

FORUM ARTICLE

*Glocalizing Medicine in the Canton–Hong Kong–Macau Region in Late Qing China**

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Abstract

This article looks at how globalization in the nineteenth century was inextricably entangled with localization in the Canton–Hong Kong–Macau nexus on the southern fringe of China by tracing the growth of its unique medical culture. It explains the ‘glocalizing’ process by tracing the development of this medical culture, which consists of knowledge construction and institution building, in the context of highly volatile epidemiological conditions aggravated by increasingly heavy inter-regional trade and migration. It traces the dynamic circulation of people, materials, ideas, and practices in this southern edge of China, which was traditionally connected to southeast Asia and shared ecological backdrops that produced similar epidemiological experiences. The Canton nexus in the nineteenth century saw the growth of native medical knowledge that focused less on theoretical innovation than on the efficacy of therapeutic strategies. These ideas were likely to have been informed or reinforced by new anatomical knowledge disseminated by Western medical missionaries on the ground early in the century. The medical culture in the region was also marked by the formation of a series of local institutions that were fusions of Western-style hospitals and native merchant-run charity halls where diseases were studied and treated, and new public health management negotiated and implemented by experts from different traditions.

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Introduction

The nineteenth-century Canton–Hong Kong–Macau nexus is an excellent site for exploring the idea of ‘glocalization’ ‘as a refinement of the concept of globalization’, highlighting the ‘universalization of particularism and the particularization of universalism’, as argued by Roland Robertson.¹ Being on the southern fringe of China, and in a region where, in the nineteenth century, Europeans increasingly dominated trade activities, this locality was doubly ‘peripheral’. It was precisely in this peripheral site that, unsurprisingly, the connectivity generated by global movements of things, ideas, and people was most visible.² By tracing the development of a unique, local medical culture that merged indigenous, Chinese, and Western elements in this nexus, this study reveals the historical process of the ‘invention’ of locality as a key aspect of nineteenth-century globalization.³ This globalized locality, initially positioned on the periphery, would later acquire new political and economic centrality—a process that is, however, beyond the scope of this study.⁴

China as an empire was closed to external trade in the eighteenth century, which meant that the Canton–Hong Kong–Macau nexus on its southern fringe was the only place where global trade could continue. The nexus’s pivotal place in early modern global maritime trade is a well-told story.⁵ On the other hand, this southern region, which retained many non-Han ethnic languages and customs, was

¹ R. Robertson, ‘Globalisation or glocalisation?’, *Journal of International Communication*, 18.2 (2012), pp. 191, 199.

² King makes the insightful observation that the first globally multicultural societies were found on the periphery, notably colonial cities, not the core. See A. King, ‘Introduction: spaces of culture, spaces of knowledge’, in A. King (ed.), *Culture, Globalization and the World System*, MacMillan/SUNY, Binghamton, New York, 1991, p. 8.

³ Robertson, ‘Globalisation or glocalisation?’, p. 205.

⁴ Hamashita argues that modern Chinese nationalism in the twentieth century was created in this region and was inextricably linked to Southeast Asia. See Takeshi Hamashita, ‘Changing regions and China: historical perspectives’, *China Report*, 37.3 (2001), p. 351. The region has also become a leading economic zone for China in the twenty-first century.

⁵ Recent work includes J. Wills (ed.), *China and Maritime Europe, 1500–1800: Trade, Settlement, Diplomacy, and Missions*, Cambridge University Press, Cambridge, 2011; P. van Dyke, *Merchants of Canton and Macao: Success and Failure in Eighteenth-Century Chinese Trade*, Hong Kong University Press, Hong Kong, 2016; J. Wong, *Global Trade in the Nineteenth Century: The House of Houqua and the Canton System*, Cambridge University Press, Cambridge, 2016.

culturally and politically problematic to the Chinese empire in that it was a latecomer to the ‘civilized’ world order defined by state Neo-Confucian ideals and institutions.⁶ It also stubbornly resisted Manchu conquest for several decades in the late seventeenth century.⁷ By this time, its local culture had drawn strength both from a distant, inward-looking Neo-Confucian governance centred at the north and from a worldview moulded by centuries of commercial and migrational activities along sea and land routes connecting South and Southeast Asia. The ‘metropolitan language culture’—a term Glen Dudbridge uses to qualify centrally positioned Neo-Confucian culture,⁸ which finally penetrated South China in the sixteenth century, did not exactly displace pre-existing local practices and customs, but rather reframed them to fit Neo-Confucian prescriptions.⁹ Later, new materials, knowledge, and practices introduced by global traders and travellers since the eighteenth century would further enrich the complexity of this culture. What was seen as ‘local’ about this region was therefore not only in relation to the modern European cosmopolitan culture brought

⁶ David Faure, ‘Becoming Cantonese, the Ming dynasty transition’, in D. Faure and T. T. Liu (eds), *Unity and Diversity: Local Cultures and Identities in China*, Hong Kong University Press, Hong Kong, 1996; D. Faure, *Emperor and Ancestor: State and Lineage in South China*, Stanford University Press, Stanford, 2007; H. Siu and Z. Liu, ‘Lineage, market, pirate, and Dan: ethnicity in the Pearl River Delta of South China’, in P. Crossley, H. Siu and D. Sutton (eds), *Empire at the Margins*, University of California Press, Berkeley, 2006. On the ‘non-Chinese’ languages of the southern populations in this region and problems of regional and national identities, see Cheng Meibao 程美寶, *Diyu wenhua yu guojia rentong: wan Qing yilai Guangdong wenhua guan di xingcheng* (地域文化與國家認同：晚清以來廣東文化觀的形成 Regional Culture and National Identity: Formation of the Concept of Guangdong Culture since the Late Qing), Sanlian shudian, Beijing, 2006, Chapter 2, pp. 44–110. Dudbridge warns us of the oversimplification of straightforward ‘civilizing’ processes by a northern Han culture among the various dialectic regions in China: see G. Dudbridge, *Books, Tales and Vernacular Culture*, Brill, Leiden, 2005, pp. 217–37.

⁷ L. Struve, *The Southern Ming, 1644–1662*, Yale University Press, New Haven, 1984.

⁸ Dudbridge’s idea of China’s ‘basic defining characteristic’ consists of a central authority which acts as a source of social prescriptions, and a robust and heterogeneous population spread across the land. See Dudbridge, *Books, Tales*, p. 233, note 6. He also raises the important question of the extent to which ‘boundaries on the dialect map march with breaks in the continuity of social institutions’, *ibid.*, p. 231.

⁹ An obvious example is the integration of the Cantonese marriage resistance custom, potentially subversive of the Confucian family ideal, into Confucian culture itself. See H. Siu, ‘Where were the women? Rethinking marriage resistance and regional culture in South China’, *Late Imperial China*, 11.3 (1990), pp. 32–62.

by maritime trade,¹⁰ but also to the Chinese cultural universalism embodied by the imperial state. By the nineteenth century, this culture was simultaneously cosmopolitan, metropolitan Chinese, and uniquely and locally Cantonese.

