

To: UTC
 From: Lorna Evans (SIL), Steve Smith (SIL), Sue Lloyd-Williams (Sylheti Translation And Research)
 Date: 7 January 2019
 Subject: Syloti Nagri feedback on L2/18-259

On 14 September 2018 the Script Ad Hoc group met. In [L2/18-300](#) an Action Item for Deborah Anderson was

Recommendations: We recommend the UTC assign an AI to Debbie Anderson to contact Lorna Evans of SIL to determine the usage of Syloti Nagri cross-cluster ligatures and false conjuncts in publications and to provide information on how SIL implementations are using Syloti Nagri *hasanta*.

Note: Although SIL does not have people working with the Sylheti language, SIL has been providing technical support to the font designers of the Surma font and to the Sylheti language activists linked with them.

1. In the feedback document [L2/18-259](#), Srinidhi mentions that cross cluster ligatures and false conjuncts are “highly rare and occur in some handwritten sources.... [but] are not attested [in] modern printed sources.” To verify this statement, we recommend those working on Syloti Nagri at SIL be engaged in the discussion, since some materials are printed in locations such as the UK and Bangladesh.
 - a. There have always been some conjunct ligatures in Nagri, in the handwritten *puthis* and also in the printed, both the wood block and the metal type. The original (non-Unicode) font only had the conjuncts which were used in the old printed *puthis*, but modern writers were very frustrated that people reading Nagri written with only that selection of conjuncts struggled to understand fairly common words which occur in Bengali as well as Sylheti, but were written in Nagri without a conjunct because there wasn't a suitable one in the font, whereas the same word in Bangla would have used a conjunct. Because of this, the Unicode font included these conjuncts. A list of both is provided in the section on conjuncts below (Tables 1 and 2).
 - b. It is true that false conjuncts occur only in the hand-written sources, but they are fairly common as they are used to justify the lines of poetry – they reduce the space taken up by the characters they represent and so enable a long line of poetry to be written in the same space as a shorter one. The majority of these are anyway needed for modern usage.

FYI: All conjuncts in the Surma font are ordinary consonant clusters, which is what a conjunct normally represents. But of course, any of these could also be used as a false-conjunct, similar to the *kto / kot* example given in L2/05-130.
2. In the feedback document [L2/18-259](#), Srinidhi says “In Indic scripts generally ligature of Vowel and consonant do not occur. V-C ligatures in the words like amra and aular is due to the cursive nature of the script, which is common in handwritten manuscripts.”

- a. It is true that Indic scripts generally do not have V-C conjuncts, but Syloti Nagri DOES have at least 4: A-r, A-t, A-l, and A-s. See examples 1-7. These are mainly used for representing the Arabic definite article 'al' (with appropriate epenthesis) although they are used for convenience in other places and also with other vowels. That is why ALWAYS in Nagri handwriting the name 'Allah' is written as A-l l-a, NOT A-l l a. This is not a matter of cursive handwriting as the strokes are the same, just in a different order. It is universal in handwriting when representing the Arabic article, regardless of any efforts to justify with false conjuncts. By contrast it seems to be used in words such as 'amra', 'auliar' and 'din' only when space is an issue, that is for justifying the lines of poetry. The V-C and V-V ligatures shown in L2/17-418 could be formed using *hasanta* in the same way as consonant-consonant conjuncts, so we agree that these ligatures do not require special treatment involving ZWJ.
 - b. Note that in the images in [L2/18-259](#) (see section below):
 - i. Figure 1 is taken from a book named 'Nagrir Pohela Kitab' (First book of Nagri) – it is designed to teach Nagri to the uninitiated reader, hence on the page shown in Figure 1 the first 2 glyphs on each line illustrate 2 consonants, the second two are 2 different consonant conjuncts using those characters, and the rest of the line has words with examples of their use. Thus the image of this page cannot be taken to represent the frequency of conjuncts in natural written Nagri, though it does show some of the conjuncts used in printed Nagri.
 - ii. Figure 2. is from a very recent modern republishing of a *puthi*, so the usage there cannot be assumed to be an example of traditional usage, though it does seem to follow printed Nagri usage pretty well.
 - iii. Figure 3. shows the conjunct glyphs in the font designed by Sue Lloyd-Williams. As mentioned earlier, the font included all conjuncts which could ever possibly be considered necessary, not just those which were previously in general use in handwriting or printing. All printed examples of Nagri, both ancient and modern, have been produced with Bangla as a backdrop. This is probably the reason that the l-l conjunct is used for 'Alla' in printed material rather than the A-l conjunct – it follows Bengali spelling, whereas Syloti Nagri in its heyday was written by people who used many more Persian and Arabic words and were more literate in those languages than in Bangla. Extra conjuncts were added to the font to allow spelling as in modern Bengali (see 1a above), but this too does not constitute traditional usage. It seems a shame that Syloti Nagri is (and since printing probably has always been) forced into a Bengali mould.
3. How do SIL implementations use *hasanta*?
- a. The visible Nagri 'hat' form of *hasanta* was not used in handwritten or printed *puthi* texts at all, it is only found in relatively modern Sylheti texts introducing the reader to Nagri, either because even then the lack of conjunct ligatures was confusing, or because it was teaching what the conjuncts were formed from, and we follow this usage. See examples 8-10. However, a more common use of

Unicode character U+A806 (hasanta) will be to place it between consonants to indicate a conjunct form, as is done in Bangla with Bengali hasanta. This is the usage assumed by the Surma font, and aligns with Srinidhi's argument for *hasanta* to be reclassified as Virama rather than Pure_Killer. Indeed, the fact that *hasanta* is currently classified as Pure_Killer is the reason that conjuncts are not formed on Android even though they're present in the font.

- b. Although not generally necessary, it is occasionally useful to explicitly indicate that a word-final consonant is dead, by means of overt hasanta. For example the common and familiar forms of the 2nd person imperative differ only in the pronunciation or not of the inherent vowel at the end of the word. However, the "hat" form of hasanta looks strange in this position, particularly if in the font being used the "hat" partially overstrikes both the preceding and following characters. For this reason, we display hasanta using the Bengali halant glyph (short diagonal stroke below the character) if it occurs in word-final position. We have not seen examples of this in use, but it has been requested by modern Nagri users. See Examples 11a-11e for examples.

Suggested Changes to the Core Spec. Section 15.1

Syloti Nagri is a lesser-known Brahmi-derived script used for writing the Sylheti language. Sylheti is an Indo-European language spoken by some 5 million speakers in the Barak Valley region of northeast Bangladesh and southeast Assam in India. Worldwide there may be as many as 10 million speakers. Sylheti has commonly been regarded as a dialect of Bengali, with which it shares a high proportion of vocabulary.

