地, Suzhou bowuguan (Beijing: Wenwu, 1999). It had been thought that body suits were first used between the time of the Han emperors Jingdi 景帝 and Wudi 武帝 and there are none recovered from after the third year of the *huangchu* 黃初 reign of the Wei king Wendi 文帝. See *Mancheng Hanmu fajue baogao*, (Beijing: Wenwu, 1980), 378, Lu Zhaoyin 盧兆蔭, 'Shi lun liang Han de yuyi', *Wenwu* 89, 10, 51–8 and 'zai lun liang Han de yuyi' *Kaogu*, 81.1, 60–7.

[19] According to the *Shiji* and *Hanshu* 漢書 'Book of the Han' biographies, Zhang Liang's 張良 (d. 187 B.C.) natural patience and respect were severely tested by an old man who turned out to be the manifestation of a stone spirit, normally resident in a yellow stone beneath Jibei Gucheng 濟北穀城山 mountain. Zhang Liang's biography is *Shiji* 55, 2034–5 and 2046. See also *Hanshu* (Zhonghua shuju, 1962), 2024 and 2037.

[20] *Zhen* 箴 'needle' is a common variant of *zhen* 針 (鍼) 'needle'. These graphs bear the bamboo (*zhu* 竹) and metal (*jin* 金) radicals respectively, but this does not necessarily indicate the type of material used to produce the instruments. If we understand *zhenshi* 針石 as 'needling

Medical tools and techniques found in late Warring States and Western Han textual and archaeological records fall naturally into four areas; firstly we will consider the atropaic qualities of medical stones, secondly the evidence of tools used for surgery, then that for hot pressing, cautery and massage. Finally, in the transition to using fine metal needles, we will see vestiges of treatments found in early Chinese stone culture in the formation of classical Chinese acupuncture.[21]

Atropaic medical stones

Shang burial sites at Yinxu 殷墟 and Anyang 安陽 have yielded jade arrows which were probably useless for hunting and warfare but which more likely played a role in ritual. Scholars have speculated about their use in medicine generally, although it is difficult to determine a function except, perhaps, aiming at exorcising illness entities in the body.[22] A much-quoted account in *Zuozhuan* describes attacking an illness that has lodged in the body. The sixth-century B.C. physician Yihuan 醫緩 states that an illness entity is situated:

> above the region of the diaphragm and below the region of the heart, if you attack it will not work, if you try to penetrate you will not get through, medicine will not reach to it.[23]

The patient had dreamt of two men, personifying the illness, hiding from the physician within his body. Lu and Needham used this quotation to suggest that acupuncture was practised in the sixth century B.C. But since the terminology of the effect 'reaching' its target is not exclusive to acupuncture, and is

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stones' then the metal radical in 'needle' is clearly irrelevant and may, in any case be a later variant. The most comprehensive discussions of *bian* and related subjects are in Ma Jixing and Zhou Shirong 周世蓉, 'Kaogu fajuezhong suojian bianshi de chubu tansuo', *Wenwu* 1978, 11, 80–82, and Yamada Keiji, *The origins of acupuncture, moxibustion and decoction* (Kyoto: International Research Centre for Japanese Studies, 1998).

[21] *Huangdi neijing* 黃帝內經 is the work most famous for the exposition of classical acumoxa theories. It is a corpus now extant in three recensions, the *Taisu* 太素 (Great Basis), the *Suwen* 素問 (Plain Questions) and the *Lingshu* 靈樞 (Divine Pivot). For the latter two texts I will refer to the *Sibu Beiyao* editions. Each of these is a compilation of small texts dealing with separate topics which may reflect the thinking in a distinct medical lineage. It is thought that the earliest texts were set down during the first or at the earliest the second century B.C. Collectively they represent the kind of debate through which classical medical concepts matured. For an extended discussion of the development of medical theories in China based on a clarification of the formation of the *Huangdi neijing* see Yamada Keiji: 'The formation of the *Huang-ti nei-ching*', in *Acta Asiatica* 36, 1979, 67–89.

[22] Bronze and bone arrowheads and needles are commonly found in Shang burial sites. Needham's note: Cf. *NCNA Chinese Bulletin*, 29 June 1961. For bone needles of the Shang period, considered to be hairpins, see Anon 195 pl. 35, figs 3–7, pl. 36 fig. 5. (Summarized in Gwei-Djen Lu and Joseph Needham, *Celestial lancets* (Cambridge: Cambridge University Press, 1980), 72–3). Shang arrowheads come in four basic types—the thin *bi* 匕 (spoon) shaped, the flat headed, the three-faceted blade and the conical. Ye Youxin 葉又新 speculates that these arrowheads are similar to four of the nine needles described in *Lingshu* 1, '*Jiuzhen shieryuan*' 九針十二原 ('Nine needles and twelve sources'—a treatise that describes nine different kinds of needles and their uses) as well as to needles referred to as *jiantou zhen* 箭頭針, 'arrowhead needles' found in later medical literature. SBBY, vol. 205, fasc. 1, 1–4. Ye Youxin, 'Shishi Dong Han huaxiangshi shang kehua de yizhen' 試釋東漢畫象石上刻劃的醫針 in *Shangdong zhongyi xueyuan xuebao* 1981, 3, 62 cites the Ming compilation by Yang Jizhou 楊繼洲, *Zhenjiu dacheng* 針灸大成 and *Yizong jinjian* 醫宗金鑒, a Qing work edited by Wu Qian 吳謙.

[23] *Zuo Zhuan*, Chenggong 10. See *Zuoshi chunqiu shizhu* 左氏春秋譯注 (Jilin: Jilin wenshi chubanshe, 1995), 426. *Zuo Zhuan* is a commentary on *Chunqiu* which records affairs of state between the eighth and fifth centuries B.C. This statement is recorded for the date of 580 B.C. Its authorship and authenticity are, however, uncertain. Opinions differ widely, placing some parts as early as the fifth century B.C. to the whole work being a first or second century B.C. forgery. See the discussion in Anne Cheng, 'Ch'un ch'iu, Kung yang, Ku liang and Tso chuan' in Michael Loewe (ed.) *Early Chinese texts—a bibliographical guide*, (Berkeley, CA: Society for the Study of Early China, 1993), 67–77. See also the discussion in Yamada Keiji, *The origins of acupuncture*, 4–5.

certainly not corroborated in a similar context in other medical writings of the period, the claim cannot be substantiated.[24]

More convincing evidence of atropaic medical tools comes from a number of prescriptions from *Wushier bingfang* 五十二病方 '52 Remedies', the longest medical text excavated from the Mawangdui site. One remedy for inguinal swelling requires arrows to be shot from a peach wood bow.[25] Another, for the ailment *long* 癃, involves incantation, the Pace of Yu, a ritual step, controlling the spirits with a stone and beating the patient over the head with an iron mallet:

> On the sixteenth day of the month when the moon first begins to deteriorate, perform the Pace of Yu thrice. Say 'Moon is matched against sun' and 'Sun is matched against moon'—three times each. 'Father is perverse, Mother is strong. Like other people they bore Sons, and only bore inguinal swelling bulges. Perverseness desist. Grasp the hammering stone and strike your Mother'. Immediately, exorcistically beat and hammer the person twice seven times with an iron mallet. Do it at sunrise, and have the person with inguinal swelling face east.[26]

With an increased vulnerability to spirits and demons beyond death, stones and pottery tiles interred along with other mortuary items may well have had an atropaic medical function. One intricately engraved pottery tile, which Chinese historians often link to early hot pressing techniques, was excavated from a Warring States tomb in Hebei, Yi 易 county (see figure 1). On the front at the top is a six-pointed star formation set into a circle, towards the handle end is the upper body of a man with two arms raised. His lower body on the handle end is damaged. Just above each of his hands and with one foot pointing towards the figure's head are two leopard or dragon-like beasts in profile, upside-down with their tongues sticking out. On the back are the body and legs of another scaly dragon. Unfortunately its head is damaged. The dragon design has led scholars to associate the figure on the tile with the *yushi* 雨師 'Rain Master', for dragons were thought to be rain-makers. Shi Shuqing quotes the *Shanhai jing*: 'the Rain Master ... in his two hands grasps a snake, at the left ear there is a black snake and at the right ear there is a red snake', and a number of commentaries, to demonstrate that the Rain Master was an important figure in Warring States and Han ritual. *Han Feizi* states: 'when the Yellow emperor was with the ghosts and spirits on Tai mountain, Wind Uncle went ahead and cleared the way and the Rain Master washed the road'.[27]

Chinese medical historians have suggested that the tile, being flat and oval and fitting neatly into the palm of the hand, is a good size for massage or hot pressing.[28] Its lavish decoration suggests that it also had a role in assisting ritual incantation, perhaps in ridding the patient of disease, as we have seen in the *Wushier bingfang* remedy quoted above. We can assume that the tile carried the power of the 'Rain Master' and his techniques into the tomb and

[24] See Lu and Needham, *Celestial lancets*, 79. It is not clear in the text whether or not the physician intended to use an instrument to pierce the illness.

[25] *Mawangdui Hanmu boshu*, vol. 4, 52. tr. Harper, *Early Chinese medical literature*, 261.

[26] *Long* 癃 is a sub-category of inguinal swellings which refers to some kind of prostration. tr. Harper, *Early Chinese medical literature*, 261.

[27] Shi Shuqing 史樹青, 'Gudai keji shiwu sikao' 古代科技事物四考, in *Wenwu* 1962.3, 47–48. *Hanfeizi juan* 3, *pian* 10 '*shi guo*' 十過. SBBY, vol. 173, fasc. 1, 3b.

[28] This tile and two others from the same site were originally thought to be some kind of unfired cosmetic or cleansing utensil for scrubbing the skin, with related medical functions. See An Zhimin 安志敏 'Gudai de caomian taoju' 古代的糙面陶具, *Kaoguxuebao* 1957, 4. Shi Shuqing reinterprets them as *bianshi.* Shi Shuqing, 'Gudai keji shiwu sikao', 47.

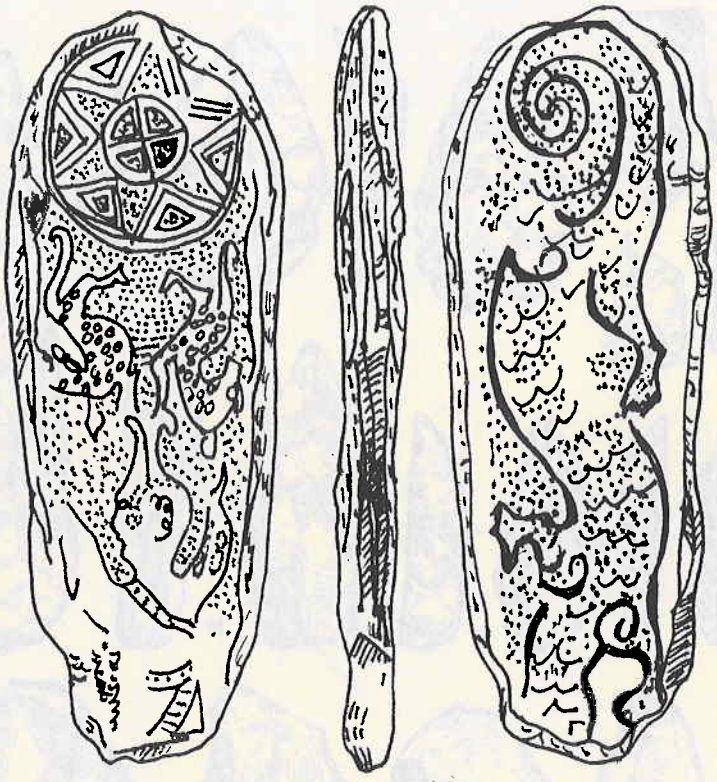

FIG. 1. The Rain Master stone from *Wenwu* 1962, 3.

could, just like the five coloured stones from the tomb of the King of Nanyue, serve to draw a boundary around the corpse and protect the body in death.

