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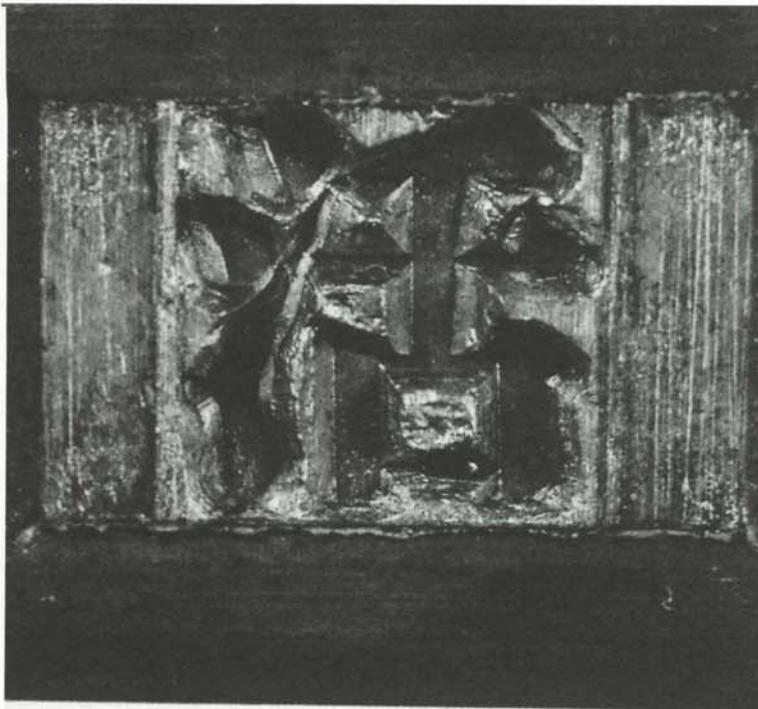
Martin J. Heijdra, "The Development of Modern Typography in East Asia, 1850-2000", The East Asian Library Journal 11, no. 2 (2004): 100-168, accessed January 14, 2017, https://library.princeton.edu/eastasian/EALJ/heijdra_martin_j.EALJ.v11.n02.p100.pdf

The Development of Modern Typography in East Asia, 1850–2000

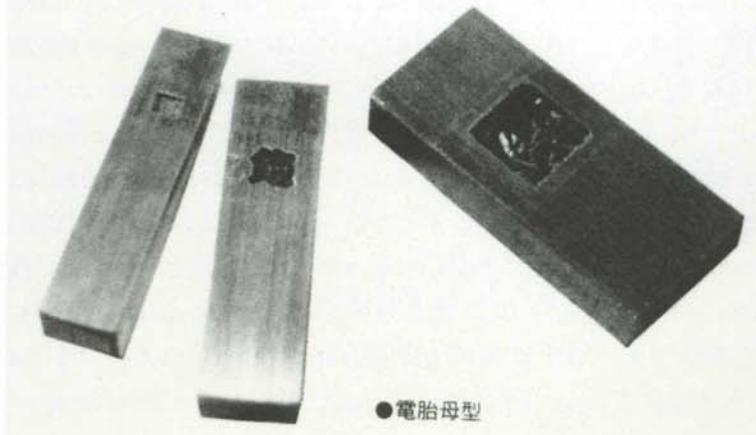
MARTIN J. HEIJDRÁ

In my work as Chinese bibliographer in the East Asian Library and the Gest Collection at Princeton, I have often been consulted for guidance on how to use Chinese, Japanese, and Korean fonts on a computer. Being an historian at heart, I have long wanted to investigate the history of East Asian typefaces in the manner countless books have done for the history of type in the West. The accomplishments of creating the huge East Asian fonts are enormous, and it is important to recognize some of the major names, dates, and stages in the history of Chinese, Japanese, and Korean typography. However, this task has proved to be far from simple. There are hardly any books on the history of typefaces in East Asia, and whatever has been written usually exists only in ephemeral trade or graphic-design publications seldom collected by libraries. Only now, after some five years of research, do I have the basic material to begin such a history. This stage of my research allows me to give a simple outline of one of the threads of typographic history in East Asia, namely that of type and typefaces and their technological foundation. I will defer to another occasion such topics as page layout or the process of designing Asian fonts.¹

The “modern” in my title is used as a technological term and



銅活字のガラハ(種字を抜いた仕上げ前)



●電胎母型

1. Matrix made using the electrotype method. Top: first stage copper shell, before adjustments; bottom: brass matrix with inserted second-stage copper shell. Photograph from Kozuka Masahiko, "Tōzai katsuji kōza: taipufeisu dezain no shūhen, 1: Taneji to bokei o megutte" (Lectures on Type East and West: Aspects of Type-face Design, 1: On Seed Type and Matrices), *Tategumi-Yokogumi* 20 (Spring 1988), p. T4. Publication in the collection of the author.

refers to easily produced, reproducible, and sturdy metal type to be used on mechanized, post-eighteenth-century, Western-style printing presses. Of course, there was movable type in East Asia before the 1860s, but neither Western nor Asian technology could satisfy simultaneously the demands for ease of cutting and for durability when faced with the thousands and thousands of Chinese characters needed for one set of type until the application to Chinese type of the electrotype process, which did away with the need for the laborious cutting of punches in steel and which produced matrices chemically from wax imprints. (See figure 1 for

an electrotype matrix.) Until then, printing with type simply was not cheaper, better, or easier than printing with woodblocks. On the one hand, the character sets needed were very large, and each character with its numerous horizontal strokes was more difficult to cut in steel than were its Western counterparts. On the other hand, solutions such as the use of counterpunches, which simplified and regularized the production of Western punches, were inapplicable to Chinese type. Similar problems made type composition and redistribution much more cumbersome. The cutting of type was only one part of the issue. Presses—not used with traditional Asian movable-type printing—also were modernized in the late-nineteenth century, while other relative advantages of woodblock printing regarding illustrations and ease of reprint were surpassed by Western technologies, such as lithography and stereotype, in the same general period. Only after *all* of these technological advances had evolved did Western printing have something to offer East Asia.²

Not all of these factors were present when, early in the nineteenth century, the impetus for modern type arose among missionaries and Sinologists, who long remained the main circles within which methods for making useable type were sought for publication of religious tracts and scholarly treatises. (For the latter, see figure 2.) Some of these efforts might be ascribed to the then unwarranted conviction of missionaries and Sinologists that Western technology was always superior and perhaps also to their lack of easy access to the woodblock-cutting labor force. A similar assumption was also present among the first Japanese publishers, who for a long time were attracted to printing with type because of its association with modernity rather than for any demonstrated advantage.³

I use the term “typography” here as an aesthetic which prefers regularized and stylized letter forms, as opposed to individualistic and highly differentiated calligraphic forms. Because of this regularization and stylization, letters are transparently readable, and they can be adjusted to the meaning conveyed by the text for which they are used. This term does not necessarily imply the physical use of type as is indicated by the continued use of the term typography in the present-day digital context. Such a “typographic aesthetic” can be said to have developed in the West later than the actual usage of type. In the mid-fifteenth century, Gutenberg’s Bibles mimicked calligraphic manuscripts before the typo-

The characters on the left side are 清大 *ta-cing*, or *Man-tshoo*, which is the language spoken at 京北 *Pe-king*; but those on the right bear a perfect resemblance to some of those already given, particularly



These are explained in the Japanese work which exhibits this seal thus,



or the royal seal of the kingdom of *Lieu-kieu*. In which, if we consider particularly the three perpendicular characters on the right, it will appear that there is no small likeness between the modern characters of the Chinese and those ancient ones, which is also the case

2. Early-nineteenth-century scholarly treatise printed in movable metal type. Image from Giuseppe Hager (a.k.a. Joseph Hager, 1757–1819), *An Explanation of the Elementary Characters of the Chinese* in *English Linguistics, 1500–1800, A Collection of Facsimile Reprints*, no. 345 (1801; Menston, England: The Scolar Press, 1972), p. xxxi. Photocopy of the exemplar in the Georgetown University Library, qP25 .E5 no. 345.

graphic aesthetic liberated type making from its calligraphic origins. In East Asia, however, the divorce from mere mimicking of the calligraphic hand in printed books occurred much earlier than the wide-spread use of movable type, and the typographic aesthetic divorced itself from the calligraphic imperative in a pre-movable-type context. The so-called artisan style (*jiangtizi*) became especially common from the mid-Ming period (1368–1644) onwards, and because of its superior readability and typographic sense, has remained the text typeface *par excellence* ever since. (See figure 3.) This typographic style is not a degenerate calligraphy produced by clumsy cutters working under time restraints, as frequently is alleged.⁴ For example, there is a small right triangle (*uroko* in Japanese) on the top of each horizontal stroke, which, for optical reasons, is never completely a straight line of equal thickness. This triangle is seen by modern designers as one of the most important elements in establishing correct stroke proportions and the visual balance of the character—it guides the eye movement and establishes the individuality of each typeface. (See figure 4.) It is therefore often compared to the serif of Western fonts. The thin horizontal lines juxtaposed with thicker vertical ones of the artisan style, its redesigned counters (internal spaces), its superior balance, and especially its even grayness on the page as a whole, sometimes achieved by redefining a character's elements, are characteristics that optical readability studies have shown to be better than its closest calligraphic counterpart, the regular (*kaishu*) style. (See figures 5 and 6.)

However, the disdain by the dominant rhetoric on calligraphy for anything practical, readable, or useable, as indicated by the low regard given the artisan style, is precisely one of the major reasons that no scholar, especially in China, has written a history of typography. Only in the 1920s, under influence from various European and Russian aesthetic movements, such as Art Deco, Bauhaus, and Proletarian Art, did interest in character design liberate itself somewhat from the restraints of the rhetoric of calligraphy. This interest expressed itself, however, mainly in title, logo, and trademark design or book and periodical covers, in short in what was called “lettering” rather than in the more complicated and disciplined design of text typefaces. Because of insurmountable technological difficulties, the difference between such lettering and text typefaces for languages of East Asia was much larger than for Western



4. *Uroko*, the triangle on the top of the right-hand end of horizontal strokes. Various forms as found in Japanese woodblocks, of which the upper form is closest to the form found in type. Photocopy from Takemura Shin'ichi, *Minchōtai no rekishi* (History of the Minchōtai Typeface) (Kyoto: Shibunkaku Shuppan, 1986) p. 178.

法書要錄序

唐河東張彥遠

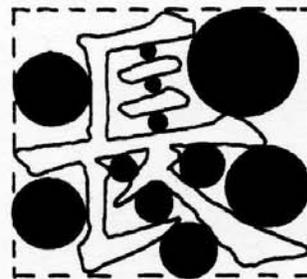
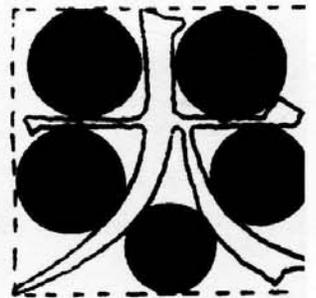
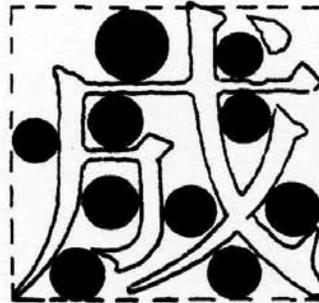
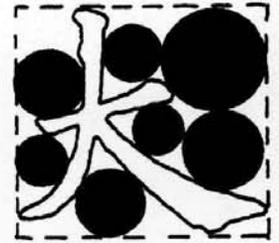
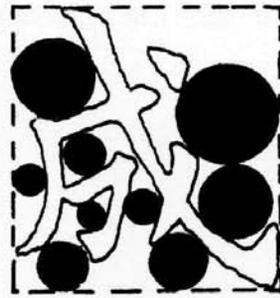
彥遠家傳法書名畫自高祖河東公收藏珍祕河
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 姿雄勁定州北嶽碑為好事所傳曾祖魏國公少稟師訓妙合
 鍾張尺牘尤為合作大父高平公幼學元常自鎮
 蒲陝迹類子敬及處台司乃同逸少書體三變為
 時所稱金帛散施之外悉購圖書古來名迹存於

法書要錄

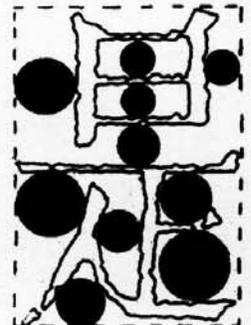
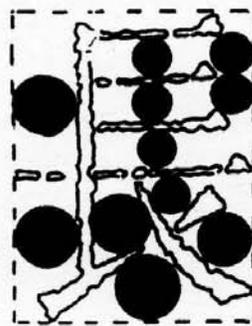
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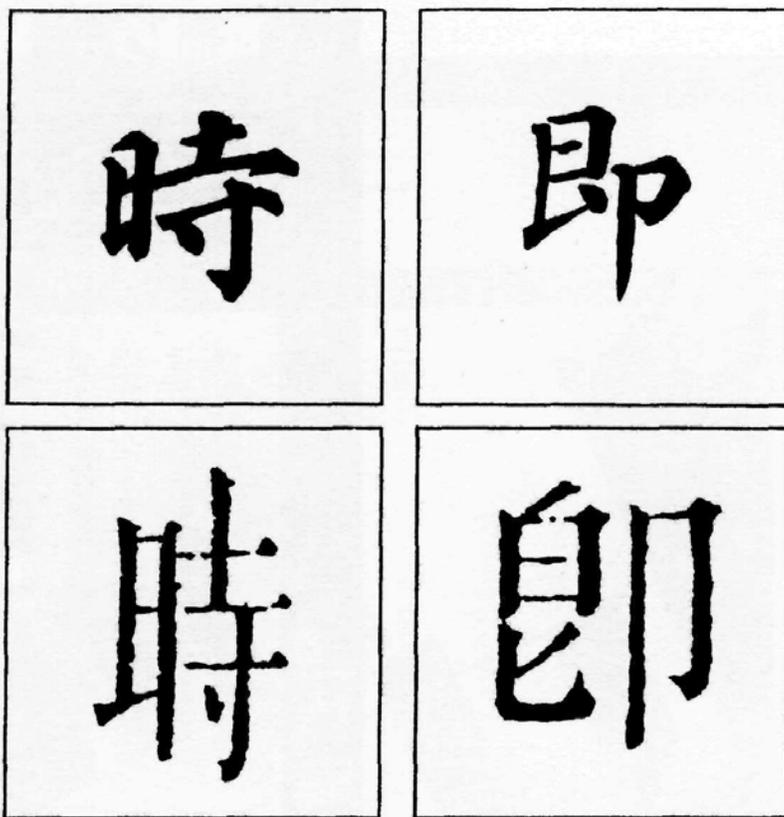
及古

3. Artisan-style (*jiangtizi*) type, late-Ming period. Zhang Yanyuan, *Fashu yaolu* (Abridged Passages from Works on Calligraphy), 8 *juan* (Changshu: Jiguge, between 1630 and 1642), "Fashu yaolu xu," p. 1a. Photograph of the exemplar in the East Asian Library and the Gest Collection, TC223/258.



5. Diminishing differences in counters in the artisan style, here called Songti (second and fourth rows) compared with the regular (*kai*) style (first and third rows). Photocopy from Li Mingjun, *Zhongguo meishuzi shi tushuo* (Historical Atlas of Chinese Artistic Lettering) (Beijing: Renmin meishu chubanshe, 1996), p. 195. Publication in the collection of the author.





6. Multiple corrections to the regular style needed to derive at better balanced, more evenly colored, and typographically usable characters that use the space on the body square better. Photocopy from Li Mingjun, *Zhongguo meishuzi shi tushuo* (Historical Atlas of Chinese Artistic Lettering) (Beijing: Renmin meishu chubanshe, 1996), p. 212. Publication in the collection of the author.

languages. Further, the new status of lettering as art was not necessarily transferred to the design of text typefaces.⁵ (See figures 7 and 8.) Therefore, until the 1970s when the wider concept of “typography”—including both individual type design as well as page layout involving words and texts for advertising, posters, and book pages—replaced that of “lettering” first in Japan, the emerging graphic-design field had long remained quite separate from typeface and page-layout design, the latter being the domain of specialized printers.⁶

“East Asia,” the last, and perhaps the easiest to define, term in my title refers to China, Japan, the Koreas, Taiwan, and Hong Kong, which

5月12日^{ヨリ}

5月23日^{マデ}

会場 上野府美術館

第三回商業美術展

真なる意味のプロレタリア藝術
遊戯にあらざる實際的なる藝術
吾人は人生のための藝術大衆のための藝術
實際効果の藝術に對する精進者なり

創 立 一九二五・四月

第一回展 一九二五・七月・丸菱會館

第二回展 一九二六・五月・府美術館

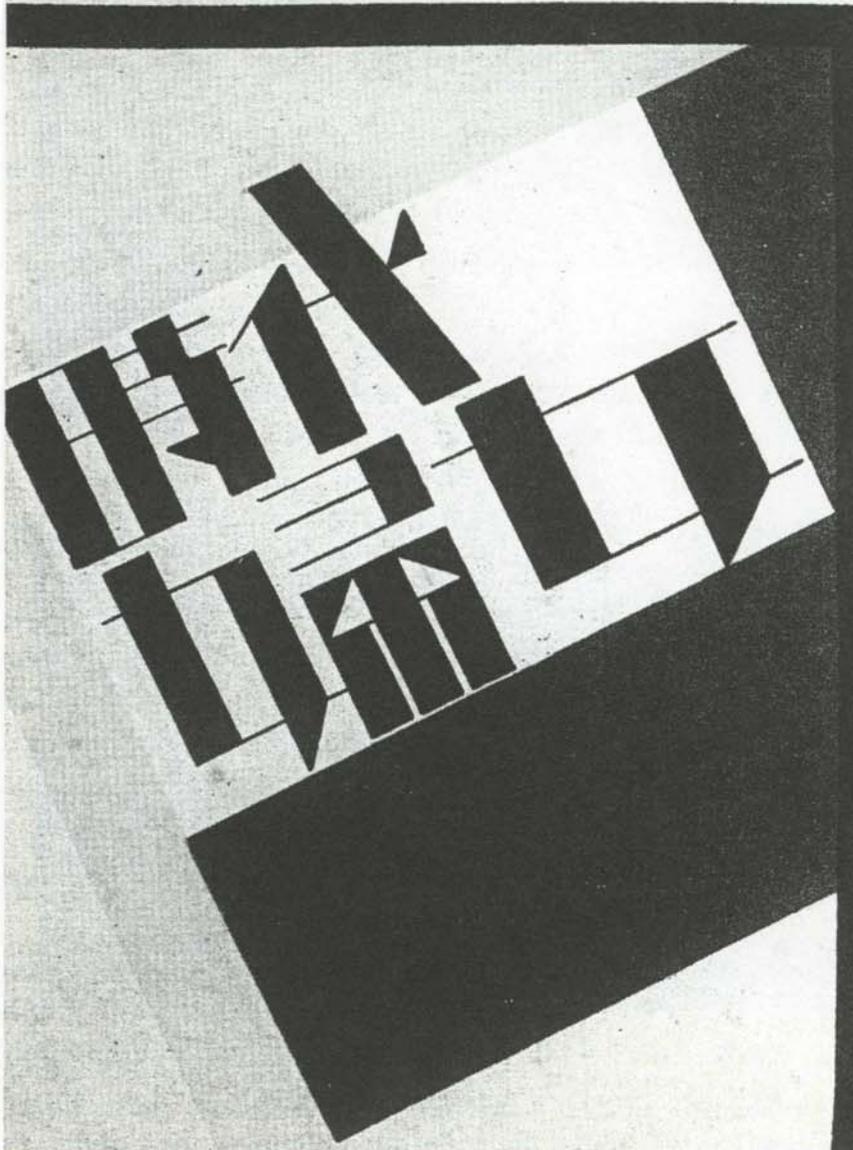
出品概目

- A 宣傳媒体に關する立体と平面とを問はずの創作品
- B 実用品藝術たりあらず生産工藝の製作會館及其原型
- C 民衆保樂に從立つての美術的構想

現代商業美術全集發行元：アルス 寄贈

7. Poster for the *Dai-3-kai Shōgyō Bijutsu Ten* (Third Commercial Art Exhibition), Japan, 1928. Designer unknown. Photocopy from Matsuoka Seigō, Tanaka Ikkō, and Asaba Katsumi, eds., *Nihon no taipogurafikku dezain: moji wa damatte inai* (*Transition of Modern Typography in Japan, 1925-1995*) [Typographic Design in Japan: Letters Do Not Keep Silent] (Tokyo: Toransuāto, 1999), p. 61. Publication in the collection of the author.

