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Title: Preliminary Proposal to Encode the Mahajani Script in ISO/IEC 10646

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1 Background

Mahajani is a Brahmi-based writing system that was used across northern India until the middle of the 20th century. The name 'Mahajani' (Hindi موجمع 'Hहाजनी mahājanā' (Hindi مراف sarrāfi of bankers and money lenders, with whom the script was primarily associated. It is also known as Sarrafi (Hindi सराफ़ी sarrāfī of Arabic مراف ṣarrāf 'banker')¹ and as Kothival (कोठीवाल koṭhīvāla 'merchant').²

Mahajani is a specialized commercial script used for writing accounts and financial records. It was used for recording several languages, namely Hindi, Marwari [rwr], and Punjabi. The script was taught and used as a medium of education in Punjab, Rajasthan, Uttar Pradesh, Bihar, and Madhya Pradesh in schools known as বহগালা caṭaśālā-s, where students from merchant and trading communities learned the script and other writing skills required for business.³

The majority of Mahajani documents are account books known as बही-खाता bahī-khātā. Other documents produced using the script are merchant diaries (रोज़नामा roznāmā); financial instruments, eg. bills of exchange (हुंडी huṃḍī); and letters (चिट्ठी ciṭṭhī), among many others.

Several lithographed books for teaching the script were produced in the late 19th century. One such instructional manual is महाजनीसारहिस्साअव्वलवदोयम [Mahājanī-sāra-hissā-avvala-va-doyama], written by Lālā Gaṅgādāsa Muṃśī Lāla in Delhi in the 19th century. It teaches the Mahajani script and explains methods of accounting and letter writing. It contains Hindi text in Mahajani, Devanagari, and the Perso-Arabic scripts (see Figure 5). Another primer is महाजनीसार [Mahājanī-sāra], which was written in Hindi by Śrīlāla in 1875 and published in Allahabad (see Figure 6 and Figure 7). Śrīlāla also published a supplementary edition of his text in Devanagari (see the comparison in Figure 8).

Several specimens of Mahajani appear in grammar books, script primers, and other such materials. Charts showing the script are given by George A. Grierson in *A Handbook to the Kaithi Character* (1899) and by Samuel Kellogg in *A grammar of the Hindi language* (1876). Gottlieb W. Leitner included numerous specimens of Mahajani as used in Punjab in *History of Indigenous Education in the Punjab* (1882).

Mahajani is not commonly used in present-day India. But, there is evidence that the script is not entirely obsolete. In 2004, an article in the *Tribune* newspaper of Chandigarh, India reported the demise of 'Langdi Hindi', which appears to be a form of Haryanvi [bgc] used specifically for bookkeeping that is written in Mahajani. Although the Mahajani script is no longer in general use, it is an important key to the historical financial records of northern India.

² Hoernle 1880: 2.

³ Leitner 1882: 37.

¹ Kellogg 1876: 17 fn 31.

1.1 Relationship to Other Scripts

Mahajani has similarities to Landa, Kaithi, and Devanagari. A comparison of these scripts is given in Table 2 and Table 3. See also the comparison of Mahajani with scripts of the Sharada family in Figure 17.

In structure and orthography, Mahajani resembles scripts of the Landa family used in Punjab and Sind,⁴ which are related to Sharada. The term landa (Punjabi छंडा; Hindi लंडा landa, 'tailless, clipped') refers to certain characteristics possessed by these writing systems, such as an abbreviated repertoire of vowel and consonant letters, the absence of vowel signs, inattention to word spacing, etc. As shown in the above tables, Mahajani and Landa have similar glyphs for vowel letters, but there are considerable differences in the glyph shapes of consonant letters.

Mahajani is often described as a derivative of Kaithi⁵ or a 'tachygraphic abbreviation' of Devanagari.⁶ While there are similarities between these scripts, the majority of Mahajani letterforms are distinct from those of Kaithi and Devanagari. Moreover, while Mahajani may have been influenced by Kaithi and Devanagari, it possesses structural, orthographic, and graphical features that are distinct from these scripts.

The term 'Mahajani' also refers to a style of writing other scripts when used in commercial activity. For example, the name 'Mahajani Dogra' refers to a form of the Dogra script used by merchants, which is written in a manner characteristic of the Mahajani or Landa style. The term 'Mahajani' has also been applied to the Gujarati script and to a form of Devanagari used for writing Marwari and other languages of Rajasthan.

