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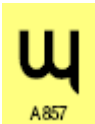

ISO/IEC JTC1/SC2/WG2 N2972

Title	Glyph Forms for PHAGS-PA LETTER YA and PHAGS-PA LETTER ALTERNATE YA
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1. Background

This document discusses the appropriate glyph forms for the characters PHAGS-PA LETTER YA [A857] and PHAGS-PA LETTER ALTERNATE YA [A86D] which are included in the FPDAM for ISO/IEC 10646:2003/Amd.2:2005 (see N2936).

In N2936 these two characters are represented using the following glyphs:

A857		PHAGS-PA LETTER YA
A86D		PHAGS-PA LETTER ALTERNATE YA

As there are two characters for the letter YA, the appearance of the representative glyphs for these characters in the code charts is not simply a cosmetic issue. It is essential that each of these two letters is assigned the most appropriate representative glyph in order to ensure that users can clearly identify which character to use to represent Phags-pa letter YA in any given context.

Based on an analysis of the glyph forms for Phags-pa letter YA occurring in a wide range of Mongolian and Chinese Phags-pa texts from the 13th and 14th centuries, this document concludes that the glyphs for A857 and A86D in the code charts for the FPDAM are not the most appropriate representations of their respective characters, and that there is real potential for confusion as to which character should be used to represent the letter YA in different contexts, especially when transcribing the Phags-pa entries of the Chinese rhyming dictionary Menggu Ziyun, which uses two forms of the letter YA. The problem is exacerbated by the fact that the character name for A86D does not provide any clues as to which of the two forms of the letter YA occurring in Menggu Ziyun it refers to.

2. PHAGS-PA LETTER YA

The normal form of the Phags-pa letter YA used for writing Mongolian, Chinese, Sanskrit and other languages has a rounded bowl on the left and a diagonal stroke leading to the vertical stem on the right, as can be seen from the numerous examples of this letter taken from a wide range of monumental inscriptions, printed books and manuscripts given in Tables 1, 2 and 3 below. This is also the form of the letter YA given in most works of modern scholarship, such as those by professors Poppe and Junast.

However the glyph form for PHAGS-PA LETTER YA [A857] given in N2936 has two rounded bowls. Although forms of the letter YA with two rounded bowls do occur (see examples 1-8, 3-15 and 3-18), they are uncommon and can be considered anomalous (in particular it should be noted that the texts from which examples 3-15 and 3-18 are taken are both later copies of the original text, in which many textual corruptions have been introduced).

Indeed, as the left-hand bowl of the letter YA may sometimes be more square-shaped than round-shaped (e.g. examples 1-6, 1-7, 3-7 and 3-8), the representative glyph for PHAGS-PA LETTER ALTERNATE YA [A86D] is actually more representative of the shape of the ordinary letter YA than is the representative glyph for PHAGS-PA LETTER YA [A857], which could easily give rise to uncertainty amongst users as to which of A857 or A86D should be used to represent the letter YA in normal circumstances, especially given the ambiguity of the character name for A86D.

Table 1: Mongolian Phags-pa Examples







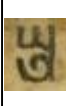

No.	Glyph	Reading	Source
1-1		YA	Edict dated 1276
1-2		YA	Edict dated 1314
1-3		QAYI	Edict dated 1314
1-4		YIN	Juyong Guan Inscription (1345)
1-5		YI	Juyong Guan Inscription (1345)
1-6		QAYI	Juyong Guan Inscription (1345)
1-7		YU	Printed edition of the Mongolian translation of the Subhāṣitaratnanidhi ("Sakya Pandita's Treasury of Good Advice")
1-8		YI	Manuscript edict dated 1328(?)

