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REDISCUSSION ON THE “SCIENTIFIC” OF MODERN ACUPUNCTURE

Una rilettura della “scienza” dell’agopuntura moderna

Jing Zhao

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Abstract

Acupuncture and surgery are the two main external treatments of traditional Chinese medicine (TCM). In the early stages of their development, both were based on the “muscular anatomy view” of the body and emphasized flesh and bone. Since the Song Dynasty however, literati started to study medicine without requiring a hands-on experience. Subsequently, the external treatment in TCM began to be marginalized. This marginalization continued until the end of Ming Dynasty when Western medicine was introduced. By not combining with Western surgical knowledge, TCM surgery and acupuncture became insignificant. Contemporarily, the meridian theory has caught the attention of scholars, initiated by the interaction between Chinese and Western learning of Chinese medicine. The objective reinterpretation and comprehension of the traditional meridian theory later became the prelude to the modern academic evolution and the scientific development of acupuncture. The gap between TCM acupuncture and surgery therefore became larger. Without modern concepts of “anatomy and physiology” and “disinfection”, TCM surgery is still irrelevant while, on the contrary, acupuncture advantageously filled gaps within contemporary medicine.

L’agopuntura e la chirurgia sono stati i due principali trattamenti esterni della medicina tradizionale cinese. Nelle prime fasi del loro sviluppo, entrambi erano basati sull’“esame dell’anatomia muscolare” del corpo e mettevano in evidenza l’importanza della carne e delle ossa. Dalla dinastia Song, tuttavia, si iniziò a studiare la medicina senza richiedere un’esperienza pratica. Il trattamento esterno cominciò ad essere emarginato. Tale situazione continuò fino alla fine della dinastia Ming quando fu introdotta la medicina occidentale. Non dialogando con le conoscenze chirurgiche occidentali, la chirurgia e l’agopuntura tradizionali divennero insignificanti. Contemporaneamente, la teoria dei meridiani iniziò a catturare l’attenzione degli studiosi e avviò l’interazione tra l’apprendimento cinese e quello occidentale basato sulla medicina cinese. Successivamente, la reinterpretazione e la comprensione della teoria tradizionale del meridiano si sono trasformate nel preludio all’evoluzione accademica moderna e allo sviluppo scientifico dell’agopuntura. Il divario fra l’agopuntura e la chirurgia tradizionale si ampliò. Senza i concetti moderni di “anatomia e fisiologia” e di “disinfezione”, la chirurgia tradizionale continuava ad essere in difficoltà, mentre, al contrario, l’agopuntura iniziò a colmare il divario con la medicina occidentale.

Keywords: acupuncture, TCM surgery, muscular anatomy view, scientific acupuncture and moxibustion, anatomy and physiology.

Agopuntura, chirurgia cinese tradizionale, esame dell’anatomia muscolare, agopuntura scientifica e moxibustione, anatomia e fisiologia.

Jing Zhao is a licensed acupuncturist in China and a doctoral candidate of the School of History and Culture of Science at Shanghai Jiao Tong University. Her academic interests mainly focus on the history of acupuncture in East Asia. Miss Zhao has several articles on the development and education of acupuncture scientization in Japan and China. Her current research for her dissertation focuses on the standardization of acupuncture in China, Japan, and South Korea. E-mail: zhaojingnzy@163.com.

Jing Zhao è un'agopuntrice autorizzata in Cina ed una dottoranda della Scuola di storia e di cultura della scienza all'Università Jiao Tong di Shanghai. I suoi interessi accademici vertono principalmente sulla storia dell'agopuntura in Asia orientale. Zhao ha pubblicato diversi articoli sullo sviluppo e sull'insegnamento della scienza dell'agopuntura in Giappone e in Cina. La sua attuale ricerca per la tesi dottorale si concentra sulla standardizzazione dell'agopuntura in Cina, Giappone e Corea del Sud. E-mail: zhaojingnzy@163.com.

The Body in “Muscular Anatomy”

Ways to understand the body in Traditional Chinese Medicine vary. Early medical practitioners paid more attention to the skin, muscles (sinews), and bones than to the *qi*, meridians, and other impersonal ideas of the configurations of the human body. Early Chinese surgical procedures like “*gepi jieji*” 割皮解肌 (cutting the *pi* 皮 “skin” and releasing the muscles) and “*juemai jiejin*” 决脉结筋 (severing the channels and tying the tendons) are documented in the *Shiji* (Record of the Grand Historian, completed 91 BCE). To ancient doctors, the skin was the surface of the human body, with the body's continuous depth being made up of “muscle” and “sinew” (Li Jianmin 2007, 3). It is important to note that TCM surgery uses a definition of “muscle” that differs from Western medicine. In TCM, the terms “*ji*” 肌 and “*rou*” 肉 are incorporated into the concept of “muscle”. The word “skin” was “*ji*”, but the word “*rou*” had a different meaning from “muscle”, referring to the muscles that can be seen on the body's surface, particularly those that are raised and gathered. Muscles are also referred to by names like “*fenrou*” 分肉 and “*jinrou*” 筋肉 in the *Huangdi Neijing* (Yellow Emperor's Inner Classic), each of which had specific forms (Zhao Jingsheng 2014, 255-256, 399). Huang Longxiang coined the term “surface anatomy” to describe the TCM anatomy, which emphasizes the “starting and ending point of muscles” and the body structure that “has muscle function”. For instance, local muscles on the surface of the body can be observed and diagnosed to predict internal organs (Huang Longxiang, Huang Youmin 2007, 34, 323). The most basic perspective on the body is one that concentrates on local skin and muscle, known as the “muscular anatomy view”. This view is used in acupuncture and surgery, the two main methods of external treatment in TCM (Lin Zhiming, Zhang Wanzhen 2004, 70-75).

