

Introduction to *Neijing* Classical Acupuncture Part II: Clinical Theory

Abstract

As outlined in Part I of this article, the theories and practices of *Neijing* classical acupuncture are radically different from the type of acupuncture commonly practised today. In essence, *Neijing* classical acupuncture is a form of clinical surgery, the goal of which is to restore the body's circulatory pathways and tissue planes to a state of dynamic balance. In its clinical application, *Neijing* classical acupuncture is a physician-level skill built upon a sophisticated understanding of the innate patterns of nature and an in-depth knowledge of the structure and physiology of the human body. *Neijing* classical acupuncture does not depend on point-action theory - the conceptual framework that dominates most current thinking in modern acupuncture - for its therapeutic efficacy. Rather, the goal of *Neijing* classical acupuncture is to regulate the different tissue planes of the body in order to restore the free circulation of blood, and in doing so allow the body to return to its original state of balance and innate self-healing.

By: Edward Neal

Keywords: ???

I. Background

The detailed writings laid down in the original texts of Chinese medicine during the later Warring States period (475-221 BCE) and Western Han Dynasty (206 BCE-9 CE) represent a comprehensive theoretical system that has stood the test of time for over two millennia. To date, no other system has come close to displacing these foundational ideas from their preeminent position. Despite this, in part due to the literary purges of the Qin Dynasty (221-206 BCE), as early as the Western Han Dynasty (206 BCE-9 CE) scholars had difficulty interpreting texts written during previous periods.¹ Early medical commentaries such as the *Nanjing* (*Classic of Difficulties*) already display fundamental misunderstandings of basic *Neijing* (*Inner Classic*) medical theory.² Historical commentaries written over subsequent dynasties commonly display biases and misinformation that reflect the cultural and political contexts of the times in which they were written. Further, medical training in China has historically been handed down through a combination of family, lineage-based and officially-sanctioned training systems that display a wide variety of skill, clinical understanding and system biases. Taken as a composite whole, the development of acupuncture practice is not easily summed up by a simple narrative. Thus, whilst it is perhaps easy to imagine the evolution of acupuncture as being something that has progressed smoothly from the primitive to the sophisticated, the truth is somewhat more complex. Critically, while advancements have been made in both practice and experience, the most comprehensive clinical and

theoretical descriptions of acupuncture were outlined in the original medical texts where their core principles were first described, and it is precisely this knowledge that is the least understood today.³

History of the *Lingshu* family of texts

The first comprehensive writings on acupuncture therapy were set down in the *Huangdi Neijing Suwen & Lingshu* (*Yellow Emperor's Inner Classic Plain Questions & Divine Pivot*).^{4,5} Of these, the *Huangdi Neijing Lingshu* emphasises the principles of acupuncture practice and theory.⁶ The title '*Lingshu*' is one of several names used to describe a collection of writings on acupuncture that were either similar or identical in content. Other common names used to describe these texts include the *Zhenjing* (*Needling Classic*), *Jiujuan* (*Nine Rolls*) and *Jiu Ling Jing* (*Nine Divine Classic*), amongst others.^{7,8,9} Specific references to these titles first appear in the preface to Zhang Zhongjing's *Shanghan Zabing Lun* (*Treatise on Cold Damage and Miscellaneous Diseases*, Eastern Han Dynasty 220 CE), in which the author acknowledges the influences of these texts on his work. Later, during the Three Kingdoms period (220-280 CE) Huangfu Mi (215-282 CE) constructed significant portions of his seminal treatise, the *Zhenjiu Jiayi Jing* (*The Systematic Classic on Acupuncture and Moxibustion*) from passages taken directly from the *Zhenjing* (*Needling Classic*).¹¹

The first use of the more commonly recognised term *Lingshu* is found in Wang Bing's revision of the *Neijing*, which was completed in the Tang Dynasty in 762 CE. Later, during widespread editing of medical

manuscripts that occurred in the Northern Song (960-1127 CE), the *Lingshu* text was found to be incomplete. Because of this, the Song court requested the return of a copy previously loaned to the Goryeo Emperor in Korea in 1091 CE. In 1093 the Song Emperor decreed that the *Lingshu* should be reprinted and circulated for the benefit of all physicians.¹² The earliest extant version of the *Lingshu* was published by the Gulin Shutang (吉林書堂) publishing house in the Yuan Dynasty (1271-1368 CE) and is housed in the National Library in Beijing.

During the neo-classical revival of the Northern Song period, official medical standards were established in an effort to counter a perceived deterioration in medical care and return medical practice to its classical roots. During this time the imperial court physician Wang Weiyi (987-1067 CE) constructed two well-known life-sized bronze statues, complete with internal organs and acupuncture points.¹³ It was also during this period that imperial medical examinations and official standards for medical practice were instituted. Thus while medical scholarship during the Song dynasty succeeded in resurrecting and augmenting concepts of classical scholarship, it also contributed to an orthodoxy of medical practice that persists to the current day.^{14,15,16}

During the Ming Dynasty (1368-1644 CE), the system of point-based acupuncture theory was elaborated in a series of influential texts, including the *Zhen Jiu Jie Yao (Acupuncture and Moxibustion Topics and Essentials)* by Gao Wu, the *Zhen Jiu Wen Dui (Acupuncture and Moxibustion Questions and Answers)* by Wang Ji and the *Zhen Jiu Da Cheng (Great Compendium of Acupuncture and Moxibustion)* by Yang Jizhou.

By the latter half of the Qing Dynasty (1644-1911 CE) the state of acupuncture practice had deteriorated significantly in both stature and quality. By 1822 the government ordered that the departments of acupuncture and moxibustion be closed within the imperial clinics, although its practice persisted outside of official settings.¹⁷

The development of TCM

Following the succession of the PRC (People's Republic of China) in 1949, the Communist government took a variety of positions with regard to traditional Chinese medicine. While Chinese medicine - influenced mostly by conventions of the late imperial period - continued to be practised, the government agenda was dominated by several sociopolitical concerns, including a perceived need to move towards cultural and scientific modernisation, pressing public healthcare demands, limited healthcare resources, political and ideological conflicts that made it difficult to directly embrace Western scientific values and political and cultural pressures to retain traditional practices and identity. During this time the official position of the government varied from describing traditional medicine as something outdated and superstitious to

that of being a cultural treasure that was emblematic of traditional culture and values.¹⁸ Importantly, all of these positions were filtered through a directive to legitimise traditional medicine through Western scientific validation (a practice that continues to this day). In the end, these views led to the construction of the widely disseminated medical practice that is known today as 'TCM' (traditional Chinese medicine).¹⁹

Although generally structured on Chinese medical theory and influenced primarily by later imperial styles of medicine, in most cases the medicine the world now knows as TCM bears little resemblance to the style of medicine practised by classically trained physicians of earlier generations. TCM itself evolved as a hybrid expression of various training programmes aimed at educating Chinese students of Western medicine and practising biomedical physicians in the basic principles of Chinese medicine.²⁰ At the request of the Chinese government, senior Chinese physicians prepared course materials - abbreviated by necessity in both theoretical content and complexity - to be used to explain fundamental concepts of Chinese medicine to those not versed in its practice. These courses presented a simplified system of pattern recognition, in the process side-stepping the complex medical theories that had served as the foundation of Chinese medical practice for over 2000 years. It was the course material derived from these first training programmes that initially made its way to the West through the writings of different Western authors. These texts were the first to introduce a broader Western audience to the concept of a 'traditional Chinese medicine'.²¹ While Western readers believed that they were being given a glimpse into the practices of an ancient culture, they were in fact being introduced to an educational curriculum developed to teach Chinese medicine to Chinese physicians trained in Western medicine during the 1950's and 60's. In a bizarre pedagogical twist, the theories and practice of TCM achieved such status and popularity in the West that they were eventually reimported back into China, largely displacing the study of the classics and traditional medical theory in the early 1980's.²²

II. Clinical principles of Neijing classical acupuncture

In contemporary practice, acupuncture therapy is currently understood to be an adjunctive therapy indicated for the treatment of a variety of common - but non-life threatening - diseases such as general pain disorders, paralysis, insomnia, psychological disorders, migraine headaches, digestive disorders and stress.^{23,24} However, it is important to recognise that at the time acupuncture was first originated it was seen to be the primary medical intervention for the treatment of patients with critical and life-threatening illnesses.²⁵ Most clinical descriptions found within the Neijing describe medical conditions that today would be found in modern hospital in-patient wards, emergency rooms, intensive care units and hospice settings.²⁶ Further,

at the time these texts were written, no tertiary medical backup existed. Frequently, all that stood between a patient's death or survival were the skills and experience of the acupuncture physician. That these practices persisted as a first-line treatment during times of epidemic illness, mass casualties of war and periods of great morbidity and mortality suggests that at the very least they are worthy of closer scrutiny and research.²⁷

The basic principles of the clinical practice of Neijing classical acupuncture may be summarised as follows:

Principle #1

The primary circulatory pathways of the body were originally known as mai vessels.

