Comments on Sharada jihvamuliya/upadhmaniya characters

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2010-Aug-21

In L2/09-074 (N3595) Anshuman Pandey has excellently represented the Sharada script with attestation samples in plenty. As a Sanskrit scholar, I welcome this proposal to encode this script which is very important for Sanskrit studies related to the Kashmir region.

I however find that there might be a few small technical faults in the handling of the jihvamuliya and upadhmaniya in this proposal. In this document I discuss those issues.

No virama should be used with jihvamuliya/upadhmaniya

Pandey demonstrates in p 24 of his proposal that in Sharada the signs for the jihvamuliya and upadhmaniya are written stacked on top of the following consonant. This is instead of their being on the baseline before the following consonant in other Indic scripts. This is indeed quite unique to the script, and all well and good.

Pandey however recommends (on the same page) that the codepoint sequences:

JIHVAMULIYA + VIRAMA + <FOLLOWING CONSONANT>

UPADHMANIYA + VIRAMA + <FOLLOWING CONSONANT>

be used for representing these written forms. However, this does not seem to be appropriate or in line with the pan-Indic model. The signs for jihvamuliya and upadhmaniya are always used to represent the pure (i.e. vowelless) sounds (the velar and bilabial voiceless fricatives) by themselves *without* the help of a virama. This is seen in the Kannada signs for the two sounds existing in the Kannada block as also for the generic "Vedic" characters recently proposed by Dr Anderson (and myself) in L2/10-257.

Therefore the proper sequences would be merely:

JIHVAMULIYA + <FOLLOWING CONSONANT>

UPADHMANIYA + <FOLLOWING CONSONANT>

and therefore the question of these two (the signs for jihvamuliya/upadhmaniya) being "written as a bare character with explicit virama" should never arise.

Further, only if no virama is required would it be elementary to transliterate Sanskrit documents with these two characters from other scripts to Sharada and vice versa.

A careful look at the GC is needed

Next, I note that on p 29 of his proposal, Pandey has specific GC=Lo for these two characters. While this is quite in line with the same for the Kannada and the newly proposed "Vedic" characters, I feel one should examine the case for Sharada with some more attention.

Effectively, in Sharada the written signs of the jihvamuliya and upadhmaniya are placed as combining marks, but on the *following* consonant. By normal Unicode standards, a combining mark is always applied to the *preceding* consonant. Even given that Pandey has marked the characters to be displayed in the chart with a dotted square indicating "special rendering required", it would go against the principle of Unicode to encode these as combining marks to be rendered in combination with the *following* character.

Therefore, while these two signs are practically always combining marks, I feel Pandey is right in asking, in line with the other jihvamuliya/upadhmaniya characters in Unicode, for these to take GC=Lo. The combination of these characters with the following consonant is then to be handled by a ligature mechanism at the rendering/font level.

Pandey should however clarify, with the help of appropriate samples, whether any vowel signs to be placed *above* the base consonant should in these cases of ligatures with jihvamuliya/upadhmaniya be placed above the entire ligature or above the base consonant alone. For example, how would xki, xkii, xke, xkai, xko or xkau be written in Sharada (where "x" represents a jihvamuliya)? Similarly for ɸpi etc where "ɸ" is an upadhmaniya?

Summary

Therefore, while I have no objection to the encoding of the characters or to their properties as given in the Sharada proposal, I caution that:

1. in evolving the Unicode model of representing Sanskrit by Sharada, no virama should be used with the jihvamuliya and upadhmaniya,

2. it should be clarified that the jihvamuliya and upadhmaniya signs in Sharada are always presented in combination with the following consonant by a ligature mechanism at the rendering/font level, and,

3. it should be clarified whether any vowel signs written (or having a portion that is written) above their base should be placed above the entire combination of jihvamuliya/upadhmaniya + consonant or above the consonant alone.

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