CODES OF MODERNITY

Chinese Scripts in the Global Information Age

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Acknowledgments

WHENEVER MY FRIENDS and colleagues ask me how I decided to write a book on Chinese script reforms, I go back to my days as a student at Boğaziçi University. About fifteen years ago, when I graduated college with a degree in sociology, I wanted to do nothing but travel to China. Options, however, were limited. Boğaziçi, my alma mater, had almost no connections with China, and I barely spoke any Chinese. I instead arranged a meeting with Selçuk Esenbel, the professor of Japanese history at Boğaziçi, and told her that I wanted to enroll in the MA program in history and write a thesis on Sino-Ottoman relations—a topic that I thought would take me to China at some point. At the time, I had no desire to become a historian and I still don't know why the History Department decided that someone with no formal training in Ottoman history and no Chinese-language skills would be a good fit for such a topic, but to my surprise, I was admitted. Without the support of my mentors at Boğaziçi, I would have never even embarked on this journey. Selçuk Esenbel, Meltem Toksöz, and İsenbike Togan have a special place in the making of this book.

I'd like to think that the seeds of this book were planted somewhere around then. With an ambition that far exceeded my skills, I was learning Mandarin in the morning and studying Ottoman Turkish at night, while keeping up with the pace of graduate-level reading. I was trying to memorize not only Chinese characters, but also Arabic letters to read my native tongue as it was written before the Turkish Alphabet Revolution in 1928,

when the Turkish Republic officially changed its alphabet from Arabic to Latin. If readers would like to empathize with my frustration and fascination with learning Ottoman Turkish, they may try to write English in an alphabet they never studied. Why, I would ask myself, would anyone try to change their own script and cut ties with their own history? Back then, I thought Turkey was unique in performing such a bizarre act. Only later, in graduate school, did I realize that script reforms and alphabet revolutions were truly a global phenomenon, stretching from China to Europe. Sometime around the turn of the twentieth century, it seemed, the entire world lost its mind. Today, after more than a decade of research, I think I finally know why.

I had no plans to study the global history of Chinese script reforms when I entered graduate school in the United States. Turning my immature fascination into a manageable research topic, and finally into a book, took place in conversation with mentors, colleagues, and friends at Columbia University. My advisor Madeleine Zelin's skepticism about my half-baked ideas made me reflect deeply on what I wanted to accomplish. Eugenia Lean taught me how to enjoy historical detective work and ground my abstract ideas in actual sources, and Lydia Liu's thoughts about translingual practices and the cybernetic unconscious have always been my sources of intellectual inspiration.

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I wish I could have the space to talk about each person who walked me through the past decade, some with the help of copious whiskey and tobacco, and others with friendly warmth and camaraderie: Rahul Sarwate, John T. Chen, Shehab Ismail, Clay Eaton, Myra Sun, Tyler Walker, Sayantani Mukherjee, Matthew Felt, Colin Jones, Arunabh Ghosh, Chloe Estep, Chris Peacock, Joshua Schlachet, Tania Bhattacharyya, Bradley Gorski, David Brophy, Chris Chang, Chien Wen Kung, Selda Altan, Fırat Kurt, Berfe Gündüz, Joshua Batts, Dongxin Zou, Sean O'Neill, Hannah Elmer, Jack Neubauer, Nataly Shahaf, Ye Yuan, Zach Berge-Becker, Owen Miller, Kumhee Cho, Tristan Revells, Yanjie Huang, Tristan Brown, Kyoungjin Bae, Benjamin Kindler, Harlan Chambers, Selim Karlıtekin, Roy Bar Sadeh, Yurou Zhong, Gina Anne Tam, Jeffrey Weng, Seung Hyun Cho, Giulia Carbone, Victor Seow.

Research for this book took place before the COVID-19 pandemic, when I thought I had to travel to all seven continents plus the moon. I would like to especially thank the archivists in the First and Second Historical Archives, Shanghai Municipal Archives, Academia Sinica, Academia Historica, and KMT Party Archives. Some of the archives in the PRC that mysteriously shut their doors just when I arrived are also much appreciated, for, unbeknownst to them, they channeled my energies toward finding sources outside of China. That is how I ended up enjoying the libraries and archives in St. Petersburg and Moscow, where Liudmila Novikova helped me immensely in my research.

