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# Looms of Life

## *Weaving a New Medical Imaginary*

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### Abstract

The classics of Chinese medicine are redolent with allusions to weaving as they describe a new imperial anatomy and physiology of the medical body. The superior physician in the Yellow Emperor's corpus manipulated *ji* 機, the trigger mechanisms at strategic points on the surface of the body, which provided remote relief from the symptoms of illness. Through stimulating these points, medical practice with needle and moxibustion could control the many spirits that inhabited the body, weaving them into a numinous fabric. This paper explores the spatiotemporal geographies of meaning expressed in the manuscripts and artifacts excavated at the Laoguanshan tomb sites. In particular, an analysis of the medical texts, models of mechanical pattern shaft looms, and a tiny lacquered medical figurine recovered there suggest that local translational knowledge transfer between medicine, weaving, and water technologies occurred in the upper reaches of the Yangzi Valley. The resulting innovations were at the heart of a new imperial Chinese medicine.

### Keywords

medical innovation – Yangzi Valley – weaving and medicine – looms – acupuncture channels – body as machine

## Introduction

Ever since the early years of my PhD in the 1990s, I have been fascinated with the material culture of Han tombs excavated along the banks and in the hinterland of the Yangzi River. The manuscripts and artifacts dating to the Western Han dynasty (202 BCE–9 CE) that many of the tombs have revealed represent both the local Chu 楚 and Bashu 巴蜀 cultures, but they also demonstrate the complex networks of migration, trade, and political conflicts and allegiances that had stimulated exchanges of intellectual, ritual, and technical knowledge by that time. These were links that had been further strengthened by the administration of the early imperial dynasties. This article will consider the nature of that tension between the local and imperial-wide culture through a visual analysis of a tiny lacquered medical figurine (14.5 cm high) that was discovered five years ago in Tomb M<sub>3</sub> of four Western Han dynasty tomb excavations at Laoguanshan 老官山 Tianhui 天回 Township in the old kingdom of Bashu.<sup>1</sup>

Despite its proximity and close connections with Chang'an, the intellectual and political powerhouse at the center of Han culture, Bashu was often depicted as an outlying, other kind of place, full of uncouth people who lacked the civilized practices and sensitivity of the people of Yellow River valley.<sup>2</sup> Recent archaeology of the Chengdu area, however, presents us with quite a different picture. Since Shang times, the region had had its own distinctive local culture, yet was interconnected with other quite distant sites in the territories unified by the armies of the kingdom of Qin in 221 BCE. The Sanxingdui 三星堆 (twelfth – eleventh centuries BCE) and succeeding Jinsha 金沙 cultures (1200–650 BCE) provide us with a rich visual record to counter the received record. By the time of the Western Han, Chengdu, the modern center of the Bashu region, was in fact a center of erudition and indeed the birthplace of Yang Xiong 揚雄 (d. 18 CE), one of the principal architects of the classical Han literary tradition. It was also a cosmopolitan hub for commercial and technology transfer, with four government-controlled centers of lacquer work in the Bashu region alone and weaving workshops with mechanical pattern shaft looms that could produce luxury jacquard-style woven cloth.<sup>3</sup>

1 Liu Changhua et al. 2017.

2 See, e.g., the biography of Wen Weng 文翁 (second century BCE). Wen Weng was Commandery Governor of Shu City (*Shu jun shou* 蜀郡守) appointed to educate the local “barbarians.” Ban Gu 1999, 2688–89.

3 Zhao et al. 2016; Long Bo 2015.

The alterity with which Bashu had been depicted therefore emerges as a normative and centralizing cultural narrative. The region's humid climate and land and waterscapes created unique conditions for certain technological innovations. By the time of the Laoguanshan tombs, strategic investment forty miles to the northwest by the Qin and Han governments had, a century or so previously, produced the technological feat of the construction of the Dujiangyan 都江堰 weir by Li Bing 李冰 in 246 BCE. The dam had already accelerated agricultural production and substantially improved transport throughout the whole region. Through the twenty miles of canal, it irrigated the alkaline lands of central Shanxi, making fertile key areas of control.