論文集之一

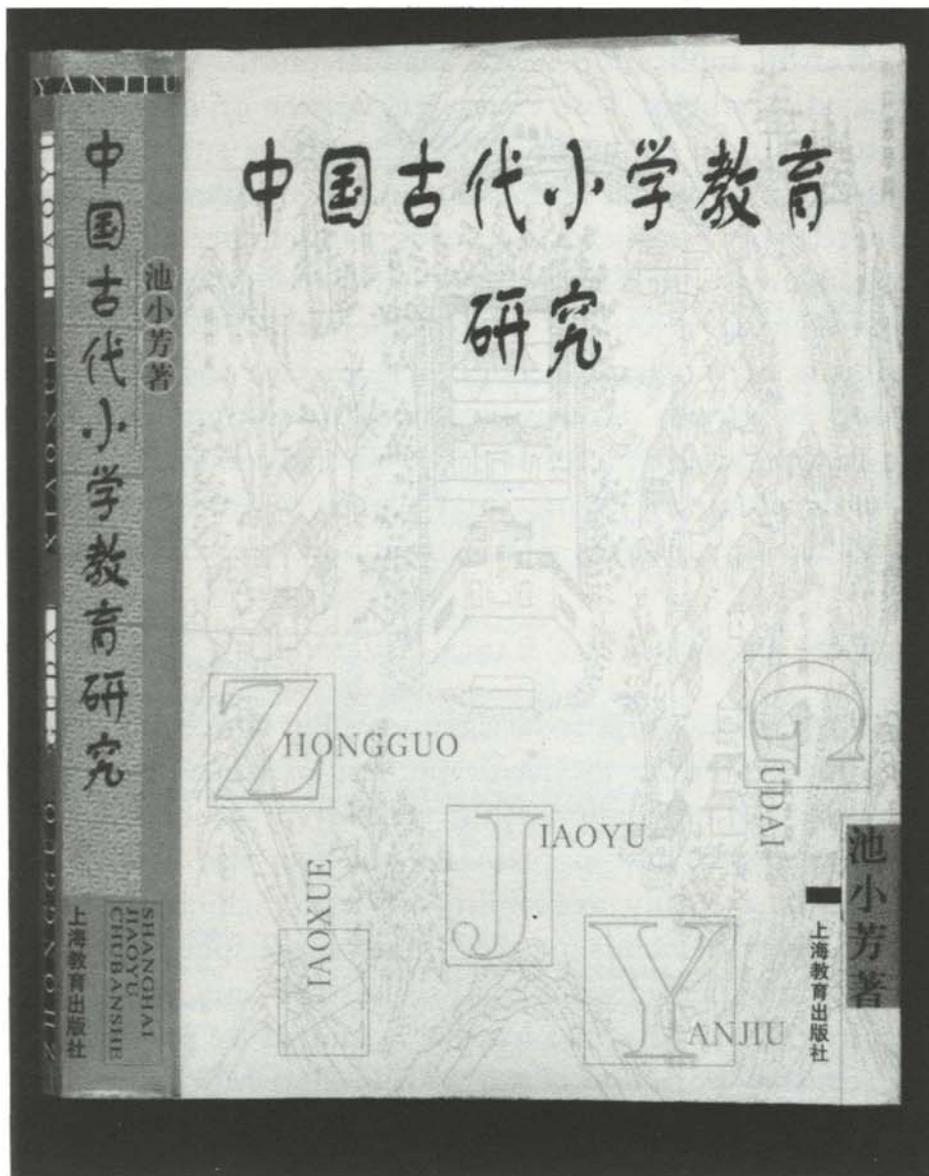


陳學昭著

8. Front cover of Chen Xuezhao, *Shidai funü* (Modern Woman) (Shanghai: Guanghua shuju, 1934), designed by Qian Juntao. Photocopy from Scott Minick and Jiao Ping, *Chinese Graphic Design in the Twentieth Century* (New York: Van Nostrand Reinhold, 1990), p. 61. Publication in the collection of the author.

form a unit both in terms of written language and history. Despite the differences in scripts—the use of the two *kanas* in Japanese and the arrangement of *han'gŭl* letters into syllables in Korean have quite different influences typographically—these countries all share the same technological challenges in the development of typography, foremost because of the need for the large sets of Chinese characters in each of their written languages. Moreover, lessons learned through shared traditions with respect to book forms used by all of these parts of East Asia have resulted in a common approach to modern typography. Traditional design elements and layout characteristics that they inherited include such features as the use of white-on-black characters for headings, half-sized characters for notes, specialized punctuation, and a vertical layout with line separations. As a result, also during the modernization of their printing industries, beginning around 1850, there remained close commercial, aesthetic, and industrial relationships among these countries, even when they were, and are, often at odds with each other politically. And indeed, even in their modern typographies, these countries share new common design elements, such as the multi-textured background of headlines and titles, a particular regularized set of modifications of condensations, expansions, and italicizations, as well as the presence of a second type of comma. Such modern commonalities themselves result from similar technological solutions to similar technological problems—a shared history of shared solutions to shared problems. On occasion there are subtly startling outcomes. For example, a typeface designed in the early 1990s and named ShuTongti is quite commonly used in Taipei. I doubt many people there realize it was written by a calligrapher from the Red Army named Shu Tong (See figure 9.)

The history of modern typography in East Asia can be divided into four stages. The introductory period of modern typography saw many efforts to create modern type, few of which were successful until the application of the electrotpe process in China in 1859. Slowly, and especially after its export to Japan, a full-blown type industry emerged, with a regular supply and demand for type, mainly on behalf of newspapers. During a second period, which stretches from the 1910s through the end of the Second World War, the type industry matured with the first developments of display types and a somewhat greater variety of



9. 1980s ShuTongti typeface designed by Shu Tong. Book jacket for Chi Xiaofang, *Zhongguo gudai xiaoxue jiaoyu yanjiu* (Studies on Ancient Elementary Education in China) (Shanghai: Shanghai jiaoyu chubanshe, 1998). Cover design by Guo Weixing. Photograph of the book jacket in the collection of the author.

body-text typefaces in Japan and China. Two major characteristics define the third stage that follows the Second World War: the deployment of Asian Benton matrix-cutting machines to the making of matrices, alongside the successful application of the manual-phototypesetting machine, which replaced metal type with characters written on glass or film. These changes resulted in an explosion of new typefaces and the first genuine type “families,” in Japan in phototype and in the People’s Republic of China in metal type. Finally, in the 1980s, a fourth period emerged when Hong Kong, Korea, and Taiwan began to develop computerized typefaces and typesetting systems to liberate themselves from the dominance of the products of the Japanese phototypesetting industry, which also computerized its systems. However, unfortunately, just at the time public interest in typefaces is increasing, widespread piracy has made investment in the development of new text-typefaces—often requiring up to a million dollars per typeface—unrealistic and very risky financially.

TYPE PRIOR TO THE EARLY-TWENTIETH CENTURY

The introductory period of modern typography, which lasted until 1859, saw many efforts to create modern type, few of which were successful.⁷ It was only after the application of the electrotype process that the newly established newspapers and magazines—and later also book producers—could rely upon a steady availability of type, which they needed to respond to the new demands for greater and more speedy printing. Until rather recently, the period prior to 1859 was the only part of the history of typography in East Asia that had been studied by printing historians. Its widely repeated story line began with Robert Morrison (1782–1834), the London missionary, who, for his *Dictionary of the Chinese Language* (1815–1823), had Chinese type cut directly onto type blanks. That is, the type was not cast from matrices and, therefore, was not reproducible. (See figure 10.) This landmark effort, along with some other less important experiments, was followed by those of Samuel Dyer (1804–1843), who in 1840 moved from England to Hong Kong. Dyer cut a small set of steel matrices in one large size for the Ying-Hua shuyuan (London Missionary Society) and had begun to cut a second size when he died in 1843. (See figure 11.) This font was said to have been “finished” (more

The 三國 Three Kingdoms, viz. 魏蜀吳 Wei, Shüh, Woo,

東漢 TUNG-HAN.

MEAOU-HAOU.	KWÜ-HAOU.	Reign ed year	Reign closed A. D.	First year of cycle.
獻帝 Hëen-te, or 孝獻 帝 Heaou-hëen-te,	初平 Ch'hoo-p'hing, 興平 Hing- p'hing, 建安 Këen-gan, 延 康 Yen-kang, - - -	31	226	XLVIII 204
靈帝 Ling-te, - - -	建寧 Këen-ning, 熹平 He-p'hing 中平 Chung-p'hing, - - -	22	195	
桓帝 Hwan-te, - - -	建和 Këen-ho, 和平 Ho-p'hing 元嘉 Yuen-kea, 永興 Yung-hing, 永壽 Yung-show 延禧 Yen-he, 永康 Yung- kang, - - -	21	173	
質帝 Ch'ih-te, - - -	本初 Pun-ch'hoo, - - - - -	1	152	
冲帝 Chung-te, - - -	永寧 Yung-këa, - - - - -	1	151	
順帝 Shun-te, - - -	永康 Yung-kang, 陽嘉 Yang- kea, 永和 Yung-ho, 漢安 Han-gan, 建康 Këen-kang,	19	150	LXVII. 144
安帝 Gan-te, - - -	永初 Yung-ch'hoo, 元初 Yuen ch'hoo, 永寧 Yung-ning, 建 光 Këen-kwang, 延光 Yen kwang, - - - - -	19	131	
殤帝 Shang-te, - - -	建平 Yen-p'hing, - - - - -	1	112	
和帝 Ho-te, - - -	永元 Yung-yuen, 元興 Yuen-hin	17	111	
章帝 Chang-te, - - -	建初 Këeu-ch'hoo, 元和 Yuen- ho, 章和 Chang, ho, -	13	94	
明帝 Ming-te, - - -	永平 Yung-p'hing, - - - - -	18	81	XLVI. 84
世祖 She-tsoo, or 光武	建武 Këen-woo, 中元 Chung-yuei	33	63	

10. Early type cut by P. P. Thoms for Robert Morrison. Robert Morrison, *A View of China for Philological Purposes: Containing a Sketch of Chinese Chronology, Geography, Government, Religion & Customs, Designed for the Use of Persons Who Study the Chinese Language* (Macao: Black, Parbury, and Allen, printed at the Honorable the East India Company's Press by P. P. Thoms, 1817), p. 44. Photocopy of the exemplar in the East Asian Library and the Gest Collection, PL1071 .M7.

日、祭司諸長法利賽人集見彼拉多曰、主我儕憶彼僞者生時嘗
曰、三日後復生、是以請命固守其塋、三日、恐其徒夜盜之、而以由
死復生告民、如是則後謬較甚於先矣、彼拉多曰、予爾守兵、往盡
乃心、固守之、遂往固守其塋、封石設兵焉。

安息日後七日之首日、黎明時、抹大拉之馬利亞及他馬
利亞至、欲觀其塋、倏見地大震、主之使者、由天而下、前移墓門之
石、而坐其上、容光如電、衣白如雪、守者恐懼、戰慄若死、使者謂婦
曰、勿懼、我知爾尋釘十字架之耶穌、彼不在此、已復生、如其言、爾
來觀主葬處、速往告其徒、言彼由死復生、先爾往加利利、在彼得
見之、我曾告爾矣、婦急離墓、懼且大喜、趨報門徒、報時、耶穌遇之

11. Typeface of
“Hong Kong type”
(Xianggangti) produced
by Samuel Dyer/
Richard Cole, as found
in *Matai chuan fuyin shu*
(The Gospel According
to St. Matthew) (Shang-
hai: Mohai shuguan,
1850). Photocopy from
Komiyama Hiroshi,
“Mosaku-ki Minchōtai
katsuji kō” (Investiga-
tion of Minchōtai Type
During its Formative
Period), *Taipogurafikkusu*
Ti 118 (March 1990), p.
8. Publication in the
collection of the author.

accurately, almost created *in toto*) by Richard Cole (dates unknown) in the early 1850s, but, in fact, punches and matrices continued to be added; in 1857 there were said to be 5,584 characters for the major font. Type cast from these Dyer-Cole matrices was known as Xianggangti (Hong Kong type) and was available for sale to printers outside the London Missionary Society. From these time frames and numbers, we can glimpse the enormous time needed to produce even a minimal-sized font. At this pace, one would need decades to produce larger sets of type in several sizes.

The most important step in the development of fonts for the printing needs of the missionaries was William Gamble's (1830–1886) application of the electrotype method to printing by the Mei-Hua shuguan (American Presbyterian Mission Press), first in Ningbo and later in Shanghai. By this method, first invented in the West in 1837 for whole pages, letters were cut in wood in the traditional way, a wax impression was made, and then through several steps of electrolysis, a copper-in-brass matrix was created from which new type could be cast at will.⁸ (See figure 12.)

How Gamble's type found its way to Japan is a tale recounted in many variations. It is sometimes reported that Motoki Shōzō (1824–1875), a Japanese employee from a family of Dutch interpreters in Nagasaki, met with Gamble for about two weeks in 1869 when the latter was on his way home to the United States from China. This interaction is then said to have been the impetus for Motoki to develop his own type in a rationally ordered sequence of sizes. (See figure 13.) However, recent research by Yahagi Katsumi and Komiyama Hiroshi has rewritten this story in substantial ways, which reduce somewhat the independent creativity and achievements of Motoki Shōzō.⁹ In fact, most of the type attributed to Motoki turns out to have originally been produced based upon the Gamble matrices, and the circumstances under which Motoki met his mentor were far from accidental or incidental. At Motoki's invitation, Gamble took with him all supplies and machinery possible and went to Nagasaki for over half a year specifically to teach his new method. Even the models for Japanese *kana* used by Motoki had been made in Shanghai, especially those in the famous *A Japanese-English and*

倘我云我倘有望。或我今夜有夫。亦得生子。爾可俟其長成乎。爾可俟之而不嫁與他人乎。我媳歟。非然也。我為爾苦甚。蓋耶和華之手出而攻我矣。二媳復舉聲而哭。阿巴吻接其姑。惟路得戀之。婦曰。視哉。爾妯娌已歸其民。及其諸神矣。爾宜從妯娌而歸。路

為我之民。爾之神必為我之神。爾死之所我亦死焉。且在彼而葬於死之外。有何事。我爾我相離。願耶和華如是。而尤重行之於我。婦見其定意欲偕之往。則不復言。二人遂行。至伯利恆。既至伯利恆。舉邑為之震動。云此為拿阿米耶婦。謂之曰。毋稱我拿阿米。乃稱我馬喇。蓋全能者待我苦甚。我盈盈而出。耶和華使我空空而歸。耶和華既攻我為證。全能者已苦我。曷稱我拿阿米耶。如是拿阿米歸其媳。摩押女路得。由摩押地而歸者。偕之至伯利恆。時值釐麥始登。爾拿阿米有夫之戚。即以利米力之戚屬。乃巨富者。其名波士。摩押女路得。謂拿阿米曰。容我適田。我若獲恩於何人之目前。可在其後而拾遺穗。答曰。媳歟。往哉。媳往焉。既至則隨刈禾者。於田拾遺穗。其所至之田。適屬波士者。波士為以利米力戚屬也。波士由伯利恆來。謂刈禾者曰。願耶和華偕爾。衆對曰。願耶和華祝爾。波士謂其所設以督刈禾之僕曰。此女屬誰。督刈禾之僕對曰。此摩押女。偕拿阿米。由摩押地而歸者。彼云。請爾容我隨刈禾者之後。於東中拾遺穗。如是乃至。自朝至今。逗遛在此。暫止於屋耳。波士謂路得曰。我女歟。爾豈不聞乎。毋往拾遺穗於他田。毋離此。乃在此。洽比我婢。注目於衆所刈之田。而隨其後。我非命少者。勿撻爾手。爾渴則往及其器。而飲少者所汲焉。女俯伏而拜於地。對曰。我乃異邦人。何以

舊約全書

第八卷

路得氏記

第二章

三百九十三

12. Mei-Hua typeface (MeiHuati) 1860-1864, produced by William Gamble for the American Presbyterian Mission Press, here in size 5-hao (Small Pica). Type produced using Gamble's electrotype