The Syloti Nagri script has 27 consonant letters with an inherent vowel of /o/ and 5 independent vowel letters. There are 5 dependent vowel signs that are attached to a consonant letter. Unlike Devanagari, there are no vowel signs that appear to the left of their associated Consonant.

Only two proper diacritics are encoded to support Syloti Nagri: *anusvara* and *hasanta*. Aside from its traditional Indic designation, *anusvara* can also be considered a final form for the sequence /-ng/, which does not have a base glyph in Syloti Nagri because it does not occur in other positions. *Anusvara* can also occur with the vowels U+A824 D SYLOTI NAGRI VOWEL SIGN I and U+A826 E SYLOTI NAGRI VOWEL SIGN E, creating a potential problem with the display of both items. It is recommended that *anusvara* always occur in sequence after any vowel signs, as a final character.

Virama and Conjuncts. As in Bengali, conjuncts are not strictly correlated with the phonology being represented. They are neither necessary in contexts involving a dead consonant, nor are they limited to such contexts. However, Syloti Nagri is atypical of Indic scripts in that conjuncts are not limited to sequences involving dead consonants but can be formed from pairs of characters of almost any type (consonant, independent vowel, dependent vowel) and can represent a wide variety of syllables. It is generally unnecessary to overtly indicate dead

consonants with a conjunct or explicit *hasanta*. *Hasanta* was only recently introduced into the script and is seen only in limited contexts, primarily pedagogical materials. It takes the form of a “circumflex”, either above the dead consonant or partially overstriking both the dead consonant and the following character.

In Syloti Nagri implementations, the *hasanta*, U+A806, can be used to visually indicate a dead consonant or conjunct when desired. That is, if *hasanta* U+A806 occurs between two characters, a conjunct will be displayed if one exists in the font for that character sequence, otherwise explicit *hasanta* will be displayed. Explicit *hasanta* can be forced by inserting ZWNJ after the *hasanta*, thus blocking the conjunct formation.

This is followed by a section on Digits, Punctuation and Poetry Marks. Those sections would likely not require changes.

Conjuncts

Table 1: Conjuncts used in old printed Syloti Nagri books

This table shows all the conjuncts encountered in printed Syloti Nagri, and the absolute number and relative frequency of each one found in transcriptions of the images available to Sylheti Translation and Research (STAR). It does not take account of possible errors in transcription or missing pages/part pages of the original documents.

Conjunct		Occurrences	Relative frequency (%)
ক্ষ	k-ko	820	3.09
ত্ব	k-to	203	0.76
চ্ছ	c-cho	95	0.36
জ্ব	j-jo	491	1.85
ত্ব	t-to	517	1.95
ন্ব	n-jo	839	3.16
ন্ব	n-to	1850	6.97
দ্ব	n-do	10224	38.51
ন্ব	n-no	759	2.86
ব্ব	b-bo	297	1.12
ম্ব	m-bo	862	3.25
ম্ব	m-mo	407	1.53
ল্ব	l-lo	5965	22.47

ক্ষ	s-ko	87	0.33
ক্ষ	s-co	6	0.02
ক্ষ	s-to	2860	10.77
ক্ষ	s-tho	137	0.52
ক্ষ	s-bo	130	0.48
		26549	100.00

Table 2: Full list of conjuncts needed in modern usage of Syloti Nagri

All those used in the old printed books are needed for modern Sylheti, with additions as shown:

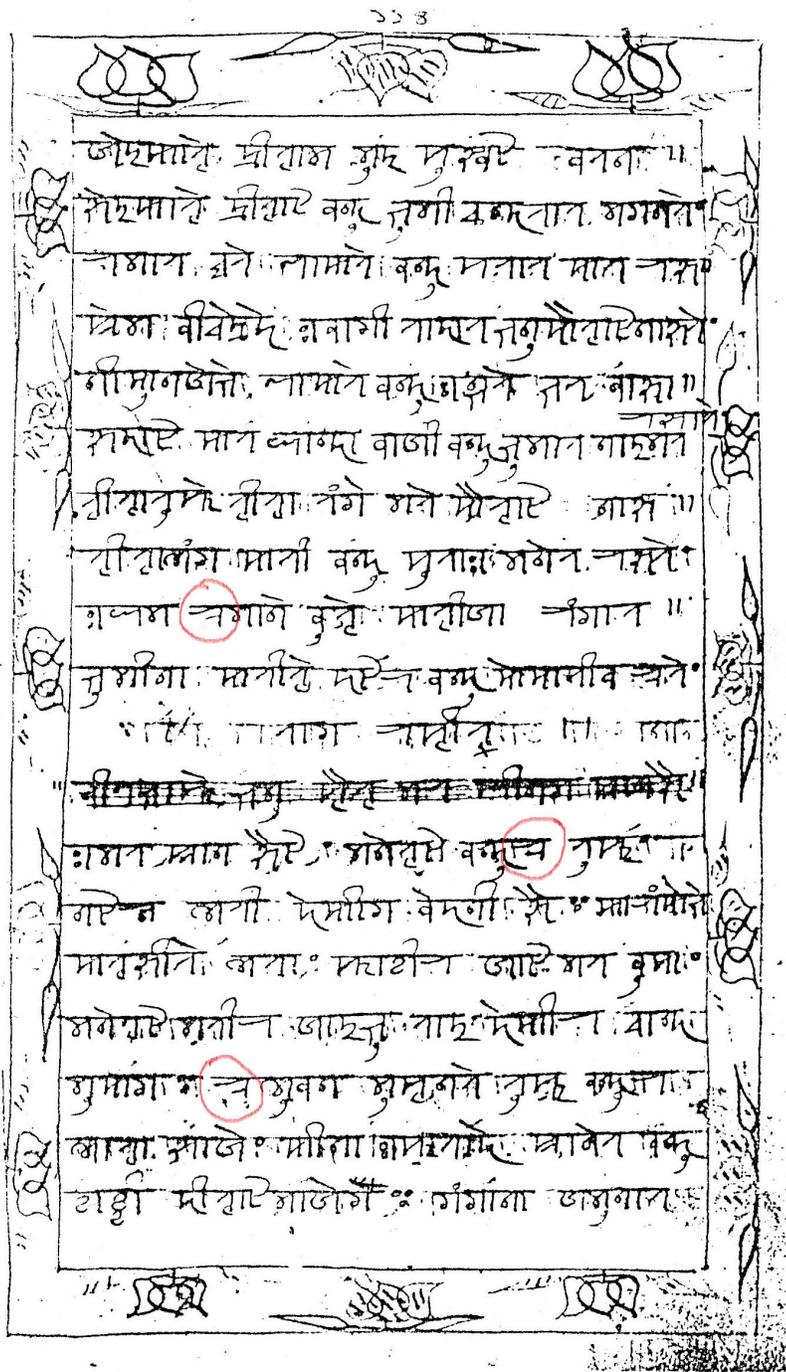
Used in old printed Nagri	Additional for modern usage	Notes
	ঐ	These four are needed both for accuracy in transcribing hand-written scripts, and also because they are seen as an important part of the heritage.
	ঐ	
	ঐ	
	ঐ	
ক্ষ	k-ko	
	ক্ষ	k-tto
ক্ষ	k-to	
	ক্ষ	k-ro
	ক্ষ	k-lo
	ক্ষ	k-so
	ক্ষ	kh-to
	গ	g-go
	গ	g-no
	গ	g-ro
	গ	g-lo
	ক্ষ	c-co
ক্ষ	c-cho	
ক্ষ	j-jo	
	জ	tt-tto
	জ	tt-ro
	ড	dd-ddo
	ড	dd-ro
ক্ষ	t-to	
	ত	t-ro
	দ	d-do
	দ	d-ro
	ন	n-ko

