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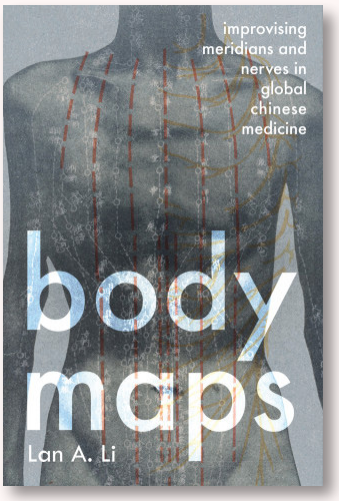

BODY MAPS: IMPROVISING MERIDIANS AND NERVES IN GLOBAL CHINESE MEDICINE

By Lan A. Li

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Review by: Zhaoxu Sui (he/him), The Pennsylvania State University

In traditional East Asian medicine, acupuncture and moxibustion are practices, respectively, of placing needles in, or burning dried mugwort upon, nodes and channels of the patient's body. To put it simply, the major channels (*jing-luo)* transport *qi-xue*—the necessary vital energy and blood—to interconnect the body's internal organs. In Lan A. Li's *Body Maps*: *Improvising Meridians and Nerves in Global Chinese Medicine*, she connects these channels with their graphic representations as meridians mapped onto the human body (Figure 1). Framing these meridian maps within wider social, political, and historical contexts, she offers a diverse, interdisciplinary genealogy of this concept of an invisible bodily network that underpins East Asian traditional medicine. This author suggests that the development of these representations of the human body is entangled with the changing socio-political environments in East Asia, the scientificity of East Asian medicine, and the seemingly inevitable conflicts that arise when culturally-based medical concepts are blended into those of other cultures. Eventually, these integrated attitudes become a naturalized part of everyday discussions surrounding our health and wellness practices.

Figure 1. A *tu* of a human figure (described as "meridian man" by Li). This *tu* illustrates a particular *yin* meridian (足太阴脾经) connected to an internal organ, the spleen. This *tu* was retrieved from **Historical Anatomies on the Web**.

This evolution in accepted medical practices can be seen in the attitudes of my own family. My grandparents always say that "Western medicine" is only for relieving pain, but that Chinese medicine cures diseases by regulating balance within the human body. My mother, too, always goes to the Chinese medicine hospital to take acupuncture from a renowned doctor to cure her sore shoulder. The

doctor she sees there is experienced, state certified, and knowledgeable—and she finds that the treatment usually works very well. In contrast to this, my father insists that the treatment only works because the needles directly engage with the nerves—that is, with physically visible parts of the body—and not through a mystical interaction with *qi-xue* flowing through *jing-luo* meridian channels. He, himself, believes in capsules and antibiotics, especially those exported from Western countries.

Lan A. Li is a historian, filmmaker, and assistant professor of the history of medicine at Johns Hopkins University, undertaking extensive research into the ontological and epistemological aspects of technologies of body and health in East Asia. According to her, the success of this project is due in large part to the support that she has received throughout her research career from institutions such as Johns Hopkins and Rice Universities, as well as from friends from all over the world. This book benefits from her diverse cultural and disciplinary background, her deep familiarity with the topic's body of knowledge, and her meticulous translation of important East Asian medicinal terms. Careful translation is especially important here because it regulates the way readers associate key East Asian terms with, or differentiate them from, their English counterparts. Li often uses transliterated terms such as *jing-luo* and *qi-xue*—definitions for which I have placed in the glossary at the end of this review—but she sometimes annotates her illustrations in Chinese characters. She uses the term "East Asia" to explicitly encompass the multiplicity of cultural influences intersecting in this type of medicine: believing that despite the somewhat nationalistic sinocentrism coming from China itself, it is a mistake to view *jing-luo* and meridians as exclusively Chinese. For example, as I discuss below, the early modern Japanese translators studying Dutch documents at Dejima, in Nagasaki, employed some very nimble terminological gymnastics in order to bridge the fundamental gaps between Dutch and Japanese medical concepts.