舊約全書

第八卷

路得氏記

第一章

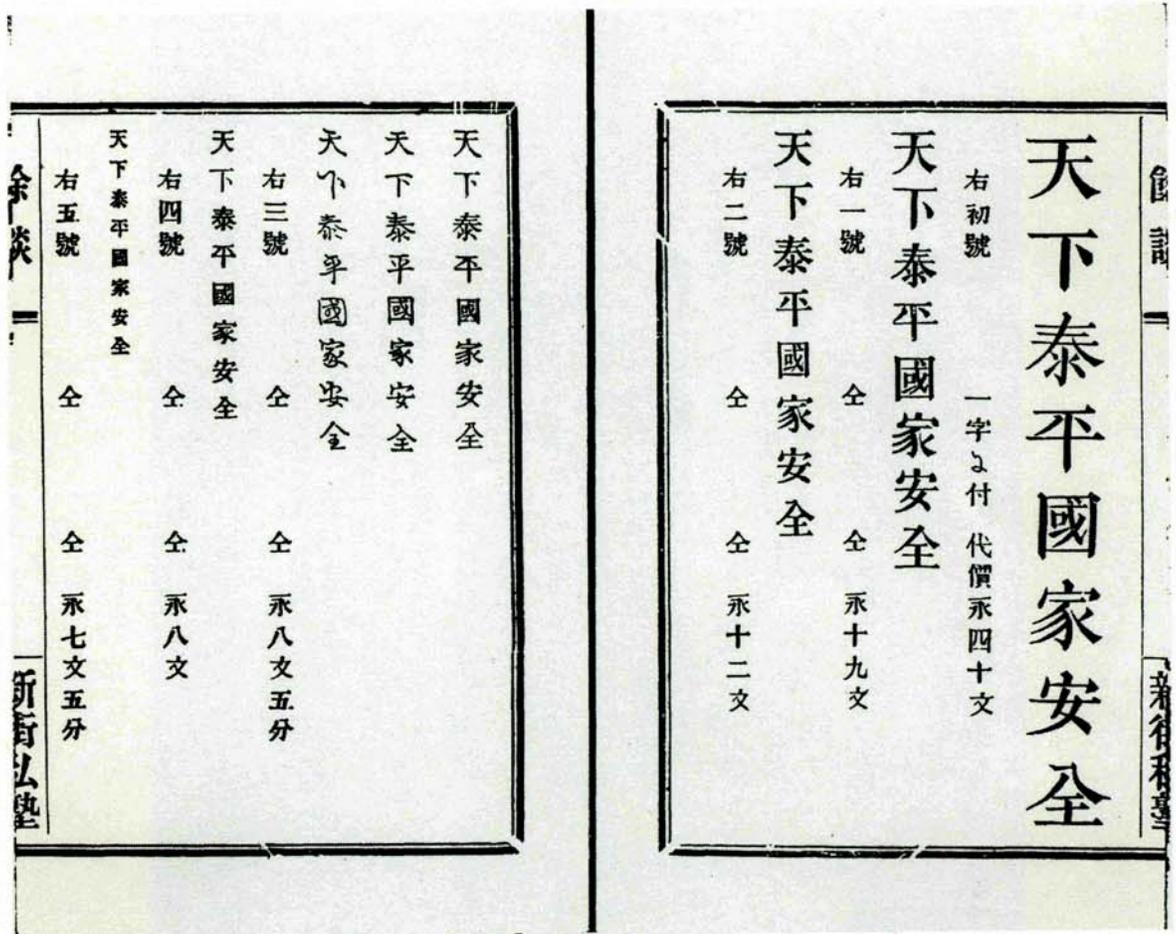
三百九十二

路得氏記

當諸士師為政時其地遇有饑歲時有猶太之伯利恆人借妻及二子往旅於摩押地此人名以利米力其妻名拿阿米其二子名馬倫基連為猶太之伯利恆之以法大人悉入摩押地在彼居焉後拿阿米之夫以利米力死婦與其二子乃見遺二子由摩押女中娶妻一名阿巴一名路得居彼約有十年馬倫基連二人亦死如是婦為其夫與二子所遺婦遂與二媳起欲由摩押地而歸蓋在摩押地開耶和華已眷顧其民予之以食婦故由所在之處而出其二媳偕之行路以歸猶太地拿阿米謂二媳曰爾歸各返母家願耶和華以恩待爾如爾待已死者與我焉願耶和華賜爾各於夫家獲安遂吻接之二媳舉聲而哭對曰我必偕爾歸於爾民拿阿米曰我媳歟返哉胡為欲偕我往乎我胎中豈猶有子可為爾夫乎我媳歟返哉往哉我年已邁不得復有夫倘我云我倘有望或我今夜有夫亦得生子爾可俟其長成乎爾可俟之而不嫁與他人乎我媳歟非然也我為爾若甚蓋耶和華之手出而攻我矣二媳復舉聲而哭阿巴吻接其姑惟路得之婦曰現爾由摩押地歸其民及其諸神矣爾宜從猶太地而歸

為我之民爾之神必為我之神爾死之所我亦死焉且在彼而葬於死之外有何事哉爾我相識爾耶和華如是爾見重行之於我見其亡念我皆之注則不復言二人室

method; cutter of the seed-type unknown. *Jiuyue quanshu* (Complete Old Testament), (Shanghai: Mei-Hua shuguan, 1865), *juan* 8, pp. 392-393. Photograph of the exemplar in the collection of the author.



13. Minchōtai and other typefaces, 1872, produced by Motoki Shōzō, from the specimen insert in *Shinmachi shijuku yodai* (Musings from the Shinmachi Private School) (Nagasaki: Kiyō shinjuku katsuji seizōjo, 1872), insert bound between pages 20 and 21. The Shinmachi shijuku was a private school established by Motoki, and his first type foundry was allegedly founded to support his education efforts. Photocopy from Komiyama Hiroshi, “Dōnyūki Minchōtai katsuji kō: gōsūsei wa kujirajaku de tsukurareta no ka” (Investigation of Minchōtai Type During its Importation Period: Was the Gō Size-System Based Upon the Japanese Cloth-Measurement Scale?), *Taipogurafikkusu Ti* 138 (March 1992), p. 1. Publication in the collection of the author.

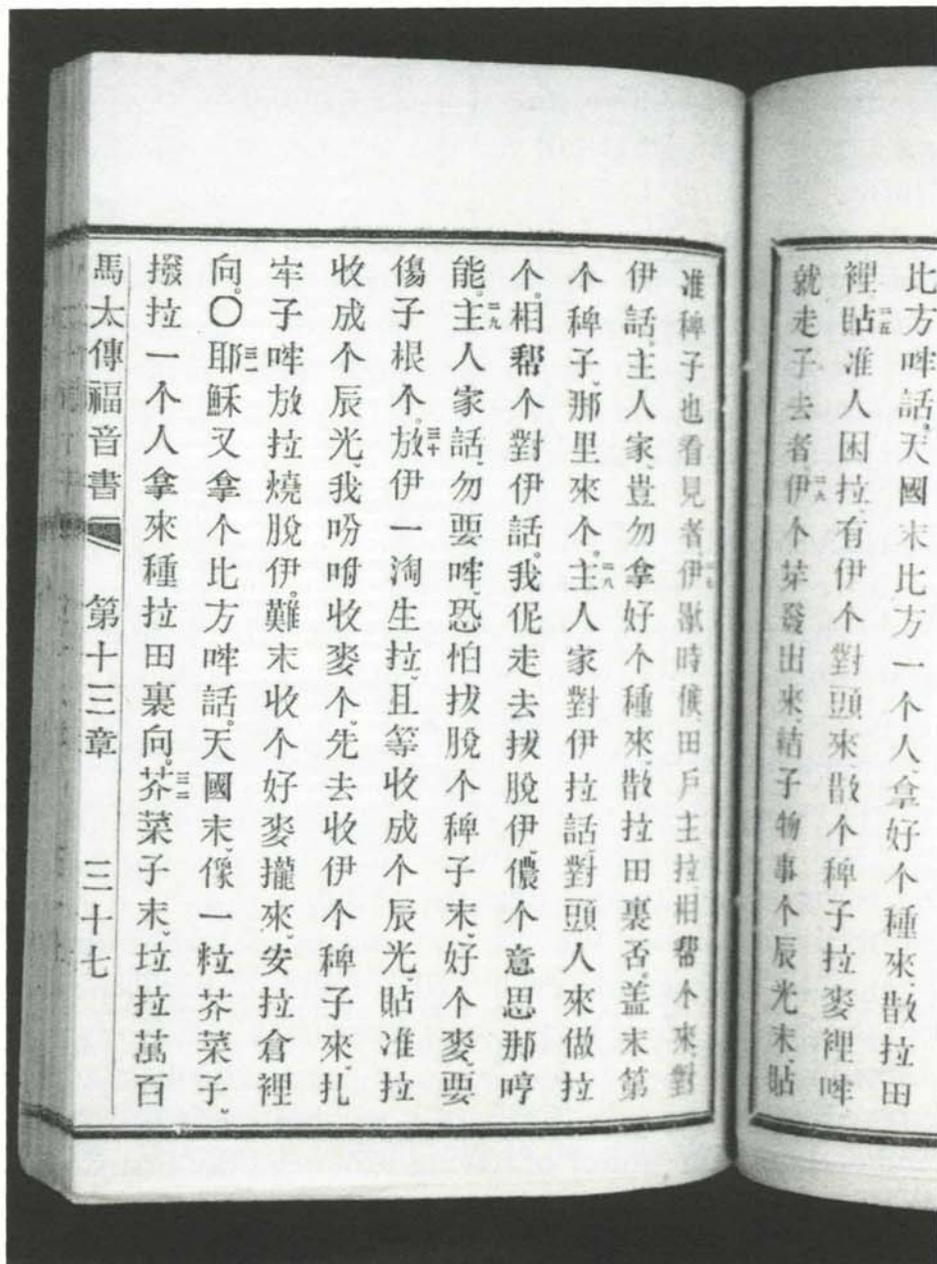
English-Japanese Dictionary compiled by James Curtis Hepburn (1815–1911) and printed by Gamble in Shanghai in 1867.¹⁰

When I say “Gamble’s type,” I use the term loosely. A further revision of the traditional story has verified that not all developments in modern typography for Asian languages originated in missionary-centered activities. The production of Asian type in East Asia also had some links with the work of several European type designers who produced

type specifically for Sinological purposes in Europe, and these are, in a few cases, more than a mere footnote to the typographic history of the East. Some such fonts were imported to Hong Kong and Shanghai by the missionary presses, where they were actually used. Especially important were the steel punches cut for the *Imprimerie Nationale* by Paris punch cutter Marcellin Legrand (dates unknown) around 1834. These punches were of the "divisible" kind, that is, in addition to a basic number of complete characters, other characters were decomposed into their radical and phonetic parts, which were then cut separately.¹¹ (See figure 14.) Such type, including a font from Berlin made by Beyerhaus (dates unknown) beginning in 1847, even found its way via Gamble into Motoki's specimen book. By that time, electrotype made them much easier to reproduce.

Considering the lengthy production necessary to complete the punches and/or matrices of a font of even a modest size, we should not be surprised that the purportedly "rational" type-size sequence, of either Gamble or Motoki origin, were more or less an accidental result of the work of many cutters, European as well as Chinese.¹² Each of these cutters apparently had made sure to produce only sizes previously unavailable, but each had based his work upon an already existing Western-type size. Only later did the electrotype method make reproducing (and updating) earlier sizes a convenient possibility.¹³

An accurate account of all the early stages of the history of modern Asian typography may require even further revision. For example, it may have been the Baptist missionary Joshua Marshman (1768–1837) working at the Mission Press in Serampore, India who actually made the first missionary effort to produce Chinese type; but there are quite a few other candidates for the honor of having produced the first Chinese type meant to be set in a Western-style press.¹⁴ (For a page from Marshman's grammar, see figure 15.) Above all, what is most clear in this initial period is the enormity of the task of cutting even a small font, one barely sufficient to set a large variety of works, and the expertise for this work was shared by only a very small number of specialists. The application of the electrotype method to type production, which reduced the production of one size of type to a "mere" few years time and which, moreover, could employ the expertise of the more numerous traditional woodblock



比方哱話天國末比方一個人拿好個種來散拉田
 裡貼准人困拉有伊個對頭來散個稗子拉麥裡哱
 就走去者伊個芽發出來結子物事個辰光末貼

准稗子也看見者伊歌時候田戶主拉相帶個來對
 伊話主人家豈勿拿好個種來散拉田裏否蓋末第
 個稗子那里來個主人家對伊拉話對頭人來做拉
 個相幫個對伊話我促走去拔脫伊儂個意思那哱
 能主人家話勿要哱恐怕拔脫個稗子末好個麥要
 傷子根個放伊一淘生拉且等收成個辰光貼准拉
 收成個辰光我吩咐收麥個先去收伊個稗子來扎
 牢子哱放拉燒脫伊難末收不好麥攏來安拉倉裡
 向○耶穌又拿個比方哱話天國末像一粒芥菜子
 撥拉一個人拿來種拉田裏向芥菜子末拉拉萬百

14. Early-modern divisible type, ca. 1834, cut by Marcellin Legrand, size 3-hao (Two-Line Brevier). Note, for example, the first and second character from the top and the third and fourth characters from the bottom of the first line from the left. *Matai [chuan] fuyin shu*, Shanghai *tuhua* (The Gospel According to Matthew, Shanghai-Dialect Version), (Shanghai: [Mei-Hua Shuguan], 1850), *zhang* 13, p. 37a. Photograph of the exemplar in the collection of Nancy Norton Tomasko.

回^{Hooi} Hooi? 望^{wàng} look 敢^{kán} dares 何^{hó} how 也^{yeá} 賜^{Tsè} Tse

“Tse, how dares he look up toward Hooi?”

Lun-yu, vol. i.

In this sentence the speaker uses his proper name instead of the personal pronoun. Numerous other examples of the same kind might be adduced both from Confucius and Mung.

There are not wanting instances indeed wherein Confucius himself substitutes his proper name for the personal pronoun. In the first volume of *Lun-yu*, *Hoo-ma-khee*, telling Confucius that a person had been accusing him of partiality to the great, since he had not rebuked his prince for improper conduct; the sage far from expressing anger, says,

知^{chee} know 人^{yín} men 有^{yéu} he have 幸^{shing,} happy, 丘^{Myeu} Myeu
 之^{tchee} it. 必^{píh} will surely 過^{kyéu} a fault, 苟^{kao} if 也^{yeu,}

“Myeu is a happy man! If he make a slip, men will certainly notice it.”

Lun-yu, vol. i.

In this sentence, the sage introduces his proper name instead of the pronoun I.

15. Early type produced in Serampore, India, 1814, from Joshua Marshman, *Elements of Chinese Grammar* (Serampore: Mission Press, 1814), p. 381.

Photocopy of the exemplar in the collection of
 Yale University Library, Fvh29 +M352.

cutters, was therefore a crucial advance which allowed type to become useful in the East Asian publishing world. The styles of all these fonts from the early period were based upon the then-current woodblock text styles, and all went back to the already mentioned sixteenth-century artisan style. This is the reason this style is called Minchōtai or Myōngjoch'e (Ming-dynasty style) in Japanese and Korean, respectively, while in China, alongside the term Mingti (Ming style), a term Songti (Song style) also occurs.¹⁵

After these beginnings, the impetus for change moved to Japan. In 1873, Hirano Tomiji, an assistant of Motoki, moved to the Tsukiji ward in Tokyo and established there the Tsukiji kappan seizōjo (Tsukiji Font Foundry) which became the major source of the Minchō body-text type, first in Japan and shortly thereafter in China itself, until the demise of the foundry in 1938.¹⁶ This foundry is often mentioned in the same breath with the Shūeisha company, whose operations continue today under the name Dai Nippon. Shūeisha, founded in 1875 by Sakuma Teiichi as a printing and publishing establishment, was one of the firms that printed the early *Mainichi shinbun*. In 1894, this long-lived company developed its own Minchō font.¹⁷ These two foundries did not remain the only type foundries in East Asia, however, and competition was fierce, especially when, slowly but surely, newly established newspapers all began to use type, in some cases imported directly from Shanghai. Faced with this competition, Tsukiji embarked upon several revisions of its basic Minchō fonts, which originally meant sending employees to Shanghai where the American Presbyterian Mission Press itself was improving its own line of fonts. The first person Tsukiji sent proved to be a bad choice in that he was behind the leaking of matrix-making secrets to Shūeisha. From 1879 onwards the revision took place under calligrapher Takeguchi Yoshigorō (dates unknown), who oversaw the work of twenty-three Chinese woodblock cutters in Japan whose training proved all the more expensive because they refused to touch Japanese food and insisted on eating Chinese cuisine. Revisions to a font normally entailed a more standardized treatment of the elemental strokes and a greater balance of thin/thick ratios and/or inner counters for all characters on a page. Also, consistent changes were made toward a more "correct" form of each individual character when several variants were in common use. Such efforts to

establish a correct orthography continue, even today at the beginning of the twenty-first century, to be an easy excuse for one country to deny fonts made in another country the right of entry into its market, whether Japanese fonts into Taiwan, Taiwanese fonts into Japan, or Chinese Fonts from Korea into the People's Republic of China, and so on. Tsukiji's revisions were largely completed by 1903, and Shūseisha's by 1909.¹⁸ (For examples of the Minchō type produced by Tsukiji and Shūseisha, see figures 16 and 17 respectively.)

Since 1883, even before the revisions by these two large type foundries, Japanese-produced type had been sold in China. Tsukiji originally had a branch in Shanghai which it closed in 1900 because of financial difficulties; the machinery and all its type was sold to the newly founded Shangwu yinshuguan (Commercial Press).¹⁹ For text typefaces used in newspapers, books, and magazines, China remained dependent upon Japan until the 1950s, with Tsukijitai Minchōtai typefaces, fundamentally originating in Gamble's type, being dominant. One new typeface developed in Japan first for advertising lettering, and which quickly gained popularity in China also, was the Gothic style, a misnomer based on an incorrect American use of the term "gothic" for a *sans serif* font. (See figure 18.) When this style was first introduced in 1886, its seal-script characteristics were clearly evident, but these elements had disappeared by 1891 when Tsukiji began to market the typeface. Another new typeface, called Seichōtai (Qing-dynasty-style font) at the time but which we would now call FangSongti (Neo-Song style), was used for a while in one Japanese newspaper. However, its use gradually became restricted to name cards, thus initiating the practice of certain typefaces being associated with specific uses and content.

As for Korea, the first modern type for *han'gŭl* was created under French guidance in the 1880s in Yokohama and later in Nagasaki, for printing dictionaries, prayer books, and Bibles for Korean Catholics. Based upon a design of Ch'oe Chi-hyŏk (1809–1878), which introduced brush-style letters with improved proportions, the font was a great advance beyond the traditional movable type still in use and was exported to Seoul soon after the Korean-French treaty of 1886. (See figure 19.) At approximately this same time, the Presbyterian Press in Manchuria used type to print sections of the Bible for distribution in Korea. The

鐵道延長して陸運茲に開け船舶
 増加して海運茲に熾んなり海
 陸運輸交通の途完全して富國強
 兵亦望むべし
 然リト雖モ鐵道ノ延長汽船ノ増
 加モ我産業ノ發達ト並行セザレ
 バ夫レ何ニ由テカ其効果ヲ収ム
 ルヲ得ンヤ

壹號明朝假名交リ書體見本

(TWO LINE ENGLISH BODY)

16. Specimen sheet of the Tsukiji Minchōtai (Tsukijitai) typeface, 1903, size 1-gō. Photocopy from “Shōkatsu: Tsukijitai to Shūeitai” (Summary: The Tsukijitai and Shūeitai Typefaces), *Taipogurafikkusu Ti* 150 (May 1993), p. 4. Publication in the collection of the author.

