

## Changes to Core Specification for Indic scripts for Unicode 11.0

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December 8, 2017

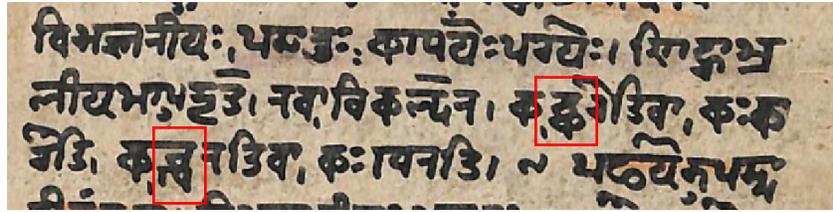
This document provides changes to Core Specification for Indic scripts. It was discussed in L2/17-098. Based on the recommendations of Script Ad Hoc, a separate document is presented here.

### 1 Sharada

In Sharada section of Core Specification, the following representation for Jihvamuliya is presented.

U+111C2  jihvamuliya + U+11191 क ka → कै  
U+111C2  jihvamuliya + U+11192 ण kha → णै

However Jihvamuliya is not written above the consonant, instead it makes ligature with the consonant as कै. A sample of their representations is shown in below manuscript.



Jihvamuliya is various manuscripts. (from IndoSkript).

L2/17-255 asked “Does the change of shape for KA take place because of the jihvamuliya or because KA is subjoined below another consonant?”

In consonant clusters these letters behave similar to other consonants. The ligature occurs because KA is subjoined below another consonant.

**Action Requested** Correct the shape of combination of Jihvamuliya and Ka/Kha in core specification.



Nameplate of Mangei Gomango who devised Sora Sompeng script at Odisha Tribal Development Society Bhubaneswar. Here Guru Mangei Gomango is written as ସୁସୁ ସିନିମିମି ମିମିମିମି.

“ ୠ ” ( SA )

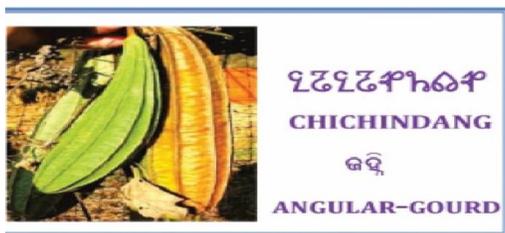
ୠ + ଓ = ୠଓ , ୠ + ଟ = ୠଟ , ୠ + ୠଠ = ୠଠ  
 S + A = SA , S + E = SE , S + I = SI  
 ୠ + U = ୠU , ୠ + 2 = ୠ2  
 S + U = SU , S + O = SO

ୢ ( TA )

ୢ + ଓ = ୢଓ , ୢ + ଟ = ୢଟ , ୢ + ୠଠ = ୢଠ  
 T + A = TA , T + E = TE , T + I = TI  
 ୢ + U = ୢU , ୢ + 2 = ୢ2 .  
 T + U = TU , T + O = TO .

A book called Savara Laglgn Abirnaba depicted above shows Combination of Consonants with vowels. Words in Sora Sompeng from the same book.<sup>1</sup>

ୠଠଠଠ	SIING	ୢଠଠଠଠଠ	TANGNIY
ୠଠଠଠଠଠ	SANGSANG	ୢଠଠଠଠଠ	TANGNIY
ୠଟଠଠଠ	SEJAB	ୢଟଠଠଠଠ	TREDA
ୠଠଠଠଠ	SIING	ୢଠଠଠଠଠଠଠ	TIRIYUNG
ୠଠଠଠଠଠ	SURGA	ୢଠଠଠଠଠ	TUDUM
ୠଠଠଠଠଠଠଠ	SONETI	ୢଠଠଠଠ	TOGI



Words in Sora sompeng from a learning book written by Krushna Sabar.<sup>2</sup>

<sup>1</sup> <http://savara.bharatavani.in/book/savara-laglgn-abirnaba/>

**Action Requested:** Change the kind of writing system from abugida to alphabetic in Chapters 6.1, 15.14 and elsewhere. Update the section Encoding Structure of chapter 15.14 appropriately.

#### 4 VEDIC SIGN NIHSHVASA

Section 4.5 of L2/09-372 and L2/09-298 informs U+1CD3 separates sections between which a pause is disallowed. The annotation in the code chart has been corrected as suggested in L2/09-372, but explanation in section 12.1 pg. 465 of the core specification “U+1CD3 VEDIC SIGN NIHSHVASA indicates where a breath may be taken.” is misleading. This should be corrected to “Separates sections of Sama Vedic singing between which a pause is disallowed” as in the code chart.

