

Food and Drug: A New Direction in the History of Medicine in China

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1 Objects and their histories: unraveling the “black box”

The history of object is a burgeoning field in contemporary historical studies. An object, like a “black box,” contains rich information that holds the secret code for knowledge construction. Object is a multifaceted being, consisting of aspects like technology, institution, human–object relationship, and human–nature interaction. Medicine and food inform sophisticated questions about society and ideology. The perplexing meanings endowed in objects can only be uncovered by careful examination. Therefore, I use the metaphor of “black box” to describe the idiosyncrasy of objects and their potential to inform deep historical inquiries. Two years ago, Dorothy Ko, Dagmar Schäfer and I jointly taught a course on the history of objects and material culture in Peking University. The main aim of the course is to teach students to contemplate the deep meanings of objects in history.

I shift my research focus into the study of “food and drug” for several reasons. First, the concept of “dietary therapy” has already existed in traditional Chinese food and medicine. Second, there is a growing trend in overseas China studies to pay more attention to the role of food and drug in Chinese medicine. Several decades ago, medical historians from the West mainly focused on the medical ideas, and concepts of the body. Recently, material culture accounts for a new turn of academic development in the history of medicine in China. Third,

“food” stands out as a significant topic that transcends the domain of medicine. It provides a vintage point to investigate many historical changes in China, including but not limited to medical, environmental, social, and political histories.

How should researchers examine the relationship between human and society, human and technology, human and the environment through the lens of object? Before answering this question, I will first elaborate on a more fundamental question: what is an object?

First, an object is a technological system. Its formation requires technical intervention. To understand the history of an object, one needs to know the technology through which it is made. Why is a certain technology used in the making of an object? Does the technology change in history? Dorothy Ko’s new monograph *The Social Life of Inkstones: Artisans and Scholars in Early Qing China* is an exemplary work in the history of objects (Fig. 1). It investigates the technological process through which a stone turned into an inkstone, as well as the emergence and transformation of relevant technology.¹

Second, an object is more than a technological system. It has a social dimension. Together, it forms a sociotechnical system. The work of Wiebe Bijker, a Dutch historian of technology, can well demonstrate this point. In his study on the technological transformation, he discovers a series of changes in the technical structure of bicycles in European history.^{2,3} These changes are mainly driven by social factors rather than pure technical considerations. After the invention of bicycles in the 19th century, cyclers gradually expanded from adult men to women, children, and elderlies. The needs of different users had been taken into account of bicycle design. Therefore, the technological changes in the design of bicycle were a result of social change—in this case, the changing group of users.

Food and drug add another dimension in the history of objects. The formation of an object is also a result of the interplay between sociotechnical system and cosmology. Food and drug are different from the case of bicycle, relating not only to technology and society, but also to environment, the body, and cosmology. All these factors can in turn influence the application of food and drug. Sidney Mintz’s *Sweetness and Power* is a classic in food study. It tells the historical trajectory that the development of

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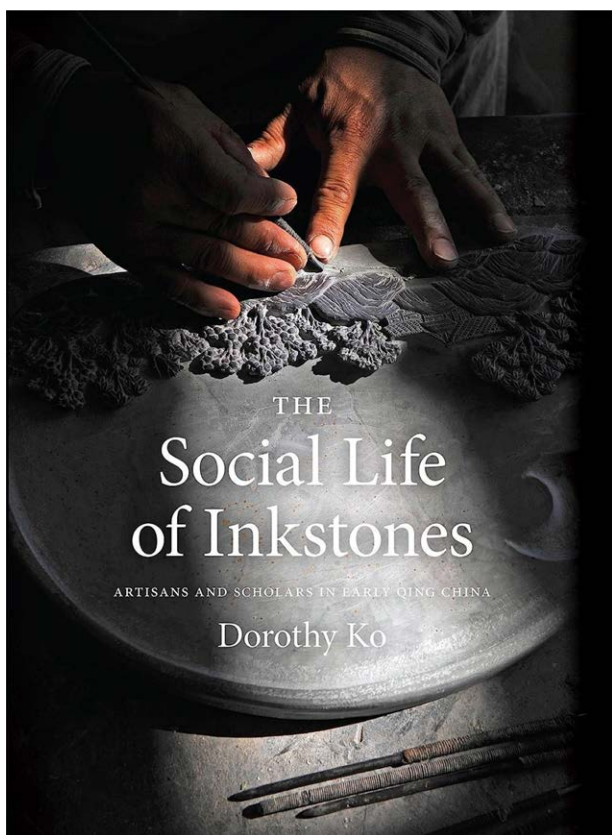