Physical Expression of Acupuncture

Acupuncture and moxibustion therapy both treat patients through stimulation of the skin. For instance, the moxibustion technique involves burning moxa directly on the skin. The pricking technique involves rupturing the skin and muscle, poking a vein to cause bleeding, cutting a carbuncle to release the pus, and other techniques (Zhou Zuliang, Fang Yilin 2014, 121-122). Such procedures involve surgical techniques that require knowledge of body tissues and the fundamental structure of the body, including the formation of bone, sinew, blood vessels, and muscle. In addition, with an eye on the living, blood and *qi* are seen as elements that make up the body. The gradual development of *qi*-based medicine is described in texts and figurines that date back to the third and second centuries BCE. These texts again demonstrated the importance of physical, bodily sensations in determining the function, nature, and application of *qi* (Lo, Stanley-Baker, Yang 2011).

Before the *Neijing* 内经 period (roughly 770-221 BCE), “skin, muscle, channel (or blood vessels, *mai* or *mo* 脉), sinew, and bone” were typically referred to as a relatively solidified whole. For instance, “*Weiqi* disorder” includes skin parts, muscle clumps, protrusions, blood gas transfusions, and bone affiliations with “*Meridian sinew*” discussing muscle-related diseases. The “channel” concept, developed and closely associated with acupuncture and moxibustion, emphasized its significance in the structure and operation of the body, giving the “meridian channel” the theoretical central position of the flow of *qi* and blood and

establishing the theoretical foundation of the meridian system. The introduction in *Neijing* states, “When people are born, they first become an essence, which then forms into brain and marrow; bones serve as a trunk, channels serve as the core, sinews serve as the backbone, muscles serve as the wall, skin is firm, grain enters the stomach, channels are open, blood and qi are in motion”. Accordingly, the material and functional foundation of the body for acupuncture and moxibustion is composed of bone, channel, sinew, muscle, skin, blood, and *qi*. Meanwhile, the original text elaborates on the twelve channels that are described as following the physical structure of the body so that their movement, distribution, and connection constitute a full “meridian circulation”, serving as the foundation for the justification of bodily functions.

The twelve meridians and the theories of skin, sinew, and muscle served as the foundation for the development of the “channel”. Subsequently, there are twelve cutaneous regions, twelve meridian sinews, fifteen collateral vessels, and a skeletal system in the form of bone. Based on this, skin, sinew, muscle, channel, and bone jointly form a theoretical knowledge system for the body that is used to explain and clarify functional activities, pathological mechanisms, and diagnosis techniques, as well as to explain the operations of acupuncture and its distinctive features. A few of the many applications of the various levels of organization lesion needles are the shear needle for skin disease, the round shear needle for muscle diseases, and the lance needle for the chronic malaise in the meridian and collaterals.

Meridians and acupoints are both essential components of the acupuncture and moxibustion theories. In ancient China, acupoints or holes refer to the description of anatomical components connected to muscles. Its structural foundation is the “muscle interspace”, or the space between the muscles (*fenrou*). The body’s surface can display depressions, which is also the site of acupuncture treatment due it being where qi and blood are most prevalent and where evil qi enters the patient. According to Liu Bing, acupoints are the conceptualized points and crucial components of acupuncture diagnosis and treatment, whereas muscle interspace is the concrete structure of the human body (Liu Bing 2014, 772-774). Acupoints are typically found between muscles, on muscle edges, tendons, bones, and bone edges of the human body. Huang Longxiang also stated that the depressions on the pulsations are often where the acupoints are located (Huang Longxiang 2008, 55). The muscular system is occasionally the primary standard for determining where acupoints are located.

Physical Expression of Surgery

Various TCM surgeries include lancing abscesses, bloodletting, removing projectiles, suturing wounds, repairing hernias, hemorrhoid surgery, castration, and acupuncture were routinely carried out in China even before written records. Fan Xingzhun’s statements that “infectious diseases and surgical trauma” are the two major diseases of early human attention demonstrated the importance of surgical history (Fan Xingzhun 1986, 3). Early on, abscess surgeons (*yang yi*) dealt with conditions such as swollen or sharp wounds, ulcers, and other problems by using a device to scrape off pus and blood from the affected area of the body and removing rotting flesh. Most surgical diseases, primarily muscle ulceration infections, are shown on the skin with distinct physical characteristics that can be seen with the naked eye or felt with the hand.