朝 明 號 五

春江の潮水海に連りて平かなり海上の明月潮と共に生ず澗々波に随
 ふ千萬里何れの處か春江月明なからん江流宛轉として芳甸を遷り月
 は花林を照して皆霰に似たり空裏の流霜飛ぶを覺えず汀上の白沙看
 ゆれども見ええず江天一色縹塵なく皎々たり空中の孤月輪江畔何人か
 初めて月を見る江月何の年か初めて人を照らす人生代々窮已なし江
 月年々望相似たり知らず江月何人を照らす但見る長江の流水を送る
 を白雲一片去つて悠々青楓浦上愁に勝へず誰が家か今夜扁舟子何の
 處にか相思ふ明月樓憐れむべし樓上月徘徊するを應に照すべし離人
 の粧鏡臺玉戸籠中巻けども去らず擣衣砧上拂へども還來る此時相望
 めども相聞えず願くは月華を逐ふて流れて君を照さん鴻雁長く飛て
 光度らず魚龍潛躍水文を成す昨夜間潭落花を夢む憐れむべし春半ば
 にして家に還らず江水春を流して去つて盡さんと欲す江潭の落月復
 西に斜めなり斜月沈々海霧を藏め碣石瀟湘無限の路知らず月に乘じ
 て幾人か歸る落月情を搖かして江樹に滿つ

イロハニホヘトチリヌルヲワカヨタレソツネナラムウキノオクヤマ
 一二三四五六七八九十廿卅百千万〇●◎○△▲■

17. Specimen sheet of the Shūeisha Minchōtai (Shūeitai) typeface, 1914, size: 5-gō. Photocopy from "Shōkatsu: Tsukijitai to Shūeitai" (Summary: The Tsukijitai and Shūeitai Typefaces), p. 13.

二號ゴチック書體見本

世京信元況別博原
 取嘗地天始孝寫小
 年慶式所拜引文方
 時期森次歷澤災版
 特生界皇發神第米

三號ゴチック書體見本

不之專交俳兌入况公別
 北博叙問圖壇外大學官
 小山平廣式引彙形感所
 播教文方日月權歌正氣
 法營片物理產番發白知

四號ゴチック書體見本

上下世中之久事况交京今位
 佐令任何作例信便候價價兒
 入兩公其再出刊判別割刺前
 剛加動化北南印卷厘原參及
 取合名右吉告命品和吸商國
 圖土坂塊塲壹大奇完寄對小

五號ゴチック書體見本

丁上下世丙丸主之久乘乙乳事亞交京
 人仁他付代以仲任但伊位來例作保佛
 倉使信倍候價價元光入內兵其具出分
 切刊列別利刷刺刺前割刺加効北區
 午南博印卷原厘參取叢古可司各合吉
 名同后吏君品告和商員器唐喻因圖圖
 土地坂型垂塗堂堅報塲境外子定官富

18. Specimen sheet of the Tsukiji Gothic (*Gochikku*) typeface, 1903, sizes: 2-gō to 5-gō. Photocopy from "Shōkatsu: Tsukijitai to Shūeitai" (Summary: The Tsukijitai and Shūeitai Typefaces) p. 8.

런성인의 날은바몬져본살은상

흙이반드시경하다흙이이라

유시에예수 십이종도르드리고닐너

글으샤디이께예루사름에올나감이로

다

예루사름은본국
서울일흙이라

여러천지자 인츠를

신 당

을르치

심이라

들어쓴바스청이다마즈리나이

코자의게붓치여옥을밧으며치를마즈

며흙을밧치이고치질은후에며르죽이

19. Han'gŭl typeface, ca. 1880, designed by Ch'oe Chi-hyŏk, in Gustave Charles Marie Mutel, *Sŏnggyŏng chikhae* (Commentary on The Bible) (Hansŏng: n.p., 1892-1895). Photocopy from Kim Chin-p'yŏng et al., *Han'gŭl kŭlcha kkol kich'o yŏn'gu* (ch'ulp'an yŏn'gu ch'ongsŏ 7) (Basic Studies on the Forms of Han'gŭl Letters: Publishing Studies Series 7) (Seoul: Han'guk ch'ulp'an yŏn'guso, 1990), p. 136. Publication in the collection of the author.

Korean government supported the introduction of the new printing technology, and Western printing was adopted at court in 1883. With type and technology imported from Japan, the *Hansǒng sunbo*, an official gazette written in Chinese characters only, was published by reformist bureaucrats. Later printing did include *han'gŭl*. In addition, many private Korean publishers were founded starting late in the nineteenth century. Some of these private publishers bought electrotype machinery from Japan and made their own type; however, most purchased type from Japan or from Japanese companies in Korea.

FROM 1911 TO THE END OF WORLD WAR TWO:
PERIOD OF MATURATION

During a second stage of the development of East Asian type, which stretches from the 1910s through the end of the Second World War, the type industry matured with the first developments of display types, while improved varieties of body-text typefaces became available in Japan and China. Most remnants of woodblock printing had disappeared by the time of the political changes in 1911 in China, the beginning of the Taishō era (1912–1926) in Japan, and the Japanese occupation of Korea (1910–1945).

In Korea, where for nearly half a century, the best type available had been based upon Ch'oe Chi-hyōk's design of the 1880s mentioned immediately above, which was rather calligraphic despite its being mixed with Chinese characters in the straight artisan style, the revisions by Pak Kyōng-sō introduced around 1930 were important. Such *han'gŭl* type is called Myōngjoch'e (Ming-dynasty style), despite the fact that its calligraphic strokes contrast sharply with the artisan style of its matching Chinese characters. The name "Ming-dynasty style" is used simply because the type was intended, not unlike the calligraphic Japanese *hiragana*, to be used in combination with Chinese characters in the artisan style, which had already long been known as "Myōngjoch'e." Indeed, this need with respect to Japanese and Korean, but not for Chinese, to develop complementary *kana* or *han'gŭl* fonts that work harmoniously with the style of the font used for Chinese characters always constitutes a challenge for type designers. This is seen by some as an almost insurmountable problem, while for others it is considered a great strength for

讚美하자

健康을



健康은人生最大의幸福이오最高의至寶이다人間은一時나健康이缺어서는充分한活動을할수없고그것이다그러나健康을讚美하게되는데는萬人이다出產하민사부리아는것이아니더러이하나血氣가充盈한青春時代에健康은享樂하미서도健康에對하여서는全然無關心하여自覺하지를못한다健康에對한것은이것을失한다음에바로소아는것이다病床에臥하여서는健康하느것을追慕하고頭髮이霜白하여서바로青春의뜻다음은時代를回顧하며戀戀해하는것이이다

凡頭腦을從는時間이長게된만치戶外에서自然과親하는時間이長게되었다 特別都會地는人家稠密하여空氣이穢오며汚染된空氣를呼吸치안으로피아니되며 塵埃는強天하여 粟外線의效果는減殺되며 享受하는時間이尠少하다 이와같이各種으로생각하여健康者는健康을保持助長하여야하거니와病者는速히恢復하여強健한肉體와健全한精神으로日의激烈한社會戰線勝利者가되야永遠의健康을讚美하기는구나所望하는바이다그러나 此의目的을達하기爲해서 恒常우리가身體鍛鍊과運動과 同時에理想的의補血強壯劑가必要케된다 이것은世評인네오부루도一劑錠으로世目的을達할수있으니左記簡單한文字에依하여알아주었다

一、骨質成分(호로성)에依하여 血液의濃縮을招來하여強大한血液作用을發爲함

一、骨質成分에依하여骨格의發育助長하고血液機能을強健케하며新陳代謝를旺盛히하여老衰를防止함

一、細胞及腦神經組織의必需成分인含磷蛋白質에依하여血液의新生과生體蛋白質의消耗을補給함其全身의榮養을佳良케함

如斯인네오부루도一劑錠一劑錠시日구나少劑으로臟器製劑解世劑省시공及磷製劑아미노酸及蛋白質劑鐵劑等の眞髓를集積하여以綜合的의効力을發揮하여食慾增進榮養向上發育助長等の飛歎할效果와純正學理에立脚한點에劑時代的의造血促進劑로서의眞價가있고信用이잇는醫學大家로서配製된劑를言함是所以이다

20. Myōngjo-ch'e han'gŭl typeface. ca. 1930, designed by Yi Wŏn-mo, in Chosŏn ilbo (Chosŏn Daily), 6 February 1935. Photocopy from Kim Chin-p'yŏng et al., Han'gŭl kŭlcha kkol kich'o yŏn'gu (ch'ulp'an yŏn'gu ch'ongsŏ 7) (Basic Studies on the Forms of Han'gŭl Letters: Publishing Studies Series 7), p. 165.

Korean or Japanese typographical layout. Only in 1933 did an effort by Yi Wŏn-mo, as part of a design contest for the Dong-a ilbo (East Asia Daily), result in the development of a han'gŭl type that conformed more rigorously than previous styles to the artisan style of the characters.²⁰ (See figure 20.)

In the decades after 1912, development of typography in Japan continued smoothly with continuing improvements made to already existing typefaces. New typefaces were limited to a few calligraphic or display styles; these, however, were not widely used, nor usable, for body text. The primary energy was directed toward increasing the number of characters in a given size font and increasing the number of sizes of a given typeface. One new development was the casting of type with *rubi* attached, “*rubi*” being the printing term for *furigana*, which is script written alongside a Chinese character to denote its pronunciation in Japanese. *Rubi*, the Japanese name for type in that small size, derives its name from the English word “ruby,” a name for very small Western type (5.5 point). Some newspapers and printers began to develop type for proprietary use, so that the same (usually Minchō) style could vary somewhat from printer to printer, without the type variations being available for purchase. The gradual increase in the variety of Japanese fonts was cut short, however, when, in 1942, printing types were restricted officially to Ming and Gothic styles. Government mandate prohibited the use of other display styles and ordered their type smelted down for the war effort.²¹

In China, despite its disdain for the artisan style and the widespread partiality to calligraphy proclaimed by literati, Minchōtai type, being the most readable and best developed, remained the most used body-text typeface. In that period, Minchōtai imported from Japan was used in China, but undoubtedly it was also reproduced there illegally. New developments in the Japanese type, such as the introduction of slightly different sizes, were immediately seen in this type when used in China. New Chinese typeface design was directed, therefore, at other styles, with the Commercial Press in Shanghai becoming one of the most important developers of such newer typefaces.²² There, in 1909, Xu Xixiang tried to cut a large *zhengkai* (regular-style) font, inaugurating China’s attempts to develop new typefaces. Some companies, such as Huafeng founded in 1915, were specially established to produce such new type. Known calligraphers provided the basic designs for new fonts, the first successful one being the Juzhen FangSong (Neo-Song Movable Type) font, designed beginning in 1916 by brothers Ding Shanzhi and Ding Fuzhi, both of whom were well-known epigraphers and calligraphers,

論語序說

史記世家曰孔子名丘字仲尼其先宋人父叔梁

紇母顏氏以魯襄公二十二年庚戌之歲十一

月庚子生孔子於魯昌平鄉陬邑為兒嬉戲常

陳俎豆設禮容及長為委吏料量平季氏史本作

隱云一本作委吏為司職吏畜蕃息牛職見周禮

與孟子合今從之適周問禮於老子

既反而弟子益進昭公二十五年甲申孔子年

三十五而昭公奔齊魯亂於是適齊為高昭子

家臣以通乎景公政有聞紹問公欲封以尼谿之

論

語序說

中華書局聚

21. Juzhen FangSongti typeface, 1921, designed by Ding Shanzhi and Ding Fuzhi, seed type cut by Xu Xixiang and Zhu Yibao. Mainly used for the republication of old books, especially the series Sibubeiyao (Selections from All Subjects Ready for Use). Confucius, Lunyu (Analects), annot. He Yan (d. 249), 20 juan, Sibubeiyao (Shanghai: Zhonghua shuju, 1934), "Lunyu xushuo," p. 1a. Photograph of the exemplar in the East Asian Library and the Gest Collection, number C338/1429, vol. 1.

中国是发明造纸和印
一世紀，已有紙張出
了造纸方法。此后，

22. Huafeng ZhenSongti typeface, 1927–1934, designed and directly cut on type blanks by Zhu Yibao. This typeface is now classified as a FangSongti style. Photocopy from He Buyun, “Zhongguo huozi xiaoshi” (A Short History of Chinese Movable Type), in Zhongguo yinshua jishu xiehui, ed., *Zhongguo yinshua nianjian 1981* (China Graphic Arts Annual, 1981), (Beijing: Yinshua gongye chubanshe, 1982), p. 311.

曜楠噬拮焰潤昌活
杯夷尉密彫擎完棕
姪吳撲矇教器巒夜
遇者賜紫芙蓉箱誰
忒徽宝躩已察繩通

23. Hanwen Zhengkaiti typeface, 1930, designed by Gao Yuncheng and cut by Zhu Yunshou, Xu Tangsheng, Lu Pinsheng, and Zheng Huasheng. Photocopy from He Buyun, “Zhongguo huozi xiaoshi” (A Short History of Chinese Movable Type), p. 312.

and re-cut by Xu Xixiang and Zhu Yibao beginning in 1921. (See figure 21.) This font gave its name in an eponymous fashion to the printing office Juzhen FangSong yinshuju, which merged into the Zhonghua shuju in 1921. Such new font development took considerable time and money. For example, before it was finally completed in 1927, the cutting of Huafeng’s ZhenSong font, a style we currently would call FangSong (Neo-Song), in all its sizes and variants took seven years. (See figure 22.) Font design captured the interest of some leading artists. Among them, Zheng Wuchang, who painted in traditional Chinese styles, in 1930

founded a publishing house in Wuchang, calling it the Hanwen zhengkai yinshuju, a name that designated the style of the font of choice, *zhengkai*, for the house. For this foundry, Gao Yuncheng prepared the designs for an Ouyang-style *zhengkai* typeface, which, when completed five years later, the Ministry of Education designated the official educational font.²³ (See figure 23.) It was soon exported to Japan.

FROM 1945 TO 1980:

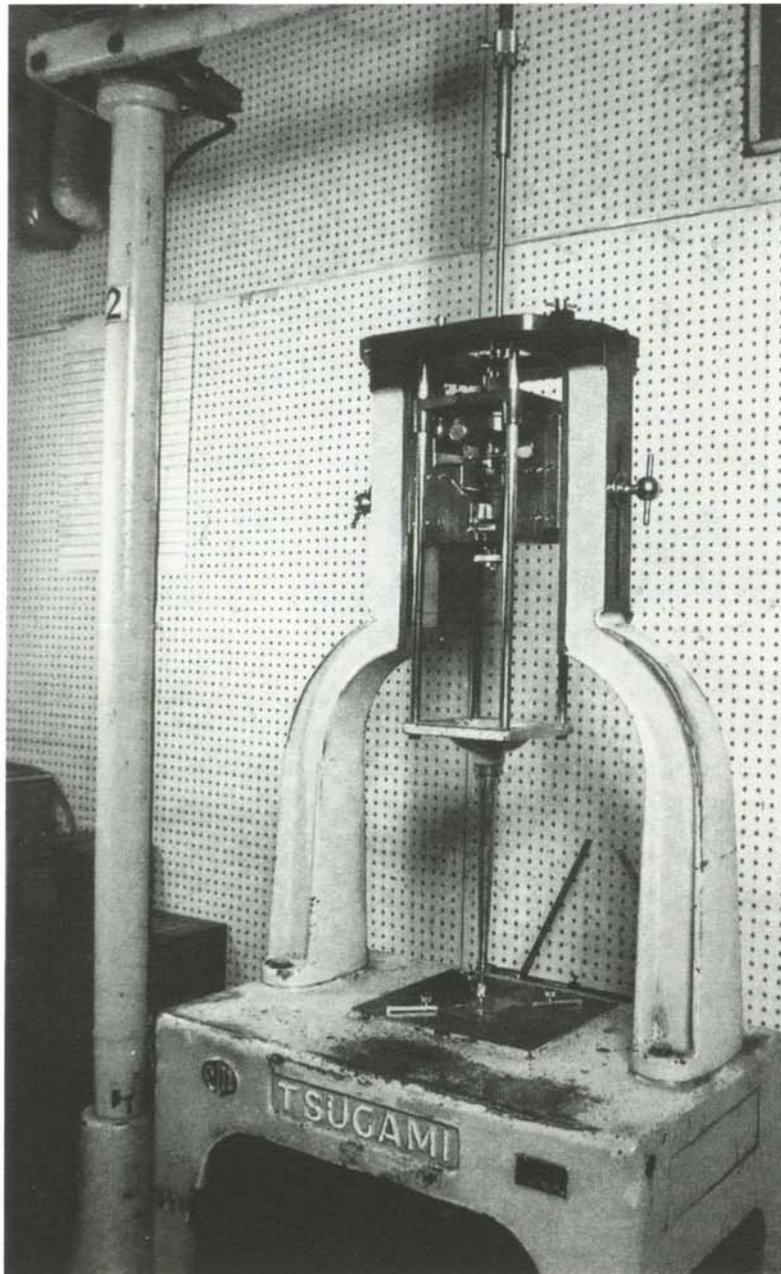
THE BENTON MACHINE AND PHOTOTYPESETTING

Two major characteristics defined the stage that followed the Second World War. The first was the development of an Asian Benton matrix-cutting machine, and the second was the spread of phototypesetting, a technology first experimented with in the West, but successfully applied first in East Asia. It replaced metal type with characters written on glass or film. Both of these changes resulted in a large increase of new Asian-language typefaces as well as the first type families, in Japan mainly in phototype and in the People's Republic of China in metal type.

The Benton machine is a kind of pantograph that can be used to cut punches (its original purpose) or matrices by tracing a large non-mirrored metal pattern of a character, which itself could be first created in wax by similar machines.²⁴ Such patterns were much easier to create than the "seed characters" (in Japanese *taneji*; in Chinese *zhongzi*) for the electrotype process. Different features could be implemented to adjust optically for size or manipulation of characters so that one pattern could be the base of various sizes and varieties of matrices. Directly cutting punches in steel was no longer an important factor in type making in the West, nor did wood characters used in East Asia as the basis for matrices need to be cut for each size of type desired. The original machine was patented in 1894, and three were imported into Japan in the first half of the twentieth century. However, because the American inventors feared copycat production, strict conditions had been attached to the use of these machines. After the war, however, Sanseidō, the owner of one of the Benton machines in Japan, gave permission to the Tsugami factory (Tsugami seisakujo) to make a sketch from its machine and to produce a prototype. Very soon Tsugami produced and sold several hundred

machines in Japan. (See figure 24.) The development of this improved Benton machine was of even greater importance for the Asian type market than for the Western type market, since the effort required to produce matrices for the large fonts of Chinese characters, with many strokes per character, was so much greater than to make punches for the relatively small number of elements in Western fonts. With the ease of developing matrices in different sizes from one original pattern, the machine laid the basis for whole families of fonts. It also led to an increase in the numbers of type designers, whose designs on paper could be used almost directly, thus eliminating the laborious step of cutting punches or producing wooden type for electrotyping. Indeed, some companies even used the Benton machine to cut punches from patterns directly in steel, hitherto too complicated for Asian fonts, rather than simply changing the method of producing matrices. By introducing the step of punch cutting, sharper type could sometimes be produced. Normally, however, the Benton machine greatly facilitated the production of matrices, although some deplored the fact that, because of the technology used, the corners of strokes became rounded rather than being angular.