Bashu provides a unique context for analyzing the translational knowledge transfer between medicine, weaving, and water technologies. Over the Western Han period, we can see how the trans-local connectivities these technologies entailed helped shape the language and practice of classical medicine. As a part of the pervasive discourse on the homologies of state that underlie Chinese medicine, we have seen how new physiologies of *qi* unified the body as imperial sway: interconnected transportation systems facilitated the free flow of goods, armies, tax, and simultaneously good health through the channels of the body, rivers that fertilized the body of state carried nourishment to its extremities, and organs functioned like the officers of state.<sup>4</sup> With due respect to the insights of Lakoff and Johnson, I use the term “homology” rather than “metaphor” to avoid the hierarchies that the latter assumes.<sup>5</sup> For governance was as much affected by its interaction with medical technology as medical technology was by governance, the two interlinked in complex interactions, many of which led to new imaginations of tradition.<sup>6</sup>

Within these discourses, the impact of Bashu technology has been “hiding in plain sight.” In this article, I will focus on the technology transfer between weaving and medicine as it occurred in the late Western Han period and was visible at the Tianhui tomb site. Through the carving, modeling, lacquering, and scratching of designs on the Laoguanshan lacquer figurine, we will see a body constructed as automated machine. This homology of the human body and machine is one that we are familiar with as an assumption of the histories of European modernity. In 1644 Descartes opined:

4 Lo 2012; Sivin 1995.

5 See, e.g., the discourse on moderation and equal distribution of resources, modeled on Bian Que's methods for distributing *qi* with the needling stone. Yuan Kuan 1992, 106–7; Lakoff and Johnson 1980.

6 Latour 1993, 76.

Men who are experienced in dealing with machinery can take a particular machine whose function they know, and by looking at some of its parts easily form a conjecture about the design of the other parts which they cannot see. In the same way, I have attempted to consider the observable effects and parts of natural bodies, and track down the imperceptible causes and particles which produce them.<sup>7</sup>

The attendant academic critique of the “Cartesian dualism” between body and mind/spirit embedded in this worldview observes that Descartes was “inspired by a radical reductionism: the operation of macro-phenomena is explained, without remainder, solely by reference to the interactions of micro-particles.”<sup>8</sup> The concept of an individualized, sentient soul and where it might reside was thus avoided since “the full range of biological processes.<sup>9</sup> ... followed from the mere arrangement of the machine’s organs as naturally as the movement of a clock or other automaton follows from the arrangement of its counter-weights and wheels.”<sup>10</sup> In the nineteenth century, the concept of the anatomical body as machine proved hard to align with the perceived subtle body of Chinese medicine. The consequent bifurcation of Western science and Eastern mysticism has been an intellectual challenge to Chinese scholars for over a century, many of whom have tried to deploy the new knowledge by incorporating it into new mechanical models of *qi*.<sup>11</sup> In the case of the Laoguanshan lacquered figurine, we will, conversely, discover that the operation of the body as machine was already conceptualized two thousand years ago – but a machine animated by the movement of spirits and *qi* that permeated its boundaries and connected it to the macro-phenomena of the heavens.

### Two Bashu Lacquered Figurines

The Laoguanshan lacquered figurine is the second of its type to be excavated in the Bashu region, an earlier and relatively larger model (at 28.1 cm) having previously been recovered seventy miles to the northeast of Chengdu in 1993 from the Shuangbaoshan 雙包山 site at Mianyang 綿陽. Apart from the differences in size and other key features we will come to later, the two figurines

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7 Descartes (1644) 1677, Part IV, art. 203; Descartes 1985, 288–89.  
 8 Cottingham 1993, 111.  
 9 Cottingham 1993, 112.  
 10 Descartes 1985, 108.  
 11 Lei 2012.

share many characteristics: they are carved out of wood, with roughly the same square and stocky physique. They are both naked, stand erect, and stare candidly into the middle distance. Both are covered in a layer of shiny black lacquer, which gives them a characteristic luminosity. On their surface are painted ten/eleven red lacquer lines. The figurines were both buried in tombs that also contained chunky wooden horses lacquered in the same way in black and red. The date of interment is roughly contemporaneous with preliminary dating placing them a few decades apart: the Laoguanshan tombs appear to have been constructed between the reign periods of Jingdi (157–141 BCE) and Wudi (141–88 BCE), and the Shuangbaoshan no earlier than the fifth year of the Yuanshou 元狩 period of Emperor Wu (118 BCE). So far, the figurines have been unique to Sichuan burials of this period.<sup>12</sup>