Many surgical diseases listed in the *Fifty-two-Disease Prescription* are mostly instrument-related injuries, with names like “golden injury”, “blade injury” and “wounded person”. Fewer injuries are mentioned in *Neijing*, but it does mention surgical body tissues. The blood ceases to flow, followed by successive damage to the muscles, sinews, bones, meridians, pulp and blood, and viscera which will affect the body’s structure from the surface to the core. Pathological changes of “cold and heat” cause muscle deterioration

to appear. There is also the early version of the “spleen master muscle” theory, which states that “the absence of the spleen causes the limbs’ muscles to have no support for qi and blood to obstruct the channels and render the sinews, bones, and muscles unnecessary”. Since surgical diseases are muscle lesions, removing saprophytic muscle is accomplished by paying attention to the “local”. The “holistic” perspective, on the other hand, needs to consider and harmonize the body of qi and blood. The Song Dynasty marked a significant turning point in such a limited versus comprehensive understanding of the body.

Before the Song Dynasty, the “local” level of muscle and skin diseases received more attention in surgical treatment. The selection of treatment points, especially the location of acupoints and wound cleaning, was more consistent than the anatomical requirements of acupuncture. The fundamental principles of acupuncture and surgery that were developed during the *Neijing* period persisted until the Song Dynasty and were essentially passed down among the people without being completely set in stone, exhibiting diversification in the characteristics of external treatment.

I. Curing and Declining of External Treatment

Acupuncture and surgery lost ground in the academic tradition as Confucian medicine became steadily more established from the Song to the Ming dynasties (Liang Qizi 2012, 12). Due to the high degree of integration between Confucianism and medical thought, a theoretical connection between the two was established. Neo-Confucianism, which attempted to create a unified view of the world in which all the laws of the universe could be unified in the reasoning system of qi, tai chi, Yin and Yang, and the five elements, was the most prevalent Confucian theory of the Song and Yuan dynasties. The theory of acupuncture gradually unified and solidified in this predominately philosophical environment, and the “meridian theory” came to represent the core premise of acupuncture. Acupuncture aims to emphasize holistic treatment while reinforcing and purging to balance Yin and Yang. Additionally, a key philosophical idea of neo-Confucians is that the theories of the *Gan Zhi* and the five elements, which were initially unrelated to the theory of TCM, naturally evolved into the tools from which the theory of acupuncture could learn. The derived midnight-noon meridian ebb-flow needling technique, which uses a complex calculation and mechanical acupoint selection, gained popularity. Its classical basis is “treatment following seasonal conditions”, but it goes against the practical clinical principle (Zhang Shujian 2015, 161-165). Acupuncture and moxibustion’s status gradually deteriorated, particularly during the Qing Dynasty.

On the other hand, until the Southern Song Dynasty became an independent entity, Chinese surgery’s scope, theory, and treatment changed, trending more to be a “holistic”, which increasingly aligned with the pulse diagnosis technology and prescription principles of internal medicine (the so-called “Fang Mai”). Relatively simple superficial surgery started to be replaced by medications or acupuncture therapy at this point, and all external treatments ended except for minor operations (Li Jingwei 1987, 46). The Westerners questioned this, “Strangely enough, they abandoned the lancet after a few centuries but continued to use pulse-feeling and cauterization¹”. Li Gao’s 李杲 spleen and stomach theory claimed that a “spleen master muscle” is responsible, which became the foundation of surgical medicine. In this context, TCM surgery also accepted pulse diagnosis and substituted surgery and other related external treatment methods with drug therapy. The history of TCM surgery before the Sui and Tang dynasties was therefore referred to by some scholars as “the age of surgery” and the Song dynasty as “the age of internalization” (Li Jianmin 2011, 13-14). Naturally, surgical trauma and a poor operating environment contributed to a high surgical mortality rate, such as when “muscle is not completely rotten when cut, bleeding till death” (Xu Dachun 2014, 10); The decline in surgery was also a result of a lack of objective knowledge about the human anatomy². As a result, the relationship between anatomy and surgical operation in TCM deteriorated.

Confucian doctors began to practice surgery after the Song dynasty but mainly dealt with suppurative

surgical diseases. Meanwhile, doctors with common folk knowledge were “shunted” aside to learn the skills of trauma, instead relying solely on techniques and experience. In contrast to the emphasis on meridians in internal medicine, for surgery, the most specific part of the human body is the “sinews”, or the relationship between bone and bone-muscle groups. “Fall and hit injury, including thickened sinew, ruptured sinew, hypertonicity of the sinews, contracted sinew, and other diseases, is a top priority in the department of injury”³. The concept of “sinew” is like that of “muscle”, but it differs from Western medicine’s definition (Liu Juanzi 1986, 1-2). During Ming and Qing dynasties, the trauma department still failed to get rid of “internal medicine”. Current society regarded surgery as a superficial study. Only mediocrities or quacks performed surgery. Such condition inevitably placed internal medicine on a prestigious status.