Stone surgical tools

Many discussions of the origins of acupuncture begin by isolating very early evidence for the activity of body piercing, perhaps the most striking image associated with the therapy.[29] Archaeological remains of sharp pointed instruments may infer the practice of body piercing.[30] In general, however, these

[29] Many Shang sites have yielded stones that would be adequate for body piercing. Excavations from tomb 211 at Erligang 二里崗, Zhengzhou, for example, have uncovered many sharp stones and bone instruments such as *ge* blades, which could easily have had a medical purpose. Jade *ge* have also been excavated from the tomb of Fu Hao 婦 好, consort of the Shang king Wu Ding 武丁 (*c.* 1200 B.C.) at Anyang. See *Yinxu Fu Hao mu* 殷墟婦好墓 (Wenwu chubanshe, 1980 and 1984), pl. 107–114. See also Jiangsusheng wenwu gongzuo dui, 江蘇省文物工作隊 'Jiangsu wujiang meiyan xinshiqi shidai yizhi' 江蘇吳江梅堰新石器時代遺址, *Kaogu* 1963, 6, 309–12. For bone needles see Henansheng wenhuaju wenwu gongzuodui diyidui, 河南省文化居文物工作隊第一隊 'Zhengzhou Shangdai yizhi de fajue' 鄭州商代遺址的發掘, *Kaogu xuebao* 1957, 1, 60.

[30] See Ma Jixing and Zhou Shirong, 'Kaogu fajuezhong suojian bianshi de chubu tansuo'. Ma Jixing, 'Taixicun Shangmuzhong chutu de yiliao qiju bianlian' 台西商王墓中出土的醫了器具砭鍼, *Wenwu*, 1979, 6, 54–7 and the excavation report of Qigucheng bowuguan, *Linzi Shangwang mudi* 臨淄商王墓地 (Qilu: Qilu shushe, 1997), 175–82 and pl. IX and fig. 9. Lu and Needham, *Celestial lancets*, 69–77 summarize the archaeological evidence available up to 1980. They compare the archaeological finds to an interpretation of textual evidence that places the earliest references to acupuncture needles in the *Shanhaijing* and the earliest references to acupuncture therapy in *Zuo Zhuan*. The textual arguments are generally unconvincing. In three articles Ye Youxin speculates about the relationship between archaeological finds and later textual sources, in particular the nine types of needles described

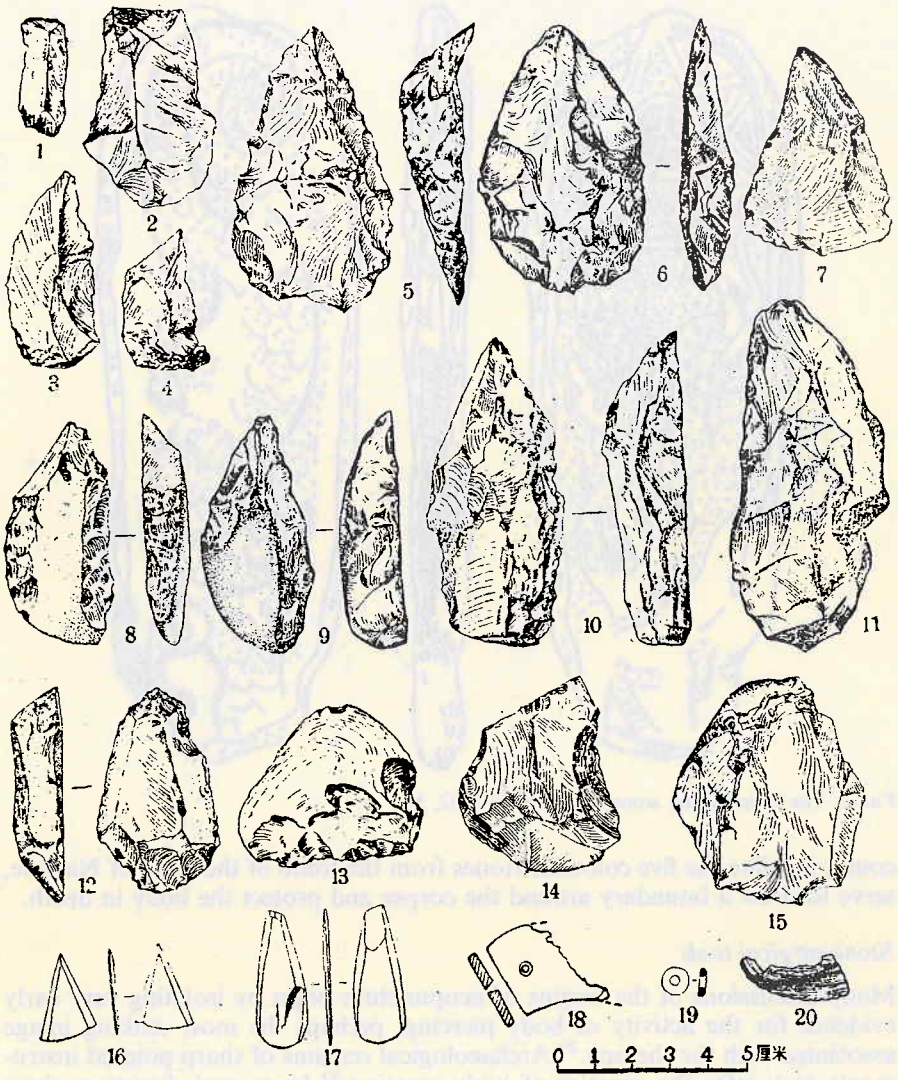

FIG. 2. Sharpened bones and stones from Neolithic sites in Shayuan district, Shaanxi. From *Kaogu*, Xuebao 1957, 17.

reports by Chinese medical archaeologists tend to lack caution in their attribution of medical use to sharpened stones. While I will survey the best evidence available, without the textual or pictographic corroboration that emerges during the Western Han period, arguments about the purpose of all these finds remain conjectural.

Many stones sharp enough for lancing and blood-letting, some even for amputation, have been excavated from four new-stone age sites (see figure 2); three thick, pencil-shaped stones, sharpened to a point at one end like javelin

in *Lingshu juan* 1, *pian* 1. See also Ye Youxin 'Shishi Dong Han huaxiangshi shang kehua de yizhen', 60–68 and *Shangdong zhongyi xueyuan xuebao* 10, 1986, 1, 48–55 and 1986, 4, 55–61.

heads, were also discovered at the Lujiao 鹿角 site in Yiyang 益陽 Hunan.[31] These appear to be sharp enough for draining abscesses or bleeding. Ma Jixing and Lu and Needham cite the *Shanhaijing* as early evidence of acupuncture. The account in question states: 'underneath the Gao family and Wuli mountains, are many needling stones', to which Guo pu 郭璞 (276–324) adds, '*zhenshi* "needling stones" are another term for *bianzhen* 砭針 "lancing needles" or *bianshi* 砭石 "lancing stones".' This is certainly testimony to the selection and use of needling stones but it is difficult to be sure of much more. Opinions on the dating of the *Shanhaijing* vary widely, some placing it as early as the Shang dynasty and others as late as the late Han.[32] Secondly, the needling stones at the foot of this mountain could have been put to any use, and therefore the quotation tells us most about medical needles in the time of Guo pu. Yet it stands to reason that lancing stones should have been used for petty surgery in very early times. There is simply little documentary evidence prior to the late Warring States to substantiate the claim.

In *Huangdi neijingsuwen* (hereafter *Suwen*) 14, we find potent drugs directed towards illnesses of the centre, 'the 鑱 *chan*, stone, needle and moxibustion to treat the exterior'.[33] 'Treating the exterior' may refer to illnesses with an external cause rather than 'superficial' illnesses. But *Suwen* 12 also distinguishes people from different regions by the ailments that they suffer and connects treatment with stone lancets to crude surgery: 'in the eastern territories ... their illnesses are abscesses and swelling, for which treat them with *bianshi*'.[34]

Warring States, Qin and Han script graphic variants of *bian* include 𥑐砭𠆸 and thus also the terms *bianshi* 砭石 and *bianshi* 砭石.[35] *Bian* 砭, glossed as 'piercing illness with stone', in *Shuowen* is also frequently used as a verb.[36] *Hanfeizi* 34 also refers to the trauma involved in *ci* 刺 'piercing' festering abscesses with yet another form of surgical instrument known as *dishi* 砥石.[37] *Chan* 鑱 is an important medical tool that is often associated with early forms of acupuncture. In *The origins of acupuncture, moxibustion and*

[31] Stones sharp enough for lancing and blood-letting, some even for amputation, have been excavated from four new stone age sites. Rough pyramid-shaped arrow heads excavated at Shayuan 沙苑 district, Shanxi, could have been used for scraping, piercing, boring and amputation. An Zhiming 安志敏, 'Shanxi chaoyi dali shayuan diqu de shiqi shidai yicun' 陝西朝邑大 荔沙苑地區的石器時代遺存, *Kaogu xuebao* 1957, 3, 5 figs 2, 25. Similarly three finely rubbed-down adze-shaped stones, one rectangular and two roughly square with one side slanting, one edge very sharp, were excavated at the site of the Changgeng 荔沙苑地區的石器時代遺存 temple in Huarong 華容, Hunan. Ma Jixing and Zhou Shirong, 'Kaogu fajuezhong suojian bianshi de chubu tansuo'. Finally, Ma Jixing and Zhou Shirong consider a 6 × 2.3 cm. stone knife with a hole cut in one end discovered at the Jiejialing 接駕岭 site in Changsha, Hunan, sharp enough for lancing, amputation and other surgical operations. ibid., 53 n.17. The authors saw this stone for themselves at the Hunan Provincial Museum. Zhou Shirong, 'Hunan Yiyang Lujiaoshan faxian xinshiqi shidai yizhi' 湖南益陽鹿角山發現新石器時代遺址, *Kaogu* 1965, 10, 536 figs 1 and 5.

[32] The dating and authorship of *Shanhaijing* is uncertain. See Riccardo Fracasso, 'Shanhaijing' in Loewe, *Early Chinese texts*, 359–60.

[33] *Suwen juan* 4, *pian* 14, 'tangye liaoli lun' 湯液醪醴論. SBBY, vol. 204, fasc. 1, 5b. The term 鑱 *chan* is also used in combination with both *shi* 'stone' and *zhen* 'needle'.

[34] *Suwen juan* 4, *pian* 12, 'Yi fa fang yi lun' 異法方宜論. SBBY, vol. 204, fasc. 1, 1. Few documents other than the *Huangdi neijing* mention the compound term *bianshi* but, as we shall see in the course of this paper, there are many ways in which early medical works refer to lancing stones.

[35] *Mawangdui Hanmu boshu*, vol 4, 17 uses the graph 𥑐 and Zhangjiashan *Maifa* uses the term 江陵張家山漢簡脈書釋文. See Jiangling Zhangjiashan Hanjian zhengli xiaozu, 'Jiangling Zhangjiashan Hanjian (*Maishu*) shiwen' 江陵張家山漢簡脈書釋文, *Wenwu* 1989, 7, 72–4. *Huangdi neijing taisu* 黃帝內經太素, *juan* 19 'zhi zhenshi' 知針石 refers to *bianshi* 砭. Huangdi neijing taisu reference to Dongyang yixue shanben congshu ed.

[36] *Shuowen* 9b. See *Shuowen jiezi zhu*, 453.

