Zev Handel, *Sinography: The borrowing and adaptation of the Chinese script*. (Leiden; Boston: Brill. 2019, 369 Pp).

Can the script or writing system of a spoken language be used to write the vernacular of another language? The answer is a resounding "yes". Modern Turkish is written with the Roman alphabet, but for centuries from 1299 to 1928, Ottoman Turkish used to be written with a Perso-Arabic script.[1] Chinese, written with a non-alphabetic, logographic script (方塊字, *fāngkuàizì*), is another case in point. As Handel demonstrates in *Sinography* with the help of rich historical details of language-cum-culture contact and plenty of instructive examples, script borrowing from Chinese into Korean, Japanese and Vietnamese was extensive both in terms of intensity and time-depth within Sinographic East Asia. Surviving historical records and documentations along with the scholarship they have inspired are not rare. Thanks to this shared lingua-cultural heritage, for over a millennium until early 20th century, knowledge of classical Chinese or Literary Sinitic allowed its literati within East Asia to make meaning interactively, albeit not in speech but in writing – a modality of communication that apparently was unique to Sinographic East Asia (漢字文化圈), or the Sinographic cosmopolis (漢字大都會).[2]

Massive borrowing of Sinitic vocabulary constitutes the object of Zev Handel's study in his monograph aptly entitled *Sinography*, which may be characterized as the nexus of a cluster of areal language contact phenomena in East Asia. Departing from the hypotheses of two basic mechanisms in the process of script borrowing – phonetic adaptation and semantic adaptation – Handel shows convincingly how both mechanisms are at work using instructive examples of Sino-Korean, Sino-Japanese and Sino-Vietnamese words borrowed at different historical periods, resulting in multiple layers of Sinitic vocabulary (e.g., Sino-Japanese words are pronounced according to *go-on* 呉音; *kan-on* 漢音; and *tō-on* 唐音)[3]. The theoretical and analytical framework was adapted from Boltz's 1994 model, where individual graphs (G) with recognizable pronunciation (P) and meaning (S) are represented as G (P, S).[4] Based on this model, Handel is able to show how the processes and outcomes of script borrowing are both motivated and restricted by the typological features of the recipient languages.

The book consists of nine chapters. After introducing the historical background and Boltz's theoretical framework and clarifying key concepts in Chapter 1,[5] Chapter 2 gives an overview of orthographic characteristics of the logographic Chinese script[6] from prehistoric oracle bone inscriptions (甲骨文) through scriptal development to Modern written Chinese in broad strokes.

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[1] Richard Oliver Collin, "Revolutionary scripts: The politics of writing systems." In Michael A. Morris (ed.), *Culture and Language: Multidisciplinary Case Studies*, 51. Frankfurt am Main: Peter Lang, 2011.

[2] Ross King, "Introduction: Koh Jongsok's Infected language." In Koh Jongsok, *Infected Korean language: Purity Versus Hybridity. From the Sinographic Cosmopolis to Japanese Colonialism to Global English*, trans. by Ross King, 1–16. Amherst, N.Y.: Cambria Press, 2014; David C. S. Li, Reijiro Aoyama, Wong Tak-sum, "Silent Conversation through Brushtalk (筆談): The Use of Sinitic as a Scripta Franca in Early Modern East Asia." *Global Chinese* 6, no. 1 (2020), 1–23.

[3] Handel, *Sinography*, 2019, 176–177.

[4] William G. Boltz, *The Origin and Early Development of the Chinese Writing System*. New Haven, Conn.: American Oriental Society, 1994.

[5] The key concepts include script and writing system, loanword and borrowing, Literary Sinitic, adaptation mechanisms, language typology, Sino-xenic vocabulary, Sinographosphere and the Sinographic cosmopolis, among many others.

[6] Notably 六書 *liù shū*, 'six types of writing' introduced in the first major work in Chinese lexicography, the Hàn dynasty dictionary 說文解字 *Shuō wén jiě zì*, 'Explaining graphs and analyzing characters' of 100 CE.