II. Precursor of Different Situations between Acupuncture and Surgery

Acupuncture and surgery suffered the same fate during the Song Dynasty, showing the signs of “Confucianization” beginning to develop among academics which tended to be conservative in its techniques. Therefore, not only was acupuncture and surgery in a state of decline or even outright disappearance, but the field of treatment covered by the TCM was constantly narrowing. The competition between Chinese and Western medicine took shape from the late Ming Dynasty to the late Qing Dynasty, but for a long time, the two were in a relative balance. At the beginning of Western medicine in China, surgical operations were the most effective, with Peter Parker 伯驾 being well-known for his pioneering surgical career which included the first use of ether anesthesia in China (Chen Qi 2017, 49-54). Later, to gain the Chinese people’s full trust and overcome their sense of strangeness and distance, he demonstrated the operation of a small body surface surgery to the public (Yang Nianqun 2006, 47-61). When compared to a surgery which needed anesthesia, the “external display” of the technical characteristics of surgery highlighted the curative effect and superb “craft”.

In line with the advancement of western surgery, knowledge closely related to surgery, such as anatomy and bacteriology, was introduced and constantly updated in China. The concepts of “disinfection and sterilization” and “anesthesia analgesia” are the most distinguishing features of Western surgery when compared to traditional Chinese surgery, and they are also key to its curative effect (Ting Yu 1933, 3). Western surgery dominated the medical field. For TCM surgery, the entire concept of in-depth treatment, with internal treatment status rose at this time. The external problems are caused by a discordance between qi and blood. Such interpretation has gradually gained acceptance among doctors. In the end, more external treatments have applied theories of internal medicine. External treatment is therefore limited to minor procedures such as eliminating and expelling, knife and needle cutting, fuming-washing therapy, and medicated wine therapy.

TCM surgery faced the problem of establishing its own historical legitimacy in this context, and Western anatomy was not further combined with surgery-related operations. Furthermore, the rotting of human surface muscles and the possibility of lesions remained the main issues with TCM surgery. As Chinese medicine has the norm “treating the essential issues” (zhi ben), practically “external diseases should be treated by methods from internal medicine” (waibing neizhi) only applies to superficial sores while the real nidus is leaved behind. Yu Yunxiu 余云岫 therefore stated that TCM is based on the “intangible” theories, the opposite of experimental medicine. He insists that it is impossible to groove together the inside and outside nidus as a whole⁴.

TCM surgery did not find a reasonable path to integrate “entity anatomy” and “infection treatment” into the discipline. Instead, it became increasingly entangled in the “internal treatment” method, making it difficult to obtain its own legitimacy.

At this time and in contrast to the debate surrounding TCM surgery, acupuncture appeared to be outside the debate between internal and external medicine. A small number of scholars believed that Western knowledge was conducive to “studying the phenomena of nature to acquire knowledge”. The scholars appreciated Western medicine’s superiority in anatomy and physiology and responded with some degree of acceptance. These doctors, who had previously introduced the physiological anatomy knowledge of zang-fu organs, blood vessels, nerves, and other aspects of Western medicine, also paid attention to the theory of meridians. They focused on investigating the structure of the human body and attempted to reveal the process of meridians’ circulation and the movement of *qi* and blood using blood vessels and blood circulation. Wang Honghan 王宏翰, for example, explained the essence of meridians with arterio-venous vessels and believed that meridians run the red fluid (blood) in the four pools in the western half of human body⁵. Wang Qingren 王清任 attempted to observe meridians through dissection and mistook them for the trachea and sanitary duct (Wang Qingren 1956, 17-19). Tang Zonghai 唐宗海 also defined meridians as blood vessels but the conception vessel was the node to control blood flow. He believed that meridians carried both blood and *qi*, and the nutrient and defense intersection was in fact the exchange of breathing gas⁶. Although their efforts did not result in a breakthrough, leaving the interpretation of the meridian theory incomplete, the use of Western medicine’s anatomy and physiology to re-interpret and understand the traditional meridian theory from a different theoretical perspective became a prelude to the modern evolution of acupuncture scholarship.