[37] *Hanfeizi* 13 champions the 'no pain, no gain' theory when it uses painful piercing of the bone with a knife to benefit the patient as an analogy to encourage people to criticize their king and the king to listen to cricism. *Hanfeizi juan* 13, *pian* 34. SBBY, vol. 173, fasc. 3, 12.

decoction, Yamada Keiji sets out a detailed etymological argument to suggest that *bian* 砭, *di* 砥 and *chan* 鑱 all refer to surgical instruments of the same basic shape, likened to the bud on the tip of a stem, or to a spoon.[38]

Ma Jixing, on a different track, believes that the *bianlian* 砭鐮 'stone lancing sickle' is a key to the early development of medical tools that evolved into the stone and metal needles eventually deployed in acupuncture. He traces the shape of the *lian* 鐮 'sickle' and its practice (also referred to as *lian* in a verbal sense) from the Shang period through to modern times.[39] In later medical literature there is evidence that *lian*, 'the sickle' and 'the art of the sickle', both artifact and practice, are a recurring theme in medical treatises. Common terms include the *daolian* 刀鐮 'knife sickle', *pilian* 鈹鐮 'bursting sickle', *fenglian* 鋒鐮 'sharp-pointed sickle', *liange* 劘割 'sickle cutting' and *lianxi* 劘洗 'sickle purifying?'. The shape of the *lian* is continuously refined (although its handle size is always limited by its being hand-held) and eventually emerges in premodern medical literature as a metal needle with a sickle-shaped bend and an internal edge sharp enough for 'scraping away rotten flesh in hidden places'.[40] Techniques associated with *lian* are often treatments for eye ailments, lancing boils or petty surgery on facial growths as well as a condition known as infant erysipelas.[41]

The earliest record detailing surgical procedure is in *Wushier bingfang* for treating inguinal swellings and involves cutting the navel with a *bianshi* 'lancing stone' and then cauterizing:

> First raise the testicles and pull down the skin. Pierce the side of the *duo* (navel) with a lancing-stone. ... liquid and lard ... stir with pure [liquor]. In addition, cauterise the wound. Do not allow the wind to reach it. For an easy cure, cauterise the Great Yin and Great Yang.[42]

In an eclectic medical approach, *Wushier bingfang* recommends cauterizing the Great Yin and Great Yang, rare evidence of the influence of newer physiological theories in the recipe literature.[43]

[38] The argument, put briefly, suggests that *fa* 乏, the right-hand element of the graph *bian* was originally expressed as *jie* 匕, hence the graphic variant *bian* 砭. *Jie* was a graphic variant of han 含, glossed in *Shuowen tongxun dingsheng* as 'the shape of a bud at the tip of a stem'. *Chan* 毚, the right-hand element of *chan* 鑱, apparently had a similar meaning to *jie*. And *shi*, the top right-hand element of *di* 砥 was a variant of *bi* 匕 'spoon'. He concludes, 'in short, the original character "*bian*" and the character "*di*" signified the same shape'. Yamada Keiji, *The origins of acupuncture*, 13–5.

[39] Ma Jixing's arguments are set out in two papers. See Ma Jixing, 'Gaocheng Taixi shisihao mu bianlian kao' in *Hebeisheng Wenwu yanjiusuo, Gaocheng Taixi Shangdai yizhi*, (Beijing: Wenwu, 1985), 199–203 and Ma Jixing, 'Taixicun Shangmuzhong chutu de yiliao qiju bianlian', *Wenwu* 1979, 6, 54–7. The earliest stone identified as a *bianlian* was excavated from a Shang site in Gaocheng taixi 藁城 台西 in 1973. In shape it is not much different from the many ordinary *shilian* 'stone sickles' used in agriculture and construction. What distinguishes this particular stone are the circumstances of the tomb. On a raised level to the left side of the main coffin, archaeologists found the skeleton of a girl with her hands bound, most probably a slave sacrifice. Lavish burial goods and the probability of slave sacrifice suggest that the main occupant of the tomb was of high social status. On the opposite side to the slave girl, to the right of the main coffin, was a black and red lacquered box containing the stone sickle. The stone was clearly an object of great value, perhaps in ritual life. It may have had a medical function.

[40] Ma Jixing, 'Taixicun Shangmuzhong chutu de yiliao qiju bianlian', 6, 55.

[41] The Northern Song work *Taiping shenghui fang* 太平聖惠方 records the use of a *pidao* to *lian* 'sickle' bad blood in cases of infant erysipelas.

[42] tr. Harper, *Early Chinese medical literature*, 267.

[43] But this statement is ambiguous and could refer either to cauterization on specific channels or specific points. Li Jianmin 李建民 suggests that these divisions of the body reflect an essentialization of the cycles of the macrocosm. He offers this as evidence against the prevailing theory that the systematization of the channels preceded the acupoints. Li Jianmin, *Mingtang yu yinyang: 'yi Wushierbingfang "jiu qi tai Yin, tai Yang" wei li'* (Taibei: Institute of History and Philology, Academica Sinica, 1997). See also Donald Harper, 'The Wu Shi Erh Ping Fang: translation and prolegomena', Ph.D. Thesis (Berkeley: University of California, 1982), 392–4. The idea that some acupoints developed through an awareness and experience of the body in

We have already seen a reference to moving *qi* with a stone embedded in a text excavated from a tomb at the Zhangjiashan site (earliest date 186 B.C., latest date 156 B.C.). Strangely, after documenting treatment to re-establish the correct movement of *qi Maishu* (6) goes on to give fine detail on how to prepare stones for lancing abscesses:

> When using the stone lancet to open the channel it is necessary to follow these principles: where the abscess swelling has pus then measure its size and make a lancet for it. There are four harmful things:
> One states: if the pus goes deep and the stone lances to a shallow depth it is called not reaching it.
> Two states: where the pus is shallow and the stone lances deeply call it overreaching ...[44]

We might read the references to 'opening' *mai* with a stone in *Maishu* as evidence of early blood-letting. And this is a well-attested medical technique in the *Huangdi neijing* corpus, where *Suwen* 46, for example, states, 'now as for *qi* and blood amassing, it is fitting to drain with a stone'.[45] But there is no other evidence of blood-letting in *Maishu*.

The text then specifies how to tailor a stone lancet to the quantity of pus. Instead of finding information about what kinds of stones were used to move *qi* or to influence the *mai* we are given explicit instructions for crafting the correct size of a stone lancet according to the condition of an abscess. We are also left with the impression that medical technology had not quite caught up with theoretical developments about the nature and treatment of the body. The same passage is re-worked in *Huangdi neijing Lingshu* (hereafter *Lingshu*) 7 where, in a description of the nine needles, the word 'pus' has been changed to 'illness', and the word 'stone lancet' to metal 'needle'.

Chunyu Yi, perhaps because he was a native of the eastern territories, was rather partial to using *bianshi, chan* as well as *zhenshi* 針石 'needling stones' to *ci* 刺 'pierce' and *qu* 取 'select and stimulate' various strategic places.[46] He does not use surgical techniques and states clearly that *bianjiu zhi qizhu* 砭灸至氣逐 'stone and cauterisation lead the *qi*'. And so when the nurse of the King of Northern Qi has 'heat *jue*' and her feet are hot and oppressive three needles are used to pierce the sole of the foot.[47] We can image on the basis of *Maishu* (6), quoted above, that the needles were thought to

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self-cultivation is examined in Vivienne Lo, 'The influence of nurturing life culture on the development of Western Han acumoxa therapy', in *Chinese medicine and the question of innovation. Festschrift in Commemoration of Lu Gwei-djen*, ed. Elisabeth Hsu (Cambridge: Cambridge University Press, 2001, 19–51).

[44] A recension of this text is reproduced in a number of later works including *Lingshu juan* 2, *pian* 7, 'guanzhen'. SBBY, vol. 205, fasc. 1, 5b and *Zhenjiu jiayijing* 5.

[45] *Suwen juan* 13, *pian* 46, 'bingnenglun' 病能論. SBBY, vol. 204, fasc. 3, 2. The author(s) is making a distinction between the use of needle and stone. Needles are appropriate for stopping the production of *qi* associated with the growth of abscesses. Epler makes a convincing argument for the formative influence of the practice of blood-letting in the development of acumoxa therapy, a tendency that is particularly evident in *Suwen*. There is no substantial corroboration for this view in the Mawangdui or Zhangjiashan texts. Dean Epler Jr., 'Blood-letting in early Chinese medicine and its relation to the origin of acupuncture', *Bulletin of the History of Medicine* 54, 1980, 337–67.

[46] Just like the wandering government advisers we meet in the Warring States philosophic literature Chunyu Yi roamed from one court to another seeking patronage. His travels took him through the commanderies of Qi 齊, Jibei 濟北 and Zichuan 菑川, an area that is roughly equivalent to modern Shandong. I am grateful to Elisabeth Hsu for her unpublished map of the travels of Chunyu Yi.

[47] *Jue* is a condition characterized by pain in the heart and/or extremities, that I argue elsewhere is associated with the development of the channels. See Vivienne Lo, 'The influence of *yangsheng* culture on early Chinese medical theory', (Ph.D. thesis, University of London, 1998), 240–67 and 'Tracking the pain', *Suddoffs Archiv* 83, 1999, 191–211.

move *qi* downwards through the feet to cool the condition. And in case 16, when the King of Zichuan 菑川 has a headache, body heat and feels in distress, Chunyu Yi slaps his forehead with cold water and pierces the Foot Yang Illumination channel in three places, probably also on the extremities, thereby resolving agitation in the upper body.[48]

By the second century B.C. we can detect a changing perception of the potential of medical intervention with stones. Sima Qian's account of the life and work of Bian Que differentiates medical techniques according to how deeply illness has penetrated the body:

> when the affliction stays in the *couli* 腠理 taking soups and *yun* 熨 'hot-pressing' it will reach there;[49] in the blood and channels *zhenshi* 鍼石 'needling stones;' will reach there; when it is in the bowels and stomach, applying wines and tinctures to it will reach there; when it is in the bone and marrow even if one could control fate there'd be nothing one could do.[50]

Stone lancets, in this account, treat the blood and channels at a deeper level than the skin. Sima Qian, however, probably composed the account of Bian Que in the image of medicine of his time. Earlier accounts of Bian Que's work and of surgery in *Hanfeizi* suggest that it was his skilful surgery with *zhenshi*, *dishi* 砭石 and knives at the superficial level of the flesh and skin, not more sophisticated acupuncture techniques, that made him famous.[51] We can be forgiven for our confusion over treatments with stone. For even in the sixteenth century the techniques had been forgotten. The Ming scholar physician, Xie Zhaozhe, laments:

> Physicians of old gave first place to the needle, the stone and to moxa. Drugs were secondary ... moxa only applied in 'wind blockage' or in urgent cases. Acupuncture was less than one in a hundred ... as for the stone, the tradition is quite lost.[52]

It is certainly not possible to identify a monolinear development from petty surgery with stones to the modern acupuncture needle, and this is a point stressed by both Yamada Keiji and Paul Unschuld.[53] Modern scholarship tends to date the compilation of the *Huangdi neijing* corpus to the first or second century B.C., and this and the preceding period was a time of great technical innovation. In this context it is worth noting that the *Zhouli's* 周禮 list of professionals (which while being an idealized account of life in Zhou times, may reflect something of its own time) mentions physicians who lance abscesses but has no record of acupuncture or moxibustion personnel.[54] Yet, on the

[48] *Shiji* 105, 2815, 2807 and 2805.

[49] The *couli* is a commonly identified structure on the surface of the skin, which forms part of the permeable barrier between inner and outer bodily space. I have discussed different interpretations of *couli* in detail in 'The influence of Yangsheng culture on early Chinese medical theory', 226–30. Despeux also discusses the *couli* as the space of interchange between internal and external; see 'Le corps, champ spatio-temporel, souche d'identité', *L'Homme*, 137, janv.–mars 1996, 92–3. Working with the *Neijing* corpus, Sivin translates *couli* 腠理 'interstices of the flesh' and understands the term to refer to the 'spaces in the boundaries within the flesh, between flesh and skin, and sometimes between flesh and internal organs'. (Sivin, *Traditional medicine in contemporary China*, 103, n.14.)

[50] *Shiji* 105, 2793. The statement is a modified version of one in *Hanfei zi juan* 7, *pian* 21. SBBY, vol. 173, fasc. 2, 2b–3.

[51] *Hanfeizi juan* 8, *pian* 25. SBBY, vol. 173, fasc. 2, 8.

[52] Xie Zhaozhe, fl. Wanli period (1573–1619). *Wu zazu* 'Five miscellanies', Reprinted in Guoxue zhenben wenku series, 1935, 220.

[53] Paul Unschuld, *Medicine in China*, 95; Yamada, *The origins of acupuncture*.

[54] Opinions about the date and authorship of *Zhouli* have varied widely from the Duke of Zhou to Liu Xin 劉欣 (−46–+23). See William G. Boltz, 'Chou li', in Loewe, *Early Chinese texts*, 25–9.

basis of the many references given in this paper, it is reasonable to imagine that medical stones were used for different purposes in different social, professional and cultural contexts—and even that, in the course of experimentation with petty surgery, physicians made observations and hypotheses concerning the potential of stone to treat the body at a deeper level. In the next section we will consider other medical interventions with stone and cautery which had an equal, if not a greater, impact on the principles and practice of acupuncture.