This article traces the development of the unique medical culture in this locality shaped by the globalizing process in which traders, doctors, scholars, bureaucrats, publishers, and religious experts from different cultures mediated the flow of medical materials, knowledge, and practices. It also follows the movements of old and new, border-crossing, and local diseases that created epidemiological situations which prompted specific medical knowledge-construction and institution-building.¹¹ This study thus highlights the entanglement of human and non-human actors within this glocalization process of the nineteenth century.

Knowledge construction

Two developments converged in the nineteenth century to produce new medical knowledge in this region: the boom in the study of indigenous ailments by native medical experts and the direct interaction between native and Western doctors. Since China did not have any formal institutional structure to standardize medical knowledge and practice like that which existed in modern Europe, such as universities or academies, medical knowledge was created, edited, and integrated by practitioners and medical writers actively networking within a region. In the Cantonese region, the rapid growth of woodblock printing houses in the mid-nineteenth century producing medical texts of all genres also played a key role.¹²

¹⁰ R. Robertson, *European Glocalization in Global Context*, Palgrave MacMillan, New York, 2014.

¹¹ P. Crossley, *What is Global History?*, Polity Press, Cambridge, 2008. Crossley pertinently puts forward ‘contagion’, often neglected by theorists of globalization, as one of the main themes in global history writing. See *ibid.*, Chapter 4, which evokes classical studies by W. McNeill and A. Crosby.

¹² A preliminary study of the rapid growth in printed medical texts is by Lu Yinlan 盧銀蘭, ‘Qingdai Guangdong yishu chuban zhuangkuang chutan’ (清代廣東醫書出版狀況初探 Preliminary Study on the Publication of Medical Books in Guangdong Province in the Qing), Master’s thesis, Guangzhou University of Chinese Medicine, Guangzhou, 2007, especially pp. 13–21, where she tabulates a total of 321 published medical books in the province between 1821 and 1908, compared to only 17 in the period 1736–1820. Woodblock printing houses

In earlier periods, knowledge on the climate, ecology, and health situation in China's deep south was provided by travellers from the north. What they saw there was a particularly unhealthy environment with excessive and year-round warmth and damp, made worse by a low-lying landscape that produced miasmatic and pathogenic *zhang qi* which was the cause of some of the ugliest endemic diseases such as leprosy.¹³ These observations culminated in an important collection of medical recipes for southern ailments in the late thirteenth century—*Recipes for Protecting Life in the Lingnan Region* (嶺南衛生方 *Lingnan Weisheng fang*),¹⁴ collated by a Buddhist monk from northern China. Authors included travelling magistrates and doctors from middle and northern China. By this time the Lower Yangzi (Jiangnan) region was emerging as a centre of medical knowledge production. This text on Lingnan diseases was notable for highlighting the environmental impact on somatic vulnerabilities and the notion of the contagiousness of disease, which would have its full impact on mainstream medical studies in the seventeenth century.¹⁵ However, it did not distinguish between the specific clinical patterns observed in this region, it simply grouped them under the umbrella of *zhang* miasma.

From the early nineteenth century, medical writers and practitioners in the Canton region began to elaborate on their insiders' accounts of southern diseases. This happened in a period when the Canton–Hong Kong–Macau nexus was becoming the centre of a rapidly deteriorating global epidemiological situation caused both by increased inter-regional

proliferated enormously from the mid-century in Canton, with more than 120 printing houses, third in the empire only after Peking and Suzhou. See 'Wanqing Guangzhou keshu tanghao' (晚清廣州刻書堂號 *Printing Houses in Late-Qing Canton*), <http://blog.sina.com.cn/xuexiyuandi2011>, [accessed 23 August 2019]. Brokaw shows a similar trend in the growth in regional publishing in her study of book printing in Qing and Republican China in Fujian: C. Brokaw, *Commerce in Culture: The Sibao Book Trade in the Qing and Republican Periods*, Harvard University Press, Cambridge, 2007, though she did not specifically study printed medical books.

¹³ A. K. C. Leung, *Leprosy in China: A History*, University of Columbia Press, New York, 2009. Later, syphilis (*yangmei chuang* 楊梅毒 "bayberry sores") was described as a disease that emerged in the Lingnan region in the late sixteenth century. Its full impact was felt in the seventeenth century when the first monograph on the disease was printed in 1632. See *ibid.*, p. 45.

¹⁴ Jihong 繼洪, *Lingnan Weisheng fang*, Zhongyi guji chubanshe, Beijing, 1983, facsimile reproduction of an 1841 Japanese edition.

¹⁵ A. K. C. Leung, 'The evolution of the idea of *chuanran* contagion in imperial China', in A. K. C. Leung and C. Furth (eds), *Health and Hygiene in Chinese East Asia*, Duke University Press, Durham, 2010, pp. 25–50, esp. pp. 39–42.

trade and migration, and worsening public health governance. Native experts in the nexus were the first to observe and provide new knowledge on the situation, soon followed not by medical elites to their north, but by Western experts newly arrived in this southern region.

Cantonese doctors found in an ancient, popular medical genre a format most suited to the expression of their ideas and findings: collections of 'efficient' recipes (*yanfang* 驗方, based on local experience and often indigenous pharmaceutical products) as distinct from 'classical' recipes (*jingfang* 經方) from classical texts.¹⁶ Local Cantonese recipe books shared certain common features: the want of theoretical elaboration was more than compensated for by highly practical information on 'efficient' recipes, often favouring native pharmaceuticals, based on concrete clinical experience, often illustrated with cases of diseases with indigenous names. These texts were popular and cheap, sometimes freely distributed in temples and chemists as an act of charity, or compiled and used internally by households. One early example was *Yanfang xinbian* (驗方新編 New Compilation of Efficient Recipes), first published in Guangxi in 1846, a province to the west of Guangdong, with numerous subsequent re-editions and enhanced editions.¹⁷

From the 1880s onwards, indigenous recipe collections on acute and chronic endemic diseases with high mortality such as smallpox, syphilis, or ailments with symptoms suggestive of influenza, diphtheria, vomiting, diarrhoea, or cholera, and various kinds of fevers, proliferated. The symptoms of 'boils' (locally called *ding* 疔 or *ban* 癰) were frequently mentioned and analysed as manifestations of internal blockages caused by toxic heat or the conflicting chills and fevers peculiar to this region.¹⁸ With the use of vernacular medical terms, new, devastating

¹⁶ This tradition of popular recipes had existed since at least the publication of Ge Hong (葛洪 283–343), *Zhou hou beiji fang* (肘後備急方 Handy Recipes for Urgent Use), Renmin weisheng chubanshe, Beijing, 1956 (1983), based on a facsimile of a 1574 edition.

