

Kana as a Mediator between Japanese and English

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Introduction

This article is addressed to native speakers of English who are interested in teaching English to Japanese learners of English. The knowledge of the learner's graphic and sound systems is helpful in many ways. As the proverb goes, "A little language goes a long way."

Often people refer to Japanese as a difficult language to learn. The reason for this conclusion is that Japanese has three kinds of writing systems—hiragana, katakana, and kanji. English, however, has only one simple alphabet with as few as 26 letters. This article argues that the small number of letters does not guarantee the ease of language learning, and that kana is efficient as a mediator between English and Japanese.

1. Three Kinds of Writing as Functional Efficiency

Katakana, hiragana and kanji have each their specific function in the Japanese language. Katakana is almost exclusively used for loan words or words borrowed from foreign languages. Foreigners' personal names, places abroad, devices, and inventions that are produced outside of Japan are all written in katakana. In short, almost everything recognized non-domestic shall be written in katakana. Domestically, however, for the convenience of foreign visitors who have no knowledge of written Japanese, all JR Japanese station names use Romanized Japanese.

Hiragana is basic to Japanese. Grammatical or function words come out with hiragana. On the other hand, kanji is mostly a pictorial used to represent conceptual words. Common nouns are mainly written in kanji. They can help grasp the meaning of words almost instantly, and are easily recognizable in the strings of hiragana. The kanji for "mountain" and "river" are written as 「山」 (pronounced as [yama]) and 「川」 (pronounced as [kawa]) respectively. From the point of reading comprehension, this is a great advantage, because one can quickly

grasp its meaning at first sight.

Katakana and hiragana are *phonetic*, with the exceptions of 「は」 and 「へ」. The 「は」 (usually pronounced as [ha]) can be pronounced as [wa]) and the 「へ」 (usually pronounced as [he]) can be pronounced as [e]). But even these are easily predictable. Namely, when 「は」 is used as subject marker, it is pronounced as [wa], and [ha] otherwise. And when 「へ」 is used to mean 'in the direction of,' it is pronounced as [e], and otherwise [he].

Since kana is phonetic, it is often used as a device to help the reader understand and read some difficult kanji. Japanese residents are often asked to add kana above their kanji's name. Thus, for reading Japanese, you do not need any phonetic transcriptions at all, since Japanese kana is already phonetic in nature.

The English writing is, however, half phonetic and half morphemic. By morphemic, I refer to some spelling, which has the function of relating meaning with pronunciation. For example, silent letters are sometimes included in some words. For example, you have a silent letter in words like *bomb*, *doubt*, etc. But it is pronounced in its adjective forms, like *bombastic*, *undoubtedly*, *doubtful*, etc. On the other hand, kana is strictly phonetic, and there is no mixing of different linguistic levels.

To cope with the irregularity of English spelling, the Japanese learners of English can use the International Phonetic Alphabet(IPA) as a mediator between spelling and sound. Shimaoka(2007) lists about 800 English loan words, and each of them is given three kinds of phonetic aids: katakana, which reflects the Japanese sound system, the Approximate Kana Transcription(AKT) and IPA+(i.e. the narrower IPA transcription system). The three kinds of transcription can work as a "bridge" between English and Japanese pronunciation. Learners may come to realize that once they read katakana, whose pronuncia-

tion is exactly the same as written hiragana, reading all present-day Japanese is possible. Here are a few examples:

	kana	AKT	IPA+
cake	ケーキ	ケイッ	k ^h eik
toilet	トイレット	トイ ^エ ^ス ラト	t ^h ɔ̃ il.ət
trick	トリック	チュイ ^エ ッ	trik

Below is the Japanese kana graphemes arranged in the traditional 50 Japanese sounds lists.

katakana:	ア	イ	ウ	エ	オ
hiragana:	あ	い	う	え	お
Romanized J:	a	i	u	e	o
katakana:	カ	キ	ク	ケ	コ
hiragana:	か	き	く	け	こ
Romanized J:	ka	ki	ku	ke	ko
katakana:	サ	シ	ス	セ	ソ
hiragana:	さ	し	す	せ	そ
Romanized J:	sa	shi	su	se	so
katakana:	タ	チ	ツ	テ	ト
hiragana:	た	ち	つ	て	と
Romanized J:	ta	chi	tsu	te	to
katakana:	ナ	ニ	ヌ	ネ	ノ
hiragana:	な	に	ぬ	ね	の
Romanized J:	na	ni	nu	ne	no
katakana:	ハ	ヒ	フ	ヘ	ホ
hiragana:	は	ひ	ふ	へ	ほ
Romanized J:	ha	hi	fu	he	ho
katakana:	マ	ミ	ム	メ	モ
hiragana:	ま	み	む	め	も
Romanized J:	ma	mi	mu	me	mo
katakana:	ヤ	イ	ユ	エ	ヨ
hiragana:	や	い	ゆ	え	よ
Romanized J:	ya	i	yu	e	yo
katakana:	ラ	リ	ル	レ	ロ
hiragana:	ら	り	る	れ	ろ