Hot pressing, cautery and massage

Yamada presents strong evidence that the development of moxibustion with mugwort was related to an earlier use of mugwort to ward off inauspicious elements and drive away demons. The people of Chu in particular wore mugwort dolls at their waist. He also describes the use of a related plant, *xiao* 蕭, as a form of incense to attract the gods, concluding that 'mugwort must originally have been more than just a medicinal herb. *Ai* and *xiao* belong to the same mugwort genus, but one was used as incense to beckon the gods, whereas the other was used to drive away demons that caused illness'. These represent two contrasting approaches to ensuring that the body only played host to benign entities. Yamada raises the possibility that the channel system was discovered by those using moxibustion for 'magical therapies' because 'the routes or areas of illness caused by gods of illness invading the body is highly compatible theoretically with the concept of the vessels (channels)'.[55] Yamada's theory about moxibustion parallels the different uses of stone to define and determine an unassailable physical space.

The use of cautery is attested in literary analogies of the Warring States period. *Zhuangzi* puts the idea of 'cauterising where there is no sickness' into Confucius's mouth as an analogy for useless effort; *Mengzi* likens inadequate preparation in government to the futility of using insufficiently mature *ai* 艾 'moxa punk' or 'mugwort' to treat chronic illness.[56] However, it is not possible to ascertain how widespread the use of moxibustion with mugwort was in Han times. In the *Wushier bingfang* we can identify many different types of cautery: mugwort burned on the top of the head or the shin treats inguinal swelling, cat-tail mats cauterize warts:

> Take a worn-out cat-tail mat or the soft leaves of a cat-tail bedmat and make them into a cord. Then light the tip and cauterise the tip of the wart with it. When it becomes hot, pluck off the wart and discard it.[57]

Despite their earlier origins cautery techniques had taken a supplementary role to acupuncture by the time of the *Huangdi* corpus.[58] Yamada points out that of the compound term used in the *Huangdi* corpus a distinction is made

[55] Harper, *Early Chinese medical literature*, 244; Yamada Keiji (ed.) Shin hakken Chūgoku kagakushi shiryō no kenkyū 新發現中國科學史料の研究 (Kyoto: Kyoto daigaku jinbun kagaku kenkyūjo, 1985) vol. 2, 58–63. See also Yamada, *The origins of acupuncture*, 66–78. Yamada compares the stages in one *Wushier bingfang* prescription for hernia which involves minor surgery, the applications of paste and alcohol, and fumigation, to the stages in a ritual ceremony described in *Li Ji*. The fumigation, he believes, was intended to drive away the god of sickness and prevent it from entering the wound. Here we have a repetition of that theme where openings in the body, here a wound but elsewhere the orifices, are both vulnerable to malevolent activity as well as pivotal in methods to support and protect the body.

[56] *Zhuangzi juan* 9, *pian* 29. SBBY, vol. 176, fasc. 4, 21b. *Mengzi juan* 7. 9. SBBY, vol. 8, fasc. 3, 8.

[57] tr. Harper, *Early Chinese medical literature*, 244.

[58] Moxibustion is generally used for replenishing techniques associated with conditions that have 陷下 *xian xia* 'dropped down', which I interpret to be empty, deficient conditions. See the conditions associated with the lung channel in *Lingshu juan* 3, *pian* 10, 'Jingmai'. SBBY, vol. 205, fasc. 1, 1b.

between the *bianshi* 'needling stones' (or *zhenshi*, *chanshi* and *shi*) and *ci jiu* 刺灸 'piercing and cauterizing' (or *jiu ci* and *zhen ai* 針艾 'needle and moxibustion') and they are even contrasted.[59] His point is that where the combinations 'moxibustion and acupuncture' are contrasted to *bianfa*, acupuncture is classified as more akin to moxibustion than to surgical techniques—a feature well-illustrated in the excavated channel texts from Mawangdui and Zhangjiashan which use mainly 久 (灸) *jiu* 'cauterization' to treat the channels and not stone.

> So if *qi* goes up, not down, then discern which channel is in excess and *jiu* 久 cauterise where it meets the articulation ....[60]

Since most of the symptoms associated with the channels of the excavated texts are different kinds of pain manifesting themselves on the channel itself,[61] we can imagine that exercise, massage, hot and cold-pressing and cautery with the type of pottery and stone utensils discussed below, would be appropriate therapy.[62]

Yamada describes a distinction highlighted by Yang Shangshan (?Sui period) in his annotation of *Suwen*: Yang Shangshan believed the single graph *shi* 'stone', as distinct from *bian* 'lancing stones', referred to cold stones in poultices.[63] There is also textual evidence to corroborate the judgement that some excavated stones had a hot-pressing, or cauterizing function. One stone excavated from a Warring States tomb at Jiangxi, Shanggao 上高 county is of special interest.[64] It is an oval, convex, pendulum, rubbed to a shine, with a hole at one end for suspension and was found inside a three-legged *ding* 鼎 'cauldron'. The hole indicates that the stone was usually suspended and the cauldron that it was suspended in or over hot fluid. With its oval, convex shape it would have been suitable for holding in the hand during hot pressing and massage treatment. An egg-shaped stone engraved with *chan* 蟾 cicada-shaped patterns and with a hole at one end excavated from the Spring and Autumn period Hujiawan tomb in Xialiu city, Hunan may well have been used for the same purpose (see figure 3).[65]

Heating stones in different kinds of fluid or in fire is attested in the Mawangdui *Wushier bingfang* prescriptions. For example, here is a suggested remedy for itchy anus:

> Take stones the size of a fist, twice seven in number. Thoroughly burn them. Have two thirds *sheng* of well beaten rice and eight times that amount of water, and put the stones into it. ... cooked, then drink it, and it desists.[66]

Wushier bingfang gives us twelve different *yun* 'hot-pressing' techniques, of

[59] Yamada Keiji, *The origins of acupuncture*, 24. The translation of the compound terms is mine.
[60] *Mawangdui Hanmu boshu*, Vol. 4, 17.
[61] I have discussed this thesis in detail in Vivienne Lo, 'Tracking the pain'.
[62] One edition of the channel text, *Yinyan shiyimai jiujing*, is attached to *daoyin tu*, a chart depicting forty-four different *daoyin* exercises. We know from *Yinshu*, the excavated *daoyin* manual, that these are visual representations of strategies for maintaining good health, treating pain and remedying other illnesses. *Daoyin* exercises as a feature of health-care became central to some medical circles, such as those that wrote *Suwen* 12 which, after associating stone lancets with the east, places *daoyin* as the therapy of the central territories. The juxtaposition of therapeutic gymnastics and cautery with early descriptions of pain and other pathologies of eleven channels suggests that both exercise and heat were the commonly recommended therapies for treating the channels. I have discussed the relation of *daoyin* to the channels in He Zhiguo and Vivienne Lo, 'The channels: a preliminary examination of a lacquered figurine from the Western Han period', *Early China* 21, 1996, 81–124.
[63] Yamada Keiji, *The origins of acupuncture*, 28–30.
[64] Xue Yao 薛堯, 'Jiangxi chutu de jijian qingtongqi' 江西出土的幾件銅器, *Kaogu*, 1963.8, 416–18.
[65] Ma Jixing and Zhou Shirong 'Kaogu fajuezhong suojian bianshi de chubu tansuo'.
[66] tr. Harper, *Early Chinese medical literature*, 276.

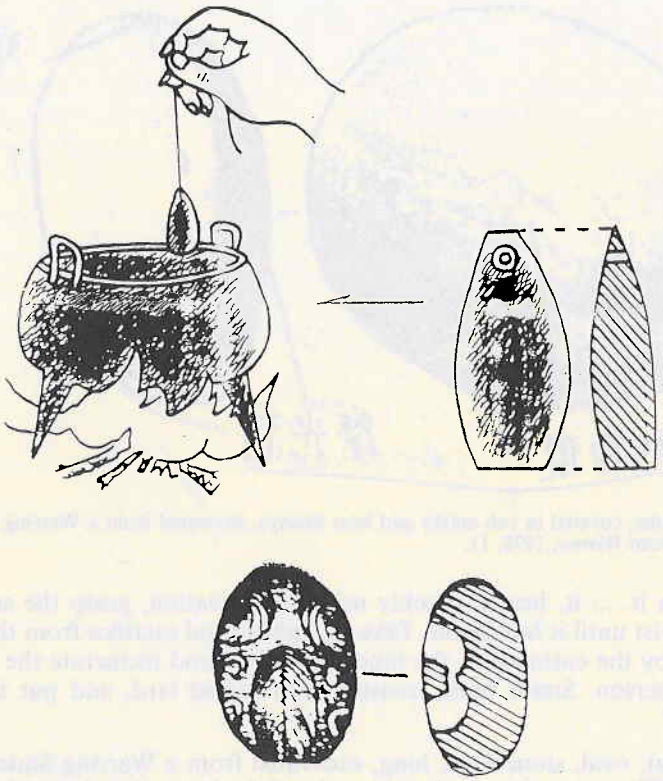

FIG. 3. Pendulum stones from : a) a Warring States tomb in Jianxi; and b) the Spring and Autumn period Hujiawan tomb. From *Wenwu*, 1978, 11.

which the Shanggao and Hujiawan stones would be appropriate tools for the following treatment:

> Recipe for male haemorrhoids the size of a *zao* (jujube) pit lodged on the edge of the anus which at times itch and at times are painful. First cut it off. If it cannot be cut off, [take] turtle brain and *didan chong* (oil beetles), half and half. Blend and spread on (the haemorrhage). Burn small oblong stones. Quench them in gruel vinegar and use them to hot press. If it does not desist, repeat it again following this procedure. Excellent.[67]

Other liquids and substances used in hot-pressing techniques recorded in *Wushier bingfang* include the steam from rat boiled in urine, roasted salt wrapped and dipped in liquor, anthill loam,[68] *wuhui* (monkshood) and *lilu* (black veratrum).[69]

The following recipe for haemorrhoids that protrude through the anus suggests cauterization with a hot stone:

> Male haemorrhoid ... There is snail-like flesh protruding, sometimes like the shape of a rat teat. The tip is large and the base small, and there is a

[67] ibid., 272.

[68] See the translations in ibid., 229, 231–2 and 235–6.

[69] There are many more methods recorded in later medical literature such as *Qianjin Baoyao*, which records hot-pressing with ash, animal and metal, many more herbs and substances including rape, black bean, silkworm excrement, willow root, peach juice, etc. See the descriptions in Qigucheng bowuguan, *Linzi Shangwang mudi* (Qilu: Qilu shushe, 1997), 180.

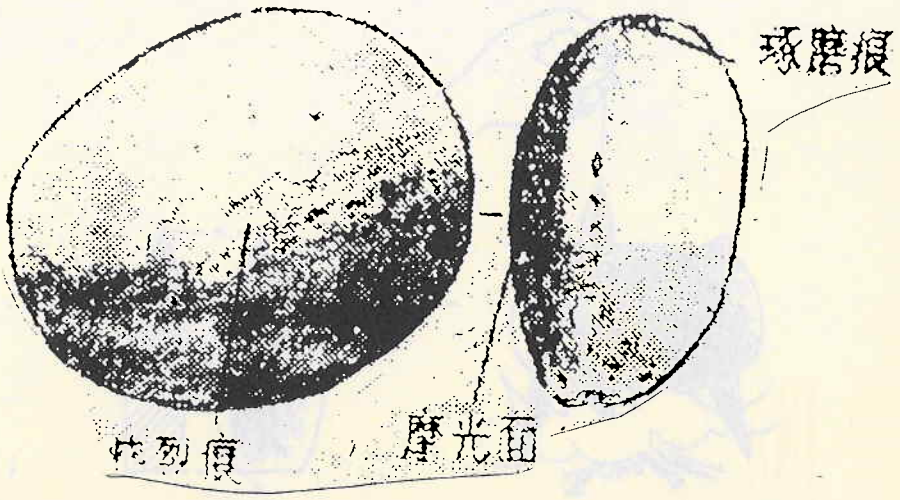

FIG. 4. A stone, covered in rub marks and heat fissures, recovered from a Warring States tomb in Xiama. From *Wenwu*, 1978, 11.

> hole in it. ... it, heat it quickly using cauterization, grasp the small base, and twist until it breaks off. Take the millet food sacrifice from the offering niche by the entrance to the inner (chamber) and incinerate the head of a dead person. Smith both, moisten with rancid lard, and put it into the hole.[70]

One flat, oval, stone 6 cm. long, excavated from a Warring States tomb at Xiama 下麻 seems to be a good example of the kind of tool used in this type of operation. The stone was covered with rub marks and heat fissures. One side was rubbed to a shine (see figure 4). The two stones from Xialiu, Hujiawan and Shanggao, described above, could also be heated in fluid and used for this purpose.

