

PRESCRIPTIVE KANJI SIMPLIFICATION

by

KEN ROGER LUNDE

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Ken Roger Lunde

Under the supervision of Professor Andrew Sihler

at the University of Wisconsin-Madison

Abstract

The simplification of Chinese characters (kanji) is a recognized historical process. Normally such a simplification grows spontaneously out of the demands of everyday use, but simplification by fiat is at least a theoretical possibility. Such a round of simplification by fiat, here called 'prescriptive simplification,' seems to have taken place in the PRC in 1977. What has gone unrecognized is that simplification by fiat was also attempted in Japan in 1983, albeit on a much smaller scale, and emanating from the government-controlled organ called the Japanese Standards Association. In this dissertation I marshal evidence to show that prescriptive kanji simplification has occurred in Japan, and discuss its consequences.

Keywords: *character sets, China, Japan, Japanese, kanji, kanji simplification*

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Chapter 1

Introduction

This dissertation demonstrates, through evidence and testimony from both Japan and China, that a phenomenon called *prescriptive kanji simplification* exists, and also explains how it contrasts with spontaneous and descriptive simplification—the current literature dealing with kanji simplification make no such claim. In addition, I attempt to show that there is a varying level of public acceptance of prescriptive kanji simplifications.¹

This dissertation does not provide exhaustive lists of simplified kanji, but examples are provided when necessary to illustrate concepts.

¹The term *kanji* refers to the characters that the Japanese borrowed from China—called *hanzi* in Chinese and *hanja* in Korean. In this dissertation, the term *kanji* is used generically to refer to Chinese characters used in Japan, China, and Korea.

Literature Review

Many papers, articles, and books have classified kanji simplifications into several types or principles; some provide exhaustive lists of simplified kanji allographs; and some even undertake to explain why kanji are simplified.

Several reference works, including many kanji dictionaries, most of which are written in Japanese, were critical in preparing this dissertation. However, none of the references that describe kanji simplification make a claim that prescriptive kanji simplification exists.

The 12-volume series entitled *Kanji Kōza* (漢字講座 ‘Kanji Course’), Satō et al. (1987–1989), provides detailed information on the development of kanji in Japan, including detailed information on simplifications. However, at no time are there discussions about prescriptive simplification, as treated in this dissertation.

Hayawakari Chūgoku Kantaiji (早わかり中国簡体字 ‘A Quick Understanding of Chinese Simplified Characters’), Endō (1986), provides details about kanji simplifications in PRC (Mainland China), and draws comparisons with those in Japan. This book also fails to bring up the notion of prescriptive simplification as a

way to explain some aspects of kanji simplification in PRC. Endō (1986), however, provides evidence for my claim that prescriptive kanji simplification has recently been attempted in PRC.

Another important reference is a short paper entitled *JIS C 6226 Jōbō Kōkan-yō Kanji Fugōkei no Kaisei* (JIS C 6226情報交換用漢字符号系の改正 ‘Revisions to JIS C 6226 Code of the Japanese Graphic Character Set for Information Interchange’). This article provides evidence which shows that simplification by prescription recently took place in Japan. This article is referred to as Nomura (1984) in this dissertation.

Other references include various authoritative kanji reference works, such as dictionaries, and a collection of various Japanese character set standards. The character set standards are JIS X 0208-1990 (and its 1978 and 1983 versions), JIS X 0212-1990, Jōyō Kanji, and Jinmei-yō Kanji.

Conventions

Several acronyms are used throughout this dissertation, and are described as follows:

- JIS** Short for *Japanese Industrial Standard* (日本工業規格 *Nihon Kōgyō Kikaku*), the name given to the documents that are published by JSA (described next).
- JSA** Short for *Japanese Standards Association* (日本規格協会 *Nihon Kikaku Kyōkai*), the organization of the Japanese government that oversees standards practices, and publishes JIS documents.
- PRC** Short for the *People's Republic of China*, meaning Mainland China.
- ROC** Short for the *Republic of China*, meaning Taiwan.

I denote long vowels with a macron when providing the readings for Japanese words. Chinese readings adhere to the Pinyin system of romanization.

KUTEN (区点 ‘row [and] cell’) codes supplement some kanji lists. Providing these codes makes it easier to locate the actual characters within a Japanese character set standard.

Chapter 2

The Japanese Writing System

The Japanese writing system is composed of four scripts: Roman characters, hiragana, katakana, and kanji. Hiragana and katakana are collectively referred to as *kana*.

Roman Characters

Roman characters (ローマ字 *rōmaji*) as used in Japan are mostly found in acronyms and numerals. The set consists of the lowercase and uppercase letters of the English alphabet plus the numerals zero through nine.

Kana

Kana (仮名 *kana*) are syllabaries, and their shapes were derived from kanji. A syllabic sign stands for a vowel, of which there are five in Japanese, either alone or preceded by a consonant. These consonants, whose traditional order is

based on Sanskrit, are *k*, *s*, *t*, *n*, *h*, *m*, *y*, *r*, and *w*. Additional phonemes are indicated by means of diacritics or special character combinations. There are two types of kana: hiragana and katakana.

Hiragana

Hiragana (平仮名 *hiragana*) are one of the kana sets, and were derived by cursively writing kanji, but are used only for the phonetic value of their readings. Hiragana are generally used to write native Japanese words, such as grammatical words, inflectional endings for verbs and adjectives, and some nouns. Table 2-1 illustrates the basic set of hiragana characters, conforming to modern usage.²

Table 2-1: The Hiragana Syllabary

		K	S	T	N	H	M	Y	R	W
A	あ	か	さ	た	な	は	ま	や	ら	わ
I	い	き	し	ち	に	ひ	み		り	る
U	う	く	す	つ	ぬ	ふ	む	ゆ	る	
E	え	け	せ	て	ね	へ	め		れ	ゑ
O	お	こ	そ	と	の	ほ	も	よ	ろ	を

²Tables 2.1 and Table 2.2 (on page 7) are missing the character that represents the syllable-final nasal consonant. This character is ん for hiragana, and ン for katakana.

The horizontal axis of Table 2-1 (and of Table 2-2, which appears in the following section) represents the first part of the syllable, and its vertical axis represents the second part. For example, あ is read *a*, and か is read *ka*.

Katakana

Katakana (片仮名 *katakana*) are generally used in two ways: to write words of foreign origin, called *gairaigo* (外来語 *gairaigo*), and for emphasis—similar to the use of italics to represent foreign words and to express emphasis in English. For example, the Japanese word meaning ‘bread’ is written パン and read *pan*. This word was borrowed from the Portuguese word *pão*. Katakana are also used to write foreign names. Table 2-2 illustrates the basic set of katakana characters, conforming to modern usage.

Table 2-2: The Katakana Syllabary

		K	S	T	N	H	M	Y	R	W
A	ア	カ	サ	タ	ナ	ハ	マ	ヤ	ラ	ワ
I	イ	キ	シ	チ	ニ	ヒ	ミ		リ	ヰ
U	ウ	ク	ス	ツ	ヌ	フ	ム	ユ	ル	
E	エ	ケ	セ	テ	ネ	ヘ	メ		レ	ヱ
O	オ	コ	ソ	ト	ノ	ホ	モ	ヨ	ロ	ヲ

Kanji

The word *kanji* (漢字 *kanji*) literally means ‘Chinese character.’³ These characters were borrowed from the Chinese over 1,500 years ago. Kanji were not usually borrowed as individual characters, but as compounds containing two or more kanji. Table 2-3 provides some examples of kanji and kanji compounds.

Table 2-3: Kanji and Kanji Compounds

Kanji	Gloss	Compound	Gloss	Analogy
者	<i>person</i>			
医	<i>medicine</i>	医者	<i>doctor</i>	‘medicine person’
齒	<i>tooth</i>	齒医者	<i>dentist</i>	‘tooth doctor’
目	<i>eye</i>	目医者	<i>optometrist</i>	‘eye doctor’
自	<i>self</i>			
動	<i>move</i>	自動	<i>automatic</i>	‘self-movement’
車	<i>vehicle</i>	自動車	<i>automobile</i>	‘automatic vehicle’

The Structure of Kanji

Kanji are organized by a system of 214 radicals, which generally represent words, but are important for their systematic combination—in compressed or otherwise reduced form—with phonetic characters. The compound characters thus

³In PRC these characters are called *hanzi* (汉字), and in Korea they are called *hanja* (漢字).

formed make up the majority of kanji in use today. Table 2-4 provides examples of radicals, their variant forms, their glosses, and kanji composed with them.⁴

Table 2-4: Kanji and Their Radicals

Radical	Variant(s)	Gloss	Kanji Formed From Radical
土		<i>earth</i>	地 (<i>ground</i>), 坂 (<i>slope</i>), 培 (<i>cultivate</i>), 堀 (<i>ditch</i>)
木		<i>tree</i>	材 (<i>timber</i>), 林 (<i>woods</i>), 根 (<i>root</i>), 森 (<i>forest</i>)
水	氵, 氷	<i>water</i>	汗 (<i>sweat</i>), 汽 (<i>steam</i>), 泉 (<i>fountain</i>), 波 (<i>wave</i>)
火	灬	<i>fire</i>	灰 (<i>ash</i>), 炉 (<i>furnace</i>), 煙 (<i>smoke</i>), 熱 (<i>heat</i>)
虫		<i>insect</i>	蚊 (<i>mosquito</i>), 蛇 (<i>snake</i>), 螢 (<i>firefly</i>), 蟻 (<i>ant</i>)
辵	辵, 辵	<i>running</i>	送 (<i>send</i>), 追 (<i>chase</i>), 進 (<i>advance</i>), 過 (<i>exceed</i>)
金		<i>metal</i>	銀 (<i>silver</i>), 銅 (<i>copper</i>), 銃 (<i>gun</i>), 鋼 (<i>steel</i>)

The concept of arranging kanji by these 214 radicals was introduced by Zhāng et al. (1716), which is a classic and authoritative kanji reference work. Contemporary kanji reference works, in general, adhere to this system.

