

Origins of Early Writing Systems (October 6, 2007; Peking University, Beijing)

Early Japanese and Early Akkadian Writing Systems —A Contrastive Survey of “Kunogenesis”—

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


Introduction

It is well known in scholarly circles that early Japanese and early Akkadian writing systems exhibit striking parallels and that their comparison provides valuable insight into the origins of early writing systems in general. For instance, in an article entitled “Bilingualism in Logographically Written Languages: Sumerian in Ebla,” Prof. Miguel Civil refers to the adaptation of Chinese script to Japanese literature in the eighth century A.D. He rightly points out that “it would be useful to know what general rules prevail when languages borrow logographic scripts in order to clarify the situation in the cuneiform world” (Civil 1984:75).

The late Japanese linguist Rokuro Kono independently expressed a similar view. In his contribution to *Kojiki Taisei* (Compendium of the *Kojiki*¹), Kono wrote as follows: “We [Japanese] not only use two different kinds of scripts [Chinese logograms “*kanji*” and Japanese syllabograms “*kana*”] side by side, but also read *kanji* in an extremely complex way using not only their *on* [Chinese(-like)] values but also their *kun* [Japanese] values. This practice is similar to that of the Assyro-Babylonian cuneiform, which was borrowed from Sumerians. Such a practice thus seems too old-looking for the second half of the twentieth century, and its complexity is unparalleled today. We struggle with this complexity day by day, but this struggle provides us with golden opportunities for contemplating the essence of writing.” (Kono 1980; my translation)

The examples below illustrate how similar the Japanese and Akkadian writing systems are:

¹ *Kojiki* (古事記) or *Records of Ancient Matters* dates to 712 A.D. It preserves the mythology, the language and the traditional history of ancient Japan. For further information, see Chamberlain’s introduction to his English translation of the *Kojiki* (1882: i-iv).

(1) Akkadian:	 		 	 
Transliteration:	DUMU LUGAL	<i>a-na</i>	É.GAL- <i>lim</i>	KUR- <i>ud</i>
Transcription:	<i>mār šarrim</i>	<i>ana</i>	<i>ekallim</i>	<i>ikšud</i>
Gloss:	son of king	to	palace	arrived
(2) Japanese:	王子が [§]	宮殿に	着いた。	
Transliteration:	Ō.JI- <i>ga</i>	KYŪ.DEN- <i>ni</i>	TYAKU- <i>i-ta</i>	
Transcription:	<i>ōji+ga</i>	<i>kyūden+ni</i>	<i>tsui+ta</i>	
Gloss:	prince+NOMINATIVE	palace+DIRECTIVE	arrive+PAST	

In example (1), as is customary in Assyriology, the logograms are transliterated according to their Sumerian values in non-italic uppercase letters, while phonograms are transliterated phonetically in italic lowercase. The Japanese text in (2) is deliberately transliterated in the same way, i.e. *kanji* according to their *on* values in non-italic upper case, and *kana* in italic lowercase, to make the similarity of the two systems clear. Punctuation marks are used in accordance with the Assyriological convention with a single exception: the plus sign (+) in transcriptions and glosses indicates a morpheme boundary.

Both texts contain logograms and syllabograms, and these two types of letters can be mixed within a single morpheme. In these examples, we can see that the logograms represent lexemes (e.g. “son,” “palace,” “arrive,” etc.), while phonograms spell out grammatical morphemes (e.g. the preposition *ana*, the Japanese postpositions *ga* and *ni*). Phonograms can also be used as phonetic complements to the verb both in Akkadian and Japanese. The phonetic complements *-ud* in (1) and *-i-ta* in (2) specify some grammatical categories of the verb such as tense-aspect. Moreover, the logograms are often both polysemic and polyphonic in both systems. KUR in (1) can also be read *mātu* “land” among others. The same applies to TYAKU (着) in (2), which can be read *ki(ru)* “to wear” as well as *tsu(ku)* “to arrive.”