Different types of massage would naturally require stones of different shapes and sizes. A round, concave stone 3.2 cm. in diameter was excavated from a site at Taobo 桃博, Yiyang 益陽.[71] Traces of massage pressure are evident on its inner side. With such a small stone it would be possible to concentrate pressure on small areas or along the fine lines of the channels. A 9.5 cm., aubergine-shaped river pebble excavated from the Han period Yanzi zui 燕子嘴 tomb at Changsha 長沙, Hunan, is even more useful in this respect (see figure 5).[72] With a small teat shape at one end the pressure applied could be even greater and the site of the lesion more carefully targeted. Both these stones might be considered ancestors of needles described in Lingshu 1, the 'nine needles' treatise of the *Huangdi neijing*: the *chizhen* 鍉針 'spoon needle' was designed to massage the channels and the *yuanzhen* 員針, 'round

[70] tr. Harper, *Early Chinese medical literature*, 270. Many excavated stones are appropriate for this kind of cautery of boils and wounds. The shape, apart from rendering the stone easy to hold and being appropriate to the size and place of the lesion, would be immaterial. Ma Jixing and Zhou Shirong suggest that a 13 cm. long oval stone, rubbed to a shine, excavated from a site at Hunan, Shimenzao 石門皂 city might be an early example from the Shang period. Ma Jixing and Zhou Shirong, 'Kaogu fajuezhong suojian bianshi de chubu tansuo', 82. See Zhou Shirong, 'Hunan Shimen xian Zaoshi faxian Shangyin yizhi' 湖南石門縣皂市發現商殷遺址, *Kaogu*, 1962.3, 145.

[71] Ma Jixing and Zhou Shirong, 'Kaogu fajuezhong suojian bianshi de chubu tansuo', 53 n. 17. The authors saw this stone personally at the Hunan Provincial Museum.

[72] Zhou Shirong, 'Changsha dongjiao lianghanmu jianjie' 長沙東郊兩漢墓簡介 *Kaogu* 1963.12, 684, fig. 3.2.

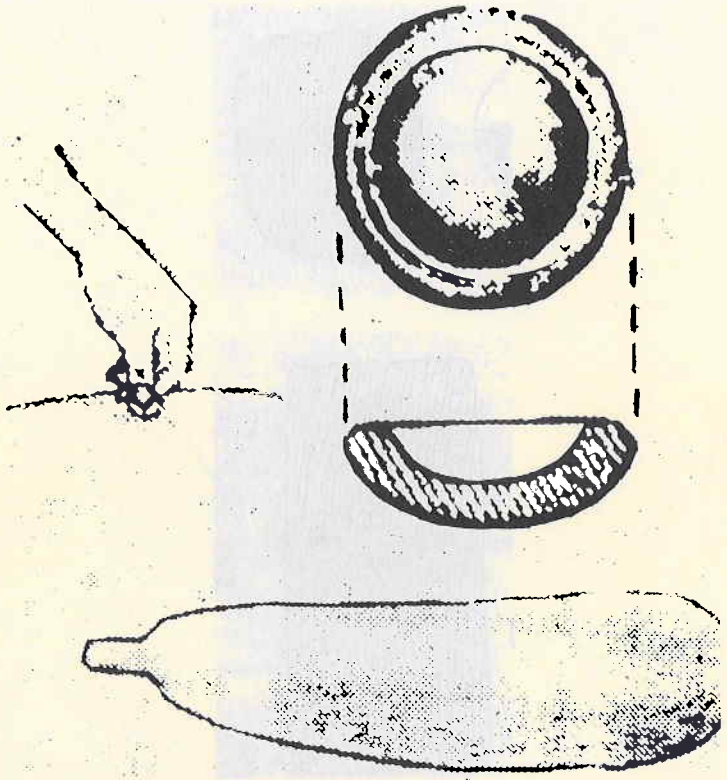

FIG. 5. Massage stones from Taobo, Yiyang and the Yanzi zui tomb. From *Wenwu*, 1978, 11.

needle', massaged all the divisions between the muscles.[73] Both were thought to influence the *qi* of the inner body.

Pottery utensils were also suitable for use in massage and hot-pressing procedures.[74] Pottery hot-pressing has obvious advantages over stone. Firstly it is possible to mould the utensil to the required shape. Secondly, it can withstand high heat and cooling without cracking and, thirdly, it distributes heat evenly around the face of the tool.

Four late Warring States pottery pantiles recently excavated from tomb M1 at the Shangwang 商王 site at Linzi 臨淄 in Shangdong are convincing examples of the kind of tool that would have been suitable for cautery and hot-pressing (see figure 6).[75] All four have rough patterns trowelled in longitudinal lines onto one of the faces. The edges of all the pantiles are finely rubbed down to make round edges, smooth enough to avoid damaging the skin of the patient during massage. Scorch marks and liquid stains cover the tiles. Neither the shape, nor the extent of the scorch marks on the pantiles, are consistent

[73] *Lingshu juan* 1, *pian* 1. SBBY, vol. 205, fasc. 1, 2.

[74] This is a tradition that has been traced to the Banpo 半坡, Jiangsu Huaian 淮安 and Qingliangang 青蓮崗 sites where Ma Jixing and Zhou Shirong 周世蓉 speculate that some flat and cylindrical pottery utensils were used in hot-pressing and massage.

[75] See the excavation report in *Linzi Shangwang mudi*, 175–82 and plate IX and fig. 9. The tiles are apparently not '*taopai*' 陶拍 spinning wheel tiles of the sort used to indicate the female gender and/or suggest that a girl would become good at spinning and weaving. The girl in the tomb was of fairly high status and therefore unlikely to be taking up spinning professionally. The tiles were placed at the north end of the tomb between the coffins. Two of these pantiles are oval, one 13.4 cm. long and 9.1 cm. wide and the other 17 cm. long and 11 cm. wide. The other two are rectangular, and 23.7 × 9 cm.

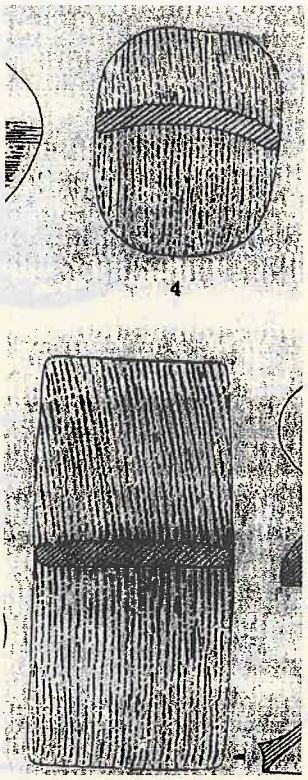

FIG. 6. Pottery pantiles from Linzi Shang Wang Mu Di.

with culinary use. There is a strong argument that these items are *yunju* 熨具 'hot-pressing tools'.

All of the cauterization treatments related thus far seem to treat concrete symptoms or pain, and appear to have little to do with the physiological body that is the central concern of this paper. But *jiu* was also a technique to stimulate *qi* in self-cultivation. *Tianxia zhidao tan* describes how the gentleman who has over-indulged in sexual activity tended to 'cauterise his body to bring forth his *qi*' in a programme which included taking special medicines and diet. (The point of the passage is that his efforts are in vain if he fails to regulate his sexual activity.)[76] Where *Maishu* (6) uses both cautery and stone *bian* to normalize the movement of *qi* and writes of opening the channel at the joints with a stone lancet, does this necessarily mean breaking the flesh? Since in Han culture stone had a way of defining and containing the most precious and vitalizing essences of the body, could a specially chosen stone not open the channel and influence the movement of *qi* itself, with the power of its very presence? When Bian Que states that needle and stone act at the level of the blood and channels, and we envisage piercing through the skin, should we not also entertain the idea that specially selected or crafted stones were used to heat, press and massage the channel?

At this point we have exhausted the evidence available from excavated medical stones and must await further excavation of the many thousands of burial sites that have already been identified. Even from the evidence of these

[76] *Mawangdui Hanmu boshu*, Vol. 4, 164.

few examples we have begun to chart a change in the nature of medical intervention. Stone tools for petty surgery and pain relief were a pervasive necessity, but physicians and self-cultivators in the late Warring States and early Imperial period began to apply all manner of treatments to the channels in order to tonify their *qi* and restore their *jing*. In the next section we will see that they also reinvented ancient medical cultures related to stone, such as commanding the spirits, bleeding, hot-pressing, lancing, cauterization and massage, according to the principles of new physiological theories that were circulating at that time. Here we will set out some of the technical considerations involved in this transition.

Acupuncture alchemy

By the early Western Han period changing medical perceptions of the living inner body, under the influence of ideas fundamental to early self-cultivation culture, were already prompting a change in the nature of medical interventions at the surface of the body.[77] In less than a century and by the time of the *Huangdi neijing* compilation (the canon of Chinese acupuncture) these changes resulted in the concept of a formal system of channels, known as *jingluo* 經絡 through which different types of *qi* moved rhythmically around the inner body.[78] There was also a corresponding change in medical technology. From occasional references to stones and *bian* to treat the channels, fine metal filament needles were suddenly the favoured method for moving *qi* by insertion at strategic points on the surface of the skin. In the words given to the Yellow Emperor written in *Lingshu*, we see that the new theories and technology matched:

> I wish not to employ poisonous herbs; to be without applying *bianshi* 'stone lancet'. I wish to use small needles to connect the *jingmai* and adjust blood and *qi*, to lay out the 會 *hui* 'meeting places' where it comes in and out and flows smoothly or inversely. So that it may be transmitted to posterity, that they will use this method in an enlightened way, ... I will for the first time establish the *Zhenjing* 鍼經 (Needle Canon).[79]

Here we have small needles applied to a body imagined in physiological terms, where *qi* and *jing* flow smoothly through the *jingluo* and where the *qi* comes and goes at *hui* 會 'meeting places'.[80] A distinction is made between this mode of treatment and the cruder application of *bianshi* lancing stone which, throughout the compilation, is most frequently used to refer to surgical tools.

The *Yantielun* 鹽鐵論 ('Discourse of salt and iron') of 81 B.C. reveals that Bian Que's legendary use of pulse diagnostics and the *zhenshi* 針石 'needling stone' to redistribute the influences of Yin, Yang and *qi* is the medical expression of a pervasive political concern. The text matches the maxim to 'take the

[77] I have argued this at length in my doctoral thesis. See Vivienne Lo, 'The influence of *yangsheng* culture on early Chinese medical theory'.

[78] Some interpretations will leap over the *Neijing* corpus to place the concept of circulation and its corollaries as late as the *Nanjing*. Unschuld differentiates between the evidence for a discovery of circulation in the *Neijing* and a more mature theory as set out in the first twenty-two chapters of the *Nanjing*: Unschuld, *Medicine in China*, 85–6.

[79] *Lingshu juan* 1, *pian* 1 'Jiuzhen shier juan', SBBY, vol. 205, fasc. 1, 1–4. The *Zhenjing* is one of the medical canons listed in the *Yiwenzhi*, the bibliographical treatise of the *Hanshu*, and was a nine *juan* text used by Huangfu Mi (215–282) and associated with a nine *juan Suwen* (Basic Questions). Historians have identified these two texts as the earliest known elements of the *Huangdi neijing*. However, it is impossible to know whether there was ever a Han text known as *Huangdi neijing* or what collection of texts it might have been.

