L2/15-085

Representing the fractions 1/4 and 1/20 in Grantha text

Shriramana Sharma, jamadagni-at-gmail-dot-com, India

2015-Feb-19

As I have demonstrated in my original Grantha proposal L2/09-372 and recent follow-up document L2/14-218 (which was accepted at the 2014 Nov UTC meeting), the numerals are all unified between Tamil and Grantha. This includes the fractions as well and in both the above documents I have provided attestation for the digits, numbers and major fractions (¼, ½ and ¾) used in Grantha text identically to Tamil.

So far I have not come across any attestations for the minor fractions (i.e. below ¼) used in Grantha. However, based on my experience, I would think it highly unlikely that Grantha would have any minor fractions shaped consistently differently from Tamil. The only reason for the Tamil region to have evolved two different scripts i.e. Tamil and Grantha is to denote two languages which are phonemically significantly different. Obviously, this does not apply to the numerals and this is why they do not differ between the two scripts which were used in the same geographical region. (Note that even the Kannada and Telugu numerals are almost identical even within a *larger* region. As such one does not expect different sets of numerals to evolve in the *same* region.)

The question raised in the present document is regarding one major fraction $^1/_4$ and one minor fraction $^1/_{20}$. These are glyphically identical to the Tamil letters VA வ (0BAA) and PA ப (0BB5). In my original proposal L2/12-231 I had proposed to encode these separately since they would have different GC and numeric properties, but the 2013 Feb UTC meeting recommended to unify them (and similar ones) with the existing Tamil characters. This was reflected in my revised proposal L2/13-047 N4430.

As a result currently it is recommended to use the Tamil characters 0BB5 and 0BAA for the fractions $^1/_4$ and $^1/_{20}$ respectively. Now obviously, this holds when these fractions are to be represented in *Tamil* text, but what of *Grantha* text?

It may be suggested that the corresponding Grantha characters should be used. For $^1/_4$ வ, this may not be a problem since Grantha VA 𑌵 (11335) is still glyphically the same. However for $^1/_{20}$ ப, we cannot use Grantha PA 𑌪 (1132A) since it is glyphically different.

Since all the rest of the numerals are unified between Grantha and Tamil, it would be appropriate to do the same for $^1/_4$ வ and $^1/_{20}$ ப as well and to use 0BB5 and 0BAA even amidst Grantha text to maintain a consistent textual representation. On the other hand, we should also consider that Grantha input methods will not produce 0BB5 for வ and the need to switch input methods may create inconsistent input text.

This should be resolved and documented both in the standard and ScriptExtensions.

-o-