肺手太陰之脈起于中焦下絡大腸還循胃口上膈屬肺

'The Lung hand taiyin (太陰 greater yin) mai vessel originates from zhongjiao (中焦 middle burner). Descending, it nets with the Large Intestine and then returns to pass weikou (胃口 stomach mouth). It then ascends through the diaphragm and joins with the Lungs.'

- *Lingshu* Chapter 10



Figure 1: Mai vessels: In the *Neijing* the original descriptions of the body's circulatory pathways were outlined in terms of mai (blood) vessels. Over time, as acupuncture practice moved more towards a point-action-based theoretical system, this original connection to the concept of mai vessels was lost and is no longer commonly taught in modern Chinese medical education [image courtesy of Getty Images].

Similar to the Mawangdui medical manuscripts, in the *Neijing* the preeminent circulatory pathways of the human body are described as being 'mai' vessels (see Figure 1).²⁸ In Chinese, the character 'mai' (脈) is a basic anatomical term that simply means 'blood vessel'. Although significant portions of the original mai vessel pathways can still be traced within the modern acupuncture channel system, many pathways have been significantly altered from their original course descriptions. The acupuncture channel systems now widely taught and used in clinical practice all have their origin in the descriptions of mai vessel pathways found in Chapter 10 (Jingmai 經脈, Channels and Vessels) of the *Lingshu*. Within these passages the terminology of the mai vessel is clearly evident; taking the Lung pathway as an example:

'肺手太陰之脈起于中焦' (Literally, 'Lung; hand; taiyin's; mai vessel; arises; in/from; middle; jiao. '; or stated more clearly, 'The mai vessel of the Lung hand taiyin arises from the middle burner.'^{29,30}

In modern times, any references to mai vessels and the rich physiological, clinical and anatomical significance they impart are generally omitted from English translations of Chinese source texts, and are rarely recognised as being a part of Chinese medicine theory.

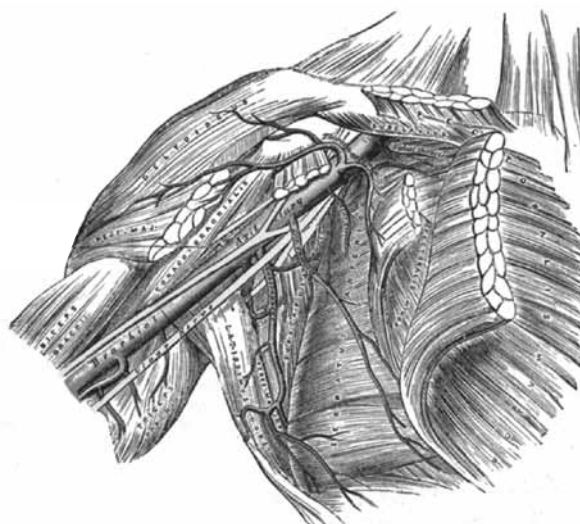


Figure 2: Mai vessel circulation The *Neijing* describes a complex, three-dimensional circulatory anatomy of the human body. The primary trajectories of these pathways were defined by the trajectories of the mai vessels. In this illustration, the Lung mai vessel is shown where it exits the axilla in the region of the axillary artery. In the *Neijing* this region was called 'Tianfu' (天府 heavenly palace). Now the name of the modern acupuncture point LU-3, originally Tianfu described a broad functional area of the body's anatomy – the region where the Lung mai vessel exits the chest. [image from <http://en.wikipedia.org/wiki/File:Gray523.png>]

Classical Chinese Blood Circulation	Biomedical Blood Circulation
Blood is circulated by the Lungs.	Blood is circulated by the heart.
Blood flows through a continuous loop of mai vessel pathways, passing back and forth between the exterior and interior of the body.	Blood cycles back and forth between the arteries, capillary beds, veins, lungs and heart
Blood forms from the products of digestion and respiration.	Blood results from haematopoietic stem cells derived from bone marrow.
Blood vessels are called 'mai' (脈) vessels.	Blood vessels are differentiated into arteries, veins and capillaries.
Mai vessels communicate freely with local tissue planes, similar to the communication that occurs between a river and its riverbank.	Arteries and veins are viewed as closed systems that communicate with the body's tissue planes via terminal capillary beds.
Blood flows either from earth to heaven (a mu 木 wood circulation) or from heaven to earth (a jin 金 metal circulation).	Blood flow is differentiated into arterial and venous circulation.

Table 1: Some basic differences between classical and modern descriptions of blood circulation.

Principle #2

Mai vessels circulate the blood.

‘夫脈者血之府也。’

‘The mai vessels are the fu (府 official palace) of the blood.’

- *Suwen* Chapter 17

‘心之合脈也。’

‘The Heart joins with the mai vessels.’

- *Suwen* Chapter 10

As stated above, the character ‘mai’ (脈) is a relatively straightforward anatomical term that means ‘blood vessel’.^{31,32,33} Therefore, the mai vessel pathways described in the *Neijing* represent a comprehensive and straightforward description of the early Chinese conception of human blood circulation (see Figure 2).^{34,35,36} In these descriptions, blood has its origin in the products of digestion in the middle burner. A nutrient-rich portion of this substance flows directly to the Liver and Heart via collateral circulations. A majority of this ‘proto-blood’ then circulates to the Lungs where it is vitalised by the qi of the atmosphere to become fully matured blood. This qi-enriched blood then flows out from the Lung mai vessels along a circular pathway defined by a variety of anatomical, theoretical and physiological concerns (see Figures 3 and 4).^{37,38} Several key factors serve to differentiate classical and modern conceptions of blood circulation (see Table 1). For the authors of the *Neijing* the free circulation of blood within the mai vessel pathways was the end goal of each acupuncture treatment; it was not (with few exceptions) the activation of individual acupuncture points with specific point actions.

Principle #3

The entire three-dimensional anatomy of the human body is called ‘jingluo’ (經絡).

‘夫十二經脈者人之所以生病之所以成人之所以治病之所以起學之所始工之所止也羸之所易上之所難也。’

‘It is through the twelve jingmai (經脈 channels and vessels) that human beings are born and [are able to live their] lives.

Within them illnesses arise, illnesses are cured and illnesses worsen. When beginning their study of jingluo, the lower-level physician believes this knowledge is something easily acquired. It is the superior physician [alone] who understands the true difficulty of [its study].’

- *Lingshu* Chapter 11

In modern TCM the term ‘jingluo’ (經絡) is commonly translated as ‘channels and collaterals’. It is a term typically used to describe the basic pathways of the acupuncture channel network and its associated structures (see Figure 5). However, as is often true of the key terms in Chinese medical terminology, the term jingluo contains both primary and secondary meanings.³⁹ As a primary definition, the term jingluo describes generic patterns of nature’s growth cycles. Only secondarily do these terms describe discrete anatomical structures of the human body.



Figure 3: Yang growth patterns in nature: In *Neijing* terminology, generic yang patterns of development are called ‘jing’ (經 longitudinal patterning). Yang patterns of growth develop in longitudinal or vertical patterns, have a supportive structural function and are easily identified. In classical jingluo theory, the same character jing (經) is also used to describe longitudinal divisions within the bodies fascial planes. These are now called ‘acupuncture channels’ (although most modern channel descriptions have been significantly altered from their original courses). [image from https://en.wikipedia.org/wiki/File:Redwood_National_Park_fog_in_the_forest.jpg]

According to basic Neijing medical theory all living things are seen as being primary expressions of the universal yinyang breath.⁴⁰ As living things grow and mature they are seen to evolve along both yin and yang lines of patterning. In a generic sense, yang patterns of development are called 'jing' (經 longitudinal patterns). Yang patterns are concrete, clearly identifiable structures that grow in a longitudinal or vertical manner (see Figure 5). Yin patterns of development are generically called 'luo' (絡 horizontal network patterns). In contrast to yang patterns, yin patterns are more diffuse, harder to identify as discrete structures and develop as networks of horizontal branching structures (see Figure 6).⁴¹ Out of this basic dichotomy of generic developmental growth patterns arises a comprehensive and theoretically coherent construction and understanding of human anatomy.