Chapters 3–5 are each devoted to Korean, Vietnamese and Japanese, in that order, to facilitate ease of exposition. The structure is almost identical: from the history of language and culture contact with Chinese and salient features in phonology and linguistic typology to the role of glossing as a reading technique (more strongly evidenced in Japanese and Korean than in Vietnamese), but also processes of vernacular writing and outcomes of lexical borrowing. Specific processes of script borrowing are evidently motivated by a desire for disambiguation, as the adaptation of a Sinitic word – be it phonetic, semantic, or both – may result in semantic ambiguity and likely cause confusion in reading. The choice of adaptation method may vary, as exemplified by plenty of instructive examples when discussing the classification of methods characterized by processes and outcomes of adaptation, including 'directly adapted logogram' (DAL), 'semantically adapted logogram' (SAL), 'phonetically adapted phonogram' (PAP), and 'semantically adapted phonogram' (SAP), among others. For disambiguation purposes, beyond the use of a phonetic or semantic determinative, innovative graphs were also invented to express local meanings. For example:

Graph	**Word / Morpheme**	**Source of components**
乭	*tol* 돌 'stone'	石 (shí, 'stone') + 乙 (*-l*) (Kor., p. 105)
仝	*trùm* 'village leader'	人 ('person') + 上 ('above') (Viet., p. 148)
坽	trời, 'sky, heaven'	天 ('sky') + 上 ('above') (Viet., p. 148)
働	*hatarak-* 'to work'	亻('person') + 動 ('move') (Jap., p. 194)

Handel shows that similar adaptation methods for writing vernacular elements are preferred depending on the typology of the recipient languages. Japanese and Korean, being agglutinating languages, exhibit both phonetic and semantic adaptation methods, while semantic adaptation is rare in the isolating language Vietnamese as well as in Chinese vernacular writing like Cantonese.[7] Chapters 3–5 all end with a summary, followed by discussion of later script development. Chapter 6 pulls together the key findings in the previous chapters and draws implications for further research by recapitulating falsifiable claims and conditions under which the theoretical model could be further tested for its predictive power.

From the point of view of theory-building, for the processes and outcomes of adaptation in script borrowing to have universal appeal, Handel maintains that they should be verifiable in other script borrowing contexts, including the borrowing from and into phonographic languages regardless of their linguistic typology status (esp. morphologically isolating, inflecting or agglutinating). To demonstrate that the patterns of adaptation mechanisms or techniques informed by script borrowing in East Asia are not unique to Sinographic languages, Handel undertakes to compare script borrowing data of five other historical language contact situations in Chapter 7 (Zhuang, Khitan, and Jurchen) and Chapter 8 (Sumerian and Akkadian), following the same structure as in Chapters 3–5. Comparison and contrast are made with similar processes and outcomes of phonetic and semantic adaptation in Sinographic East Asia discussed earlier. Chapter 9, the shortest of nine chapters (four pages), gives a synopsis of the empirically supported findings and appeals for further research in cross-linguistic script

[7] Handel, *Sinography*, 2019, 60, 142.

borrowing with a view to deepening our understanding of "one of the most crucial events in the history of human civilization: the birth and spread of writing" (p. 312).

To help readers who are less familiar with how logographic sinograms function and relate to speech, a three-page Appendix titled 'English Sinography Exercise' is included. Also included in the end matters is a list of references, three 'Sinogram Indexes', and a subject (but not author) index. Over 230 references cited are listed in English, including many relevant works published in each of the four East Asian languages (original author names, book and article titles along with romanization are also provided). Particularly useful are three indexes of a total of 417 sinograms exemplified and discussed in the book, each is given a unique ID number for convenient cross-referencing. The indexes are listed separately by first occurrence, by gloss, and by reconstructed Early Middle Chinese (EMC) and/or Late Middle Chinese (LMC) pronunciation following Pulleyblank's 1991 notations,[8] if attested. The exact page references of specific sinograms can be easily retrieved and quickly located.

Some observations and critical issues

Writing is necessarily glottographic,[9] in that the script or writing system should allow its speakers to express any and all meanings of vernacular elements in speech. The majority of the world's written languages are phonographic; logographic Chinese or Sinitic may be the odd one out, but it is the only script invented *ex nihilo* over 3,000 years ago that is still being used by over 1.3 billion Chinese and over 120 million Japanese today.

A sinogram encapsulates (音 *yīn*), meaning (義 *yì*) and written form (形 *xíng*), all in one. This is exemplified in primers of Chinese written, for example, for Korean learner.[10] "Characters were memorized with a two-part gloss, termed *hun* 훈 訓 'meaning gloss' and *ŭm* 음 音 'sound gloss'"[11], as follows:

> 水: *mul su* 물 수 'water *su'*
>
> 手: *son su* 손 수 'hand *su'*
>
> 樹: *namu su* 나무 수 'tree *su'*

That was by and large how, for over a millennium, people living in modern-day Japan, Korea, and (northern) Vietnam learned to write their own vernacular languages, when sinogram-based *wényánwén* 文言文,[12] the only form of writing in their lifeworld, functioned as intellectual fodder for the educated elites, whose Sinitic improvisations were intelligible to and often aesthetically pleasing among fellow literati within and across the Sinographic cosmopolis.

