

Song Sungsoo 송성수, *Han'gugui Saneophwawa Gisulbaljeon*
한국의 산업화와 기술발전 (Industrialization and Technological Development in South Korea). Paju: Dulnyouk, 2021. 632 pp.

YOO Sangwoon[†]

How did South Korea succeed in rapid industrialization? Although this is a classic question raised in several studies, historical investigations on this topic are still needed. In his book of over 600 pages, *Industrialization and Technological Development in South Korea*, Song focused on the various historical paths through which key technological developments were made in South Korea's industry between the 1960s and 1990s, or during the "Industrial Revolution of South Korea," as he calls it. His perspective is broad and comprehensive. While discussing a range of industries—textiles, petrochemicals, steel, shipbuilding, automobiles, electronics, telecommunications, and semiconductors—in the second half of the twentieth-century South Korea, he positions each industry on the "conceptual scheme of South Korea's technological development." With this scheme, a two-dimensional 3×3 matrix with one axis as "properties of technological activities," comprising "technological acquisition," "follow-up," and "leading," and the other one as the "technological life cycle," comprising "embryonic period," "growth period," and "mature period," he explores the paths of technological development in each industry (35).

Undoubtedly, his book contributes to the historiography of science and technology in two respects. The first aspect concerns the period covered. Whereas many historians focus on the Cold War era, this book describes the changes in major technologies and technological activities in South Korea's industrial landscape between the 1960s and 2000s. This timespan will help place the science and technology of the twenty-first century in a broader historical context. Second, the "company-centered" approach enabled the author to "reveal the technological development process of the country in the most realistic and specific ways" (38). He reinstates diverse economic actors in the business management offices, laboratories, and factories, which have been overlooked in past studies focusing on policymaking by bureaucrats or on research activities of public research institutes. Song's perspective is expected to broaden our understanding of the history of contemporary South Korean science and technology.

[†] Hanbat National University, s.yoo@hanbat.ac.kr

These two advantages of the book are demonstrated through vivid descriptions of Korean engineers' undertakings to obtain advanced technologies from foreign companies. It was necessary for the then-fledgling companies, which have now become the nation's industrial leaders, including Pohang Iron and Steel (POSCO), Hyundai Motor Company, and Samsung Electronics, to adopt new technologies from the advanced foreign companies and start new projects. As it is well illustrated in the chapter on the early history of POSCO, the formal procedure of a technology acquisition agreement was only a small part of the process. A carefully selected team of engineers was sent for overseas training, with the objective "to learn not only what is taught but also what is not taught" (159). Due to lack of exposure to the latest technologies and inability to differentiate which technology is important, they followed the Japanese engineers, wrote down everything they said, and jotted whatever they saw in factories on their notes. As Korean companies emerged as potential competitors, however, the technological activities of the engineers or "a big thief," as an interviewee calls himself (159), were gradually limited by foreign companies to restrict Korean engineers from accessing their core technologies. Questions about how their way of thinking about technology changed in South Korea in the late-twentieth century and how this affected their self-identities would be a topic worth exploring through further individual case studies.

On the other hand, it is worth reconsidering the framework that contains such interesting anecdotes. From a broader perspective, this book follows the "imitation to innovation" narrative, established in the 1990s by Linsu Kim and prevalent in Innovation Studies, which explains South Korea's technological development with the theoretical scheme of three stages of introduction, internalization, and creation. Not surprisingly, Song distinguishes his analytical framework from these theories, pointing out that his work may reveal more diverse paths of technological innovation than that of Linsu Kim and that he did not assume the certain path of technological development as a given. Despite his argument, Song asserts that all industries taken as main examples in this book—steel, shipbuilding, automobiles, telecommunication, semiconductors—transitioned through the stages of "technological acquisition," "follow-up," and "leading," which resembles the schematic of a three-stage development. Drawing upon the theory is not a problem *per se*, but one thing to note is that such frameworks are historical constructs that were shaped as intertwined with the industrial development in the second half of the twentieth century, which this book covers.

Instead of positioning it somewhere between history and theory, I would rather read this book as a historical scene at the end of the twentieth century where distinctive perspectives on history and technology are articulated. The 1980s and 1990s in

South Korea, which feature the political democratization and growth of *Chaebol* in the global market, were also the decades when the study on the technological development of latecomers started as an alternative to the technological dependency theory. Song's detailed description of the theoretical background in the introduction of the book, I believe, offers hints about the introduction of Innovation Studies into Korean academia in the socio-political context of the time. In this respect, this book is not only a valuable contribution to the history of technology in South Korea's industry, but also a repository of historical materials, which allows us to reflect on how the understanding of history and technology changed with the question that was defined and addressed in the 1990s: How did South Korea succeed in rapid industrialization?