



Proposal to encode additional head marks for Zanabazar Square

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




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1 Introduction

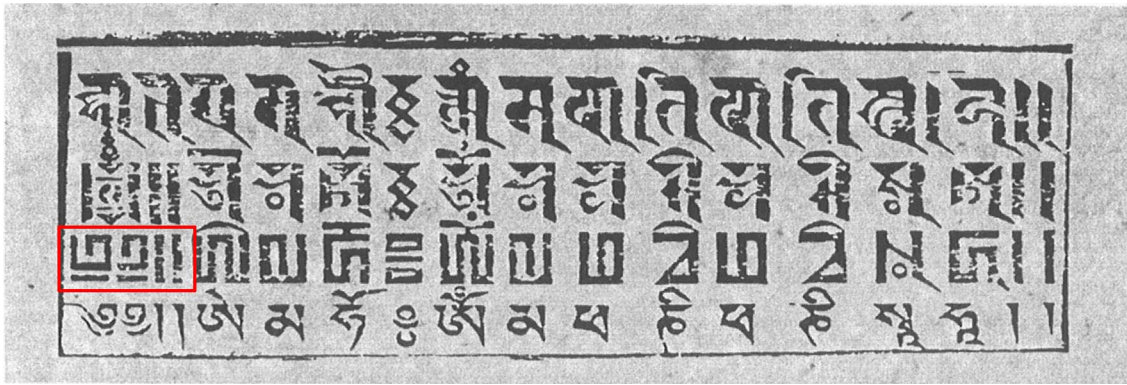
This is a proposal to encode the following two characters in the Zanabazar Square block, which was approved for inclusion in Unicode (see L2/14-044 and the updated proposal L2/15-337):



Glyph	Code	Character name
	11A4X	ZANABAZAR SQUARE INITIAL DOUBLE-LINED HEAD MARK
	11A4X	ZANABAZAR SQUARE CLOSING DOUBLE-LINED HEAD MARK













2 Description


The folio below (from Byambaa Ragchaagiin 2005: 97) shows usage of the headmark  in Zanabazar Square text. This mark corresponds to the Tibetan  head mark. Although the Tibetan mark may be interpreted as an atomic unit, it is represented in encoded text as a sequence of  U+0F04 TIBETAN MARK INITIAL YIG MGO MDUN MA and  U+0F05 TIBETAN MARK CLOSING YIG MGO SGAB MA. The Zanabazar Square  may also be interpreted as an atomic unit, but its encoded representation should follow the Tibetan model as consisting of an ‘initial’  and ‘closing’  element.

In the proposal to encode the Zanabazar Square script, it was suggested that these ‘double-lined’ initial and closing head marks should be treated as glyphic variants of  ZANABAZAR SQUARE INITIAL HEAD MARK and  ZANABAZAR SQUARE CLOSING HEAD MARK on account of their limited occurrence. However, as they are required for producing transliterations of Tibetan texts in Zanabazar Square, they should be encoded as separate characters so that they can be used concurrently with the ‘single-lined’ head marks, eg.  and .









Similar to  ZANABAZAR SQUARE INITIAL HEAD MARK, the proposed  ZANABAZAR SQUARE INITIAL DOUBLE-LINED HEAD MARK can be used as a base for *candrabindu* and *anusvāra* signs:



-  < INITIAL DOUBLE-LINED HEAD MARK,  SIGN CANDRABINDU>
-  < INITIAL DOUBLE-LINED HEAD MARK,  SIGN CANDRABINDU WITH ORNAMENT>
-  < INITIAL DOUBLE-LINED HEAD MARK,  SIGN CANDRA WITH ORNAMENT>
-  < INITIAL DOUBLE-LINED HEAD MARK,  SIGN ANUSVARA>





When the proposed  ZANABAZAR SQUARE CLOSING DOUBLE-LINED HEAD MARK is used in conjunction with the above sequences, it is placed after the combining sign:

-   INITIAL DOUBLE-LINED HEAD MARK,  SIGN CANDRABINDU WITH ORNAMENT,  CLOSING DOUBLE-LINED HEAD MARK

As shown in the above folio, the proposed marks may be followed by  DOUBLE SHAD, and theoretically, by  SHAD as well:

-   INITIAL DOUBLE-LINED HEAD MARK,  CLOSING DOUBLE-LINED HEAD MARK,  DOUBLE SHAD

Although not attested, the CLOSING DOUBLE-LINED HEAD MARK may theoretically be used for producing extended head marks, such as , similar to Tibetan 

-   INITIAL DOUBLE-LINED HEAD MARK,  CLOSING DOUBLE-LINED HEAD MARK,  CLOSING DOUBLE-LINED HEAD MARK

3 Character Data

3.1 Character properties

In the format of `UnicodeData.txt`:

```
11A4x;ZANABAZAR SQUARE INITIAL DOUBLE-LINED HEAD MARK;Po;0;ON;;;;;N;;;;;
11A4x;ZANABAZAR SQUARE CLOSING DOUBLE-LINED HEAD MARK;Po;0;ON;;;;;N;;;;;
```

3.2 Linebreaking

In the format of `LineBreak.txt`:

```
11A4x..11A4x; BB      # [2] ZANABAZAR SQUARE INITIAL DOUBLE-LINED HEAD MARK ..
                          ZANABAZAR SQUARE CLOSING DOUBLE-LINED HEAD MARK
```

4 Acknowledgments

This project was made possible in part through a Google Research Award, granted to Deborah Anderson for the Script Encoding Initiative, and a grant from the United States National Endowment for the Humanities (PR-50205-15), which funds the Universal Scripts Project (part of the Script Encoding Initiative at the University of California, Berkeley). Any views, findings, conclusions or recommendations expressed in this publication do not necessarily reflect those of Google or the National Endowment for the Humanities.