

narrower focus of fifteenth-century Tuscany to place the *Ricettario Fiorentino* (1499) in the context of the circulation of manuscript prescriptions and the activities of institutions, physicians, barber-surgeons and apothecaries. Crawford analyses the *Pharmacopoeia Matritensis* (1739) as one more instrument to serve the reforms of the colonial empire of the Bourbon dynasty in Spain.

Part Two tackles attempts to systematise and codify knowledge of *materia medica* by placing the pharmacopeias in a broader context. Among the various challenges were conflicts over the market of ‘secret’ remedies or those from other medical cultures. Justin Rivest focuses on the conflict of interests between French apothecaries and physicians over the *Pharmacopée royale* and their attempts to secure a royal privilege to monopolise trade in the antidote Orviétan. Tim Walker deals with the Portuguese attempts to codify and keep secret the knowledge of medicinal remedies they had acquired from contact with indigenous medical healing in India and Brazil. William Ryan addresses the tension between secrecy and publication in Hans Sloane’s practices as editor of the *Philosophical Transactions* vis-à-vis British colonial and his own interests.

Part Three provides examples of the role played by pharmacopeias in constructing New Worlds. Benjamin Breen analyses an excellent example of how much knowledge of the Portuguese sources enriches the historiography of the contacts between both shores of the Atlantic, throwing light on the forced transfer of Africans to the mines and plantations run by Europeans in America. The next chapter moves to the territories of *Nouvelle France* from which the *Capillaire du Canada* came. This fern was used domestically in the colony, but its economic value rose considerably in the Atlantic trade as a commodity, partly due to its inclusion in the French pharmacopeias. Kelly Wisecup analyses the list of medical herbs used by the Mohican healer Samson Occom and stresses the need to ‘rethink the forms’ (p. 195) which the counterparts of drugs on the page can assume in other medical cultures.

Part Four deals with the uses of pharmacopeias in relation to various projects of national construction. Stuart Anderson deals with the contexts of their production in England (London, 1618), Scotland (Edinburgh, 1699) and Ireland (Dublin, 1807) as models of national construction differing both chronologically and in their ultimate success. Antoine Lentacker analyses the case of the *Codex Medicamentarius* (1818), the first French national pharmacopeia, to show what the nomenclature reveals of technologies of control implemented by the nation state with remarkable success, at least in France. Joseph Gabriel demonstrates the varied range of pharmacopeias in the USA deployed to control the complex herbal remedies market, including the cures of the indigenous peoples.

Regrettably, the attractive and coherent structure of the book is marred by the strong bias of the bibliography toward English-language publications.

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Pierre-Yves Donzé, *Making Medicine a Business. X-ray Technology, Global Competition, and the Transformation of the Japanese Medical System, 1895–1945* (London: Palgrave Macmillan, 2018), pp. 199 + xiv, £99.99, paperback, ISBN: 9789811340819.

Pierre-Yves Donzé’s excellent book examines the transformation of medicine into a business from the example of Japan during the first half of the twentieth century. Donzé

demonstrates that the construction of a market-based healthcare system began during the 1920s and developed over the following decades. Conducting a multifocal analysis of actors such as the X-ray industry, radiologists, hospitals and patients, he argues that economic and business factors were decisive in the transformation process.

Donzé analyses the metamorphosis of healthcare from the interaction of the medical-device industry, doctors and hospitals in a competitive and fragmented healthcare market. He first looks at the emergence of the X-ray-equipment industry as a major driver of the change. The rise of the Japanese X-ray-equipment industry hinged on the evolution of three players in the business, namely Siemens, Shimadzu and TE, the latter two of which were Japanese domestic companies. The German multinational Siemens dominated the market in the first period (1895–1914), then declined during the First World War until the early 1930s, giving way to the rapid growth of Shimadzu. From the early 1930s to 1945, TE followed Shimadzu into the X-ray-equipment business. Shimadzu and TE developed X-ray equipment together with ‘nameless practitioners’ who enjoyed excellent training and understood local demands. Siemens, by contrast, never adapted its technology and goods to specific local conditions.

Medical doctors played an important role in the X-ray-equipment industry by supporting the establishment of radiology as a medical discipline. Until the 1920s, the central objective was to make medical doctors more aware of the possibilities of radiology as a supporting technology for healthcare. In 1930s and 1940s, radiology shifted from progressive autonomisation to real specialisation and then into a foundational structure for professional claims. A statistical overview of X-ray-device patents illustrates the development of the X-ray-equipment business and the cooperation between firms and radiologists. A company’s capacity for inventing new devices and adapting existing equipment to the specifications of the Japanese market rested on intensive cooperation with doctors. Working with the medical community to offer smaller, lighter and cheaper products, Shimadzu became the leading supplier of the Japanese market in the 1920s.