There are several major differences between the two systems, nevertheless. First, Akkadian phonograms are generally polyphonic, while Japanese phonograms are not. Second, in the Japanese script, one can easily tell the difference between the logograms and the phonograms. Phonograms have a relatively simple and round shape, while logograms tend to be more complex and square shaped. Moreover, phonograms cannot

be used as logograms, and the use of logograms for phonograms is limited. In the Akkadian writing system, on the other hand, most characters can be used both as logograms and phonograms. Finally, some phonetic complements are obligatory in modern Japanese orthography, while they are optional in Akkadian. However, these particular traits of the Japanese writing system did not exist in its early stage, i.e. through the eighth century A.D., mainly because the exclusively phonographic *kana* was yet to be born at that time and *kanji* were employed not only as logograms but also as phonograms.² It follows that the similarity between the early Japanese and Akkadian systems proves to be even more striking.

Despite such remarkable similarity, no serious comparison between early Japanese and early Akkadian writing systems has ever been conducted. It is my assignment for this symposium to fill this gap.³

Before I get down to my mission, let me introduce some basic technical terms that I use in this paper. **Graph** (字節) is the basic tangible unit of writing, which is comparable to the “word” in morphology. A word can be divided into one or more morphemes, smallest units that have a meaning. A graph likewise consists of one or more **graphemes**, smallest units that have either a semantic and/or phonetic value. Morphemes are also abstract units in the sense that each of them is realized as one or more concrete allomorphs. The same can be said of graphemes. Graphemes are the smallest units; they are also abstract units, and each of them is realized as one or more concrete **allographs**.⁴ The field of studies that deals with tangible (allo)graphs has been called **graphetics** (cf. phonetics), while the field that studies the linguistic function of graphemes is often called **graphemics** (cf. phonemics). In some cases, a cluster of graphemes designates linguistic elements differing from the sum of the respective graphemes. For instance, English *sh* designates the phoneme /ʃ/ rather than /s/ followed by /h/. Non-reductive clusters like these are called “**relational units**” by Venetzky (1999:7).⁵

² *Kanji* used as phonograms are called *man'yogana*. *Kana* emerged out of *man'yogana* by simplifying their shapes and by eliminating polyphony and homophony.

³ To my regret, however, due to lack of time this paper remains yet another provisional comparison between the two.

⁴ In this sense, the term grapheme is ambiguous, just like the term morpheme. The ambiguity can be resolved, at least in the Japanese language, by calling the smallest units 字素 (building blocks of a graph), and the abstract units 文字素 (graphemes).

⁵ Venetzky (1999:7) defines a relational unit as a group of letters that “map directly into sounds.” The

Semiologically speaking, graphemes are linguistic signs whose *signifiant* is a distinctive graphic image. They can be classified roughly into two categories according to their *signifié*, **logograms** and **phonograms**. The *signifié* of the former is a “word,” which in turn has its own *signifiant* (its meaning) and *signifié* (its distinctive sound image). In other words, logograms are complex signs involving three elements: a distinctive graphic shape, its distinctive sound image, and its meaning. Phonograms can be divided into three subcategories according to the phonological types of their *signifié*, **syllabic** (e.g. Japanese *kana*), **segmental** (e.g. the Latin “alphabet”), and **consonantal** (e.g. the Phoenician “alphabet”). Some writing systems employ still another category of characters, which are called “determinatives” in the Assyriological as well as Egyptological traditions. The determinatives indicate the semantic class to which a given grapheme or a cluster of graphemes belong(s), but they themselves do not specify any phonetic form. The *yifú* (義符) radicals of Chinese characters play the same role within a single graph. Hence, I tentatively use the generalized term “semantic marker” to capture the functional correspondence between the Sumerian-Akkadian “determinatives” and the Chinese *yifú*. The typology of graphemes suggested above can be summarized as follows:

(3) Typology of graphemes according to their *signifié*

	+semantic	-semantic				
+phonetic	logogram	phonogram	<table border="1"> <tr><td>syllabic</td></tr> <tr><td>segmental</td></tr> <tr><td>consonantal</td></tr> </table>	syllabic	segmental	consonantal
syllabic						
segmental						
consonantal						
-phonetic	semantic marker	-				

There are two more terms that I need to elaborate on before I proceed. They are “*on*” and “*kun*.” As illustrated in (4) below, a Chinese character generally has two sets of readings in Japanese. The *on* reading is the Japanese pronunciation of the Chinese reading of the character, while *kun* reads the same character in Japanese translation. In the table (4) below, native speakers of Chinese would recognize the similarity between the *on* readings “moku” and “shin” and the Chinese pronunciation of the same letters,

diri-compounds (see Prof. Theodora Seal’s paper in this volume) are good examples of logographic relational units.

i.e. “mù” (木) and “shén” (神) respectively. Since both Chinese and Japanese pronunciations have changed in the past millennium, the original pronunciations were actually much closer. On the other hand, the phonetic value “ki” is totally unfamiliar to a Chinese, for it is a Japanese word meaning “tree.” *Kun* is the system of furnishing a Chinese character with a phonetic value which did not exist in Chinese, based on its semantic association with Japanese word(s). The same can be said of the cuneiform 𒄠. “Giš” was the original Sumerian reading, while the phonetic value *iš* is derived from the translation of *giš* into Akkadian (*išum* “tree, wood”). This is to say that distinction between *on* and *kun* is *not* specific to the Japanese writing system, and can be taken as a general graphemic concept. As I do not know of any general terminology to capture such distinction, I use the Japanese terms *on* and *kun* as general graphemic concepts in the rest of this paper.

(4) “*On*” and “*Kun*”

<i>On</i>	Graph	<i>Kun</i>	<i>On</i>	Graph	<i>Kun</i>
moku, boku (cf. Ch. mù)	木	<i>ki</i>	shin, jin (cf. Ch. shén)	神	<i>kami</i>
giš	𒄠	<i>iš</i>	dingir	𒄠	<i>il</i>

Incidentally, there is an interesting device called “*kunten*” in Japanese for transforming Chinese sentences into Japanese, which is succinctly illustrated in (5). The sentences are to be read vertically. The numbers on the left side of the “*Kunten Sentence*” 1, 2 and 3 (一, 二, 三) indicate the order according to which the characters should be read. The *kana* notations on the right side of the text *ni*, *koto*, *o* (ニ, コト, ヲ) are phonetic complements. *Kunten* rearranges the Chinese text according to the Japanese syntax and supplies the grammatical elements that are needed in order to translate the Chinese text into Japanese. The resulting text is a Japanese sentence with (excessively) many loan-words from Chinese.

(5) “*Kunten*” system:⁶

Original Sentence	Chinese Pronunciation	<i>Kunten</i> Sentence	Reading Order	Japanese Pronunciation
不	pun	不	困	kon
堪	k'an	堪	苦	ku (ni)
困	k'un	困	堪	tae
苦	k'u	苦	不	zunba
莫	mo	莫	以	motte
以	i	以	大	tai
為	wei	為	業	gyō (o)
大	ta	大	為	nasu (koto)
業	yeh	業	莫	nashi

Reading a Chinese text according to *kunten* is called “*kundoku*.” The practice of *kundoku* is often mentioned as an evidence of a writing system called “alloglottography.”⁷ It is known from historical sources, however, that in the 8th and 9th centuries the original Chinese sentences were first and foremost read aloud in Chinese (*ondoku*).⁸ This suggests that alloglottography was nonexistent in the 8th through 9th century Japan. *Kundoku* was developed in subsequent centuries as a very efficient technique for translating Chinese texts into Japanese rather than as a writing system.⁹

Early Japanese and Early Akkadian Writing Systems: Similarities and Differences in Setting

Early Japanese and early Akkadian writing systems are strikingly similar in some respects, but there are also differences between their settings. In this section, I outline both the similarities and differences.

