

Proposal to encode MINIMIZING VIRAMA in Brahmi script

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1. Introduction

This is a proposal to add following character to Brahmi block.

11076 BRAHMI MINIMIZING VIRAMA

2. Background

Initially all variants of Brahmi were unified. However [L2/19-402](#) proposed for the disunification of characters of Old Tamil Brahmi orthography. Subsequently these characters were accepted. The issues mentioned in L2/19-402 like Rendering Issues, Font-dependant graphemic identity and insufficient font support are also applicable to these proposed variant too. Since OLD TAMIL VIRAMA is distinctly proposed and accepted, other variant is also proposed similarly as distinct character. This occurs in Generic Brahmi other than Tamil Brahmi records. There are three variants of VIRAMA in Brahmi.

Currently encoded

𑀓_k

Proposed

𑀓_{+ak}

Tamil Brahmi

𑀓_k

Virama is not seen in Ashokan inscriptions, as Prakrit is the major language of the inscriptions and words don't end with consonants in the Prakrit language. Hence different types of Virama are seen in Brahmi records in the Post-Ashokan period. There is not any distinct glyph for proposed virama unlike the other two variant forms. The vowelless consonant is written smaller and lower to the right side of the consonant. Similar behavior is seen Kharoshthi too as given below.

dha + i + k + virama → dhik
𑀓 + 𑀓 + 𑀓 + 𑀓 → 𑀓

3 Character Data

- **Character properties**

11076; BRAHMI MINIMIZING VIRAMA; Mn; 9; NSM; ; ; ; ; N; ; ; ; ;

- **Indic Syllabic Category**

Indic_Syllabic_Category=Pure_Killer

11076 ; Pure_Killer # Mn BRAHMI MINIMIZING VIRAMA

- In Collation it should be considered as equivalent to existing characters of VIRAMA.
- In Code chart it should be depicted within dotted box similar to Kharoshti Virama or Brahmi Number Joiner as there is not shape of the Virama.

4 Acknowledgments

We would like thank Shriramana Sharma and Vinodh Rajan for providing feedback on the proposal.

5 Attestations

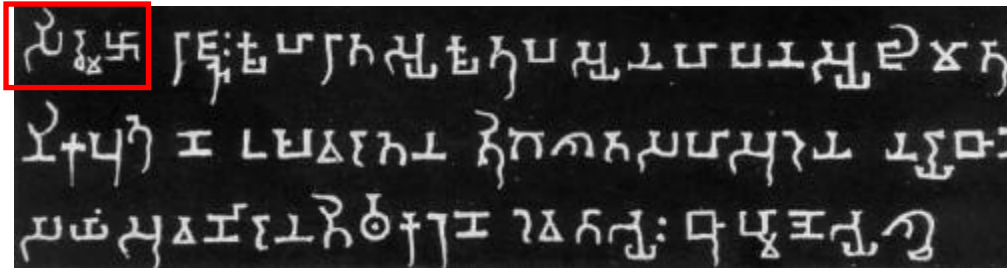


Figure 1: A Sanskrit inscriptions from Nasik date 1st century CE. The virama is used in the word siddham.