[80] I will discuss the significance of *hui* below.

surplus and supplement the insufficiency', which we met a century or more earlier in the writings of *Maishu* (6), to the redistribution of wealth in the state:

> Now the crude physician does not know the patterns on the skin formed by the arrangement of the *mai*, the division of blood and *qi*; he blindly stabs yet does not benefit the illness, only damaging the skin and flesh. Now you wish to cut down on the surplus to replenish the insufficiency, but the rich grow increasingly rich and the poor grow increasingly poor. By deploying the punishments of severe laws you wish to stop villainy with prohibition and violence, yet villainous plots do not stop. Your intention is not that of Bian Que's use of the needling stone, so the multitude have not yet received direction.[81]

The inferior physician/government knows nothing of the subtler workings of the body/state and simply does superficial damage. We should note that it is not so much that the locus of therapeutic intervention changes; the account of Bian Que's needling stone still has him working through the medium of skin and flesh. But, in contrast to the accounts of his surgery in *Hanfeizi*, he is able to distinguish the exact locations of the *mai* and, more importantly, his intention and mode of attention are significantly different. *Suwen* 46, discussing abcesses of the neck, distinguishes between treatment with stone and needle, 'if the *qi* of an abscess is increasing, then it is fitting to use a needle to open and drain it. Now if the *qi* is flourishing and the blood amasses it is fitting to disperse it with a stone. The illness is the same, but the methods are different'.[82]

Despite the Yellow Emperor's dissatisfaction with the crude methods associated with stone quoted above in *jiuzhen* 九針 'nine needles', much of the therapy detailed in the *Huangdi neijing* compilation, and even in the passages where *jiuzhen* itself differentiates needles and techniques, amounts to little more than petty surgery, blood-letting and massage. *Lingshu* 7 'guanzhen' 官針 and *Taisu* 21 'jiuzhen suoxiang' 九鍼所象 give us the number of needles specified for surgical use. Figure 7 is a Ming reconstruction of the nine needles.[83] The *pizhen* 鈹 針, 'bursting needle' had a tip as sharp as a sword for bursting abscesses. Yamada quotes Duan Yucai's notes to the *Shuowen* gloss of *pi* to suggest that this was a double-edged sheathed knife.[84] The *dazhen* 大針 'big needle' was for draining oedematous swelling of the joints. The *changzhen* 長針 'long needle' has a three-faceted blade and was applied, alarmingly, to illnesses residing in the centre, while *fengzhen* 鋒針, the 'sharp-pointed needles', were applied to the channels and the *qi*. The reference here is probably not to a surgical operation, but the various accounts are inconsistent; *Taisu* 21 suggests that *fengzhen* was a triple-edged needle 'to remove fever and draw blood'.[85]

[81] *Yantielun* 14, *Yantielun jianzhu* (Beijing: Zhonghua shuju, 1984) 106–7. Chapter 31, entitled *zhenshi* 'lancing stones', also likens managing moral and social issues to using needle and stone to cure illness.

[82] *Suwen juan* 13, *pian* 46. SBBY, vol. 204, fasc. 3, 2.

[83] *Lingshu juan* 1, *pian* 1 and *juan* 2, *pian* 7. SBBY, vol. 205, fasc. 1, 1–4 and 5a–7b. *Huangdi neijing taisu*, vol. 2, 408–23. *Zhenjiu dacheng* 4. Yang Jizhou 楊繼洲, (Tianjin: Tianjin kexue jishu 1992), 144–5.

[84] Yamada, *The origins of acupuncture*, 16.

[85] *Lingshu* does not explicitly associate the *fengzhen* with moving *qi*, but it brings in other important elements related to the new models of acumoxa theory. Treatment must be at the *jing* 'well', *ying* and *shu* locations and selected according to the four seasons. It is not clear whether, by the time of the *Lingshu* compilation, the well, *ying* and *shu* locations are part of a system with the matching acupoints as we know them today or whether they serve as body-piercing locations in their own right. See also *Huangdi neijing taisu* 21, vol. 2 414–5. Ma Jixing and Zhou Shirong Yiyang Lujiao site lancets to be early models for the *fengzhen*. Ma Jixing and Zhou Shirong consider 'Kaogu fajuezhong suojian bianshi de chubu tansuo'.

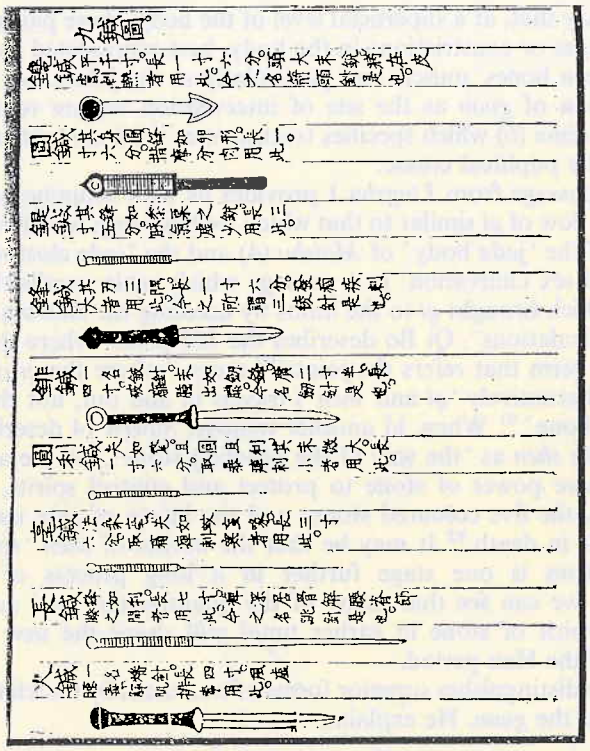

FIG. 7. A Ming reconstruction of the nine needles from Yang Jizhou: Zhenjiu Dacheng 4.

Suwen 60, for example, recommends applying heat or a needle to the joints, mainly in order to ease pain. The location of acupoints is also given with specific reference to the cavities between bones.[86] Here we can imagine a range of different interventions. Yet, despite the crude nature of many techniques, *Huangdi neijing* frequently insists on the priority of a medicine involving *qi*.

A number of treatises in the *Huangdi neijing* corpus represent the earliest extant example of a concerted attempt to raise the level of discourse about body piercing and to promote theories about moving *qi* with needles. In *Lingshu* 4 Huangdi asks Qi Bo about rules in using the needle. Qi Bo answers:

> ... one must target the *qi xue* 氣穴 '*qi* cavities', and not target the seams in the flesh ...[87]

and *Lingshu* 3 states that:

> the crude keeps to the *guan* 關 'passes', he keeps to the four limbs and does not know the comings and goings of blood and *qi*, of upright and perverse.[88]

I have discussed the nature of *guan* elsewhere.[89] For the purposes of this paper,

[86] *Suwen juan* 16, *pian* 60 'Gukong lun', SBBY, vol. 204, fasc. 4, 1a–6a.
[87] *Lingshu juan* 1, *pian* 4 'Xieqi zangfu bingxing' 邪氣藏府病形. SBBY, vol. 205, fasc. 1, 14b.
[88] *Lingshu juan* 1, *pian* 3 'Xiaozhen' 小針. SBBY, vol. 205, fasc. 1, 8a.
[89] Vivienne Lo, 'Crossing the inner pass: a nei/wai distinction in Early Chinese medicine', *EASTM* 17, 2000, 15–65.

it suffices to say that, at a superficial level of the body, these passages represent narrow passages or constrictions in the body, best represented as the channels formed between bones, muscle and particularly at the joints, i.e. *guanjie* 關節. In the selection of *guan* as the site of intervention we are reminded of the passage in *Maishu* (6) which specifies treatment at the *huan* 'articulations', the elbows and the popliteal crease.

Another passage from *Lingshu* 1 provides us with acupuncture techniques to establish a flow of *qi* similar to that which we have seen was deemed essential in the care of the 'jade body' of *Maishu* (4) and the 'jade closure' techniques of breath and sex cultivation. In a passage which again recalls the stone *bian* in *Maishu*, which brought *qi* to the limbs by needling the elbow and knees and the *huan* 'articulations', Qi Bo describes the 365 places where the *jie* 節 (like *guan* another term that refers the joints)[90] cross, 'where the *qi* of the *shen* 神 'spirit' (or alternatively '*qi* and *shen*') travels in and out, not the skin, flesh, tendons and bone'.[91] When, in another treatise, *Suwen* 14 describes medicine for moving the *shen* as 'the way of the needling stone', we are also reminded of the pervasive power of stone to protect and control spirits, of the Rain Master stone, the five coloured stones and the layers of jade used to protect the Han lords in death.[92] It may be that the notion of *shen* 'spirit' in these medical treatises is one stage further in a long process of abstraction. Nevertheless, we can see that many of the qualities that had accrued to the culture and spirit of stone in earlier times still shape the new acupuncture treatments of the Han period.

Qi Bo also distinguishes superior forms of treatment by the kind of attention that is paid to the *guan*. He explains:

> The crude guard the *xing* 'form' and the superior guard the *shen* 'spirit'. As for the *shen*, the *shen* lodges in the gates; if you do not observe the affliction, how can you know its cause? The subtleties of piercing lie in the speed; the crude guard the *guan* 'passes', the superior guard the *ji* 極; the movement at the *ji* is not separate from the cavities, the *ji* are in the cavities; clear, quiet yet subtle, the coming cannot be met with and the goings cannot be followed.[93]

Rather than needle into the *jie* 'joints' or *guan* 'passes', which is apparently painful, it is important to pay attention to *ji*. In astronomy the *ji* are the points on which spherical/celestial bodies pivot—the crucial points that do not move themselves, but control the movement of the whole body. In divination *ji* represents the point of control in both a spatial and a temporal sense. In contrast to the large areas of 'joints' and 'passes', which refer to a generalized area, the *ji* must be very fine and well-defined points crucial to the passage of *qi*, *jing* and *shen*. Their exact position is so subtly perceived that only the superior physician can find them. Huainanzi 20 describes how 'one who attains the *dao* 道 Way' uses the *ji*. When calm and contained, with *shen* 'spirits' lodging in their heart and no perverse *qi*, 'on the four limbs, at the joints and intersections, the pores of the hair and skin steam and sweat, so the *jishu* 極樞

[90] The two terms *guan* and *jie* are eventually elided into the single term *guanjie* 'the joints'.
[91] *Lingshu juan* 1, *pian* 1 'Jiuzhen shier yuan', SBBY, vol. 205, fasc. 1, 1–4.
[92] *Suwen juan* 4, *pian* 14. SBBY, vol. 204, fasc. 1, 5b.
[93] *Lingshu juan* 1, *pian* 1. SBBY, vol. 205, fasc. 1, 1. *Lingshu juan* 1, *pian* 3. SBBY, vol. 205, fasc. 1, 8 also notes the difference between *guan* and *ji* in crude and sophisticated attention to the joints. It adds a distinction between *zhengqi* 正氣 'proper *qi*' and *xieqi* 邪氣 'perverse *qi*', the former associated with guarding the *shen* 神 'spirit' and the latter with *ke* 客 (unwelcome) 'guests'. This concept of a conflict between proper and perverse or evil *qi* is an abstraction of ideas associated with demonological possession.

'pivots' are adjusted beneficially, then of the one hundred *mai* and nine orifices, not one is not smooth'.[94]

I interpret *ji* as the deepest part of the fleshy cavities that nestle between joints, the natural pits where one's finger stops when one presses into the cavities of the body.[95] These cavities are concentrated around the vertebrae, shoulders, hips, knees, elbows, fingers—all the articulations of the body—and are the sites of the vast majority of acupuncture points. The *ji*, we are told, are within the cavities. Thus the distinction between the practice of crude and superior physicians is not just that the treatment must be applied at an elusive and tiny location, but also how the physician perceives the nature of his intervention. He must focus on the patient's spirit, not physical form, a fundamental principle of practice which begs the question of how the physician's intention is involved in the outcome of treatment.

Much is made of how to influence *qi* without leaving blood clots and bruising or harming the body by needling to inappropriate depths. Perhaps in the anxiety and care taken to avoid damaging the arteriovenous system with crude stone implements we can see evidence of blood-letting. The *Huangdi neijing* corpus does indeed document many instances of blood-letting.[96] Certainly blood-letting would be most easily accomplished at the joints and in particular at the elbows. But we can also see a distinction between crude forms of body piercing and a concern to pitch the treatment towards leading and facilitating the movement of *qi*: just like the passage in *Maishu* where we have seen that opening the channel at the *huan* 'articulations' was matched to treating at the elbows and knees in order to regularize pathological *qi*, so needling at the joints leads the flow of *qi* to the limbs where it naturally enters and leaves the body. We can see a distinction (rather than a progression, since many crude surgical and pain relief treatments remained in the domain of the acupuncturist) between blood-letting, pain relief and treating *shen* and *qi* at the gates or between focal points at the joints.

Given the *Huangdi neijing* preoccupation with moving *qi* it is surprising that only three of the 'nine needles', the *haozhen* 毫針, the *chanzhen* 鑱針 and the *yuanlizhen* 員利針 'round sharp needle' were used to pierce the body to influence conditions of *qi* pathology. The *yuanlizhen* were used to treat acute illnesses associated with *baoqi* 暴氣, 'violent *qi*', and there is little by way of further information.[97] The *chanzhen* had 'a big head and sharp point', like the spoon-shape of the *bian*, *chan* and *di* stones suggested by Yamada. It was used to drain Yang *qi* by inserting it into the outer, dorsal parts of the body to cure subcutaneous illnesses. This kind of treatment aimed to draw illnesses out of the body through the surface of the skin. The *haozhen* was used with a gentle and slow technique to needle *bi* 痹 conditions associated with pain.[98] Neither of these treatments seem to relate specifically to points along the channels or to acupuncture points.