One of the most important terms throughout this book is *tu*, referring to a technical image or diagram that offers a template for action, a type of philosophical category of knowledge production (Bray et al. 2007). In modern Chinese, a map is referred to as a *di-tu*, or terrestrial diagram (Wang 2023)—a term with a very specific definition—but *tu* is a broader category, referring to all sorts of technical illustrations. The *tu* examined in this volume serve as a vital device for making material *jing-luo*—the otherwise invisible channels of *qi-xue* transport. Li refers to the graphic representations of *jing-luo* as "meridians," and throughout the book provides many examples of *tu* depicting human bodies with meridians drawn on the skin. In the "Introduction," Li constantly parallels *tu* with maps in order to emphasize their similarities as instruments of power "bound by their material construction, their political circumstances, and the demands of graphic conventions" (17). However, she points out that, unlike maps that often imply precision and accuracy, *tu* are understood to leave room for imagination.[1] It is this crucial difference between the two modes of representation that drives meridians into confrontation with nerves in later chapters.

The chapters in *Body Maps* follow a chronological order from ancient times to the modern era, with discussions featuring certain individuals, varying graphic representations of meridians and nerves, and the human body as the stage upon which this all plays out. By placing these actors into the contexts of greater political and social environments, Lan A. Li highlights the dynamic evolution of this understanding of human body across cultures and across time.

In Chapter 1, Li illustrates some of the early graphical representations of *jing-luo*—again, referring to the channels in the human body related to the transport of *qi-xue*. The positioning of these channels and nodes is reflected in *tu* even in this early period, empirically instructing practitioners and scholars and allowing them to pass down this knowledge. This chapter features many ancient anatomical concepts that place the human body within the framework of traditional Chinese/East Asian cosmology. In East Asian contexts, the outer environment—such as the flow of *qi* in nature or the balance between *yin* and *yang*—relates to the body. This contrasts with the ancient European notion of a "rational human soul"—something that is particularly attached with the human body (Lagerlund 2007, Yrjönsuuri 2007)—by instead placing *jing-luo* and a body's internal organs in an understandable relationship and manipulable pattern of outer nature.

1. This argument also applies to *di-tu*. Wang (2023) suggests that *di-tu* are artistic representations that blur the boundary between personal experiences and objective nature of the world. Wang's book has previously been reviewed in *Cartographic Perspectives* (Shah 2025).

East Asian *jing-luo* and meridians, and European concepts of nerves and blood, are all cultural objects with different ontological ranges applied to a human body. In Chapter 2, Li illustrates early trans-cultural efforts to bring reciprocal understandings of meridians to Europe and of blood and nerves to East Asia. Li explains, for example, how European scholars employed the power of metaphor by very broadly translating—or mis-translating—meridians as *miak*—a neologism that represented a sort of combination of blood, nerves, vessels, and humors—in an effort to fit them into the then-standard European humoral model the translators themselves recognized. This effort, however, was not fruitful, because the concepts of blood, nerves, vessels, and humors were already sufficiently established amongst European readers to make the new concept of *miak* seem superfluous. At about the same time, Japanese scholars engaged in translating Dutch medical materials tried to fit the concepts surrounding blood and nerves into an East Asian context, mis-translating them in their attempt to use them to describe the human body as they understood it. Nerves, for example, are translated as *shin-kei* in Japanese, granting them material existence through meridian-like channels (*kei*) and attributing to them connections to extra-human spirits (*shin*) that would likely have astonished Europeans. As a result, these metaphors—developed solely in East Asia, and only understandable within an East Asian context—become an inextricable part of the East Asian understanding of the European concept of bodily nerves.

This confluence and intermingling of East Asian and European medical thought gave many people hope that it could explain both the phenomena of sensation and give meridians an anatomical manifestation. Chapter 3 positions late nineteenth- and early twentieth-century investigations into the relationship of the nervous system to the network of meridians, in the context of the desire of many scholars to establish nerves as anatomical structures—equivalent to meridians—that work to stabilize *jing-luo*. Meridians, however, are not nerves—unlike nerves, they are neither visible in photographs nor on anatomical charts—and eventually scholars, such as Cheng Dan'an in the early twentieth century, abandoned the use of photographs and nerves to explain meridians after trying these methods for decades, prompting a search for other ways to describe them.