Figure 1 Front cover of *The Social Life of Inkstones: Artisans and Scholars in Early Qing China*, authored by Dorothy Ko (University of Washington Press, 2017) (source from: <https://www.amazon.com/Social-Life-Inkstones-Weatherhead-University/dp/0295999187>).

imperialism in the 19th century transformed sugar from a food of the noble to a food of the working class. By centering on a common food, the book simultaneously speaks to three important disciplines: history of technology, political history, and sociocultural history.

The renowned Chinese historian Chen Yinke (陈寅恪) once claimed, “Any explanation of a Chinese character informs the writing of a cultural history.” Here, I would like to slightly adjust this aphorism, “Any explanation of an object informs the writing of a cultural history.”

2 Dietary therapy: the entanglement of food and drug in Chinese history

An article on food and medicine in traditional China by the British historian Vivienne Lo emphasizes the subtle relationship between food and medicine in traditional Chinese medicine.⁴ As early as Tang dynasty, Sun Simiao’s (孙思邈, ca. 541–682) *Qian Jin Fang* (《千金方》 *Important Formulas Worth a Thousand Gold Pieces*) already had a volume dedicated to “dietary therapy” (*Shi Zhi* 食疗), the therapeutic skills of healing with foods. It said,

“A physician must have a clear idea on the origin of a disease. Having found out the place where the disease

attacks, he first tries to cure it by food. When food therapy fails, he then prescribes drugs. The nature of drugs is potent and violent. Prescribing drugs is similar to commanding an army. Soldiers are fierce and impetuous. How could anyone dare to deploy them recklessly? If they are deployed inappropriately, harm and destruction will result everywhere. Similarly, an excessive use of drugs can also cause unnecessary damage to the patient’s body.”

This assertion articulates the problems induced by abuse of drugs. Food, according to Sun Simiao, should be the first method to deploy when treating a disease. Here we can clearly detect the overlapping boundary between food and drug.

Ma Jixing’s (马继兴) study offers us many clues in the study of dietary therapy in Chinese medicine.⁵ His early work on medical philology identifies two key periods in the development of dietary therapy in Chinese history: The Tang and the Ming dynasties. The idea of dietary therapy first emerged in Tang dynasty. The first monography on this topic is *Shi Liao Ben Cao* (《食疗本草》 *Materia Medica for Dietary Therapy*) authored by Meng Shen (孟诜, 621–713), an apprentice of Sun Simiao. Even though the original book is lost, many of its content have been preserved in successive *bencao* works. Another important *Ben Cao* work from the Song dynasty quoted the remarks of goji in *Shi Liao Ben Cao*. It reads, “Goji (with a cold nature) is nontoxic. Both its leaves and berries can strengthen the sinew, rejuvenate the old, expel the (pathogenic) wind, tonify the sinew and bones, benefit the human body, and eliminate consumptive symptoms.” This record shows that goji, a foodstuff, also has its therapeutic value.