[94] *Huainanzi jiaoshi* 淮南子校釋, 2044.

[95] *Zhongji* 中極 'Middle extremity' (Harper translates poetically Middle bourne) was an early identification of the uterus, the organ situated at the extremity of one of the deepest, accessible cavities in the body. Later this becomes the name of an acupoint *ren* 仁.

[96] Epler makes a convincing argument for the formative influence of the practice of blood-letting in the development of acumoxa therapy, a tendency that is particularly evident in *Suwen*. There is no substantial corroboration for this view in the Mawangdui or Zhangjiashan texts. Dean Epler Jr., 'Blood-letting in early Chinese medicine'.

[97] *Lingshu juan* 1, *pian* 1. SBBY, vol. 205, fasc. 1, 2a.

[98] As well as the *haozhen*, the *yuanlizhen* 員利針 'round, sharp needle' and the *fengzhen* 鋒針, 'fine pointed needle' are used to resolve different illness associated with *bi* 痹. *Shuowen* 7b, glosses *bi* as 'damp illness'. See *Shuowen jiezi zhu*, 350. *Suwen juan* 13, *pian* 43 is devoted to a description of the syndrome in all its various manifestations.

Where *Lingshu* 1 suggests manipulating *qi* by piercing the body with fine needles a distinction is made between the crude quality of stone lancets and small, metal needles. Modern acupuncture needles are made from finely tempered steel of a quality that was not available to the authors of *Lingshu*. Most tools and weapons in the late Warring States and Han period were made of cast iron which, due to foundry production, allowed for cheap mass production. But cast iron, with its high carbon content, would have been brittle and dangerous when fashioned as finely as a 'mosquito proboscis', a description of the *haozhen*.[99] Iron with a low carbon content was difficult to cast and had to be wrought by smithy methods. Technically it would have been possible to smith a fine iron or steel needle from before the third century B.C., but excavations have not unearthed any examples from this period.[100] Many swords made from wrought iron and mild steel survive from Qin and Han times. A number of sewing cases containing fine iron and steel sewing needles have also been recovered from Han tombs.[101] Another *gang zhen* 鋼針 was excavated from a Chu tomb in Baoshan, Hubei, but there is no evidence that the archaeologists have determined decisively whether it is iron or steel.[102] Copper, bronze, gold or silver could also be beaten quite thin, but these would still make clumsy, fragile instruments. Besides, gold and silver were expensive and tools of this quality would not have been widespread.

The *haozhen* would have to have been more sophisticated than, for example, the nine silver and gold needles excavated at the Mancheng burial site.[103] These needles are all much finer and sharper than those recovered from the Zhou period, but they are still far removed from steel needles and especially from those described as *haozhen*. The holes in the handle shaft also suggest that the needles might have been hung, or more likely that they had a threading function – especially in this particular tomb which contained the two suits made of jade pieces sewn together with gold wire. It seems certain that these are sewing needles (despite the suggestion of medical use made by a nearby bowl in the grave site inscribed with the words *yigongpan* 毉工盤 'bowl for medical use').

The failure of archaeologists to discover steel medical needles in Han tombs should not overly distress us. Changes in burial culture after the first century B.C. meant that the wealthy were no longer buried along with their medical treatises and the content of their medical cabinets. Excavations are also, in a sense, random, and we cannot draw definite conclusions from what they do not contain. But the burden of proof falls to those who would state that acupuncture to move *qi* with fine metal needles pre-dates the second century B.C.

[99] *Lingshu juan* 1, *pian* 1. SBBY, vol. 205, fasc. 1, 1.

[100] Donald Wagner discusses the development of wrought iron and steel working in Han times in *Iron and steel in ancient China* (Leiden, Boston and Cologne: E. J. Brill, 1993), 267–88. See also Donald Wagner, *The state and the iron industry in Han China* (Copenhagen: Nordic Institute for Asian Studies, 2001).

[101] Vivi Sylwan, 'Investigation of silk from Edsen-gol and Lop-nor', Reports from the Scientific Expedition to the north-western provinces of China under the leadership of Dr Sven Hedin, Stockholm, 1949, 85. Hunansheng bowuguan, *Changsha Mawangdui yihao hanmu 1* (Beijing: Zhongguo kexueyuan kaogu yanjiusuo, 1973). The finds are summarized in Hayashi Minao. *Kandai no bunbutsu* (Tokyo: Jinban Kagaku kenkyusho, 1976), 27 and figs 1-42, 1-43. There are also a number of examples in Sun Ji 孫机, *Handai wuzhi wenhua ziliao tushuo* (Beijing: Zhongguo lishi bowuguan, 1991).

[102] Hubeisheng Jingzhou tielu kaogudui Baoshan mudi zhengli xiaozu, 'Jinmenshi Baoshan Chumu fajue jianbao', *Wenwu* 1988.5, 10, fig. 23.

[103] Of those needles, five were intact with long, thin squared handles pierced with one or two holes, two are 6.6 cm. long, gold needles with a very sharp 7 degree angle on the conical tip; one is a 6.5 cm. gold needle with a three-faceted 50 degree angle on the tip and two are 6.9 cm. round and sharp tipped needles—one of gold, the other of silver. See *Mancheng Hanmu fajue baogao* (Beijing: Wenwu, 1980), 116.

What we do know is that there are increasing references to acupuncture with needles from the first century. Medical texts excavated from a tomb at Wuwei 武威 provide us with the earliest datable detail about the site of needle insertion and manipulation technique.[104]

> When there is cold *qi* in the stomach, where in the abdominal duct, the intestines are swollen ... the patient who is being needled breathes out forty or fifty times before taking out the needle. Next, pierce in the space between five *cun* below the knee to the depth of three *fen* into the flesh; leave the needle for as long as it takes to steam a *sheng* of rice; take the needle out; this is called three *li* 里 'miles'. Next pierce the nape of the neck, from upper to lower, on either side of the eleventh vertebrae, to the depth of four *fen* into the flesh; leave the needle for 120 breaths; take out the needle; this is the lung *shu* 輸 'transporter'.

Here the prescription for cold in the stomach is to needle two places *sanli* (three *li* 'miles') 三 里 and *feishu* 'lung transporter' 肺輸, (now names of acupoints that are familiar to modern acupuncturists), at given depths for a given period of time. Even though the exact location does not entirely accord with later theory they are in the same general vicinity and the language and process is classical.[105] The Wuwei site (*c.* first century A.D.) is contemporary with or just subsequent to latest theories about the date of the *Huangdi neijing* compilation. We can therefore be reasonably certain that significant and rapid changes had taken place in both theory and technology around the time of, or shortly after, the closure of the Mawangdui (168 B.C.) and Zhangjiashan (*c.* 186–154 B.C.?) tombs and before the time of the closure of the Wuwei tomb.

We have come a long way in identifying early medical techniques and tools associated with stone and needles, but we have not yet come across the application of stone or needle to strategic locations on the channels known as *zhenxue* 'acupoints' before either the Wuwei account or the less clearly dated *Huangdi neijing* compilation. It is interesting that *Lingshu* 1 and 9 do not refer to acupoints by name. Their names are to be found scattered in a rather disorganized fashion through other treatises of the *Lingshu* and *Suwen*. *Maishu* or parallel texts at Mawangdui make no mention of specific acupoints. Neither are there any acupoints definitively revealed in Chunyu Yi or Bian Que's treatments. The Mianyang figurine, a Western Han lacquered wood carving of the human body covered with lines that bear some similarity to the channels described in Zhangjiashan and Mawangdui channel texts, does not reveal the kind of holes, all systematically engraved with individual names, with which we are familiar from, for example, the cast bronze acupuncture models of the Northern Song period.[106] Thus we can only conclude that there is no evidence to show that stimulating the channel network via a mature acupoint system

[104] Zhang Yanchang and Zhu Jianping (ed.) *Wuwei Handai yijian yanjiu*. 武威 漢代醫簡研究 (Beijing: Yuanzineng chubanshe, 1996), 21–23.

[105] See the discussion in Zhang Yanchang and Zhu Jianping (ed.), *Wuwei Handai yijian yanjiu*, 86–90.

[106] See He Zhiguo 何志國, 'Woguo zuizao de renti jingmail qidiao' 我國最早的 人體經脈漆雕, *Zhongguo Wenwubao* 中國文物報 1994, 15 (April 17), 4 for the first description of the discovery of the figurine. A detailed discussion of the figurine can be found in He Zhiguo, 'Xi Han renti jingmai qidiao kao' 西漢人體經脈漆雕考, *Daziran tansuo* 大自然探索 1995, 3, 116–20. The bronze statues were first cast by Wang Weiyi 王惟一, the Director of the Imperial Medical Service, in 1027 A.D., with an explanatory text entitled *Tongren shuxue zhenjiu tujing* 銅人腧穴針灸圖經 (Illustrated canon of acumoxa for the bronze man transporting points). See Lu and Needham, *Celestial lancets*, 131. The model kept in Japan's Tokyo National Museum is most likely to be one of the originals.

with metal needles was a feature of therapy before the first century B.C. at the earliest.[107]

Evidence for acupuncture needling at acupoints has often relied on *Shiji juan* 105 when Bian Que, treating the Crown Prince of Guo 虢, sent his disciple Ziyang 子陽, to 'sharpen needles and needling stone to *qu* 取 (select and stimulate?) the *waisanyang wuhui* 外三陽五會 'outer three yang and five meetings'.[108] If we understand this term to be the alternative to *baihui* 百會 'hundred meetings', an acupoint on the top of the head, as it is listed in Huangfu Mi's 皇甫謐 third century A.D. *Zhenjiu jiayi jing* 針灸甲乙經, we could then say that Bian Que's treatment is the earliest explicit reference to acupuncture at an acupoint.[109] But Huangfu Mi may well have based his opinion on Sima Qian's account. And we cannot know for sure to what Sima Qian was referring.[110]

The Mianyang figurine offers us a new and, I believe, a most satisfactory explanation for the term, since it does not refer to either one acupoint or one anatomical location. If we compare the figurine and the descriptions of the channels in the excavated texts we can see that the three Yang are a combination of the three bilateral Yang channels of the leg and the single line which travels along the spine and over the head (arguably the most Yang given its position). Two of the leg lines converge before they pass over the top of head, which leaves only four (remembering their bilateral nature) extensions of the leg lines on the crown. Adding the line that follows the spine makes a total of five lines traversing the crown. These five lines are intersected by one of the extensions of the arm lines which splits the crown horizontally. Here there are then the three Yang and five meetings, with the 'outer *sanyang wuhui*' being the intersections furthest away from the centre of the head (see figure 8).

In summary, evidence from the figurine helps to identify the location of *sanyang wuhui* as five different places on the top of the head where the lines meet. I doubt, therefore, that the *Shiji* reference is to a single acupoint. The stone reliefs which depict a half-bird/half-man physician (probably Bian Que) brandishing a stone lancet at Liangcheng shan 兩城山, Weishan 微山 county may support the notion that early acupuncture involved multiple needling, perhaps along the channels. Of a collection of eight reliefs, two show two women and a child. The women, according to Ye Youxin's interpretation have short, fine (and therefore probably metal) needles placed in a line between the hair line and the skin of the face as well as all along the woman's arm (see

[107] The acupoints which seem to exist in the excavated texts that describe sexual-cultivation are in fact simply anatomical locations, *Quepen* 缺盆 'Broken Bowl' is a term used in pre-coital massage to refer to the area of the clavicle, and *zhongji* 中極 Middle Extremity is a significant anatomical location where *qi* transforms, without yet being the name and location for the acupuncture point *Ren* 3 that it eventually becomes.

[108] *Shiji*, 105, 2792.

[109] *Zhenjiu jiayijing* 針灸甲乙經 3 (Beijing: Renmin weisheng, 1979), 331. See also *Zhenjiu dacheng* 7 (Tianjin: Tianjin kexue jishu, 1992), 367.