¹⁷ Lu Xun (1881–1936) reminisced in 1933 that when he was two to three years old, the only two medical books kept in his family in Shaoxing (Zhejiang province) were *Dasheng pian* (達生篇 On Smooth Child Delivery) and *Yanfang xinbian*. See 'Wo de Zhong dou' (My Vaccination) 1933, 'Shihua zhiyu' (拾花之餘 Sequel to the collection 'Picking Flowers'), in *Lu Xun zuopin jinghua* (The Best of Lu Xun's work), Joint Publishing, Hong Kong, 2003, Vol. 2, pp. 237–39.

¹⁸ Jiang Xizeng 蔣希曾, a practitioner in Canton, published his *Jingyan yi'an* (經驗醫案 Experimental Medical Cases) in 1890 on three acute endemic diseases with high mortality in the Canton region with local names: '*ban*' (癰), which are deep-rooted boils caused by chills and fever; acute vomiting and diarrhoea caused by a direct attack of cold on the stomach and intestine (*zhong han* 中寒), which were widespread in this region of extreme warmth and

epidemics in the extreme south now became more visible and recognizable. At the turn of the century, and continuing well into the twentieth century, popular printed recipe collections on new or re-emerging epidemics, often in combination with recipes for other ailments, proliferated in Guangdong province.¹⁹ These closely observed pathological conditions also called for more diversified therapeutic strategies.

The extreme toxicity generated by the protracted warmth (*redu* 熱毒), damp, and pollution *qi* (*zhuoqi* 濁氣) of this region was considered too severe to be alleviated by common, mild Jiangnan recipes. The body of the southern patient, typically characterized as depleted of *yang*, was described as requiring strong remedies. The measured use of ‘hot’, toxic aconite (附子) or powerful toxin-clearing antelope or rhino horn and strong purgatives, for instance, were the main features of southern therapeutics that intriguingly positioned southern doctors closer to the classical Cold-Damage school of prescription. After the domination of Qing medical culture for some two centuries by Jiangnan literati who favoured tonics and mild recipes, they played a key role in the school’s revival.²⁰

Most notable among these publications were those on ‘re-emerging’ or new epidemics in this region. Two outstanding monographs speak for this development, the first of which was a modern monograph on an old epidemic called *jiaoqi* (腳氣 *leg-qi*) in 1887 by the Cantonese doctor Zeng Chaoran 曾超然. *Jiaoqi*, characterized by swollen lower limbs and numbness, and leading to a fatal heart attack if untreated, was described in early classics as an ailment of internal blockages caused by

depleted the body of *yang*; and spring warmth (*chun wen* 春溫) which attacked the lungs and heart. Lu, ‘Qingdai Guangdong yishu chuban zhuangkuang chutan’, pp. 21–26, note 12, tabulated a long list of recipe books published after the 1880s on local epidemics sometimes called *shiyi* (seasonal epidemics).

¹⁹ Among these were *Ji zong lu* (濟眾錄 Record for Providing Relief to the Masses, 1903), *Yanfang beiyong* (驗方備用 Efficient Recipes to be Used, 1902), *Jingyan liangfang* (經驗良方 Good Recipes Based on Experience, 1889), and *Jingyan zafang* (經驗雜方 Miscellaneous Recipes Based on Experience, 1903). For a complete list, see Lu, ‘Qingdai Guangdong yishu chuban zhuangkuang chutan’, pp. 21–26.

²⁰ Zheng Hong 鄭洪, *Lingnan yixue yu wenhua* (嶺南醫學與文化 Medicine and Culture in the Lingnan Region), Guangdong keji chubanshe, Guangzhou, 2009, pp. 270, 283–85. Zheng points out that prominent Qing and early Republican doctors practising in Guangdong, such as Jiang Xizeng 蔣希曾, Li Piliu 黎庇留, Yang Heling 楊鶴齡, and Lu Jueru 盧覺愚, were key figures in the revival of the Cold-Damage school of therapeutic strategy: *ibid.*, pp. 272–73.

damp and cold emerging from the ground or by excessive intake of alcohol and rich foods.²¹ Mainstream Jiangnan medical texts post-thirteenth century had lost interest in *jiaoqi*, but southern doctors identified it as re-emerging rapidly among Chinese emigrants in Hong Kong and Southeast Asia in the nineteenth century. Zeng's book was later recognized in Republican China as the most important modern work on the ailment.²² While Zeng continued to refer to old classics for his analysis of *jiaoqi*, he added important new information, for example, that the disease was more rampant in the warm and wet months, and in the miasmatic 'Southern Seas' (Nanyang, Southeast Asia).²³ Zeng's book was also characterized by a therapeutic strategy of 'flexible' implementation (*huofa* 活法) of standard recipes, increasing doses, and adding strong purgatives when necessary to dissolve internal blockages. The book was significant also because it was published before *jiaoqi* was problematically used to translate 'beriberi', a 'new' biomedical disease of nutrition deficiency, classified by European doctors as a tropical epidemic affecting rice-eating populations in Southeast and East Asia.²⁴

The second representative work was the medical recipe book on the bubonic plague, *Collated Texts on the Rat Epidemic*, published in 1891, in which the disease name '*shuyi*' (鼠疫 rat epidemic) was coined in Chinese for the first time in history. The epidemic was then recurrent in South and East Asia following human and material flows, with a dramatic outbreak in Canton–Hong Kong–Macau in 1894. The book was compiled by a Cantonese doctor called Luo Rulan 羅汝蘭 and was re-edited throughout the 1890s, with an accessible publication in 1897 reprinted at least five times until 1901.²⁵ The disease was described as a

²¹ H. Smith, *Forgotten Disease: Illnesses Transformed in Chinese Medicine*, Stanford University Press, Stanford, 2017.

²² Xie Guan 謝觀 (1880–1950), *Zhongguo yixue yuanliu lun* (中國醫學源流論 On the Origins and Traditions in Chinese Medicine), Guting shudian, Taipei, 1970, reprint of the 1935 edition published in Shanghai, p. 47b.

²³ Zeng Chaoran, *Jiaoqi chuyan* (腳氣芻言 Preliminary Words on *jiaoqi*), Juzhentang, Guangzhou, 1887, pp. 11a–b.

²⁴ A. K. C. Leung, 'Weak men and barren women: framing beriberi/*jiaoqi*/*kakke*', in A. K. C. Leung and I. Nakayama (eds), *Gender, Health and History in Modern East Asia*, Hong Kong University Press, Hong Kong, 2017, pp. 195–215; D. Arnold, 'British India and the "beriberi problem", 1798–1942', in *Medical History*, 54.3 (2010), pp. 295–310; K. Carpenter, *Beriberi, White Rice, and Vitamin B. A Disease, a Cause, and a Cure*, University of California Press, Berkeley, 2000.