#### 5 Ligature Forms for Ra + Vocalic Liquids

The Core specification gives following information of Ligature Forms for Ra + Vocalic Liquids. However these sequences are not restricted Devanagari, in fact it is attested in most Indic scripts which have repha. It is customary to instead write it as the independent\_vocalic\_r with a repha as noted in L2/12-106. Update the Core Specification indicating that these graphical forms are also attested in other Indic scripts.

For the benefit of font developers these formations may be mentioned in individual chapters or in this Devanagari section as ‘also attested in other Indic scripts’.

**Ligature Forms for Ra + Vocalic Liquids.** The phonological sequence /r vocalic\_r/, expressed with the character sequence <U+0930 ra, U+0943 vocalic\_r>, can graphically appear as either of two forms, as shown in the first row of *Table 12-4*. It may appear as the full independent vowel form of the vocalic\_r, with a superscript *repha* form of the ra (V + RA<sub>sup</sub>): र्रे. Alternatively, it may appear as the full letter form of the ra with the subscript, dependent form of the vocalic\_r (RA<sub>n</sub> + V<sub>vs</sub>): रृ. Similarly, the phonological sequences with the other vocalic sounds (*rr, l, ll*) have two written forms, as shown in *Table 12-4*.

**Table 12-4. RA + Vocalic Letter Ligature Forms**

र	+	ॠ	→	र्रे	or	रृ
र	+	ॡ	→	र्रे	or	रृ
र	+	ॢ	→	र्रे	or	रृ
र	+	ॣ	→	र्रे	or	रृ

<sup>2</sup><http://savara.bharatavani.in/book/savara-language-learning-book/>

ಇಂದ್ರೋ ವಹ್ನಿಃ ಪಿತೃಪತಿರ್ನೈರ್ಯುತೋ ವರುಣೋ ಮರುತ್	
ಕುಬೇರ ಈಶಃ ಪತಯಃ ಪೂರ್ವಾದೀನಾಂ ದಿಶಾಂ ಕ್ರಮಾತ್	೯೨
ಐರಾವತಃ ಪುಂಡರೀಕೋ ವಾಮನಃ ಕುಮುದೋಽಂಜನಃ	
ಪುಷ್ಪದಂತಸ್ಸಾರ್ವಭೌಮಸ್ಸುಪ್ರತೀಕಶ್ಚ ದಿಗ್ಗಜಾಃ	೯೩
ಕರಿಣ್ಯೋಽಭ್ಯಮುಕಪಿಲಾಪಿಂಗಲಾನುಪಮಾಃ ಕ್ರಮಾತ್	
ತಾಮ್ರಕರ್ಣೇ ಶುಭ್ರದಂತೀ ಚಾಂಗನಾ ಚಾಂಬನಾವತೀ	೯೪
ಕ್ಷೀಬಾವ್ಯಯಂ ತ್ವಪದಿಶಃ ದಿಶೋರ್ಮಧ್ಯೇ ವಿದಿಕ್ ಸ್ತ್ರಿಯಾಮ್	
ಅಭ್ಯಂತರಂ ತ್ವಂತರಾಲಂ ಚಕ್ರವಾಲಂ ತು ಮಂಡಲಮ್	೯೫
ಅಭ್ಯಂ ಮೇಘೋ ವಾರಿವಾಹಃ ಸ್ತನಯಿತ್ನುರ್ಬಲಾಹಕಃ	
ಗಾರಾದರೋ ಜಲದರಪ ಟಿತಾನಾರಿದೋಽಂಬುಭೃತ್	೯೬

೨. ಅಗ್ನಿಃ ಪೂರ್ವೇಭಿರ್ಯುಷಿಭಿಃ—ರೀಡ್ಯೋ ನೂತನೈರುತ |

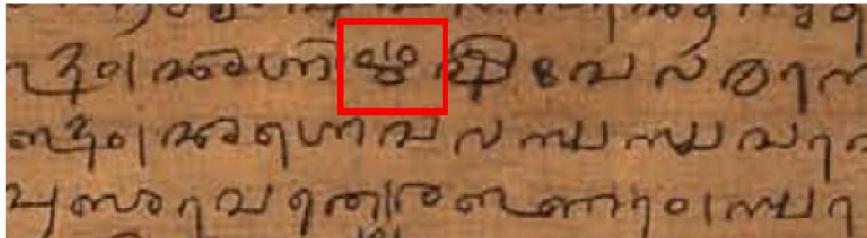
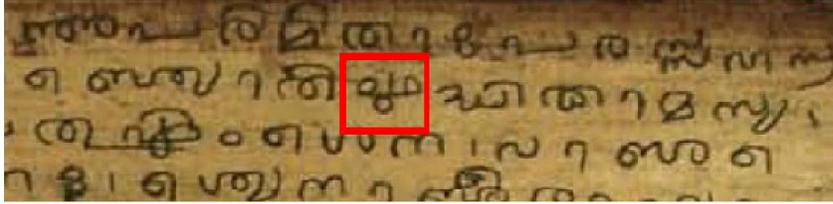
ಸ ದೇವಾ ಏಹ ವಕ್ತೃತಿ