Dietary therapy was a popular genre in the book market during the late Ming period. Lu He’s (卢和) *Shi Wu Ben Cao* (《食物本草》 *Food as Materia Medica*) laid out eight categories of foodstuff, including water, grain, vegetable, fruit, poultry, beast, fish, and condiment. Gao Lian’s (高濂) famous monograph, *Zun Sheng Ba Jian* (《遵生八笺》 *Eight Discourses on the Art of Living*), valued the choice of food as a significant aspect in the practice of nourishing life (*Yang Sheng* 养生). The idea and practice of nourishing life had developed into an unprecedented state in Ming dynasty, further contributing to the popularization of dietary therapy in society. Physicians in the Tang dynasty suggested that food should be deployed first when treating disease. In the Ming, savory food becomes a crucial aspect in the practice of nourishing life.

Ben Cao Gang Mu (《本草纲目》 *The Grand Compendium of Materia Medica*) published during the late 16th century also contains a variety of foodstuffs. Vivienne Lo considers Li Shizhen (李时珍, 1518–1593) as a gourmet physician, and *Ben Cao Gang Mu* as a recipe book. Take soy sauce as an example. It provided detailed account for making fermented soybeans,

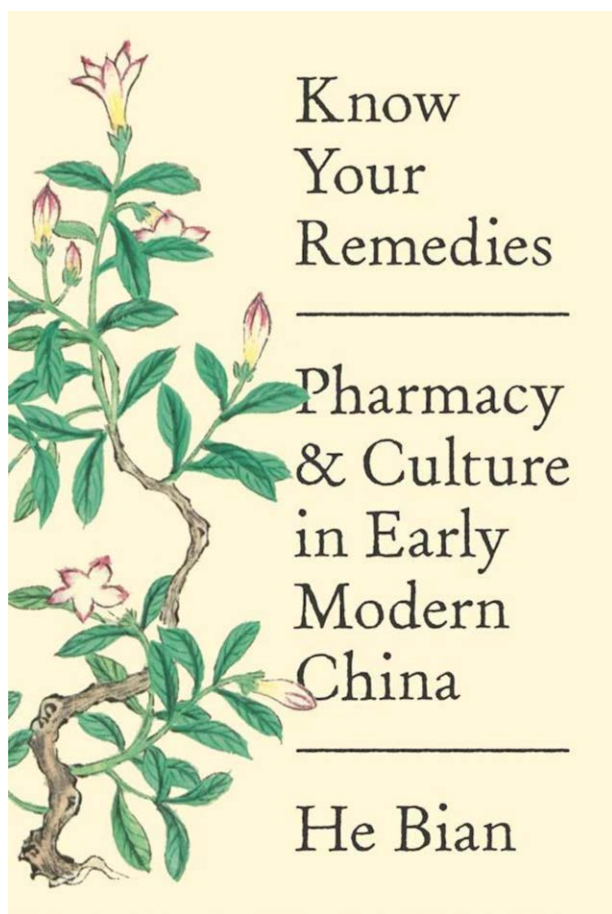


Figure 2 Front cover of *Know Your Remedies* authored by Bian He (Princeton University Press, 2020) (source from: <https://press.princeton.edu/books/hardcover/9780691179049/know-your-remedies>).

medicines. This accentuation of *daodi* is a new development in the Ming-Qing period. With the advent of an enlarged and integrated market system in medicinal trade, the origins of medicines greatly diversified. Buyers and users started to value medicines from highly prestigious places of production as well as the wild-grown species. Cultivated herbs were considered inferior in therapeutic quality, and thus becoming unfavorable in the market.