Romanized J: ra ri ru re ro

katakana: ワ イ ウ エ ヲ

hiragana: わ い う え を

Romanized J: wa i u e o

katakana: ン

hiragana: ん

Romanized J: -n

① J vowels

In Japanese, long vowels and short vowels are phonemically distinct, but there is no remarkable difference in quality between them.

② Voiced and voiceless consonants

The voiced consonants are mostly represented with two small dots placed at the upper right-hand corner of the main kana, while the voiceless counterparts are represented with a small circle at the same corner.

③ J consonant for E *she* vs. *sea*

There is no phonemic distinction between *she* and *sea* in Japanese. In the Kanto area, many Japanese cannot even clearly distinguish *he* and *she*. Thus it constitutes difficulty in learning English sound system on the part of those Japanese.

④ J *dzu* and *zu*

Though graphically distinguished, there is no clear difference between *dzu* and *zu*.

⑤ J *nyi* vs. E *ni*

Japanese tends to keep their front of the tongue in the higher position. Hence their *ni* sounds like *nyi*.

⑥ J $ウ^\circ$ and ヴ

Japanese $f[\Phi]$ is bilabial fricative, whereas English is labiodental fricative. Hence AKT requires a new kana like 「 $ウ^\circ$ 」.

⑦ J semi-vowels

No vowel follows *y* except *a*, *u* and *o*.

⑧ J *r* vs. E *l* and *r*

In Japanese there is no phonemic difference between *l*/*r* and *r*/*l*. It is produced by a single touch of the tongue tip post-alveolarly. The closest approximation to *l*/*r* and *r*/*l* is 「 $スル$ 」 (i.e. $n+r$) and 「 $ル$ 」 (i.e. $u+r$) respectively.

⑨ J lip-rounding in */w/*

There is no lip-rounding in Japanese except prior to */a/*. But the degree of lip-rounding is very slight. In case of *o*, which is used as the object marker in Japanese, it has lost its lip-rounding except in some local areas. However, to make the meaning

clearer, <ヲ> is used graphically in place of <オ>, while its Romanized Japanese letter is *wo*.

2. IPA is Misleading, and Kana Transcription is Unambiguous.

There are two kinds of different IPA transcription: the broad transcription and the narrow transcription. The broad transcription is currently most widely used for junior and senior high school textbooks and learning dictionaries. But it is oversimplified and has fewer symbols, which can lead to ambiguities. Although the difference between *seat* and *sit* is that of quality rather than quantity, the symbols used are [si:t] and [sit]. The Japanese learners of English tend to interpret that the difference between them is that of quantity, that is, the vowel in *seat* [i:] is longer than that in *sit*[i]. Since Japanese vowels are generally understood to be either long or short, another symbol to represent the vowel sound for *sit* as distinct from that for *seat* is desired.

Proceed English-Japanese Learning Dictionary initiated the use of /i/ for the vowel in *sit* in 1978 and now is ubiquitous. But what about its AKT's equivalent? The present author proposed the symbol of 「イ[±]」 to indicate the combination of /i/ and /e/, which is currently in favor.

What about the other vowels in AKT? Dividing speech sounds into vowels and consonants, we can reanalyze English vowels in the so-called 3 · 3 Square as seen below.

IPA+ Vowel Transcription			AKT Vowel Transcription		
i:		u:	イー		ウー
ɪ		ʊ	イ [±]		ウ [±]
eɪ	æ:	oʊ	エイ	ア [±] ~	オウ
e	æ	ʌ	エ	ア	ウア
		ɔ:			オー
æ	aɪ	ɑ:	エア	アイ	ア [±] ー

The above diagrams indicate the rough tongue position for the production of English and Japanese vowels.

