Report of Phonetic Kana Usage for Lingua Latina

Date: 2010-04-29

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Introduction

   As both Hiragana and Katakana are syllabic scripts, their characters are usually not suitable for representing the precise pronunciation of foreign words, particularly which have any consonant cluster or closed syllable. However in some special areas, there are extended kana characters to represent the pronunciation of such words more precisely. This report, as an example, picks up kana usage found in the formal hymnal used in the Roman Catholic Church.

Phonetic Kana Usage for Lingua Latina

   To represent Latin pronunciation precisely, some special kana characters are used in カトリック聖歌集 (The Catholic Hymn Book, formerly 公教聖歌集). The key features are as follows:

(1) Kana characters RA-RE-RI-RO-RU combined with the Handakuten diacritic are used to represent the sounds LA-LE-LI-LO-LU respectively:
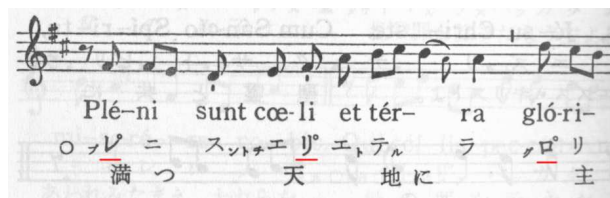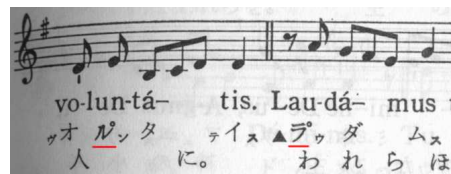

Figure 1. LE, LI, LO.

Figure 2. LU, LA.

(2) Smaller kana are used to represent the absence of a vowel, i.e., to indicate that only the consonant part of it should be pronounced. Some examples can be found in Figures 1 and 2. Note that as this feature is combinable with (1), Small RU with Handakuten ル゚ also exists for /l/:
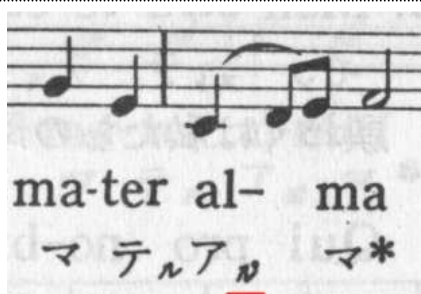

Figure 3. Small RU with Handakuten for /l/.

By these, a roundtrip like Latin → Kana → Latin can be done in most cases.
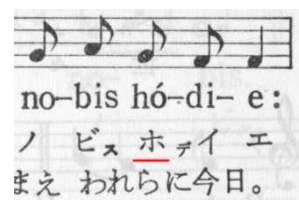
Unicode Representation

Kana of (1) are all already representable as sequences in Unicode, but some of (2) are not. The pronunciation system used in this book is based on that of typical Ecclesiastical Latin, i.e. what is called Italianate pronunciation; except that the letter "h" is pronounced:

Figure 4. チ [tʃi] for "ci".
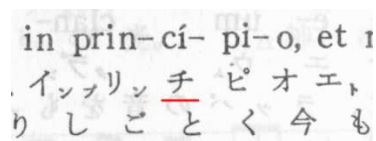
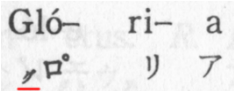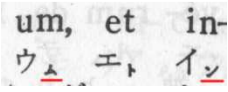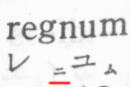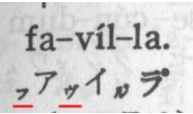**Italianate pronunciation can be seen in Figure 4, but "h" is pronounced as in Figure 5.**
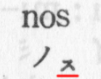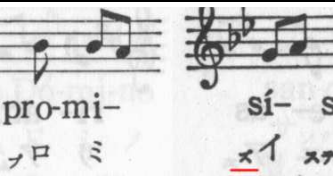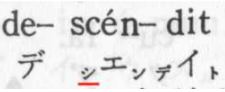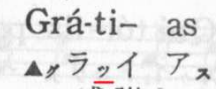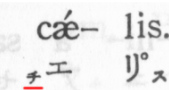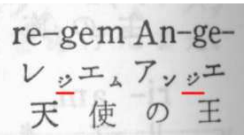
Figure 5. ホ [ho] for "ho".