The advantages were not restricted to Japan, of course, and Korea and mainland China also quickly imported Benton machines from Japan. In Korea, the fifties saw many government-led efforts to improve *han'gŭl* type based upon Benton technology, the first in 1954 on the basis of designs by Yi Im-p'ung and Ch'oe Chŏng-sun, while other private companies soon thereafter made fonts based on designs by Ch'oe Chŏng-ho (1916-1988). (See figure 25.) For Chinese characters, type patterns based upon type cast from the then well known Iwata matrices were used. The proliferation of new type foundries in Japan, such as Iwata and Motoya, itself was a result of the Benton revolution. Lowered requirements for specialized knowledge and the accompanying increased productivity, right at a time when general economic growth increased the demands for printing of all kinds, meant that more type foundries could enter the market. In China, the newly established Beijing Xinhua zimo zhizaosuo (Beijing New-China Type Factory), later renamed Beijing Xinhua zimochang (Beijing New-China Type Foundry), acquired the first thirty Benton machines imported into China. Training was provided



24. Benton machine produced by the Tsugami Seisakujo (Tsugami Factory) in 1953. Photograph from Kozuka Masahiko, "Tōzai katsuji kōza: taipufeisu dezain no shūhen, 2: Benton jidai: kikai chōkaku no makuake" (Lectures on Type East and West: Aspects of Typeface Design; 2: The Benton Period, the Beginning of Type-Cutting by Machine) *Tategumi-Yokogumi* 21 (Summer 1988), p. T9. Photograph of the publication in the collection of the author.

7. 내가 기른 호랑나비

6월 17일 개임.

아침 아홉 시 쯤해서 호랑나비 알을 찾으러 정거장 근처에 갔다. 탱자나무는 많이 있었으나, 아무리 찾아도 호랑나비 알은 눈에 띄지 않았다. 30분 가량 찾아보았으나, 역시 찾지를 못했다. 할 수 없이 애벌레를 채집하기로 했다.

25. Myōngjo-ch'e *han'gŭl* typeface, 1954, designed by Yi Imp'ung and Ch'oe Chōng-sun, produced using a Benton machine used to print a 1958 elementary school textbook. Photocopy from Kim Chin-p'yong et al., *Han'gŭl kŭlcha kkol kich'o yōn'gu* (*ch'ulp'an yōn'gu ch'ongso* 7) (Basic Studies on the Forms of *Han'gŭl* Letters: Publishing Studies Series 7), p. 180.

by Japanese technicians—even in this period so soon after the Second World War. Beginning in 1964, similar machines were produced in Shanghai, thanks to large government investments designed to qualitatively and quantitatively improve type production. As part of this general process, older pre-war Chinese foundries were consolidated and renamed. Huafeng merged with Hanwen and was finally renamed Shanghai zimo yichang (Number One Shanghai Font Foundry). Huawen was first renamed Shanghai zimo erchang (Number Two Shanghai Font Foundry) and then, after a move in 1968 to Danjiang in Hubei, took the new name Wenzhi 605-chang (Wenzi 605 Foundry).

In this third stage, there was much research done on how typefaces functioned and were to be designed. In 1960, about the time that Satō Keinosuke (1912–1979) undertook his seminal studies of typography in Japan, the Shanghai yinshua jishu yanjiusuo (Printing Technology Research Institute) was founded in Shanghai, and the latter institute undoubtedly used studies made by the former.²⁵ There calligraphers,

designers, and type cutters laid the foundations for many of the typefaces in current use, beginning with several Song styles used for the dictionary *Cihai* (Ocean of Phrases) and the horizontally-set *Mao Zedong xuanji* (Selected Writings of Mao Zedong). (See figure 26.) Other new typefaces were those based on the Wei-dynasty stela inscriptions including the *Xin Weiti* designed by Han Feiqing. This typeface originated in calligraphy competitions and aroused great controversy since it was “designed” rather than “written with a brush.”²⁶ (See figure 27.) And Mou Zidong—he himself of the *Gansu ribao* (Gansu Daily)—designed new typefaces for the *Renmin ribao* (People’s Daily) based on lettering in vogue for use on posters, banners, and announcements in the pre-war liberated areas. (See figure 28.)

An even larger change was the application of phototypesetting, which further simplified the laborious process of producing type from original designs. Through the use of lenses, various sizes and variants of one and the same pattern that had been first drawn or written on film could be printed on photographic paper. And in fact, while the concept for manual phototypesetting originated in the West, the phototypesetting machine—in its manual form—was put to practical use in Japan and East Asia much earlier than elsewhere in the world, where phototypesetting gradually came to be used in the 1960s after it had been combined with some degree of automation. This technology is a clear-cut example of how the particular demands of writing in East Asia explain differences in the timing, adaptation rates, and the general influence of particular kinds of technology, just as we have seen in the cases of the electrotype process and the Benton matrix-cutting machine.²⁷

Experimentation with phototypesetting had begun in Asia well before World War II. In 1924, when engineer Morisawa Nobuo saw a brief introductory article on developments in experimental phototypesetting in the West, he and his mentor Ishii Mokichi immediately began to study the basics of printing and photography. The following year, the first Japanese prototype of a phototypesetting machine was ready. For the type, the Tsukiji-font design was used. The first machines, sold in 1929, were used for applications in specialized areas: by the Japanese army to produce maps and by other companies to create subtitles for movies.²⁸ (See figure 29.)

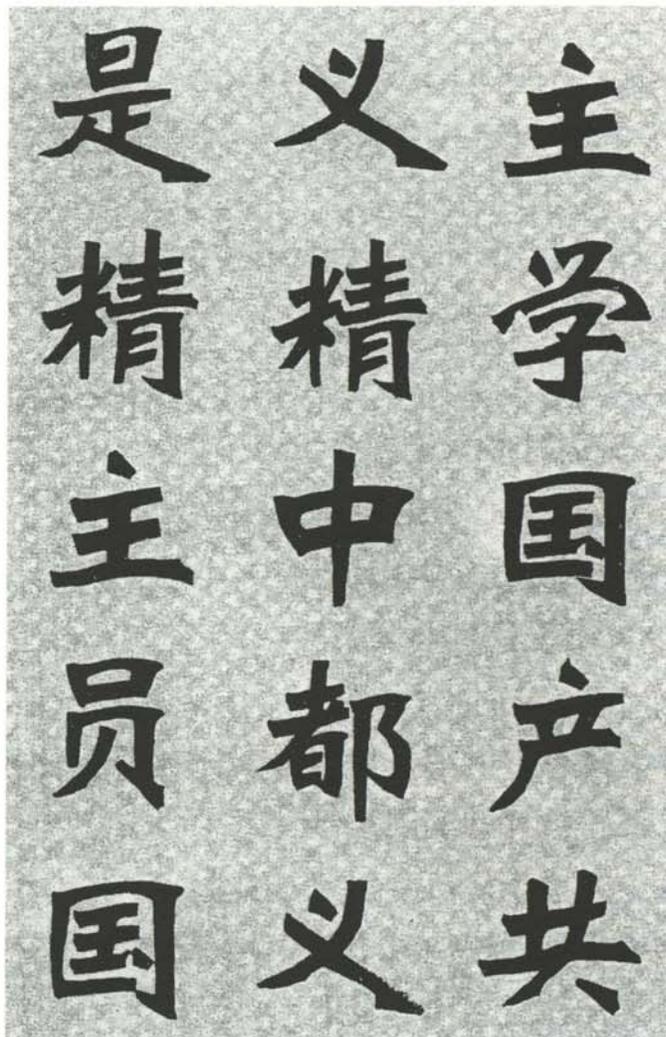
宋一体 (辞海正文)

群帐道特包勿姓恐爱多城旋确便增新男争即质摘报农备弟前国带胜

宋二粗体 (毛泽东选集横排本)

粼靛歇辈闯献谍荔测珍街霉厦棣窞雅稳勋麸剖束螟馄哨罐蛭鲋侵泓

26. Song-1-ti typeface, 1962, used for the main text in the dictionary *Cihai* (Ocean of Phrases) and Song-2-ti typeface, 1964, used for the text of the horizontal version of *Mao Zedong xuanji* (Selected writings of Mao Zedong), designed by Shanghai Printing Technology Research Institute. Photocopy from the table “Jiefang yilai de xin ziti (er)” [New Typefaces Since Liberation (2)] in *Zhongguo yinshua nianjian 1981* (China Graphic Arts Annual 1981), between pp. 232–233.

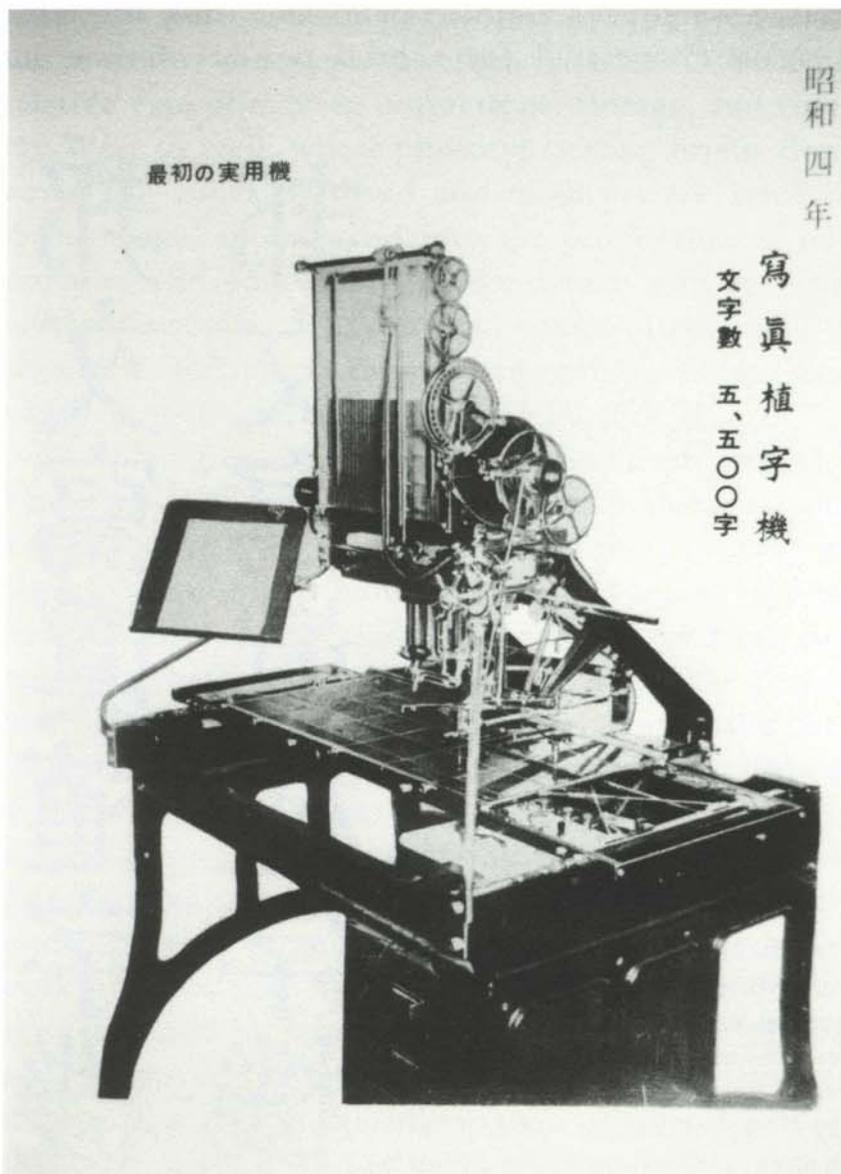


27. Xin Weiti typeface, 1969–1974, based upon stela inscriptions from the Wei period (220–265), calligraphy designed by Han Feiqing and typography designed by Zhou Jincai. Photocopy from Li Mingjun, *Zhongguo meishuzi shi tushuo* (Historical Atlas of Chinese Artistic Lettering) (Beijing: Renmin meishu chubanshe, 1996), p. 220. Publication in the collection of the author.

长牟体

候席姓政夜报送查准怒展固

28. ChangMouti typeface, 1961, designed by Mou Zidong used in the newspaper *Renmin ribao* (People's Daily). Photocopy from the table "Jiefang yilai de xin ziti (yi)" [New typefaces since the Liberation (1)], in *Zhongguo yinshua nianjian 1981* (China Graphic Arts Annual 1981), between pp. 232-233.



29. First phototypesetting machine in production, designed by Morisawa Nobuo and Ishii Mokichi, 1929. The machine had 5,500 characters on its character plates. Photograph from Morisawa Nobuo, *Shashin shokujiki to tomo ni sanjūhachinen* (Thirty-eight Years Together With the Phototypesetting Machine) (Osaka: Morisawa, 1960), p. 53. Publication in the collection of the author.

After Morisawa and Ishii parted company in 1933, Ishii continued working by himself and concentrated on the production of new typeface designs that could withstand the optical distortions introduced by the use of lenses, also a problem in the West. A highly praised typeface designed that same year was the Ishii Minchōtai. (See figure 30.) In 1938, one obvious promise of the use of phototype was fulfilled when, for the first time in East Asia, font families, not only in the sense of characters of the same basic design in different sizes, but also in the sense of characters with strokes of different weights in the same size, came into being with Ishii's design of a second weight for Gothic (*Goshikku*). After the war, Morisawa and Ishii again cooperated for a brief period of time in



30. Ishii Minchōtai typeface, 1933, designed by Ishii Mokichi. Right, the Minchōtai included with the original phototypesetting machine; left, Ishii's 1933 improved typeface. Photocopy from *Moji ni ikiru* (*Shaken gojūnen no ayumi*) (*Living in Letters: The Fifty-Year Course of Shaken*) (Tokyo: Shaken, 1975), p. 25. Publication in the collection of the author.

improving the machines, before severing their relations for good. This was the beginning of the present-day antagonistic relationship between the two major typeface providers in East Asia, Morisawa and Shaken (the latter the name of the company founded by Ishii).

It was not that pages set by manual phototype machines were yet equal to typeset pages; the technology was still in its infancy. The typesetting itself did not save much, if any, time. However, in contrast with the West, where aesthetic and economic considerations would never make manual phototypesetting a valid option, the advantages in East Asia were so clear in the ease of type production, that the relative lower quality of a page was taken in stride. Other advantages, such as the relative ease of making corrections, storage, and reprinting, held true in the West, as well, where phototypesetting briefly dominated in the 1960s when the issues of speed and quality were resolved. Phototype soon made several inroads also into the production of books, especially dictionaries and encyclopedias, for which entries were written by many different people and layout was complicated. Early on, Heibonsha used phototype to publish several large multi-volume sets, such as the *Sekai rekishi jiten* (Dictionary of World History).²⁹

The greatest achievement, however, was the well-known *Dai Kan-Wa jiten* (Great Chinese-Japanese Dictionary) compiled by Morohashi Tetsuji.³⁰ The plans for it had started in 1925. One estimate foresaw the need for some three hundred thousand pieces of type in different styles and sizes, all to be specially designed, cut, and cast since many characters had never before existed in type. In 1943, the first volume was already completely set with type. However, during the setting of the second volume, a fire destroyed all of the type. After that catastrophe, phototypesetting became the only valid solution with respect to time and money. Over the course of the next eight years, Ishii, hampered by illness and advancing age, single-handedly designed a total of fifty thousand different, original characters for this dictionary, completing the work in 1960. (See figure 31.) The story of how this landmark publication, still used by scholars of China and Japan all over the world, came into being is too little known and certainly deserves a fuller telling. This fuller telling reveals the importance of type development in the course of the intellectual history of East Asia.

大漢和辞典

清橋鞆次著

一部

【一】
イッ (漢語) 壹の切 壹

一 小 一 ひと。①数の一。
一 文 單簡。吳繁辭。上。天
一 地 一 (論語) 公伯長曰。回也聞一以知
十。(孟子) 梁惠王上。天下定於一。(淮南
子) 本經訓。由近知遠。而萬殊爲一。
②春秋繁露。天道無二。一者一也。③多
くの中の或もの。(呂覽) 舉難。擇務而
貴取一也。(史記) 平準書。白金三品。其
一曰。重八兩。之。何承天。答。顏延之書。
願吾子含。樂而進一也。(顏延之) 庭語文。
選書務一。不向煩瑣。④ひとつとつと
つ。(新書) 脩政語上。諸侯萬人。而禹一皆
知其體。⑤ひとたび。⑥いちど。中唐
人。一能之。已百之。(史記) 周紀。方一
食。三吐其哺。⑦もし。左氏。成。二蔡。
許。各。一失。其位。不得列。於諸侯。(漢
書) 文帝紀。一不登。民有顏色。(歐陽
脩) 憎。憎。善。惡。一有。善。惡。人。皆。不。食。

●ひとり。他(つれのな)いこと。(方言) 十二(一) 蜀也。南楚謂之蜀。(注) 蜀。蜀也。●數のはじめ。(廣韻) 一。數之始也。(孝經) 開宗明義章第一。一。一。數之始也。●物のはじめ。物の權。(説文) 一。惟初大極。道立於一。造分天地。化。成萬物。(老子) 三十九。昔之得一者。王。(注) 一。數之始。而物之極也。老子。四十二。道生一。(列子) 天瑞。一。者。形變之始也。(莊子) 天地。一。之。名。起。(注) 一。者。有之初。至妙者也。●道。真。善。遠。周。書。命。調。解。其。極。一。也。(注) 一。者。善。之。謂。也。老。子。十。一。數。營。風。地。一。能。無。離。乎。(注) 一。人。之。實。也。(呂覽) 論人。知。神。之。謂。得。一。(注) 一。道。也。(淮南子) 原道訓。無。形。者。一。之。謂。也。●まじりない。まじり。●繁。繁。下。天。下。之。動。貞。夫。一。者。也。(書) 大禹謨。惟。精。惟。一。●すくぬる。並。ひ。ない。たぐひない。(淮南子) 註。言。訓。一。也。者。萬。物。之。本。也。無。敵。之。道。也。●一人。天。子。の。世。子。又。天子。(禮記) 文王世子。諸。曰。樂。生。可。業。父。師。可。成。一。有。元。元。萬。國。以。貞。一。子。家。語。曲。禮。子。夏。問。語。曰。樂。正。可。業。父。師。可。成。一。有。元。元。萬。國。以。貞。(注) 一。謂。天子。也。●もつばら。ひとへに。專。

一。(禮) 禮運。欲一以窮之。禮非子。純。使。實。利。一。從。上。出。(淮南子) 說山訓。用。心。一。也。(注) 一。情。專。也。(史記) 曹相國世家。一。道。無。何。約。束。(史記) 范滂傳。范。滂。一。寒。如。此。哉。(後漢書) 馮異傳。將軍。一。之。(注) 一。廣。專。也。すし。わづか。ち。ま。つと。(廣韻) 一。少。也。(左氏) 僖。三。十三。不。以。一。誓。掩。大。德。(莊子) 知。北。遊。一。不。化。者。也。(韓非子) 安危。國。不。得。一。安。(後漢書) 國。衛。傳。目。所。一。見。輒。誦。手。一。お。お。な。じ。(同) じ。か。は。ら。ぬ。廣。韻。一。同。也。(禮) 樂記。禮。樂。刑。政。其。極。一。也。(中庸) 所。以。行。之。者。一。也。至。下。離。婁。一。先。聖。後。聖。其。揆。一。也。(荀子) 禮。論。一。古。一。所。一。也。(注) 一。謂。不。變。(淮南子) 說山訓。所。歸。則。一。也。(淮南子) 說。林。訓。尾。生。之。信。不。如。隨。牛。之。羸。而。又。況。一。不。信。者。乎。(注) 一。猶。常。(史記) 儒。林。傳。其。歸。一。也。⑧ひとつにする。ひとしく。する。(國語) 晉語。四。戮。力。一。心。(注) 一。同。也。●結。非。子。功。名。入。主。者。一。力。以。共。戴。之。(淮南子) 原道訓。一。度。廣。軌。陰。陽。一。和。于。四。時。(注) 一。同。也。(史記) 陸。賈。傳。一。海。內。(唐書) 薛。平。傳。後。歐。均。一。●すすて。みな。(經傳釋詞) 三。一。

●皆也。詩北門曰。政事一俾。我。百。政。事。皆。俾。我。也。(大戴禮) 衛將軍文子。一。諸。侯。之。相。也。(注) 一。皆。也。(荀子) 勸。學。一。可。以。爲。法。則。三。注。一。皆。也。(呂。覽) 貴。直。士。志。氣。一。若。此。乎。(注) 一。猶。皆。也。(史記) 淮陰侯傳。一。軍。皆。驚。或。是。時。一。注。一。皆。也。一。曰。或。曰。也。莊。年。穀。梁。傳。曰。其。一。曰。君。在。而。重。之。也。文。十。八。年。曰。一。曰。就。賢。也。一。曰。或。曰。也。(爾雅) 釋。水。一。有。水。一。無。水。●すなは。ち。(呂覽) 知。士。解。郭。君。之。於。華。人。一。至。此。乎。(注) 一。猶。乃。也。●發。語。の。詞。句。詞。を。調。へ。る。語。(經傳釋詞) 三。一。語。助。也。昭。十。年。左。傳。曰。君。一。過。多。矣。何。信。於。謙。管。子。論。形。篇。曰。今。楚。王。之。善。華。人。一。甚。矣。云。云。以。一。語。一。字。皆。是。語。助。字。●身。か。ら。た。(莊子) 徐。無。鬼。上。之。質。若。亡。其。一。(釋。文) 一。身。也。●樂。譜。記。號。の。一。史。樂。志。夾。鐘。姑。洗。用。一。字。●壹。の。一。史。一。壹。の。一。通。于。正。字。通。一。按。一。壹。貳。幾。通。一。古。は。式。一。壹。の。一。作。る。(説。文) 式。古。文。一。●姓。(萬。姓。統。譜) 一。見。姓。譜。一。姓。宗。延。川。人。正。統。中。任。雲。南。縣。丞。●國。云。云。す。れば。(列) 一。經。案。出。●注。音。符。號。の。韻。符。の。一。單。母。韻。舌。前。部。

31. Ishii Sai-Minchōtai typeface, 1952–1960, adjusted and enlarged for the *Dai Kan-Wa jiten* (Great Chinese-Japanese Dictionary), designed by Ishii Mokichi. Morohashi Tetsuji comp., *Dai Kan-Wa jiten* (Tokyo: Taishūkan, 1955–1960), vol. 1, first text page. Photocopy of the exemplar in the East Asian Library and the Gest Collection, Princeton University.