		অ	n-co	
		ঢ	n-cho	
জ	n-jo			
		ট	n-tto	
		ড	n-ddo	
ত	n-to			
ঢ	n-do			
		দ	n-dho	
ন	n-no			
		স	n-so	
		ঢ	p-tto	
		ত	p-to	
		প	p-po	
		র	p-ro	
		ল	p-lo	
		ফ	ph-ro	
ব	b-bo			
		ব	b-ro	
		ল	b-lo	
		ম	m-po	
ম	m-bo			
ম	m-mo			
		র	m-ro	
		র * (ব)	r- (in e.g. r-bo)	an equivalent to Bangla 'ref': ro forms the first part of conjuncts with many different consonants
		লি	l-tto	
		লি	l-po	
ল	l-lo			
স	s-ko			
স	s-co			
		স	s-tto	
		স	s-ttho	
স	s-to			
স	s-tho			
স	s-bo			
		স	s-ro	
		স	s-sho	
		হ	h-ro	

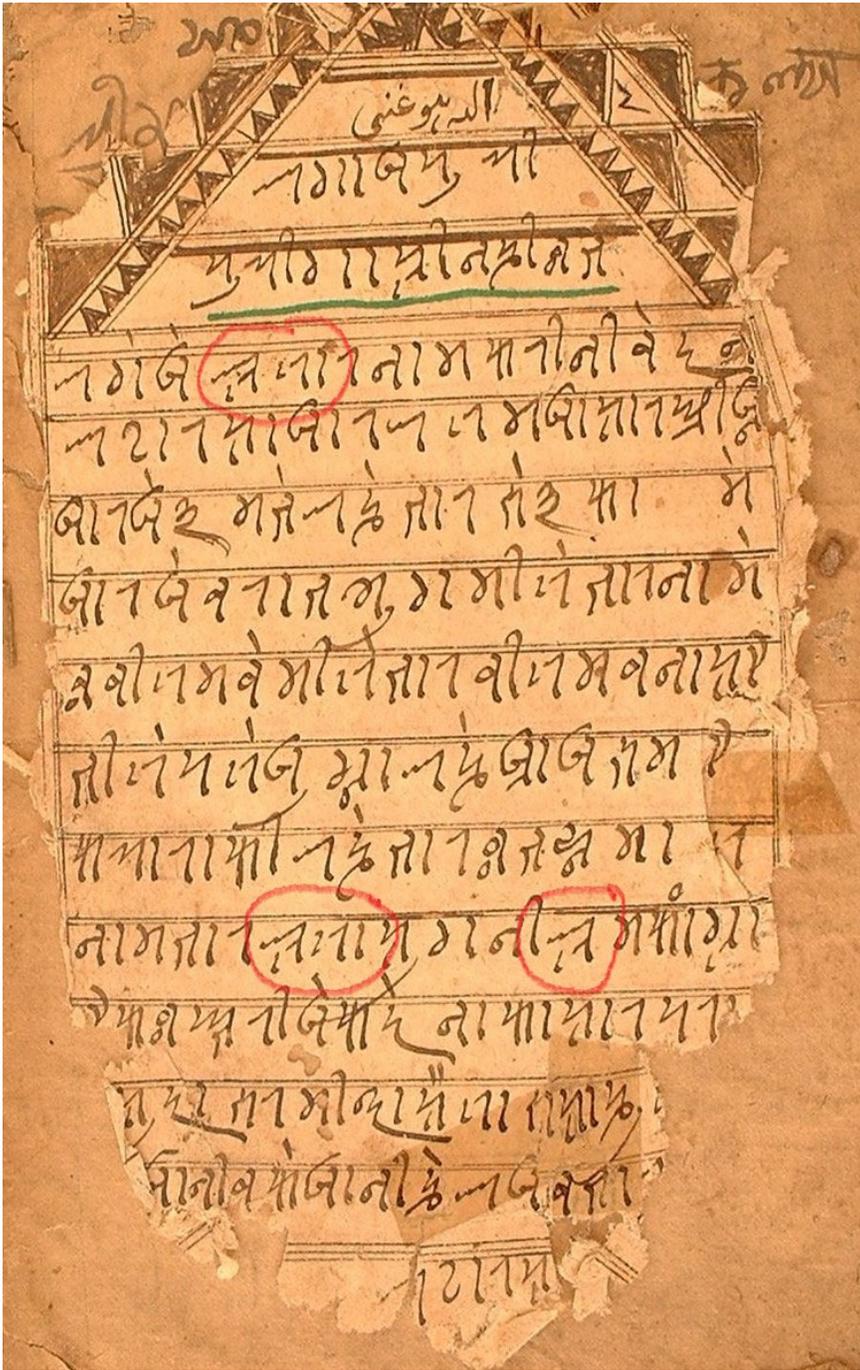
Yellow highlighting indicates a conjunct which is not in the Surma font.