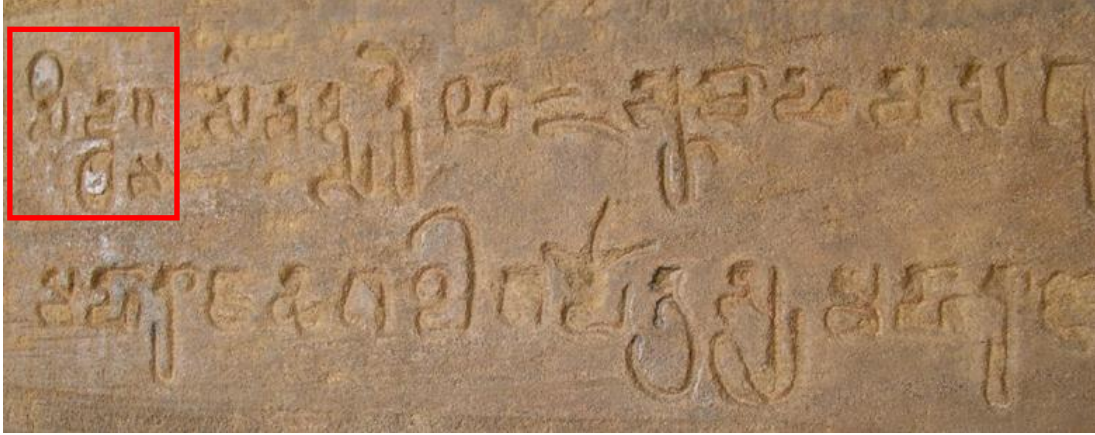


Figure 2 : Udayagiri cave Sanskrit inscription of Chandragupta II of around 4th century CE. The virama is used in the word siddham (from [2]).

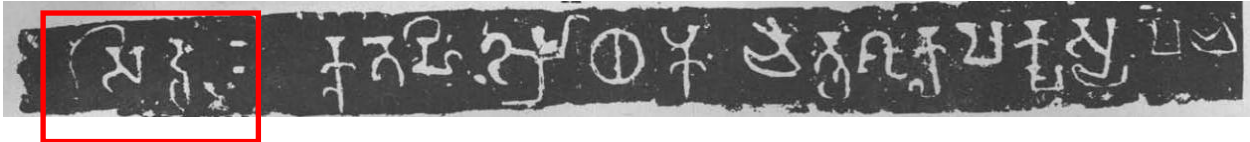


Figure 3. Yupa Sanskrit inscription from Barnala dated 228 CE. The virama is used in the word siddham (from [4], pg 119).

