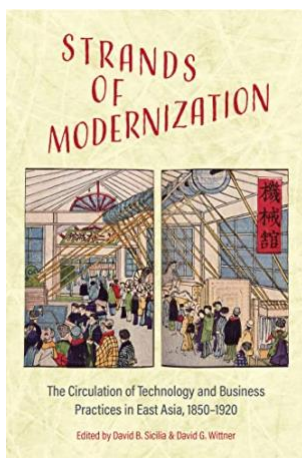




David B. Sicilia and David G. Wittner, eds. *Strands of Modernization: The Circulation of Technology and Business Practices in East Asia, 1850-1920*. Japan and Global Society. Toronto: University of Toronto Press, 2021. x, 191 pp. ISBN 9781487509088



Strands of Modernization is an excellent collection of essays on technology and business practices in East Asia between 1850 and 1920. In their introduction to the volume, editors David Sicilia and David Wittner detail their central argument that technology involved not only machinery and other physical artifacts but also management techniques, organization methods, and ideologies. They also challenge the notion that technology transfer was unidirectional from the West and point out that flows of ideas occurred in various directions, especially within East Asia. Finally, they argue that “when technology and business practices cross sociocultural boundaries, there is always adaptation, never pure adoption.” (p. 3). Through a range of interesting case studies, the book’s eight chapters shed light on the processes of technology transfer, which included false starts and failures as well as progress and successes.

David Sicilia’s chapter provides important global context and addresses the role multi-national enterprises (MNEs) played in the flows of technology within the East Asian region. The story here is one of mixed outcomes, with MNEs both providing important access to knowledge and foreign markets and pursuing their own profits often at the expense of their host countries. In China, most MNE activity was confined to coastal cities and government actors often intervened in the name of resisting foreign imperialism, economic protection, and national sovereignty, in ways that inhibited economic growth and prevented Chinese firms from becoming major players in world markets. Of the largest MNEs active before World War I, surprisingly none were based in or operated factories in China. Moreover, although leading economies of the world between 1870 and 1914 had strong markets for both consumer and producer goods, producer goods did not take off in China. Despite a huge market for cigarettes, for example, there were no Chinese manufacturers of cigarette-making machines. In Japan, the story was a bit different as MNEs were displaced in many sectors as Japanese firms and trading companies became active in domestic and Asian markets. While MNEs did play a role in East Asian technological and infrastructure development, there were significant political constraints on their activities. Knowledge flowed in multiple directions in the region and some industries thrived while others did not.

Tze-ki Hon’s chapter on the development of modern printing in China emphasizes the importance of local requirements and practices in choices of technologies to be adopted in developing countries. When the Qing government abolished civil service examinations based on the Confucian classics in 1905, the market for modern textbooks exploded. Following the stories of two publishing houses, the Commercial Press, which produced modern

textbooks, and the Press of the Association for the Preservation of National Learning, focused on ancient texts and artwork, we gain an understanding of the circumstances surrounding their choices of industrial print technologies. The chapter concludes, "...of the print technologies available at the time, Chinese publishers and readers fell in love with lithography, not only because it was efficient, but because it worked well with traditional xylography and appealed to readers' cultural tastes." (p. 43). Through a process of trial and error, Chinese publishers settled on lithography as the print technology best suited to local needs.

David Wittner's chapter reveals how early Meiji Japanese government development efforts initially focused on showcasing the most modern technologies but evolved toward more pragmatic approaches. In the case of the famous Tomioka silk filature, Wittner observed, "It was essential that the government's model factory be "modern", and this determined which technologies would be adopted at Tomioka. Regardless of practicality, Tomioka would be built from brick and its machines iron." (p. 56) This approach was expensive and ignored more practical local solutions to problems. Consequently, entrepreneur Shibusawa Eiichi changed his development strategy from pursuing the most Western-defined modern methods to developing indigenous knowledge of production and choosing the best technologies for local conditions. At Osaka Spinning and Shōshi Kaisha, the predecessor of Oji Paper, technicians were trained in technologies that could be maintained at reasonable costs in Japan. Development strategies clearly changed as government leaders and private entrepreneurs learned from experience over time.