Examples

Example 1. ASPN_115.jpg 3 examples of 'Ar' at different places in words



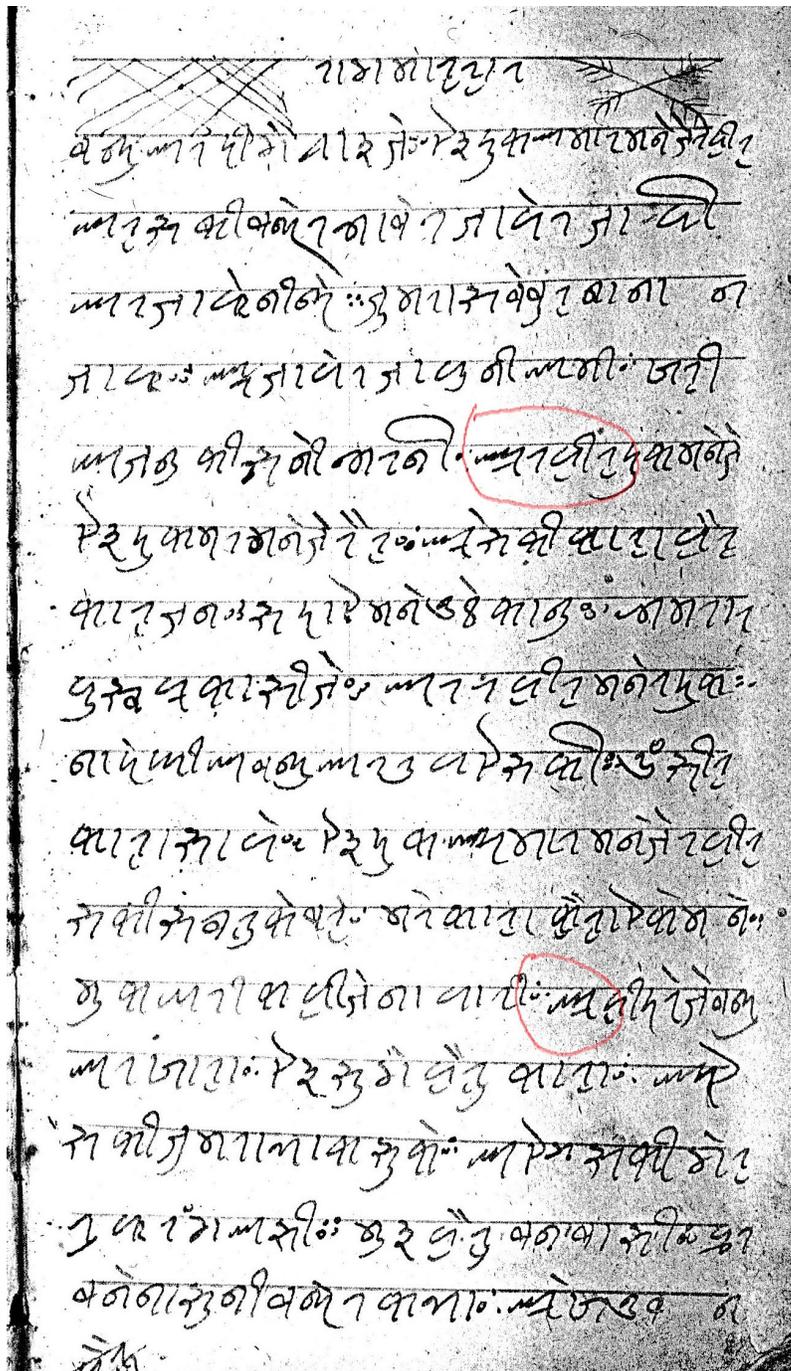
Example 2. Azgn002.jpg 3 examples of 'Al', the first two in 'Alla'



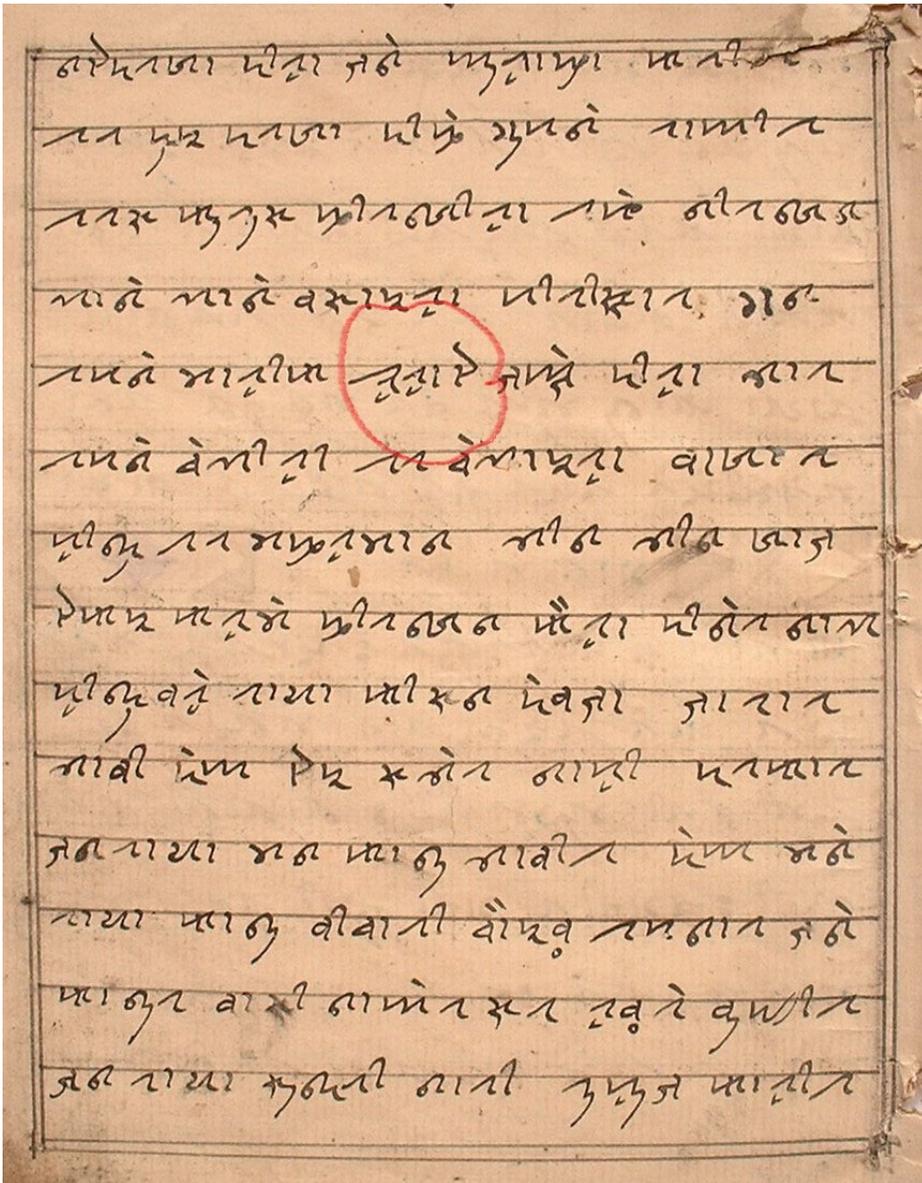
Example 3. Azgn090.jpg an example of 'At', here in the word 'Attar' where the scribe has preferred to use an VC conjunct than a CC conjunct