²⁵ C. Benedict, *Bubonic Plague in Nineteenth-Century China*, Stanford University Press, Stanford, 1996, pp. 1, 28, 34; Luo Rulan, *Shuyi huibian* (鼠疫彙編 Collated Texts on the

product of severe toxic heat (熱) that could enter the blood vessels—a new anatomical concept—through the pores of the skin, congealing blood with *qi* and causing blood blockages (*xueyu* 血瘀) in the form of bubos, sometimes also called *ding* (疔 boils) by native doctors. Like Zeng, who had written on *jiaoqi*, Luo preferred strong ingredients and big dosages to treat patients: ‘It will be hopeless if we treat severe diseases with mild medicines.’²⁶ He recommended strong ‘dissolvants’ such as safflower, rhubarb, the horn of an antelope or rhino, and bear’s bile for those who could afford it.²⁷ At a time when the bubonic plague had no biomedical ‘cure’, missionary doctors working in Canton were not in a position to advise, even though they were keen observers. One of them noted in 1894 the efficacy of bear’s bile administered by Chinese doctors in saving a dying plague patient.²⁸ The epidemic in this locality, however, created conditions that facilitated the acquisition of new knowledge by bacteriologists: in the same year, the French Pastorian Alexandre Yersin (1863–1943) and Japanese Kochian Kitasato Shibasaburo (北里柴三郎, 1852–1931) identified the plague bacillus in colonial Hong Kong (see below).

What global maritime trade also produced was direct interaction between Cantonese and European medical experts on the ground, which proved to be interestingly productive. The first such direct encounter in the region was the collaborative implementation of the Jennerian vaccination shortly after its invention in Europe. The Spanish royal maritime vaccination voyage, known as the Balmis expedition, arrived from Manila in September 1805, bringing the vaccine to Macau and Canton.²⁹ An illustrated pamphlet on the technique of vaccination was prepared for the occasion by Alexander Pearson (1780–1874), an East Indian Company physician in Macau, who translated it into Chinese in the same year and published it with the endorsement and financial support of leading Cantonese *hong* merchants. The reception

Rat Epidemic), *Guandong keji chubanshe*, Guangzhou, 2008, facsimile of the 1897 Hanyuan lou edition, ‘Editorial notes’, pp. 1–5.

²⁶ Luo, *Shuyi huibian*, p. 9a.

²⁷ *Ibid.*, pp. 7b–8a, 20a, 22a, 23a.

²⁸ In January 1894, Mary Niles (1854–1933), a Presbyterian missionary, witnessed a woman thought to be dying from the plague recover after being treated with several doses of ‘bear’s gall’: M. Niles, ‘Plague in Canton’, *China Medical Missionary Journal*, 8.2 (1894), p. 116.

²⁹ For the chronology of the Balmis expedition (1803–06), see <https://hsl.ecu.edu/wp-content/pv-uploads/sites/103/2017/09/Chronology-Smallpox-and-Balmis-Expedition.pdf>, [accessed 18 September 2019].

and use of this translation were instant and wide, but initially limited to the Canton region. Qiu Xi 邱熺, Pearson's assistant in Macau, became a key figure in the dissemination of vaccination in China by indigenizing the technique: he increased the number of incisions on the arm and positioned them to accommodate acupunctural meridian points to 'release' the innate 'foetal toxin' that was traditionally believed to cause smallpox. This new indigenized technique, also understood as an improved version of traditional variolation methods using human pox, was readily accepted in Canton. Qiu's descriptions of the indigenized technique, first published in 1817 together with traditional smallpox recipes, were republished, copied, edited, collated many times, and circulated all over China.³⁰ The first vaccination house he established in Canton was a lucrative business, relying on arm-to-arm transmission of the vaccine, as fresh cow pox was hard to come by. The model was also copied by other vaccinators, many of whom were former variolators. Soon other technical innovations like cultivating vaccine from native animals, such as buffaloes, were also recorded in a series of local vaccination tracts throughout the nineteenth century.³¹

Among the many new things brought by European maritime travellers to the attention of nineteenth-century Cantonese doctors, none was more intellectually engaging than Western anatomy and surgical art, which culminated in the translation of *Outline of Anatomy and Physiology* 全體新論 by the missionary doctor Benjamin Hobson (1816–1873) and published in 1850 when he was working in Canton.³² The first edition quickly sold out and republication was financed by Canton's viceroy later in the

³⁰ At least 62 editions were published under the same title *Yindou lie* (引痘略 A Brief Account on the Technique of Releasing Pox), and many more under different titles, during the nineteenth and early twentieth centuries. See *Quanguo zhongyi tushu lianhe mulu* (全國中醫圖書聯合目錄 United Catalogue of Medical Books in China), Zhongyi guji chubanshe, Beijing, 1991, Vol 1, pp. 517–19.

³¹ A. K. C. Leung, 'The business of vaccination in nineteenth century Canton', *Late Imperial China*, 29.1 (June 2008), pp. 7–39. The use of other animals, especially the buffalo, to replace the cow was also apparently common in parts of Southeast Asia after the vaccine was introduced in 1805. In Indochina, it was done by Pastorian doctors. See Annick Guénel, 'Lutte contre la variole en Indochine: variolisation contre vaccination?', *History and Philosophy of the Life Sciences*, 17.1 (1995), pp. 69–70.

³² Elman rightly describes this work as the 'first sustained introduction of the modern European sciences and medicines' of this period. See B. Elman, *On their Own Terms: Science in China, 1550–1900*, Harvard University Press, Cambridge, 2005, p. 57.

1850s.³³ The anatomical drawings and descriptions in this book inspired generations of native Chinese and Cantonese doctors, providing them with a new imagination of the viscera and the circulation of blood and *qi*, and with it, new ideas on the causes of diseases. In the 1860s, John Kerr (1824–1901), then director of the Canton hospital, openly practised post-mortem dissections in the hospital yard,³⁴ further stimulating Chinese curiosity about Western anatomy, as shown by the many re-editions of Hobson's text and the frequent reproduction of anatomical drawings in Chinese medical texts. John Kerr himself reported in 1862 that a native doctor who had read Hobson's book wrote to consult him on the possibility of doing a blood transfusion for a client who was suffering from a severe, chronic disease.³⁵

With this newly publicized anatomical knowledge, more ambitious Cantonese doctors attempted to follow in the footsteps of Wang Qingren (王清任, 1768–1831), the first Chinese doctor to question the classical descriptions of the viscera, based on his own observations of corpses, to bring into line Chinese and Western concepts of the body. This ambition was later fully developed by Tang Zonghai (唐宗海, 1851–1908), the founding father of 'integrated' medicine.³⁶ Another outstanding example is the Chen medical lineage. In the early nineteenth century, Chen Dingtai 陳定泰 began the research. Inspired by Wang Qingren's illustrations of the viscera, he searched for an answer with the help of a 'Western doctor', who showed him Western anatomical drawings that he reproduced in a book he published in 1844.³⁷ Some

³³ 'Appendix. Semi-Centennial Celebration of the Medical Missionary Society's Hospital in Canton, China in the Preston Memorial Church. December 31st, 1885', in *Report of the Medical Missionary Society in China for the Year 1885*, China Mail Office, Hong Kong, 1886, p. 25.