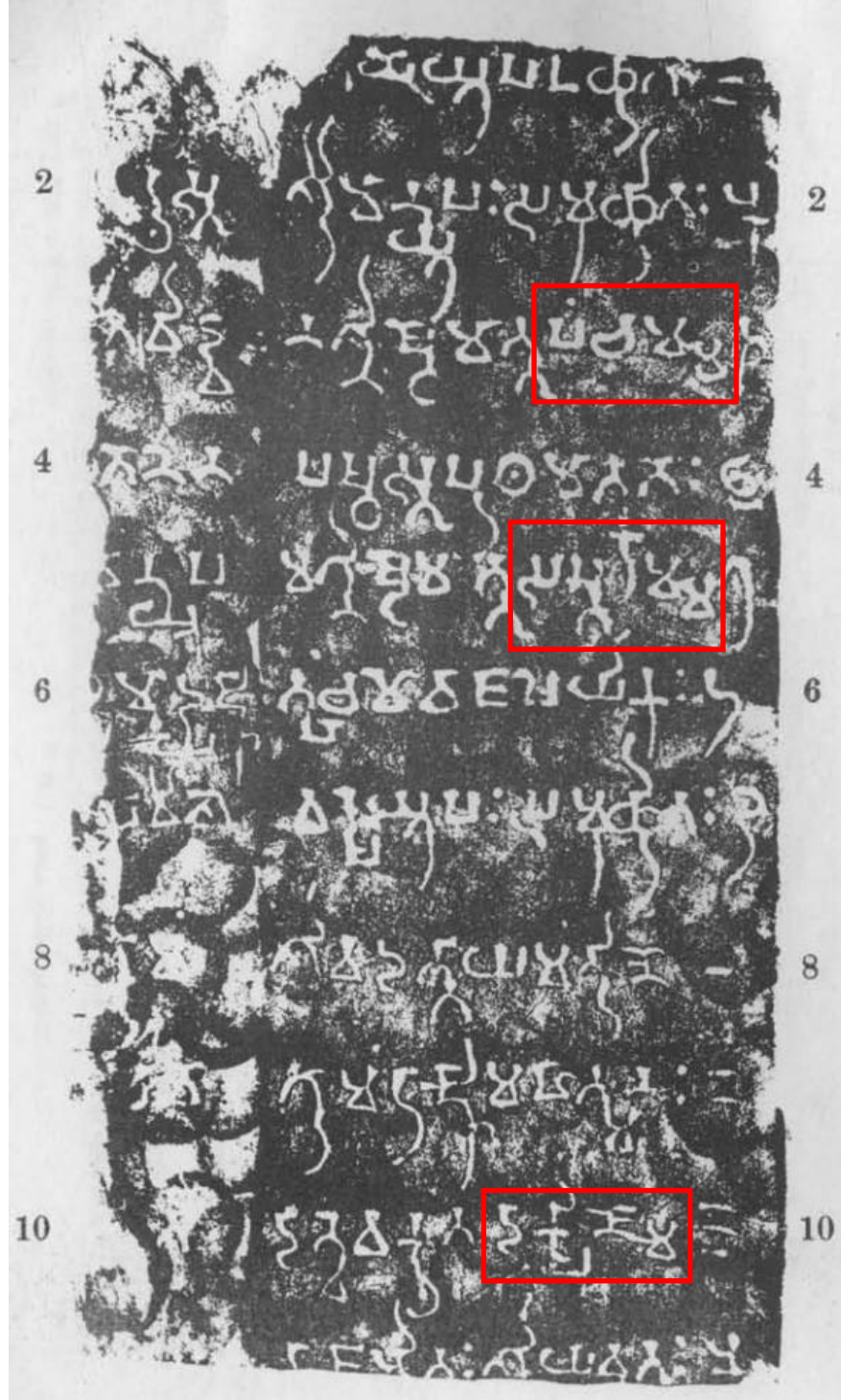


Figure 4. Allahabad Yupa Sanskrit Inscription. 1st century CE. Use of Virama in the words pañcamam, saptamam and dākṣiṇām (from [3], pg 250-251) .

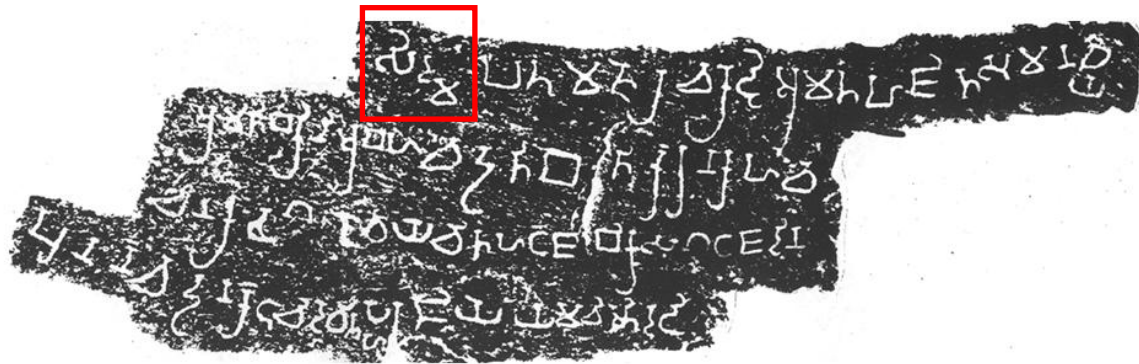


Figure 5. Kayikavala Rock Prakrit Inscription from Sri Lanka dated 2nd century CE. The virama is used in the word sidam (from [2]).

a	ā	i	ī	u	ū							e	ai	o	au
ā	o	ē	ō	m	h										
k	kh	ḅ													
t	th	d													
p	ph	b	bh	m°											

Information zur Handschrift

Übersicht | Beispiel | Zum Text | Lesungen | Hist. Daten

Name der Handschrift: Ms Spitzer (SHT 810)

Sprache: Sanskrit

Datierung: 130

Dynastie: Kusāna

Herkunftsort: Kizil

Koordinaten: 76° 29', 38° 37'

Bearbeiter: ke IS-Nr: 322

Figure 6. Use of Virama for m and t in Sanskrit manuscript Brahmi script from Kizil, Central Asia dated 2nd century CE (from [2]).