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[8] Edwin G. Pulleyblank. *Lexicon of Reconstructed Pronunciation in Early Middle Chinese, Late Middle Chinese, and Early Mandarin*. Vancouver: University of British Columbia Press, 1991.

[9] John DeFrancis, *The Chinese language: Fact and Fantasy*. Honolulu: University of Hawaii Press, 1984; Marshall J. Unger, *Ideogram: Chinese Characters and the Myth of Disembodied Meaning*. Honolulu: University of Hawaii Press, 2004.

[10] Cf. Handel, *Sinography*, 2019, 77–80.

[11] Handel, *Sinography*, 2019, 79–80, footnote 28.

[12] Kor. *Hanmun* 한문; Jap. *Kanbun* 漢文; Viet. *Hán văn* – all cognates to Chinese *Hànwén* 漢文 'Chinese writing', literally "written form of cultured speech," Handel, *Sinography*, 2019, 15.

Handel shows convincingly that in the process of adapting elements of a language to write the vernacular of another, phonetic adaptation and semantic adaptation are two natural mechanisms for speakers of the recipient language to create new graphic units or graphs. Hardly any training is required. Where semantic ambiguity arises, similar strategies may be used for disambiguation, typically by adding a phonetic or semantic determinative, but "the strategies available for eliminating or resolving ambiguities are favored or disfavored by the linguistic typology of the vernacular language and its points of similarity and difference with the typological features of Chinese".[13] In addition, a symbolic strategy is available to speakers literate in Sinitic, namely the innovation of a new morphogram by combining two or more existing morphograms (as shown above), or making iconic modification of a graph through stroke deletion to create an antonym (e.g., Cantonese: 有 jau5 'have' → 冇 mou5 'not have'; 冇 is also attested in Zhuang: *mbouj* 'not, not have', p. 255; see also examples in Vietnamese).

There are several controversial topics surrounding the continued use of the logographic script to which Handel can enlighten us. For instance, is written Chinese a cultural treasure or impediment to social progress? If thousands of non-phonographic, logographic sinograms needed for functional literacy in adult life are difficult to master and easy to forget, one may well ask: why on earth did successive generations of Chinese intellectuals refuse to take the debate on written Chinese reform from early 20th century to the 1950s to its logical sequel, namely, wholesale alphabetization?[14] For want of space, to assess the significance of Handel's contributions, I will briefly discuss two critical issues.

First, after a brief discussion of monomorphemic bisyllabic Chinese words like 珊瑚 *shānhú* 'coral' and 葫蘆 *húlu* 'gourd', which are relatively rare in Chinese, Handel inserts a footnote as follows:

> Hannas (1997: 176–178) has argued that the aspects of the writing system just described have had a profound effect on spoken Chinese, inhibiting changes to the basic typology of the language's morphology. This is an interesting claim, but such a strong hypothesis cannot be accepted without a more rigorous evidence-based argument. (footnote 10, p. 34)

Handel is referring to Hannas's critique of monosyllabicity: "What *is* monosyllabic about Chinese is its morphology, but this can be directly attributed to the effect Chinese characters have had on the structure of morphemes." [15] For Hannas, what is characteristically monosyllabic is Chinese morphology. His observation that monosyllabicity "can be directly attributed to the effect Chinese characters have had on the structure of morphemes", is worth probing into in my view. The gist of the matter is: if the script is non-phonographic, how can subsyllabic elements be visually represented in writing? Conversely, granted that subsyllabic elements were heard and spoken in the vernacular, if they were invisible in writing, how likely and willing would literate readers be to articulate them in speech? Interestingly, Handel's analysis of Old Korean songs (also apparent in Old Japanese songs) from the 7th century CE until the early Koryŏ dynasty (918–1392) offers some clue. Surviving early vernacular writing

[13] Handel, *Sinography*, 2019, 160.
[14] William C. Hannas, *Asia's Orthographic Dilemma*, 178. Honolulu: University of Hawaii Press, 1997; Zhong Yurou. *Chinese Grammatology: Script Revolution and Literary Modernity*. New York: Columbia University Press, 2019; see also DeFrancis 1984 and Unger 2004 cited above.
[15] Hannas 1997, 178.