³⁴ F. Wong, 'Report of the Medical Missionary Society's Hospital in Canton for the year 1867', in *Report of the Medical Missionary Society in China for the Year 1867*, Canton, n.p., 1868, p. 16.

³⁵ J. Kerr, 'Report of the Medical Missionary Society's Hospital in Canton for the year 1862', in *Report of the Missionary Society in China for the Year 1862*, Printed by A. Shortrede and Co., Hong Kong, 1863, p. 6.

³⁶ See S. H-L. Lei, 'Qi-transformation and the steam engine. The incorporation of Western anatomy and re-conceptualization of the body in nineteenth century Chinese medicine', *Asian Medicine*, 7 (2012), pp. 319–57; and, more recently, S. H-L. Lei, *Neither Donkey nor Horse. Medicine in the Struggle over China's Modernity*, University of Chicago Press, Chicago, 2014, pp. 71–73.

³⁷ *Yitan chuanzhen* (醫談傳真 Truth in Medical Discussions), which included 16 anatomical drawings.

unexplained differences between the two sets of drawings and a lack of information on ‘channels’ (*jing luo* 經絡) in them, however, left him unsatisfied. His grandson Chen Zhenge 陳珍閣 continued the investigation by travelling to Singapore in 1886 to observe autopsies of the bodies of Chinese, Westerners, and people of different races in the ‘royal hospital’. He spent three years in Singapore, recording his observations in a book called *Yigang zongshu* (醫綱總樞 *Key Pivot of the Medical Framework*), published in Canton in 1890. In this text, Chen noted in particular that people of different races in fact had the same anatomical structure, as illustrated in Western anatomical drawings, and that Wang’s illustrations of the viscera were erroneous in the detail.³⁸

What seems to have interested Chen most, however, were the channels along which blood and *qi* flowed. He provided great anatomical detail on blood vessels and the nervous network of ‘*weijin*’ (衛筋 defensive sinew). Such interest prompted him to highlight the various pathological manifestations of blood stagnation (*xueyu* 血瘀).³⁹ He claimed to have witnessed, in one of the autopsy sessions in Singapore, blood vessels, intestines, and the bladder stuck with black blood.⁴⁰ This observation might have impacted on the diagnosis and therapeutics of the bubonic plague that struck Canton in the 1890s. Bubos that developed on a plague victim’s body were then explained as a result of heat-induced blood/*qi* stasis in a channel, a clinical pattern explained by Chen Zhenge as ‘external cold damage being transformed into internal blocked heat’ (*shanghan zhuan shire* 傷寒轉實熱).⁴¹ Large doses of strong heat-clearing ingredients, such as rhinoceros horn, were now recommended on top of Wang Qingren’s original plant-based ‘decoction for dissipating toxin and activating blood’ for dissolving stagnation in a ‘blood vessel’ (*xue guan* 血管).⁴² Later, Kong Peiran 孔沛然 (1854–1945), a Cantonese doctor trained at the Canton Hospital before he started a successful career as a traditional doctor at the turn of the century, also became well known for applying anatomical

³⁸ Chen Zhenge, *Yigang zongshu*, Zuijinglou, Guangzhou, 1890, Preface, pp. 1b–2b.

³⁹ *Ibid.*, Chapter 2, pp. 52a–53a; Chapter 4, p. 65a. He notably invented a category called ‘ailments of the blood vessel’ in his fourth chapter.

⁴⁰ *Ibid.*, Chapter 2, p. 27a.

⁴¹ *Ibid.*, p. 30b.

⁴² *Ibid.*, p. 52a. See also a fuller presentation of the different uses of the decoction during the 1894 plague in Canton in Lai Wen 賴文 and Li Yongchen 李永宸, *Lingnan wenyi shi* (嶺南瘟疫史 A History of Epidemics in the Lingnan Region), Guangdong remin chubanshe, Guangzhou, 2004, pp. 731–38.

knowledge to his practice. He was notably one of the first to evoke the nervous system to reinterpret *qi* and consider neurasthenia as an ailment caused by the depletion of *qi*.⁴³ Clearly, Cantonese doctors were actively integrating new anatomical concepts into traditional medical study, not simply as an intellectual pursuit, but especially for clinical application.

New institutional setting

The example of Kong Peiran illustrates the importance of the Canton Hospital in facilitating the rapid and intensive circulation of Western anatomical information and practice in the nineteenth century. This institutional set-up, a unique product of nineteenth-century global trade, like those that came after it, was a peculiar fusion between a Western clinic/hospice and a Chinese charity hall, a venue where medical experts from different traditions would interact and learn from each other to create new knowledge.

American trader David Olyphant (1789–1851) brought Yale-trained doctor and Presbyterian medical missionary Peter Parker (1804–1888) to Canton in 1834, and Howqua (1769–1843), a leading Cantonese *hong* merchant, provided the building for Parker to start the Canton Hospital in 1835. It would go on to become a long-lived and influential institution in both Canton and China.⁴⁴ While it is commonly celebrated by both Chinese and Western historians of medicine as the first Western-style hospital set up on Chinese soil for the dissemination of Western medicine in China, its function as an unprecedented arena for inter-fertilization between nineteenth-century Western and Chinese medical practices in Canton has been largely overlooked. As a pre-Opium War institution designed by Protestant missionaries to lure the Chinese to Christianity by showcasing the superiority of Western surgical arts, the hospital also provided unique opportunities for missionary doctors to acquire first-hand experience of Chinese medical practice.

⁴³ Gao Chengyuan 高承元, 'Chen daji yu Kong xiaoji' (陳大劑與孔小劑 Chen the bigdoser and Kong the smalldoser), in *Guangzhou wenshi ziliao cangao xuanbian* (A Selection of Papers on Historical Materials on Guangzhou City), Zhongguo wenshi chubanshe, Guangzhou, 2008, Vol. 6, pp. 352–55.