The Pronunciation of Kanji in Japanese

The typical kanji has at least two readings—some have more. For example, the kanji 生 ('life') has 27 readings, most of which are used for Japanese given names, which typically have unusual readings.

⁴The radical variants that are shown in Table 2-4 do not include squeezed or stretched variations of the base radical's shape.

Kanji readings come from two sources: a native Japanese reading and a borrowed (and approximated) Chinese reading. The native Japanese reading is called the KUN reading (訓読み *kun-yomi*). The borrowed Chinese reading is the Japanese-language approximation of the native Chinese reading of a kanji. These borrowed approximate readings are called ON readings (音読み *on-yomi*). Some kanji have one or more ON readings, but no KUN readings; some have one or more KUN readings, but no ON readings.⁵ Table 2-5 provides several examples of kanji with a variety of readings.

Table 2-5: Kanji and Their Readings

Kanji	Gloss	ON Reading(s)	KUN Reading(s)
車	<i>vehicle</i>	sha	kuruma
店	<i>shop</i>	ten	mise
生	<i>life</i>	sei, shō	ari, bu, fu, fuyu, haeru, hayasu, i, ikasu, ikeru, ikiru, ki, mi, nama, nari, nori, o, oki, ou, susumu, taka, ubu, umareru, umu, yo
禁	<i>prohibit</i>	kin	
銃	<i>gun</i>	jū	
込	<i>come in</i>		komi, komu, komeru
枠	<i>frame</i>		waku

⁵Kanji with no ON readings generally fall into the category of Japanese-made kanji, called *kokuji*. Japanese-made kanji are addressed at the end of this chapter.

The Borrowing of Kanji From China

The Japanese began borrowing the Chinese script over 1,500 years ago. This massive borrowing took place in three different waves. Several kanji were borrowed repeatedly at different periods, and the reading of each kanji was also borrowed again. This led to different readings for a given kanji depending on which word or words it appeared in, due to dialectal and diachronic differences in China over the period of the three borrowings.

During all three waves of borrowing, most kanji were borrowed as compounds of two or more kanji, rather than as isolated characters. It is in this context that you find differences in reading of a particular kanji depending on what word it appears in. For example, the kanji 万, meaning ‘ten-thousand,’ can be found in kanji compounds with either the reading *man* or *ban*, such as 万一 (*man’ichi* ‘by chance’—literally, ‘ten-thousand to one’) and 万歳 (*banzai* ‘ten-thousand years old’). This *man/ban* alternation provides evidence that these two words were borrowed at different periods.

The first two waves of borrowing had the most significant impact on the Japanese lexicon. Their sources were two different dialects of Chinese, which

accounts for the dual ON readings of many kanji. The third wave of borrowing had very little effect on the Japanese lexicon.

Japanese-made Kanji

The Japanese also created their own kanji, called *kokuji* (国字 ‘Japanese-made kanji’).⁶ Kokuji behave like true kanji, following the same rules of structure—namely that they are composed of radicals and strokes, and can be combined with one or more other kanji to form compounds or words. Most kokuji are used to represent words for indigenous Japanese plants and fish. They are also used quite frequently in Japanese place and personal names.

Several hundred kokuji have been identified in Reiman (1990) and Hida (1990), and many were created when the Japanese isolated themselves from the rest of the world for approximately 250 years, from the mid-1600s to the late 1800s. Without direct influence from China, the Japanese resorted to creating their own kanji.

⁶The kana scripts—hiragana and katakana—were also derived from kanji, and are sometimes referred to as kokuji.

Chapter 3 Japanese Character Set Standards

This chapter describes two types of Japanese character sets: non-electronic and electronic. These collections of characters were created for different purposes and by different organizations, but they are related, and often affect each other's development. Character sets provide a convenient way to arrange and organize the most commonly used characters.

In the West, relatively small character sets are designed to include all the characters used to express a writing system. In Japan (and in China and Korea), characters, mostly kanji, number in the tens of thousands. This makes it nearly impossible for a character set to contain all characters, and the principle of the *character set*, namely a selection of characters made with some specific purpose in mind, is a matter of practical necessity.

Non-electronic Character Sets

Non-electronic character sets in Japan were designed for use in education, rather than in the computer field. Kana and Roman characters form sufficiently small character sets, but since kanji number in the tens of thousands, there was a need to limit the number in common use. These non-electronic character sets provided a way to limit the number of kanji in general use, and as such, contain only kanji. The largest set contains 1,945 kanji.

Jōyō Kanji (常用漢字 ‘Everyday-use Kanji’) contains 1,945 kanji that are required for daily life in Japan, such as for newspapers and other forms of media. Prior to 1981, this set contained 1,850 kanji, and was called Tōyō Kanji (当用漢字 ‘Common-use Kanji’).

Gakushū Kanji (学習漢字 ‘Educational Kanji’) is a subset of Jōyō Kanji, and contains 1,006 kanji. These kanji are formally taught during the first six years of education in Japan. Prior to 1992, this set contained 996 kanji. This set once contained only 881 kanji, and was called Kyōiku Kanji (教育漢字 ‘Instructional Kanji’).

Jōyō Kanji can be used for writing many Japanese given and surnames, and Jinmei-yō Kanji (人名用漢字 ‘Personal-name-use Kanji’) is a set of kanji that supplements Jōyō Kanji, and authorized for use in writing Japanese given and surnames. Currently, Jinmei-yō Kanji is comprised of 284 kanji. Prior to 1990, this set contained 166 kanji.

Electronic Character Sets

Electronic sets were specifically designed for use with computer systems, and contain kanji, kana, Roman characters, and other assorted characters and symbols necessary for expressing Japanese in writing. Non-electronic sets constitute a subset of these sets. The total number of kanji in the electronic sets comes to 12,156, all unique—approximately six times the number of kanji found in the non-electronic sets. The electronic sets include JIS X 0201-1976 (157 non-kanji), JIS X 0208-1990 (6,355 kanji and 524 non-kanji), and JIS X 0212-1990 (5,801 kanji and 266 non-kanji).

JIS X 0201-1976

The JIS X 0201-1976 character set contains two collections of characters: JIS-Roman and half-width katakana. JIS-Roman represent the characters necessary

for English-language documents, such as the lowercase and uppercase letters of the English alphabet, numerals, punctuation, and symbols. Half-width katakana represent the minimum number of characters necessary to express Japanese using kana. JIS-Roman enumerates 94 characters, and half-width katakana enumerates 63 characters.

JIS X 0208-1990

The JIS X 0208-1990 character set represents the most basic electronic character set standard in Japan that supports kanji. A total of 6,355 kanji are enumerated, and are separated into two levels: JIS Level 1 kanji (2,965 kanji arranged by reading) and JIS Level 2 kanji (3,390 kanji arranged by radical then number of strokes).

Table 3-1 provides examples for each of the character classes contained in the JIS X 0208-1990 standard.

Table 3-1: Sample Characters from the JIS X 0208-1990 Character Set

Symbols	、 。 , . ・ : ; ? ! ~ § Å % # Ъ Ь † ‡ ¶ ○
Numerals	0 1 2 3 4 5 6 7 8 9
Roman characters	A B C D E F G H I J ~ q r s t u v w x y z
Hiragana	あ い う え お ~ り る れ ろ わ ゐ ゑ を ん
Katakana	ア イ ウ エ オ ~ リ ル レ ロ ワ フ キ コ シ
Greek characters	Α Β Γ Δ Ε Ζ Η Θ Ι Κ ~ ο π ρ σ τ υ φ χ ψ ω
Cyrillic characters	А Б В Г Д Е Ё Ж З И ~ ц ч ш щ ъ ы ь э ю я
Line elements	— □ ▽ ⊥ ⊥ ⊥ ⊥ ~ ⊥ ⊥ ⊥ ⊥ ⊥ ⊥
JIS Level 1 kanji	亜 啞 娃 阿 哀 愛 挨 始 逢 葵 ~ 互 亘 鰐 詫 蕞 蕨 椀 湾 碗 腕
JIS Level 2 kanji	弌 𠂇 丕 个 𠂇 𠂇 井 丩 父 乖 ~ 齷 齷 齷 齷 齷 齷 齷 齷 齷 齷
Additional kanji	堯 禎 遙 瑤 凜 熙

This character set standard was first established on January 1, 1978 as JIS C 6226-1978, modified for the first time on September 1, 1983 as JIS C 6226-1983 (on March 1, 1987, JSA redesignated this standard as JIS X 0208-1983—no substantive changes were made), and modified for a second time on September 1, 1990 as JIS X 0208-1990.

JIS X 0212-1990

A supplemental Japanese character set standard was published by JSA on October 1, 1990, and specified 6,067 characters, 5,801 of which are kanji. This collection of characters is in addition to those found in JIS X 0208-1990—together they enumerate 12,156 kanji. The 5,801 kanji in JIS X 0212-1990 are arranged by

radical then number of strokes as a single group—like JIS Level 2 kanji of JIS X 0208-1990.

Table 3-2 provides examples for each of the character classes contained in the JIS X 0212-1990 standard.

Table 3-2: Sample Characters from the JIS X 0212-1990 Character Set

Symbols	˘ ˇ ˙ • " ′ ° ~ † ~ ¿ º á © ® ™ ∞ №
Greek characters	Α Ε Η Ι Ϊ Ό Τ Ψ Ω α ~ η ι ῦ ῑ ὀ ς ὐ ὕ ὖ ὗ ὚
Eastern European	Ђ Ѓ Є S І Ї Ј ѣ Ь Т ~ s i ĭ j ъ ѣ һ к ь и
Alphabetic characters	Æ Ð Η Ι Λ L N Ø E F ~ ù ů ũ w y ŷ ŷ z ž z
Supplemental kanji	万 上 下 丁 丌 刃 丟 𠂔 兩 丫 ~ 龔 龔 龔 龔 龔 龔 龔 龔 龔 龔

is now called Jōyō Kanji. Some adjustments to JIS C 6226-1978 were necessary, and were folded into JIS C 6226-1983 (now called JIS X 0208-1983).