Our Chinese colleagues have written in impressive detail about how the lines on both figurines can be mapped onto medical literature discovered in the Western Han tombs and medical texts in the received tradition.<sup>13</sup> Certainly, if we look just for similarities, the lines appear to reflect closely textual descriptions of the emerging descriptions of body channels (*mai* 脈) in manuscripts buried in several Chu and Bashu tombs, and they can be compared and contrasted to the classic channels and collaterals (*jingluo* 經絡) and the classical channels (*jingmai* 經脈) of a mature acupuncture theory. But there were no manuscripts on the body channels to be found in the Shuangbaoshan tomb, such as those described downriver at the Zhangjiashan and Mawangdui tombs in Chu.<sup>14</sup>

In my thesis of 1998, I argued that there was good reason to believe that the inconsistencies between the recently excavated texts and the transmitted medical classics revealed different concerns about the function of the body. I suggested that we would understand more about the contexts of Western Han medical innovation by attempting to see the manuscripts in their own right and not through the teleological lens of the received medical tradition. Likewise, interpretations of the figurine would benefit if they were not directly related to later medical theory and medical interventions. After all, it was a tomb figurine placed in the outer coffin compartment where one would ordinarily expect to find grave figures. I noted the lack of *yin* channels: there was no analog of the Controlling Channel (*renmai* 任脈), or the *yin* channels between the legs, those channels that were associated with death and decay in the Mawangdui medical manuscripts in a text that has been given modern title

12 Lo and He Zhiguo 1996; Lo 2007.

13 He Zhiguo 1995; Huang Longxiang 2017.

14 Ma Jixing 2015.

*Symptoms of Death on the Yin and Yang Channels* (*Yinyang mai sihou* 陰陽脈死候).<sup>15</sup> The *yin* channels were the channels of death. Without these, perhaps the figurine represented something else, something more iconic of the maintenance of life and the potential for living after death.

The mapping of the superficial blood vessels on the back of the arms, the tracing of the muscularity of the body, the way the red lines concentrated around the sense organs, and the steady gaze of the figure suggested to me that this was a body of ritual significance that transcended the purely therapeutic. To me, the lines related to their author's ideas about physical strength, vision, hearing, sight, taste, and touch and were likely to represent part of the human structure that bounded and mediated between the internal and external worlds – a sensory map of the body, rather than a model concerned with illness? The figurine could be a model of new physiological theories about health, a shining body of *qi*, *yin*, and *yang*, coined in the Mawangdui manuscripts as a vision of perfection, known as the “Jade Body.”<sup>16</sup> Its presence among artifacts, which presumably were chosen and placed strategically for their efficacy in the afterworld, in addition to whatever role they had played in everyday life, signified powers that required further explanation.

The Laoguanshan figurine, however, forces me to reconfigure those conclusions since its features and context are decidedly more medical than the Shuangbaoshan figurine. From the assemblages of tomb artifacts, the professions of the respective tomb owners at Shuangbaoshan and Laoguanshan have been tentatively identified as different. One hundred large lacquerware horses (74 cm high and 71 cm long), twenty chariots (both single and double harnessed), and the cavalry and quivers buried in the Mianyang tomb identify the tomb owner as likely to have held a high position in the army. Practical military, kitchen, and farming utensils filled the antechamber.<sup>17</sup>

The Laoguanshan figurine, in contrast, was found inside a chest in the South Chamber II, together with several bamboo manuscripts, including a fragmentary text on the channels and texts on equine medicine. In the North Chamber II, there were remedy texts describing decoctions and diagnosis, a copy of *Book of the Channels: Books One and Two* (*Maishu shangxia jing* 脈書上下經). This number of medical texts, together with the discovery of bowls containing drugs, have led scholars to believe, reasonably enough, that the tomb owner was a professional physician or medical official.