⁶ This chart is taken from Lange 1973: 10-11. The original chart contained a typographical error, which has been corrected by the present writer. I have also added the numbers and phonetic complements to the “Reading Order.”

⁷ Alloglottography is “the practice of using one language in writing and another in reading, known from situations of restricted literacy” (Coulmas 1996:8). Coulmas (1996:9) refers to *kundoku kanbun* (Chinese texts read in the *kundoku* method) as an example of alloglottography.

⁸ In the educational law issued in 701 A.D. in Japan as a part of the *Taiho* Code (大宝律令), which was written in pure Chinese, there was an article as follows: 凡学生 先読経文 通熟 然後講義 “Generally the student should first read [aloud] the [Confucian] scriptures. After he becomes versed [in reading aloud], he should talk about the meaning” (my translation). According to Yuzawa (2002:60-61), to “read [aloud]” here meant reading aloud in the original language, i.e. Chinese. We even know from historical sources that the training in reading aloud was carried out by so-called “pronunciation scholars” (音博士). All the known “pronunciation scholars” in the eighth century were immigrants from China.

⁹ *Kundoku* gradually became popular during the 10th to 12th centuries A.D., after which it became the only way of “reading” Chinese texts (Yuzawa 2002:64).

Similarities: As we have seen above, they both used logograms also as syllabic phonograms. They both invented *kun* readings.¹⁰ They both employed phonetic complements. As a result, they both shifted from a monographic logography into a spelling-based polygraphic system.

Differences in Setting: First, they differ in linguistic typology. Akkadian is a fusional (inflected) language, while Japanese is an agglutinative one. Second, their sociolinguistic settings are different. Akkadians immigrated into Mesopotamia, and lived side by side with Sumerians for a long time. The early writers of Akkadian were most probably bilingual speakers of Akkadian and Sumerian, and the Akkadian language was influenced directly and intensively by Sumerian. On the other hand, the Japanese lived far across the sea from China. There was no massive immigration from Japan to China. The Chinese language and script were imported into Japan, and were learned as a foreign language and script. Quite a few Chinese people lived in Japan those days as teachers of the language and script (Yuzawa 2002:59), but their influence on the Japanese language remained indirect and limited. Third, partly due to the direct and intensive linguistic contact between Sumerian and Akkadian, Akkadian and Sumerian were more similar in terms of their syllable structure and morphosyntax than Japanese and Chinese are. Akkadian and Sumerian both allowed the syllables of the V, VC, CV and CVC types at least in writing, and had the same basic word order of the SOV type (S, O and V stand for Subject, Object and Verb respectively). Japanese allows no closed syllable except for those ending with /n/, while Chinese allows far more closed syllables. Moreover, Chinese is a SVO language with little morphological marking, and Japanese is a SOV language with extensive morphological marking.

A Contrastive Survey of "Kunogenesis"



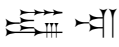
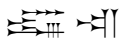

"Kunogenesis" is a neologism coined by myself. It means the emergence of *kun* values (Phase 1) and phonetization thereof (Phase 2). In Phase 1 of the Japanese writing system, semantic association played an essential role. It created new logograms by involving three elements: the graphic shape of a Chinese character, its meaning, and a sequence of one or more phonemes in Japanese which has the same meaning as the Chinese


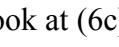
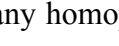
¹⁰ Akkadian *kun* readings are marked by the sign "(B)" in von Soden and Röellig (1991).

character. As this type of logographic-*kun* (with a rigid semantic link) was the original and authentic use of *kun*, it was called “*seikun*” (lit. genuine *kun*) in Japanese. In Phase 2, scribes disregarded the meaning of the Chinese character and using the rebus principle¹¹ applied the *kun* values to other homonyms and then even to any homophonous sequence of phonemes, thus achieving real phonetization of the logogram.¹² Japanese kunogenesis culminated in creation of new phonograms based on exiting logograms. Such extended use of *kun* was called “*kungana*” (phonetic *kun*) in Japanese.¹³ Let us call it phonographic-*kun*.