The pursuit of *daodi* medicines also has its root in the local knowledge. Since the publication of *Ben Cao Gang Mu*, many works on *bencao* (*materia medica*) in the Ming-Qing period recorded considerable information about local production of medicines. *Know Your Remedies* dedicates a whole chapter discussing the local and vernacular production of pharmaceutical knowledge exemplified in Zhao Xuemin's (赵学敏 ca. 1719–1805) *Ben Cao Gang Mu Shi Yi* (《本草纲目拾遗》 *Supplement to "The Grand Compendium of Materia Medica"*). Let me once again take soy sauce as an example. Zhao Xuemin provided a method for making soy sauce: "Blend soybeans with wheat flour, cover the blend until the color turns yellow. Soak it with salt water. Those made in the hot days of summer have a

thick flavor, while those made in the autumn have a lighter flavor. It can be used as medicine after years of aging." The latter variation made in the autumn is a local product in the Jiangnan Region. Zhao also recorded the therapeutic nature of the local product: "soy sauce possesses a salty taste and cooling nature. It detoxifies all kinds of fishes, meats, vegetables, and fungi. Applied externally, it can also relieve burns and scalds. Take too much of it can induce cough and thirsty." It is a case in point that shows Zhao Xuemin consciously collects local knowledge on medicinal substances. More examples can be found. During the period of Ming-Qing transition, a Ming loyalist traveled to Nanhai district in Foshan, Guangdong province, and collected local medicines in the fields. He later published a book on the dietary and medicinal usage of local herbs based on his field research. Several similar works on local herbs appeared during the Qing period, indicating a decentering trend of pharmaceutical knowledge.

The third case is my own article "The itinerary of *hinglaweil*/*asafetida* across Eurasia, 400-1800" co-authored with Chen Ming.⁹ The Latin name of *awei* (阿魏) is *asafetida*, meaning a drug with fetid smell. It is the dried latex exuded from the rhizome or tap roots of a perennial herb native to west Asia. Europeans used to value this herb but were not aware of its origin. In the 17th century, a German physician Engelbert Kaempfer (1651–1716) traveled to Persian Gulf to witness the harvesting of the latex. He later published the observations during his journey in 1712, with 17 pages devoted to *asafetida*, including detailed drawings of the plants and an illustration showing a scene of its harvest.

Asafetida was introduced to China as early as Tang dynasty. It was considered as an effective vermifuge, useful in relieving digestive problems, dissipating evil *qi* and protecting patients against ghosts and bad spirits. While Europeans got to know the plant through the work of Engelbert Kaempfer, Chinese was never able to observe the original plant directly in the premodern period. One of the earliest pictures of *asafetida* in China appeared during the Song dynasty. The draftsman clearly did not know what the original plant looked like. He only depicted a tree of his own imagination, with mark of emphasis at roots.

Chinese started to use *asafetida* in healing practice albeit unaware of its original plant. In his *Qian Jin Yi Fang* (《千金翼方》 *Supplement to "Important Formulas Worth a Thousand Gold Pieces"*), Sun Simiao described *asafetida* as follows: "Favor: pungent; nature: warm; nontoxic. It can kill all kinds of vermin, expel fetid smell, dissolve lumps and masses inside the abdomen, dissipating evil *qi* and protecting patients against ghosts and bad spirits. It is produced from Tibet and South Asia." This evaluation of its therapeutic nature lasted until the Ming dynasty. Li Shizhen made another note: "Foreigners in the West use it as foodstuff." The use of *asafetida* as food

possibly comes from Buddhist scriptures, which can be further dated back to the Tang dynasty.

Since the Song period, asafetida mainly imported into China through the maritime trade in Canton, thus known as “Cantonese A Wei.” Zhao Rukuo (赵汝适, 1170–1231), a Song scholar-official, recorded a legendary tale about the drug in his *Zhu Fan Zhi* (《诸蕃志》 *Descriptions of Foreign Lands*): “Asafetida comes from Makran of the Arabian Empire... Some people say that the resin is highly toxic. No one dares to approach it. When collecting the resin, one must tie a goat to the tree, then keep his distance from the tree and shot the goat with an arrow. After the goat dies, the toxin penetrates the goat’s flesh. The carrion of the goat is known as asafetida.”