materials in Korea suggest that using morphographic sinograms to represent subsyllabic elements such as syllable-coda consonants (e.g., 乙 for *-l*; 邑 for *-p*; 叱 for *-s*; and 隱 for *-n*)[16] is prone to confusion due to semantic ambiguity and, for this reason, not at all reader-friendly.[17] Could this be one major reason why such an emergent literacy tradition – adapting Sinographic morphograms as desemanticized syllabic phonograms to write subsyllabic vernacular elements in Korean *hyangch'al* 향찰 鄕札 – was discontinued and "eventually died out"?[18] What Hannas was alluding to may be paraphrased by the question: What implication does the adoption of a logographic, non-alphabetic script have on the evolutionary path of syllable structures and morphological development in Chinese – and by extension in Vietnamese, both typologically isolating languages famous for their scanty morphologies?[19]

Second, Handel has good potential for enlightening us on the reason why writing-mediated communication was so common between literati of classical Chinese or Sinitic in cross-border transcultural encounters. What is remarkable is that knowledge of the Sinographic writer's vernacular plays a negligible role in the process of consuming (reading) Sinitic texts. On the contrary, bilingualism being uncommon, if articulated in the writer's own regional pronunciation (say, Japanese), Sinitic texts would cease to be intelligible in cross-border communication contexts (say, to Chinese, Koreans or Vietnamese interlocutors). Put differently, whereas literati of Sinitic were inconvenienced by a lack of a shared vernacular, logographic sinograms allowed them to get around phonography (their interlocutors' speech as well as their own) and rely on writing-mediated brushtalk (筆談, Mand. *bǐtán*; Jap. *hitsudan* ひつだん; Kor. *pildam* 필담, Viet. *bút đàm*) as a modality of communication, as amply attested in cross-border communication in East Asia historically.[20]

How was that possible and why was writing-mediated communication such a popular practice between literati of Sinitic where speech was not an option? This may be explained by the linguistic affordance of logographic sinograms not shared by phonographic writing systems: to literate writers and readers of Sinitic across Sinographic East Asia, sinograms are morphographic, representing meaningful units of speech, and phonetically intersubjective. This is in stark contrast with other phonographic regional lingua francas like Latin, where Roman letters are pronounceable in speech, however diverse the Latin readers' accents may be. This is probably why, in the case of Latin or other phonographic writing systems, resorting to writing as a modality of interactive, face-to-face communication is uncommon.

For a single-authored volume with 369 pages, it is hard to imagine that everything between the covers is typographically perfect and error-free, especially on a topic that necessarily involves boundary-crossing between multiple languages, including many ancient keyboard-unfriendly "unit graphs" like Sumerian cuneiform and their Akkadian incarnation, but also sinogram-based innovations. And yet such infelicities of a mechanical nature are hardly noticeable; no

[16] Handel, *Sinography*, 2019, 95.
[17] There is no evidence of similar consonantal PAPs in early Japanese vernacular writing materials probably due to much simpler syllabic structures in Japanese, Handel, *Sinography*, 2019, 207.
[18] Handel, *Sinography*, 2019, 97, 110 and 167.
[19] David C. S. Li, Aoyama Reijiro, and Wong Tak-Sum. "Syllabic salience: What script borrowing in East Asian languages can tell us about the evolutionary path of syllable structures," *Scripta*, under review.
[20] David C. S. Li, Aoyama Reijiro, and Wong Tak-Sum. (eds.). *Brush Conversation in the Sinographic Cosmopolis: Interactional Cross-border Communication in Literary Sinitic in Early Modern East Asia*. London: Routledge, forthcoming.

more than a couple caught my eyes, mainly in footnotes. Incidentally, this points to another feature of the book: for supplementary information such as relevant literature, differing views or alternative perspectives, the author would use ‘footnote’ as the space for clarification or elaboration (e.g., within the space of over 60 pages, Chapter 3 on Korean contains 90 footnotes, many of which rather lengthy).

All in all, for students and researchers working on topics related to premodern and early modern ‘Sinographic East Asia’ or the ‘Sinographic cosmopolis’, Handel 2019 is a must-read as it sheds new light on how, over the time-depth of nearly two millennia until early 20th century, modern-day East Asia was a tight-knit if virtual intellectual community thanks to the instrumental role played by the shared use of logographic Sinography. Readers with an interest in written Cantonese, a regional lingua franca in the Greater Bay Area, will also find it a valuable resource as it is often invoked in different parts of the book for comparison and contrast. Finally, for others working on language-cum-culture contact and change, Handel demonstrates convincingly that the theoretical model of script borrowing extrapolated from deep analysis of the historical spread of Sinography has good potential for being fruitfully applied to other contexts of areal contact and script borrowing, ancient or modern.

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