Figure 4: Yin growth patterns: In *Neijing* terminology, generic yin patterns of development are called 'luo' (絡 horizontal network patterning). In contrast to yang patterns, yin patterns develop as a series of horizontal networks that are more difficult to clearly discern and do not follow a regular pattern. They are associated more with nourishment than structural support. In classical jingluo theory, the same character 'luo' (絡) is used to describe the divisions of the bodies fascial planes that move from the centre/ interior to the bodies surface/ exterior and do not cross the major joints of the body. [image from https://en.wikipedia.org/wiki/File:Hedera_canariensis_Gomera.jpg]

In *Neijing* medical theory – as in the vast majority of classical Chinese philosophical thought – ontological patterning (li 理) is seen to be primary and manifestations of that patterning (xing 形) are seen to be secondary. In the same way, ancient Chinese physicians/scientists understood generic patterns of nature to be primary, and discrete anatomical descriptions of the human body to be secondary. Thus, while a complex variety of anatomical terms are used within the *Neijing*, they are all seen to develop from a few basic patterns of nature.

In the anatomical terminology of the *Neijing*, the character 'jing' (經) refers both to generic developmental patterns that occur in nature and also to structural patterns of the fascial body that longitudinally traverse the bodies structures passing through the major joints of the body.⁴² Likewise, the term 'luo' (絡) refers both to generic horizontal network patterns found in nature as well as to structural patterns

that traverse the fascial body running centrifugally from the interior/ centre to the exterior/ surface, are diffuse in nature and do not cross the major joints of the body.⁴³ In terms of classical anatomy, these basic patterns exist whether one is speaking of the different divisions of fascial plane anatomy or the circulation of blood (mai) vessels. When the authors of the *Neijing* desired to focus their discourse on the circulation of blood, they simply added the qualifying term 'mai' to the basic descriptors of longitudinal and horizontal patterning to form the composite terms 'jingmai' (經脈) and 'luomai' (絡脈).

Since shared generic patterns were seen to exist in both the human body and the natural world, direct correlations were made between the two. For example, rivers flow within grains or fissures in the earth's topography. In a similar way, within the body's anatomy, mai vessel circulation flows within the seams and fissures of the fascia body. In both nature and the human body, when these patterns flow longitudinally they are referred to as 'jing' patterns. When they flow laterally in horizontal networks they are called 'luo' patterns. This style of correlative thinking is evident in *Lingshu* Chapter 12 (Jingshui 經水 Channel Waters), where a direct correlation is made between the patterns of the twelve primary mai vessels of the body and twelve of the primary bodies of water of ancient China (see Table 2 and Figure 7).⁴⁴ Here, the patterns of the greater macrocosm and the inner anatomical landscape are both understood to be formed upon a shared template.

Primary Mai Vessel	Ling Shu Water Correspondence
Lung	Huang He (Yellow River 河水)
Large Intestine	Jiang He (Yangtze River 江水)
Stomach	Ocean and Seas (海水)
Spleen	Lakes and Marshes (湖水)
Heart	Ji river (濟水)
Small Intestine	Huai river (淮水)
Bladder	Qing river (清水)
Kidney	Ru river (汝水)
Xinzhu (Heart Ruler)	Zhang river (漳水)
Sanjiao	Ta river (漯水)
Gallbladder	Wei river (渭水)
Liver	Mian river (澗水)

Table 2. *Lingshu* Chapter 12 river correlations In *Lingshu* Chapter 12 each primary mai vessel is matched to one of the bodies of water in ancient China. Some of these water bodies are easily identified, while the original courses and names of others been lost or altered.

Because all of the anatomical structures of the human body are seen to form from different combinations of yinyang growth patterns, the term 'jingluo' (經絡) is a comprehensive term that describes the entire three-dimensional anatomy of the human body. *Neijing* jingluo theory greatly exceeds the simplified anatomical descriptions of TCM in complexity,



Figure 4: Watercourses in China – anatomical correlates: historically, the Yellow River has been seen as the geographic heart of China. Known as the river of sorrows, its recurrent flooding brings rich loess soil down from the Tibetan plateau to enrich the agricultural soil of the Yellow River basin. In the Lingshu the Yellow River is correlated with the Lung mai vessel. In both cases, these circulatory pathways bring nutrient rich material into their respective circulations. [image from https://en.wikipedia.org/wiki/File:Hukou_Waterfall.jpg]

anatomical accuracy and clinical relevance.⁴⁵ Importantly, because classical jingluo theory offers a description of the human body that is grounded in anatomical reality, it provides a bridge to Western biomedicine that has been lacking in modern descriptions of Chinese medicine.

Principle #4

Six primary longitudinal mai vessels systems define six anatomical watershed regions of the body's anatomy.

‘三陽之離合也太陽為開陽明為闔少陽為樞三經者不得相失也搏而勿浮命曰一陽…三陰之離合也太陰為開厥陰為闔少陰為樞三經者不得相失也搏而勿沈名曰一陰陰陽積傳為一周。’

‘In regards to the separation and reunion of the three yang: taiyang opens (開), yangming closes (闔) and shaoyang pivots (樞). These three jing (經) should not contend and defeat one another. When this happens [yang] cannot circulate within the exterior. [Together] they are called “one yang” ... In regards to the separation and reunion of the three yin: taiyin opens (開), jueyin closes (闔) and shaoyin pivots (樞). These three jing (經) should not contend and defeat one another. When this happens [yin] cannot sink deeply within the interior. [Together] they are called “one yin”. Yin and yang move in an unending pattern, moving and transforming in a circle without end.’

- *Suwen* Chapter 6

Within the body, the six primary longitudinal mai vessel systems define six anatomical watershed regions within the body’s tissue-plane anatomy. In nature, a watershed is defined as an area of regional ecology that is geographically defined by a central body of water. Each watershed region contains many distinct features, including specific flora and fauna, different variations in soil and mineral composition and a complex system of tributaries and central watercourses. In a similar way each of the six anatomical zones described in the *Neijing* contain distinct regional tissue-plane features such as tendons, blood vessels, bones, skin and fat (see Figure 8).

The ancient Chinese physician/scientists carefully observed the manifestations of nature and the effects that the waxing and waning cycles of yin and yang had on the human body. They saw that as the physical universe moves through different states of cyclical change, the body mirrors and tracks these changes with reciprocal motions of its own. Similar to the movements of plants and vegetation, the human body was seen to open and close in relation to basic cycles of yinyang expansion and contraction. In

Watershed	Action	Directional Root	Mai Vessel Watershed
Taiyin (太陰)	Opens the interior	Spleen (lower) Lung (upper)	Spleen mai vessel (lower) Lung mai vessel (upper)
Jueyin (厥陰)	Closes the interior	Liver (lower) Xinzhu (upper)	Liver mai vessel (lower) Xinzhu mai vessel (upper)
Shaoyin (少陰)	Pivots the interior	Kidney (lower) Heart (upper)	Kidney mai vessel (lower) Heart mai vessel (upper)
Taiyang (太陽)	Opens the exterior	Bladder (lower) Small Intestine (upper)	Bladder mai vessel (lower) Small Intestine mai vessel (upper)
Yangming (陽明)	Closes the exterior	Stomach (lower) Large Intestine (upper)	Stomach mai vessel (lower) Large Intestine mai vessel (upper)
Shaoyang (少陽)	Pivots the exterior	Gall Bladder (lower) Sanjiao (upper)	Gall Bladder mai vessel (lower) Sanjiao mai vessel (upper)

Table 3: Watershed functions In the *Neijing* each of the six primary longitudinal mai vessel pathways defines a distinct region of body tissue, which plays a specific role in the opening and closing functions of the body.