Now that we know the story is nothing but a false rumor, but this rumor spread over the market since the Song dynasty. The illustration of asafetida in the 1885 edition of *Ben Cao Gang Mu* showed a man shooting a goat under a tree, clearly a reiteration of the rumor. This piece of information, evaluating asafetida as poisonous drug, forms a sheer contrast with the records in mainstream *materia medica* from the Tang to the Ming, which claim asafetida was nontoxic. This particular case makes it clear that physicians are not the sole authority on drugs. Merchants are also crucial arbiters of drugs’ property. Nowadays one can hardly buy asafetida in China. Considering it as a poisonous drug, Chinese pharmacies are not allowed to sell asafetida to common consumers. In India, however, asafetida remains a very common and indispensable ingredient in making curry. Because of its fetid smell, asafetida also known as the devil’s dung in Europe.

4 Food studies in modern China

The studies on Chinese food history appeared as early as the 1970s. Chang Kwang-chih published an edited volume entitled *Food in Chinese Culture: Anthropological and Historical Perspectives*, collecting essays on Chinese food and culture authored by several eminent scholars in the field of China studies (Fig. 3).¹⁰ The book covers a long durée from ancient China to the Republican period, with each chapter focusing on one or two dynasties in Chinese history. The essays in this volume use both received texts and archeological evidence to explore a wide range of topics in Chinese food and culture in history, including the culinary apparatus, food rituals, foodways, food in religion and ancestral sacrifices. It evidently shows food as a significant aspect in understanding Chinese culture. The relationship between food and health, however, is largely omitted in this edited volume. About a decade later, E. N. Anderson publishes his monograph *The Food of China*.¹¹ In the last chapter “food in society,” he mentions the medicinal properties of foods, including taste, nature, and therapeutic efficacies. In Chinese culture, food is also used as medicine.

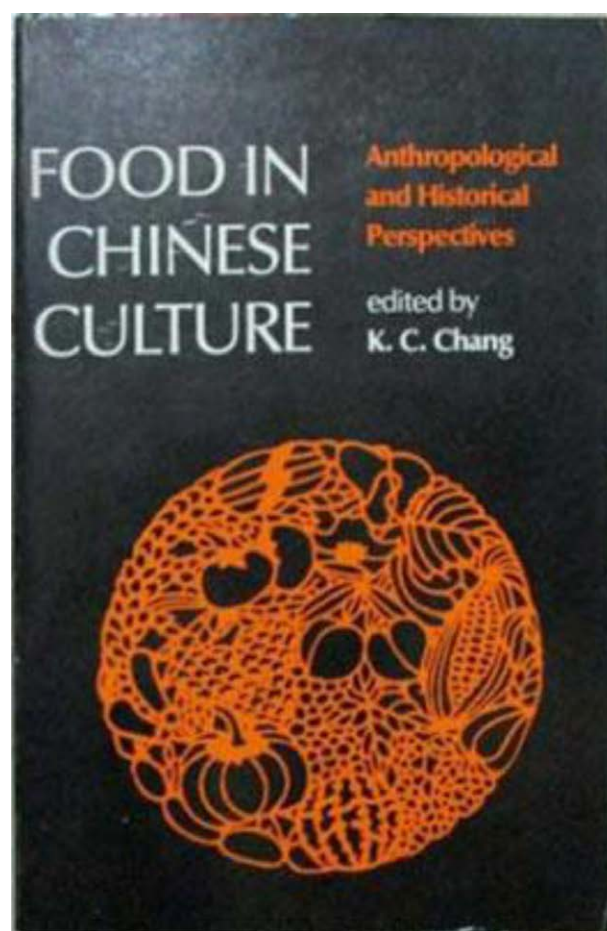


Figure 3 Front cover of *Food in Chinese Culture: Anthropological and Historical Perspectives* edited by Chang Kwang-chih (New Haven, 1977) (source from: <https://www.whitelotusbooks.com/books/food-in-chinese-culture>).