Kunogenesis is attested also in Mesopotamia as illustrated by the following examples:

(6) Kunogenesis in Mesopotamia (Ikeda 2004)

- | | | |
|----|---|---|
| a. |  | LUGAL /lugal/ “king” |
| b. |  | LUGAL /šarrum/ “king” (nominative), /šarrim/ “king” (genitive), /šarram/ “king” (accusative), /šarrū/ “kings” (nominative), /šarrī/ “kings” (genitive/accusative), etc. |
| c. |  | LUGAL-ri /šarrī/ “kings” (genitive/accusative) |
| d. |  | šār-ri /šarrī/ “kings” (genitive/accusative) |
| e. |  | a-bu-um-mi-šār /abum-išar / (personal name) |

Originally, the logogram  was read /lugal/ in Sumerian (6a). If a scribe read it in Akkadian, he would need to inflect the corresponding Akkadian word *šarrum* according to the context (6b). To aid in this, he might add a phonetic complement to (6b) as in (6c). If you look at (6c) open-mindedly, the sign would  seem like a phonogram designating the phonetic value /šar/ (6d). Such a realization makes it possible to apply the sign  to any homophonous sequence (6e). In all probability, this was how a new phonographic-*kun* value, which was nonexistent in Sumerian writing, emerged. This process

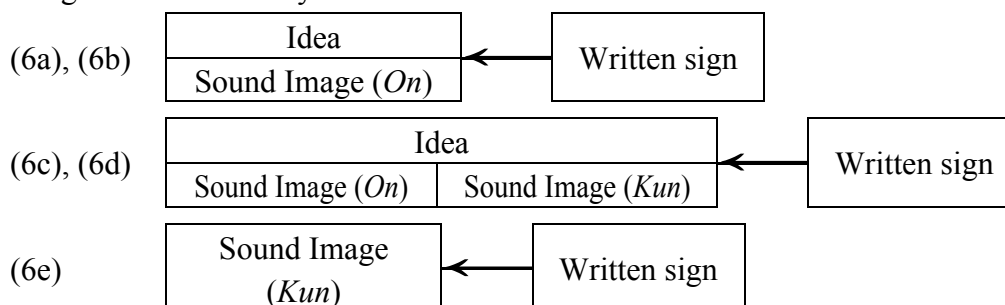
¹¹ Rebus is the principle of “representing a word by means of the logogram of another which is phonetically similar or homophonous, e.g. using the logogram “2” not only for the numeral “two” but also for the preposition “to” (Coulmas 1996: 434). Cf. 仮借.

¹² This situation is analogous to using the logogram “2” not only for the numeral “two” and the preposition “to,” but also for any syllable /tu/ in a text, e.g. ta2 “tattoo”, etc. This is exactly what happened in the early Japanese writing system, in which the numeral eight (八), for instance, was used for any syllable /ya/ (Japanese word for “eight”) in a text. The same process took place earlier with *on* values of Chinese characters, e.g. the numeral two (二) used for any syllable /ni/ (historically related to Chinese èr) in a text.

¹³ The same sort of extended use of *on* is called “*ongana*” (phonetic *on*). *Kana* (仮名) is the umbrella term for *ongana* and *kungana*.

can be summarized schematically as in (7).