In Chapter 4, Li concentrates on the era after the establishment of communist China in 1949. Dialectical materialism, as a distinct component of Marxist-Leninist ideology, drove scientists in China to combine meridians with scientific pursuits in different ways. The author narrates the stories of two important figures in China: Zhu Lian and Wang Xuetai. Zhu Lian believed that acupuncture functions through the body's nerves, and borrowed procedures from Pavlov's behavior experiments to test the limits of meridian-based therapeutics. In contrast, Wang Xuetai pursued deep studies into historical texts, in alignment with prevalent Maoist dialectical materialist discourses, to develop new types of *tu* illustrating how *jing-luo* systems cycle reciprocally within the body following legible patterns, which parallels dialectical materialist discourses concerning "the unity and conflict of opposites" (Figure 2).

Meanwhile, in the late twentieth century, researchers outside of China pushed *jing-luo* and meridians into the cutting edge of behavioral and physiological studies, specifically for a type of therapeutics using needles to numb specific parts of the body (acupuncture analgesia). The main characters in Chapter 5—Lu Gwei-djen and Joseph

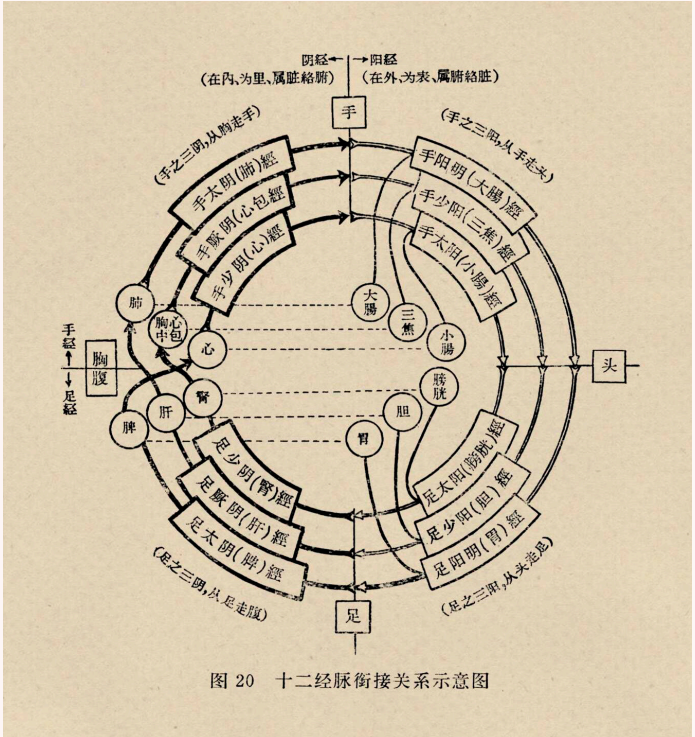

图 20　十二经脉衔接关系示意图

Figure 2. A *tu* described as a *meridian wheel* by Lan A. Li (Figure 4.11). This *tu* illustrates all internal organs framed in circles, and meridians framed in rectangles. *Yin* meridians are featured on the left, and *yang* meridians are featured on the right. This *tu* was originally Figure 20 in Wang Xuetai's 1966 work, *Zhenjiu xue shouce*.

Needham—looked to gate control theory (which describes how non-painful sensations can override and reduce painful ones) to explicate acupuncture analgesia. They believed that needles and numbness function in the corresponding body area and organs to cure the pain, although their experiments could not prove a direct correspondence to the functionalities of all the meridians and nodes described in ancient texts. These analgesia experiments are not the only way to push the study of *jing-luo* and meridians further, yet, as Li points out, the crucial question comes down to what kind of ontological certainty a "scientific experiment" can give, and what kind of certainty it cannot.