15 Harper 1998, 219–20.

16 Lo 2002.

17 Sichuan sheng wenwu kaogu yanjiusuo and Mianyang shi bowuguan 1996.

Unlike the Shuangbaoshan figurine, the body of the Laoguanshan figurine is replete with references to the classical theories of acupuncture that we know well from later traditions: dots and white lines suggest the acupuncture points and the collateral channels of the mature acupuncture body. The figurine also provides textual clues to the naming of those points and the designations of the five organs listed on its back.<sup>18</sup> As Donald Harper has suggested, the organ names were arranged according to the hierarchies of the contemporary “astrobiological” cycles that establish the correct homology between the cosmos and the body. All of this helps situate the figurine’s significance in the development of classical medical ideas and relates it to other geographic centers of medical authority in the empire.<sup>19</sup>

The locations of Western Han medical texts have already established the networks of knowledge that were generating new ideas and practices in the interconnected cultural centers of Qi, Chu, and Bashu. To rehearse well-known evidence in received texts on the transmission of medical knowledge in Qi: the biography of the Qi physician Chunyu Yi 淳于意 in *Records of the Grand Historian (Shiji 史記)* lists texts that he received from his teacher, Yang Qing 陽慶, including a copy of *Book of the Channels*;<sup>20</sup> and the biography of Bian Que and Eastern Han stone reliefs of this bird-man physician discovered in Shangdong give us Qi as his legendary origin.<sup>21</sup> Bian Que is the name we find in the titles of the Laoguanshan remedy texts, suggesting the connection between Qi and Bashu. Chu tombs have offered up editions of the *Book of the Channels* and its constituent texts and texts on self-cultivation that demonstrate practices that were stimulating new physiological theories of *yin*, *yang*, and *qi*. This was precisely when most of the individual texts we know from the received classics of Chinese medicine were being generated, passed on, and edited in multiple, multi-sited nodes of cultural and textual production. Perhaps, then, with the help of the Laoguanshan figurine, we can begin to imagine a local context for the reception *and transformation* of medical ideas and put Bashu on the map in terms of contemporary regional cultural and technological innovations.

A key question, then, is to what extent medical images (or texts, for that matter) really have to be read in light of an authentic or ultimate source, either visual, textual, or geographic? If we know anything about how new knowledge

18 Zhou Qi 2017.

19 Harper 2014.

20 Sima 1972, 2815.

21 See Ochs, “Reflections on Bian Que in Religious and Medical Traditions in Early China” in this issue (Ochs 2023).

was generated in the Western Han period, we know it was incremental, with authors and editors silently adding their voices to the received traditions. In Zhou Qi's 周琦 excellent article in this special issue, we can see how the Laoguanshan figurine gives us a tangible way to visualize knowledge in the process of being appropriated and enhanced.

Zhou Qi describes how the 109 dots on the lacquer figurine had first been carved into the wood of the figurine; they cluster around the joints with particularly significant patterns along the spine where characters naming five organs appear. The figurine was then covered with lacquer, and eleven red lines were painted in mostly vertical arrangements on its surface. Only then were some twenty-three white lines scratched so that they both crisscrossed and tracked the red lines. This process is a craftsman's embodiment of knowledge production: a physical layering through carving, coating, and scratching of incremental information gathered from multiple sources into one image – an innovation in material culture apparently unique to the Bashu area that simultaneously serves as an analog of the accretion of knowledge empire-wide.<sup>22</sup>

### Weaving a New Medical Imaginary: The Laoguanshan Mechanical Looms

What more can we say about this layering of information on the figurine and the unique knowledge production methods of the Bashu area? What do we see if we lift our eyes for a moment from the imaginary of an authentic source of authoritative textual authority? A lacework of pale white threads drape over the upright red lines, shimmering with almost translucent starry dots. Surely this mirrors the other stunning technological discovery at the Laoguanshan tomb site. Nearby Tomb M<sub>3</sub>, M<sub>2</sub> is the tomb of a fifty-year-old woman, Wan Dinu 萬氏奴, with bone deformations in the hips that suggest that she was a weaver by trade. But she was not any ordinary weaver since the quality of her tomb marks her as a woman of considerable status and perhaps even the manageress of the nearby weaving workshop.<sup>23</sup> At the lower level of this tomb was also discovered a set of models of China's earliest mechanical looms; in fact, the earliest material evidence of mechanicals in the world (Figure 1). Together these finds are set to revolutionize the history of science and medicine. With these tomb site assemblages, we can begin to analyze the wider cultural and geographic contexts within which innovations were occurring and

<sup>22</sup> Zhou Qi 2017.

<sup>23</sup> Xie Tao 2017.