(7) Kunogenesis: a summary¹⁴



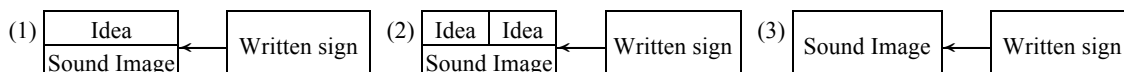
Theoretically speaking, kunogenesis can be either monographic (involving a single graph) or polygraphic (involving a relational unit consisting of multiple graphs). It can also be monosyllabic or polysyllabic.¹⁵ The four possible combinations of them are illustrated with hypothetical examples in (8):

(8) Types of kunogenesis:

- Monographic and monosyllabic (e.g. <2> for the syllable /tu/ as in “ta2”);
- Monographic and polysyllabic (e.g. <0> for the syllables /zero/ as in “0x”);
- Polygraphic and monosyllabic (e.g. <10> for the syllables /ten/ as in “10der”);
- Polygraphic and polysyllabic (e.g. <40> for the syllables /forti/ as in “40fy”).

The phonetic value of a logogram in general can be monosyllabic (e.g. CV) or polysyllabic (e.g. CVCV). Either the whole or a part of it may be taken as its *kun* value(s). I call the former case “total” *kun*, and the latter, “partial” *kun*. In the early Japanese kunogenesis, various combinations of the above-mentioned types of *kun* emerged.

¹⁴ Compare this with the rebus principle, which Coulmas (1996: 434) schematized as follows:



¹⁵ Partial *kun* (see below) can also be segmental, but segmental kunogenesis has been excluded from the discussion, because it is attested neither in early Japanese nor in early Akkadian. Two brief notes in this regard are due nonetheless. First, the West Semitic “alphabet” is a classic case of segmental kunogenesis, since it created new phonograms based on three elements: the graphic shape of some Egyptian hieroglyphs, their meaning, and a sequence of one or more of phonemes in West Semitic which had the same meaning as the Egyptian hieroglyphs. Second, the West Semitic “alphabet” relied on the acrophonic principle (see Coulmas 1996:1) in the course of phonetization in Phase 2. Whether or not this is true for segmental kunogenesis in general and whether or not acrophony can be regarded as a universal device for phonetization as Mr. Henry Zemel maintains (personal communication), are intriguing topics for further research.

(9) A classification of early Japanese *kungana*:¹⁶

A. Monosyllabic total *kun*

- a. Monographic: 宇多手 /u-ta-*te*/ “increasingly” (手 = /te/ “hand”)
- b. Polygraphic: 五十等見乃嶋 /*i-ra-go-no-SIMA*/ “the island of Irago” (五十 = /i/ “fifty”)

B. Monosyllabic partial *kun*

- a. Apheretic: 名積叙吾来煎 /*na-dumi-zo-AGA-KE-ru*/ “I came up struggling” (煎 = /iru/ “to roast”)
- b. Apocopic: 赤弥田寺 /*a-mi-da-DERA*/ “Amida-temple” (赤 = /aka/ “red”)
- c. Haplologic: 奈具佐米七国 /*na-gu-sa-me-na-kuni*/ “there is no comfort” (七 = /nana/ “seven”)

C. Virtually monosyllabic partial *kun*

- a. The first vowel of a graph simply repeats the last vowel of the preceding graph, and is virtually silent. E.g. 借五百磯所念 /*kari-(i)o-si OMOΦOYU*/ “I am reminded of the booth” (五百 = /io/ “five hundred”)
- b. The first syllable of a graph simply repeats the last syllable of the preceding graph, and is virtually silent. E.g. 神長柄 /*KAMU-naga-(ga)ra*/ “while he is a god” (柄 = /gara/ “pattern”)
- c. The first syllable of a graph simply repeats the syllable of the following graph, and is virtually silent. E.g. 赤加真 /*a(ka)-ka-ma*/ “(place name)” (赤 = /aka/ “red”)

D. Polysyllabic *kun*

- a. Monographic total *kun*: 朝庭 /*ASITA-niφa*/ “in the morning” (single graph for two syllables; 庭 = /niφa/ “garden”), 慍下 /*ikari-OROSI*/ “drop an anchor” (single graph for three syllables; 慍 = /ikari/ “anger”)
- b. Polygraphic total *kun*: 懸而小竹櫃 /*KAKE-te-sino-φitu*/ “I care and remember” (a relational unit of two graphs rendering two syllables; 小竹 = /sino/ “small bamboo”), 恋渡青頭鷄 /*KOΦI-WATARU-kamo*/ “I keep longing” (a relational unit of three graphs rendering two syllables; 青頭鷄 = /kamo/ “duck”)