In **a recorded book talk** available as a **YouTube video**, Li describes her volume as a perfect example of "using East Asian sources to theorize East Asian techniques." In both Chapter 2 and Chapter 4, she introduces a contrasting example of the use of Western sources to theorize East Asian techniques, such as how scholars from different eras tried to align meridians with Western medical concepts, including the humoral body and Pavlovian theories. On the one hand, their attempts to introduce Western sources often oversimplified the East Asian understanding of meridians, and on the other hand, in the absence of theorization, the whole idea of meridians was ineffective and unpopular in the West. Nonetheless, meridians still exist in classic East Asian *tu*, and are still employed in traditional East Asian medicine. This has led researchers such as Wang Xuetai and Lu Gwei-djen to develop new types of *tu* to improvise and diversify the discipline, and to use these *tu* to interpret both meridians and *jing-luo*.

For cartographers, Lan A. Li's *Body Maps* introduces a useful analytical category of *tu* as an encompassing term for all technical graphics that do not necessarily embrace the precision and accuracy sometimes thought of as implicit in the term *map*. The *tu* concept offers a template of action, grasping at a specific type of technique (see Bray et al. 2007). In the context of meridians, a *tu* is a vessel, making *jing-luo* visible for people to recognize and practice their acupuncture and moxibustion techniques on the body. The length of meridians cannot be accurately measured with a fixed graphic scale, nor can they be generalized—in fact, doctors and practitioners regularly use the length between their patients' knuckles to measure the precise locations of their nodes and meridians—and the imprecision of *tu* fits right in with that, leaving the necessary room for the imagination. The existence of *tu* provides a viable alternative to the modernist vision of cartography and maps, echoing other research directions in alternative mapping. It is worthwhile to build on the analysis of *tu*, joining them with other mapping activities—particularly decolonial, feminist, and indigenous—across the world, such as Hawaiian hula performances and navigations, Amazonian and Andean body mapping, and situational mappings. Beyond the variations in the textuality of these practices, these all offer templates of action, emphasize the experiences of the human body, and give room for imagination. This book shows how *tu* are developing so as to facilitate the ancient cross-cultural techniques of acupuncture and moxibustion that are still widely used, while simultaneously advancing both traditional medical and mapping practices into the twenty-first century. This identifies *tu* as a distinct cultural practice that offers an interesting and successful model for other types of mapping looking to visualize a whole range of invisible objects.

In general, *Body Maps*: *Improvising Meridians and Nerves in Global Chinese Medicine* is a challenging but fruitful read for cartographers. It requires readers to have specific knowledge of, and interests in, East Asian cultures and medical technologies, but Li has made the reading easier to digest with her carefully curated translation strategies, engaging storytelling, well-placed body maps (*tu*), and other figures. The book spans many disciplines—including anatomy, medicine, history, linguistics, geography, politics, cultural studies, anthropology, and cartography—to give a highly discursive discussion of body maps in East Asia. Even though the engagement with cartography is mainly concentrated in the introduction—with smaller bits scattered among chapters—it is an enlightened book of art that constantly inspires me to think of maps and their genealogy.

GLOSSARY

Di-tu (地图 / 地圖): a modern Chinese term for map.

Jing-luo (经络 / 經絡 / 経絡): major anatomical channels in the human body that Li argues are "both material and invisible, felt in the body . . . and seen in hand-drawn images" (x).

Miak: Latin transliteration of *jing-luo*, particularly used by Willem ten Rhijne—a seventeenth-century Dutch doctor and botanist who studied Japanese medicine, especially acupuncture and moxibustion (100).

Qi / Chi (气 / 氣 / 気): the vital energy and a type of internal fluid that is essential to human life (xiii).

Shin-kei (神経): the seventeenth-century Japanese translation of the Dutch term for nerves. *Shin* refers to extra-human existence, deities, or spirits, whereas *kei* points to *jing* in Chinese.

Tu (图 / 圖 / 図): a type of technical image in East Asia that facilitates a practice (xii).

Xue (血 / 血): blood in modern Chinese contexts, but used for all fluids "nourishing the body" (101).

Yin (阴 / 陰) and **yang** (阳 / 陽): Taoist concept of complementary forces in East Asian cosmology, but also applicable to the body. *Yin* and *yang* are used to classify *jing-luo* and internal organs, connecting the human body to the environment through these patterns (278).

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