Figure 7. Use of Virama for m and t in Sanskrit manuscript in Brahmi script of Abhidharma commentary from Bamiyan dated 1st -2nd century CE (from [2]).

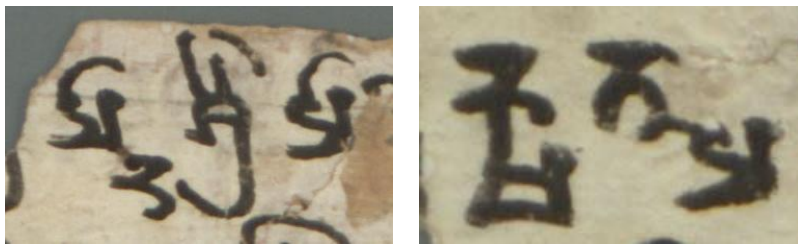


Figure 8. Use of Virama for n and m from a Sanskrit manuscript written in Brahmi from Kizil caves, Central Asia (from SHT 849c of International Dunhuang Project <http://idp.bl.uk/>).

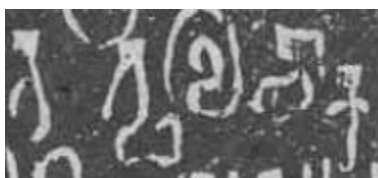


Figure 9. Use of Virama for k in the word tatphalabhāk in the Kudgere plates of Kadamba rulers in South Indian Brahmi (from [5]).



Figure 10. Use of Virama in the words hitārthaṃ ,maṇḍapān and devānāṅkarayetsammyak from Sanskrit inscription found in Chebrolu, Andhra Pradesh by Satavahana rulers dated 207 CE.

6 References

[1] Sivaramamurti, C., “Indian Epigraphy and South Indian Scripts”. Bulletin of the Madras Government Museum. GS III 4.

[2] <http://www.indoskript.org/>

[3] Epigraphia Indica. Volume XXIV (1937-38)

[4] Epigraphia Indica. Volume XXVI (1941-42)

[5] Epigraphia Indica. Volume VI (1900-01)

ISO/IEC JTC 1/SC 2/WG 2

PROPOSAL SUMMARY FORM TO ACCOMPANY SUBMISSIONS

FOR ADDITIONS TO THE REPERTOIRE OF ISO/IEC 10646¹.

Please fill all the sections A, B and C below.

Please read Principles and Procedures Document (P & P) from <http://std.dkuug.dk/JTC1/SC2/WG2/docs/principles.html> for guidelines and details before filling this form.

Please ensure you are using the latest Form from <http://std.dkuug.dk/JTC1/SC2/WG2/docs/summaryform.html>.

See also <http://std.dkuug.dk/JTC1/SC2/WG2/docs/roadmaps.html> for latest Roadmaps.

A. Administrative

1. Title:	<i>Proposal to encode MINIMIZING VIRAMA in Brahmi script</i>
2. Requester's name:	<i>Srinidhi A and Sridatta A</i>
3. Requester type (Member body/Liaison/Individual contribution):	<i>Individual contribution</i>
4. Submission date:	<i>August 8, 2022</i>
5. Requester's reference (if applicable):	
6. Choose one of the following:	
This is a complete proposal:	<i>Yes</i>
(or) More information will be provided later:	

B. Technical – General

1. Choose one of the following:	
a. This proposal is for a new script (set of characters):	
Proposed name of script:	
b. The proposal is for addition of character(s) to an existing block:	<i>Yes</i>
Name of the existing block:	<i>Brahmi</i>
2. Number of characters in proposal:	<i>1</i>

¹ Form number: N4502-F (Original 1994-10-14; Revised 1995-01, 1995-04, 1996-04, 1996-08, 1999-03, 2001-05, 2001-09, 2003-11, 2005-01, 2005-09, 2005-10, 2007-03, 2008-05, 2009-11, 2011-03, 2012-01)