Second, JSA decided that the entire set of 284 Jinmei-yō Kanji must fall within either JIS Level 1 or 2 kanji. Due to additions made to the Jinmei-yō Kanji set at two different periods (46 kanji added in 1981, and 118 kanji added in 1990), slight adjustments and kanji additions were made to the 1983 and 1990 versions of JIS X 0208.

Chapter 4

Kanji Simplification

Kanji Allographs

Japanese kanji quite often have more than one form. These allographs fall into one of three categories. The traditional form (正字 *seiji*) is the allograph that was codified by Zhāng et al. (1716), and is also called the fully unsimplified or orthodox form. The standard form (通用字 *tsūyōji*) is the allograph that is acknowledged as being in common use. The alternative forms (異体字 *itaiji*) are the allographs, generally simplified, that are considered non-standard.

The alternative forms are subcategorized into the simplified form (略字 *ryakuji*), the variant or vernacular form (俗字 *zokuji*), and the handwritten abbreviation (筆写略字 *hissha ryakuji*).

The standard form is of course usually the traditional form, but sometimes is actually an alternative form that was used so widely that it has, in effect, supplanted the traditional form. Of course, alternative forms are usually considered non-standard. Many traditional forms that have standard simplified forms are also considered non-standard.

Kanji Usage

Kanji originally evolved in China, and were subsequently adopted in Korea and Japan. Today there are five major countries that use kanji: PRC, ROC, Hong Kong, Japan, and Korea.

ROC, Hong Kong, and Korea use the traditional forms of kanji. Kanji as used in these countries are not discussed in this dissertation because they do not involve a simplification process.

Japan makes use of both simplified and traditional kanji forms. 1,006 kanji are formally taught during the first six grades of school—this is the Gakushū Kanji set. PRC makes use of highly-simplified kanji, and, in contrast to Japan, over 3,600 kanji are formally taught during the first six grades of school. Table 4-1, taken from Endō (1986: 38), provides more detailed figures.

Table 4-1: The Number of Kanji Learned in PRC and Japan

Grade	PRC	Japan
1	750	80
2	850	160
3	600	200
4	500	200
5	500	185
6	400	181
TOTAL	3,600	1,006

The Chinese learn approximately 3.5 times more kanji than the Japanese during the first six years of education. According to Endō (1986: 38), the cognitive skills required for learning this larger set of kanji is not a factor of 3.5, but rather a factor greater than 12.

Kanji that do not have a complex structure are not, in general, simplified. Examples of such kanji include those that represent numbers, as illustrated in Table 4-2.

Table 4-2: Kanji That Do Not Simplify

Kanji	Gloss
一	<i>one</i>
二	<i>two</i>
三	<i>three</i>
四	<i>four</i>
五	<i>five</i>
六	<i>six</i>
七	<i>seven</i>
八	<i>eight</i>
九	<i>nine</i>
十	<i>ten</i>

Kanji simplification mainly eases the demands of writing by hand, but represents a net decrease in efficiency as far as mechanical (including electronic) reproduction is concerned. Miller (1967: 136–7) and Unger (1987: 70) point out that simplification may complicate matters as long as it is necessary to recognize both the simplified and traditional forms. Table 4-3 provides examples of simplified and traditional kanji forms found in the same character set standard, namely JIS X 0208-1990.

Table 4-3: Simplified and Traditional Kanji Pairs in JIS X 0208-1990

Simplified	Location	Traditional	Location
国	JIS Level 1	國	JIS Level 2
学	JIS Level 1	學	JIS Level 2
声	JIS Level 1	聲	JIS Level 2
広	JIS Level 1	廣	JIS Level 2
点	JIS Level 1	點	JIS Level 2
体	JIS Level 1	體	JIS Level 2
区	JIS Level 1	區	JIS Level 2
会	JIS Level 1	會	JIS Level 2

Note that the simplified kanji allographs are located in JIS Level 1 kanji (frequently-used characters), and that the traditional kanji allographs are typically found in JIS Level 2 kanji (rarely-used characters). This is true for many more traditional/simplified kanji pairs.

At least in Japan, few people were required to read and write kanji a few hundred years ago, but now that the public is required to learn and use kanji, a need arose to simplify and standardize their shapes. Simplification is a way to allow more people to learn more kanji.

Kanji Simplification Principles

When kanji simplifications are analyzed, it is possible to recognize particular principles. And, as we will see in Chapter 5, these simplification principles can then be applied to kanji to create new forms. Some of these principles include homophonic substitution, cursive simplification, outlining, shape extraction, and symbolization. The information in this section is taken from Endō (1986).

Homophonic substitution. A complex kanji is replaced by a kanji with a much simpler structure, but with the same reading. An example is the kanji 幾 ('how many,' 'some') being replaced by 几 ('desk,' 'small table')—both share the reading *ki*. Another example is the kanji 乾 ('dry') being replaced by 干 ('dry')—both share the reading *kan*. This type of simplification is widely used in PRC, and serves to reduce the number of kanji.

Cursive simplification. Either the entire kanji shape, or a portion thereof, is simplified in a way that would closely represent a cursive writing style. An example is the kanji 國 (*koku* 'country') being simplified into the shape 国. The shape 或, when written quickly with a brush or other writing instrument, looks somewhat like the shape 玉.

Shape extraction. A portion of the kanji is preserved in the simplification process—the remaining portions are removed entirely. An example is the kanji 聲 (*sei* ‘voice’) being reduced to the shape 声. The upper-left portion is the extracted part. Another example is the kanji 號 (*gō* ‘sign’) being reduced to 号.

Outlining. Kanji that have enclosing shapes, such as boxes, can be simplified by eliminating some or all of the strokes within such an enclosure.⁷ An example is the kanji 面 (*men* ‘surface’) being reduced to 𠂇. This particular example is taken from the second kanji simplification in PRC (to be discussed in Chapter 5).

Symbolization. A portion of a kanji, usually the complex portion, is more or less arbitrarily replaced by another shape. An example is the shape 區 (*ku* ‘district,’ ‘ward’) being reduced to 𡩺.

Kanji Simplifications in Japan and PRC

If we compare the kanji used in PRC and Japan, we find that there are several interesting categories of difference and similarity.

⁷Outlining can be considered a subcategory of the shape extraction principle.

No simplification in either PRC or Japan. Kanji in this category are typically simple by design, and thus never required simplification. Table 4-4 provides some examples.

Table 4-4: No Simplification in Either PRC or Japan

Kanji	Gloss
字	<i>character</i>
上	<i>up</i>
中	<i>middle</i>
下	<i>down</i>
日	<i>sun, day</i>
月	<i>moon, month</i>
大	<i>big</i>
小	<i>small</i>
一	<i>one</i>
二	<i>two</i>

Simplified form in PRC, but traditional form in Japan. Kanji in this category have been simplified in PRC, but not in Japan. Table 4-5 provides some examples.

Table 4-5: Simplified Form in PRC, But Traditional Form in Japan

Traditional Form	PRC Simplification	Gloss
見	见	<i>seeing</i>
貝	贝	<i>shell</i>
長	长	<i>long</i>
時	时	<i>time, hour</i>
頭	头	<i>head</i>
馬	马	<i>horse</i>
習	习	<i>learning</i>
飛	飞	<i>flying</i>
濁	浊	<i>muddy, vague</i>
繭	茧	<i>cocoon</i>

Many of the kanji in this category constitute radicals, and are found as parts of many other kanji. This causes simplification to propagate to many other kanji. Table 4-6 lists some examples of this phenomenon.

Table 4-6: Simplified Radicals Propagating to Other Kanji

Traditional Radical	Examples	Simplified Radical	Examples
見	覺規規視	见	觉规规视
貝	貼費賭資	贝	贴费赌资
馬	駕駐駘驅	马	驾驻骀驱

Simplified form in Japan, but traditional form in PRC. Kanji in this category have been simplified in Japan, but not in PRC. These serve as counter-examples against

the general notion that kanji simplifications in PRC are more extreme than in Japan. Table 4-7 provides some examples.

Table 4-7: Simplified Form in Japan, But Traditional Form in PRC

Traditional Form	Japanese Simplification	Gloss
黑	黒	<i>black</i>
辨	弁	<i>speech, dialect</i>
瓣	弁	<i>speech, dialect</i>
拂	払	<i>paying</i>
佛	仏	<i>Buddhism</i>
豫	予	<i>previously, beforehand</i>
假	仮	<i>false, temporary</i>

Note how the two kanji, 辨 and 瓣, were collapsed into the single simplified Japanese form, namely 弁. There was no such simplification or collapse in PRC.

Japan and PRC both use simplified forms, but differently simplified. Kanji in this category have been simplified in both PRC and Japan, but to seemingly different degrees: the PRC form is generally more simplified. Table 4-8 provides some examples.

Table 4-8: Japan and PRC Both Use Simplified Forms, But Differently Simplified

Traditional Form	Japanese Simplification	PRC Simplification	Gloss
亞	亜	亚	<i>Asia</i>
兩	両	两	<i>both</i>
齒	歯	齿	<i>tooth</i>
爲	為	为	<i>becoming</i>
價	価	价	<i>value</i>
廣	広	广	<i>wide</i>
兒	児	儿	<i>child</i>
圍	囲	围	<i>enclosing</i>
歸	帰	归	<i>returning</i>
團	団	团	<i>group</i>

Same simplified form in both PRC and Japan. Kanji in this category have the same simplified form, usually through borrowing. Table 4-9 provides some examples.

Table 4-9: Same Simplified Form in Both PRC and Japan

Traditional Form	Simplified Form	Gloss
當	当	<i>the present</i>
區	区	<i>district, ward</i>
會	会	<i>meeting, society</i>
聲	声	<i>voice</i>
亂	乱	<i>disordered</i>
體	体	<i>body, form</i>
軀	体	<i>body, form</i>
體	体	<i>body, form</i>
國	国	<i>country</i>
點	点	<i>point</i>
臺	台	<i>stand, counter for vehicles</i>
舊	旧	<i>former</i>

Chapter 5

Prescriptive Simplification

This chapter introduces the concept of prescriptive kanji simplification, and shows how it relates to spontaneous and descriptive kanji simplification.