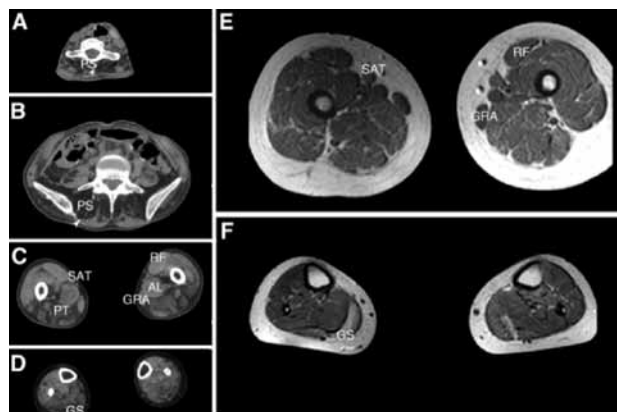


Figure 5: Tissue plane diversity Within the *Neijing*, the longitudinal mai vessels are seen to flow through different terrains within the body's tissue planes. Each mai vessel circulation traverses regionally distinct tissues such as fat, fascia, sinews, collateral blood vessels, skin and bone. All of the different layers of the body's tissue planes form on a shared patterning template, although their expression is different depending on which body tissue is being expressed. [image from http://en.wikipedia.org/wiki/Magnetic_resonance_imaging]



Figure 6: Patterns of motion in relation to cyclical patterns of nature In a similar manner to a field of sunflowers that opens, closes and rotates in response to the daily cycles of the sun, the human body is also seen to move through the primary axes of 'opening', 'closing' and 'pivoting'. [image from http://en.wikipedia.org/wiki/File:Iglesia_de_Nuestra_Señora_de_La_Blanca,_Cardeñón,_España,_2012-09-01,_DD_02.JPG]

addition, a fundamental tenet of yinyang theory is that nature's circulations are tidal in quality, moving back and forth between two positions of polar opposition (see Figure 9). In this process, three primary axes of variable motion can be identified. In Chinese, these aspects of motion were called 'kai' (開 opening), 'he' (闔 closing) and 'shu' (樞 pivoting). Three primary degrees of change moving in two polar opposite directions yields a total of six primary qualities of motion within nature and the human body (see Figure 9). In *Neijing* medical theory, each of the body's

anatomical watershed zones has governance over one of these primary axes of change. In the *Neijing*, the names of the anatomical regions which govern these movements are called shaoyang (少陽 lesser yang), yangming (陽明 yang illumination), taiyang (太陽 greater yang), jueyin (厥陰 reverting yin), shaoyin (少陰 lesser yin) and taiyin (太陰 greater yin). Many clinicians and students are familiar with these basic terms, although their original meanings are not widely appreciated or understood (see Table 3).

Watershed	Action	Directional Root	Mai Vessel Watershed
Taiyin (太陰)	Opens the interior	Spleen (lower) Lung (upper)	Spleen mai vessel (lower) Lung mai vessel (upper)
Jueyin (厥陰)	Closes the interior	Liver (lower) Xinzhu (upper)	Liver mai vessel (lower) Xinzhu mai vessel (upper)
Shaoyin (少陰)	Pivots the interior	Kidney (lower) Heart (upper)	Kidney mai vessel (lower) Heart mai vessel (upper)
Taiyang (太陽)	Opens the exterior	Bladder (lower) Small Intestine (upper)	Bladder mai vessel (lower) Small Intestine mai vessel (upper)
Yangming (陽明)	Closes the exterior	Stomach (lower) Large Intestine (upper)	Stomach mai vessel (lower) Large Intestine mai vessel (upper)
Shaoyang (少陽)	Pivots the exterior	Gall Bladder (lower) Sanjiao (upper)	Gall Bladder mai vessel (lower) Sanjiao mai vessel (upper)

Table 3: Watershed functions In the *Neijing* each of the six primary longitudinal mai vessel pathways defines a distinct region of body tissue, which plays a specific role in the opening and closing functions of the body.

Chinese Name	Original Meaning	Modern Point
Quepen	Region between the clavicle and scapula	ST-12
Tianfu	Pulsation of the axillary artery	LU-3
Qijie	Region where major vessels pass through the groin	ST-30 (now called Qichong)
Futu	Front of the quadriceps muscle	ST-32
Wangu	Mastoid process	GB-12
Renying	Carotid artery	ST-9

Table 4: *Neijing* functional anatomical zones In many cases modern acupuncture point names were taken from *Neijing* descriptions of broader anatomical and functional areas of the bodies architecture that were seen to be clinically and anatomically significant.

Principle #5

Anatomical regions now understood to be singular acupuncture points were (with some exceptions) originally understood to be broader functional regions of the body's anatomy.

‘人有三百六十節偶天之數也形體骨肉偶地之厚也上有耳目聰明日月之象也體有空竅理脈川谷之象也.’

‘Man has three hundred and sixty physical demarcations (jie 節). These correspond to the numerical patterns of heaven. The form, body, bones and flesh correspond with the material substance of earth. Above there are ears, eyes and mental intelligence. These correspond to the sun and the moon. The body has surface depressions, openings, terrain patterns and mai vessels. These resemble the river valleys (chuan gu/川谷) [of the earth].’

- *Chunqiu Fanlu Roll Thirteen (Spring and Autumn Exuberant Dew Annals, Western Han Dynasty)*

In the majority of cases, anatomical terms now used to describe singular acupuncture points were originally understood as being broader functional regions of the body's anatomy (see Table 4).⁴⁶ Research into the use of anatomical terms within the *Neijing* validates this point of view. To give one example, the anatomical term Quepen (缺盆 open basin) is now the name of the modern acupuncture point ST-12, located in the supraclavicular fossa, four cun lateral to the midline of the body.⁴⁷ However, studies of how this term was used in the *Neijing* shows that fourteen distinct anatomical structures pass through the region named Quepen (see Figure 11). Such types of analysis show that when the authors of the *Neijing* used anatomical terms such as Quepen, they were most often describing broader areas of the body's anatomy (here the region between the clavicle and scapula that demarcates the opening between the thorax and the head). It was only later, as point-action theory came to the forefront, that these descriptions were re-interpreted to become singular isolated acupuncture points.

Surface depressions possessing qualities roughly equivalent to modern acupuncture points were described in the *Neijing*. These regions were named either by the generic term ‘xue’ (穴 earth cavern) or by a special case term ‘shu’ (輸 influence zone). For example:

‘足太陽脈氣所發者七十八穴’

‘The qi of the foot taiyang mai vessel emerges through seventy-eight xue.’

- *Suwen Chapter 59*

In *Neijing* medical theory, a ‘xue’ is an area of surface thinning where the qi of an underlying mai vessel emerges to the surface of the body. In contrast, the term ‘shu’ (輸) represents a specific subset of the more generic term ‘xue’ (穴). Specifically, shu regions are surface areas that possess the general qualities of xue depressions, but which also exert a unique influence on a specific function or anatomical region of the human body. For example, the ‘benshu’ (root shu 本輸) regions, located between the elbows and knees and the tips of the fingers and toes, represent a special case example of xue-surface depressions that exert a unique influence over the ‘root’ regions of the bodies interior (i.e. the zang organs). With the exception of the ‘benshu’ (root shu 本輸), topographical xue regions were not named although their locations were noted.

Principle #8

Neijing classical acupuncture does not prioritise point-action theory.

‘聚氣可布深居靜處占神往來閉戶塞牖魂魄不散專意一神精氣之分毋聞人聲以收其精必一其神令志在鍼淺而留之微而浮之以移其神氣至乃休男內女外堅拒勿出謹守勿內是謂得氣.’

‘Gather the qi and reside within a still place. Attend to the comings and going of the shen. Shut the doors and windows; take care not to dispel the hun or the po. Concentrate the intention, align the shen and harmonise the jing qi (精氣). Be as one who cannot hear another's voice. Gather the jing (精), align it with the shen (神). Align the will and the shen. Lightly retain it, subtly float it. In this way, adjust and transform the shen ... This is the meaning of deqi (得氣).’

- *Lingshu Chapter 9*

Examinations of different needling techniques found within the *Neijing* shows that, with few notable exceptions, the authors of the *Neijing* were not overly concerned with the concepts of point-action theory.⁴⁸ For example, of twenty-six

different needling techniques described in Lingshu Chapter 7 (Guanzhen 官鍼 'Official Needle Technique'), only two make any mention of acupuncture point regions.⁴⁹ The rest of these passages give detailed advice on how to restore the body's mai vessel circulation by regulating different levels of the body's tissue-plane anatomy and provides strategies for dealing with different types of tissue-plane pathology (see Figure 16). In classical acupuncture, it was this singular focus on the free-flowing circulation of mai vessels that was the end-point of all therapeutic interventions, not the activation of specific acupuncture points with their own unique therapeutic actions.⁵⁰

Principle #9

The practice of acupuncture is based on the principle shen (神).

‘黃帝問于歧伯曰凡刺之法先必本于神。’

‘The Yellow Emperor said to Qi Bo, “The very first principle of acupuncture is that its practice must be rooted in shen.”’

- Lingshu Chapter 8

‘用鍼之要無忘其神。’

‘The essential thing when using the needle is never to forget the shen.’