3. The English Alphabet is Phonetically Confusing.

Here are typical example of spelling irregularities illustrated: with 12 variations of the phoneme /i:/: *machine, see, please, piece, receive, Pete, be, Aesop, amoeba, people, key, and quay*.

Below is another same spelling unit which can be pronounced in five different ways: <ough> is phonetically realized as fol-

lows: *through, although, rough, bough, and ought*. This kind of variation is found in pronouncing some kanji, but never in katakana or hiragana as referred to earlier. While English has a set of only 26 letters, the phonetic question remains to be answered:

First, concerning its arrangement, is there any logical reason for the alphabetical order as it currently exists? Every human language has vowels and consonants. In the English alphabet, five vowel letters *a, e, i, o, and u* appear almost randomly dispersed, and this makes it difficult for the English learner to conceptualize vowels as distinct from consonants.

Japanese has five vowels, and all are listed here, arranged in their logical order:

イ		ウ	イ	symbolizing	a high and front vowel
			ウ	symbolizing	a high and low vowel
エ		オ	エ	symbolizing	a mid and front vowel
			オ	symbolizing	a mid and back vowel
	ア		ア	symbolizing	a low and central vowel

The arrangement of English alphabet letters is not based on logical or linguistic reason, but rather on social and historical reasoning. Language communication requires clarity with distinctive features of each phoneme separating each other. I should say it has come down as the historical products inherited along from a remote past. Even if there is little logic in its current arrangement, we may say that each letter sound is pronounced rather contrastively to its neighbors before and after, leaving little room for perceptual errors. Here the Japanese syllabary has more or less constant contrastive arrangements: starting from *a, it goes along with k, s, t, n, h, m, y, r, and w in this order followed by each of the five vowels, and it closes with postvocalic n. They are all syllable-initial consonants, each followed by a, i, u, e, and o.*

Second, concerning its letter shapes, it is usually the case that obstruents(i.e. stops and fricatives) have a pair of voiced and voiceless consonants.

Here is their list:

stop consonants		fricative consonants		affricates	
[- voice][+ voice]	[- voice][+ voice]	[- voice][+ voice]	[- voice][+ voice]	[- voice][+ voice]	[- voice][+ voice]
p	b	f	v		
t	d	th	th		
k	g	s	s or z	ch	g(e)
		sh	su		

The English alphabetical letters seem to be phonetically unclear. That is, no crucial difference is indicated in any graphic form. For example, the shape of *p* and its voiced counterpart *b* have no graphic suggestion for voicing. Besides, the same form is used for voiced and its voiceless counterpart (See *th, s, sh*). To compare, kana is used to show a small circle for voiceless and double dots for voice. Below the same forms are used for its voiced and voiceless counterpart:

stop consonants		plosive consonants		affricates	
[−voice][+ voice]		[−voice][+ voice]		[−voice][+ voice]	
プ	ブ	ウ°	ヴ		
トウ	ドウ	ス	ズ		
ク	グ	ス	ズ	チュ	ヂュ

Kana is a combination of one consonant and one vowel. Some Japanese think that a closed syllable (i.e. a word ending with a consonant) cannot be transcribed with kana. In the author's view, the Japanese vowel *u* is so weak in its nature that its addition to the preceding consonant does not interfere, particularly after *s*. For example, when a Japanese says *sumo*, it sounds almost like English *small*. Thus, the letters in the list above are all examples of *C+u*.

ウ° and ヴ are equivalent to <f> and <v> respectively, and both are non-existent sounds in Japanese. The former letter was invented by the present author in 1999, and the latter by the famous statesman, Fukuzawa Yukichi during the Meiji Period. By the inclusion of these two labio-fricative consonants, ウ° and ヴ, the kana transcription system goes forward as a better means of transcribing English speech sounds.

The reason for using these two kanas 「トウ」 and 「ドウ」 for the coronals *t* and *d* is that without the small 「ウ」 addition, the *o* vowel does not weaken and the initial consonant does not come out clearly. The addition of 「ウ」 is simply to bring out coronals more conspicuously and reduce the effect of vocal features.

The difference between voiceless *th* and *s*, and voiced *th* and *z* are marked off by the degree of strength. If all other conditions are the same, these *th* sounds, are much weaker than *s* or *z*. When you place your tongue tip between your teeth, it automatically weakens the sound quality, as clearly observed. This weakened coronal fricatives can be clearly indicated by the smaller letters of *ス* and *ズ*, that is, *ス* and *ズ* respectively.