Three Cases of Kanji Simplification

Spontaneous Simplification

Kanji are generally simplified spontaneously through imitation and frequent use. Writers create these simplifications, which spread to the public through imitation. It is generally the responsibility of an official organization, such as Japan's Ministry of Education (文部省 *Mombushō*), to decide if and when a simplified form becomes standard.

Many kanji that are spontaneously simplified never become standard forms even though they are routinely used in certain special applications. For example, the kanji 汙 (*ro* ‘filter’), as it occurs in the two compounds 汙紙 (*rosbi* ‘filter paper’) and 汙過 (*roka* ‘filtration’), is the simplified form of 濾. Even though this simplified kanji is used frequently in some fields of science, such as chemistry and biochemistry, it is not found in either JIS X 0208-1990 or JIS X 0212-1990.⁸

Descriptive Simplification

It has become increasingly important to create character sets in order to standardize the number and shapes of kanji in common usage. A government body, such as a standardization organization, usually undertakes this task. In Japan, this is accomplished by JSA. The kanji shapes of a subset, namely Jōyō Kanji and Jinmei-yō Kanji, are controlled by Japan’s Ministry of Education.

Descriptive simplification occurs when this government body merely catalogs, records, or describes the way in which the people have simplified kanji. This is similar to spontaneous simplification, but includes the additional process of standardizing a particular form.

⁸I have found this simplified kanji in XCCS (*Xerox Character Code Standard*) and in the Unicode character set.

Prescriptive Simplification

So far the discussion has treated matters of common knowledge, but in Japan there has been another qualitatively different process of kanji simplification which has not yet been noted in the literature.

Prescriptive simplification is a way to force change, and is substantially artificial. In this case, simplification principles are extracted from simplified kanji (that is, kanji that have been spontaneously simplified), then applied to kanji. In a way, this can appear to be a method to standardize kanji shapes, but many kanji, even complex ones, have no compelling reason to be simplified because they are not used frequently enough to justify simplification.

Phenomena in Japan

The first phenomena that we examine come from Japan. This is the matter of the kanji simplifications brought forth with the Jōyō Kanji set in 1981, and how these simplifications were extended to kanji in the JIS X 0208-1983 standard. The silent restoration of kanji to the JIS X 0212-1990 standard provides testimony for my claim that prescriptive simplification took place during the transition of JIS C 6226-1978 into JIS X 0208-1983.

Jōyō Kanji Simplifications

The Jōyō Kanji set, which consists of 1,945 kanji, is the set of kanji that has undergone the most simplification in Japan. The Jōyō Kanji set contains the basic kanji required to read most Japanese texts. This means that these 1,945 kanji are among the most frequently used. As was asserted in Chapter 4, kanji that are used very frequently are generally simplified. This is exactly what happened in the case of Jōyō Kanji.

The simplified kanji found in Jōyō Kanji were recognized and utilized by the Japanese Ministry of Education in order to make the basic set of kanji easier to learn. The simplified forms specified by the Japanese Ministry of Education may have been a departure from previous standards, but were in common use as Miller (1967: 136) points out. The government merely cataloged them.

Jōyō Kanji Simplifications Applied to JIS X 0208-1983

What is unmistakably a case of prescriptive simplification can be found in the transition from JIS C 6226-1978 to JIS X 0208-1983 (in clearer terms, between the 1978 and 1983 versions of the JIS X 0208 series). This issue is still being debated to this day in some circles.

In Chapter 3 we learned that the 1,945 Jōyō Kanji are a subset of the 2,965 JIS Level 1 kanji. One of the requirements for the JIS X 0208 series is to keep pace with the development of the non-electronic character sets. This means adding more kanji when necessary, but it also means adhering to the kanji simplifications brought forth by the Jōyō Kanji set. Therefore, changes made to the non-electronic sets often result in changes to the electronic ones. This is almost like a fourth type of simplification, namely authoritative simplification. The JIS X 0208 series does not affect the development of Jōyō Kanji and Jinmei-yō Kanji—at least not yet.

Nomura (1984: 5) describes the transition from JIS C 6226-1978 to JIS C 6226-1983 (JIS X 0208-1983, as designated today), and enumerates six categories of changes made to kanji shapes along with descriptions of the changes and example kanji. Nomura's third category is the one that provides evidence for prescriptive simplification. Its description states that Jōyō Kanji simplification principles were applied to kanji found in JIS Level 1 kanji. JIS Level 1 kanji contains 1,020 kanji not found in Jōyō Kanji.

Tables 5-1 and 5-2 provide printouts of the first row of kanji (the kanji begin at row 16) from the JIS X 0208 series: the original 1978 version is illustrated in Table 5-1, and the 1983 version with kanji allograph changes emboldened is

illustrated in Table 5-2. These tables are significant in that they illustrate how a typical row of characters was modified during the transition from JIS C 6226-1978 to JIS X 0208-1983. These tables represent the changes to just one row of 94 characters—there are 68 such rows of kanji in the standards.⁹

Table 5-1: Row 16 of JIS C 6226-1978

	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19
00	亜	啞	娃	阿	哀	愛	挨	始	逢	葵	茜	穉	惡	握	渥	旭	葦	芦	鯪
20	梓	圧	幹	扱	宛	姐	虻	飴	絢	綾	鮎	或	栗	裕	安	庵	按	暗	案
40	鞍	杏	以	伊	位	依	偉	圀	夷	委	威	尉	惟	意	慰	易	椅	為	畏
60	移	維	緯	胃	萎	衣	謂	違	遺	医	井	亥	域	育	郁	磯	一	壺	溢
80	稻	茨	芋	鰯	允	印	咽	員	因	姻	引	飲	淫	胤	蔭				

Table 5-2: Row 16 of JIS X 0208-1983

	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19
00	亜	啞	娃	阿	哀	愛	挨	始	逢	葵	茜	穉	惡	握	渥	旭	葦	芦	鯪
20	梓	圧	幹	扱	宛	姐	虻	飴	絢	綾	鮎	或	栗	裕	安	庵	按	暗	案
40	鞍	杏	以	伊	位	依	偉	圀	夷	委	威	尉	惟	意	慰	易	椅	為	畏
60	移	維	緯	胃	萎	衣	謂	違	遺	医	井	亥	域	育	郁	磯	一	壺	溢
80	稻	茨	芋	鰯	允	印	咽	員	因	姻	引	飲	淫	胤	蔭				

⁹The vertical and horizontal axes of Tables 5-1 and 5-2 are added together to obtain the cell value for a character—the row value for both tables is 16. For example, the cell value for the kanji 井 is 70 (60 plus 10), which forms a KUTEN value of 1670.

The first two kanji from row 16 above exemplify simplification applied to kanji not part of the Jōyō Kanji set. The very first kanji in the JIS C 6226-1978 (and JIS X 0208-1983) standard is 亜, a simplification of 亞. This character is also a component of many other kanji, but only in its traditional form 亞, as in the very next kanji in the array, 啞. However, in JIS X 0208-1983, the simplified form 亜 was introduced into 啞, and in many other kanji of which 亞 was a component. Further examples of this policy of carrying the simplified forms of Jōyō Kanji consistently through characters of which the original form was a component are illustrated in Table 5-3.

Table 5-3: Simplification Principles That Affect Other Kanji

Simplification Principle	1978 Allograph	1983 Allograph
齒 ⇒ 𪗇	𪗇	𪗇
婁 ⇒ 婁	婁	婁
國 ⇒ 国	國	国
發 ⇒ 𪗇	𪗇	𪗇
	𪗇	𪗇
賣 ⇒ 𪗇	𪗇	𪗇
示 ⇒ 𪗇	𪗇	𪗇
壽 ⇒ 寿	壽	寿
來 ⇒ 来	萊	来
區 ⇒ 区	軀	軀
	鷗	鷗

The same simplification principle can affect more than one kanji, such as the principle 區 ⇒ 区 causing 軀 to reduce to 軀, and 鷗 to reduce to 鷗. Some kanji are affected by more than one simplification principle, such as 禱 reducing to 禱.

Evidence in JIS X 0212-1990

In the JIS X 0212-1990 standard, 28 simplified kanji of the JIS X 0208-1983 standard were restored to their allographs as found in the JIS C 6226-1978 standard. Page 81 of the JIS X 0212-1990 manual contains a table that lists 28 of its kanji that were once found in JIS C 6226-1978, but disappeared in JIS X 0208-1983.¹⁰ One such example is 啞, which was reduced to 啞 in JIS X 0208-1983. A table illustrating all of these 28 simplified/traditional kanji pairs is found in Appendix C. All the traditional kanji allographs listed in Table 5-3 (the 1978 allographs) are among these 28 restored kanji.

The restoration of these 28 kanji in JIS X 0212-1990 amounts to an admission on the part of JSA that it was a mistake to carry simplified Jōyō Kanji through compound characters, in which the simplexes were a component.

¹⁰This table in the JIS X 0212-1990 manual contains only these 28 kanji, nothing more.

At a recent JSA meeting, Kazuo Tajima¹¹ (田嶋一夫 *Tajima Kazuo*) of Iwaki Meisei University (いわき明星大学 *Iwaki Meisei Daigaku*) made a statement to the effect that care needs to be taken so that similar errors, like those made during the transition between the 1978 and 1983 versions of JIS X 0208, do not occur again.¹²

Relative Acceptance of Kanji Simplifications

People who do not use rare kanji forms more readily accept prescriptively simplified kanji—only due to the fact that they do not generally use such kanji, whether in traditional, simplified, or otherwise variant form. The average Japanese uses approximately 2,000 kanji in daily life, but there are 12,156 kanji available in the JIS X 0208-1990 and JIS X 0212-1990 standards.

Notwithstanding the rationale of the simplification program embodied in the 1983 character set, people and organizations that actually make use of prescriptively simplified kanji generally do not care for them. This includes type foundries, publishers, and scholars. These people are familiar with traditional kanji

¹¹Kazuo Tajima served as the chairman of the committees for the JIS X 0208-1990 and JIS X 0212-1990 standards, and is a leading figure in the field of Japanese character sets.

¹²The source of this information is personal communication with Tarō Yamamoto (山本太郎 *Yamamoto Tarō*) from Adobe Systems Japan.

forms, and prefer to use them. Strangely, these same people accept the Jōyō Kanji simplifications.