¹⁶ All the examples have been taken from Okimori (2006:330-331) with my transliteration and translation. In the transliteration, *kungana* letters are printed in italic lower case, and *ongana* letters, in non-italic lower case. As for logograms, their *seikun* readings are printed in italic upper case. The sign φ stands for the unvoiced bilabial fricative, which shifted to [h] in later Japanese.

On the other hand, Old Akkadian *kun* values are very small in both number and variety in comparison to early Japanese kunogenesis. The following are all the examples of Old Akkadian *kun* values listed in von Soden and Röllig (1991),¹⁷ classified with the same headers as in (9):

(10) A classification of Old Akkadian *kun* values

A. Monosyllabic total *kun*

- a. Monographic: 𒀪 (Sum. KA) for *bùm* (cf. Akk. *pûm* “mouth”)

B. Monosyllabic partial *kun*

- b. Apocopic: 𒀬 (Sum. DINGIR “god”) for *il* (cf. Akk. *ilum* “god”),
 𒀭 (Sum. SIKIL “pure”) for *el* (cf. Akk. *ellum* “pure”),
 𒀮 (Sum. Á “arm”) for *id* (cf. Akk. *idum* “arm”),
 𒀯 (Sum. GIŠ “tree”) for *iš* (cf. Akk. *išum* “tree”),
 𒀪 (Sum. KA “mouth”) for *bu*₁₄ (cf. Akk. *pûm* “mouth”),
 𒀰 (Sum. KALAG “strong”) for *dan* (cf. Akk. *dannu* “strong”),
 𒀱 (Sum. MI “shade”) for *šil* (cf. Akk. *šillu* “shade”),
 𒀲 (Sum. LUGAL “king”) for *šàr* (cf. Akk. *šarru* “king”)

The difference in number and variety is probably due in part to the syllable structures of the languages involved. As I mentioned earlier, Akkadian and Sumerian had identical phonotactic constraints, at least in writing, so there was little need for subtle adaptation. On the other hand, Japanese had much stronger phonotactic constraints than Chinese. This must have been one of the strongest reasons why early Japanese scribes undertook such extensive experiments in how to write the Japanese language with Chinese characters.

Another factor was undoubtedly the strictness of the scribal tradition. *Kun* values are definitely an unconventional and for the Chinese and the Sumerians in a sense ridiculous way of reading the Chinese characters and the cuneiform signs. Under the strong influence of the original scribal tradition, it is very difficult to develop such unconventional values for the letters. As I wrote above, this applies to the sociolinguistic settings of the Akkadians, who immigrated to Mesopotamia, lived side by side with

¹⁷ We may add to this list values such as *pi*₄ (𒀪 = Sum. KA “mouth”; cf. Akk. *pûm* “mouth”; see Hilgert 2002: 113) and *tib* (𒀱 = Sum. DÙG “good”; cf. Akk. *ṭābum* “good”; see Hilgert 2002: 109).

Sumerians for a long time, and learned cuneiform under the direct and intensive influence of the Sumerian scribal tradition. On the other hand, the early Japanese were less confined by the overseas Chinese scribal tradition. This was likely another reason why Japanese went so wild and invented so many *kun* values with such variety.¹⁸

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¹⁸ They even allowed themselves to play with a sort of cryptic writing such as 二五 (lit. “two.five”) for the syllable /towo/ (lit. “ten”). The same principle yielded cryptic relational units for some *on* values, too. E.g. 二二 (lit. two.two) for the syllable /si/ (lit. “four”), 十六 (lit. “sixteen”) for the syllable /sisi/ (lit. “four four”), and 八十一 (lit. “eighty one”) for the syllable /kuku/ (lit. “nine nine”).

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