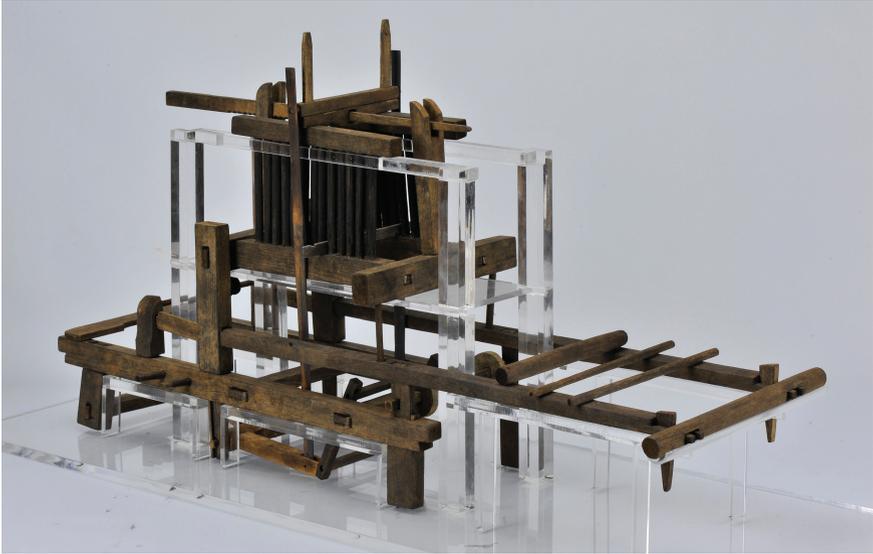


FIGURE 1 The earliest extant mechanical pattern shaft loom  
PHOTO BY XIE TAO

within which the emerging technologies of the body's interior, weaving, and astronomy intersected.

It is an old chestnut to point to the metaphor of weaving embedded in the cultural matrix of Chinese medicine. Indeed, perhaps the most popular English-language book on Chinese medicine for practitioners since the 1980s has been Ted Kaptchuk's *The Web That Has No Weaver*, where Kaptchuk evokes in his title Joseph Needham's concept of the "organismic" universe, a universe with no supreme deity, which spins, of itself, the fabric of life into a new ontology of the medical body (creating a new account of words and categories that properly refers to the substance of the medical body, and a rationale for them). The "warp threads" (*jing* 經) of the acupuncture body are at the heart of the link with weaving.<sup>24</sup>

Despite this general acknowledgment of the importance of the link between weaving and medicine, weaving as a practice that inspired medical innovation has not been very well explored. The proximity of the looms in the Laoguan Shan tombs to so many treatises on medicine allows us to revisit that connection at a critical point in the early construction of Chinese medical ideas. In respect but also contraposition to Kaptchuk, I will argue that there was always a weaver, in fact, many weavers, operating at different levels of

24 Kaptchuk 1985.

this homology, not to speak of many different styles of spirit essence and consciousness that we can find weaving through the body.

### The *Jing*

These lines on the figurine were not yet identified as the *jing*, the term well known from later acupuncture theory often interpreted as the warp lines of the body, nor were the *mai*-channels of Western Han manuscript culture identified with organs such as the bladder, or the heart as they are in classical medical treatises. The *mai* of the excavated medical manuscripts are tied at each end to the heels and the inner edge of the eye, or the front edge of the outer malleolus emerging around the eyes. They are attached like warp threads as they run from the head to the feet like strings stretched between the warp beam and the cross beam of the draw loom – and if we accept that the red lines on the figurine represent the textual descriptions of the *mai* in the tomb texts, they weave in and out through the holes, perhaps the loom “sheds” of the body, emerging (*chu* 出) from the surface of the body in all the places where the pulses can be felt.

I am reminded of Vera Dorofeeva-Lichtmann’s reading of the term *jing* in her 2007 chapter on the *Shanhai jing* 山海經. She suggests tentatively that the word *jing* in the title does not denote its later standardized meaning of “classic” as opposed to the “apocrypha” (*wei* 緯) (or the weft) and that the translation of *Shanhai jing* as *Classic of the Mountains and Seas*, as oft seen, is a misunderstanding of the Chinese character. *Jing*, she argues, is better understood as a series of itineraries linked to the semantic field of “route” or “pathway.” Intriguingly, she suggests that the itineraries in question relate to the shamanistic rituals and spiritual quests that might have required knowledge of these pathways described in the text.<sup>25</sup> Certainly, this reading makes sense for the medical concept that is emerging through these texts and in the figurine if we read it as a graphic representation of pathways of the channels – linear route maps of the body that, over the later Han period, came ultimately to be known as the twenty-four classic channels and collaterals, perhaps not coincidentally numbering the same as the twenty-four pattern shafts on the looms. Could this be the model adopted for the new medical structure of the body as the number of channels settles as  $12 \times 2$ , rather than the eleven of the Western Han?