नाक्रमानीपुपोरमाजेसरेचानेवाडात्र
रगेरगेस्त्रीरेतेनजीद्रुपरा व
सामेसाधामेसातेरमुनरजि व
धे, कृतननादेरेतातेनयाभावेमन
नाक्रमानीपुपोरमाजीवमधेरावाडु
मधोरायालवमोस्त्रीनरेनारवधन
काफकाफजेमनसतोरव न ल
चाफीसरापारेजाभासतानसाधी
सामेसायाजीवेसासतानसाधी
गास्त्रीलयाश्चमजिहीगेजयानसाते
लमलेरफेरीस्त्रीलसागीसागीसागी
देयातेमधुलीलयासरेतानेउरा रे
मागीरुनयाफेनउवडयावा रे
नाहनगाफकीसावेमुसमान १
सरेतानेगीरासम, लफजिसारमाडा
याजीवेवसो-नजेवेश्चलदेहीलजु
उठीलयाफकी

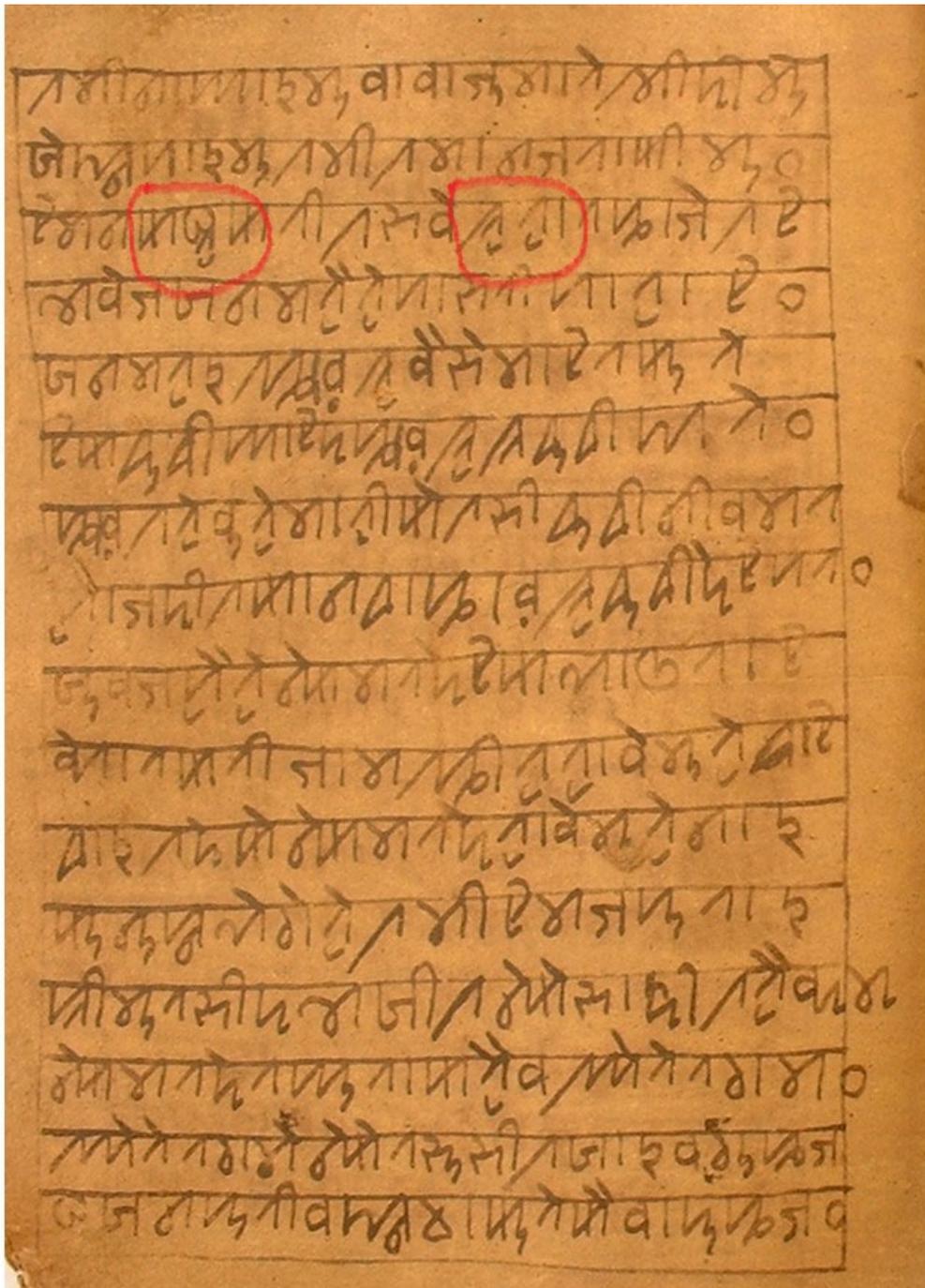
Example 4. BSK2_101.jpg 2 examples of 'Ar', where the first is part of 'Ar Rohil'. Examples of 'Ar' with no conjunct can be seen on this page, including in the first word 'bonduAr'