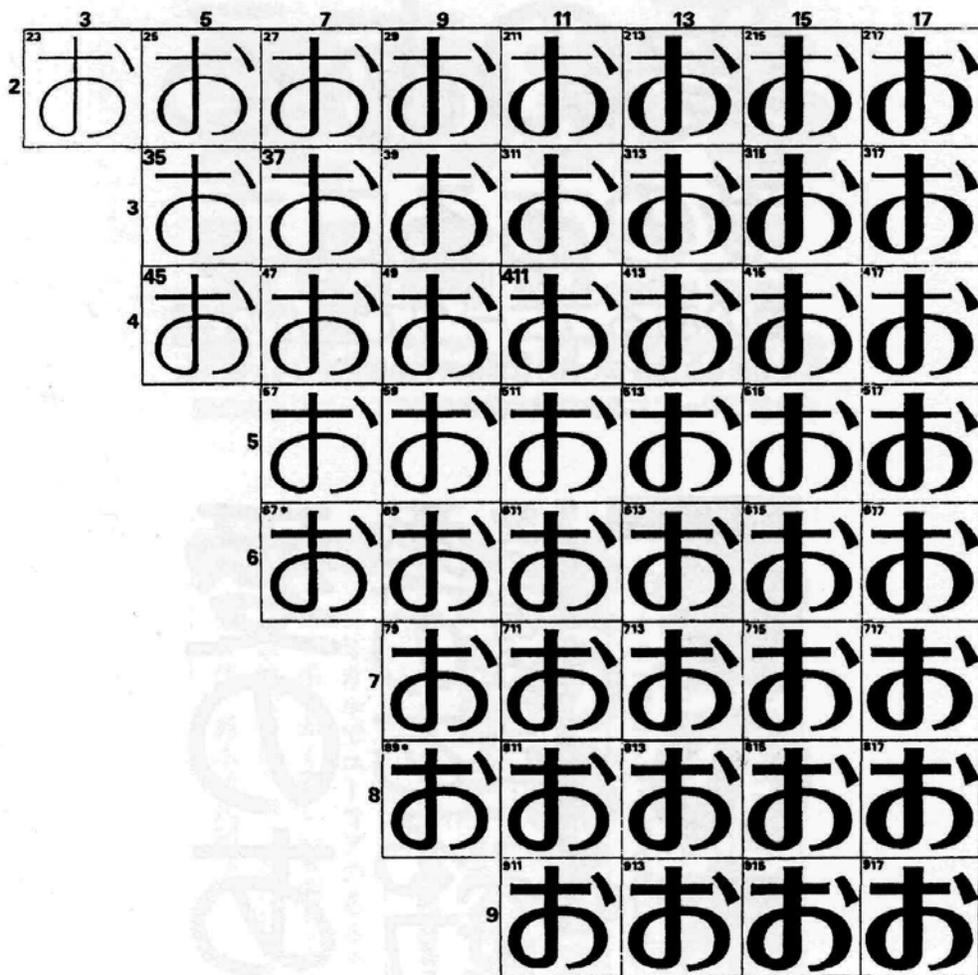
Phototypesetting expanded very rapidly during Japan's explosive economic growth from late in the 1950s through the 1960s, when advertising designers demanded increasing numbers of display types and greater freedom in typesetting. Yamashiro Ryūichi's poster of a forest, set with the characters for tree (*ki*), grove (*hayashi*), and forest (*mori*), was a famous first example of using the design possibilities of the new medium. Phototypesetting makes possible, as shown there, overlapping characters, tight kerning, and other effects not previously possible. (See figure 32.) Since the 1960s, phototypesetting has become the printing medium of choice in Japan and, as in the West, has been greatly automated and gradually computerized with the important difference that in East Asia, it had already found a certain niche in publishing before automation took place.

In typeface design, the publication in 1969 by Shaken of the different Taiposu typefaces—a set of families based upon an intricate system of different thicknesses of horizontal and vertical strokes *à la* the well-known typeface Univers—was epoch making. (See figure 33.) These typefaces, first designed in 1962 by a group of four designers working cooperatively to great effect, were abstractly designed *kana*, that is *kana* designed without regard for brush strokes. Their innovations showed that the look of a page could change radically depending on the *kana* used, even when the Chinese characters used remained the same. “Lettering” now became “typography.”

Typeface contests were an outward sign of the importance of the new phototypesetting developments and grew out of the need for new typefaces for advertising in the rapidly developing economy.³¹ In 1970 the first Ishii Typeface Contest, which was organized by Shaken, selected as its winner a new design for round-Gothic designed by Nakamura Katsuhiko, which was issued in 1972 as *Nāru*, “*Na*” being the first two letters of the designer's surname and “*ru*” the last two letters of the Japanese word “*maru*,” meaning “round,” used to indicate the general style of the font. (See figure 34.) The winner in the 1971 contest was the typeface *Sūbo*, a name composed of the first two letters of the surname of the designer Suzuki Tsutomu and the first two letters of the English word “bold.” (See figure 35.) An example of subtle connections in East Asia is the name of this typeface in China, *Hupo*, meaning “amber,”



32. Yamashiro Ryūichi, poster for a planting campaign, 1955. Photocopy from Matsuoka Seigō, Tanaka Ikkō, and Asaba Katsumi, eds., *Nihon no taipogurafikku dezain: moji wa damatte inai* (Transition of Modern Typography in Japan, 1925–1995) [Typographic Design in Japan: Letters Do Not Keep Silent] (Tokyo: Toransuāto, 1999), p. 81. Publication in the collection of the author.



33. Taiposu typeface, 1962–1969, designed by the Gurūpu “Taipo” (Kuwayama Yasaburō, Hayashi Takao, Itō Katsuichi, and Nagata Katsumi). Shown here is Family 1, 1968. Photocopy from “Typokeyword: Hayashi Takao 1937–1994, (1)”, *Taipogurafikkusu Ti* 193 (July–August 1997), p. 9. Publication in the collection of the author.

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ポイント

「ナール」は古くからある丸ゴシックとは全く違ったしゃれたデザインで、ファッショ誌を始め、広告やテレビのテロップ、道路標識などにも使われている。

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愛のあるユニークで豊かな書
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34. Nāru typeface, 1970–1972, designed by Nakamura Katsuhiro. Photocopy from Kabushiki kaisha Shaken, ed., *Ji no mihonchō: bunshō o utsukushiku miseru shotai no sutairubukku* (Character Specimen Book: Style Book of Typefaces to Make Your Writing Look Beautiful) (Tokyo: Goma shobō, 1993), p. 29. Publication in the collection of the author.

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ポイント

コミカルでユーモアのあるデザインのため、柔らかく楽しい雰囲気を与えたいときに最適な書体。第二回石井賞タイコン一位受賞作。鈴木勉氏制作。

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愛のあるユニークで豊かな書
愛のあるユニ
愛のある

35. Sūbo typeface, 1972–1974, designed by Suzuki Tsutomu. Photocopy from *Ji no mihonchō: bunshō o utsukushiku miseru shotai no sutairubukku* (Character Specimen Book: Style Book of Typefaces to Make Your Writing Look Beautiful), p. 103.

아름답고 기능적인 한글
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아름답고 기능적인 한글

36. Shaken Myǒngjo-ch'e *han'gŭl* typeface, 1960-, designed by Ch'oe Chǒng-ho; used in Shaken photo-typesetting machines. Photocopy from *Han'gŭl kulcha kkol kich'o yǒn'gu* (*ch'ulp'an yǒn'gu ch'ongsǒ* 7) (Basic Studies on the Forms of *Han'gŭl* Letters: Publishing Studies Series 7), p. 184.

which is both an indication of the general character of the font—round and smooth—and, as well, a calque of its original name. However, undoubtedly few people realize that behind Hupo lies Suzuki Bold.³²

Another of the many, often invisible relations among Chinese, Japanese, and Korean typographical terms, arising from their common use of the same typographical technology, is the character pronounced in Chinese “*ji*,” meaning “class or degree.” This term is used as a measure of size in phototypesetting, similar to the “point” unit of measurement or the Asian-specific unit of measurement called “*gō/hao/ho*” used for metal type. Despite the apparent appropriateness of the meaning of the character, this unit of measurement name had a very different kind of origin. In fact, the term is a loan word from Japanese, for which the pronunciation is *kyū*; the term is also used in Korea where it is pronounced *kŭp*. Originally, however, the term did not have any character whatsoever associated with it: *kyū* is simply the Japanese pronunciation of the English letter *q*. The measure of size was named “Q” as an abbreviation for the word “quarter,” meaning “one-fourth,” where one quarter of a millimeter was used as a unit of type advancement on the

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●縦組の字送りは $\frac{26}{32}$ em送りです。

ポイント

古くから伝えられる隸書体の書風にモダンな味を付け加えたもの。印章用として開発されたが、ブックカバーの表紙や雑誌の見出しなどでも、しゃれたいい感じが出せる。

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愛のあるユニ
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37. Shaken Sōranreishotai typeface, 1972, designed by Zeng Qingren. Photocopy from *Ji no mihonchō: bunshō o utsukushiku miseru shotai no sutairubukku* (Character Specimen Book: Style Book of Typefaces to Make Your Writing Look Beautiful), p. 82.

phototypesetting machine. Both of the terms, “Q” and the character for *kyū*, are in use in Japan when specifying size.

Phototypesetting moved quickly to Korea as well. The first Korean font in this medium was made by a Korean designer in Japan for the production of textbooks for teaching Korean language to Japanese students.³³ However, changes to this font made by Ishii were not accepted in Korea, where in 1960 Ch’oe Chǒng-ho developed a new font for the Japanese phototypesetting machine of Shaken. (See figure 36.) By 1979, Korean-manufactured phototypesetting machines became available, but Japanese machines remained dominant until the digital-computerized solutions became widespread. Japanese phototype machines, with modified characters and additional Chinese calligraphic styles, such as the *li* (clerical)-style font—known in Japanese as *Sōranreisho*—designed by the Taiwanese Zeng Qingren also became the mainstay of publishing in Taiwan and Hong Kong, and later, briefly in mainland China. (See figure 37.)

FROM 1980 TO THE PRESENT: NEW OPENINGS THROUGH COMPUTERIZATION

Finally, in the 1980s, circumstances began to change in Asia when the hitherto “outsiders”—Hong Kong, Korea, and Taiwan—began to use non-proprietary computerized typefaces to liberate themselves from the dominance in printing by the Japanese phototypesetting companies. More Asian typefaces than ever before have become available, just at the time when public interest in typefaces is increasing. Yet, widespread piracy and the spread of low-quality fonts have made investment in the development of quality, new text-typefaces, which often require up to a million dollars per typeface, unrealistic and very risky. Several lawsuits have plagued the industry. There are great investments in the development of shortcuts to typeface production, and it has become rarer and rarer that the same character element in different characters is designed to look slightly different, in order to be in balance with the shape of all the other elements in a given character. This aesthetic finessing of the components of a character had been evident, in the earlier, better-developed metal and phototype typefaces. To foil piracy, companies have instituted technical measures that restrict the use of computer fonts

to particular resolutions, so that the same computer font is incomparably more expensive to output on a high-resolution image setter than on a personal printer. And at least one company, Shaken, has not yet made its fonts available for desktop computers, even though these fonts are widely imitated; Shaken and, to a lesser extent, Morisawa have rather become machine companies and are no longer truly font developers.³⁴

The dominance in the industry of the two Japanese phototypesetting companies Shaken and Morisawa was not necessarily welcomed everywhere in East Asia, or even in Japan. A third company, Ryōbi, tried to make typefaces for use on the machines produced by these first two companies but met with defeat in court. The first successful efforts to produce computer fonts free of a particular equipment maker began in Hong Kong and Taiwan, and the attempts carried strong nationalistic overtones. In Hong Kong, where lettered advertising fonts, some of which were designed by artist Choi Kai Yan (Cai Qiren), had made a great impact and had also been purchased by Shaken, several groups of people began to work in small-scale computer-design firms.³⁵ (See figure 38.) One of them was Ke Chijian, usually known as Sammy Orr, who had been involved with the first efforts of the Western-font giant Monotype to establish a place in the Chinese market.³⁶ Sammy Orr was responsible for the Li-series of fonts such as LiSong, currently the standard for traditional Chinese on the Macintosh. His company TTL (Type Technologies Limited) was later bought out by Taiwan's success story Huakang (in English originally known as Dynalab but after 2001 renamed Weifeng shuwei with the English name DynaComware) when this company, which had initially made great inroads in the Japanese market by offering cheaper but inferior copies of computer fonts, began to upgrade its line. Huakang later combined forces in Japan with Ryōbi, originally a Western-font type foundry which had become Japan's third player in the realm of phototypesetting and whose efforts to make character plates interchangeable with those of Shaken's had resulted in a lawsuit won by the latter, as mentioned immediately above.³⁷ Another Hong Kong designer, Ross Evans, started a company there that became Fontworks, which now is also a major player in the Japanese desktop-publishing world. In Taiwan, the founders of Huakang experienced a falling out, slightly reminiscent of the rivalry in Japan between Morisawa

開朗康果部

C30 超宋體 DYNASTY

國映線神創

C31 線映體 BEAMS

獎樂票份的

C32 禮樂體 ROCKAWAY

蘭加時連請

C33 扁創學 P.HERO

靚限領話錶

C34 扁中方 P.SQUARE

聖請東表進

C35 廣告體 PROMOTION

開朗康果部

C36 斜超宋 I.DYNASTY

青儀浪詩意

C37 斜柔美 I.BEAUTY

速勁車源眉

C38 中斜體 M.ITALIC

原快速星飛

C39 速勁體 SPEEDIE

尋庄声宝阳

C69 超宋簡體

導畫框宝則

C70 線映簡體

賞請閱浩導

C71 禮樂簡體

証阳虽应时

C72 扁創學簡體

現号尔庆万

C73 扁中方簡體

頂伤洎寻聖

C74 廣告簡體

亲临郑旧万

C75 斜超宋簡體

适优开历阳

C76 斜柔美簡體

監語郵报问

C77 中斜簡體

聰跃风沪历

C78 速勁簡體

38. Hong Kong advertising fonts from the 1980s, designed by the Ziti chuanguzuo zhongxin (Creative Calligraphy Centre). Photocopy from Zhong Jinrong, ed., *Pingmian sheji shouce (The Graphicat) [Manual of Graphic Design]* (Shenzhen: Lingnan meishu chubanshe, 1992), p. 293.

and Shaken. The result, despite accusations of infringement of technology copyright, was the creation of a separate company named Wending, which won the lawsuit against it brought by Huakang.³⁸

Early in the 1990s, in order to ensure that international printing advances could quickly be incorporated into its printing industries, the Chinese government became an active participant in the development of printing technology, insisting that Chinese companies follow the international Postscript-font technology rather than their own proprietary formats, as they had done earlier. This was the case especially for the company Fangzheng (Founder), which had quickly become extremely successful within and without the People's Republic of China with its computerized typesetting systems (CTS) for newspapers.³⁹ The earlier Beijing-Shanghai font-foundry rivalry continues today in the competition between two new computer-font manufacturers, Beijing Hanyi keyin xinxi jishu (Hanyi) and Changzhou Huawen yinshua xin jishu (SinoType), often staffed with the personnel of the earlier Beijing and Shanghai font foundries.⁴⁰ In Korea, the development of computer fonts has exploded. *Han'gŭl* is an alphabet, for which a font is therefore relatively easy to design in comparison with the design challenges presented by the large number of Chinese characters which are now rarely used in Korea. Such companies as Yun tijain yŏn'guso (Yun Design Institute), Sandol kŭlch'a ūnhaeng (Sandoll Typebank) or Sŏul sisŭt'em (Seoul Systems), each have issued hundreds of fonts in many up-to-date styles.⁴¹ (See figure 39.) One famous typographer An Sang-su (also spelled Ahn Sang-soo) has designed very geometric-looking fonts with which he tries to establish typefaces liberated from—in his view—the “tyranny of the Chinese square,” but his attempt can be considered only partly successful. While his typefaces have become trendsetters for countless other geometric fonts, which are perceived as “modern,” hardly any of them try, as An Sang-su did in some fonts, to arrange the different letters of a syllable linearly rather than as a group.