25 Dorofeeva-Lichtmann 2007.

## Spirit/Ji 機 Looms: What Was Traveling on These Routes of the Body?

From the *Numinous Pivot* (*Lingshu* 靈樞) recension of the *Yellow Emperor's Inner Classic* (*Huangdi neijing* 黃帝內經), we know that there were various representations of the channels that composited the term *jing* with other terms: three, in particular, are worthy of note in the chapters entitled the *jingshui* 經水, literally the pathways of the rivers representing the waterways of the empire; the *jingmai* 經脈, the pathways of the vessels, a recognition of the significance of blood vessels and pulsation to human health; and the *jingjin* 經筋, the pathways of the sinews in a medical gaze that *did* focus on the muscularity of the body.<sup>26</sup> All these route maps separately, and in concert, structured early anatomy and physiology (not bifurcated into these two categories at the time). It helps us see these quite separate ontologies of the linear maps before they became conflated retrospectively into bodies of flowing *qi* circulation, such as we imagine now as the basis of classical Chinese medicine.

In the 1990s, my research into the treatises of the *Yellow Emperor's Inner Classic* turned to the nature of circulation. I was astonished to find that what was circulating in the body in its earliest iteration was not particularly *qi* flooding through the channels like river water, as we imagine today – that was more a feature of self-cultivation in the sexual and breath cultivation literature and related forms of therapeutic exercise. In the earliest treatise that contains the concept of circulation of *qi*, the *Numinous Pivot* 15, that *qi* was more like a small planet or the sun and moon, an entity rather than a fluid-like flow – and in other contexts, this kind of *qi* was interchangeable with the spirits of the body, the “human soul” (*renhun* 人魂) and the “human spirit” (*renshen* 人神). Great caution was taken to ensure the safety and free flow of these spirits as they moved predictably according to different developmental life stages or according to diurnal and lunar cycles.<sup>27</sup>

Initially, I found the idea quite difficult to accept as it challenged all my preconceptions about the nature of the spirit and individual consciousness. What kinds of ghosts were in the machine, and to what degree were they separate from the body? How could the spirit(s) and its (their) form of consciousness reside at different places in the body on different days, in your knee or elbow, or at different periods of your life, as described very clearly in medical literature beginning in the first century CE, and increasingly after that? More fascinating

<sup>26</sup> *Lingshu* 1963, 31–49.

<sup>27</sup> Lo 2001, 2008; Harper 2005.

was the idea that the spirit(s) could leave the body, coming and going through the gates and cavities of the body, and that the subtle practitioner, by attention to her or his own body, could command these spirits with shamanic precision. This is attested throughout the Yellow Emperor corpus. Here, for example, is a passage from *The Nine Needles and the Twelve Openings* (*Jiuzhen shier yuan* 九鍼十二原):

The crude guard the *xing* [“the form” or “the body”] and the superior guard the “spirit.” As for the spirit, the spirit, the spirit 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* [“the passes”], the superior guard the *ji*, the movement at the *ji* is not separate from the cavities, the *ji* are in the cavities; clear, quiet yet subtle, their comings cannot be met with and their goings cannot be followed.

粗守形，上守神。神乎神，客在門。未緒其疾，惡知其原？刺之微在速遲。粗守關，上守機，機之動，不離其空。空中之機，清靜而微，其來不可逢，其往不可追。<sup>28</sup>

What was moving on these spatiotemporal itineraries was a set of spirits that gave the body a kind of vibrant luminosity like the lacquered figurines. For the spirits in early China, as they descended and moved around the body, conferred upon it a kind of brilliance, and what the superior physician had to look out for to control them was the *ji*. So finding this quotation brought me to the subject of *ji*, the crossbow-trigger, machine, or *loom*.

In Feng Zhao et al.'s initial report in *Explorations in the History of Machines and Mechanisms*, the authors begin with the statement:

The development of technology is tightly interlinked to the introduction of the weaving loom, and in particular the complex pattern loom. Probably, the most important testimony of this link is provided by the Chinese character *ji* with its various meanings including intelligence, human excellence, crossbow-trigger and weaving loom.<sup>29</sup>

Could this juxtaposition of looms and medical technology in the Tianhui tombs represent the moment at which the practices of weaving and medicine came together in new and creative ways?