3. Proposed category (select one from below - see section 2.2 of P&P document):

A-Contemporary	<input type="checkbox"/>	B.1-Specialized (small collection)	<input type="checkbox"/>	B.2-Specialized (large collection)	<input type="checkbox"/>
C-Major extinct	<input checked="" type="checkbox"/>	D-Attested extinct	<input type="checkbox"/>	E-Minor extinct	<input type="checkbox"/>
F-Archaic Hieroglyphic or Ideographic	<input type="checkbox"/>			G-Obscure or questionable usage symbols	<input type="checkbox"/>

4. Is a repertoire including character names provided? Yes

a. If YES, are the names in accordance with the “character naming guidelines” in Annex L of P&P document? Yes

b. Are the character shapes attached in a legible form suitable for review? Yes

5. Fonts related:

a. Who will provide the appropriate computerized font to the Project Editor of 10646 for publishing the standard?

b. Identify the party granting a license for use of the font by the editors (include address, e-mail, ftp-site, etc.):

6. References:

a. Are references (to other character sets, dictionaries, descriptive texts etc.) provided? Yes

b. Are published examples of use (such as samples from newspapers, magazines, or other sources) of proposed characters attached? Yes

7. Special encoding issues:

Does the proposal address other aspects of character data processing (if applicable) such as input, presentation, sorting, searching, indexing, transliteration etc. (if yes please enclose information)? Yes

8. Additional Information:

Submitters are invited to provide any additional information about Properties of the proposed Character(s) or Script that will assist in correct understanding of and correct linguistic processing of the proposed character(s) or script. Examples of such properties are: Casing information, Numeric information, Currency information, Display behaviour information such as line breaks, widths etc., Combining behaviour, Spacing behaviour, Directional behaviour, Default Collation behaviour, relevance in Mark Up contexts, Compatibility equivalence and other Unicode normalization related information. See the Unicode standard at <http://www.unicode.org> for such information on other scripts. Also see Unicode Character Database (<http://www.unicode.org/reports/tr44/>) and associated Unicode Technical Reports for information needed for consideration by the Unicode Technical Committee for inclusion in the Unicode Standard.

C. Technical - Justification

1. Has this proposal for addition of character(s) been submitted before?	<i>No</i>
If YES explain	
2. Has contact been made to members of the user community (for example: National Body, user groups of the script or characters, other experts, etc.)?	<i>No</i>
If YES, with whom?	
If YES, available relevant documents:	
3. Information on the user community for the proposed characters (for example: size, demographics, information technology use, or publishing use) is included?	<i>N/A</i>
Reference:	
4. The context of use for the proposed characters (type of use; common or rare)	<i>Common</i>
Reference:	
5. Are the proposed characters in current use by the user community?	<i>No</i>
If YES, where? Reference:	
6. After giving due considerations to the principles in the P&P document must the proposed characters be entirely in the BMP?	<i>No</i>
If YES, is a rationale provided?	
If YES, reference:	

7. Should the proposed characters be kept together in a contiguous range (rather than being scattered)?	<i>No</i>
8. Can any of the proposed characters be considered a presentation form of an existing character or character sequence?	<i>No</i>
If YES, is a rationale for its inclusion provided?	
If YES, reference:	
9. Can any of the proposed characters be encoded using a composed character sequence of either existing characters or other proposed characters?	<i>No</i>
If YES, is a rationale for its inclusion provided?	
If YES, reference:	
10. Can any of the proposed character(s) be considered to be similar (in appearance or function) to, or could be confused with, an existing character?	<i>No</i>
If YES, is a rationale for its inclusion provided?	
If YES, reference:	
11. Does the proposal include use of combining characters and/or use of composite sequences?	<i>Yes</i>
If YES, is a rationale for such use provided?	<i>Yes</i>
If YES, reference:	<i>See the text of proposal</i>
Is a list of composite sequences and their corresponding glyph images (graphic symbols) provided?	
If YES, reference:	
12. Does the proposal contain characters with any special properties such as control function or similar semantics?	<i>No</i>
If YES, describe in detail (include attachment if necessary)	

13. Does the proposal contain any Ideographic compatibility characters?

No

If YES, are the equivalent corresponding unified ideographic characters identified?

If YES, reference:

[Redacted area]