[110] Yamada Keiji examines a number of different theories on the matter. His problem centres around whether *sanyang wuhui* is one or two terms (the *wuhui* of the *sanyang* or the *sanyang* and *wuhui*), and how the term relates to the *sanyang wushu* 三陽五輸 found in a similar account in the earlier *Hanshi waizhuan* (*c.* second century B.C.). In summary, *sanyang* might refer to one of two locations—either the three Yang channels we meet in the excavated texts, Yang *ming*, *shao* Yang or *tai* Yang or it might refer to the third Yang, just one of these channels. But are they the three Yang of the arm or the leg? Yamada believes that the term *wushu* and *wuhui* are identical and refer to the *jing* 井, *rong* 榮, *jing* 經 and *he* 合 locations that we know from later acumoxa theory. He rejects the idea that they are the *wushu* 五輸, also of later theory, that is, acupoints on the *tai* Yang channel that connect to the inner Yin organs. If they were to form a part of or belonged to the *san* Yang, he argues, then it is unlikely that they would refer, as do the *wushu*, to the Yin organs. Yamada Keiji, 'Hen Shaku densetsu' 扁鵲傳說, *Toho gakuho* 東方學報 60, 1988, 130–2. See also Lu and Needham, *Celestial Lancets*, 80–81.

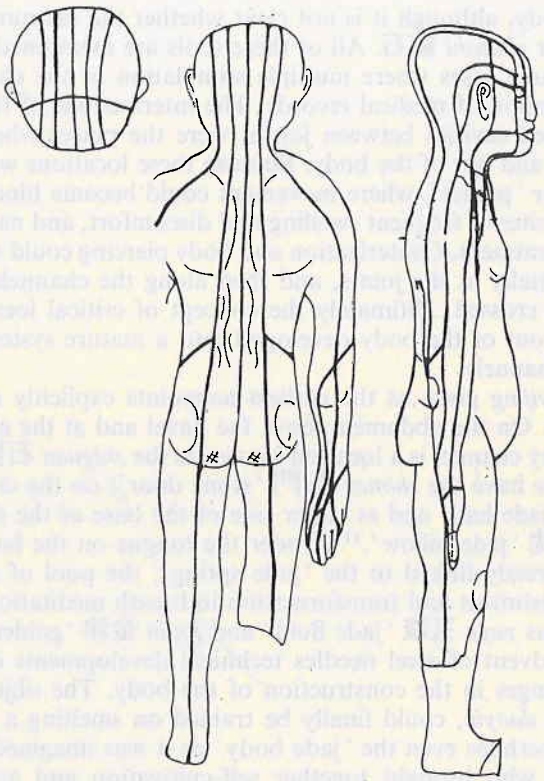

FIG. 8. The Mianyang figurine, anterior and side view.

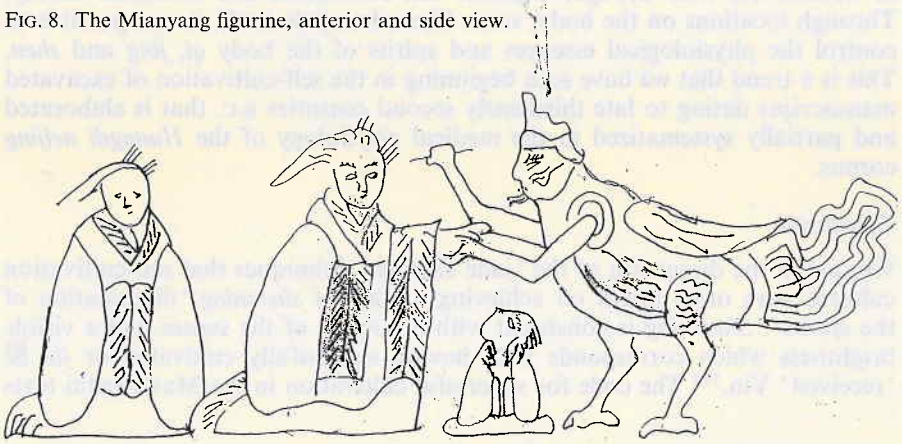

FIG. 9. Bianqui treating a woman with fine needles. Shandong Zhongyi Xueyuan Xuebao, 1981, 3.

figure 9).[111] The spirit physician appears to be raising a long needle in his left hand. But since these are very worn carvings Ye Youxin's judgement cannot be considered solid evidence. However, Chunyu Yi, treating a case of hot sore feet, does pierce the channels at three different places on the sole of the foot and on the *yangming* channel.[112] He uses the term *ci* 刺 when referring to

[111] I have discussed the figurine in Zhiguo and Lo, 'The channels'. It should be noted that other reproductions of the stone relief do not show the number of needles so clearly.

[112] *Shiji*, 105, 2804.

piercing the body, although it is not clear whether the instrument he is using is *zhen*, *bian*, or *chanshi* 鑱石. All of these tools are mentioned in the text.

We have three cases where multiple stimulation of the channels seems a likely interpretation of medical records. The intersections of the body, at the naturally formed cavities between joints, were the places where *shen* and *qi* should pass in and out of the body. Because these locations were constrained *guan* 'joints' or 'passes', where movement could become hindered, and they were therefore sites of frequent swelling and discomfort, and naturally primary locations for treatment. Cauterization and body piercing could assist the movement of *qi*, initially at the joints, and then along the channels where two or more channels crossed. Ultimately the concept of critical locations where *qi* moved in and out of the body developed into a mature system of acupoints all along the channels.

Zhenjiu jiayijing gives us the earliest acupoints explicitly associated with stone and jade. On the abdomen above the navel and at the eighteenth point along the kidney channel is a location known as the *shiguan* 石關 'stone pass'. On the belly we have the *shimen* 石門 'stone door'; on the chest there is the *yutang* 玉堂 'jade hall' and at either side of the base of the skull we rest on the *yuzhen* 玉枕 'jade pillow'.[113] Under the tongue on the lateral sublingual vessels, and directly linked to the 'jade spring', the pool of saliva that is a source of nourishment and transformation in breath meditation, are two acupoints known as *yuye* 玉液 'jade fluid' and *jinjin* 金津 'golden saliva'.

With the advent of steel needles technical developments caught up with theoretical changes in the construction of the body. The object of acumoxa treatment, like *daoyin*, could finally be trained on smelting a physiologically perfect body, perhaps even the 'jade body' as it was imagined by the author of *Maishu* (4) who brought together self-cultivation and acumoxa theory. Through locations on the body, some likened to jade itself, it was possible to control the physiological essences and spirits of the body *qi*, *jing* and *shen*. This is a trend that we have seen beginning in the self-cultivation of excavated manuscripts dating to late third/early second centuries B.C. that is elaborated and partially systematized in the medical physiology of the *Huangdi neijing* corpus.

Conclusion

We saw in the discussion of the 'jade closure' techniques that self-cultivation cultures were often intent on achieving a state of *shenming* 'illumination of the spirits'. *Shenming* is consistent with an acuity of the senses and a visible brightness which corresponds with having successfully cultivated or *jie* 接 'received' Yin.[114] The code for successful cultivation in the Mawangdui texts

[113] *Zhenjiu jiayijing* 3, 407, 404, 390 and 336.

[114] Both *shen* and *shenming* are used to refer to divine beings such as gods and spirits. Most of the evidence from the Warring States period comes from the *Guanzi*, *Zhuangzi* and the *Zuo zhuan*. See for example 'Xianggong 14' which states that, 'the people receive their lord and love him like their father and mother, they look up to him as if they clearly respect him as if he were a *shenming*'. 'Xiangong 25' refers to the descendants of *shenming* as if the *shenming* are the ancestors, while Zhuangzi refers to 'dwelling in the company of the *shenming*'. *Zuoshi chunqiu yizhu* (Jilin wenshi chubanshe) 533 and 592. Elsewhere *shenming* comes to mean characteristics of divine beings that allow them a spirit-like wisdom, a sharpness and clarity of perception rather than a mechanical or analytical intelligence. A discussion of the terms can be found in John Knoblock, *Xun zi: a translation and study of the complete works Vol I. 1–6* (Stanford: Stanford University Press, 1988), 252–4. The concept of *shen* in the *Guanzi* and the *Huainanzi* is the subject of a paper by Harold D. Roth. 'The early Chinese concept of *shen*: a ghost in the machine?' in *Sagehood and systematizing thought in Warring States and Han China.* (Asian Studies Program, Bowden College).

reads, 'the *qi* arrives, blood and *qi* flow freely, the ears and eyes are keen and bright, the skin gleams, the voice is clear, the back, thighs and buttocks are sturdy and you get through to an illumination of the spirit'. In *Lingshu* 9 we find similar outcomes for acupuncture needling:

> In all cases the way of needling entails stopping when the *qi* is adjusted, tonify the Yin and sedate the Yang, the voice and *qi* become increasingly clear, the ear and the eye become keen and bright, if one goes against this the blood, the *qi*, will not flow freely.[115]

The physician should also pay attention to the quality of his spirit. *Suwen* 54 is explicit about the level of concentration required to be sure about the depth and location of an illness. The practioner is instructed to wait:

> as if pouring over a deep abyss and not daring to sink down; the hand, as if holding a tiger, desires its sturdiness; the spirit, without arranging for a crowd of other things, quietly and with intent observes the patient without looking to left or right; as for righteous, without being deflected downwards, he must have principle through being upright; as for having to make the spirit upright, he must regard the patient's eye to govern their spirit, in order that the *qi* moves easily.[116]

To avoid damaging the patient he must cultivate his attention:

> As for the way to grasp the needle, firmness is the treasured thing. Hold (it) upright and needle straight. Do not needle to left and right. The spirit is on an autumn hair. Fix the intention on the patient.[117]

The conditions required to nurture such attention are set out in *Lingshu* 9:

> He (the practitioner) stays in an isolated and quiet place, forcibly holding the coming and going of the spirit; he closes the doors and shuts the lattices and the *hun* and the *po* do not scatter; he concentrates the intention and unifies the spirit and refines the division of *qi*; he does not hear human voices in order to gather their (the patient's) essence and unify their spirit; he commands the intent into the needle.[118]

In the last section we drifted away from an archaeological and textual account of medical techniques associated with the application of stone and stones. Yet by following the transition from stone to metal tools we can still detect the inheritance of a treatment that has developed within a medical culture of atropaic stone. Just like the self-cultivator practising the 'jade closure' on his own body, or the funeral director sealing the orifices of the corpse, the practitioner prepares the room, closing down all the exits to control the movement of the spirits. All three define a protected space by circumscribing a perfected body within which it is possible to transform the physiological essences of *qi*, *jing* and *shen*. The physician, settling his own souls, the *hun* and *po*, and looking into the patient's eyes, uses himself as a tool to govern the patient's spirit. The spirit no longer dwells within stone itself, nor does the practitioner use stone to treat his patient, but all the qualities of stone are brought to the place of healing.

Chunyu Yi's case histories do not record techniques to exorcise demons associated with illness, nor is there any suggestion that he wanted to promote

[115] *Lingshu juan* 2, *pian* 9, 'Zhongshi' 終始. SBBY, vol. 205, fasc. 1, 10b.
[116] *Suwen juan* 14, *pian* 54, 'Zhen jie' 針解. SBBY, vol. 204, fasc. 3, 7.
[117] *Lingshu juan* 1, *pian* 1. SBBY, vol. 205, fasc. 1, 1b–2.
[118] *Lingshu juan* 2, *jing* 9, SBBY, vol. 205, fasc. 1, 12a.

medicine of this kind. Thus the book that Yang Qing gave to Chunyu Yi was probably not a treatise on exorcism. It may have contained information on prescribing minerals, petty surgery or heat treatments. It may have been an early treatise describing the use of stone needles on the channels, we cannot know. Nevertheless, with an interdisciplinary approach to early Chinese stone culture we have gone some way to unravelling the story of the Stone Spirit. For medical stone, from sharpened flint to the quintessential jade, most Yin of Yin[119], conferred a technical reality upon the body which we have seen recurring through burial culture, pharmacotherapy, self-cultivation and finally in the construction and treatment of the physiological being at the foundation of acupuncture practice. By sealing, storing and transforming the body's finest essences, medical techniques associated with stone played a central role in the early formalization and control of the movement of *qi* and the spirits. The principles of those practices are eventually systematized in the canons of acupuncture towards the end of the first and in the second half of the Han period.

[119] *Guanzi* (Taibei: Shangwu), vol. 2, 92.