|| ೨ ||

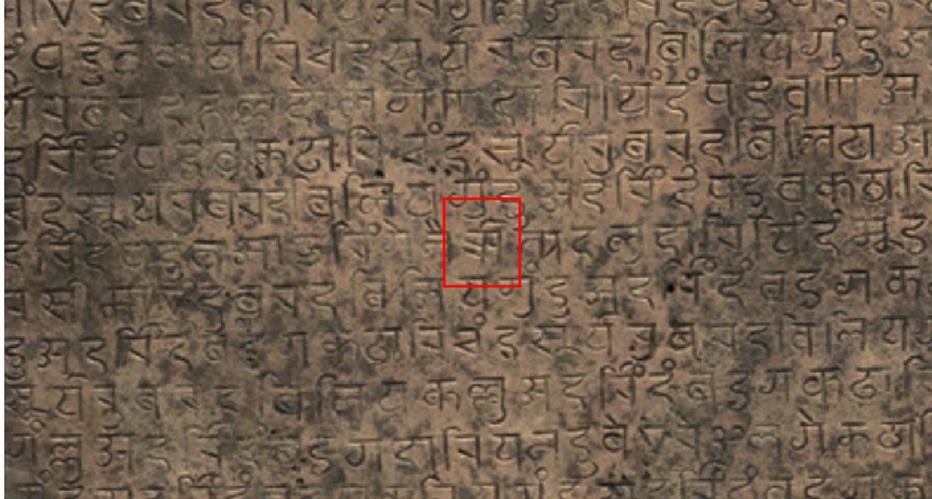
ಪುರಾಣ ಋಷಿಗಳು ಯಾವಾತನ ಸ್ತುತಿಯನ್ನು ಮಾಡಿದ್ದರೋ, ಈಗಿನ ಋಷಿಗಳು ಯಾವಾತನನ್ನು ಸ್ತುತಿಸುವರೋ, ಅಂಥ ಅಗ್ನಿಯು ದೇವತೆಗಳನ್ನು ಈ ಯಜ್ಞದಲ್ಲಿ ಆಹ್ವಾನಿಸಲಿ.

|| ೨ ||

rr in Kannada.



rr in Tigalari.



rr in Nandinagari.

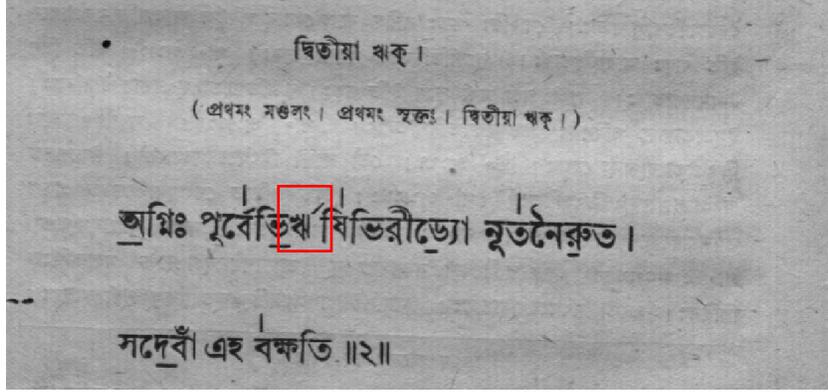
When  VOWEL SIGN VOCALIC R occurs with RA, the latter is written as *repha* and placed above the arrow-head of the vowel letter:

 rr < RA,  VOWEL SIGN VOCALIC R>

rr in Bhaiksuki (from L2/14-091).

	<i>mva</i>	म	
	<i>yva</i>	य	
	<i>yva</i>	य	
	<i>rr</i>	र	
	<i>rka</i>	क	
	<i>rkha</i>	ख	

rr in Odia.



ṛṛ in Bengali.

nirṛṇa	নির্কৃষ্ণ	నిర్కృణ	నిర్కృణ
nirṛtiḥ	নির্কৃতি:	నిర్కృతి:	నిర్కృతి:

ṛṛ in Telugu. Note that modern orthography does not use repha. It is attested in older texts.

Similar forms may also exist in other scripts which have repha like Tirhuta, Newa, Siddham, Gujarati etc.