Some companies, such as Fujitsu Limited, IBM, and NEC have preferred to retain most of the JIS C 6226-1978 kanji allographs for their proprietary character sets. This means that the Japanese fonts used on computer systems manufactured by these companies make use of the allograph 𪛗 (the 1978 allograph) rather than 𪛘 (the 1983 and 1990 allograph—of the JIS X 0208 series).

Japanese type foundries, which have a much larger repertoire of character forms at their disposal, typically have both kanji allographs, such as 𪛗 and 𪛘, available on their proprietary typesetting systems. This is to accommodate those that accept the allograph 𪛗 and those that accept 𪛘. Morisawa's (モリサワ *Morisawa*) proprietary code sets are called MOR-CODE I and MOR-CODE II. Shaken's (写研 *Shaken*) are called SK-72 and SK-78. FDPC or the Font Development and Promotion Center (文字フォント開発・普及センター *Moji Fonto Kaihatsu Fukyū Sentā*), the JSA-sponsored consortium that produces the Heisei (平成 *heisei*)¹³ series Japanese typefaces, also provides variant kanji allograph data, on the order of 1,000 additional kanji variants, per typeface.

¹³'Heisei' is the name of the current era in Japan, and began in 1989.

Treatment in Corporate Character Sets

Japanese corporations generally follow the Japanese national standards, namely the character sets JIS X 0201-1976, JIS X 0208-1990, and JIS X 0212-1990. However, Japanese corporations either provide additional characters, or use allographs not specified in the latest JIS standard, and it is these latter which are under discussion here. Information in this section can be considered further evidence and testimony suggesting prescriptive simplification, at least for the 28 kanji restored in JIS X 0212-1990.

Fujitsu Limited's corporate character set standard, FMR Kanji, follows the JIS X 0208-1990 standard—the latest of three versions—yet retains many JIS C 6226-1978 kanji allographs, including all 28 restored in JIS X 0212-1990. Fujitsu Limited has been very careful to use the most correct and standard kanji forms in its products. This is because they are a leading supplier of computers and software to the Japanese government. Data that show JIS C 6226-1978 kanji allographs in a JIS X 0208-1983 character set can be found in Fujitsu (1989). Consulting the latest manuals and personal communication via e-mail with Masahiro Sekiguchi, Fujitsu Limited's leading authority on their character sets, indicated that FMR Kanji is now based on JIS X 0208-1990, and still retains the same JIS C 6226-1978 kanji allographs.

The IBM Japanese character set, called DBCS-PC, is similar to Fujitsu Limited's FMR Kanji in that it is based on JIS X 0208-1990, yet still retains many JIS C 6226-1978 kanji allographs.¹⁴

Slightly less remarkable evidence can be found in NEC's corporate character set, namely NEC Kanji. To this day, the standard character set used on NEC machines is still based on JIS C 6226-1978.¹⁵ This means that all 28 kanji allographs restored in JIS X 0212-1990 are part of NEC Kanji. Preference for the JIS C 6226-1978 kanji allographs may be one reason why NEC has not adopted the latest version, namely JIS X 0208-1990.

Treatment of These 28 Kanji in Kanji Reference Works

I have consulted five kanji reference works that I consider to be authoritative. Table 5-4 on page 46 summarizes my findings, and provides evidence to support my claim that most of these 28 simplified kanji under discussion did not exist prior to their introduction into the JIS X 0208-1983 standard.

¹⁴DBCS is an acronym for *Double Byte Character Set*. PC is an acronym for *Personal Computer*.

¹⁵However, the standard Japanese character set on the Japanese version of Windows, both NEC and Microsoft versions, is based on JIS X 0208-1990. It is the core system font of the non-windowing environment that is still based on JIS C 6226-1978.

One of the oldest authorities on kanji, the *Kōki Jiten* (康熙字典 ‘The Kōki Character Dictionary’), also known as Zhāng et al. (1716), is Chinese, not Japanese, in origin.¹⁶ Zhāng et al. (1716) includes all 28 traditional kanji allographs, and two of the simplified ones, which are expressly treated as variants.

Dai Kanwa Jiten (大漢和辭典 ‘Large Kanji Dictionary’), also known as Morohashi (1955–1960), like Zhāng et al. (1716), provides all 28 traditional kanji allographs. In addition, three of the simplified kanji allographs are in its pages, and are expressly treated as variants of the traditional allograph.

Shin Jigen (新字源 ‘New Character Origins’) is a small, yet authoritative kanji reference work in regard to the treatment of kanji allographs. It is known as Ogawa et al. (1968). It contains all 28 of the traditional kanji allographs, but only five of the simplified ones, all of which are expressly treated as variants.

Dai Kango Rin (大漢語林 ‘Large Chinese Word Forest’), written by two students of Morohashi (1955–1960), is an authoritative contemporary kanji reference work. It is known as Kamada & Yoneyama (1992). This reference work is unique in that it has traditional kanji dictionary features, yet covers all 12,156 kanji

¹⁶In Chinese the name of this dictionary is read *Kāngxī Zìdiǎn*.

allographs that are enumerated in JIS X 0208-1990 and JIS X 0212-1990. All 28 traditional/simplified kanji pairs are included, by virtue of the fact that both are found in the union of the two JIS standards listed above. Kamada & Yoneyama (1992: 10), in fact, acknowledges this fact with five examples. However, the simplified allographs are listed as either variants or simplifications of the traditional kanji allographs.

Although it does not contain nearly as many kanji as other kanji reference works, the *New Japanese-English Character Dictionary* (新漢英字典 *Shin Kan'ei Jiten*), known as Halpern (1990, 1993), is very accurate. Seven of the 28 traditional kanji allographs are listed, but none of the 28 simplified ones are, not even as variants.

Table 5-4 illustrates which of the 28 simplified kanji allographs are found in the first four cited reference works. The fifth, Halpern (1990, 1993), is not included in this table because it does not contain any of the 28 simplified kanji allographs.

Table 5-4: The Treatment of 28 Simplified Kanji in Kanji Reference Works

JIS X 0208-1983	<i>Kōki Jiten</i>	<i>Dai Kanwa Jiten</i>	<i>Shin Jigen</i>	<i>Dai Kango Rin</i>
俠 2202	variant	variant	variant	variant
啞 1602		variant		variant
囁 1990				simplified
囊 3925				simplified
填 3722				simplified
屢 2840		variant	variant	variant
搔 3363				simplified
搥 3647				simplified
攢 5825			variant	simplified
澆 4014				variant
澆 3834				simplified
焰 1775				simplified
瘦 3373				simplified
禱 3788			variant	simplified
繡 2911				simplified
繫 2350				simplified
萊 4573				simplified
蔣 3053				simplified
蠟 4725				simplified
軀 2277				simplified
醬 3063				simplified
醃 4016				simplified
頰 4343				simplified
顛 3731	variant		variant	variant
鳴 1810				simplified
齟 2420				simplified
麴 2577				simplified
麵 4445				simplified

It is important to emphasize that all 28 simplified kanji allographs are in Kamada & Yoneyama (1992) by virtue of the fact that it was designed to include all 12,156 kanji from JIS X 0208-1990 and JIS X 0212-1990.

Table 5-4 argues that the majority of these 28 simplified kanji allographs never existed until they were created by JSA for the JIS X 0208-1983 standard. Many of these simplified allographs, such as 俠, 屢, and 顛, demonstrate consistent treatment as variants in these kanji reference works. The remaining simplified kanji, which appear nowhere in any authority, are substantially artificial.

The February 1, 1994 issue of *The Yomiuri Shimbun* included an article entitled “Koseki Kompyūta-ka de Goji Zokuji wa Teisei-shimasu” (戸籍コンピュータ化で誤字・俗字は訂正します ‘Incorrect and Variant Characters to Be Corrected by the Computerization of Family Registration’). This article describes a Japanese government plan to forcibly correct kanji used in Japanese personal names. 155 kanji are treated as exceptions to this plan, and are separated into two categories. The first category contains 15 kanji pairs, and the simplified form of each is allowed in existing names, but not for future names. The second category contains 140 kanji pairs, and the simplified form of each is allowed for existing and future

names. Of the 28 simplified kanji in this discussion, 25 were in this article's second category. Only the following three simplified allographs were not listed: 屢, 攢, and 澆.

This article is missing some important information, such as reasons why these 155 kanji are being treated as exceptions to the plan. Table 5-4 provided evidence which shows that most of these 28 simplified allographs did not exist prior to their introduction into JIS X 0208-1983, so why is their existence being acknowledged? I believe that the answer is similar to the reason why all 28 simplified allographs appear in Kamada & Yoneyama (1992), namely that in 1990, JSA decided to leave these 28 simplified allographs in the JIS X 0208 series, and restored their traditional allographs in JIS X 0212-1990. My claim here is that these incorrect forms propagated to public use through the widely-implemented JIS X 0208-1983 and JIS X 0208-1990 standards (both of which use the same 28 simplified allographs). The typical Japanese assumes that the kanji allographs available for input on their computer system are the correct forms. The success of computerizing family registration hinges on the availability of characters in electronic character sets, which is a concrete, not theoretical matter.

Although I have shown that a few of the 28 simplified kanji allographs have existed as variants before 1983, I still maintain that these kanji were created through the principles of prescriptive simplification, at least for the JIS X 0208-1983 standard. However, it is difficult to find hard evidence to back up this claim. The JIS X 0208-1983 standard committee notes might be one possible source of such evidence.

Kanji Restored in JIS X 0208-1983 and JIS X 0208-1990

Although not direct evidence for prescriptive simplification, many traditional kanji allographs were restored in JIS X 0208-1983 and JIS X 0208-1990. This means that variant or simplified kanji allographs originally occupied a given code point in the character set, and in either 1983 or 1990, such forms were substituted with their traditional allographs.

The transitions between earlier and later versions of the JIS X 0208 series is generally viewed as involving only simplification or the adoption of variant kanji allographs. My research shows that the restoration of traditional kanji allographs was also part of this transitional process.