The adoption of new medical equipment such as X-ray devices revolutionised healthcare management. Donzé lastly discusses how the shift of hospitals to medico-technological platforms was not only a technological and professional metamorphosis but also a managerial and financial one. Since health insurance was underdeveloped in Japan until the Second World War, payments from patients became hospitals’ primary funding source, and hospital management sought out profitable patients. Meanwhile, the Japanese government scarcely intervened in the creation of the healthcare market, leaving it largely unregulated prior to the late 1930s. Thus the emergence of new technologies such as X-ray equipment not only transformed medicine and hospitals but also spurred rising healthcare costs.

As a business historian, Donzé applies industrial financial data to healthcare, and it makes his study unique. Through this rich analysis, the professionalisation of radiologists and the way this process connected to the industry are clearly illustrated. The book opens a field of the history of medicine and business in Japan which has barely been explored and thus reveals several interesting aspects that can be further examined. For instance, this study can be connected to the history of the broader electrical-equipment industry, as the X-ray-equipment industry was one among many industries that grew rapidly in 1920s Japan. The trigger of Japanese industrial growth was the First World War, which dissolved connections with German industry and stimulated independence in domestic industry. The electrical-equipment industry produced or imported devices for electrotherapy for the healthcare market. It is important to note that electrotherapy was the most popular therapy among the private healers and spiritual practitioners when the registration of these

practitioners started in 1930, and their number was almost same as that of the medical doctors. As Donzé describes, the healthcare market in Japan was hardly regulated at that time and thus the boundary of legal and illegal healthcare was more blurred than we might now realise. The broader field of the Japanese healthcare market emerges when we pay attention to these private practitioners as well as to linkages between Western medicine and folk remedies.

The industrial history of Japan during the first part of the twentieth century, a period of important conflicts, including the Russo–Japanese war (1904–5), the First World War and the Second World War, is inseparable from the Japanese ambition to become a world power. Within this context, medical equipment travelled and was used in a wide variety of contexts. The industry expanded with general needs and demands but also due to personal ambitions. For example, Genzo Shimadzu, the second-generation president of the Shimadzu company, who played a significant role in developing X-ray equipment, aspired to contribute to the Japanese academy. These ambitions drove the development of new equipment. How each individual who lived in that period thought and how these ideas contributed to the medical industry is another big question that arises from Donzé’s stimulating study.

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Ellen N. La Motte, *The Backwash of War: An Extraordinary American Nurse in World War I*, ed. by Cynthia Wachtell (Baltimore, MD: Johns Hopkins University Press, 2019), pp. x + 209, \$18.50, paperback, ISBN: 9781421426716.

American nurse Ellen Newbold La Motte wanted to give a different view of the First World War, one she called ‘the backwash’, in a frame of human suffering and an underscore of antiwar sentiment. She was not alone in this task, but her effort came early, and government censors shut her down when the United States entered the war. In editing this volume, Cynthia Wachtell, associate professor at Yeshiva University in New York City, has brought back to the light La Motte’s writing, an introduction of context and comparison, a biography of La Motte’s life, a dozen photographs, and an annexed chronology.

Fourteen stories (thirteen from the 1916 edition, one from the 1934 edition) plus three essays make up the bulk of La Motte’s war writing. Before the war, she had published on tuberculosis, as she led the Tuberculosis Division of the Baltimore Health Department, the first woman to direct a city department there. Postwar, she continued her career in writing as a campaigner against the opium trade. She and her partner, industrial heiress Emily Crane Chadbourne, lived and travelled extensively in Asia, and in opium La Motte found a new war to fight.

The Backwash stories recount La Motte’s months as a volunteer nurse in a field hospital in Belgium, about ten miles behind the front lines of the war. She tries to bring home to readers the horrible experience of the war wounded: a soldier who fails in an attempt to commit suicide, and then suffers terribly as doctors try to save him for his execution as a deserter; the stink of gas gangrene consuming the flesh until it kills; raving and delirium from those who would not go gentle. Worse, though, are the reactions of the caretakers: the general who pins medals on dying men in a perfunctory manner; the orderlies who