Perhaps the greatest achievement of the computer age is the so-called *kana*-family series of Ajioka Shintarō in Japan, developed from 1984 to 1990. In these fonts, which may be seen in countless books and periodicals, the concept of “family” is widened to include five different *hiragana* styles in various weights, each based upon traditional calligraphy

타이포그래피 전문지, 정글

39. Various new “grunge” fonts from the Yun tijain yŏn’guso (Yun Design Institute), 1997. Photocopy from “Sin soch’e ribyu” (New Fonts Review), *Chŏnggŭl* (Jungle) 5 (Summer 1997), p. 53. Publication in the collection of the author.

and old-style fonts but still clearly “designed” rather than “written.” They can be set with various weights and varieties of Minchō and Gothic, bringing all these originally different typefaces together as one harmonious Japanese super-family.⁴² (See figure 40.)

With this short overview, I have given a brief outline of the larger history of East Asian typography, in anticipation of further and deeper treatments of its various aspects. Modern typography in East Asia has been treated as a whole since the printing and design industries of the various countries have been and still are interrelated, often in surprising ways: such as when national antagonism failed to prevent the marketing of Japanese Benton machines in China and Korea; or when contemporary Taiwanese and Hong Kong companies compete successfully with their Japanese counterparts; or when the People’s Republic of China Fangzheng CTS for newspapers was adopted in Taiwan and Hong Kong by such newspapers as the *Zhongyang ribao* (Central Daily News), *Minshengbao* (Min Sheng Daily), or *Lianhebao* (United Daily News). Also, we have seen that in East Asia, some technologies, such as the striking of matrices using hand-cut punches, were not as prevalent as they had been in the West, while other technologies, such as the electrotype process or the Benton matrix-cutting machine, were relatively more important and, as in the case of phototypesetting, embraced at an earlier stage of the development of modern printing than was the case in the West. Thus, in the context of East Asia, technology, politics, economics, and culture come together uniquely in the seemingly mundane act of typesetting a book or an advertisement. Everywhere in the world, old print-related technologies are under siege in the fast-paced, and sometimes unscrupulous, developments in technology, and piracy is rampant. The record of how evolving expertise in printing accumulated over the past two centuries is in danger of disappearing before being written down. This introductory narrative of events in the East Asian sector of the history of modern printing is a plea for more contributions toward preserving the record of its past.

NOTES

1. Some of the most important general works are the following: for Chinese—Fan Muhan, ed., *Zhongguo yinshua jindai shi* (Modern History of Printing in

China) (Beijing: Yinshua gongye chubanshe, 1995); for Japanese—Yahagi Katsumi, *Minchō katsuji: sono rekishi to genjō* (Minchō Type: Its History and Current Status) (Tokyo: Heibonsha, 1976); Insatsushi kenkyūkai, ed., *Hon to katsuji no rekishi jiten* (Historical Dictionary of Books and Type) (Tokyo: Kashiwa shobō, 2000); Komiyama Hiroshi, Fukawa Mitsuo, and Koike Kazuo, *Shinsei katsuji chūdokusha tokuhon: Hanmen kōshō, katsuji shotaishi yūran* (Reader for Genuine Type-Fanatics: Research on Page Layout and an Overview of the History of Typefaces) (Tokyo: Kashiwa shobō, 2001); and for Korean—Kim Chin-p'yōng et al., *Han'gŭl kŭlcha kkol kich'o yŏn'gu* (*ch'ulp'an yŏn'gu ch'ongsŏ* 7) [Basic Studies on the Form of Han'gŭl Letters (Publishing Studies, Series 7)] (Seoul: Han'guk ch'ulp'an yŏn'guso, 1990); and *Sŏul Inswae Chohap sa, 1: 1962–1992* (History of the Seoul Printing Association, 1962–1992) (Seoul: Sŏul T'ŭkpyŏlsi inswae kŏngop hyŏptong chohap, 1992). I thank Kim Hye-suk of Hyumŏn K'ŏmp'yut'ŏ (Human Computer, current Hyumŏn-K'ŏm, HumanCom) for the Kim Chin-p'yong reference. For a short introduction to works introducing typography in a wider sense, see Mori Kei, “Taipogurafi no rekishiteki tenbō” (An Historical View of Typography), pts. 1, 2, and 3, *Taipogurafikkusu Ti* (Typographics TEE) 153 (September 1993), pp. 2–15; 154 (October 1993), pp. 1–15; and 158 (March 1994), pp. 1–15. More specialized works will be cited at the appropriate places.

2. For a treatment of the diverse technologies of making Western and Asian type and their comparison with woodblock printing, see my paper “Technology, Culture, and Economics: Movable Type Versus Woodblock Printing in East Asia,” presented at the First International Scientific Conference on Publishing Culture in East Asia, Tokyo, 8–10 December 2001 and the works cited therein, in Isobe Akira, ed., *Higashi Ajia Shuppan Bunka Kenkyū: Niwatazumi* (Studies of Publishing Culture in East Asia: Puddles of Inspiration) (Tokyo: Nigensha, 2004, pp. 223–240). Another short overview is David Helliwell, “Two Collections of Nineteenth-Century Protestant Missionary Publications in Chinese in the Bodleian Library,” *Chinese Culture* 31:4 (December 1990), pp. 21–38.
3. This equation of the association of modernity and modern Western science and technology was not always present however. The works printed by the Kiangnan Arsenal, which formed a major part of the introduction of Western thinking into China, were produced by woodblock printing. See Tsuen-hsueh Tsien, “Western Impact on China Through Translation,” *Far Eastern Quarterly* 14 (1954), pp. 305–327.
4. In China, the wide gap between the two aesthetics, visible in practice, is often ignored in writing which, out of ignorance, pays incommensurate and inapplicable lip-service to calligraphy only. This is different from the awareness, common in recent Western and Japanese typographic studies, that there is always commonality between the two approaches, both because of shared historical origin and visual rules. Some of the very few Chinese articles that do realize there is a difference are Zhang Daoyi, “Songtizi zhi mei” (The Beauty of the Songti Typeface), *Hansheng zashi* 88 [Mei zai Hanzi 2: Yijiang juan (Chinese Characters, How Beautiful They Are: Volume on Technology)]

(Taipei: Hansheng zazhishe, 1996), pp. 60–67; Li Mingjun, *Zhongguo meishuzi shi tushuo* (Historical Atlas of Chinese Artistic Lettering) (Beijing: Renmin meishu chubanshe, 1996); and the only detailed publicly available specialized work, Cao Zhenying and Qiu Cong, *Shiyong yinshua ziti shouce* (Practical Handbook of Printing Typefaces) (Beijing: Yinshua gongye chubanshe, 1994).

Printing in Japanese during the Edo period had not yet undergone a move toward the typographic aesthetic. Even books printed with pre-modern type show highly calligraphic styles of *kana* and of Chinese characters, including many ligatures of elements of unequal size, freely combined with illustrations. By this time, Sinological and Buddhist literature had begun to follow the Chinese artisan style. Therefore, it is not surprising that immediately upon the importation of modern-type production, efforts were made to add to the Minchōtai-repertoire reproductions of the current calligraphic styles, even earlier than in China. However, the development of modern literature, which required clearly set pages using a rationalized system of many type sizes, by the 1880s resulted in the rapid dominance of the Minchōtai typeface, which alone could fulfill the new demands.

5. For some additional reasons why the artisan style under the names of Minchōtai or Songti became the basis of the only real text typeface in East Asia, see the work of Yahagi Katsumi mentioned in note one. In addition, see his *Katsuji: hyōgen, kiroku, dentatsu suru* (Type: To Express, Record, and Transmit) (Tokyo: Shuppan nyūsusha, 1986), esp. pp. 25–32. Unlike other styles, the Minchōtai typeface was adaptable in its horizontal-versus-vertical ratio to different sizes, particularly including smaller sizes, which were needed to set pages more economically.
6. In Japan and Korea, loanwords were used for both the concept of “typography” and the concept of “lettering” (i.e. drawn, not printed letters). Now, however, loanwords for “lettering” have largely disappeared in usage except when explicitly referring to the hand writing of characters in pre-existing typefaces. In China, the word “*meishuzi*” referring to “lettering” (and its related concepts of logo and title design) is still very common, and in Chinese there is really still no one word for the various shades of the word “typography.” Words such as *ziti sheji* (typeface design) and *pingmian sheji* (graphic design) are used alongside *meishuzi sheji* (lettering design).
7. See, in addition to my article mentioned in note two above, the masterful thesis of Su Ching (i.e., Su Jing), “The Printing Presses of the London Missionary Society Among the Chinese” (Ph. D. Thesis, School of Library, Archive and Information Studies, University College London, 1996); Christopher A. Reed, *Gutenberg in Shanghai: Chinese Print Capitalism 1876–1937* (Vancouver: University of British Columbia Press, 2004); Zhang Xiumin and Han Qi, *Zhongguo huozhi yinshua shi* (History of Chinese Movable Type Printing) (Beijing: Zhongguo shuji chubanshe, 1998).

Much important material can also be found in Komiyama Hiroshi’s articles on the background of Japanese type. See, for example, his “19-seiki Yōroppa, Chūgoku de no Minchōtai kinzoku katsuji no tenkai, soshite Nihon e no

- denpa" (The Development of the Minchōtai Metal Type in Nineteenth-Century Europe and China and Its Subsequent Propagation to Japan), *Musashino bijutsu daigaku kenkyū kiyō* (Bulletin of the Musashino Art University) 23 (1992), pp. 37–48; or his "Tokushū: Reimeiki Minchōtai katsuji kō" (Special Issue: Investigation of the Minchōtai Type in Its Infancy), *Taipogurafikkusu Ti* 104 (1989), pp. 1–14. For the visual overviews, see also "19-seiki Yōroppa, Chūgoku, Nihon no katsuji Minchōtai no shosō" (The Various Phases of the Minchōtai Type in Nineteenth-Century Europe, China, and Japan), *Taipogurafikkusu Ti* 162 (July–August, 1994), pp. 1–13. See also the large technical compilation of the Bunkachō bunkabu kokugoka, *Minchōtai katsuji jikei ichiran (1820nen–1946nen): Katsuji jitai kankei sankō shiryōshū* (Tables of the Forms of Minchōtai Type (1820–1946): Compilation of Historical Sources for the Investigation of the Structural Forms of Chinese Characters), 2 vols. (Tokyo: Ōkurashō insatsukyoku, 1999).
8. The method itself was not new, and in Japan, also, Kimura Kahei III (1823–1886) applied this method, learned from a Dutch interpreter, to making his type from 1854 to 1864. His type, still extant, remained outside the mainstream development, however, and currently no books printed from it are known. See *Hon to katsuji no rekishi jiten* (Historical Dictionary of Books and Type), pp. 293–295. I am very grateful to Kozuka Masahiko who shared with me several interim reports of a Japanese project to recreate the nineteenth-century electrotype process for producing type. A final report is included in *Katsuji bunmei kaika: Motoki Shōzō ga kizuita kindai (Insatsu Hakubutsukan kaikan sanshūnen kinen kikakuten)* [The Dawn of Type Civilization: The Modern World Built by Motoki Shōzō (The Third-Anniversary Exhibition of the Printing Museum)] (Tokyo: Insatsu hakubutsukan, 2003). I thank Nakanishi Yasuhito of the Printing Museum for supplying me with a copy of this book.
9. See first the introduction of Yahagi Katsumi, "Wagakuni kappan insatsushi no shin shiryō: Wiriamu Ganburu no rainichi ni tsuite" (A New Source for the History of Movable-Type Printing in Our Country: On the Visit of William Gamble to Japan), *Toshō* 7 (1985) pp. 40–45; and his "Meikaku ni natta kappan insatsu no genryū: Wiriamu Ganburu no rainichi ni tsuite" (The Origin of Type Printing Now Has Become Clear: On the Visit of William Gamble to Japan), *Shuppan kenkyū* (Publishing Studies) 16 (March 1986), pp. 10–28, reprinted in his *Katsuji: hyōgen, kiroku, dentatsu suru* (Type: To Express, Record, and Transmit), pp. 258–287.

Then see the magisterial studies of Komiyama Hiroshi, in outline in his contributions to the *Hon to katsuji no rekishi jiten* (Historical Dictionary of Books and Type) and in detail in a series of his articles, as follows: "Mosaku-ki Minchōtai katsuji kō" (Investigation on the Minchōtai Type During its Formative Period), *Taipogurafikkusu Ti* 11 (March 1990), pp. 1–10; "Na shi yiyangde zi': So-Shō-Shanghai Bika Shokan Small Pica 1865–1872: Shōrai-zen Minchōtai katsuji kō" ("That's the Same Typeface!": The Small Pica of the Suzhou-Songjiang-Shanghai American Presbyterian Mission Press: An Investigation of the Minchōtai Type Before Its Eventual Success), *Taipogurafikkusu Ti*

- 128 (March 1991), pp. 1-7; "Dōnyūki Minchōtai katsuji kō: gōsūsei wa kujirajaku de tsukurareta no ka" (An Investigation on the Minchōtai Type in the Importation Period: Was the Gō Size-System Based Upon the Japanese Cloth Measure Scale?), *Taipogurafikkusu Ti* 138 (March 1992), pp. 1-17; "19-seiki Yōroppa, Chūgoku de no Minchōtai kinzoku katsuji no tenkai, soshite Nihon e no denpa" (The Development of the Minchōtai Metal Type in Nineteenth-Century Europe and China and Its Subsequent Propagation to Japan), pp. 37-48; "Bika Shokan 16 pointo Minchōtai hoi, oyobi 11 pointo Minchōtai no henken to Hirano Kappanjo 5-gō Minchōtai to no hikaku" (Comment on the American Presbyterian Mission Press Sixteen-Point Minchōtai Type, As Well As Changes to the Eleven-Point Minchōtai Type and its Comparison with the Hirano Type Foundry Five-Gō Minchōtai Type), *Musashino Bijutsu Daigaku kenkyū kiyō* 24 (1993), pp. 59-73; "Rondon dendōkai ni yoru 13.5 pointo Minchōtai no hakken to Oranda, Nihon e no denpa, oyobi shotai hikaku" (The Development of the 13.5-Point Minchōtai Type by the London Missionary Society, Its Dissemination to Holland and Japan, and a Comparison of Their Typefaces), *Musashino bijutsu daigaku kenkyū kiyō* 26 (1995), pp. 19-27.
10. Recently, the organizers of an exhibition that clarifies much of the early type environment in Japan decided to read the surname Motoki as Motogi, but not without the dissent of some contributing authors. See *Katsuji bunmei kaika* (The Dawn of Type Civilization), cited in note eight. In my article, I have used the Motoki spelling.
11. For more on this font, see, in addition to his collaboration with Zhang Xiumin, *Zhongguo huozhi yinshua shi* (History of Chinese Movable Type Printing) already mentioned in note seven above, the subsequent articles by Han Qi: "19-seiki ni okeru Kanji bungō katsuji no kaihatsu shi" (The History of the Development of Chinese Divisible Type in the Nineteenth Century), *Taipogurafikkusu Ti* 165 (November 1994), pp. 1-17; and "Shijiu shiji Zhongwen pinhe huozhi yanzhi shi xukao" (Additional Studies in the History of the Development of Chinese Divisible Type in the Nineteenth Century) in Dierjie Zhongguo yinshuashi xueshu yantaohui chouweihui, ed., *Zhongguo yinshua shi xueshu yantaohui lunji* (Proceedings from the Scholarly Conference on the History of Chinese Printing) (Beijing: Yinshua gongye chubanshe, 1996), pp. 444-455.
12. The term "rational" is used in the sense that some sizes were an even multiple of other sizes and therefore could easily be set together. In fact, sizes were cut according to the Fournier point system, and they were usually given such names as Double Pica, Double Small Pica, Three-line Diamond, etc. They were referred to in advertising with shorthand terms, such as "No. 1" (*yihao*), "No. 2" (*erhao*), and so on. In Japan, the shorthand designations were seen as directly referring to size, and *gō* became a size system. One size developed by Motoki himself was larger than size "No. 1." But in giving this size a name, since there was no number preceding "one," another solution had to be found. The name selected was "*shogō*" (Initial Size). For Motoki's *shogō* font,

- see Itakura Masanobu, "Motoki shogō katsujihan Tangohen jō no shōkai" [Introduction of the First Volume of *Tangohen* (Word Dictionary), Which Was Printed with the Motoki Shogō-Size Type], *Insatsushi kenkyū* (Studies in Printing History) 8 (2000), pp. 66–71.
13. For details, see Komiyama Hiroshi, "Bika shokan to sono shotai" (The American Presbyterian Mission Press and Its Typefaces), *Insatsushi kenkyū* 8 (2000), pp. 18–63 and his contributions to Nishino Yoshiaki, ed., *Rekishi no moji: kisai-katsuji-kappan* (Letters of History: Records, Type, and Movable-Type Printing) (Tokyo: Tōkyō Daigaku Shuppankai, 1996).
 14. See the work of Han Qi in *Zhongguo huozhi yinshua shi* (History of Chinese Movable Type Printing). Some such type is discussed in Johann Dill, "Die Typographia Sinica in der Asien-Afrika-Abteilung der Deutschen Staatsbibliothek," *Marginalien* 100 (1985), pp. 85–96. Other candidates include Étienne Fourmont (1683–1745) and Johann Gottlob Immanuel Breitkopf (1719–1794). In addition to French and German punch cutters, there is also type produced in Britain. I received Georg Lehner's marvelous work *Der Druck chinesischer Zeichen in Europa: Entwicklungen im 19. Jahrhundert* (Wiesbaden: Harrassowitz Verlag, 2004) too late to include his work in this article.
 15. The correctness of the ascription of this style to the Song dynasty is sometimes hotly debated among Chinese writers. For an outsider, it seems that more than the historical correctness of the term, the usage of the term "Songti" implies a deliberate attempt to minimize the overwhelming influence of Japan on modern Chinese typography. In some contexts, Songti is limited to the Mei-Hua (American Presbyterian Mission Press) fonts, in contrast to the Xianggangti (Hong Kong type) made by the London Missionary Society.
 16. For the following historical discussion of type in Japan, the work of Yahagi Katsumi, mentioned in note one, is fundamental.
 17. Successful newspapers in subsequent decades would sometimes invest in the development of their own fonts in order to decrease the reliance on outside sources. This trend finally resulted in the development in Japan, based on extensive readability studies, of a special newspaper-Minchō font, the characters of which were no longer square, but wider than high.
 18. For their early specimens, see "Shōkatsu: Tsukijitai to Shūeitai" (Summary: The Tsukijitai and Shūeitai Typefaces), *Taipogurafikkusu Ti* 150 (May 1993), pp. 1–17.
 19. See Wang Yi, "Chū-Nichi shuppan insatsu bunka no kōryū to Shōmu Inshokan" (The Commercial Press and Cultural Exchange in Publishing and Printing Between China and Japan), trans., Ōkawa Hiromi and Zhao Jingshi, *Taipogurafikkusu Ti* 156 (December 1993), pp. 1–14; Komiyama Hiroshi, "Bika Shokan to sono shotai" (The American Presbyterian Mission Press and Its Typefaces), pp. 18–65; and also Wang Jiarong, "Shangwu yinshuguan dui jindai yinshua shu de gongxian" (The Contribution of the Commercial Press to Modern Publishing Technology), in *Zhongguo yinshua shi xueshu yantaohui lunji* (Proceedings from the Scholarly Conference on the History of Chinese

Printing), pp. 498–514. Tarumoto Teruo investigates the Japanese connection in detail in his *Shoki Shōmu Inshokan Kenkyū* (A Study of the Early Days of the Commercial Press) (Ōtsu: Shinmatsu shōsetsu kenkyūkai, 2000). It should be pointed out that there were also Chinese printing establishments in Japan. When Japan opened up, Western newspapers had to import Chinese typesetters to Japan, and throughout the Meiji period, Chinese printers were dominant in the foreign concession areas, working sometimes under assumed English names. See Itō Izumi, “Yokohama kyoryūji ni okeru Chūgokujin no insatsugyō” (The Printing Industry by Chinese in the Yokohama Foreign Concession Area), *Insatsushi kenkyū* 8 (2000), pp. 1–17.

