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Catherine Jami (dir.), *Individual Itineraries and the Spatial Dynamics of Knowledge: Science, Technology and Medicine in China, 17th-20th Centuries*

Paris, College de France, 2017

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Catherine Jami (dir.), *Individual Itineraries and the Spatial Dynamics of Knowledge: Science, Technology and Medicine in China, 17th-20th Centuries*, Paris, College de France, 2017, 404 p.

- 1 Perhaps this book does not have the catchiest of titles: it is long, dense and descriptive. But it does include all the important words that capture exactly what this book is about. It covers science, technology and medicine in China during the previous four centuries, and, by looking at individual itineraries of actors, ideas and objects, demonstrates that “a spatial approach to knowledge is both fruitful and necessary, for China as for the rest of the world” (p. 18). While the word “global” is only sparingly used in the volume, investigating the importance of mobility through the individual and collective itineraries of people, ideas and objects would be regarded by many as constituting a global approach. After all, global history does not necessarily incorporate the entire globe, but always recognises the importance of movement, mobility and the fluidity of state borders. Methodologically, then, this book could be seen as affiliated with the trend of bringing the global as methodology to the history of science.
- 2 This is a book in three parts. The first is entitled “Officials and Experts” and deals with the role played by scholar-officials in the production of knowledge; the second deals with the importance of the court and those associated with the court for knowledge

production, and the third situates knowledge production in China in a wider context. In many ways, that structure reveals the ways in which this book is also affiliated with the field of sinology. Where else than in imperial China could bureaucrats trained in moral philosophy be central agents in the circulation of knowledge about rearing silkworms? Where else could the career of a civil servant reveal how knowledge about harnessing the power of rivers circulated? The centrality of both the imperial administration and the textual record created by that bureaucracy, even for finding out about medical experts who were not themselves part of that imperial bureaucracy, is entirely unsurprising for sinologists, as are the key roles emperors and Jesuits played in the construction and circulation of knowledge during the Qing dynasty. In her introduction, Catherine Jami explains that one of the aims of the project is “to integrate China into a global history of science” (p. 6), although the reliance on such sinologically-inflected categories like *literati*, imperial court and individual itineraries beyond Qing China for the structure of the book slightly belie that aim.

- 3 Three of the papers deal with aspects of the history of medicine. The first of these, by Florence Bretelle-Establet, focuses on medical experts based in Guangdong and Guangxi. Hers is a study of the circulation of medical knowledge through texts, which allows entry into the world of local transmission of expertise in the private academies of the south of the empire, far from the reach of the Imperial Academy of Medicine at court. Medical books printed in the highly developed region of Jiangnan reached the south very quickly, but Bretelle-Establet’s meticulous research of the itinerant careers of individual medical experts, together with book markets and dissemination of knowledge in printed works demonstrates far more complex networks of knowledge. The importance of mobility for understanding the history of medicine in China is illustrated very powerfully by her research.
- 4 Beatriz Puente-Ballesteros explores the biography of the French Jesuit physician Bernard Rhodes (1646-1715). His itinerary took him first to India and then to Beijing, where he arrived in 1699. He spent the next fifteen years in the service of the Kangxi emperor, which included travelling with the multi-ethnic and multidisciplinary group of medical specialists that accompanied the emperor on his extended tours through the empire, the so-called “court on horseback” (p. 219). The role of Rhodes in the circulation of Western knowledge to the Qing court, but also Kangxi’s patronage of Rhodes, and the integration of Rhodes in this multidisciplinary travelling medical team all point to the ways in which the itineraries of individuals like Rhodes and the Kangxi emperor played a part in the spread of therapeutic practices, although Puente-Ballesteros also shows the factors that limited that spread, including linguistic challenges and competition between the ethnic groups in Kangxi’s entourage.
- 5 Lucia Candelise, finally, explores the history of acupuncture in the French medical establishment. Between 1930 and 1969, acupuncture came to be seen as legitimate in France. She traces French knowledge of Chinese medicine to the solid scholarship of Claude-Philibert Dabry de Thiersant (1826-1898), who together with several military physicians based in Beijing in the late nineteenth century wrote about medicine as part of wider observations on Chinese thought and civilization. Candelise also explores the specific circumstances of the interwar period in France, when Chinese and Vietnamese medical knowledge gained a foothold in the French medical establishment together with various other “alternative” medical traditions such as homeopathy and macrobiotics. Her study highlights the more complex pathways in the transmission of

knowledge: in case of acupuncture, despite emphatic claims of authenticity lent by direct connections to ancient China, knowledge travelled not directly from China to France, but via Indochina and Japan.