⁴⁴ W. Cadbury, *At the Point of a Lancet. On the Hundred Years of the Canton Hospital 1835–1935*, Kelly and Welsh Ltd., Shanghai, 1935, pp. 7–17

The initial success of the hospital was the result of shrewd strategies: the hospital prioritized surgery—first treating eye ailments like entropia, cataracts, ophthalmia, later expanding to the removal of tumours, bladder stones, bullets, dead foetuses, genitals affected by syphilis—which was thought to be the weak part of Chinese medicine. The strategy quickly attracted patients of all social classes to the hospital. Some 470 native ‘patients of the literary class’ visited the hospital in 1836, its first year in Canton, among them local officials, *hong* merchants, and their families. Two years later, in 1838, the hospital received patients from other parts of China, from as far away as Peking and the ‘borders of Tartary on the West’.⁴⁵ In other words, missionary doctors quickly realized that the Cantonese and Chinese considered foreign medical practice with great curiosity, especially the educated classes. By the 1860s, the Canton Hospital had successfully found its niche in a market dominated by indigenous medicine: the Chinese now sought treatment at the hospital for chronic ailments, especially those requiring surgery, while ‘febrile and inflammatory diseases [were] treated by native physicians, because the people [had] much more confidence in their own practice for what [were] called internal diseases’.⁴⁶

Peter Parker’s strategic step to incorporate a training programme for local students also proved to be wise. Three native assistants, aged 16–19 from a good family background, some of whom children of successful native doctors, were recruited as early as 1837.⁴⁷ By the end of the 1860s, the number of trainees in the hospital had increased to a dozen. John Kerr, director from 1858 to 1899, further enhanced the teaching programme with the translation of medical textbooks into Chinese,⁴⁸ while Cantonese artisans began to make Western medical

⁴⁵ P. Parker, ‘Ophthalmic Hospital at Canton: First quarterly report, from November 1835 to February 1836’, in *Chinese Repository*, Printed for the Proprietors, Canton, 1835, Vol. 3, p. 469; ‘Second quarterly report, from February to May 1836’, Vol. 4 (1836), p. 33; ‘Eighth report from January–June 1838’, Vol. 7 (1839), p. 106.

⁴⁶ J. Kerr, ‘Report of the Medical Missionary Society’s Hospital in Canton for the year 1864’, in *Report of the Missionary Society in China for the Year 1864*, Shortrede and Co., Hong Kong, 1865, p. 6.

⁴⁷ P. Parker, ‘16th Report of the Ophthalmic Hospital at Canton for the years 1850–1851’, Printed at the Office of the Chinese Repository, Canton, 1852, p. 32. John Kerr, ‘Report of the Medical Missionary Society’s Hospital in Canton for the year 1872’, in *Report of the Missionary Society in China for the Year 1872*, de Souza and Co., Hong Kong, 1873, p. 19.

⁴⁸ See A. K. C. Leung, ‘Strategies of a biomedical hospital in nineteenth century Canton: materiality advertised in *Qizheng lueshu* (Brief account of extraordinary clinical patterns) 1866’, in *Études Chinoises*, XXXV–1 (2016), p. 181.

instruments used by the students. By the 1890s, at least eight pharmacists in Canton were selling foreign medicines.⁴⁹

What needs to be emphasized here is that the success of the teaching programme in the hospital also had to do with the missionary doctors' acceptance of native medicine as a parallel practice even inside the hospital: Peter Parker allowed his patients to continue to be treated by 'native doctors' and take Chinese drugs, especially ginseng. He even studied their prescriptions. John Kerr more or less continued Parker's policy and we can see that some of the medical cases were diagnosed by the hospital's native students using Chinese methods as late as the 1860s. Kwan Ato, one of Parker's best students, described himself as having learned medical methods from Dr Parker but as being competent in Chinese methods as well.⁵⁰ By the early 1870s, a number of former students trained at the hospital were running their own private practice, probably in some hybrid form, in the Cantonese region. Kwan Ato, for example, owned a lucrative practice that was famed for treating eye diseases.⁵¹ Canton was very much where the first generations of Chinese practitioners of Western medicine were trained and where treatment by some version of Western medicine blended with indigenous practice became part of daily life, well before the establishment of the first national medical school for Western medicine—the Viceroy Hospital Medical School—in 1881 in Tianjin by Li Hongzhang (1823–1901), viceroy of Zhili. In fact, the first batch of Chinese students recruited by this state school were exclusively Cantonese.⁵²

The Canton Hospital was also a source of inspiration for Cantonese philanthropists of the post-Taiping restoration of the 1870s, when medical relief, generally marginal in traditional charity, became a key

⁴⁹ The hospital also showcased some of the more spectacular medical technologies to the Cantonese. See *ibid.*, p. 196.

⁵⁰ *Ibid.*, pp. 188–89.

⁵¹ Cadbury, *At the Point of a Lancet*, pp. 174–81. The lucrative private practice of Kwan Ato and some others was reported in Kerr, 'Report of the Medical Missionary Society's Hospital in Canton for the year 1872', p. 19, notes 48 and 49.

⁵² Lu Zhaoji 陸肇基, 'Zhongguo zuizao di guanli xiyi xuexiao' (中國最早的官立西醫學校 The earliest state Western medical school), *Zhongguo keji shiliao*, 12.4 (1991), pp. 25, 28. The reason for privileging Cantonese students was unclear, but was probably related to their superior English ability and possibly also to the long tradition of medical teaching in the Canton Hospital.

charitable offer.⁵³ Local hospitals practising traditional medicine established in this later period played a critical role in identifying, studying, and managing new and re-emerging epidemics of the time. The management of endemic diseases by these institutions in a period of limited public health resources was particularly instrumental in the production of new epidemiological knowledge in both the Chinese and biomedical traditions in the nineteenth century. The construction of knowledge on the *jiaoqi*/beriberi phenomenon well illustrates the central role of native charitable hospitals.

The key player was the Tung Wah Hospital in colonial Hong Kong, established in 1872 by Chinese business elites to provide, among other social services, Chinese medical care to the native population, who distrusted Western medicine. The hospital was one of the first models of an institutional fusion between a traditional Chinese charity hall and a modern hospital.⁵⁴ While British doctors were trying to find out more about what was known to them as the beriberi epidemic in the region at the turn of the twentieth century, Chinese doctors had already been treating native patients of *jiaoqi* at Tung Wah Hospital since at least the 1880s. We have seen above how Zeng Chaoran, a Cantonese doctor at the hospital, specialized in the treatment of *jiaoqi* and published the first modern Chinese text on the disease in Canton in 1887 based on his clinical experience in Hong Kong. Tung Wah Hospital not only provided in-patient treatment to *jiaoqi* victims, it also organized the regular repatriation of *jiaoqi* patients from Southeast Asia or other parts of the world back to their native Canton, from around 1903 until the early 1940s. In Canton, these patients were received and treated in the Fangbian (Expediency) Hospital, another charitable hospital set up in 1899 by native and overseas Cantonese merchants.⁵⁵

⁵³ A. K. C. Leung, 'Charity, medicine, and religion: the quest for modernity in Canton (ca. 1870–1937)', in V. Goossaert, J. Kiely and J. Lagerwey (eds), *Modern Chinese Religion II, 1850–2015*, Brill, Leiden, 2015, Vol. 2, pp. 579–611. Liang Qizi (Angela Leung) 梁其姿, *Shishan yu jiaohua* (施善與教化 Charity and Moral Transformation), Linkin Publishers, Taipei, 1997, shows that traditional late imperial charitable institutions mostly focused on homes for foundlings and widows, and hospices for the elderly.

