

BOOK REVIEW

Bon-Kwon Koo 구본권, *Emergence of Connection: Kilnam Chon and the Story of Korea's Internet Pioneer* 연결의 탄생, 한국 인터넷의 개척자 전길남 이야기 (Paju: Gimm-young Publishers, 2022), 391 pp

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Bon-Kwon Koo's *Emergence of Connection: Kilnam Chon and the Story of Korea's Internet Pioneer* (hereafter, *Emergence of Connection*) is the first book of its kind to chronicle the life of Dr. Kilnam Chon (1943–), a South Korean systems engineer and Asia's internet pioneer.¹ Committed to report on the relationship between technology, people, and sociotechnical systems, Koo—a journalist at *Hankyoreh* and director of the People and Digital Research Institute—explores the history of Korea's internet through a comprehensive study of one critical figure, Dr. Kilnam Chon. Supported in part by archival sources, *Emergence of Connection* primarily grew out of a series of interviews which Koo conducted with Chon, his students, colleagues, and family members over a period of seven years. In his examination of Chon's life and work, Koo offers a valuable perspective on the history of technology, computing, internet, digital network infrastructure, nation-building, and the culture of engineers in Modern Korea.

Emergence of Connection follows Chon's life chronologically, beginning with his childhood and ending with a 72-page long transcript of a conversation between Chon and the author on the future of the internet and artificial intelligence. Chapter One details Chon's childhood as a Korean ethnic minority in Japan (재일 조선인; 在日朝鮮人) growing up in Osaka throughout the 1950s and 60s. Key moments in this chapter include the pivotal point at which Chon realized he must return to Korea after witnessing the April 19th Revolution (4.19 혁명) as a high school student in 1960. Equally significant is his engagement with Norbert Wiener's *Cybernetics: Or Control and Communication in the Animal and the Machine*, which profoundly shaped

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¹ Hereafter, Korea refers to South Korea (Republic of Korea), unless otherwise stated. In accordance with the editorial guidelines of *The Korean Journal for the History of Science*, this paper follows the Revised Romanization of the Korean system proclaimed by South Korea's Ministry of Culture and Tourism. All quotations and titles from the presented literature originally written in Korean have been translated by the author unless noted otherwise.

his decision to pursue electrical engineering in college. Chapter Two follows Chon's journey to the West Coast of the United States. At UCLA, he received his master's degree in computer science and Ph.D. in systems engineering under the mentorship of Leonard Kleinrock, a key figure in the development of the Advanced Research Projects Agency Network (ARPANET). This training brought Chon to work at Rockwell International and later NASA's Jet Propulsion Laboratory to work on the Voyager mission. Both Chapters One and Two underscore a crucial through line motivating Chon's rigorous academic training and professionalization. Chon was laying the groundwork to optimize his position in anticipation of his return to Korea: "my real goal was to prepare for my trip to Korea ... didn't even consider the possibility of settling down in the States as a professor or a researcher after receiving my Ph.D. I viewed it as a necessary preparatory step for my return to Korea" (58).

Chapter Three begins with Chon's repatriation to South Korea in 1979 as part of a government program under the Park Chung Hee administration aimed at attracting outstanding overseas scientists back to Korea (우수 해외 과학자 국내 유치 프로그램). As a senior researcher at the Korea Institute of Electronic Technology (KIET, now the Electronics and Telecommunications Research Institute, or ETRI), Chon was tasked with leading a Computer Domestication Project (컴퓨터 국산화 프로젝트) aimed at developing computers for export. Alongside this project, Chon devised a plan to architect a landmark TCP/IP-based computer communications network called the "System/Software Development Network" or SDN.² Following the successful completion of SDN in 1982, Korean institutions—most notably the Korea Advanced Institute of Science and Technology (KAIST), to which Chon transitioned from KIET—rapidly established international computer network connections via a Local Area Network (LAN).³ The first of these was with HP Labs in the United States through UUCPNet (Unix-to-Unix Copy Program), which paved the way for SDN's integration into broader global networks such as the Computer Science Research Network (CSNET), the European Unix Network (EUNET), and the National Science Foundation Network (NSFNET).

Chapter Four and Five navigate through Chon's teaching ethic and influence as a professor at KAIST. At his Computer Architecture and Systems Laboratory (CASys), Chon advocated for the importation of DEC's VAX-11/75 Superminicomputer, which provided his students with unprecedented hands-on experience and led to significant research output. Chapter Five highlights Chon's students who ventured into tech entrepreneurship during the 1980s, particularly in online gaming, mobile ser-

² For more, see An Jungbae and Kang Kyungnam, *History of the Korean Internet: Retrospective 20th Century* 한국 인터넷의 역사: 되돌아보는 20세기 (Seoul: Blotter & Media, 2014).

³ For more on the history of KAIST and its relationship to late industrialization in Korea, see Kim Dong-Won and Stuart W. Leslie, "Winning Markets of Winning Nobel Prizes? KAIST and the Challenges of Late Industrialization," *Osiris* 13 (1998): 154-185.

vices, and digital graphics. Chapter Six is unlike the others, focusing on Chon's lifelong passion for mountain climbing. Notable moments include his summit of the Matterhorn in the Alps, the tragic death of a fellow climber, and a serious injury he sustained in a rock-climbing accident.