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inquiry. But no matter where I went, I somehow always ended up in Istanbul, where my *khankha* Ümit Fırat Açıkgöz treated me to the best of *meyhanes*. And running into old friends on the streets, in the archives, or on bicycles in the middle of mountains energized my mind—Yavuz Sezer, Ceren Abi, Oya Arıkan, Buket Köse, Onat Kıcalı, Akın Öztürk, Atilla Çıdam. My friends @ HuntorCafe know who they are and how much I owe them.

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After receiving my PhD, I was lucky to be surrounded by supportive colleagues first in the Department of East Asian Languages and Cultures at Columbia, and then in the History Department at Washington University in St. Louis. I would especially like to thank Shang Wei, Haruo Shirane, Tomi Suzuki, Gray Tuttle, David Lurie, Ying Qian, Takuya Tsunoda, Paul Kreitman, John Phan, and of course Laura Schlein in EALAC. At Washington University in St. Louis, I was welcomed by colleagues who made me feel safe even during the pandemic: Sowande' Mustakeem, Douglas Flowe, Lori Watt, Peter Kastor, Nancy Reynolds, Christina Ramos, Diana Montaño, Corinna Treitel, Kristina Kleutghen, Zhao Ma, Letty Chen, Shefali Chandra, Andrea Friedman, Daniel Bornstein, H. H. Kang, Jianqing Chen, Chang Xu, Xin Yu, Ruochen Chen, Chenxi Luo, and Kejian Shi.

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There were multiple times during the past several years when I wanted to throw in the towel. But every time the thought crossed my mind, I found the strength I needed in my family—in my mom's resilience, my dad's

romanticism, my brother's idiosyncrasy, my sisters' courage, my aunt's quilt, my uncle's library, my grandfather's garden, my Nana's pastries, and my grandmother's clarity. Some of them had to bid farewell before they could see me put an end to this work, but it comforts me to know that they will always live in the pages to follow, for it is to them that I dedicate this book.

Codes of Modernity

Introduction

IN 1896, Shen Xue 沈學, a young medical student in Shanghai, penned a treatise on the need to phoneticize the Chinese writing system called *Primordial Sounds for a Prosperous Age* (*Shengshi yuanyin* 盛世元音).[1] Chinese characters, claimed Shen, slowed down the flow of information in the Qing Empire (1637–1912). They blocked the telegraphic wires, clogged the arteries of the brain, and prevented the advancement of scientific knowledge. The only solution to the empire's pending doom, he contended, was a phonetic script that could facilitate communication and increase knowledge production. Before inventing his own script, Shen compared a variety of phonetic scripts in terms of their speed and efficiency in promoting literacy and their adaptability to Morse code. But Shen's concern was not only with reading and writing and dots and dashes. He suggested that a phonetic script also had a transcendental neurophysiological power. It could unite the outside world with the brain, because nouns, adjectives, and verbs, respectively, triggered the three cerebral parts—pons Varolii (*zhongnao* 中腦, "middle brain"), cerebrum (*danao* 大腦, "big brain"), and cerebellum (*xiaonao* 小腦, "small brain"). The shorter the distance between speech and writing, argued Shen, the faster the union was between humans, machines, the universe, and the self.

Shen Xue's engagement with the human brain and communications technologies may seem idiosyncratic, but he was only one among many reformers in the late Qing who were deeply troubled by the Chinese script.