- Lingshu Chapter 73

The original authors of the *Neijing* were unequivocal about one thing, that the practice of acupuncture is based upon the principle of shen. Despite many clear and definitive statements on this matter, few modern practitioners are aware of this principle, and fewer still can define its meaning in a clinically relevant way. As has been discussed previously, most important terms in Chinese medicine possess both primary and secondary meanings; primary meanings define principle and secondary meanings define manifestations of these principles.⁵¹ The special relationship that exists between principle and practice is outlined in Lingshu Chapter 48:

‘夫約方者猶約囊也囊滿而弗約則輪泄方成弗約則神與弗俱。’

‘In regards to the correct method of learning, it is like tying things in a bag. If a bag is full but has not been tied shut, its contents will spill out. If a method is known but has not been summarised into [its essential principles] it is impossible to [understand] this method through the shen.’⁵²

In modern TCM the term ‘shen’ (神) is most commonly translated as ‘spirit’. It is a term generally used to describe basic qualities of vitality and intelligence. It is also sometimes used to indicate a certain ephemeral quality between practitioner and patient that is believed to be essential for the therapeutic effect of acupuncture treatment. However, these types of definitions all reflect secondary



Figure 7. Stellar emanations of shenming (神明) In the *Neijing*, the term shen (神) refers to a specific dimension of space/time in which the usual observable laws of the physical universe do not apply. In special cases, where yin and yang forces achieve a certain dynamic tension and equilibrium this dimension emanates the light of shenming (神明). Shenming is a special organising illumination around which life processes organise themselves. In classical Chinese the term for the lights of the stellar heavens and the organising illumination of the human body are both called ‘shenming’ (神明). Because shenming is understood to be a prerequisite for the organisation of life, it is also seen to hold the power needed to reform the body along the lines of its original template. Shenming is seen to flow within the mai vessel circulation. Because of this the originators of acupuncture prioritised the restoration of mai vessel circulation in their therapeutic approach. [image from <http://upload.wikimedia.org/wikipedia/commons/6/62/Starsinthesky.jpg>]

manifestations of the term ‘shen’ and do not describe its primary meaning. In contrast, in the *Neijing*, shen is defined as a specific dimension of space-time in which the typical laws of the physical universe do not apply. We find this description in Suwen Chapter 66:

‘物生謂之化物極謂之變陰陽不測謂之神。’

‘The process of a thing becoming is called hua (化) transformation. The process of a thing reaching its completion is called bian (變) transformation. Aspects of yin and yang that cannot be measured are called shen.’

- Suwen Chapter 66

In other words, most manifestations found in nature can be described in terms of observable patterns of yin and yang fluctuation, but here the *Neijing* describes another dimension of space/time that transcends the normal observable manifestations of nature; this dimension is called ‘shen’.⁵³ Within the *Neijing* various terms are used to describe different qualities of shen. Used as a singular term, the character ‘shen’ refers to a unique quality of space/time that transcends the normal observable laws of nature. Under specific conditions, shen may also manifest itself as a special quality of organising force that is called ‘shenming’ (神明 shen illumination). In nature, shenming arises when both yin and yang come into a unique state of dynamic tension and equilibrium. When this occurs, life processes spontaneously begin to form themselves. Conversely, when the special relationship between yin and yang is lost, the organising force of shenming is extinguished and the associated life processes cease to exist. Thus, the special

quality of shenming is seen to be a basic prerequisite for all life processes and, as such, it is seen to contain the original template upon which life originally forms itself.

In nature, one finds a concrete example of this process in the birth of stars within a stellar nebula (see Figure 16). As a new star begins its life, cosmic dust collects and contracts under the prevailing contracting forces of yin. As matter condenses inwards, yang forces oppose this original contraction with an outward expansion. When the two oppositional forces reach a critical state, a nuclear fusion reaction occurs and a new star is born. The star then departs the stellar nebula to begin its mature life cycle as the centre of an organised life process (i.e. a solar system). Conversely, when the mature star reaches the end of its life, the star is extinguished, the solar system ceases to exist and its elements resolve back into the fabric of space-time.

In the *Neijing*, the Heart is understood to be the anatomical equivalent of the sun. As described in *Suwen* Chapter 8:

‘心者君主之官也神明出焉。’

‘The Heart is the sovereign and ruling official. Shenming (神明) emanates from it’.

Within the *Neijing*, mai (blood) vessels were understood to be direct emissaries of the heart. Because of this special relationship, the governing illumination of shenming is also believed to circulate within the three-dimensional jingluo body via the mai vessel circulation. When the mai vessel circulation is restored during a classical acupuncture treatment, the organising force of shenming is thus restored to the different parts of the human body. When this occurs, the body is able to re-form itself along the template of its original inception and spontaneously bring itself back into health and balance. From the perspective of *Neijing* classical acupuncture, it was this restoration of mai vessel circulation along with the circulation of the organising force of shenming that was seen as the primary goal of all classical acupuncture treatments, and in classical terms these processes were understood to underlie the therapeutic efficacy of all acupuncture therapy.

Summary

Neijing classical acupuncture is a sophisticated form of clinical surgery that restores the flow of the mai (blood) circulation through the entire three-dimensional tissue planes of the human body. Its clinical practice is based upon a deep understanding of the innate patterns of nature and an in-depth knowledge of human anatomy and physiology. As originally described, *Neijing* classical acupuncture had little to do with point-action theory, which constitutes the main theoretical framework of most modern acupuncture practice and education. As originally described, *Neijing* classical acupuncture was a physician-level skill indicated for the treatment of critical and life-threatening illnesses. Although many of the original principles of acupuncture practice have now been forgotten, these theories and practices were written down and remain accessible today through research and study. The information contained within these texts has a significant potential to reshape the practice of Chinese medicine and make valuable contributions to a wide variety of global healthcare issues. Part III of this article will examine specific principles of clinical treatment. ■

Edward Neal, MD, LAc, has been actively involved in the practice and teaching of Chinese medicine for over 20 years. Originally trained as a Western allopathic physician, Dr. Neal first studied traditional acupuncture with Dr. Anita Cignolini of Milan, Italy. Formerly an Associate Professor in the Department of Classical Chinese Medicine at the National College of Natural Medicine in Portland, Oregon and founding director of the International Society for the Study of Classical Acupuncture (ISSCA), Dr. Neal is currently a Senior Researcher at the Xinglin Institute, a multi-disciplinary research and educational institute dedicated to the study of early Chinese medical texts with the express purpose of identifying classical treatment strategies that can be used to address a variety of global healthcare challenges. More information about Dr. Neal and his work can be found at www.edwardneal.com.

Endnotes

1. See Neal, E. (2012). 'Introduction to Neijing Classical Acupuncture Part I: History and Basic Principles'. *The Journal of Chinese Medicine*, 100, pp.5-14
2. Perhaps one of the most influential misunderstandings of *Neijing* medical theory found in the *Nanjing* concerns the primary role of the benshu (本輸) point regions. In the *Neijing*, the benshu regions are described as being influential areas located distal to the elbows and knees that have a direct influence on the internal zang organs. These regions were identified using the sequential nomenclature jing (井 well), ying (榮 rivulet), shu (輸 influence region), jing (經 channel) and he (合 convergence). On yang pathways, an additional region was defined as the yuan (原 source) region (on yin pathways the yuan-source regions are synonymous with the shu [輸] regions). In *Lingshu* Chapter 2 ('Root Shu') the text passages that describe these regions all begin with a description of a jing-well region followed by the qualifying term 'wood' (木) or 'metal' (金). For example:

'胃出于厲兌厲兌者足大指內次指之端也為井金.' 'The Stomach emerges from Lidui. Lidui is located lateral to the big toe at the inner tip of the second toe. It is jing (well) metal (為井金).'

Similarly, for a corresponding yin pathway we see a comparable passage:

'肺出於少商少商者手大指端內側也為井木.' 'The Lung emerges from Shaoshang. Shaoshang is located at the inner tip of the thumb. It is jing (well) wood (為井木).'