Examining the transition between JIS C 6226-1978 and JIS X 0208-1983 found 18 traditional kanji allograph restorations. A similar study of the transition between JIS X 0208-1983 and JIS X 0208-1990 uncovered seven. The kanji reference works listed in the previous section were used to verify traditional and variant kanji allographs. Tables 5-5 and 5-6 detail my findings.

Table 5-5: Kanji Restored in JIS X 0208-1983

JIS C 6226-1978 (Variant)	JIS X 0208-1983 (Traditional) ¹⁷
稽 2346	稽
隙 2368	隙
昂 2523	昂
柵 2684	柵
珊 2725	珊
創 3347	創
鴿 3830	鴿
噸 3853	噸
頓 3860	頓
熔 4548	熔
嚙 5175	嚙
梔 5984	梔
龜 6752	龜
跚 7673	跚
雷 8037	雷
頤 8085	頤
鬪 8213	鬪
龜 8393	龜

¹⁷The allographs in this column also correspond to the forms found in JIS X 0208-1990.

Table 5-6: Kanji Restored in JIS X 0208-1990

JIS X 0208-1983 (Variant) ¹⁸	JIS X 0208-1990 (Traditional)
乚 5024	乚
檐 6089	檐
氈 6165	氈
渣 6254	渣
腓 7125	腓
褌 7485	褌
鯨 8247	鯨

Tables 5-5 and 5-6 show that JSA attempted to improve the JIS X 0208 character set during both revisions by restoring traditional kanji forms. Nomura (1984: 5) makes reference to this restoration process during the transition of JIS C 6226-1978 to JIS X 0208-1983, but groups such restorations into a category of miscellaneous changes—not terribly helpful to the reader.

Fujitsu Limited's FMR Kanji and IBM's DBCS-PC have always followed the traditional kanji forms as provided in Tables 5-5 and 5-6, even before the 1983 and 1990 versions of JIS X 0208 were released.¹⁹

¹⁸The allographs in this column also correspond to the forms found in JIS C 6226-1978.

¹⁹The kanji allograph 昂 (the JIS X 0208-1983 allograph) was already in an encoding region of IBM's DBCS-PC that does not correspond to the JIS X 0208 series (called *IBM Select Kanji*). The kanji allograph 昂 (the JIS C 6226-1978 allograph) is found in the portion of DBCS-PC that corresponds to the JIS X 0208 series.

Phenomena in PRC

The First Kanji Simplification

The first kanji simplification of PRC was introduced in January of 1955. The kanji simplifications brought forth became official in January of 1956. The first kanji simplification merely standardized the way in which the Chinese people were already writing kanji. It was accepted—and welcomed—by the people. The first kanji simplification falls into the category of spontaneous and descriptive simplification. Example kanji from the first kanji simplification can be found in Chapter 4.

The PRC's first kanji simplification comprised 2,238 simplified kanji, separated into three tables.²⁰ Table 4-6 on page 28 illustrated how a simplified radical can propagate its simplified form to kanji that use said radical. There are two types of radicals that cause this: left-side (偏 *ben*) and right-side (旁 *bō*). The first of these three tables lists 352 kanji that were simplified without the propagation of simplified left- or right-side radicals, the second table lists 132 kanji that represent the simplified left- and right-side radicals themselves, and the third table lists 1,754

²⁰All 2,238 of these simplified kanji forms are found in GB 2312-80, PRC's standard electronic character set standard. GB 2312-80 contains a total of 6,763 kanji.

kanji that were simplified by propagating simplified left- and right-side radicals. Endō (1986: 30–57) provides the three tables listing all 2,238 simplified kanji.

The propagation of simplified left- and right-side radicals to kanji that use such radicals can be considered prescriptive simplification, but it is the second kanji simplification, described next, that offers better testimony for the existence of this phenomenon in PRC.

The Second Kanji Simplification

Plans for a second kanji simplification in PRC were announced on December 20, 1977. The Chinese Character Reform Committee (中国文字改革委员会 *Zhōngguó Wénzì Gǎigé Wěiyuánhui*)²¹ analyzed the simplifications from the first kanji simplification, then applied these principles to other kanji. The goals of the second kanji simplification were to further simplify the structure of kanji, from an average 16-strokes-per-kanji down to eight strokes, and to reduce the number of kanji by collapsing several kanji into a single form.

In order to reduce the average number of strokes, many kanji which never had a simplified form had one assigned. According to Endō (1986: 109), the

²¹In Japanese this name is romanized as *Chūgoku Moji Kaikaku Iinkai*.

Chinese Character Reform Committee was the organization that decided upon the simplified forms.

Reducing the average number of strokes per kanji was an important part of this plan in that it eases the learning of kanji. Remember that students in PRC are required to learn approximately 3,600 kanji during the first six years of education.

According to Harada (1989: 206) and Endō (1986: 116), the simplifications proposed in this second kanji simplification are considered much more extreme than the first, namely that a greater degree of simplification is being applied. An example is the kanji 面 (*men* 'surface') being simplified into the form 𠂔. Another example is the kanji 私 (*shi* 'I') reducing to 亻. These simplifications follow two of the principles described in Chapter 4, namely outlining and shape extraction. Furthermore, Harada (1989: 206–207) writes that even though the public had become adjusted to the first kanji simplification, introducing even more simplified forms caused confusion.

The second kanji simplification plan resulted in 853 simplified kanji, falling into two tables.²² The first table contains 248 kanji, all of which have won general

²²None of these simplified kanji forms are found in GB 2312-80, PRC's standard electronic character set standard.

public acceptance. 172 do not use left- and right-side radicals, 21 do, and the remaining 55 kanji were simplified through analogy. The second table contains 605 kanji which have not been fully accepted by the public. 245 do not use left- and right-side radicals, 24 do, and the remaining 336 kanji were simplified through analogy. This data is taken from Endō (1986: 108).

The 248 kanji that have been accepted by the public are not at issue—they can fall into the category of spontaneous or descriptive simplification. The remaining 605 kanji are substantially artificial, and thus can be classified as prescriptive simplifications.

Harada (1989: 207) writes that simplified kanji from the second kanji simplification were used in several newspapers from January of 1978, but by June of that year, they were no longer being used. In January of 1986, the Chinese National Language Character Construction Committee (中国国家語言文字工作委員會 *Zhōngguó Guójā Yǔyán Wénzì Gōngzuò Wěiyuánhui*)²³ announced that the second kanji simplification was rescinded. The reasons given were that such simplifications would cause problems in producing dictionaries and the like, and also in computer processing of Chinese.

²³In Japanese this name is romanized as *Chūgoku Kokka Gogen Moji Kōsaku Inkai*.

Appendix A

JIS C 6226-1978 Versus JIS X 0208-1983

This appendix details the changes that occurred between the 1978 and 1983 versions of JIS X 0208. I limit this appendix to changes in kanji—the non-kanji changes are not listed here. The changes made to kanji fall into three categories. The set of changes in category 3 are the most controversial.

Category 1

Four simplified kanji were substituted for the original shapes, which were assigned a new code position at the end of JIS Level 2 kanji in row 84.

Original Code	Added Code
堯 2238	堯 8401
楨 4374	楨 8402
遙 4558	遙 8403
瑤 6486	瑤 8404

Category 2

22 simplified and traditional kanji pairs exchanged code positions between JIS Level 1 kanji and JIS Level 2 kanji (44 affected code points).

JIS C 6226-1978

JIS Level 1	JIS Level 2
鯨 1619	鯨 8245
鶯 1809	鶯 8284
蠣 1934	蛎 7358
攪 1941	攪 5788
竈 1986	竈 6762
灌 2035	灌 6285
諫 2050	諫 7561
頸 2359	頸 8084
礪 2560	礪 6672
藁 2841	藁 7302
靱 3157	靱 8055
賤 3308	賤 7645
壺 3659	壺 5268
礪 3755	礪 6674
檣 3778	檣 5977
濤 3783	濤 6225
邇 3886	邇 7778
蠅 3972	蠅 7404
檜 4116	檜 5956
儘 4389	儘 4854
藪 4489	藪 7314
籠 4722	籠 6838

JIS X 0208-1983

JIS Level 1	JIS Level 2
鯨 1619	鯨 8245
鶯 1809	鶯 8284
蠣 1934	蛎 7358
攪 1941	攪 5788
竈 1986	竈 6762
灌 2035	灌 6285
諫 2050	諫 7561
頸 2359	頸 8084
礪 2560	礪 6672
藁 2841	藁 7302
靱 3157	靱 8055
賤 3308	賤 7645
壺 3659	壺 5268
礪 3755	礪 6674
檣 3778	檣 5977
濤 3783	濤 6225
邇 3886	邇 7778
蠅 3972	蠅 7404
檜 4116	檜 5956
儘 4389	儘 4854
藪 4489	藪 7314
籠 4722	籠 6838

Category 3

The shapes of many kanji were altered, including several simplifications. This category of change is quite subjective, and what appears below are 250 such kanji. The source used here is the Adobe Japanese Character Collection (called Adobe-Japan1-0). The asterisked items are the 28 kanji allographs that were restored in JIS X 0212-1990. Those annotated with hash marks are traditional form restorations.