Many works on food and health appear in the recent years. Fu Jia-chen’s *The Other Milk* investigates the relationship between food and national health in modern China through the case of soymilk.¹² With the introduction of western nutrition science, especially the concept of protein, soymilk became a significant food in modern China. In the early 20th century, westerners mainly acquired protein from animal-based foods, which only occupied a small share in Chinese diet. Sun Yat-sen (孙中山, 1866–1925) advocated soy-based foods as an alternative source of protein for Chinese. He argued the development of animal husbandry was too costly to be an economic choice for China. Soybeans were a common and affordable choice in traditional Chinese diet because it contained high-quality protein to strengthen the body. In this regard, not only soymilk but also other kinds of soy-based foods like tofu were enthusiastically promoted by reformists and revolutionists in Republican China as food that could save and rejuvenating the precarious nation.

Moral Foods, a book I recently co-edit with an American anthropologist Melissa L. Caldwell, investigates the (re)construction of nutrition and health in Modern Asia (Fig. 4).¹³ Five articles in this volume

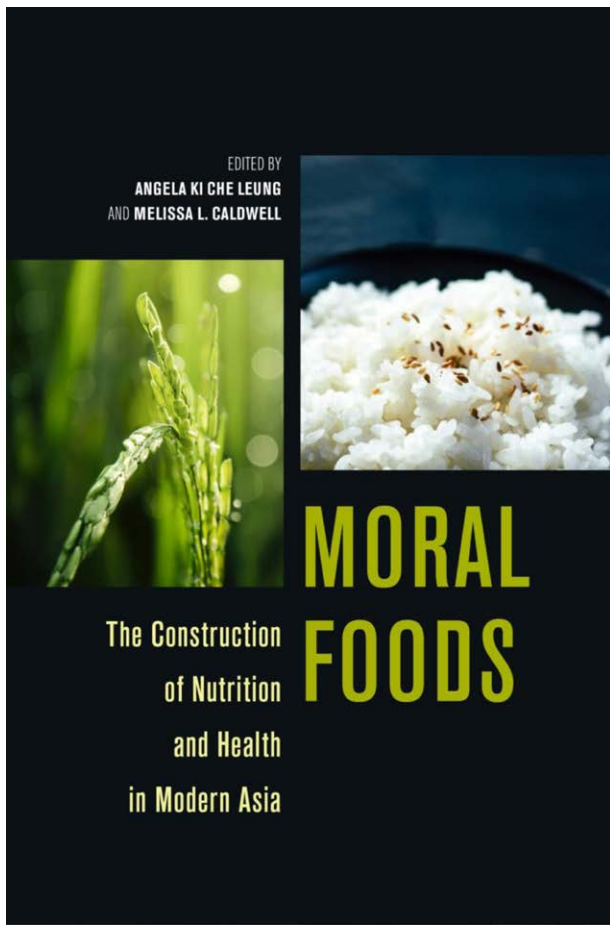


Figure 4 Front cover of *Moral Foods: The Construction of Nutrition and Health in Modern Asia*, co-edited by Angela Ki Che Leung and Melissa L. Caldwell (University of Hawaii Press, 2020) (source from: <https://uhpress.hawaii.edu/title/moral-foods-the-construction-of-nutrition-and-health-in-modern-asia/>).

focus on food and health in China. Michael Shiyung Liu examines how the Chinese government in the late 1930s and early 1940s worked to come up with new nutritional plans to feed the military during wartime. Lawrence Zhang tells the changing perceptions of tea in modern China, from being understood as a toxic substance in the 19th century to a popular beverage for its mood-lifting qualities in the 20th century. My chapter on vegetarianism shows how food and health became a critical issue in building China's modernity. Volker Scheid discusses the transhistorical and transnational nature of medical dietetics in China. By comparing a 19th-century text used by Chinese physicians and a contemporary text authored by German experts, he demonstrates the philosophical inclination of dietetic therapy and the influences on life nourishment by Confucian, Daoist, and Buddhist traditions. Hilary Smith's chapter on lactose intolerant tackles with the paradoxical situation in which milk drinking is positive, but the experience of milk drinking requires remaking Chinese bodies into defective bodies. To sum up, *Moral foods* explores the transformation of Chinese dietary culture

after the introduction of western concepts of nutrition and health.