Mahajani is closely related to a group of scripts called 'Sarrafi', or 'banker's script'. The form of Sarrafi as used in Delhi is shown in Figure 13–16. The letterforms of 'Delhi Sarrafi' are very similar to the forms of Mahajani. Another group of scripts closely related to Mahajani is that called 'Baniauti' by Kellogg, shown in Table 11. These scripts may be unified with Mahajani.

2 Character Repertoire and Letter Forms

The regional forms exhibit a high level of uniformity in terms of character repertoire and glyph shapes, as shown in Table 1. The specimens show two broad varieties of Mahajani, which can be classified as the forms used in Delhi and further west, as exemplified by Gaṅgādāsa; that used in the eastern United Provinces (Uttar Pradesh) and Bihar, as shown by Grierson and Kellogg; and a more general form used throughout this region that is illustrated by Śrīlāla.

The forms of Mahajani shown by Gaṅgādāsa, Kellogg, and Śrīlāla share great similarities, while Grierson's is a bit distinct. For the most part, the character repertoires shown by these four are fairly similar. The greatest differences are the representation of vowel letters, vowel signs, and nasal consonants. Grierson's character repertoire appears to be an idealized form of Mahajani that is unlike to be attested. The forms shown by Gaṅgādāsa, Kellogg, and Śrīlāla are more suggestive of actual usage, as illustrated by published materials.

The proposed character repertoire for Mahajani is based upon the inventory shown in Table 1. The glyph shapes are based upon forms used by Gaṅgādāsa, or what might be called 'Delhi Mahajani'. Delhi Mahajani appears to be a standardized form of the script that is comparable to Sarrafi (see Figure 13–16). The source is a printed work and is illustrative of a standardized form of Mahajani used at the end of the 19th century.

⁴ See Pandey 2010 for details.

⁵ Kellogg 1876: 17

⁶ Leitner 1882: 37.

The character repertoire contains characters not attested in Gangādāsa, such as NYA and NNA. Glyphs for these characters based upon upon Grierson's forms.

2.1 Notes on Characters Proposed

The proposed character set and nameslist is shown in Figure 1. Notes on specific characters proposed for encoding are given below:

- NNA The character **W** NNA is proposed for encoding because it is attested in several sources, such as Grierson and Leitner. It is not attested in Gangādāsa or Śrīlāla. Kellogg uses **5** NA for NNA.
- NYA The character > NYA is rare. It is attested only in Grierson. Gangādāsa, Kellogg, and Śrīlāla use NA for NYA.

2.2 Characters Not Proposed

The following characters are not proposed for encoding:

- AA Attested only in Grierson (see Figure 9).
- II Not a unique letter. Written using 6 I.
- UU Not a unique letter. Written using **3** U.
- E Attested by Kellogg as the unique character \wp . This letter is generally written using 6 I.
- AI Not a unique letter. Written using 6 I.
- O This letter is represented uniquely by Grierson as \Leftrightarrow and by Kellogg as \Leftrightarrow . Grierson's \Leftrightarrow is not a unique character; it is the glyph \Leftrightarrow BA + \bigcirc NUKTA, which is also used for representing \Leftrightarrow NGA in his chart. Kellogg's form appears to be distinct, but it is unattested in other sources, such as Gaṅgādāsa and Śrīlāla. The vowel letter o is generally written using \Im U.
- AU Not a unique letter. Written using 3 U.
- vowel sign as Attested only in Grierson (see Figure 9).
- vowel sign i Attested only in Grierson (see Figure 9).
- vowel sign U Attested only in Grierson (see Figure 9).
- VOWEL SIGN E Attested only in Grierson (see Figure 9).
- vowel sign o Attested only in Grierson (see Figure 9).
- NGA Shown by Grierson as . It is not a unique character, but a composite formed from & BA + NUKTA. It is not attested in other sources. Gangādāsa, Kellogg, and Śrīlāla use NA for NGA.
- YA Shown by Grierson as . Not attested in other Mahajani sources. It is generally represented using 9 JA.
- SHA Shown by Grierson as &. Not attested in other Mahajani sources. It is generally represented using § SA.

• ssa Shown by Grierson as &. Not a unique character. It is generally written using \$ kha, as is the case for Grierson's form.

3 Writing System

Structure Mahajani is based upon the Brahmi model, but it is structurally simpler and behaves as an alphabet. Vowel signs are not used. The script is written from left to right.

VIRAMA There is no attested use or graphical shape for VIRAMA in Mahajani. A generic VIRAMA is proposed for encoding in order to enable the representation of special ligatures (see 'Special Ligatures' below).

Vowel Letters There are only three vowel letters: 3\(\) A, \(6\) I, and \(\frac{3}{2}\) U. Other vowels are represented using these characters: \(6\) I is used for writing *II, *E, *AI and \(\frac{3}{2}\) U is used for *UU, *0, *AU.