1978	1983		1978	1983		1978	1983	
啞	啞	1602*	葛	葛	1975	荊	荊	2353
逢	逢	1609	鞆	鞆	1983	隙	隙	2368#
芦	芦	1618	嚙	嚙	1990*	倦	倦	2381
飴	飴	1627	澗	澗	2034	嫌	嫌	2389
溢	溢	1678	翰	翰	2045	捲	捲	2394
鰯	鰯	1683	翫	翫	2069	齟	齟	2420*
淫	淫	1692	徽	徽	2111	諺	諺	2433
迂	迂	1710	祇	祇	2132	巷	巷	2511
鬱	鬱	1721	俠	俠	2202*	昂	昂	2523#
厖	厖	1725	卿	卿	2210	溝	溝	2534
嚙	嚙	1729	僅	僅	2247	麴	麴	2577*
餌	餌	1734	軀	軀	2277*	鵠	鵠	2584
焰	焰	1775*	喰	喰	2284	甌	甌	2589
襖	襖	1808	櫛	櫛	2291	采	采	2651
鷗	鷗	1810*	屑	屑	2293	桢	桢	2671
迦	迦	1864	靴	靴	2304	柵	柵	2684#
恢	恢	1890	祁	祁	2323	薩	薩	2707
拐	拐	1893	慧	慧	2337	鯖	鯖	2710
晦	晦	1902	稽	稽	2346#	鯖	鯖	2712
喝	喝	1969	繫	繫	2350*	珊	珊	2725#

1978	1983	
屢	屢	2840*
遮	遮	2855
杓	杓	2861
灼	灼	2862
繡	繡	2911*
酋	酋	2922
曙	曙	2976
渚	渚	2977
薯	薯	2982
藹	藹	2983
哨	哨	3005
廠	廠	3019
梢	梢	3031
蔣	蔣	3053*
醬	醬	3063*
鞘	鞘	3068
蝕	蝕	3110
韌	韌	3157
逗	逗	3164
翠	翠	3173
摺	摺	3202
逝	逝	3234
蟬	蟬	3270
撰	撰	3281
栓	栓	3282
煎	煎	3289
煽	煽	3290
詮	詮	3307
噌	噌	3325
遡	遡	3344
創	創	3347#
搔	搔	3363*
瘦	瘦	3373*

1978	1983	
遜	遜	3429
驪	驪	3445
腿	腿	3460
黛	黛	3467
啄	啄	3479
濯	濯	3485
琢	琢	3486
蛸	蛸	3493
巽	巽	3507
辿	辿	3509
棚	棚	3510
鰐	鰐	3513
樽	樽	3514
簞	簞	3529
註	註	3580
瀦	瀦	3585
凋	凋	3592
抄	抄	3629
槌	槌	3640
鎚	鎚	3642
塚	塚	3645
擱	擱	3647*
辻	辻	3652
鄭	鄭	3702
擢	擢	3707
溺	溺	3714
填	填	3722*
顛	顛	3731*
堵	堵	3740
屠	屠	3743
菟	菟	3749
賭	賭	3750
塘	塘	3768

1978	1983	
禱	禱	3788*
鴿	鴿	3830#
瀆	瀆	3834*
滯	滯	3852
噸	噸	3853#
遁	遁	3859
頓	頓	3860#
那	那	3865
謎	謎	3870
灘	灘	3871
檣	檣	3874
襴	襴	3909
囊	囊	3925*
牌	牌	3955
這	這	3971
秤	秤	3973
剝	剝	3977
箸	箸	4004
潑	潑	4014*
醞	醞	4016*
挽	挽	4052
扉	扉	4066
槌	槌	4085
柁	柁	4102
稗	稗	4103
逼	逼	4115
媛	媛	4118
謬	謬	4121
廟	廟	4132
瀕	瀕	4146
頻	頻	4149
蔽	蔽	4235
瞥	瞥	4245

1978	1983	
婉	婉	4258
庖	庖	4289
泡	泡	4302
蓬	蓬	4309
頰	頰	4343*
鱒	鱒	4380
迄	迄	4388
麵	麵	4445*
儲	儲	4457
餅	餅	4463
粿	粿	4466
鎚	鎚	4490
愈	愈	4492
癒	癒	4494
猷	猷	4518
熔	熔	4548#
耀	耀	4552
萊	萊	4573*
遼	遼	4643
漣	漣	4690
煉	煉	4691
蓮	蓮	4701
榔	榔	4717
蠟	蠟	4725*
兔	兔	4929
冉	冉	4939
冕	冕	4943
冤	冤	4945
啾	啾	5116
唢	唢	5126
嘲	嘲	5162
嚙	嚙	5175#
棚	棚	5236

1978	1983	
媾	媾	5329
冤	冤	5367
屏	屏	5402
悅	悅	5604
振	振	5764
搆	搆	5776
攢	攢	5825*
斃	斃	5845
扃	扃	5937
枋	枋	5942
桡	桡	5975
桤	桤	5984#
湮	湮	6248
爨	爨	6406
玢	玢	6463
甄	甄	6511
蕘	蕘	6516
甕	甕	6517
皓	皓	6611
礪	礪	6679
稱	稱	6742
穉	穉	6752#
箴	箴	6825
𦉳	𦉳	6868
糧	糧	6878
認	認	6925
緊	緊	6927
緝	緝	6938
翔	翔	7038
舡	舡	7168
芍	芍	7173
苒	苒	7182
莫	莫	7220

1978	1983	
葱	葱	7227
蔗	蔗	7284
螂	螂	7407
蟒	蟒	7429
褊	褊	7479
覲	覲	7518
諛	諛	7570
譁	譁	7586
跚	跚	7673#
跟	跟	7684
輓	輓	7746
迪	迪	7776
迤	邇	7778
遘	遘	7809
扈	扈	7829
囂	囂	7855
雷	雷	8037#
靠	靠	8049
鞞	鞞	8055
頤	頤	8085#
鬪	鬪	8213#
終	終	8228
鯀	鯀	8246
麪	麪	8349
龜	龜	8393#

*Appendix B**JIS X 0208-1983 Versus
JIS X 0208-1990*

This appendix details the changes that occurred between the 1983 and 1990 versions of the JIS X 0208 standard. These changes are very minor, affecting 145 kanji allographs. None of the changes are considered to be simplifications.

The following two kanji were appended after JIS Level 2 kanji in row 84. These kanji represent recent additions to the Jinmei-yō Kanji set.

凜 8405
熙 8406

The following is a complete list of the 145 kanji affected by subtle and slight allograph changes. Those annotated with a hash mark are traditional form restorations.

1983	1990	
偉	偉	1646
緯	緯	1662
違	違	1667
厖	厖	1725
衛	衛	1750
延	延	1768
沿	沿	1772
鉛	鉛	1784
翁	翁	1807
慨	慨	1920
概	概	1921
殼	殼	1944
敢	敢	2026
頑	頑	2072
埶	埶	2102
窮	窮	2171
均	均	2249
傑	傑	2370
穴	穴	2374
健	健	2382
建	建	2390
交	交	2482
公	公	2488
更	更	2525
校	校	2527
硬	硬	2537
絞	絞	2542
考	考	2545
降	降	2563
拷	拷	2573
罪	罪	2665
使	使	2740
史	史	2743

1983	1990	
邪	邪	2857
収	収	2893
瞬	瞬	2954
舜	舜	2956
松	松	3030
訟	訟	3057
丈	丈	3070
埴	埴	3093
職	職	3106
船	船	3305
總	總	3377
聰	聰	3379
像	像	3392
誕	誕	3534
恥	恥	3549
兆	兆	3591
眺	眺	3615
聽	聽	3616
跳	跳	3623
庭	庭	3677
廷	廷	3678
艇	艇	3690
桃	桃	3777
逃	逃	3808
排	排	3951
輩	輩	3958
班	班	4041
頒	頒	4050
悲	悲	4065
扉	扉	4066
斐	斐	4069
緋	緋	4076
誹	誹	4080

1983	1990	
貧	貧	4147
父	父	4167
分	分	4212
粉	粉	4220
紛	紛	4222
雰	雰	4223
便	便	4256
盆	盆	4363
桡	桡	4381
耶	耶	4477
吏	吏	4589
隣	隣	4657
麗	麗	4679
聯	聯	4694
乚	乚	5024#
雙	雙	5054
喻	喻	5140
圍	圍	5203
姚	姚	5313
娶	娶	5324
巉	巉	5458
巔	巔	5460
弭	弭	5525
徘徊	徘徊	5549
惘	惘	5617
扔	扔	5714
擲	擲	5819
敞	敞	5841
晟	晟	5880
忝	忝	5932
柶	柶	5955
椰	椰	6031
榧	榧	6050

1983	1990		1983	1990	
橄	橄	6077	羸	羸	7655
檐	檐	6089#	躑	躑	7722
氈	氈	6165#	躡	躡	7726
渣	渣	6254#	鑷	鑷	7950
漑	漑	6284	隘	隘	8007
滾	滾	6288	靠	靠	8049
漾	漾	6301	靱	靱	8055
耀	耀	6402	頌	頌	8083
珥	珥	6466	顛	顛	8103
琲	琲	6474	煙	煙	8219
瓠	瓠	6501	鯈	鯈	8244
癩	癩	6601	鯪	鯪	8247#
磔	磔	6689	鳴	鳴	8294
窈	窈	6758			
緝	緝	6941			
縵	縵	6960			
翡	翡	7039			
聚	聚	7060			
聰	聰	7066			
聶	聶	7067			
腓	腓	7104			
腓	腓	7125#			
菲	菲	7243			
蜚	蜚	7384			
蠶	蠶	7436			
袞	袞	7449			
裴	裴	7474			
褫	褫	7485#			
褻	褻	7488			
襍	襍	7504			
櫛	櫛	7505			
訝	訝	7535			
贅	贅	7652			

Appendix C JIS C 6226-1978 Kanji Restored in JIS X 0212-1990

This appendix lists the 28 kanji allographs that disappeared from the JIS X 0208 series in 1983, and were subsequently restored in JIS X 0212-1990.