In *Neijing* terminology, wood (木) and metal (金) are terms used to describe different qualities of circulation and movement. Specifically, wood circulation describes motion that expands outwards and flows upward from the earth to the heavens. Metal circulation describes motion that contracts inward and flows from then heavens to the earth. Within these passages the *Neijing* uses specific language conventions to indicate to the reader: a) the location of the origin (or terminus) of a given mai vessel pathway (i.e. the jing 井 well region) and b) the primary direction of the mai vessel circulation (i.e. yang mai vessels have a descending or 'metal' circulation, and yin vessels have an ascending or 'wood' circulation). Later in the *Nanjing*, these terms mistakenly became identified with five phase (wuxing 五行) dynamics (i.e. the first point of a yin channel is a 'wood point', the second point is a 'fire point', the first point on a yang channel is a 'metal point', the second point is a 'water point' etc.). This in turn became the theoretical basis for a variety of different schools of acupuncture (e.g. different schools of Japanese acupuncture, Worsley-style five element acupuncture etc.) and became a basic tenet of modern TCM education. However, this interpretation contradicts basic five phase theory: In five phase theory wood and metal represent two intermediate circulations that exist between the opposing two poles of fire (火) and water (水) - they do not describe qualities of motion that occur at the origins of these circulations. Further, these interpretations do not correlate with the way that these terms were used in the source material. For example, in the *Neijing* it is clearly stated that all jing-well regions of the body correspond with the season of Winter (and thus the Northern direction and the phase of water). This also follows logically from yinyang theory (jing-well regions are the areas of the body where mai vessel circulations either terminate their existence or have their origin (i.e. the Lung mai vessel ends its flow circulation at the Lung jing-well region, the Large Intestine mai vessel has its origin at the Large Intestine jing-well region etc.). In five-phase theory, the Winter season is the time of both terminal cessation of life and embryonic origination. Thus, the original descriptions found within the *Neijing* not only correspond with observable laws of nature but are also consistent with basic yinyang and five phase theory. Practitioners of *Nanjing*-based styles may counter by citing specific clinical experiences that demonstrate the effectiveness of a particular system. However, because the benshu regions exert a strong and direct influence on the internal organs of the body, they were recognized as being some of the most clinically influential areas of the body, thus any type of treatment given in these regions would be expected to produce some sort of clinical results. Here, the question is not whether these areas are clinically significant, but rather what might be the effects of therapy if these regions were used as originally described within the classical source texts.
3. For general purposes, the evolution of Chinese medicine can roughly be divided into four basic phases of development: 1) The period of the Warring States and Han Dynasty, during which the first principles of acupuncture practice and Naturalist philosophy were first set down (475 BCE-220 CE); 2) The post-Han Imperial period, during which a variety of different theoretical schools arose from the basic principles set down within the original source texts (roughly 220 CE-1911 CE); 3) Post-1949 medicine in China, in which combined Western medicine/TCM training programs for Chinese medicine physicians were developed; and 4) Post-1949 medicine in the West, in which the exported amalgam of TCM was taught and spread throughout the world.
4. In Chinese medicine, the term 'classical' is a somewhat confusing term that is used in a variety of ways. Historically, this term is used to describe the chronological period starting somewhere prior to the Zhanguo (Warring States) period of the Eastern Zhou Dynasty to the end of the Eastern Han Dynasty (approximately 500 BCE-220 CE). Various schools of acupuncture also use this term to distinguish their practices from modern 'TCM-style' acupuncture. It is also used loosely to indicate 'the ancient art of Chinese medicine'. For the purposes of this article the term 'classical' is used in two distinct ways. Firstly, it refers to the specific historical time period as described above. Secondly, it is used to describe a set of clinical practices based on Warring States and Han Dynasty medical texts that utilise the theories of yinyang directional science (see the rest of this article for explanation).
5. Although other descriptions of acupuncture practice existed in texts such as the Mawangdui medical manuscripts, these descriptions do not provide the level of detail found within the *Lingshu*.
6. This distinction is not absolute; the *Neijing Suwen* also contains a number of passages related to acupuncture practice, and the *Neijing Lingshu* contains many passages related to basic medical theory.
7. To avoid confusion, in this article, all of the different names of the *Lingshu* family of texts will be referred to either by the title 'Lingshu' or by the more generic term 'Needling Classic'.
8. For more on the history of the *Lingshu* text see Sivin, N. *Huang Ti Nei Ching* 黄帝内经, in Loewe, M. ed. (1993). *Early Chinese Texts: A Bibliographical Guide*. Berkeley and Los Angeles: University of California Press.
9. As noted in Part I of this article, medical texts such as the *Lingshu* most likely represent composites of pre-Han and Han classical texts that survived the Qin Dynasty literary purge. These were likely compiled, re-compiled and added to by scholars of subsequent dynasties until consensus editions emerged that then became part of the canon of medical literature; for more on this issue see Neal, E. (2012). 'Introduction to Neijing Classical Acupuncture Part I: History and Basic Principles'. *The Journal of Chinese Medicine*, 100, pp.5-14.
10. It is also possible that the *Needling Classic* was referenced - although not by name - in Ban Gu's inventory of the Han imperial library undertaken in the first century BCE. In this account, a reference is made to eighteen rolls (juan) of a *Huangdi Neijing Suwen*. It is possible that the first nine rolls refer to the *Suwen* and the second nine to a *Needling Classic*.
11. According to Huang Fu Mi, the *Zhenjiu Jiuyi Jing* (*Systematic Classic on Acupuncture and Moxibustion*) was a compilation formed from three primary texts, the *Suwen* (*Plain Questions*), *Zhenjing* (*Needling Classic*) and *Mingtang Kongxue Zhenjiu Zhiyao* (*Essentials on Needling and Moxibustion of the Illuminated Chamber*), the latter of which has been lost.