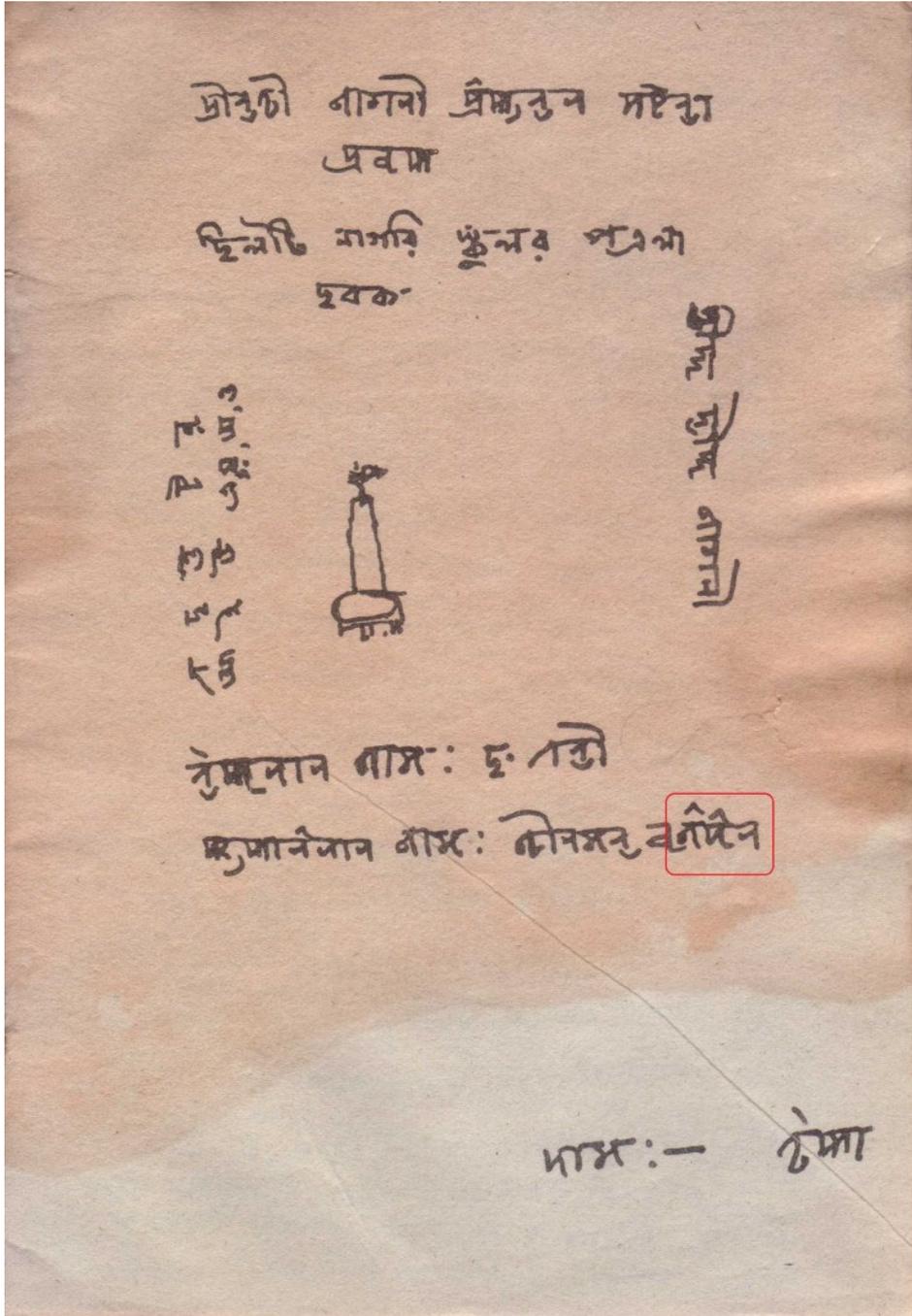
Example 5. MUBJ005.jpg another example of 'Al' in 'Alla'



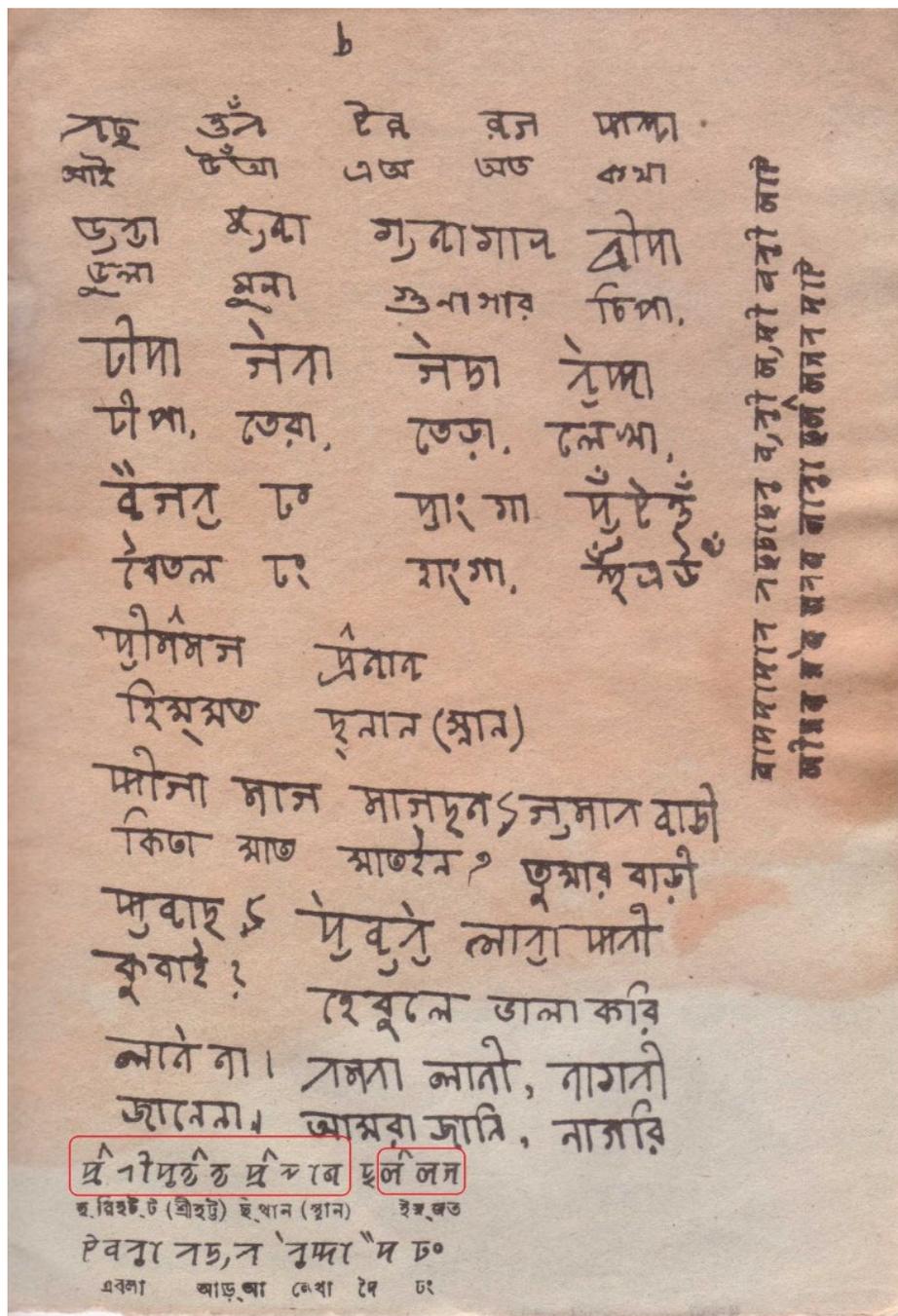
Example 7. SNNN140L.jpg examples of (a) 'U' and (b) of 'Al' in 'Alla'