Thus, the repertoire of small kana found in this book is as follows:

Table 1: Repertoire of Small Kana

Small Kana	Sound	Figure	Unicode Representation	Remark
プ	/p/		U+31F7, U+309A	
ブ	/b/		U+31F7, U+3099	
ト	/t/		U+31F3	Except before /i/.
ド	/d/		U+31F3, U+3099	Except before /i/.
テ	/t/		*N/A*	Only before /i/.
デ	/d/		*N/A*	Only before /i/.
ク	/k/		U+31F0	

Kana	Phoneme	Example	Unicode	Notes
グ	/g/	Gló- ri- a ／ グロ° リ ア	U+31F0, U+3099	
ム	/m/	um, et in- ／ ウ゚ エト イン	U+31FA	
ン	/n/		*N/A*	See below.
ニ	/ɲ/	regnum ／ レ ニユ゚	*N/A*	
ル゜	/l/	See Figure 3 (mater alma).	U+31FD, U+309A	
ル	/r/		U+31FD	
フ	/f/	fa-víl-la. ／ ラアッィル゚ラ	U+31F7	
ヴ	/v/		U+30A5, U+3099	
ス	/s/	nos ／ ノ ス	U+31F2	
ズ	/z/	pro-mi- sí- s ／ プロ ミ ズイ ステ	U+31F2, U+3099	
シ	/ʃ/	de- scén- dit ／ デ シエンテイト	U+31F1	
ツ	/ts/	Grá-ti- as ／ ▲グラッイ アス	U+30C3	
ヅ？	/dz/	*N/A*	U+30C3, U+3099	Theoretically, there should be for 'z', but no actual example found.
チ	/tʃ/	cǽ- lis. ／ チエ リ゜ス	*N/A*	
ジ	/dʒ/	re-gem An-ge- ／ レ ジエ アンジエ ／ 天 使 の 王	U+31F1, U+3099	Not sure why voiced Small SHI, instead of voiced Small CHI that seems more appropriate. However due to lack of /ʒ/ in Ecclesiastical Latin, no confusion happens.

Although it may seem that no small version of ン KATAKANA LETTER N is required because no vowel exists in the sound KATAKANA LETTER N represents originally, in fact it seems that "smallness" in this convention also means that "the sound represented by this kana contains no syllable nucleus." Since

KATAKANA LETTER N represents a *syllabic* nasal consonant, the small version of it would be needed separately for the syllable coda /n/ (or /ŋ/ before /k/, /g/).

A similar feature can be found in semivowels or diphthongs. A semivowel or the subordinate component of a diphthong is also described as a small kana:
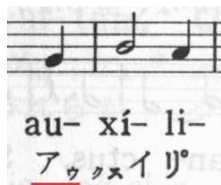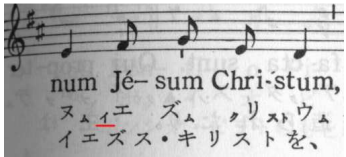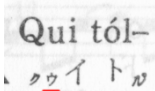

Figure. 6: ア [a] in normal size and ゥ [u] in small size for diphthong AU.

Table 2: Continue of Table 1

Small Kana	Sound	Figure	Unicode Representation	Remark
ィ	/j/		U+30A3	Usually as part of sequence ィエ for /je/.
ゥ	/w/		U+30A5	Usually in sequence クゥ for /kw/ or in diphthong.

In other words, only one kana is described in normal size for each syllable.

Conclusion

Through this report, in the short term, I would like to suggest that the annotation for the Katakana Phonetic Extensions block (31F0..31FF) be modified. As presented above, those small kana are not only for the Ainu language. And in the long term, I would like this report to be used as a reference (by myself or someone else) for encoding missing small kana characters in Unicode. Since the phonetic small katakana characters for the Ainu language are already encoded in Unicode, it seems to me that ones for the Latin language are also eligible to be in Unicode.

Bibliography

聖歌集改訂委員会(1966)『カトリック聖歌集』光明社