

# PROPOSAL FOR ASSIGNING A DISTINCT CODE POINT TO BANGLA YAPHALAA

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Date: August 6, 2004.

## 1 Introduction

In TUS 4.0 the Bangla YA-phalaa is assumed to be an allograph or display variant of the abstract character YA, and accordingly both are assigned to the same code point U+09AF. The purpose of this brief note is to argue that Ya-phalaa is an independent grapheme in Bangla and needs to be encoded as such with a code point distinct from that assigned to YA. The advantages accruing from adopting such a measure are discussed and highlighted.

## 2 Justification

Although Bangla YA and YA-phalaa are both diachronically related to the Brahmi YA, in the course of development of Bangla orthography the two graphs shifted so far apart that there seems to be no reason whatsoever to consider them to be allographs of the same grapheme or display variants of the same abstract character. Such graphemic splits are common phenomena in the history of scripts. The distinction between Bangla YA and YYA also emerged in the same way. The following arguments conclusively demonstrate the independent status of YA-phalaa as a distinct grapheme in the Bangla script:

### 2.1 Contrastive Distribution

YA and YA-phalaa are in contrastive distribution. Both may occur in the same environment and the occurrence of the one or the other cannot be predicted on the basis of the context of occurrence:

- |    |      |                      |
|----|------|----------------------|
| i  | অ্যা | AA+YA-phalaa+AA-kaar |
| ii | অযা  | AA+YA+AA-kaar        |

Evidently both YA and YA-phalaa can occur between an A and an AA-kaar ruling out the possibility of context-based predictability of occurrence.

The same conclusion may be reached following a completely different line of argumentation:

- A (i) and (ii) must have distinct encoded forms since they have distinct rendered shapes.
- B (i) and (ii) are identical except for the occurrence of YA in one of them in a position that is occupied by Ya-phalaa in the other.

- C From A and B it follows that YA and YA-phalaa must have distinct encodings.
- D But, if YA and YA-phalaa have distinct encodings then they cannot be display variants of the same abstract character.

## 2.2 Non-overlapping Denotation

The character YA always represents the phoneme /j/ as in (ii) above, and the character YA-phalaa never does so. The latter either represents a front mid-vowel, as in (i) and (iii) or gemination of the preceding consonant, as in (iv):

- iii ব্যক্তি /bekti/ “person”
- iv সত্য /ʃotto/ “truth”

YA and YA-phalaa share no common denotation. At all levels of linguistic structure distributional variants of any basic element must share a common denotational core. Allomorphs of the same morpheme must have identical meaning or function, allophones of the same phoneme must share a common set of distinctive feature, etc. The fact that YA and YA-phalaa have no denotational overlap clearly indicates that they cannot be allographs of the same grapheme or display variants of the same abstract character.

## 3 Advantages of Encoding YA-phalaa as a Distinct Character

The following advantages accrue from encoding Ya-phalaa as a distinct abstract character:

- অ্য and ঞ্য can be encoded as <A/E U+xxxx> without inserting a VIRAMA after the vowel
- ঞ্য can be encoded as <RA U+xxxx> and ঞ as <RA VIRAMA YA> resolving the ambiguity of <RA VIRAMA YA> under the current specifications.

It is important to realize that these are major advantages that accrue from adopting a proposal that does not specifically target them but is independently motivated on theoretical grounds.

## 5 Disadvantages

Since how YA-phalaa should be encoded in the various environments in which it occurs, e.g. after vowels, after RA etc., it still being actively debated, it is unlikely that the proposed change will break any existing implementation or create problems with backwards compatibility. After carefully considering all aspects of the issue and consulting experts in the area, the Government of India has also arrived at the conclusion that it is necessary to assign a distinct code point to YA-phalaa. The changes in the Bangla code chart endorsed by them can be found in the following document: [http://tdil.mit.gov.in/prop\\_uni/new\\_bengali.pdf](http://tdil.mit.gov.in/prop_uni/new_bengali.pdf). The only disadvantage of adopting the present proposal would perhaps be the cost of adding a new character, but it is decisively outweighed by the advantages.