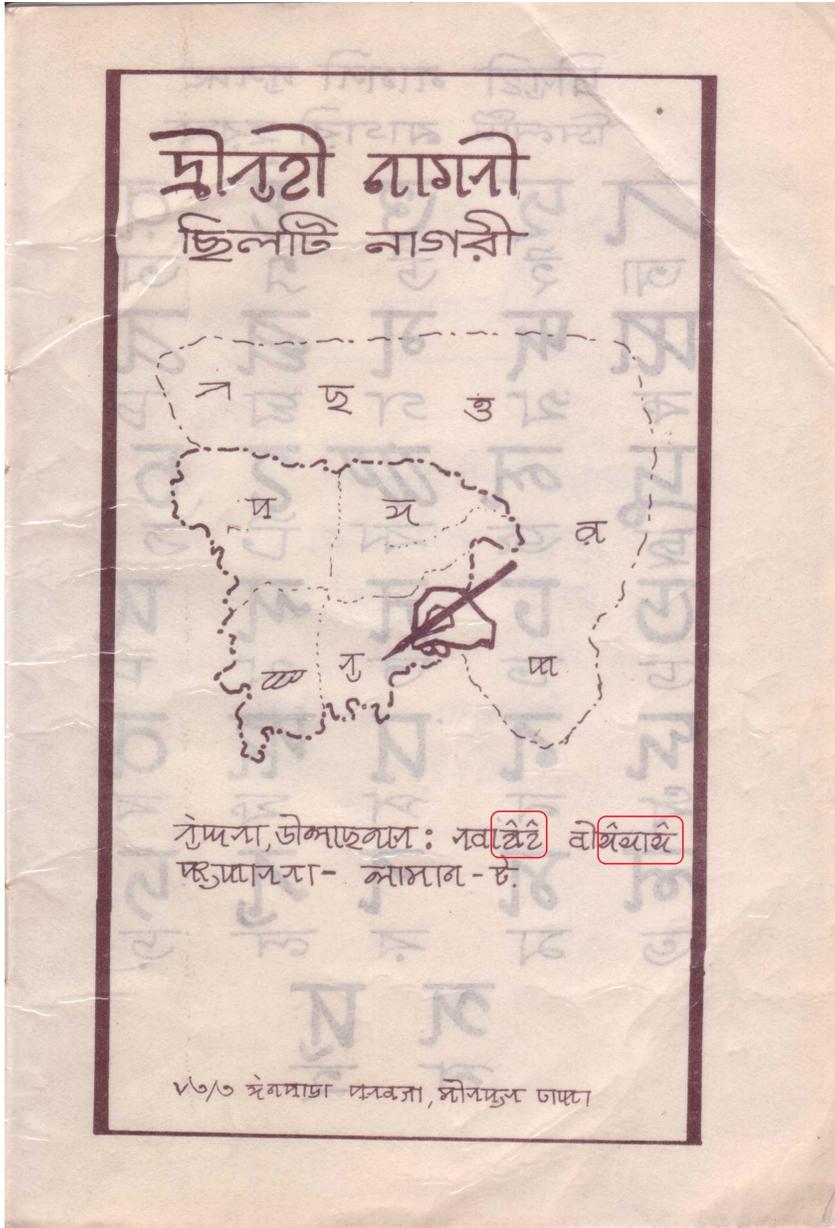
Example 8. Example of two 'Hat' *hasanta* in the name 'Chondro'. *Hasanta* is above the dead consonant.



Example 9. Page 4 of the same booklet showing several examples of the 'hat' *hasanta* overstriking both preceding and following characters.



Example 10. 'Hat' hasanta positioned over a consonant to show there is no inherent vowel following. This occurs in the name 'Robart Bissas' over the letters: 'Robar Bi ssas'. Here the consonants highlighted in yellow are dead and might have been part of a conjunct with the following letter, but those highlighted in green have the hasanta just to show that the inherent vowel is killed.



Example 11: SHOWING THE USE OF THE BENGALI HASANTA IN SYLOTI NAGRI TEXT USING THE SURMA UNICODE FONT (with transcription and translation)

Example 11a. তাল পাঠাইল মানুষ। tar pathail manush. The man sent by him.

Example 11b. সে মানুষ পাঠাইল। he manush pathailo. He sent a man.

Example 11c. তুই জলদি কর! tui joldi kor! Do (it) quickly! (INCORRECT RENDERING)

Example 11d. তুই জলদি কর ! tui joldi kor ! Do (it) quickly!

Example 11e. তুমি জলদি কর! tumi joldi koro! Do (it) quickly!

NOTES:

(a) In examples 11a and 11b, the Bengali *hasanta* serves to distinguish the adjective পাঠাইল (pathail) from the verb পাঠাইল (paṭhailo). However, a native speaker of Sylheti would not need the *hasanta* because he would be able to tell which word is meant just from the context.

(b) In examples 11c, 11d and 11e, the SN *hasanta* ^ shows that the word জলদি is pronounced joldi not jolodi. But again, a native speaker would not need the *hasanta* as he would know the word.

(c) In example 11c, the *hasanta* at the end of the word কর! (kor!) has been incorrectly rendered as ^. The Surma font was intended to automatically produce the Bengali *hasanta* when *hasanta* occurs at the end of a word, but it seems that where a word is followed by a punctuation mark the font fails to recognise that that the word has ended (a font fix is in progress). The example in 11d was 'corrected' by introducing a space before the "!".

(d) In example 11d, the Bengali *hasanta* at the end of কর shows that the word is the 2nd person familiar imperative 'kor' and not the 2nd person common imperative 'koro'. But a native speaker would usually be able to know this from context and would therefore not need to use a *hasanta*.

Sources for examples:

1. ASPN page is from Nur Porichoy by Afzul Shah
- 2-3. The two Azgn pages are from GAFIL NOSIHOT by PIR ODHOM AZMOT
4. BSK2 page is from Collected Songs by FAKIR BHELASHA
5. MUBJ page is from Bhed Johur by Pir Mozir Uddin
6. MUSB page is from SHAHADOTE BUZURGAN BY PIR MOZIR UDDIN AHMED
7. SNNN page is from Nur Nosihot by Syed Shah Nur
- 8-9. E Ali. c1990. SILOTI NAGRI SKULOR POELA SOBOK (Siloti Nagri School - first lesson). Publisher: Nirmol Chandra.
10. Bissas, Robart. c1995. PRIMER - 'SILOTI NAGRI'. Publisher: Zaman A.