- 6 Another set of studies explore different aspects of the history of technology, including a chapter by Mau Chuan-hui on sericulture, by Zhao Bing on ceramics, by Delphine Spicq about water conservancy and by Bréard on statistics. Of these, Mau's comes from the section on the involvement of scholar-officials and focuses specifically on the eighteenth-century spread of wild silkworm rearing and its accompanying technologies into new regions. Silkworms are reared indoors on mulberry leaves, but the cocoons of other insects, who are reared outdoors and eat a wider variety of leaves, are suitable for silk making as well. This silk, known as wild silk, is heavier and glossier than regular silk, and was considered of a lower quality. When the demand for silk went up, yet available land and resources decreased due to population growth, wild silk was considered desirable, and imperial policies were initiated to spread the technology to new regions. Mau shows the involvement of several agents in this transfer: firstly, the officials, who moved from Shandong, where wild silk rearing originated, to new regions where they introduced the technology, the local literati who published books about wild silk production, and finally, skilled farmers who were encouraged to migrate into new regions.
- 7 Zhao Bing's study of Tang Ying (1682-1756), the famous bondservant who served both in the Imperial Household Department at the court in Beijing and as superintendent of the Imperial Porcelain Factory in Jingdezhen in southern China, underscores the importance of the spatial approach. Here, too, the court shaped the transfer of technology by sending an individual like Tang Ying, who had gained a deep understanding of the work carried out in the imperial workshops, to the provinces, where he served for nearly 28 years. But Tang Ying executed his role as mediator between the court and the local producers of ceramics masterfully. Tang Ying's views were considered authoritative both by the emperor and by the artisans, which made possible his mediation between "central power and the local artisan, between the Palace and the Factory, and between the capital and Jingdezhen" (p. 151). As Zhao Bing shows, however, without the constant movement that characterised Tang Ying's entire life and work, that authority might not have been sustained, nor would Tang Ying's extensive writings have reached so many. Without Tang Ying's mobility, ceramics technology might never have reached the heights it did reach under Tang Ying's reign.
- 8 Delphine Spicq's study also focuses on the contributions of a single individual, in her case the Manchu Director-general of the Grand Canal Linqing. Linqing wrote two illustrated texts, and Spicq shows that the illustrations in these volumes serve to disseminate specific technological know-how of water management. In fact, one could argue that the published legacy of both Tang Ying and Linqing constitutes codified knowledge, which facilitated the dissemination of the knowledge of both the *savants* ("those who knew things") and the *fabricants* ("those who made things").¹ In *The Enlightened Economy*, the economic historian Joel Mokyr suggested that it was only in eighteenth-century Europe that a "public culture of knowledge" emerged, which succeeded in bringing together the abstract knowledge held by scholarly elites with the practical knowledge of artisans and craftsmen². The chapters by Zhao, Spicq and Andrea Bréard all serve to underscore the ways in which this also happened in the Chinese empire.

- 9 Two final pieces deserve mention here: the chapter on the Kangxi emperor's "construction of knowledge" by the editor of the volume, Catherine Jami, and the chapter on the Jesuit author Martino Martini (1614-1661) by Antonella Romano. Jami's study focuses on a collection of 93 "jottings" by the Kangxi emperor, printed in 1732. The term "jottings" is used in sinological contexts to refer to varied texts that are not shaped by the official genre of literary texts. Kangxi's jottings were already partially translated into French in 1779, but Jami's contribution is to take the text as a whole, and explore the ways in which they reveal the Kangxi emperor's reflections on the material world around him. Romano's piece reassesses the contributions made by Martini to seventeenth-century European knowledge about China by using the lens of the itinerary of his life. The contingencies that shaped his life trajectory and the instabilities and fractures that characterised the worlds in Europe and Asia that he moved through all had an impact on the knowledge he produced. Romano's work demonstrates perfectly the ways in which itineraries and mobility are key to understanding the "spatial dynamics of knowledge", or, to put it in a different way, how knowledge construction was a global project in the early modern.
- 10 The academic affiliations of the nine scholars whose work is presented here span many countries, including France, Switzerland, Macau and Taiwan, as well as disciplines, though they are also united by their interest in the history of science, technology and medicine. It is noteworthy that all of them are female scholars, if slightly surprising that so few of these women are dealing with women in their studies, as Jami herself observes (p. 13). Women are mentioned a few times, by Florence Bretelle-Establet when she observes that "women were never felt to deserve an official biography" for their contributions to medical work (p. 23), by Mau Chuan-hui when she mentions women wearing silk cloth (p. 68) and women weaving (p. 81), and by Lucia Candelise, when she discusses the French acupuncturist Thérèse Martiny (p. 312-13), but none of them take gender as a category of analysis. Men abound, yet their masculinity is never explored, which suggests that perhaps the significance of involvement in science and medicine in the construction of masculinity merits further attention.
- 11 The book is full of tremendous assets on top of the insights embedded within these excellent pieces of research. For example, there is a superb index, according to Jami's acknowledgments drafted by Claude Chevaleyre. It includes major topics like acupuncture, medicine, printing or sericulture, all with numerous useful subheadings; it includes all the major books referenced in the chapters, and of course it references all the institutions, names and places that appear in the book. Indexes are a costly thing to produce, but they are often the tool that opens up and facilitates the use of a book for a researcher, and a fulsome index like this one is becoming a rare thing. The maps, many of which were produced by Antoine Fivel, are also an asset to the volume, and show how the Chinese Historical GIS (CHGIS) can be used effectively in research. A small number of well-chosen colour illustrations show that care and attention went into this volume. Most valuable about this study, however, is that it was published in English. To my knowledge, none of the authors are native English speakers, and most are based within the French academic system, so it must have been a considerable effort to produce this in English. Let's hope scholars of science and technology as well as sinologists working within anglophone academia make full use of the many treasures contained within this volume.

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NOTES

1. These terms were initially introduced into the anglophone literature by Mokyr, 2002. Other scholars have discussed these matters at length. See, for two examples, Hilaire-Pérez, 2007 and Berg, 2007.
2. Mokyr, 2009.

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