From the 1890s to the fall of the empire in 1912, dozens of reformers called for a phonetic script, and the following decades witnessed hundreds of more reformers and revolutionaries pledging to change the Chinese characters. Each proposed script was different. Among the more famous ones was the National Phonetic Alphabet (*Guoyin zimu* 國音字母 or *Zhuyin zimu* 注音字母), first promulgated in 1918 by the central government and later renamed Phonetic Symbols (*Zhuyin fuhao* 注音符號) in 1930. Known as *bopomofo*, it is still the most commonly used input method for Taiwanese computer technologies. Another script was the Chinese Latin Alphabet, also known as Sin Wenz, which was invented by Russian and Chinese revolutionaries in the Soviet Union to replace Chinese characters with latinized letters in the early 1930s. Some of the proposed scripts were not at all phonetic. Especially in the 1920s and 1930s, there was a large movement to simplify the Chinese characters that was spearheaded by Chinese psychologists in the United States as well as liberal reformers and left-wing writers in Shanghai. The movement threatened the "native culture" of China so acutely that the ruling Nationalist Party (Guomindang, GMD) decided to ban it in 1936.

There were other proposals as well. There was, for example, the reformed Arabic script of the Chinese Muslims in Central Asia, whose significance for Chinese script reforms is largely forgotten in scholarship. Then there were scripts invented by prominent linguists, such as Yuen Ren Chao's (Zhao Yuanren 趙元任, 1892–1982) Gwoyeu Romatzyh. And of course, there was Pinyin, devised in 1958 by Zhou Youguang 周有光 (1906–2017), which eventually became the international standard for transcribing Chinese characters into the Latin alphabet. But the history of script reforms did not stop even then, as Pinyin took an unexpected life of its own in the multiethnic frontiers of the People's Republic of China in the 1960s and the 1970s and replaced some of the centuries-old ethnic minority scripts. It was only in 1986 that the State Council of the People's Republic of China (PRC) officially put an end to script reforms, as it announced that Pinyin would not replace Chinese characters. Almost a hundred years of reforms finally came to an end.

From Shen Xue's treatise to the State Council's final announcement, the variety of Chinese scripts manifested a century of uncertainty and a profound sense of alienation from a millennia-old writing system. This book is an attempt to understand the historical emergence of this alienation within a global framework and carve out a space for studying the history of scripts as distinct from languages. In doing so, I aim to revise the predominant

narratives about Chinese script reforms. If we put aside Shen Xue's treatise and other early works on script reforms, it would be tempting to explain this alienation, as many historians have, as an outcome of national language reforms. In fact, the most extensively researched and lucidly written book on Chinese script reforms did not even contain the word "script" in its title. Published in 1950, John DeFrancis's *Nationalism and Language Reform in China* chronicled the development of Chinese script reforms as they intersected with language reforms from the late Qing to the establishment of the PRC. His concern with "language reform" was certainly warranted. When DeFrancis was writing in the 1940s, the definition of a "Chinese" national language was far from certain. Mandarin was designated as the national language in the 1920s and 1930s by the ruling GMD, but the place of other "Chinese" languages, such as Cantonese, in the new linguistic order was unclear at best. The language politics of the era were intimately tied to script reforms as well, and DeFrancis was the first Western scholar to capture the relationship between the two in vivid detail. Yet, in doing so, he implicitly demarcated a clear hierarchy between language reforms and script reforms. The former was of vital political importance; the latter was just a technical instrument that facilitated it.

DeFrancis was not alone in prioritizing language politics over script politics. He was drawing from leading Chinese language reformers who were politically invested in conceptualizing scripts as representative technologies. Li Jinxi 黎錦熙 (1890–1978), whose *A Brief History of the National Language Movement* (*Gwoyeu yunndonq shyy gang [Guoyu yundong shigang]* 國語運動史綱, 1934) deeply informed DeFrancis, was a May Fourth radical and an ardent supporter of alphabetizing Chinese in the 1920s. Like the majority of May Fourth iconoclasts, Li blamed the Chinese characters for cultural backwardness, as the complexity of their physical composition posed a seemingly insurmountable problem for literacy. More importantly, Chinese characters were not conducive to creating a "national language" because they lacked precision in phonetic values, causing a variety of different pronunciations for each character. If only China had a unified national language, then its alphabetic script would naturally facilitate literacy and aid modern scientific progress. National language was again the end; script was just the means to achieve it.