Chapters Seven and Eight are unified by Chon's advocacy for equality, regulation, and accountability—both in shaping the future of global internet accessibility and in creating opportunities for women to work as researchers in his laboratory. It is essential to emphasize the influence of Chon's wife and lifelong partner, Dr. Haejeong Cho-Han, a first-generation feminist in Korea and renowned anthropologist. Her perspective as a social scientist is evident in how she shaped Chon's critical consideration of the social consequences of the technologies he helped develop. Although Dr. Cho-Han is acknowledged in Chapter Eight's subsection titled "The Role of Technologists and Social Scientists," the chapter would have benefited from a more thorough discussion of her contributions and their collaborative work together (252). Finally, Chapter Nine revisits the profound impact of the April 19 Revolution, which altered the course of Chon's life and propelled him toward a realization that his identity is deeply rooted in being Korean and belonging in Korea. Chapter Nine is accompanied by an interview transcript between Chon and Koo discussing the future of technology with special emphasis on artificial intelligence.

Emergence of Connection joins together Koo's deep interest in the philosophy of technology with his profession as a journalist to create an insightful and engaging book that presents only a few areas for critique. There are multiple declarations across *Emergence of Connection* that Korea was the second country to develop the internet, which may raise questions as to how the author is defining the category of internet and the measure of success. The United States' ARPANET is noted to be the first interconnected network system to which Chon modeled SDN after. However, France's CYCLADES, a packet switching network developed by Louis Pouzin in 1973, or the Soviet Union's National Automated System for Computation and Information Processing Network (OGAS) which began in 1962, may challenge the rigid claim that Korea established the world's second internet.⁴

Koo clarifies his argument by discussing Louis Pouzin's work on CYCLADES as well as Peter Kirstein's efforts at University College London (UCL) to connect Britain's existing computer system to ARPANET in 1973. Both French and British systems, despite promise and technical success, were paused or scrapped after unfavorable governmental assessment—a dismissal that Chon too faced when he was first

⁴ The term, internet, has been a constant moving target for definition. In this sense, Koo's book joins the exciting discourse surrounding the global and transnational history of the internet. For more on the global history of the internet, see Janet Abbate, *Inventing the Internet: Inside Technology* (Cambridge, MA: MIT Press, 2000); Benjamin Peters, *How Not to Network a Nation: The Uneasy History of the Soviet Internet* (Cambridge, MA: The MIT Press, 2016); Lisa Nakamura and Peter Chow-White, *Race After the Internet* (New York: Routledge Press, 2012); and for more on the history of Korea's Internet, see An and Kang, op. cit.

drafting his proposal to build a computer network system for KIET in 1979. The method in which Koo conceptualizes Korea being the “second country to succeed in developing a TCP/IP network after the United States” is based on a complex construction of what “success” itself signals in his narrative (106). For example, with its decentralized, end-to-end architecture, CYCLADES was a critical packet switched network using datagrams which inspired Internet Protocol (IP). However, the lack of major industrial or military backing limited its political weight. Institutional resistance played a significant role in the project’s ill-timed cold stop—something that Koo may consider a “failure” in the sense of CYCLADES being the second runner up to ARPANET. CYCLADES’ technical and conceptual success in the early 1970s, however, is unquestionable. Setting aside the contested demarcation of “first” and “second” in this history, applying the categorical binaries of success and failure presents, rather ironically, the failure in capturing the nuanced array of social, economic, and political factors involved in the global history of the internet and computing. Similarly, the use of actor’s categories such as “innovation”, “innovator”, “engineer”, and “scientist” as both Koo and Chon adopt them in *Emergence of Connection* may raise questions for historians of science and technology.

Nevertheless, *Emergence of Connection* is captivating in its narrative structure and provides a compelling portrait of one of the foremost leading figures in modern Korean computing. Chapters Three and Four on the development of SDN and Chapters Seven and Eight on AsiaNet provide excellent introductions to the complex history of transnational networking in the global and postcolonial history of computing. To say that this book is a simple biography feels lackluster for the sheer research the author has dedicated across fifty interviews in the span of seven years. Koo himself puts it best, underscoring that this book struck him as a “frontier narrative” or “pioneering chronicle” rather than a conventional biographical profile (21). This book brings to life, with great care and compassion, the enigmatic figure who pioneered East Asia’s internet infrastructure.

Emergence of Connection makes it a point that Kilnam Chon not only pioneered Korea’s internet, but that he carefully pioneered and planned his entire life to be able to contribute to his country following a realization he had about his identity after the April 19th Revolution. A simple, yet intensely consequential and powerful statement Chon repeats many times—“I realized that I was Korean and must return to my motherland”—encapsulates his sheer drive, steady dedication, and outward looking conviction. Reaching a summit, be that propelling Korea into a world of digital connection or painstakingly ascending the Matterhorn, is a metaphor and principle that epitomizes Chon’s life and work ethic. In *Emergence of Connection*, Koo captures Chon in all his complexities: eccentric, driven, and at times dispassionately analytical, but without a doubt, brilliant.