In modern times, when Western medicine was under intense pressure in China, the traditional medical community followed Western medicine’s lead by repeatedly clarifying their own “scientific” claims. TCM had been included in the trend of improving, converging, and preserving its essence. TCM surgery, on the other hand, had been reinvented and reintroduced by mainstream scholars and doctors. Just as Huang Meisun 黄眉孙 described, Hua Tuo’s technology of extracting marrow from the brain and laparotomizing to flow the intestines had disappeared. Only still dozens of untrustworthy letters of acupuncture kept demonstrating its effectiveness. (Huang Meisun 1914). Sun Yanru 孙晏如 asserted that Western medicine is superior to physical therapy, and that acupuncture is a form of “neo-Confucianism” promoted by Westerners (Sun Yanru 1930, 2). Acupuncture was regarded by Zhang Qian 张骞 as a “consummate skill” and the key to preserving the essence of Chinese culture (Li Mingxun, You Shiwei 2012, 400). Zhang Yunzhong 张蕴忠 also stated that traditional Chinese and western medicine are not incompatible, but that acupuncture represents hidden joints⁷. Acupuncture and surgery, both external treatment methods of TCM, have a disparate status in the debate between traditional Chinese and Western medicine. Why are their circumstances different in modern times? They sought their own rationalization by opposite paths.

III. Modern Acupuncture is Unique

Acupuncture medicine is an effective experiential medicine, despite its historical flaws in anatomy, physiology, and pathology. In this manner, Western surgery, the technology is commonly seen as “operating knife”, heavily depends on the advantage of “evidence-based anatomy”, “sterilization” which could provide chance for the development of scientific reference of acupuncture. How can the “meridians and acupoints” corresponding to specific anatomy parts and the operation process be incorporated into the disinfection process? The problem’s resolution represents the first step towards “scientific” acupuncture. It also adheres to the scientific principle of traditional medicine carried out by the Central Medical Museum 中央国医馆⁸. The “scientification” of acupuncture and moxibustion has gradually become mainstream in modern acupuncture and moxibustion circles. However, this process seemed to be simple but was tortuous instead.

1. Acceptance of Mechanical Body View

By the late nineteenth and early twentieth centuries, the anatomical body of biomedicine had become the sole body in Europe and the United States. Western medicine's anatomy and physiology had the greatest influence on Chinese medical theory and its view of the body in modern times (Pi Guoli 2008, 73). As a famous teaching slogan states that "understanding physiological anatomy can reveal the position of the zang fu, the structure of the organization; Understanding pathological anatomy will know the hidden nidus, the crux of the disease" (Zhu Neiguang 1935, 40-41). Acupuncture works through well-known anatomical structures, which include the central and peripheral nervous systems. After the Meiji Restoration introduced western learning to the study of acupuncture and moxibustion, Japan began comparing meridians and collaterals to the nervous system and attributing the mechanism of acupuncture and moxibustion to the stimulation of nerves. At that time, many relevant Japanese works were translated into Chinese. The introduction of anatomy and physiology played a role in exploring the essence of meridians, positioning of acupoints, interpretation of diseases, and other aspects which is also the requirement of "scientization of TCM" of the Central Medical Museum⁹.

The most important step in the "scientization of TCM" is the development of anatomical descriptions of acupoint positioning. This approach first appeared in the book *Latest Practicing Western Acupuncture* 最新实习西法针灸, edited by Aio Okamoto 冈本爱雄 and translated by Gu Mingsheng 顾鸣盛. The book, published in 1900, was the first translation and publication of Japanese acupuncture medicine in China. Gu Mingsheng believes that the decline of acupuncture is due to doctors "only know the meridian points but has no idea of physiology"¹⁰ with "physiology" referring to anatomy. The book discusses acupoints and anatomy, including 32 acupoint and anatomical drawings, to emphasize the importance of anatomy in the study of acupuncture. Words like "muscle", "artery", "vein" and "nerve" are written frequently, whether in pictures or the anatomical descriptions of acupoint location. Meanwhile, according to the disease system of Western medicine, various diseases are classified into the digestive, infectious, systemic, and respiratory categories in the book's "acupuncture and moxibustion treatment" section. Each disease's causes, diagnoses, symptoms, prognoses, and treatments are all detailed. Some critical diseases must be diagnosed by a physician, and surgeons can use acupuncture to explain the causes of diseases based on Western pathology. According to the severity of the disease, "subauricular adenitis" can be divided into Western surgical treatment and acupuncture treatment.

The emergence of "meridian anatomy" disease names in Western medicine, and disease classification injected new ideas into the field of acupuncture. The anatomical structure of acupuncture points in the book directly influenced *the Handout on Acupuncture and Moxibustion of Guangdong Special School of Traditional Chinese Medicine* published in 1927, which had a direct impact on the anatomical structure of acupuncture points in "Chinese Acupuncture and Moxibustion Therapy" compiled by Cheng Dan'an 承淡安. However, the classification of meridian points in this book is still based on the traditional acupuncture standard of twelve main meridians and eight extra meridians. Since the publication of the "warm moxibustion handout" (Zhang Junyi 1928) in 1928 that divided the human body according to anatomy, the meridian point theory has been thoroughly developed to the nerve and blood vessel level to form the "meridian point anatomy". In 1931, Cheng Dan'an went on to say in "Chinese Acupuncture and Moxibustion Therapy" that "every point must be marked with anatomy, to know the content and formation of acupoints" (Cheng Dan'an 1931).