Figures from L2/18-259

Figure 1

ॐ ब्रह्मदाह ॐ

नृ नृ नृ ल नृनादु गवी गव,द ज्ञान ॥
 मा मा ल क मक्षा वपेनृना वन मदान ॐ
 मा त ल क तल नृना वामज्ञान ॥
 न न ल ॐ मदन श्रीनादीन दातीन ॐ
 न त र सु मर नादा वनीवान ॥
 न म न न म न नृपा मदन ज्ञान ॐ
 व ल क छ मोक्षेः ज्ञानु दलीन मदी ॥
 न न ल ॐ मदीन वद मादीन वनीनृन गवी ॐ
 न त ल ॐ गारा गानु ज्ञानेन गुरु ॥
 न न ल ॐ ज्ञानेन ज्ञानीने जातो नन मनु ॐ
 व व ल व गुरुनृ नृते गरीन वनीवे ॥
 न व ल व नृया नीनीन ज्ञानीन माकोवे ॐ
 ज्ञ मा ल क मदीने मदीने मदीवे मनुद मानान ॥
 ज्ञ व ल क मोक्षेः माद्वे नृनी तादाते नीज्ञान ॐ
 ज्ञ व ल क वीक्षाज्ञो नृतेन वदह नदन ॥
 ज्ञ त ल ॐ मृक्ष पृश्ने नृवे गुरुनीने ज्ञान ॐ
 न व नृ । नृ मृक्षे । नृ । नीने ॥
 नृ मर । नृ मृक्षे । नृ नृने ॐ
 नृ मृक्षे । नृ मृक्षे । नृ । लन ॐ
 नृ वीनृने । नृ मृक्षे । नृ मृक्षे ॐ
 नृ मृक्षे । नृ मृक्षे । नृ वीने ॐ

Script Usage

The Mayor of Sylhet has just inaugurated a beautiful new square in the part of Sylhet City just to the south of the Keene Bridge and named it 'Nagri Square' ('Nagri Catwar' নাগৰী চত্বৰ in Bangla or নাগৰী বৰদল in Nagri). The centrepiece is a large pillar with Nagri words and letters, using the Surma typeface.

Wikipedia articles concerning Sylhet and Sylheti language related topics have started to include Nagri renderings of Sylheti words and names, see e.g. the articles on Channel S and on Shah Jalal.

There are Facebook and WhatsApp groups that communicate in Nagri, but due to the lack of functionality of the font in Android users must make use of playstore apps which produce Nagri words as graphic images, or are reduced to handwriting or printing out their message and sending as a photo. This is a big frustration to users.



নগরীর সুরমা পয়েন্টে নবনির্মিত সিলেটের নাগরি ভাষা সখলিত নাগরি চত্বর ছবি- আব্দুল বাতিন ফয়সল

সুরমা পয়েন্টে নির্মিত নাগরি চত্বর পর্যটকদের আকৃষ্ট করছে

চত্বরের আপাদমস্তক ভুল-স্থপতি শুভজিত চৌধুরী

আহমাদ সেলিম •

এক সময় সিলেটে ব্যাপক প্রচলিত ছিলো নাগরি লিপি। তারপর একটা সময় সিলেটীদের মুখ থেকে হারিয়ে যায় বহুল পঠিত এই লিপি। এ লিপিতে সেসময় সিলেট অঞ্চলে রচিত হয়েছে অনেক মূল্যবান সাহিত্য। বর্তমানে অপ্রচলিত এই লিপির ঐতিহ্য ধরে রাখতে কীর্নব্রীজের সামনে সুরমা পয়েন্টে নির্মিত হয়েছে নাগরি চত্বর। নির্মাণের পর থেকে এটি পর্যটকদের আকৃষ্ট করছে। কিন্তু সেটি নিজের নকশা অনুযায়ী হয়নি বলে অভিযোগ করেছেন চত্বরের ডিজাইনার স্থপতি শুভজিত চৌধুরী। একইভাবে ক্ষোভ প্রকাশ করেছেন এ লিপির সাথে নতুন প্রকল্পকে পরিচয় করিয়ে দিতে এবং নাগরি লিপি ও তার সাহিত্য পুনরুদ্ধারে বিগত দশ বছর ধরে কাজ করে যাওয়া টাকার খ্যাতিমান প্রকাশনা সংস্থা উৎস প্রকাশনার কর্তব্য মোস্তফা সেলিম। তিনি বলছেন, এই চত্বর স্থাপন করার জন্য সিলেট কর্পোরেশনের মেয়র অরিফুল হকের সাথে আমরা মতবিনিময় করেছি। যদিও

সিলেট জেলা পরিষদ। তিনি বলেন, বর্তমানে যেটিকে নাগরি চত্বর বলা হচ্ছে সেটি পুরো অংশে জুলের ছড়াছড়ি। যা আমাদের প্রত্যাশা ছিলোনা। পর্যটকদের আকৃষ্ট করতে সিলেট শহরের প্রবেশমুখ কীর্নব্রীজের সামনে সুরমা পয়েন্টে ইদের পূর্বে নির্মিত হয় চত্বরটি। বর্তমান প্রকল্পকে তাদের পৌরস্বের ঐতিহ্য সম্পর্কে সচেতন করার লক্ষ্যে জেলা পরিষদ এটি নির্মাণ করে। নির্মাণের পর থেকে চত্বরটি সিলেটে আগা দেশী-বিদেশী পর্যটকদের আকৃষ্ট করেছে। একইসাথে চত্বরটি নিয়ে ক্ষোভেরও শেষ। চত্বরটির স্থপতি দেবজিত চৌধুরীও হতাশ। তিনি বলেন, কোনটা বাদ দিয়ে কোন জুলের কথা বলা। এটি আপাদমস্তকই ভুল। চত্বরের উপর থেকে নিচ পর্যন্ত এমনকি মাপেও ভুল করা হয়েছে। যেভাবে টেরাকোটা বা অন্যান্য-জিনিসপত্র ব্যবহার করার কথা সেরকম করা হয়নি। কাজও হয়েছে খুবই নিরুপায়ের। অথচ যে টাকা বরাদ্দ দেয়া হয়েছে সেই টাকা দিয়ে অন্যান্যসে পরিকল্পনা মতো কাজ করা যেতো। তিনি জুলের জন্য জেলা পরিষদ বরাবরে একটি নির্দিষ্ট অতিযোগ্যও করেছেন। এক সময়

৯ এর পৃ. ১ ক. দেখুন

স্ট্রী
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