Table 2 : Sanskrit Phags-pa Examples









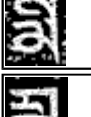











No.	Glyph	Reading	Source
2-1		YA	Juyong Guan Inscription (1345)
2-2		YUR	Juyong Guan Inscription (1345)

Table 3 : Chinese Phags-pa Examples

No.	Glyph	Reading	Source
3-1		YI 一	Edict dated 1307
3-2		YI 以	Edict dated 1307
3-3		TAY 大	Edict dated 1307
3-4		YEEUNG 用	Edict dated 1331
3-5		YAN 顏	Edict dated 1334
3-6		YA 亞	Edict dated 1316
3-7		YIM 淫	Edict dated 1331
3-8		DZAY 載	Edict dated 1331
3-9		TAY 大	Edict dated 1298
3-10		DHIY 德	Edict dated 1298
3-11		YEEU 與	Edict dated 1298
3-12		YANG 楊?	Christian tombstone dated 1314
3-13		YA 耶	"Shushi Huiyao" (1376)

3-14		BAY 百	"Baijiaxing Mengguwen" (1340 ed.)
3-15		YANG 楊	"Baijiaxing Mengguwen" (1340 ed.)
3-16		YANG 羊	"Baijiaxing Mengguwen" (1340 ed.)
3-17		YI 伊	"Baijiaxing Mengguwen" (1340 ed.)
3-18		YAY 娃	"Menggu Ziyun" (note that only the final positional form of the letter YA has two rounded bowls)

3. PHAGS-PA LETTER ALTERNATE YA

Although the Phags-pa script was designed for use in writing Mongolian, Chinese and other languages spoken within the Mongolian empire, and has a core set of forty-one letters that are normally sufficient for writing both Mongolian and Chinese, the early 14th century Chinese rhyming dictionary *Menggu Ziyun* 蒙古字韻 represents some historical phonetic differences by means of variant forms of the letters SHA, HA, YA and FA. These variant letters are to be encoded at A86D..A870.

Due to the fact that *Menggu Ziyun* only exists in a single 18th-century manuscript copy of the original 14th-century printed work (and this is probably a copy several times removed from its original source), there is a high level of textual corruption, with the result that the distinction between the two forms of the letter YA has become obscured in many cases, and exactly what the correct glyph form for each of the two variants of the letter YA should be is not easy to ascertain from the extant manuscript. What is clear, however, is that two forms of the Phags-pa letter YA are distinguished contextually:

- Context A : Phags-pa letter YA that represents contemporary [j] that derives from an earlier null initial (the 影 "ying" initial in traditional Chinese phonology)
- Context B : Phags-pa letter YA that represents contemporary [j] that derives from an earlier [j] or [ŋ] initial (the 喻 "yu" initial in traditional Chinese phonology)

In N2936 the glyph for PHAGS-PA LETTER ALTERNATE YA [A86D] has a square bowl on the left and a diagonal stroke leading to the vertical stem on the right:

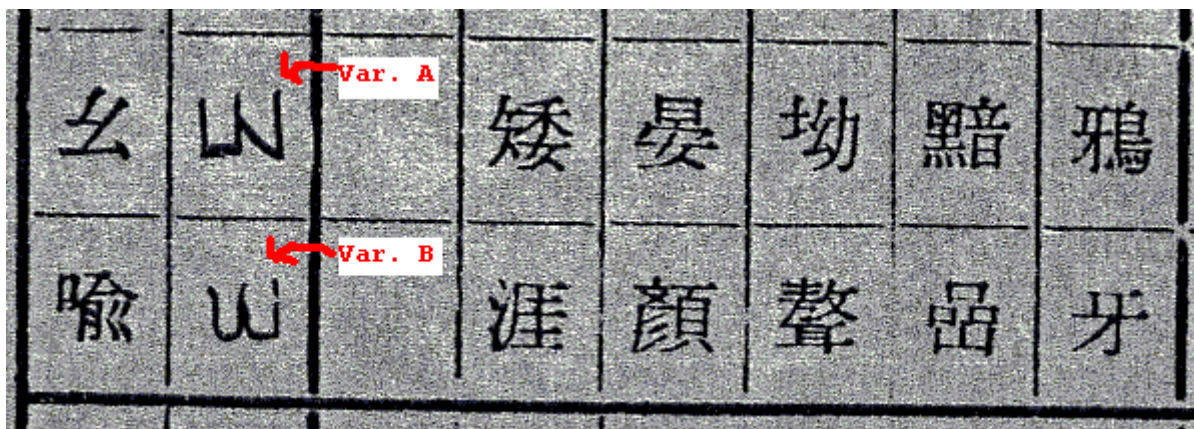


This glyph appears to be based upon the glyph for the Context A form of Phags-pa letter YA given in the table of Phags-pa letters in the modern edition of *Menggu Ziyun* edited by professors Junast and Yang Naisi:

编号	蒙古字韵 字母正体	汉字注音	拉丁转写
31	Variant A W	影(么)	j
32	W	喻(鱼)	,
33	Variant B W	喻	j

Junast 照那斯图 and Yang Naisi 杨耐思, Menggu Ziyun Jiaoben 蒙古字韵校本 (Beijing : Minzu Chubanshe, 1987) p.8.

This in turn reflects the glyph for the Context A form of Phags-pa letter YA given in the earlier study of the phonetics of Menggu Ziyun by Tsai-fa Cheng:



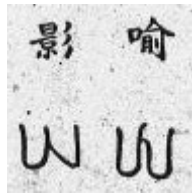
Tsai-fa Cheng 鄭再發, Meng-ku-tzū-yün and Some Other Rime Books Connected with hPhags-pa Script (Taipei : Guoli Taiwan Daxue, 1965).

In both these works of modern scholarship the Context A form of the letter YA is given a glyph shape with an unusual square bowl, corresponding to the glyph form for A86D in N2936. However, whereas the glyph for the Context B form of the letter YA in Junast & Yang's work is identical to the standard form of the letter YA, the glyph for the Context B form of the letter YA in Tsai-fa Cheng's work has two rounded bowls, with the left-hand bowl slightly trumpeted at the top. This matches the glyph form for the alternate form of the letter YA originally proposed in N2622 for encoding as a standardized variant (see N2622 page 27), and subsequently accepted for encoding by WG2 with no comments other than it should be encoded as a distinct character rather than as a standardized variant.

In N2622 it is explicitly stated that in Menggu Ziyun the normal form of the letter YA is used to represent Chinese characters with an historic null initial (i.e. Context A), whereas the alternate form of the letter YA is used to represent Chinese characters with an historic [j] initial (i.e. Context B). This assignment was accepted by WG2 experts without comment, but now the glyph form for the alternate letter YA has been changed so that it matches the glyph used by Junast & Yang to represent the letter YA with an historic null initial (i.e. Context A). Thus, the context to which the use of PHAGS-PA LETTER ALTERNATE YA [A86D] applies has been reversed by this subtle change in glyph shape. I strongly believe that this change in glyph shape is a mistake, and that the representative glyph for PHAGS-PA LETTER ALTERNATE YA [A86D] should correspond to the glyph for the alternate form of the letter YA originally accepted by WG2 for encoding as a standardized variant.

Although in Tsai-fa Cheng's study both forms of the letter YA are abnormal (Context A with a square bowl, Context B with two rounded bowls), in the edition of Menggu Ziyun by Junast & Yang it appears as if Context A uses an alternate form of the letter YA and Context B uses the normal form of the letter YA. However, examination of the actual manuscript text of Menggu Ziyun shows that the representative glyphs chosen for the two forms of the letter YA in the edition of Junast & Yang are wrong, and furthermore it is Context A that uses the standard letter YA and Context B that uses an alternate letter YA, as originally suggested in N2622.

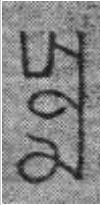

For example, in the table of thirty-nine Phags-pa consonantal letters at the head of Menggu Ziyun the two forms of the letter YA representing the two different historical initials are shown very clearly in contrast with each other:



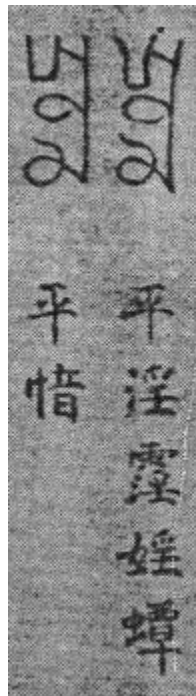
The Context A form of the letter YA (on the left) does not have a square bowl as shown by Cheng and Junast & Yang, but is actually a perfectly normal letter YA (cf. examples in Tables 1-3 above). On the other hand, the Context B form of the letter YA (on the right), which Junast & Yang show as having the normal letter YA shape, is in fact quite unusual, with two rounded bowls, and slight trumpetting of the left-hand bowl.