<sup>28</sup> *Lingshu* 1963, 1. Author's own translation.

<sup>29</sup> Zhao et al. 2016, 209.

Paul Unschuld and Hermann Tessenow have translated the *ji* in its meaning of crossbow-trigger and machine, and in doing so, follow the early Tang commentator Yang Shangshan 楊上善 (fl. mid-seventh century) who states, “The *ji*, is the tooth of the crossbow, in controlling your aim, guard the *ji*” (*ji, nuya ye, zhushhe zhi zhe, shouyu ji ye* 機, 弩牙也, 主射之者, 守於機也).<sup>30</sup> This military or hunting image certainly resonates with the fact that the term in medicine also relates to a mechanism and the automated transmission and acceleration of power through that mechanism – in the medical case, through the application of a needle or stone. It is not just the material substance and structure of the machine that is denoted here but the human dexterity involved in manipulating it and the agency for causing dramatic life-altering changes. (In *Zhuangzi*, the term relates to trapping, killing, healing, lifting water, stopping and starting, and then here weaving through the manipulation/operation of the body machine.) In the medicine of the *Yellow Emperor’s Inner Classic*, the *ji* were located at a strategic point where the physician triggered a larger chain reaction within the body from a point known as the *ji* with needle or moxibustion, creating the distal effect that we are familiar with as an expectation of acupuncture treatment today.

A text that provides some insight into the nature of the *ji*, written circa 139 BCE, and roughly contemporary with the Tianhui tomb, is the *Master Huainan* (*Huainanzi* 淮南子), a ruler’s manual for governance largely concerned with the relationship between cosmological patterns and the proper integrated conduct of administration. It echoes consistently the earlier meanings found in *Master Zhuang* (*Zhuangzi* 莊子), but with more technical detail about its deployment in the body:

On the four limbs, at the joints and intersections, the pores of the hair and skin steam and flow out, so the “trigger pivots” (*jishu* 機樞) are free in movement, then of the one hundred channels and nine orifices, not one is not smooth.

四枝節族, 毛蒸理洩, 則機樞調利, 百脉九竅, 莫不順比。◦<sup>31</sup>

In medical practice, the mechanical transmission of power is conceptualized through the image of the machine. A case in point is in chapter 19 of the *Yellow Emperor’s Inner Classic: The Basic Questions* (*Huangdi neijing suwen* 黃帝內經素問), which is entitled “Treatise on the Jade Mechanism and the True Organs” (*Yuji zhencang lun* 玉機真藏論).

30 Yang Shangshan 2006, 415.

31 Liu An 2012, 1382.

In “Jade Mechanism and the True Organs” (translated below), the term *ji* refers to a machine or mechanism. The jade machine in the title of this passage is clearly the Jade Body of *qi* and *yin* and *yang* referred to in the Zhangjiashan manuscripts, but it also implies dexterity and the potential to manipulate that machine.<sup>32</sup> The image in this context is closer to the weaving loom than the crossbow (with mention of pulse qualities that feel like strings and hooks, and the weaving of the spirit round and round, connecting the orifices of the body), and read against the background of a body strung with *jing*, the warp threads.

I am not arguing that the translation should here specifically be “looms” (although it looks very nice to me) but that the operation of the loom is as much an influence on this concept as the crossbow-trigger. Both images are deployed in the acupuncture technology of the body and impute human agency in its operation.

However we determine the translation, by the time of the *Yellow Emperor's Inner Classic* compilation, the term *ji* had become abstracted from its earlier meanings and been adapted to the medical context – but the imagination of working the pattern loom was clearly much more important in medical practice than we have previously thought, and the discovery of the four miniature looms in the Tianhui tombs permits a new focus on the transmutability of technical terminology.

I have received [your teachings on] the great essentials of the [movements in the] channels and on [the great essentials of] the perfect numbers in the world.

*The Five Complexions*

*The Changes in the Channels*

*To Estimate and Measure*

*The Strange and the Normal*

The Way is one.

The spirit turns around, it does not go backwards.

When it goes backwards, then it no [longer] turns around.

In this case [one] has lost [one's vital] mechanism.