20. Indeed, in North Korea, it is the artisan-style type that continues to be called Myōngjo. Neither of the styles refers to styles actually in use in Korea during the years of the Ming dynasty in China.
21. For the impetus this restriction gave to the use of phototypesetting machines, see in my text following note 27.
22. In addition to the general works mentioned in note one above, see He Buyun, “Zhongguo huozi xiaoshi” (A Short History of Chinese Movable Type) in *Zhongguo yinshua nianjian 1981* (China Graphic Arts Annual, 1981) (Beijing: Yinshua gongye chubanshe, 1982), pp. 300–312. Christopher Reed in his *Gutenberg in Shanghai* (cited in note 7) somewhat misinterprets the type scene in pre-war China, mistaking a largely unsuccessful succession of efforts to develop some display calligraphic faces for an indigenization of the whole type industry.

In 1884, under the British Ernest Major (1841–1908), was begun the production of a broader-than-usual font for his new printing establishment, the Jicheng tushuju. The font, named in Chinese Meichazi (Major’s characters), was finished in 1887. It was used for a while, but its later history remains unknown. See Ye Zaisheng, *Zhongguo jindai xiandai chuban tongshi* (Comprehensive History of Modern Publishing in China), 4 vols. (Beijing: Huawen chubanshe, 2002), vol. 1, p. 223.

23. Ouyang Xiu (1007–1072) was one of the leading calligraphers of the regular style, although in printing, the regular style perfected by the later Zhao Mengfu (1254–1322) was at least as important. It is Zhao Mengfu’s style that was most often contrasted with the artisan style.
24. For Japan, see especially Kozuka Masahiko, “Tōzai katsuji kōza: taipufeisu dezain no shūhen, 1: Taneji to bokei o megutte” (Lectures on Type East and West: Aspects of Typeface Design, Part One, On Seed Type and Matrices), *Tategumi-Yokogumi* 20 (Spring 1988), pp. T2–T5; “2: Benton jidai: kikai chōkaku no makuake” (Part Two, The Benton Period: The Beginnings of Type-Cutting by Machine) *Tategumi-Yokogumi* 21 (Summer 1988), pp. T8–T11; “3: Dentō no isan o tsutaeru” (Part Three, Transmitting the Legacy of Tradition) *Tategumi-Yokogumi* 22 (Autumn 1988), pp. T4–T7; “4: Atarashii jidai: konpyūta media e no tenkai” (Part Four, A New Period: The Development Towards Computerized Media) *Tategumi-Yokogumi* 23 (Winter 1989), pp. T18–T21.

The Benton machines were invented by Linn Boyd Benton, an important figure for type production in the West; for that background, see Patricia A. Cost, "Linn Boyd Benton, Morris Fuller Benton, and Type Making at ATF," *Printing History* 16.1-2 (1994), pp. 27-44.

25. See Satō Keinosuke, *Moji no dezain shirīzu* (The Design of Letters Series), vol. 2, *Hiragana 1*; vol. 3, *Hiragana 2*; vol. 4, *Katakana*; vol. 5, *Kanji 1*; vol. 6, *Kanji 2* (Tokyo: Maruzen, 1964-1976). Volume one has not been published. See also his *Nihon no taipogurafi: katsuji, shashoku no gijutsu to riron* (Typography in Japan: The Practice and Theory of Type and Phototypesetting) (Tokyo: Kinokuniya shoten, 1972). For an appraisal of Satō's immense influence, see the memorial issue *Satō Keinosuke kinenshi* (Memorial Volume for Satō Keinosuke) (Tokyo: n.p., 1982).
26. The controversy over this engraved rather than written style is not exactly a new one. For some background, see Hua Rende, "The History and Revival of the Northern Wei Stele-Style Calligraphy," trans. Daniel M. Youd; and Lu Huiwen, "Calligraphy of Stone Engravings in Northern Wei Loyang," in ed. Cary Y. Liu, Dora C. Y. Ching, and Judith G. Smith, *Character and Context in Chinese Calligraphy* (Princeton: Princeton University Art Museum, 1999), pp. 104-131 and 78-103, respectively. See also Li Mingjun, *Zhongguo meishuzi shi tushuo* (Historical Atlas of Chinese Artistic Lettering), cited above in note 4.
27. The fierce competition between the two phototypesetting companies Shaken and Morisawa and the fact that most printers or graphic designers are aligned with either one or the other of these two companies has resulted also in competing histories of the period, whether the writings are on technology, general printing history, or graphic design. This rivalry extends to the separate typeface competitions over which they preside and the collectible calendars each produces. All of these histories are very informative but should not be read without taking this corporate rivalry in mind.

From the Shaken side, indispensable are the two company histories, *Moji ni ikiru* (*Shaken gojūnen no ayumi*) (Living in Letters: The Fifty-Year Course of Shaken) (Tokyo: Shaken, 1975); and *Moji ni ikiru (51-60)* [Living in Letters (1976-1985)] (Tokyo: Shaken, 1985). From the Morisawa side, there are Morisawa Nobuo, *Shashin shokujiki to tomo ni sanjūhachinen* (Thirty-eight Years Together with the Phototypesetting Machine) (Osaka: Morisawa, 1960); and Watanabe Tsutomu, *Shashin shokujiki gojūnen* (Fifty Years of Phototypesetting Machines) (Osaka: Morisawa, 1974). A collaborative, extremely valuable overview—but which somewhat glosses over the rivalry and attendant problems—of typography in the larger sense, much of which was influenced by phototypesetting, is Matsuoka Seigō, Tanaka Ikkō, and Asaba Katsumi, eds., *Nihon no taipogurafikku dezain: moji wa damatte inai* (*Transition of Modern Typography in Japan, 1925-1995*) [Typographic Design in Japan: Letters Are Not Silent!] (Tokyo: Toransuāto, 1999). For the Western history, see the chapters on phototypesetting in Lawrence W. Wallis, *Typomania: Selected Essays on Typesetting and Related Subjects* (Upton-upon-Severn: Severnside Printers, 1993).

- 28 Part of the success of phototypesetting in Asia was indeed due to the war. For example, in Manchuria, because type was not readily available and its metal needed for war purposes, whole periodicals began to be set with phototype, and newspapers elsewhere in Asia were sometimes set in phototype following the advance of the Japanese army.
29. *Sekai rekishi jiten* (Dictionary of World History), 25 vols. (Tokyo: Heibonsha, 1951–1955).
30. Morohashi Tetsuji, comp., *Dai Kan-Wa jiten* (Great Chinese-Japanese Dictionary), 13 vols. (Tokyo: Taishūkan, 1955–1960).
31. Again, in this context the Shaken and Morisawa typeface contests are the most important, the latter having become very famous in the West, as well, since it incorporates a contest for Western typefaces. Since then, both Morisawa and Shaken have continued to produce an ever larger array of typefaces, often in direct response to each other. For a brief period, the two typeface companies were challenged by a typeface contest sponsored by Ryōbi in Japan. In the current digital period, the newly developed typeface industries in Taiwan, Korea, and China also have begun their own typeface contests. First there was a joint Taiwan-People's Republic of China contest organized by Huakang (Dynamalab), and now there are contests sponsored by Wending (Arphic) in Taiwan, Fangzheng (Founder) in China, and Yun Tijain Yōn'guso (Yoon Design) in Korea.
32. Similarly, behind the common Korean-font name Tinaru lies "D-Nāru," that is, the Japanese font NāruD, where "D" stands for "demibold," and the "Nāru" comes from "Nakamura" and "maru," mentioned in the text immediately above.
33. This designer was Chang Pong-sōn, also publisher of a Korean-language Christian newspaper in Japan, who worked on the first pattern board together with Pak Kyōng-sō, mentioned above in my discussion of the development in the 1930s of *han'gūl* compatible with Ming-style characters.
34. Information on the modern period comes from too many sources to mention: trade publications, computer and design magazines, desktop-publishing handbooks, web pages, etc. I also have interviewed typeface designers and typeface company representatives, and I thank them for their time and gracious reception. In chronological order of my interviews, they are: Huang Kejian (SinoType, People's Republic of China) 11 January 1995, Washington, D. C.; Jim Liu (Liu Jiezheng; Wending) 30 May 1998, Taipei; Sammy Orr (Ke Chijian; Huakang) 1 June 1998, Taipei; Kozuka Masahiko (Adobe Systems, Japan) and Ikeda Nobu (Morisawa), 7 December 2001, Tokyo; and Hiraga Ryūji (Shaken), 10 December 2001, Tokyo. Needless to say, they are not responsible for any misinterpretations I may have made of their comments.
35. See for example, the typeface designs developed by the Ziti chuanguo zongxin (Creative Calligraphy Centre) printed in Zhong Jinrong, ed., *Pingmian sheji shouce* (*The Graphicat*) [Manual of Graphic Design] (Shenzhen: Lingnan meishu chubanshe, 1992), pp. 290–293.
36. In print, see Xiao Huajing, "Fangwen Huakang keji ziti fazhan sheji zongzai

- Ke Chijian: Tie hua yin gou de zaixian" (Visiting Ke Chijian, the Art Director for Typeface Development at Dynalab: The Reappearance of Energetic Typefaces), *Zhuoshang shidai* (Desktop Times) 10 (1994), pp. 76-79.
37. Beginning in 1975 Sugimoto Kōji, originally from Sanseidō, went to work for Ryōbi and designed the HonMinchō font, which was once available as part of Apple's Japanese Language Kit.
38. See, for example, Xie Mingyang, "You Huakang yu Wending an tan zhuanliquan zhi lanyong" (Talking About the Inappropriate Use of Copyright From the Perspective of the Huakang Versus Wending Case), *Yuedan faxue zazhi* (Taiwan Law Review) 1 (May 1995), pp. 80-82. Typeface copyright is a major issue in both East Asia and the West.
39. See, for example, the rather hagiographic work Yi Ding, *Zhongguo de Fangzheng* (China's Fangzheng Company) (Beijing: Zhongguo shangye chubanshe, 2001).
40. Note that the name of the latter company gives an historic nod to the name Huawen, used by a type foundry that operated before the Second World War, but whose name was later changed.
41. In North Korea also, the government has invested in computer publishing programs with an eye on export. Programs and fonts are the responsibility of the P'yōngyang chōngbo ssentō (Pyōngyang Informatics Centre). Some *han'gŭl* letters are designed slightly differently from those in South Korea.
42. For an introduction, see Ajioka Shintarō, "Kana ni yoru famirī gainen" (The Kana-Based Concept of a [Typeface] Family), *Taipogurafikkusu Ti* 126 (December 1990), pp. 1-9.

GLOSSARY

Ajioka Shintarō 味岡伸太郎	Ch'oe Chi-hyōk 최지혁 (崔智爐)
An Sang-su (Ahn Sang-soo) 안상수 (安尚秀)	Ch'oe Chōng-ho 최정호 (崔楨浩)
Beijing Hanyi keyin xinxi jishu 北京汉仪科印信息技术	Ch'oe Chōng-sun 최정순 (崔貞淳)
Beijing xinhua zimochang 北京新华字模厂	Choi Kai Yan (Cai Qiren) 蔡啓仁
Beijing xinhua zimo zhizaosuo 北京新华字模制造所	<i>Chosŏn ilbo</i> 조선일보 (朝鮮日報)
ChangMouti 长牟体	<i>Cihai</i> 辞海
Chang Pong-sŏn 장봉선 (張鳳仙)	<i>Dai Kan-Wa jiten</i> 大漢和辞典
Changzhou Huawen yinshua xin jishu 常州华文印刷新技术	Dai Nippon 大日本
	Danjiang 丹江
	Ding Fuzhi 丁輔之
	Ding Shanzhi 丁善之
	D-Nāru D-ナール
	<i>Dong-a ilbo</i> 동아일보 (東亞日報)

- erhao 二號
 FangSongti 仿宋體
 Fangzheng 方正
 Fashu yaolu 法書要錄
 Fashu yaolu xu 法書要錄序
 furigana 振り仮名
 Gansu ribao 甘肅日報
 Gao Yuncheng 高雲滕
 Gochikku ゴチック
 gō/hao/ho 号/號/号
 Goshikku ゴシック
 Guo Weixing 郭伟星
 Gurūpu "Taipo" グループ〈タイポ〉
 Han Feiqing 韩非青
 han'gŭl 한글
 Han Qi 韩琦
 Hansōng sunbo 한성순보 (漢城旬報)
 Hanwen 漢文
 Hanwen zhengkai yinshuju 漢文正楷印
 書局
 hayashi 林
 Hayashi Takao 林隆男
 Heibonsha 平凡社
 He Yan 何晏
 Hiraga Ryūji 平賀隆二
 Hirano Tomiji 平野富二
 HonMinchō 本明朝
 Huafeng 華豐
 Huakang 華康
 Huang Kejian 黃克儉
 Huawen 华文
 Hupo 琥珀
 Hyumōn K'ōmp'yut'ō 휴먼컴퓨터
 Ikeda Nobu 池田暢
 Ishii Minchōtai 石井明朝体
 Ishii Mokichi 石井茂吉
 Ishii Sai-Minchōtai 石井細明朝体
 Itō Katsuichi 伊藤勝一
 Iwata 岩田
 jiangtizi 匠體字
 Jicheng tushuju 集成圖書局
 Jiguge 汲古閣
 ji/kyū/kūp 級/級/音
 Juzhen FangSong 聚珍仿宋
 Juzhen FangSongti 聚珍仿宋體
 Juzhen FangSong yinshuju 聚珍仿宋印
 書局
 kai 楷
 kaishu 楷書
 kana 仮名
 Ke Chijian 柯熾堅
 ki 木
 Kimura Kahei III 三代目木村嘉平
 Kōdōken 弘道軒
 Komachi 小町
 Komiyama Hiroshi 小宮山博史
 Kozuka Masahiko 小塚昌彦
 Kuwayama Yasaburō 桑山弥三郎
 li 隸
 Li 儷
 Lianhebao 聯合報
 LiSong 儷宋
 Liu Jiezheng 劉介正
 Lunyu 論語
 Lunyu xu shuo 論語序說
 Lu Pinsheng 陸品生
 Mainichi shinbun 毎日新聞
 Mao Zedong xuanji 毛泽东选集

- maru 丸
Matai chuan fuyin shu 馬太傳福音書
Matai [chuan] fuyin shu Shanghai tuhua 馬
 太[傳]福音書上海土話
 Meichazi 美查字
 Mei-Hua 美華
 Mei-Hua shuguan 美華書館
 MeiHuati 美華體
 meishuzi 美術字
 meishuzi sheji 美術字設計
 Minchō 明朝
 Minchōtai 明朝體
 Mingti 明體
Minshengbao 民生報
 Mohai shuguan 墨海書館
 mori 森
 Morisawa Mori Saw
 Morisawa Nobuo 森沢信夫
 Morohashi Tetsuji 諸橋徹次
 Motoki Shōzō 本木昌造
 Motoya モトヤ
 Mou Zidong 牟紫东
 Myōngjo 명조 (明朝)
 Myōngjoch'e 명조체 (明朝體)
 Na ナ
 Nagata Katsumi 長田克己
 Nakamura Katsuhiko 中村征宏
 Nakanishi Yasuhito 中西保仁
 Nāru ナール
 NāruD ナールD
 Ouyang 歐陽
 Ouyang Xiu 歐陽修
 Pak Kyōng-sō 박경서 (朴慶緒)
 pingmian sheji 平面設計
 P'yōngyang chōngbo ssentō 평양정보
 쎄터
 Qian Juntao 錢君匋
Renmin ribao 人民日報
 ru ル
 rubi ルビ
 Ryōbi リョウビ
 Ryōkan 良寛
 Sakuma Teichi 佐久間貞一
 Sandol külch'a ūnhaeng 산돌글차은행
 Sanseidō 三省堂
 Satō Keinosuke 佐藤敬之輔
 Seichōtai 清朝體
Sekai rekishi jiten 世界歷史事典
 Shaken 写研
 Shanghai yinshua jishu yanjiusuo 上海印
 刷技術研究所
 Shanghai zimo erchang 上海字模二廠
 Shanghai zimo yichang 上海字模一廠
 Shangwu yinshuguan 商務印書館
 Shinmachi shijuku 新街私塾
Shinmachi shijuku yodai 新街私塾余談
 shogō 初号
 Shūeisha 秀英社
 Shūeitai 秀英體
 Shu Tong 舒同
 ShuTongti 舒同體
Sōnggyōng chikhae 성경직해 (聖經直解)
 Songti 宋體
 Sōranreisho 曾蘭隸書
 Sōul sisūt'em 서울시스템
 Sūbo スーボ
 Sugimoto Kōji 杉本幸治
 Suzuki Tsutomu 鈴木勉

- Taiposu タイポス
 Takeguchi Yoshigorō 竹口芳五郎
 taneji 種子
 Tinaru 디나루
 Tsugami 津上
 Tsugami Seisakujo 津上製作所
 Tsukiji 築地
 Tsukiji Kappan Seizōjo 築地活版製
 造所
 Tsukijitai 築地体
 uroko うろこ
 Weifeng shuwei 威鋒數位
 Wending 文鼎
 Wenzi 605-chang 文字六〇五厂
 Xianggangti 香港體
 Xin Wei(bei)ti 新魏(碑)体
 Xu Tangsheng 許唐生
 Xu Xixiang 徐錫祥
 Yahagi Katsumi 矢作勝美
 Yamashiro Ryūichi 山城隆一
 yihao 一號
 Yi Im-p'ung 이임풍 (李林風)
 Ying-Hua shuyuan 英華書院
 Yi Wōn-mo 이원모 (李原模)
 Yukinari 行成
 Yun tijain yōn'guso 윤디자인연구소
 Zeng Qingren 曾慶仁
 zhang 章
 Zhang Yanyuan 張彥遠
 Zhao Mengfu 趙孟頫
 Zheng Huasheng 鄭化生
 zhengkai 正楷
 Zheng Wuchang 鄭午昌
 ZhenSong 真宋
 Zhonghua shuju 中華書局
 Zhongyang ribao 中央日報
 zhongzi 種子
 Zhou Jincai 周今才
 Zhu Yibao 朱義葆
 Zhu Yunshou 朱雲壽
 Ziti chuangzuo zhongxin 字体創作中心
 ziti sheji 字體設計