2. Bacteriology and Acupuncture Disinfection

Disinfection is one of the main tasks performed before a surgical procedure. Acupuncture operates similarly to septal acupuncture, which frequently receives cynicism from Western medicine. Acupuncture doctors did not understand the concept of disinfection in ancient times, instead only requiring their ac-

acupuncture tools to be clean. There are numerous accounts of “boiling needles” which form the earliest examples of the modern boiling disinfection process; however, they were heated with various drugs as part of the refining process to remove iron toxicity rather than to sterilize the instrument. Prior to acupuncture, some techniques, such as the fire needle, had a disinfecting effect. Another form of disinfection is to warm the needle, mentioned many times by “Suwen” in “On Acupuncture Method”, where the acupuncture doctor instructed to “first hold the needle in the mouth to warm it”. However, the goal is not to sterilize the needle, but to warm it so that it can harmonize with *qi* and blood, thereby facilitating the movement of *qi* (Zhang Shujian 2018, 303-314).

Only after the theory of “bacteria” was introduced to China did true acupuncture disinfection begin. After its introduction, the bacteria theory was quickly accepted by all classes (Yu Xinzhong 2008, 51-60). Acupuncturists gained a basic understanding of infections caused by acupuncture through newspapers and magazines, so they began to imitate the western technique of disinfection. However, some doctors, such as Zhou Zhongfang 周仲房 and Li Changtai 李长泰, still used the ancient disinfection method of the “mouth warm needle”. According to Luo Zhaoju 罗兆琚, “if the terrible bacteria in the blood of the patient would spread to the mouth of the doctor, the doctor’s health and life could be difficult to keep” (Luo Zhaoju 1936, 226-227).

The internal driving force for the interest in and application of acupuncture disinfection technology was the awareness of doctors, with the prosperity of acupuncture education playing a key role in its rapid spread. Cheng Dan’an, Luo Zhaoju, Zeng Tianzhi 曾天治, and Zhu Lian 朱璉 attended modern acupuncture and moxibustion schools after receiving a western medical education. They then introduced disinfection knowledge and technology into acupuncture teaching.

The textbook *Lectures on Advanced Acupuncture and Moxibustion* was published by the Yanmeishan Institute of Acupuncture and Moxibustion in Japan and was translated into Chinese by the Oriental Acupuncture and Moxibustion Research Society in 1931. The book *Disinfection* emphasized that “disinfection is the most important subject in the verification test of acupuncture and moxibustion technique” and thoroughly introduced the importance and purpose of disinfection, the strength of viruses, disinfection methods, disinfection types, and more. The highly standardized procedure for the disinfection of acupuncture and moxibustion techniques, involving needles, manipulators, and acupuncture points was also detailed in the book (Miao Zhaoyu 1941). In an article published in the *Journal of Acupuncture and Moxibustion*, Luo Zhaoju stated that “Because acupuncture is a technique that causes damage to the skin and muscle tissues, and our needles, utensils, and fingers are not susceptible to the virus when we come into contact with various patients on a daily basis, it may pose a future hazard if not properly disinfected” (Luo Zhaoju 1936, 226-227). In 1948, Zhao Erkang 赵尔康 stated in the *Outline of the Secret Book of Acupuncture and Moxibustion* that “After the bacteria were discovered under the microscope, more and more attention was paid to the science of disinfection... previously, there was no sterilizing method, prompting the new academic community to try it cowardly. Kampo medicine has fueled the popularity of acupuncture and moxibustion in both eastern and western countries. The most important aspect is disinfection” (Zhao Erkang 1948, 18-19).

Alcohol disinfection, carbonic acid, mercury, formalin and lime, sulfur, acid, and other substances are commonly used in needle disinfection (Luo Zhaoju 1936, 227). The disinfection of acupoints and fingers is also important, as “patients have dirt on the body more than ordinary people, if not in the vicinity of the acupuncture point for disinfection. Dirt can invade the body leading to the occurrence of redness, swelling and ulceration” (Cheng Dan’an 1936, 84). “How should we prepare for clinical surgery? The first step is to clean the hands and fingers of the surgeon, examining the instruments to investigate the patient. After identifying the symptoms, the doctor should determine the course of treatment and the points to be taken, then use clean needles” (Zhang Ruqing, Huang Qi 2013, 44). Acupuncture practitioners advocated for disinfection not only to technically advance the practice, but also to transform acupuncture’s identity and to win the respect of Western medicine and the public.

The anatomical and physiological knowledge and the clinical operation of disinfection are basic aspects of Western surgery. In the modern medical field, there have been numerous “debates” between Chinese and Western medicine. Faced with various doubts and the growing influence of Western medicine, the term “disinfection” can now be directly applied to the clinical operation of acupuncture. However, the way Western anatomical and physiological knowledge can be applied to the traditional acupuncture acupoint system does not appear to have been well thought out. Marking the anatomical structure of the acupoints and clarifying the acupuncture sites in imitation of Japanese practices is required for safety reasons, but this method has no substantive integration with the traditional theory of meridian acupoints. To comply with the “scientific” ideological trend, “scientific” acupuncture must be achieved through accordance with the surgical theory and operating rules of Western surgery. This method seems to solve the problem of the “scientific nature” of acupuncture and moxibustion and strives to position acupuncture into the difficult environment dominated by the strong discursive power of Western medicine.