The addition of ム is an indicator of lip-rounding. But you

don't need to add ム as Japanese does not require lip-rounding except for the production of *w*.

Japanese does not have the phonemic distinction between *//* and */t/*. Japanese */t/* requires only one tapping of the tongue tip against the post-alveolar position on the upper roof inside the mouth. However, this tapping may be lost when preceded by Japanese */u/*, as seen in the example of *kurushii* (meaning painful) sometimes pronounced as *ku-shii*.

3. Japanese Counting is Regular.

Japanese names of numbers are regular, illustrated as follows. The Romanized letters for each pronunciation are given in parentheses. Also from the point of intelligibility, the English words with their closest pronunciation are given for reference.

1(ichi)	pronounced almost like each
2(ni)	pronounced almost like knee
3(san)	pronounced almost like sung
4(shi)	pronounced almost like she
5(go)	pronounced almost like go
6(roku)	pronounced almost like rock
7(shichi)	pronounced almost like she-each
8(hachi)	pronounced almost like hutch
9(kyu)	pronounced almost like cue
10(jyu)	pronounced almost like d'you
11(jyu-ichi)	pronounced almost like d'you each
12(jyu-ni)	pronounced almost like d'you knee
13(jyu-san)	pronounced almost like d'you sung
14(jyu-shi)	pronounced almost like d'you she
15(jyu-go)	pronounced almost like d'you go
.....	
20(ni-jyu)	pronounced like knee-d'you
30(san-jyu)	pronounced like sun-d'you
40(shi-jyu)	pronounced like she-d'you
50(go-jyu)	pronounced like go-d'you
60(roku-jyu)	pronounced like rock-d'you
70(shichi-jyu)	pronounced like she-each-d'you
80(hachi-jyu)	pronounced like hutch-d'you
90(kyu-jyu)	pronounced like cue-d'you
.....	
99(kyu-jyu-kyu)	pronounced like cue-d'you cue

100 is pronounced like *hyaku*, and 1000 as *sen*. Notice that the sound */e/* does not appear until the number one thousand. In

contrast to the regular counting system of Japanese, the English counting includes exceptions: instead of **ten-one*, English uses *eleven*, not phonetically related to its neighboring numbers. Similarly, instead of **ten-two*, English uses *twelve*, and for **ten-three* English uses *thirteen*. From 13 to 19, all use *teen*-endings, but *five* changes to *fif-* when followed by *teen*. From the numbers 20 to 90, some irregularities are included: *twenty* instead of **two-ten*, *thirty* instead of **three-ten*, *forty* instead of **four-ten*, *fifty* instead of **five-ten*. In general the Japanese counting system is comparatively very regular.

In multiplication, Japanese has the efficient calculating system. Since Japanese has case markers attached to their preceding nouns or pronouns, it can be used for multiplication.

2x2 equal 4 can be said with simple wording like

2 2(ni ni)	(n)ga	4(shi).
2 3(ni san)	ga	6(roku).
2 4(ni shi)	ga	8(hachi).
2 5(ni go)	∅	10(jyu).
2 6(ni roku)	∅	12(jyu-ni).
2 7(ni shichi)	∅	14(jyu-shi).
2 8(ni hachi)	∅	16(jyu-roku).
2 9(ni ku)	∅	18(jyu-hachi).
3 2(san ni)	ga	6(roku).

As is clear from above, the counting system is regular and simple. To add one more feature, if the total becomes two digits, the subject marker *ga* is deleted to facilitate in counting.

Conclusion

The article was written from two viewpoints: one is the native-English speaker who has no or little knowledge of Japanese. The other is the Japanese learners of English.

First, taking the issue that the Japanese language is complicated and hard to master, this paper states that the Japanese sound system as well as its kana writing system is phonetically and graphically simple and regular, having only five vowels, just as Panini's Sanscrit Grammar, Italian, modern Greek, and many others. In addition, Japanese requires very little muscular movement while speaking.

Second, this article suggests to the Japanese learners of English that since Japanese has kana, it could be effectively used prior to the mastery of IPA+, i.e. more detailed IPA.

It is hoped that many more people abroad will develop an interest in this far Eastern language, finding that it is so regular phonetically and graphemically it is among the easiest language to learn, whose typical example is the Japanese counting system.

AKT(Approximate Kana Transcription) and the IPA+(detailed IPA transcription) referred to here in this article seem to provide the meeting ground between East and West.

References

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