12. Lu, Gwei-djen & Needham, J. (2002). *Celestial Lancets: A History and Rationale of Acupuncture and Moxa*. London and New York: Routledge.
13. These bronze statues were constructed with passageways that were filled with liquid. Holes were drilled at officially-recognised acupuncture points and sealed with wax. To successfully pass their examinations, students were required to insert needles at pre-determined locations, thus allowing fluid to flow from the point. Concurrently with this, Wang completed a three-volume set outlining the official location of acupuncture points entitled *Tongren Shuxue Zhenjiu Tujing (Illustrations of the Bronze Man Acupuncture and Moxibustion Points)*.
14. During the Song Dynasty, official bureaus for medical administration, medical education and medical editing were established. It was during this time that imperial medical education first became affiliated with the Imperial College that oversaw the national education system.
15. For a general overview of the medical changes that occurred during the Song Dynasty see Goldschmidt, A. (2011). *The Evolution of Chinese Medicine: Song Dynasty, 960-1200*. London and New York: Routledge Curzon.
16. These advancements were aided by the invention of movable type print by Bi Sheng in 1040 CE.
17. During the latter half of the Qing dynasty (1644-1911CE) there was a general deterioration of societal conditions caused by epidemics, natural disasters, civil strife (upwards of 20 million people died during the Taiping rebellion alone), the First and Second and Opium Wars, various foreign occupations and the Boxer Rebellion. A significant proportion of China's citizens lived in abject poverty and severely unsanitary conditions. Given the basic standard of living experienced by the average individual, it is perhaps understandable why policies aimed at modernisation and against traditional practices were advocated.
18. See Taylor, K. (2005). *Chinese Medicine in Early Communist China, 1945-1963: A Medicine of Revolution. (Needham Research Institute Series)*. London: Routledge Curzon
19. The term 'TCM' was first used in the *Chinese Medical Journal* in 1955 – a journal published primarily for non-Chinese readers. There exists no comparable term in the Chinese language. In modern China, Chinese medicine is simply known as zhongyi (中醫 Chinese medicine).
20. These were the programmes known as Xiyi Xuexi Zhongyi 西醫學習中醫 ('Western Doctors Study Chinese Medicine'). For further analysis see Taylor, K. (2005). *Chinese Medicine in Early Communist China, 1945-1963: A Medicine of Revolution. (Needham Research Institute Series)*. Routledge Curzon.
21. For example, Nanjing Academy of TCM (ed.) (1958). *Outline of TCM 中醫基礎理論*. Beijing: Renmin weisheng chubanshe, and Health Unit of the Logistics Department of the Guangzhou Army (ed.) (1972). *Revised Outline of TCM 新編中醫學概要*. Beijing: Renmin Weisheng Chubanshe.
22. For more see Fruehauf, H. (1999). 'Chinese Medicine in Crisis: Science, Politics and the Making of TCM'. *Journal of Chinese Medicine*, 61, 6-14.
23. For a current list of acupuncture indications recommended by the World Health Organisation see <<http://apps.who.int/medicinedocs/en/d/Js4926e/5.html>> [accessed 13/05/2013]
24. In modern China, the majority of hospital-based therapies involve the prescription of herbal formulas. In these settings, acupuncture is typically viewed as an auxiliary form of therapy indicated for the treatment of specific conditions such as pain syndromes, post-stroke paralysis, migraine headaches and Bell's palsy, etc.
25. Although herbal therapies were known at the time of the *Neijing*, few prescriptions were described and they did not figure prominently within the text.
26. For example, from *Suwen* Chapter 61:
- ‘故水病下為臑腫大腹上為喘呼不得臥者故肺為喘呼腎為水腫。’
‘With regards to water diseases: within the lower body there will be swellings within the fu organs and distention of the abdomen. When the upper body is affected there is difficulty breathing and one cannot lie down. Here, both the outer manifestation and the root have been affected by the same illness. Therefore, [water diseases] when within the lungs cause difficulty breathing; when within the kidneys cause water swellings.’
- Such a description might be recognised by a Western medicine-trained physician as right- and left-sided heart failure with ascites and pulmonary oedema. Similarly, from *Lingshu* Chapter 9:
- ‘少陽終者耳聾百節盡縱目系絕目系絕一日半則死矣其死也色青白乃死。’ ‘In shaoyang death there is deafness and a loosening of the one hundred joints. The system of the eyes is exhausted. When the system of the eyes is exhausted, in one and a half days the patient dies. When the complexion turns pale blue-green and white, the person will die.’ □.
- Such conditions will be seen in hospice care when a dying patient becomes obtunded, develops flaccidity and nystagmus.
27. It is also true that bad traditional medical practices have persisted over time, so it is critical that classical medical techniques are also evaluated and tested in a manner similar to any other medical therapy.
28. Some descriptions of mai vessel circulation and pathology found in the *Lingshu* show a striking resemblance (or are identical) to descriptions found within the Mawangdui medical manuscripts, suggesting that these two texts at least partially share a similar origin, or evolved within parallel medical traditions.
29. The full passage reads: ‘肺手太陽之脈起于中焦下絡大腸還循胃口上膈屬肺從肺系橫出腋腋下循臑內行少陰心主之前下肘中循臂內上骨下廉入寸口上魚循魚際出大指之端其支者從腕後直出次指內廉出其端。’ ‘The lung hand taiyin mai vessel arises at zhongjiao [中焦 middle burner]. Descending, it nets with the large intestine. Turning back it crosses weikou [胃口 stomach mouth]. Crossing the diaphragm it joins with the lungs. From the network of the lungs it passes laterally to emerge from beneath the axilla. Descending it follows the inner aspect of the arm crossing in front of shaoyin [少陰 lesser yin] and xinzhū [心主 heart ruler]. Crossing through the elbow it crosses the inner aspect of the forearm and moves beneath the edge of shanggu [上骨 upper bone]. Entering cunkou [寸口 inch mouth], it ascends yu [魚 fish] and follows yuji [魚際 fish border] to emerge at the tip of the thumb. A [second] branch divides behind the wrist and passes along the inner aspect of the second finger to emerge at its tip.’
30. At the time of the *Neijing* the structures of the human body were studied through medical dissections and were observed in battlefield medicine and the various medical situations found in agrarian life.
31. While classical texts such as the *Neijing* can be complex, multi-layered documents open to interpretation, the concept that mai vessels represent blood vessels is not ambiguous. The word ‘mai’ itself means ‘blood vessel’, the role of mai vessels is to ‘carry the blood’, the stirring of mai vessels describes the pulsation of arteries, mai vessels are seen as a direct extension of the heart, the act of taking a pulse literally translated means ‘to assess a mai vessel’ etc.
32. Within the *Neijing* no qualitative distinction is made between arteries and veins, both are described under the term ‘mai vessel’.
33. The idea that the term ‘mai’ represents blood vessels is not new, it has simply been unused and forgotten. In fact, until the latter half of the twentieth century, authors such as Joseph Needham and others wrote clearly about these relationships – see Lu, Gwei-Djen & Needham, J. (2002). *Celestial Lancets: A History and Rationale of Acupuncture and Moxa*. London and New York: Routledge.

34. In the discourse of Chinese medicine, it is an oft-heard phrase that acupuncture channels specifically do not describe the circulation of blood. For example, it is commonly noted that modern acupuncture channels do not follow the course of the vascular pathways of the human body. However, these arguments ignore basic historical facts: a) The mai vessel pathways described in the *Neijing* have been significantly altered since their original descriptions. In fact, many of the original pathways described within the *Neijing* coincide closely with known human vascular pathways. b) The classical description of blood circulation differs from the modern description because these two systems differ in their theoretical conception. Thus, while some aspects of the classical description of blood flow do not fit the modern description, they were theoretically and conceptually different. That this is so should not be surprising. In fact, the description of human blood circulation posed a particularly thorny scientific problem in the West. It was not until 1628 when William Harvey wrote *Exercitatio Anatomica de Motu Cordis et Sanguinis in Animalibus* (*Anatomical Exercise on the Motion of the Heart and Blood in Living Beings*) that Western physicians had an accurate description of blood circulation.
35. In Chinese medicine, a lack of understanding as to the nature of mai vessels poses a variety of theoretical problems. For example, in Chinese medicine education, students are routinely taught that 'blood is the mother of qi' (血為氣之母) and 'qi is the commander of blood' (氣為血之帥). Such sayings have little meaning if the acupuncture channel system is understood as being a series of disembodied circulation pathways. However, if the original acupuncture pathways are understood to be mai vessels, such statements have a clear and definite meaning with strong and immediate clinical implications.
36. The descriptions of mai vessel circulation also make a direct and tangible bridge between Chinese medicine and Western biomedicine in a way that does not undermine or weaken the original theoretical observations of Chinese medicine or classical Naturalist philosophy.
37. As one example, in the classical description of blood circulation it is the Lungs not the Heart that moves the blood circulation.
38. In Chinese medicine, the tidal variations of the mai vessel circulation are often erroneously described as being a 'Chinese medicine organ clock'. In actuality, the diurnal circulation represented in these depictions portrays the 24-hour tidal variations within the body's mai vessel circulation – not the circulation within the internal organs themselves. According to the *Neijing*, the zang internal organs represent the deepest depots of seasonal/directional jing (精 essence). As such, they are always associated with the five cardinal directions and their corresponding times (e.g. the Kidney always corresponds to the direction of the North and the time of midnight, the Lungs always correspond to the direction of the West and the time of sunset etc.). In contrast, the diurnal tidal circulation of the Kidney mai vessel (for example) is understood to be particularly strong during the two-hour time period of You 酉 between five and seven o'clock in the evening and the circulation of the Lung mai vessel is understood to be strongest during the time of Yin 寅 between three and five o'clock in the morning. Here, two separate chronobiological systems are basically confused – one based on the circulation of the internal zang organs (which associates with the primary cardinal directions and their corresponding seasonal times) and one based on mai vessel tidal circulation (which describes the varying degrees of tidal strength within the human mai vessel circulation over a 24-hr period). In modern Chinese medical education, these two systems are often poorly understood.
39. See Neal, E. (2012). 'Introduction to Neijing Classical Acupuncture Part I: History and Basic Principles'. *Journal of Chinese Medicine*, 100, pp.5-14.
40. Ibid.
41. In the *Neijing*, any circulatory pathways that flowed horizontally from the interior to the exterior surface of the extremities were called 'luo' pathways. This included descriptions of what are now understood in Western medicine as being peripheral capillary beds. In *Neijing* theory, these areas were understood to be important potential reservoirs of chronic disease and important pathways traversed by external pathogens. In TCM theory, the meaning of the term 'luo' is now most often truncated to simply refer to the region of the 'luo point' – one small subset within the larger concept of 'luo' pathways.
42. Jing (經) longitudinal fascial circulation pathways represent classical anatomical structures that are most closely associated with the concept of the modern acupuncture channel.
43. The term 'luo' (絡) is also used to describe a specific way in which mai vessels communicate with internal organs, when they make a 'netting' or 'web-like' connection.
44. For example see Gray, E. (2010). *Jingshui and the Rivers of Ancient China*. Master's Thesis. National College of Natural Medicine Library. Portland, Oregon.
45. Although not entirely consistent with contemporary Western anatomical descriptions, *Neijing* anatomical descriptions add valuable information related to the form and function of the human body by including descriptions of how the body performs and is experienced at rest and in motion and how the body responds to different types of impairment and clinical therapy. In contrast, Western anatomical descriptions are primarily static, describing different structures of a non-living body.
46. The benshu (本輸 root shu) regions of the extremities being the most notable exception.
47. Deadman, P. Al-Khafaji, M. & Baker, K. (2007). *A Manual of Acupuncture*: Journal of Chinese Medicine Publications.
48. Point-action theory is the theoretical foundation of most modern TCM acupuncture practice. In this system, an acupuncture point is understood to have certain specific clinical effects that are 'activated' when the point is correctly needled.
49. The two primary exceptions are the use of the benshu (本輸) point regions to treat disorders of the internal zang organs, and the use of the lower influential regions to treat disorders of the fu organs.
50. Perhaps, due to a basic misunderstanding of *Neijing* medical theory, it has become a somewhat common practice to attempt to construct theoretical approaches to acupuncture based on elaborate interpretations of point name symbolism and the concepts of point-action theory. Although possibly well intentioned, these attempts often stand directly at odds with basic classical medical theory. To give one example; Tianfu (天附 heavenly palace) is currently the name of the modern acupuncture point LU-3 located 3 cun below the axillary fold on the radial aspect of the biceps brachii tendon. However, as originally described, Tianfu was seen as being a broader anatomical zone found along the taiyin Lung mai vessel pathway where the vessel exits the chest at the region of the stirring of the axillary artery (now the location of the modern point Jiquan HE-1). The *Lingshu* gives us a relatively straightforward description of this region:
- 腋內動脈手太陰也名曰天府
'The stirring mai vessel within the axilla is the hand taiyin mai vessel. Its name is 'Tianfu.'
- In the *Neijing*, Tianfu describes an important anatomical region that resides at the demarcation zone between the upper and lower regions of the body (hence its name 'heavenly palace'). To a classical acupuncturist, this area would have been of substantial importance because it is located at the outflow source of the Lung mai vessel circulation. In turn, the Lung mai vessel circulation resides at the headwater source of the entire mai vessel circulation of the body. Thus, any impairment here can potentially cause a disturbance in the mai vessel circulation of the entire body. In contrast, others have a great deal more to say about the unique