3. Implicit in Traditional Acupuncture

The initial “scientific” practice of acupuncture mainly relied on research from Japan during the Meiji Restoration. Many quotes and translated materials from Japanese acupuncture and moxibustion doctors informed Chinese doctors, allowing acupuncture to respond quickly in the “debate between Chinese and Western medicine” and to not succumb to the same fate the TCM surgery received. When reading books of modern acupuncture and moxibustion medicine, western ideas of anatomy, pathology, physiology, diagnosis, and are independent concepts, providing basic knowledge for any medical discipline to learn from. The anatomical structure of meridian points is only superficial knowledge of acupuncture. Deeper considerations sought to understand the “meridian theory” and “explain the effect of acupuncture and moxibustion”. Some acupuncture doctors made attempts to directly explain the traditional theory of meridians and acupoints with Western medical theory, simplifying acupuncture treatment, concepts, and techniques. Through the exploration of the essence of meridians and collaterals, doctors first studied blood vessels and then nerves during the time of the early Republic of China. Cheng Dan’an believed that the traditional meridian system of “twelve channels and eight channels” was actually composed of the anatomical system of “vascular lymphatic nerves”, and he interpreted the principle of acupuncture as the stimulation and exciting of nerves. The physiological function of 12 meridians flowing *qi* and blood was compared with that of cranial and spinal nerves (Cheng Dan’an 1933, 38, 51). However, after the publication of the *Handout on Chinese Acupuncture and Moxibustion Science* in 1940, he believed that meridians and nerves rarely coincided with each other and instead began “interpreting acupuncture points as stimulus points and meridians as the reflection rays of stimulus points” (Cheng Dan’an 1940, 51). At the same time, the full text of the meridian circulation from *Neijing* was re-inserted into the book, demonstrating a huge change in Cheng Dan’an’s beliefs.

The mixing of modern medical knowledge with acupuncture through the process of “scientific” reform also presented complex, contradictory features. During the climax of the TCM and Western medicine argument in the early 1930s, acupuncture was driven by various factors. To find a way out of the debate, acupuncture followed a typical “Westernization” orientation. Acupuncture focused on Japan, copying the experimental results and mechanically adding western medical knowledge to TCM concepts such as the dissection of acupoints.

However, with the establishment of the Central Traditional Chinese Medical Center and the issuance and implementation of the “Regulations on Traditional Chinese Medicine” that treated TCM and Western medicine equally¹¹, acupuncturists sought to no longer use to Western medical theory to explain acupuncture and moxibustion, instead focusing on the traditional meridian theory. This view sought the

rationality of meridian theory from clinical efficacy and traditional classics. Cheng Dan'an's writing is impressive, reforming the acupuncture and moxibustion apparatus and deleting unreasonable acupuncture operation content, whose omission represents the main "curative effect"¹².

In this way, a convincing theory can be used to legitimize the "unscientific" principles of acupuncture and moxibustion, creating a place for acupuncture in the complicated medical field. Although acupuncture and moxibustion were valued by Westerners for their "scientific" discourse, the fundamental theory of meridians and collaterals did not correspond well with Western medicine's concepts, prompting modern doctors to repeatedly jump between "new knowledge" and "tradition". The therapeutical position and functions of heart are still based on traditional acupuncture and moxibustion. It is obvious that even if some acupuncture and moxibustion theories could omit interpretation on "Yin and Yang and the five elements", the main structure of the "meridian system" still has its supporters.

IV. Summary

Traditional Chinese medicine's two main external treatment methods are acupuncture and surgery. In the early stages of their development, both were based on the "muscular anatomy view" of the body. Observation and palpation were used in diagnosis with pulse diagnosis also being utilized. The distinction between the two main external treatment methods is that surgery required the use of more drugs. Following the Song Dynasty, literati intervened in medicine, promoting medical transformation, focusing on textual knowledge and medical science, preferring academic medicine, such as prescribing pulse diagnosis. The procedures and concepts that required more hands-on medicine experience began to be marginalized. Western medicine was introduced to China at the end of the Ming Dynasty, and its surgical "magic" gradually won over the Chinese people. However, TCM surgery did not integrate with Western surgical operations or concepts, limiting it to minor procedures. Acupuncture's status also deteriorated, especially during the Qing Dynasty, and it was eventually banned. However, some scholars began using meridian theory to introduce Western medicine's physiological anatomy into TCM, such as zangfu organs, blood vessels, and nerves, thereby beginning the interaction between Chinese and Western medicine. The objective reinterpretation and comprehension of traditional meridian theory became the prelude to the modern academic evolution and scientific development of acupuncture.