The essentials of the perfect numbers are at hand and yet subtle.

He had them inscribed on jade tablets,

and he had them stored in the depots and palaces.

He read them every morning.

Their title is *Jade Mechanism* [a.k.a. Loom]<sup>33</sup>

32 Zhangjiashan 247 hao Hanmu zhujian zhengli xiaozu 2001, 243.

33 *Suwen* 1963, 118–29, translation here in Unschuld et al. 2011, 1:332–33.

吾得脈之大要，天下至數，五色脈變，揆度奇恆，道在於一，神轉不迴，迴則不轉，乃失其機，至數之要，迫近以微，著之玉版，藏之藏府，每旦讀之，名曰玉（生）機。

### Preliminary Conclusion

I began by suggesting that the *web that had no weaver* might in fact have had a weaver, in fact many weavers, after all. First, we have seen the superior physician manipulating the *ji* trigger mechanisms of the body to control the many spirits that wove around the fabric of the body. The spirits themselves represent many divine consciousnesses in operation in the early Chinese body, perhaps even partially visible as they passed through the luminous dots, perhaps passageways to the body's exterior – such as we have seen carved into the wooden figure of the Tianhui figurine. And I have only scratched the surface of this imagination of a body full of spirits, a vibrant body full of divergent intentionalities.

And then there were the weavers themselves, the real women that we rarely see represented but who are there in the *mu yong* 木俑, the wooden mortuary figurines in the Laoguanshan Tianhui tomb of the fifty-year-old woman Wan Dinu, and who indeed participated in the performance of this new technology, and no doubt the language that it created. Let me leave you with another image of a divine weaving woman operating a jade loom in the poetry of the Tang writer Liu Zongyuan 柳宗元 (b. 819):

*Qiqiao Wen* 乞巧文 (On Begging for Dexterity)  
 Heaven's grandchild,  
 Skillful specialist of the Sky,  
 Her shuttle, the Jade Device (the dipper),  
 Her warp and woof the starry signs,  
 Capable of creating the patterned emblems  
 To adorn the body of the Supernal Lord.<sup>34</sup>

竊聞天孫，專巧於天，蓂韞璿璣，經緯星辰，能成文章，黼黻帝躬。

34 Translation in Pankenier 2013, 379. See also the observations in Kuhn 1995 on a related poem in which Liu Zongyuan is seen to echo Wang Yi's (89–158 CE) "Rhapsody on Women Weavers" (*Jifu fu* 機婦賦) centuries earlier. For Tang silk weaving, see Kuhn et al. 2012, 203–57.

The Laoguanshan figurine and the technology that it encodes offer us a vision of the body as an automated machine, operated by human hand, but also through the mechanical weaving of transcendent spirits with a different kind of agency, a machine linked through tiny holes to the heavens where the spirits could come and go, but according to the rhythms of the universe. What implications this mechanical body has for our understanding of individual agency in early China is yet to be seen. But the image of spirit weaving peels back only one of the potential layers of visual interpretation that relate to the local Bashu contribution to medical innovation. When I first set eyes on the figurine, sparkling in its immersion tank in Chengdu, it reminded me of the pervasive homologies of water that we can find in the image of the Han dynasty medical body. With Bashu as the center of water technology at the dawn of empire, and the obvious conflation of water control techniques with technologies of *qi* that we now know emerged through the subsequent course of the Han dynasty, there is much more that will come of our understanding of Sichuan particularity in the matter of medical innovation and the conceptualization of an individual spirit and the consciousness that seems to imply.

By the end of the Han, the theories of the channels, as represented in the four *Numinous Pivot* treatises of the *Yellow Emperor's Inner Classic*, contain many allusions to astromedicine, muscular bodies, and bodies that represent the rivers of the Han empire. All these are contained and unified within the overlapping material designs of the figurine. It is only with the accumulating excavated medical texts and artifacts of the Western Han dynasty that we can now begin to make some sense of the spatiotemporal geographies of meaning that they contain, the relationship between Bashu innovation and the new trans-imperial Chinese medicine, and realize the potential for translational research that the excavations offer us. And we haven't even begun to consider the presence of the lacquered horses in the Bashu tombs, the local history of equine trade, training, and technology, and their relationship to the veterinary treatises buried in the Laoguanshan tombs. These are exciting times in the history of early Chinese medicine.

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