The subsequent scholarship on Chinese script reforms internalized the secondary place that early twentieth-century Chinese reformers had

ascribed to scripts. On the one hand, this resulted in outstanding works that explored a variety of topics ranging from the *baihua* movement to the intricacies of language politics and the troubled place of dialects in Chinese linguistic modernization.[2] On the other hand, the unintended consequence of this scholarship has been to reproduce the language-centered framework concocted by Chinese reformers themselves. Recently, there have been attempts to go beyond this framework. Scholars such as Yurou Zhong, for example, stepped away from language reforms and observed that the main culprit behind script reforms in China and elsewhere was a "phonocentric" epistemology that prioritized speech over writing and aimed to close the gap between the two.[3] Following a Derridean line of thought, she argued that the epistemic violence of phonocentrism, not the desire for a national language, turned the Chinese script into an inadequate technology in need of reform. And yet, while Zhong's work was among the first to draw scholarly attention to linguistic epistemology at large, her positioning of phonocentrism as the driving force behind script reforms ironically perpetuated the language-centered framework that has been dominating the scholarship for the past century. And in doing so, it continued to leave fundamental questions unanswered: How, for instance, should we explain phonocentrism's historical emergence in the first place? Why was the phonocentric paradigm able to establish itself with such unprecedented force in modern China? Is it possible to write a history of scripts outside of the phonocentric paradigm, i.e., without prioritizing language? Or, to put it differently, do scripts have an ontology of their own, separate from language?

The link between language and script is undeniable, but conflating the two is problematic and confusing, for the concerns of script reformers went far beyond languages. The late-Qing reformer Shen Xue's 1896 treatise on script, brain, and telegraphy indicated a different problem that he was trying to come to terms with. During the initial years of script reform, Shen was part of a group of reformers who scrutinized the impact of communications technologies and biotechnologies on the Chinese society at large and searched for new ways of reform that would redefine the Chinese bodies and minds. They were less concerned with speech and language, and more with the materiality of scripts themselves. Scripts, for them, were critical technologies in constructing a new economy of communication and knowledge for China.

Tan Sitong 譚嗣同 (1865–1898), for example, another radical late-Qing thinker and proponent of script reform, brought together translated Western works on the brain and the telegraph to conjure a new philosophy of communication. Similar to nineteenth-century Euro-American philosophers who used electric telegraphy as a metaphor for the nervous system, Tan argued that the brain was at the center of an electrified bodily cognition. The outside world was connected to the brain through the brain-*qi* tendons (*naoqijin* 腦氣筋), i.e., nerves, and all sensory input was traveling to the brain in the form of "messages" or "information" (*xin* 信). Electrified information, according to him, animated cerebral life and connected people to the world and each other—it stood at the core of communication and interconnectivity (*tong* 通). What set him apart from Western thinkers was that Tan located the highest form of Buddhist consciousness, the eighth consciousness (*ālaya*), in the brain as well and envisioned the electrification of the brain and the higher input of sensory information as a gateway into enlightenment.[4] His highly influential book, *An Exposition of Ren* (*Renxue* 仁學), completed right before he was beheaded by the Manchus in 1898, was one of the earliest examples of Chinese communication theory that grounded transcendental thought in the material infrastructures of information.

Tan was also a leading supporter of communicative efficiency in general and phonetic scripts in particular. He even wrote a preface to a phonetic script proposal in which he briefly elaborated on the merits of simplifying and facilitating education at large.[5] Reading his oeuvre closely, one may recognize the powerful historical moment that connected phonetic scripts in Tan's mind to Buddhist cognitive architecture, neurophysiology, and telegraphy; and it may help us understand Shen Xue's unorthodox approach to script and the brain. Tan was born in the early years of the Qing empire's Self-Strengthening Movement (1861–1895), which sought to integrate the empire into a globalizing yet uneven capitalist economy. Those decades witnessed an ambitious era of industrialization and mechanization that began to transform the Qing society, especially in the coastal regions, as new arsenals, factories, and shipyards were founded for military self-strengthening. Large-scale industrial enterprises were followed by new communications technologies and infrastructures that not only increased the speed and quantity of transmitted information but also precipitated a more significant transformation of the knowledge economy that was felt vehemently at the