⁵⁴ E. Sinn, *Power and Charity: A Chinese Merchant Elite in Colonial Hong Kong*, Oxford University Press, Hong Kong, 1989. Similar institutions were established in Macau (for example, Kiang Wu Hospital was also set up in 1872) and China in major cities like Shanghai and Canton in the 1870s.

⁵⁵ The minutes of the board meeting of the Tung Wah Hospital of 26 January 1904 recorded the board's appreciation of the repatriation of *jiaoqi* patients back to Guangdong province as they believed they would have a better chance of cure at the

Prominent British doctors in Hong Kong, Patrick Manson (1844–1922), father of tropical medicine, and his protégé James Cantlie (1851–1926), on the other hand, only began to study beriberi and other ‘unknown’ ‘tropical diseases’ in 1887 when the private charitable Alice Memorial Hospital was established by a prominent Chinese community leader to provide Western medical care to underprivileged Chinese in the colony.⁵⁶ Manson said in 1888, ‘It was not until last year, when the Alice Memorial Hospital was opened, that the general medical practitioners of Hong Kong had a proper opportunity to see and study native diseases and that we began to learn a little definite about our endemic Beri-beri.’⁵⁷ James Cantlie looked up the European literature on beriberi only after seeing many outpatients suffering from the disease in the same hospital; this resulted in his 1893 translation into English of a Dutch medical text on beriberi.⁵⁸ This hospital was also the place where British doctors learned from Chinese experts and texts on *jiaoqi*, thinking that they were talking about what they considered to be beriberi. How and when exactly that translation was made is unclear but the British doctors recorded that they learned from the Chinese that beriberi was caused by the ‘overenjoyment of ease during early life, too much sitting, addiction to alcohol, relishing rice, accumulating bad humours or heat, and catching miasma in a foreign place which the patient has visited’. They noted that Chinese doctors treated their patients in three main ways: sending the patients back to their native place or moving them to sleep on an upper floor to avoid damp, changing their diet from rice to beans or potatoes, and prescribing medicines consisting of ‘(1) purgatives, not tonic drugs (2) rice worms ... eaten with leeks and orange peel (3) turtles... (4) cocherowpowder, betel nut, orange nut, orange peel, ginger and cinnamon ...’.⁵⁹ These were mostly translated extracts from Zeng Chaoran’s 1887 book on *jiaoqi*.

Fangbian Hospital. On the latter, see Leung, ‘Charity, medicine, and religion’, pp. 579–611.

⁵⁶ For a history of this hospital, see E. H. Paterson, *A Hospital for Hong Kong. The Centenary History of the Alice Ho Miu Ling Nethersole Hospital*, Alice Ho Miu Ling Nethersole Hospital, Hong Kong, 1987.

⁵⁷ R. M. Gibson, ‘Beriberi in Hong Kong, with special reference to the records of the Alice Memorial and Nethersole Hospitals and with notes on two years’ experience of the disease’, manuscript dated 16 March 1900, p. 2.

⁵⁸ J. Cantlie, ‘Preface to the English edition’, in C. A. Peckelharing and S. Winkler (eds), *Beri-beri. Researches Concerning its Nature and Cause and the Means of its Arrest*, translated by James Cantlie, Young J. Pentland, Edinburgh and London, 1893, p. ix.

⁵⁹ Gibson, ‘Beriberi in Hong Kong’, pp. 34–36.

It was in the same charitable Alice Memorial Hospital, the teaching hospital of the Hong Kong College of Medicine for Chinese, that James Cantlie taught his Cantonese student Sun Yat-sen with whom he travelled to Guangdong province to observe leprosy,⁶⁰ and Yersin did his research on the bubonic plague bacillus in 1894 in the makeshift laboratory set up in the grounds of the hospital.⁶¹

Epidemiological context

Old, ‘re-emerging’, and new epidemics like leprosy, *jiaoqi*/beriberi, cholera, influenza, and the bubonic plague connected South China and Southeast Asia to form an epidemiological region that both Chinese and biomedical doctors of the time considered, for different reasons, to be coherent. The study of these diseases here became part of the emerging field of ‘tropical medicine’ in Europe, while Cantonese doctors considered these diseases typical of the locality, caused by toxic heat rooted in the ground of this region that they called Lingnan, ‘south of the five ranges’, now more closely connected than ever to Nanyang, the ‘Southern Seas’. The multiple framing of *jiaoqi*/beriberi and the bubonic plague illustrates well how the Canton–Hong Kong nexus was gradually conceptualized as the core of a larger epidemiological region.

Beriberi, newly ‘discovered’ by biomedical experts as a tropical Asian endemic disease in the late nineteenth century, was a central issue in health governance in Monsoon Asia and contradicting views on the epidemic by doctors of different traditions were frequently debated in the congresses of the Far Eastern Association of Tropical Medicine (FEATM), a transnational organization established in 1910 and which continued until 1938.⁶² In China, elite traditional doctors, such as Xie Guan (謝觀 1885–1950), who worked in Shanghai, considered *jiaoqi* to be an old, defunct ailment ‘re-introduced’ to China from Southeast

⁶⁰ Leung, *Leprosy in China*, p. 155.

⁶¹ R. Peckham, ‘Matshed laboratory: colonies, cultures, and bacteriology’, in R. Peckham and D. Pomfret (eds), *Imperial Contagions. Medicine, Hygiene, and Cultures of Planning in Asia*, Hong Kong University Press, Hong Kong, 2013, p. 127.

⁶² D. Arnold, ‘Tropical governance: managing health in Monsoon Asia, 1908–1939’. Asia Research Institute, National University of Singapore, Working paper series, no. 116, 2009. Beriberi was most intensely discussed in the 1920s by FEATM, especially at its Sixth Congress held in Japan in 1925. See *Transactions of the Sixth Biennial Congress held at Tokyo, 1925*, Kyorinsha Medical Publishing Co., Tokyo, 1925.

