Building Chinese Braille with Chinese Characteristics by
Huang Nai (review)

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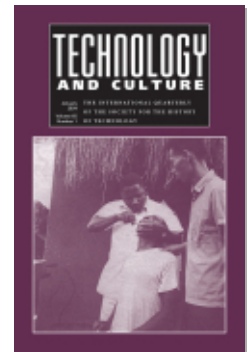
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Alongside other recent books on Japanese media technologies in global contexts, like Marc Steinberg's *The Platform Economy* (2019), Abel's work underlines Japanese studies' crucial place in media debates and theories—a fact sometimes overlooked.

JAMIE COATES

Building Chinese Braille with Chinese Characteristics

By Huang Nai. Beijing: China Society Press, 1999. Pp. 371.

> Comrade Yaobang:
> Only when we give up the international alphabetization and Pinyin-ization of Braille [. . .] can we create a Chinese Braille that meets our national conditions (p. 133).

This is an excerpt from a letter from Huang Nai—"Father of Chinese Braille," son of the revolutionary leader Huang Xing, and one of the highest-ranking blind officials in China—addressed to Hu Yaobang in 1983, then general secretary of the Chinese Communist Party, quoted in Huang's *Building Chinese Braille with Chinese Characteristics*.

The book is a Chinese-language collection of Huang's manuscripts, personal correspondence, and collaborators' writings, spanning forty years (1955–95) with one consistent theme—a blind linguist's quest for the most scientific tactile code tailored to the nonvisual epistemology of his fellow blind Chinese. It is a rare primary source for historians of socialist technologies, Chinese languages and codes, and disability and sensory studies.

Chronologically organized, the book reflects the tumultuous evolution of Chinese Braille. China before the People's Republic lacked a unified Braille system, with multiple tactile codes inconsistently used across the country. Influenced by a visit to the Soviet Union, Huang created the Current Chinese Braille (CCB) in the 1950s, widely celebrated as the first standardized Braille in mainland China. The CCB is a phonetic representation of Chinese, largely corresponding to Pinyin (the official alphabetization of Mandarin), rendered in the six-dot cells of international Braille. By granting it grammatical rules on grouping and separating phrases, Huang lifted CCB from the mere transliteration of Chinese scripts (p. 59). Two decades later, however, Huang decided to overhaul the CCB to correct a major deficit he felt responsible for (p. 221).

Initials, finals, and tones form the basic components of a Mandarin syllable. Tones are key to distinguish the frequent homophones in Chinese. In CCB, initials, finals, and tones each take one cell. To speed up reading and save space, tone is omitted 95 percent of the time (p. 58), which Huang saw as a dire barrier to blind people's literacy. How to optimize for both accuracy and efficiency within the constraints of the sixty-three finite combinations of Braille? The final decades of Huang's life, represented in the bulk of this book, were devoted to his efforts to solve this puzzle.

For radical compression, Huang abandoned the unwieldy one-to-one mapping with Pinyin. Breaking down dot elements into first principles and deploying statistical, psychological, and linguistic theories, Huang's 1975 Two-Cell Chinese Braille (TCB) successfully rendered each syllable within two cells—first, the initial and the medial; second, the final and the tone. Initials and finals could take the same shape, and dots were rearranged to fit tactile epistemology. For instance, the fingertip is most sensitive, so the tone mark, containing lower priority information, should take the bottom dots (p. 117). Nonvisual temporal-spatial considerations like dot density and location and finger movement angle and speed abound in TCB. Contrary to disabled people serving as objectified metaphors in mainstream technologies, a pattern Mara Mills calls "assistive pretext," Huang's meticulous unpacking of "tactile reading psychology" presents actual nonnormative approaches to information processing, showcasing the value of embodied knowledge and disability expertise.

The technical is political. Huang's ultimately "scientific" Braille was effectively an independent phonetic alphabet of blind people's own, unmediated by sighted people's Pinyin. Objections followed. His 1983 plea was intercepted and never arrived in the hands of Hu Yaobang (p. 136). This ill-fated letter foreboded the short-lived reform of TCB (1995–99). Today, CCB is soon to be fully replaced by the "Universal Chinese Braille," a new system planned by the state.

Historians of Chinese language and its phonetic, digital, or computational representations will find this book an important contribution. Similar to Thomas Mullaney's *The Chinese Typewriter* (2017), this is a story about resolving the technical tensions between the Chinese language and the affordances of a technology, while searching for a uniquely "Chinese" language representation system, free from Eurocentric notions of universal alphabetization. But Huang's nationalist pursuit had a distinctive anti-ableist twist. He self-transformed from "crawling after sighted people's Pinyin" (p. 65) toward developing an "independent and autonomous" alphabet of the blind. While an emerging field, disability history in China lacks first-person accounts like Huang's, detailing blind people's struggle for literacy, dignity, and equality.

Though the future of Chinese Braille is still uncertain, this book raises fascinating historical questions: Why did the "most scientific" design of a

technology, championed by someone with high political capital, fail? How does the genealogy of Braille intersect with Chinese computing, such as the inventions of Huang's codesigner Fu Liangwen, a sighted engineer and inventor of a phonetic input method and keyboard? How did broader tensions between capitalism and socialism, visual and nonvisual epistemology, and nationalism and ableism figure in language and technology?

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DI WU

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News from Germany:
The Competition to Control World Communications, 1900–1945

By Heidi J. S. Tworek. Cambridge, MA: Harvard University Press, 2019. Pp. 344.

Heidi Tworek's engaging and timely book *News from Germany* mines a particularly important terrain in the study of media, information, technology, and society. Tworek examines news agencies as a key node for mapping networks of information that underpinned "the news" in the early twentieth century. By using this history to explore the power of largely invisible institutions that have shaped international information flows, she undermines the abstraction of a free and independent media and the liberal conceit of "objective" journalism in a context of transnational media ownership and the conditions of information gathering and dissemination. Tworek convincingly argues that Germans harnessed technologies of communication in support of their shifting economic, diplomatic, and political goals at home and especially abroad. German elites' belief in the "news agency consensus . . . the widespread faith that news could change one's perceptions of reality" (p. 14) led them to technological innovations in the area of wireless technology, experiments with public/private partnerships that enabled both overt and covert state supervision of media with mixed results, and wide-ranging efforts to shape "public opinion" about current events from Germany to Latin America and East Asia. Most important,