turn of the century. Growing up in the midst of unparalleled change, Tan was a major defender of industrialization at large, and his foray into a philosophy of communication and mind stemmed from this age of mechanization. The construction of factories, better use of human labor, and more efficient management of time were at the center of Tan's treatise. It was within this industrializing economy that Tan identified the critical role of script for communications networks and productive technologies more broadly. In his words, "when electric wires, postal system, machine manufacturing, simplicity of work, and efficiency of script [*wenzi zhi bianjie* 文字之便捷] are taken together as a whole, the achievement of a generation can equal those of dozens of generations."[6] His exposition on the metaphysics of information and brain, in other words, was a philosophical and economic call for increased mechanization in industrial factories and communications technologies. If industrial mechanization could increase efficiency in factory labor, more "efficient" scripts could do the same in clerical and mental labor and facilitate knowledge production by increasing access to education and information. For Tan Sitong, new technologies could transform the production of commodities and knowledge while unifying consciousness and the outside world. Tan, in short, was employing an industrialist logic to rethink communication philosophy and economic development. Script was critical to both.

And that was precisely the point of view that Shen Xue expounded upon in his own proposal for a phonetic script. Shen emphasized the cerebral dimensions of script reform in order to propose a new vision for mental and clerical labor efficiency in a swiftly changing knowledge economy. He supposedly calculated the amount of time it took to send a telegram in a variety of scripts, from Chinese to Manchu to Mongolian to his own phonetic invention. He explained the anatomy of the ear to his readers to demonstrate how phonetic sound waves traveled into the brain. He also drew on theories of aphasia, i.e., loss of the ability of speech, to make unconventional claims about how language animated the brain—all in an effort to convince his readers of the urgent need for script reform. While his statements might have seemed idiosyncratic to some at the time, or to us today, neurophysiological theories of language and writing were his gateway into comprehending a nascent knowledge economy that neither he nor his fellow reformers knew how to cope with. Shen was one of the first reformers

to identify the problem of script not as a problem of language but one of *labor* in an industrializing economy of knowledge (see chapter 1).

He certainly was not the last. In subsequent proposals for script reform, from phonetic scripts to simplified characters, "saving brain energy" (*sheng naoli* 省腦力) became a central trope, as the industrializing economy metaphorically turned the brain itself into a factory for manufacturing information and knowledge. Lufei Kui 陸費逵 (1886–1941), later the owner of the Zhonghua Press, wrote in 1909 that Chinese characters had to be simplified in order to save the brain energy of young students.[7] In 1922, Qian Xuantong 錢玄同 (1887–1939), a leading reformer in early Republican China, despondently noted that he was not even forty years old, but his nerves were exhausted due to the use of Chinese characters.[8] Others similarly blamed the Chinese characters for their "waste" of brain energy when the nation needed it the most. Of paramount importance for script reformers was the relationship between mental work and the technologies of knowledge production, in particular the script itself.

Shen Xue, Tan Sitong, Lufei Kui, Qian Xuantong, and dozens of other script reformers that populate the pages of this book were responding to an ongoing revolution in communications and information that was radically transforming the earlier practices of writing and literacy, and of cognitive work at large. They were living in a precarious age of information, one that started long before computers, and one that fundamentally altered the established practices of knowledge production, hence the acute sense of alienation from a millennia-old writing system. In a nutshell, script reforms were not an outcome of language reforms or phonocentrism; they stood at the forefront of a new era in China that redefined the meaning of information, communication, and mental labor.

Scripts in the Age of Information

This book steps away from phonocentrism and language reforms as explanatory frameworks for understanding script reforms. Following the concerns of turn-of-the-century reformers, I contend that script reforms emerged out of a modern political economy of information that fundamentally transformed the Chinese knowledge economy by instituting a new mental and