Asia.⁶³ This point was already emerging in Zeng Chaoran's 1887 text on *jiaoqi* as he believed the epidemic to be product of the *zhang* miasma emanating from Southeast Asian land and islands, while Vietnamese betel nuts were considered the natural antidote to this indigenous miasmatic disease.⁶⁴ Hong Kong was thought to be a place with 'water and soil' more harmful to the body than that in mainland China, but it was the 'Southern Seas' that had the worst natural environment. A Chinese doctor residing in Hong Kong refused to take up a position at a Kuala Lumpur hospital in 1920 because, as he explained in a letter to the hospital, 'The "water and soil" of the Southern Ocean [Malaya] is not as stable as that in Hong Kong, most [who go to Malaya] will develop *jiaoqi* and bone pain.'⁶⁵ His view was statistically supported by a 1928 list of *jiaoqi* patients to be repatriated from Hong Kong to Canton which shows that more than a third were transients who had stayed in Hong Kong for less than two years, mostly returning from Southeast Asia.⁶⁶ The great anxiety that existed around contracting severe miasmatic diseases in colonial Southeast Asia, where work opportunities abounded, was vividly expressed in popular songs and ballads lamenting the southern Chinese migrants' wretched lives in Southeast Asia during this period.⁶⁷

The bubonic plague that devastated Southeast Asia and Southern China in the 1890s, on the other hand, was an even more dramatic global pandemic. It was believed to have originated in a region bordering Yunnan and northern Vietnam, and reached southeastern China via land and sea trade lines.⁶⁸ Luo Rulan was fully aware of the

⁶³ Xie, *Zhongguo yixue yuanliu lun*, pp. 47a–b. Commenting on Zeng Chaoran's 1887 book, Xie stated that the disease disappeared in China after the Song dynasty and was 're-introduced' into China from overseas.

⁶⁴ Zeng, *Jiaoqi chuyan*, pp. 11a–b, 12b–13a.

⁶⁵ Donghua Hospital Archives (hereafter DHA), 1919–1920 'Waijie lai han' (外界來函 Letters received) 130-B19/20-214, pp. 172–73, Doctor Yu Baochu to the Tung Wah Hospital refusing to take up the position in Tongshan Hospital in Kuala Lumpur as arranged by the two hospitals.

⁶⁶ DHA, Letter from the Donghua Hospital to the Colony's Medical Officer, 16 February 1933, pp. 432–38. Out of 75 people listed, 29 were either passing through Hong Kong or had resided in Hong Kong for less than two years.

⁶⁷ I would like to thank Wilt Idema for drawing my attention to a genre of modern Hakka and Minnanese Songs and Ballads about Overseas Migration (*guofan ge* 過番歌 'Songs on traveling to foreign land') from late-Imperial and early Republican China that highlight the dread of catching all kinds of strange diseases in the Southern Seas.

⁶⁸ Benedict, *Bubonic Plague*, note 25.

regional context of the plague pandemic: ‘The epidemic began in the 1870s, in Annam (northern Vietnam), it then spread to Guangxi province, then to coastal cities (Leizhou, Lianzhou) along the southern coast of Guangdong, reaching Gaozhou of southwestern Guangdong. More than 2000 to 3000 died every day... patients brought the ailment to the villages when they returned home ...’⁶⁹ He further developed the notion that, similar to *jiaoqi*, the pathogen came from the ground: ‘Rats dwell in holes in the soil and are the first to be infected by the *qi* of the ground’ and ‘when the epidemic attacked, hot *qi* arose from the ground people in contact [with the *qi*] would feel dizzy, their eyes would turn red and they became agitated ...’⁷⁰ The important thing therefore was to avoid direct and prolonged contact with the ground or soil. This notion of an epidemic rooted in the soil of an affected region was intriguingly similar to what some contemporary Western doctors called ‘soil infection’ which they believed to be the cause of the bubonic plague in India.⁷¹

In the 1890s, with the flow of more than 11,000 weekly inter-city travellers, the plague spread rapidly from Canton into Hong Kong. Thousands died, triggering a series of drastic public health reforms in the colony after 1894, including extensive urban renewal and biomedicine being imposed as an option at the Tung Wah Hospital.⁷² In Canton, the growing awareness of a dangerous epidemiological situation prompted the establishment in 1910 of new charity halls and hospitals in the last decade of the nineteenth century. Of these, the Expediency Hospital, mentioned above, would cooperate with Tung Wah and Kiang Wu hospitals in Macau to manage the repatriation of southern Chinese migrants working in South and Southeast Asia who fell victim to serious diseases in this epidemiological region. Decades before the establishment of FEATM, which conceptualized ‘tropical Asia’ as an epidemiological region that required globally coordinated biomedical health governance, local hospitals/charity halls in the

⁶⁹ Luo, *Shuyi huibian*, pp. 12a–b.

⁷⁰ *Ibid.*, pp. 12b–13a.

⁷¹ See, for example, Reginald Farrar, ‘Plague as a soil infection’, *The British Medical Journal*, 2.2172 (August 1902), pp. 454–56. Farrar, a British doctor, believed that the bubonic plague observed in South Asia was dependent on ‘infection with a specific microbe of soil contaminated with the excreta of rats or other animals that have suffered with the disease’.

⁷² Xian yuyi 洗玉儀 and Liu runhe 劉潤和, *Yishan xingdao* (益善行道 To do Good and to Practice the Way), Sanlian shudian, Hong Kong, 2006, pp. 45–58.

Canton–Hong Kong–Macau nexus, a major hub of human and material flows, had already been networking to study new epidemics, produce new knowledge, and derive trans-regional public health management in the same ecological context.

Conclusion

Knowledge production and trans-national public health management in the Canton–Hong Kong–Macau nexus in the nineteenth century involved ideas and practices emerging from native, metropolitan Chinese and Western biomedical traditions that were all facing threats from a rapidly deteriorating epidemiological environment and an unstable political situation. These ideas and practices formed a complex medical culture, much of which was embodied in unique institutions in this special locality shaped by the globalization of the time. This culture thrived in a region where the political centre was distant and unstable but trans-regional trading and migration activities were unprecedentedly intensive. The permeability of new political boundaries from the mid-nineteenth century onwards, allowing greater inter-fertilization of different traditions, further enriched a culture that could not be characterized simply as Cantonese, Chinese, or Western.

The Canton nexus in the nineteenth century saw the growth of native medical knowledge that focused less on theoretical refinement or innovation and more on the practicability and efficacy of therapeutic strategies to deal with existing and emerging epidemics. These ideas and practices had roots in classical medicine, but were likely to have been informed or reinforced by new anatomical knowledge disseminated by Western medical missionaries on the ground early in the century. At least new anatomical vocabulary was now freely integrated into medical recipe texts on local epidemics, revealing a new and mixed imagination structure of the body. The medical culture in the region was also marked by the formation of a connected network of local institutions that were fusions of Western-style hospitals and native merchant-run charity halls where diseases were studied and treated, and new public health management was negotiated, invented, and implemented with considerable flexibility by medical experts and public figures from different traditions.

This history also highlights the danger of narrowly conceptualizing local cultures within China's imperial or national boundaries as 'Chinese',

because this idea reinforces the bias that such cultures were monolithic, thus perpetuating misleading and rather unproductive dichotomies such as China/Europe and China/West. Chinese medicine itself was a constantly evolving body of knowledge constructed around a 'classical' core that was revised and informed by vernacular knowledge in different epidemiological contexts, and even by traditions outside the Han Chinese cultural sphere. The case of the Canton–Hong Kong–Macau region in the late imperial period clearly demonstrates the multiple historical processes in which different systems of knowledge and practices were entangled and subsisted as integral parts of a native culture that was at the same time local, Chinese, and global.