An inspection of all occurrences of the letter YA in Menggu Ziyun shows that although forms of the letter YA with a square bowl do occur (see Table 4 below), these are not restricted to letter YA representing Chinese characters with an historic null initial (i.e. Context A), but in fact also occur as much for those instances of letter YA that represent Chinese characters with an historic [j] or [ŋ] initial (i.e. Context B). Moreover, for both contexts a rounded bowl is more common than a square bowl (see Example 3-18 in Table 3 above, where for Context A the initial letter YA of the syllable YAY has a rounded bowl). In short, the squareness or roundness of the bowl of the letter YA does not seem to be a deliberate distinguishing feature, but is probably an accidental artifact of textual copying.

Table 4 : Examples of Phags-pa Letter YA with Square Bowls

Context	Context A	Context B
Glyph		
Syllable	YIM	YEEUN
Equivalent Chinese Character	愔	勻
Historic Pronunciation	*iěm	*jǐuěm

However, there is one significant glyph feature that does differentiate the two contexts of the letter YA in many cases: whilst the form of the letter YA used in Context A is always very similar to the standard form of the letter YA (mostly with a round bowl but sometimes with a square bowl), in over half of the instances of letter YA used in Context B the top of the bowl of the letter trumpets outwards to a greater or lesser degree. This distinctive trumpeting effect can be clearly seen in the example below, where the syllable YIM on the left represents Chinese 愔 *iěm (i.e. Context A), and the syllable YIM on the right represents Chinese 淫 *jǐěm (i.e. Context B).



In fact, Junast & Yang seem to have recognised that the trumpeted form of the letter YA is typical of the Context B forms of the letter, as when they reconstruct the syllable YE representing Chinese 邪 *jǐa (i.e. Context B) that is missing in the extant manuscript they use a trumpeted form of the letter YA:



Junast and Yang Naisi, Menggu Ziyun Jiaoben (Beijing : Minzu Chubanshe, 1987) p.141.

Likewise, when they reconstruct the Phags-pa equivalent of the Chinese text 迴避字樣, they use the trumpeted form of the letter YA for the Context B syllable YANG 樣 *jǎŋ:







Junast and Yang Naisi, Menggu Ziyun Jiaoben (Beijing : Minzu Chubanshe, 1987) p.145.

In conclusion, in Menggu Ziyun the Context A form of the letter YA is not distinguished by a square bowl but is mostly written using the normal form of the letter YA (i.e. should be represented using A857), and the Context B form of the letter YA is mostly written using a variant form of the letter YA with a trumpeted bowl (i.e. should be represented using A86D). Because the representative glyph for A86D in N2936 does not reflect this distinction, and because the character name for A86D does not indicate which phonetic context it should be used in (in contrast to A86E..A870 for which the character names indicate their phonetic context), users may be confused as to which of A857 or A86D should be used to represent the letter YA in the two phonetic contexts of Menggu Ziyun, and consequently different users may represent the same Phags-pa entries in Menggu Ziyun using different characters, which would be extremely undesirable.

4. Recommendation

Based on the above analysis of the glyph forms of Phags-pa letter YA, I recommend that the glyphs used to represent A857 and A86D are modified as shown below:

Table 5 : Recommended Glyphs for A857 and A86D

Code Point	Character Name	Current Glyph	Proposed Glyph
A857	PHAGS-PA LETTER YA	 A857	 A857
A86D	PHAGS-PA LETTER ALTERNATE YA	 A86D	 A86D

To further reduce confusion, it may also be desirable to give A86D a less neutral character name that indicates its phonetic context in the same way that the names for A86E..A870 do, for example "PHAGS-PA LETTER PALATAL YA" (indicating that it represents an historic [j] or [ɲ] initial rather than a null initial).