Another volume I co-edit with Izumi Nakayama consists of several articles on food and health.¹⁴ Sean Hsiang-lin Lei recounts the career of Chuang Shu Chih (庄淑旂, 1920–2015), an eminent female practitioner of traditional medicine in Taiwan, China. Chuang drew on the traditional knowledge of dietary therapy to create a popular idea of life nourishment. She did not only formulate a modern regimen by promoting practical knowledge of food-making and everyday exercise for nurturing life, but also reconfigured the role of housewives as kitchen pharmacists for the family.

The volume also includes my article on beriberi/*jiaoqi* in modern China. At the turn of the twentieth century, western physicians discovered a new disease called “beriberi” in Asia, which was later translated as “*jiaoqi bing* (脚气病)” in Chinese. The term *jiaoqi*, literally leg *qi*, already exists in classical Chinese medical works since the Tang dynasty. Even though they share a same name in modern Chinese, they are actually two distinct set of disease concepts respectively developed in traditional Chinese culture and modern biomedicine. By studying this “new disease,” European doctors asserted that beriberi specifically happened among Asians, who took rice as a staple food in daily life. They deduced that the lack of vitamin B1 in polished rice was the main cause of beriberi. In this regard, European doctors prescribed thiamin-rich foods for beriberi patients, including soy-based food and meat. Injection of thiamin was later developed as the main treatment for the disease. Doctors of Chinese medicine, however, did not consider *jiaoqi* as food-related disease but an illness deeply related to the local climate, specifically the damp weather of south China, and prescribed different therapies accordingly. Zeng Chaoran (曾超然), a Cantonese doctor working in the British Hong Kong, used betel nuts (*Bing Lang* 檳榔) to cure *jiaoqi* patients. As a local medicinal product from the south, betel nuts were considered an effective cure for this climate-related disease. Some Hong Kong translators also introduced this therapy to western doctors. The case of beriberi/*jiaoqi* explicitly demonstrates the influences of Western nutrition science on traditional Chinese medical knowledge. Hilary Smith's monograph *Forgotten Disease* holds a similar idea. By studying the case of *jiaoqi*, she argues that the traditional concept of disease in Asia was distorted by modern western idea of vitamin.¹⁵ This distortion even had a notable impact on Joseph Needham (1900–1995). In a 1951 article about *jiaoqi* by Needham and Lu Gwei-Djen (鲁桂珍, 1904–1991), they totally (mis)led by the idea from western nutrition science, considering the *jiaoqi* as a proof of “the antiquity of human knowledge of beri-beri as a deficiency disease.”¹⁶ This, according to Hilary Smith, is a misinterpretation of traditional Chinese concept of *jiaoqi*.

Judith Farquhar's *Appetites: Food and Sex in Post-Socialist China* discusses the relationship between food, sex, and health in post-socialist China from an anthropological perspective.¹⁷ She conducts her field work in the 1990s, when the economy of China underwent a rapid growth. The main group of people who values the dietary nourishment was the male nouveau-riche, who were eager to tonify their body as well as strengthening their social status. Is this specific interpretation of life nourishment sustainable? Will a new concept of life nourishment emerge in the age of promoting common prosperity? We will just have to wait and see.

Notes

Note 1: Tao Hongjing's *Collective Commentaries on the Classic of Materia Medica* documented a total of 730 drug names. But 155 drugs were not used anymore in Tao's time. He only categorized and discussed the remaining 575 drugs in this work.

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Ethical approval

This study does not contain any studies with human or animal subjects performed by the author.

Author contributions

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Conflicts of interest

The author declares no financial or other conflicts of interest.

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