qualities of the point 'Tianfu', for example:

'Lu-3 'Heavenly Palace' Tianfu ... The pathology of the metal element is that once inspiration and self-worth are compromised, we tend to find the worst in ourselves and others. The lungs' virtue of connecting to essence is thus distorted into perfectionism and disdain for anyone or anything we consider soiled. The sensitivity of the lungs to insult is such that people with weak lungs often feel tainted in life or like they are 'damaged goods'. However, virtue lives purely within each of us untouched by any event in life. In fact, heaven can only ever see the highest in us. For only the virtue we have cultivated during life ascends to heaven upon death to join the light of the moon, stars and sun ... This point may truly enable us to forgive, let go of the past, and be receptive to the guidance of divine inspiration so we can move ahead in life less burdened.' - from Jarrett, L. (2003). *The Clinical Practice of Chinese Medicine*. Stockbridge, MA: Spirit Path Press, pp.575-576.

Or again:

'[The point] Tianfu ... expresses the functional dynamic of the number three. Zhongfu, LU-1 represents the taiyin source in the state of heavenly oneness, where the ore of the lung metal is still concealed within the womb of the earth. Yunmen LU-2 introduces the emergence of lung qi at the border between lung heaven and spleen earth, in the form of earth/metal amalgam. Tianfu, LU-3, finally, represents the taiyin essence in its pure metal state - ready to be used for ceremonial purposes at the imperial court, ritually imbuing the kingdom with the promise of material splendor ... [Tianfu] conjures up images of an ancient Shangri-La, a central paradise surrounded by beautiful sites in all four directions ... [Tianfu] is typically described as 'the land where fertile earth, arable lands, prosperous people and exquisite chariots abound ... a Heavenly Treasury with taiyin attributes filled with luminous objects that facilitate the connection to a male ancestor in Heaven, who is really the swarthy Earth Mother in heavenly guise... where common postnatal wine is upgraded to

the noble, champagne-like elixir of life ...' - from Fruehauf, H. (2002). 'The Science of Symbols: Exploring a Forgotten Gateway to Chinese Medicine (Part Two)'. *The Journal of Chinese Medicine*, 69 pp.20-26.

These are just a few examples from two well-known proponents of this style of thinking, many other such examples of this type of approach can be found within the profession of Chinese medicine.

While it is true that, especially in Pre-Han China, written character glyphs were understood to have supra-linguistic meanings and carry a degree of talismanic power, being direct representations of the basic patterns of nature, interpretations such as these fail on multiple levels to accurately convey basic concepts of classical medical theory or provide clinically relevant information. Just a few of the inaccuracies found within these brief passages include: a) Originally the name Tianfu did not refer to a specific acupuncture point on the modern Lung channel. Rather it described an important anatomical zone located within the axilla; b) Tianfu was not originally 'the third point on the Lung channel', because points were not numbered in this way; so any mention of such numerical symbolism in this context is spurious; c) The names Zhongfu and Yunmen were not classical point names mentioned in the *Neijing* at all but rather came into existence in later dynasties; and d) Tianfu was originally described as being located in the region of the pulsation of the axillary artery (now the area of the modern point Jiquan HE-1). Therefore, if a modern practitioner chooses to needle the modern point *Tianfu* (天附) LU-3 for the indications listed above (for example to activate 'luminous objects that facilitate the connection to a male ancestor in Heaven', or to 'enable us to forgive, let go of the past, and be receptive to the guidance of divine inspiration'), they are in actuality treating an area that was originally described as being located on the Large Intestine mai pathway not the Lung mai pathway. Further, with few exceptions, the clinical practice of *Neijing* classical acupuncture did not rely on point-action theory; therefore attempts to construct overly-wrought

descriptions from the symbolic interpretations of acupuncture point names are inconsistent with the way these regions were originally understood or used in the classical source texts. Here, both examples attempt to impart a sense of theoretical and clinical relevance, the first by borrowing from the concepts of popular psychology and new-age spirituality, the second by invoking multiple images of poetic symbolism. Both infer a connection to classical medicine and the original 'spirit' of Chinese medicine; both fail to convey a basic understanding of classical Chinese medical theory.

Most importantly, the *Huangdi Neijing* and other classical medical texts were not written as treatises on contemporary psychology, nor were they written with the intention of being read in the style of classical poetry (a style in which complex symbolism and hidden context are an accepted part of the literary genre). Instead, the *Neijing* and similar classical source texts were first and foremost medical texts written by clinical practitioners specifically to hand down critical medical information to future generations. In the opinion of the author, two basic possibilities exist in relation to the practice of Chinese medicine: either Chinese medicine represents an authentic and valuable medical practice which should be preserved and studied, or it represents an elaborate type of placebo. If it is the former, then the basic principles and theories of the medicine matter greatly and it is crucial to understand them and get them right. If however, Chinese medicine exists only as an elaborate type of placebo, where any type of theory can be found valid, then ultimately it is not worth much collective time or effort (except perhaps as a study of the phenomena of placebo medicine). Perhaps the time has come in the evolution of Chinese medicine where it is now acceptable to question what constitutes appropriate levels of scholarship and hold investigators accountable to basic levels of research.

51. In clinical medicine this distinction becomes critical, because it is through an understanding of principle that a demarcation is made between physician and non-physician levels of care. Here

the term 'physician' does not refer to any type of licensure or training, nor does it describe an innate difference in competency or job skill. Rather, it refers to a specific style of medical education and an approach to clinical thinking in which a practitioner is able to deal with clinical complexity through an understanding of basic principle. In contrast, auxiliary healthcare primarily functions on a system of basic algorithmic pattern recognition. From this perspective, most contemporary Chinese medical practice can be seen to exist as a type of auxiliary healthcare that is currently not being practiced at a physician level of care.

52. The full passage reads: 夫約方者猶約囊也囊滿而弗約則輪泄方成弗約則神與弗俱雷公曰願為下材者勿滿而約之黃帝曰未滿而約之以為工不可以為天下師 'In regards to the correct method of learning, it is like tying things in a bag. If a bag is full but has not been tied shut, its contents will spill out. If a method is known but has not been summarised into [its essential principles] it is impossible to [understand] this method through the shen.' Lei Gong said, 'What of those of lesser ability who tie their bags before they are full?' The Yellow Emperor said, 'Those whose bags are not full, yet expound their knowledge anyway, believe themselves to be proficient, yet they are not qualified to teach others.'

53. In 1905, a Swiss patent clerk named Albert Einstein made a similar observation in his paper 'Zur Elektrodynamik bewegter Körper' ('On the Electrodynamics of Moving Bodies'), in which he described his theory of general relativity and the changes that the physical universe undergoes as phenomena approach the speed of light.