Jeffer Daykin's chapter examines how nineteenth century expositions organized and exhibited products. Originally, these expositions were designed to allow side-by-side comparison of similar products to stimulate adoption of industrial best practices. However, national pride and ease of organization led to exhibits arranged by country rather than by product category in later European and American expositions. From 1895, Japan's expositions retained organization by product and Daykin concludes, "When considering the initial concept of international expositions as events that could educate and stimulate continued development and progress through the direct comparison of goods and technologies, it seems as if the manner in which Japan adopted the exposition form was the most faithful to its original ideal." (p. 92) Here we can see how knowledge was organized and presented to the public using the international exposition structure.

M. William Steele's chapter is a case study of the rickshaw industry demonstrating how modernization was more than just the adoption of Western technology and emphasizing Japan's vital role in the development of popular transportation throughout Asia. As modern devices made out of parts produced in traditional industries, rickshaws were relatively inexpensive to manufacture and led to a mobility revolution for people in cities. Following the story of Akiha Shōten's production and export of rickshaws, we learn about its system of contracting with small workshops to produce parts, showrooms in major Japanese cities, and relationships with traders in Asian cities like Beijing, Shanghai, and Singapore. Steele concludes, "Ultimately, Japan's and Asia's modern experience is defined by both the rickshaw and the train, by bottom-up and top-down initiatives, by continuity and change, by grafting and transplanting technologies, by economies that respond to the demands of the state at the same time they seek to meet the desires of ordinary people." (p. 114). The rickshaw provides a fascinating case study of a product that crossed many technological, social, and cultural boundaries.

Yu Chen's chapter focuses on the entrepreneur Zhang Jian who took a holistic approach to the development of China's political economy. Although Zhang retained a Confucian outlook accepted the Self-Strengthening Movement's notion of "Eastern Ethics and Western Science," he went beyond a narrow view of Western science applied only to defense industries. He also believed Western social science, education, and organization of local government could also contribute to China's self-strengthening efforts. During his career, he promoted business enterprises like Da Sheng Cotton Mill as well as local self-government and educational initiatives in his hometown of Natong in Jiangsu province. Believing much could be learned from Japan, Zhang visited from May 22 to July 12, 1903 and attended the Fifth National Industrial Exposition in Osaka and met with financial, industrial, and educational

leaders. Here we see that modernization involved flows of ideas and technologies from a variety of fields within the East Asian region.

Kimura Masato's chapter explores Japanese entrepreneur Shibusawa Eiichi's efforts to bring modern banking practices to Japan. Believing that government leadership in banking would lead to corruption and inefficiencies, Shibusawa worked to keep Dai-Ichi Bank as independent as possible while maintaining a good working relationship with the Finance Ministry. His view of banking also emphasized assembling capital and talent from diverse sources for enterprises that could make worthwhile contributions to Japan's modernization and public welfare. Shibusawa also insisted on modern management practices and transparency in corporate reporting which helped him establish trust and effectiveness in banking and investments in a wide range of modern industries.

Kim Myungsoo's chapter considers how modern banking practices were transferred to Korea's Hanseong Bank via Japan. Beginning with Han Sangyong's studies of Western-style book keeping and bank management at the Japanese Dai-Ichi Bank's branch in Korea, we see the growing ties between Korean and Japanese banking from the 1900s to 1920s. As a condition of loaning funds, Dai-Ichi required Hanseong Bank to adopt western accounting practices in 1903. Han Sangyong became executive director in 1910 and expanded Hanseong Bank's capital. In 1918, Hanseong established the first foreign branch of a Korean bank in Tokyo to facilitate Japanese investment in Korea. Throughout the colonial period, Hanseong Bank, in cooperation with Dai-Ichi Bank and the Japanese government, was an important conduit of modern business practices in Korea.

By emphasizing technology flows within the East Asian region, including both organizational and technical skills in a wider definition of technology, and recognizing the importance of ideologies and culture in economic development, *Strands of Modernization* makes a valuable contribution to our understanding of technology transfer in East Asia. Students of modern East Asian history and technology will find the case studies and specific examples especially helpful.

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