In modern times, the distinction between TCM acupuncture and surgery is clear. As Western medicine gained preeminence, acupuncture doctors reshaped the academic order of acupuncture. Acupuncture doctors integrated and standardized acupuncture knowledge and concepts to fit with Western medicine, so that acupuncture could be more widely used in clinical treatments, as well as be accepted by people of different identities while also remaining consistent with scientific discourse in theory and practice. However, the evolution of modern acupuncture was not a linear process of "modernization". The initial stage of "scientific" acupuncture was primarily the translation and introduction of Japanese research. Japan had already redefined acupuncture knowledge through modern scientific experiments under the government's leadership during the Meiji Restoration, transforming acupuncture into a modern subject of the medical discipline. This stage was primarily occurred around 1930, when the re-editing of "non-scientific" acupuncture books chose not to focus on traditional acupuncture knowledge, and instead focused on the rare "scientific" works which copied Japan's scientific achievements. During this time, the introduction of "anatomical physiology" and clinical disinfection practices to acupuncture sought to mix acupuncture with the prevailing trend of western medicine, thereby improving the status of acupuncture and quickly completing its "scientific" change in identity. Later, a creative thinking to combine traditional acupuncture knowledge with western medicine of phenology arose. Questions like "what kind of scientific transformation of acupuncture is suitable for acupuncture" and efforts to integrate traditional theories

of human body into modern anatomy and pathology are widely circulated and formed some integrating knowledge for scientific acupuncture (Zhao Jing & Zhang Shujian 2020, 147-157, 298-299). At this point, the TCM survival crisis was resolved with an effort to restore traditional Chinese acupuncture. Traditional medical knowledge was reintegrated into acupuncture to improve the effectiveness of therapeutic practices, objectively and rationally stripping away irrelevant knowledge. This led to the reconstruction of the classical context of acupuncture to prove its unique value.

Acupuncture's modern "scientific" achievement is not a passing fad; it is still in use today in teaching and clinical practice. However, TCM surgery and acupuncture find themselves in different circumstances in modern times. TCM surgery's disappearance can be explained by the lack of "anatomy and physiology" and "disinfection". In contrast, acupuncture bridged this gap in knowledge and practice. According to sociology, acupuncture was forcibly withdrawn from official medical practice in the late Qing Dynasty, instead relying on unofficial folk acupuncturists and ordinary people as daily health care providers without the concern and control of official organizations. Education and scientific experiments for the blind, like acupuncture during the Meiji Restoration, were carried out with the assistance of official welfare policies. Acupuncture's survival is due to it finding a place outside the orthodox medical order to operate in and not being suppressed by the government's special attention.

Notes

- 1 Chinese and Foreign Medicine [N]. The North-China Herald and Supreme Court & Consular Gazette (1870-1941), 1891-01-09(008版).
- 2 "In the earlier ages there were some progresses in anatomy, but for the last 1000 years, at least, there has some been practically no advance. The profound respect for the dead has interfered with dissecting and the performing of autopsies", *Medicine as Practised by the Chinese* [N]. The North-China Daily News, 1917-01-10 (008版).
- 3 Hu Yanguang 胡延光, *Collection of Traumatology 伤科汇纂*, 1815.
- 4 Yu Yunxiu, Preface to General Surgery. in Sun Liuxi, Ge Chengxun, *General Surgery 外科总论*, 1-2.
- 5 Wang Honghan 王宏翰; Chen Yi, Ed. *Primitive Medicine*, Shanghai Science and Technology Publishing House, 1989.
- 6 Tang Zonghai 唐宗海, *Chinese and Western Huitong Medical Classics Jingyi*, Qianqingtang Book Company, 1892.
- 7 Zhang Yunzhong, *Opposing the Melting Theory of Chinese and Western Medicine*, Tianjin Ta Kung Pao, February 1, 1930, 14th edition.
- 8 Huang Zhuzhai 黄竹斋, *Acupuncture and Moxibustion Meridian Points*, in "Postscript", 2a-2b.
- 9 *The outline of academic standards of Chinese medicine compiled by the Central Chinese Medical Center*, National physician bulletin 国医公报, 1932, n. 6, 1-6.
- 10 Aio Okamoto 冈本爱雄, *The latest practice lucifer acupuncture 最新实习西法针灸*, Shanghai Bookstore Publishing Progress, 1915, "Preface", 1-2.
- 11 *Medical news, The Fifth National Congress Proposed that the Government should treat traditional Chinese and Western medicine equally to benefit People's Lives by virtue of academic benefits*, in "Zhengyan of Traditional Chinese Medicine", n. 21, 1936, 9-41.
- 12 Some traditional acupuncture techniques have been screened, and many ancient prohibitions on acupuncture points, acupuncture time and indications have been lifted. In this way, part of traditional acupuncture and moxibustion knowledge is preserved and reduced in modern acupuncture teaching materials, which is the inevitable result of the introduction of new knowledge.

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