<i>JIS C 6226-1978 Traditional Form</i>	<i>JIS X 0208-1983 Simplified Form</i>	<i>JIS X 0212-1990 Restored Traditional Form</i>
啞 1602	啞 1602	啞 2164
焰 1775	焰 1775	焰 4179
鷗 1810	鷗 1810	鷗 7631
嚙 1990	嚙 1990	嚙 2258
俠 2202	俠 2202	俠 1734
軀 2277	軀 2277	軀 6452
繫 2350	繫 2350	繫 5258
齟 2420	齟 2420	齟 7659
麴 2577	麴 2577	麴 7679
屢 2840	屢 2840	屢 2690
繡 2911	繡 2911	繡 5255
蔣 3053	蔣 3053	蔣 5722
醬 3063	醬 3063	醬 6683
搔 3363	搔 3363	搔 3243
瘦 3373	瘦 3373	瘦 4587

JIS C 6226-1978

Traditional Form

摑 3647
 填 3722
 顛 3731
 禱 3788
 瀆 3834
 囊 3925
 潑 4014
 醱 4016
 頰 4343
 麵 4445
 萊 4573
 蠟 4725
 攢 5825

JIS X 0208-1983

Simplified Form

搯 3647
 填 3722
 顛 3731
 禱 3788
 瀆 3834
 囊 3925
 澆 4014
 醱 4016
 頰 4343
 麵 4445
 萊 4573
 蠟 4725
 攢 5825

JIS X 0212-1990

Restored Traditional Form

摑 3259
 填 2420
 顛 7219
 禱 4880
 瀆 4112
 囊 2276
 潑 4053
 醱 6687
 頰 7204
 麵 7680
 萊 5639
 蠟 5988
 攢 3334

Bibliography

- Endō, Shōtoku (遠藤紹徳). *Hayawakari Chūgoku Kantaiji* (早わかり中国簡体字). Kokusho Kankōkai. 1986.
- Halpern, Jack, editor. *New Japanese-English Character Dictionary*. Kenkyūsha. 1990. ISBN 4-7674-9040-5.
- . *NTC's New Japanese-English Character Dictionary*. National Textbook Company. 1993. ISBN 0-8442-8434-3.
- Harada, Taneshige (原田種成). *Kanji Shō Hyakka Jiten* (漢字小百科辞典). Sanseidō. 1990. ISBN 4-385-13590-8.
- Hida, Yoshifumi (飛田良文). *Kokuji no Jiten* (国字の字典). Tōkyōdō Shuppan. 1990. ISBN 4-490-10279-8.
- Huang, Jack & Timothy Huang. *An Introduction to Chinese, Japanese and Korean Computing*. World Scientific Computing. 1989. ISBN 9971-50-664-5.
- Japanese Industrial Standards Committee. *Itaiji ni kan suru Chōsa Kenkyū Hōkokusho* (異体字に関する調査研究報告書). Japanese Standards Association. 1991.
- Jōyō Kanji Hyō* (常用漢字表). Ōkurashō Insatsu Kyoku. 1987. ISBN 4-17-214500-0.
- Kabashima, Tadao (樺島忠夫) et al., editors. *Jiten: Nihon no Moji* (事典: 日本の文字). Taishūkan Shoten. 1985. ISBN 4-469-01209-2.
- Kamada, Tadashi (鎌田正) & Toratarō Yoneyama (米山寅太郎). *Dai Kango Rin* (大漢語林). Taishūkan Shoten. 1992. ISBN 4-469-03154-2.

- Katō, Akio (加藤昭雄), editor. *CTS Moji Kōdo Sakuin Jisho <JIS EUC SK Hen>* (CTS 文字コード索引辞書 <JIS・EUC・SK編>). Hakkō Shōji Marketing Research Center. 1992. ISBN 4-7952-9120-9.
- Lunde, Ken. *Understanding Japanese Information Processing*. O'Reilly & Associates, Inc. 1993. ISBN 1-56592-043-0.
- Miller, Roy Andrew. *The Japanese Language*. The University of Chicago Press. 1967. ISBN 0-226-52718-2.
- Morohashi, Tetsuji (諸橋轍次), editor. *Dai Kanwa Jiten* (大漢和辞典). 13 Volumes. Taishūkan Shoten. 1955–1960.
- Nelson, Andrew. *The Modern Reader's Japanese-English Character Dictionary*. Second revised edition. Charles E. Tuttle. 1974. ISBN 0-8048-0408-7.
- Ogawa, Tamaki (小川環樹) et al. *Shin Jigen* (新字源). Kadokawa Shoten. 1968. ISBN 4-04-010801-9.
- Reiman, Etsuko Obata. *Nihonjin no Tsukutta Kanji* (日本人の作った漢字). Nagumodō. 1990. ISBN 4-523-26156-3.
- Satō, Kiyoji (佐藤喜代治) et al. *Kanji Kōza* (漢字講座). 12 Volumes. Taishūkan Shoten. 1987–1989.
- Shindō, Akira (真堂彬) & Probit (プロビット). *JIS Hojo Kanji* (JIS補助漢字). A.I. Publishing. 1991. ISBN 4-87193-158-7.
- Shinmura, Izuru (新村出), editor. *Kōjien* (広辞苑). Fourth edition. Iwanami Shoten. 1991. ISBN 4-00-080101-5.
- Spahn, Mark & Wolfgang Hadamitzky. *Japanese Character Dictionary with Compound Lookup via Any Kanji*. Nichigai Associates, Inc. 1989. ISBN 4-8169-0828-5.
- Tajima, Kazuo (田嶋一夫). *Saishin JIS Kanji Jiten* (最新JIS漢字辞典). Kōdansha. 1990. ISBN 4-06-123264-9.

Uegaki, Tsutomu (上柿力). *Pasokon Wāpuro Kanji Jiten* (パソコンワープロ漢字辞典). Natsumesha. 1987. ISBN 4-8163-0696-X.

Unger, J. Marshall. *The Fifth Generation Fallacy: Why Japan Is Betting Its Future on Artificial Intelligence*. Oxford University Press. 1987. ISBN 0-19-504939-X.

Unicode Consortium, The. *The Unicode Standard: Worldwide Character Encoding*. Version 1.0, Volume 1. Addison-Wesley. 1991. ISBN 0-201-56788-1.

———. *The Unicode Standard: Worldwide Character Encoding*. Version 1.0, Volume 2. Addison-Wesley. 1992. ISBN 0-201-60845-6.

Zhāng, Yùshū (張玉書) et al. *Kōki Jiten* (康熙字典). Zhōnghuá Shūjú. 1716. ISBN 962-231-006-0.

Standards

Fujitsu Limited. *Fujitsu Moji Kōdo Kaisetsusho* (富士通文字コード解説書). 1989. Fujitsu part number 99FR-8010-1.

GB 2312-80 *Code of Chinese Graphic Character Set for Information Interchange—Primary Set*. Technical Standards Publishing. 1981.

IBM Corporation. *IBM Japanese Graphic Character Set, Kanji: DBCS-Host and DBCS-PC*. IBM Standards Program. 1992. IBM part number C-H 3-3220-024 1992-11.

———. *IBM Japanese Graphic Character Set for Extended UNIX Code (EUC): DBCS-EUC*. IBM Standards Program. 1993. IBM part number C-H 3-3220-127 1993-03.

International Standards Organization. *ISO 10646-1:1993 Information Technology —Universal Multiple-octet Coded Character Set (UCS)*. 1993.

Japanese Industrial Standards Committee. *JIS C 6226-1978 Code of the Japanese Graphic Character Set for Information Interchange* (情報交換用漢字符号). Japanese Standards Association. 1978.

- . *JIS X 0201-1976 Code for Information Interchange* (情報交換用符号). Japanese Standards Association. 1976.
- . *JIS X 0208-1983 Code of the Japanese Graphic Character Set for Information Interchange* (情報交換用漢字符号). Japanese Standards Association. 1983.
- . *JIS X 0208-1990 Code of the Japanese Graphic Character Set for Information Interchange* (情報交換用漢字符号). Japanese Standards Association. 1990.
- . *JIS X 0212-1990 Code of the Supplementary Japanese Graphic Character Set for Information Interchange* (情報交換用漢字符号—補助漢字). Japanese Standards Association. 1990.
- . *JIS X 9052-1983 24-dots Matrix Character Patterns for Dot Printers* (ドットプリンタ用24ドット字形). Japanese Standards Association. 1983.
- . *JIS X 9051-1984 16-dots Matrix Character Patterns for Display Devices* (表示装置用16ドット字形). Japanese Standards Association. 1984.
- Korean Industrial Standards Association. *KS C 5601-1992 Code for Information Interchange (Hangul and Hanja)*. Korean Industrial Standard. 1992.
- . *KS C 5657-1991 Code for Information Interchange Extended Set*. Korean Industrial Standard. 1991.
- Xerox Corporation. *Xerox Character Code Standard 2.0*. Xerox Systems Institute. 1990. Xerox part number XNSS 059003.

Papers and Articles

- “Jinmei-yō Kanji ni 118 Ji Tsuika (人名用漢字に118字追加).” *Asahi Shimbun* (朝日新聞), January 17, 1990.
- “Koseki Kōmputā-ka de Goji Zokuji wa Teisei-shimasu (戸籍コンピュータ化で誤字・俗字は訂正します).” *The Yomiuri Shimbun* (読売新聞), February 1, 1994.

Lunde, Ken. "Japanese Character Sets and Encodings: What's It All About?" *Technical Requirements for Accessing Japanese Information: Problems & Solutions*, Japan Documentation Center of the Library of Congress, March 18, 1994, pp 29–37.

———. "Japanese Information Processing: Author's Notes." *ora.com*, Fall 1993, pp 19–22.

———. "The History of the Japanese Character Set and its Encoding." *CPCOL*, June 1993, Volume 7, Number 1, pp 85–94.

———. "Electronic Transfer of Japanese." *ATArashii*, September/October 1990, Volume 4, Number 5, pp 19–27.

———. "Using Electronic Mail as a Medium for Foreign Language Study and Instruction." *CALICO Journal*, March 1990, Volume 7, Number 3, pp 68–78.

———. "JAPAN.INF: Electronic Handling of Japanese Text." Distributed and maintained electronically since 1989.

Nishimura, Yoshihiko (西村恕彦). "Kanji no JIS (漢字のJIS)." *Hyōjunka Journal* (標準化ジャーナル), 1978.5, pp 3–8.

Nomura, Masaaki (野村雅昭). "JIS C 6226 Jōhō Kōkan-yō Kanji Fugōkei no Kaisei (JIS C 6226情報交換用漢文字符号系の改正)." *Hyōjunka Journal* (標準化ジャーナル), 1984.3, pp 4–9.

Tajima, Kazuo (田嶋一夫). "JIS Kanji Hyō no Riyōjō no Mondai—Kanji Shori Shisutemu ni okeru Kanji no Dezain to Kanri (JIS漢字表の利用上の問題—漢字処理システムにおける漢字のデザインと管理)." *Jōhō Kanri* (情報管理), 1979, Volume 21, Number 10, pp 753–761.

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