Vowel Signs Vowel signs are not written. The glyph **3** KA represents not only ka, but also any one of the syllables ka, $k\bar{a}$, ki, $k\bar{r}$, ke, etc. In cases where greater precision is required, a vowel letter may be written after a consonant to convey the intended vocalic context, eg. ki may be written **36**, but this also represents $k\bar{\imath}$ and $ka\bar{\imath}$. In general, the value of a consonant letter must be inferred at the morphological level.

Consonant Letters Consonant letters theoretically bear the inherent vowel /a/.

Consonant Conjuncts Consonant clusters are not written in Mahajani using half-forms or ligatures or a visible VIRAMA. The elements of a consonant cluster are written sequentially using regular consonant letters.

Nasalization Nasalization is not represented using special signs, such as ANUSVARA. The letter \bullet NA is used in cases where nasalization is explicitly recorded. In several cases, words are written simply with the nasalization sign deleted, eg. Devangari $\frac{1}{6}$ hum $\frac{1}{6}$ and Mahajani 4 hd.

NUKTA The use of ONUKTA is limited. As in other Indic scripts, NUKTA is written with a base letter in order to represent other phonetic values. In Gaṅgādāsa's repertoire, the character BA is written as ♠, which may be decomposed as ♠ PA + ONUKTA. In Grierson's inventory, the vowel letter ❖ o is written by adding NUKTA to ❖ BA.

Digits Digits similar to those used in major north Indic scripts, such as Devanagari and Gujarati, are attested. Digits for Mahajani may be unified with those of Devanagari.

Number Forms Fraction signs (\neg , \equiv , etc.) and unit marks (\supset , \supset , etc.) are found in Mahajani documents (see Figure 2). These may be represented using the characters encoded in the 'Common Indic Number Forms' block (U+A830..U+A83F).⁷

Special Ligatures Śrīlāla shows the ligature , which corresponds to Devanagari (Sha + Virama + Ra + Vowel sign II). This ligature may be represented in Mahajani as: SA + VIRAMA + RA + II.

Variant Forms Several letters have glyphic variants: \sim CA is also written as \sim A is written as \sim and \sim ; etc. These variants should be managed as presentation forms.

⁷ See Pandey 2007 for more information on these characters.

Word Boundaries There are no formal rules for word spacing. Generally, word spacing is not observed.

Punctuation There are no unique marks or formal rules for punctuation. Marks similar to a dash, middle dot, and colon are used in various documents for marking sentence boundaries. The use of $dand\bar{a}$ s are also attested. These marks may be unified with corresponding characters in Latin and Devanagari.

Ruled Lines Ruled lines are used in Mahajani records as a method of titling and structuring documents. These lines are not identical to the head-stroke found in modern Devanagari letters.

Collation The collating order follows the encoding order.

Linebreaking Attention is not paid to linebreaking in running text. Linebreaking rules implemented for Devanagari may be used for Mahajani.

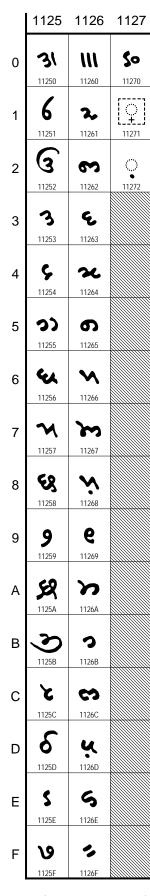
Character Properties Properties for Mahajani characters in the Unicode Character Database format are:

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11250; MAHAJANI LETTER A; Lo; 0; L;;;;; N;;;;
11251; MAHAJANI LETTER I; Lo; 0; L;;;;; N;;;;
11252; MAHAJANI LETTER U; Lo; 0; L;;;;; N;;;;
11253; MAHAJANI LETTER KA; Lo; 0; L;;;;; N;;;;;
11254; MAHAJANI LETTER KHA; Lo; 0; L;;;;; N;;;;
11255; MAHAJANI LETTER GA; Lo; 0; L;;;;; N;;;;
11256; MAHAJANI LETTER GHA; Lo; 0; L;;;;; N;;;;
11257; MAHAJANI LETTER CA; Lo; 0; L;;;;; N;;;;
11258; MAHAJANI LETTER CHA; Lo; 0; L;;;;; N;;;;
11259; MAHAJANI LETTER JA; Lo; 0; L;;;;; N;;;;
1125A; MAHAJANI LETTER JHA; Lo; 0; L;;;;; N;;;;;
1125B; MAHAJANI LETTER NYA; Lo; 0; L;;;;; N;;;;
1125C; MAHAJANI LETTER TTA; Lo; 0; L;;;;; N;;;;;
1125D; MAHAJANI LETTER TTHA; Lo; 0; L;;;;; N;;;;
1125E; MAHAJANI LETTER DDA; Lo; 0; L;;;;; N;;;;
1125F; MAHAJANI LETTER DDHA; Lo; 0; L;;;;; N;;;;
11260; MAHAJANI LETTER NNA; Lo; 0; L;;;;; N;;;;
11261; MAHAJANI LETTER TA; Lo; 0; L;;;;; N;;;;;
11262; MAHAJANI LETTER THA; Lo; 0; L;;;;; N;;;;
11263; MAHAJANI LETTER DA; Lo; 0; L;;;;; N;;;;
11264; MAHAJANI LETTER DHA; Lo; 0; L;;;;; N;;;;
11265; MAHAJANI LETTER NA; Lo; 0; L;;;;; N;;;;
11266; MAHAJANI LETTER PA; Lo; 0; L;;;;; N;;;;;
11267; MAHAJANI LETTER PHA; Lo; 0; L;;;;; N;;;;
11268; MAHAJANI LETTER BA; Lo; 0; L;;;;; N;;;;
11269; MAHAJANI LETTER BHA; Lo; 0; L;;;;; N;;;;
1126A; MAHAJANI LETTER MA; Lo; 0; L;;;;; N;;;;
1126B; MAHAJANI LETTER RA; Lo; 0; L;;;;; N;;;;;
1126C; MAHAJANI LETTER LA; Lo; 0; L;;;;; N;;;;
1126D; MAHAJANI LETTER VA; Lo; 0; L;;;;; N;;;;
1126E; MAHAJANI LETTER SA; Lo; 0; L;;;;; N;;;;;
1126F; MAHAJANI LETTER HA; Lo; 0; L;;;;; N;;;;;
11280; MAHAJANI LETTER RRA; Lo; 0; L;;;;; N;;;;
11271; MAHAJANI SIGN VIRAMA; Mn; 9; NSM; ;; ;; N; ;; ;;
11272; MAHAJANI SIGN NUKTA; Mn; 7; NSM; ; ; ; ; N; ; ; ;
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Independent vowels

11250 3 MAHAJANI LETTER A 11251 6 MAHAJANI LETTER I 11252 6 MAHAJANI LETTER U

Consonants

11253 3 MAHAJANI LETTER KA 11254 MAHAJANI LETTER KHA 11255 **3)** MAHAJANI LETTER GA 11256 🐼 MAHAJANI LETTER GHA 11257 MAHAJANI LETTER CA 11258 🔇 MAHAJANI LETTER CHA 11259 **9** MAHAJANI LETTER JA 1125A 🙎 MAHAJANI LETTER JHA 1125B MAHAJANI LETTER NYA 3 1125C MAHAJANI LETTER TTA 1125D MAHAJANI LETTER TTHA 1125E 2 MAHAJANI LETTER DDA 1125F MAHAJANI LETTER DDHA 19 11260 MAHAJANI LETTER NNA 11261 MAHAJANI LETTER TA 11262 m Mahajani letter tha 11263 **&** MAHAJANI LETTER DA 11264 × MAHAJANI LETTER DHA 11265 n MAHAJANI LETTER NA 11266 MAHAJANI LETTER PA 11267 MAHAJANI LETTER PHA 11268 MAHAJANI LETTER BA 11269 **e** MAHAJANI LETTER BHA 1126A **>>** MAHAJANI LETTER MA 1126B MAHAJANI LETTER RA 1126C MAHAJANI LETTER LA 1126D MAHAJANI LETTER VA 1126E 6 MAHAJANI LETTER SA 1126F • MAHAJANI LETTER HA 11270 **\$\sigma\$** Mahajani Letter Rra

Various signs

11271 MAHAJANI SIGN VIRAMA 11272 MAHAJANI SIGN NUKTA

Figure 1: Proposed code chart and nameslist for Mahajani.



Table 1: Mahajani letterforms from (A) Gangādāsa, (B) Śrīlāla, (C) Grierson, and (D) Kellogg.

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Figure 2: Table of Mahajani letters (from Gaṅgādāsa 18–?: 12). Also shown is a table of currency fractions titled 'आनापाई' *ānā pāī*.

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Figure 3: Personal names written in Mahajani, Devanagari, and Arabic scripts (from Gaṅgādāsa 18–?: 12).

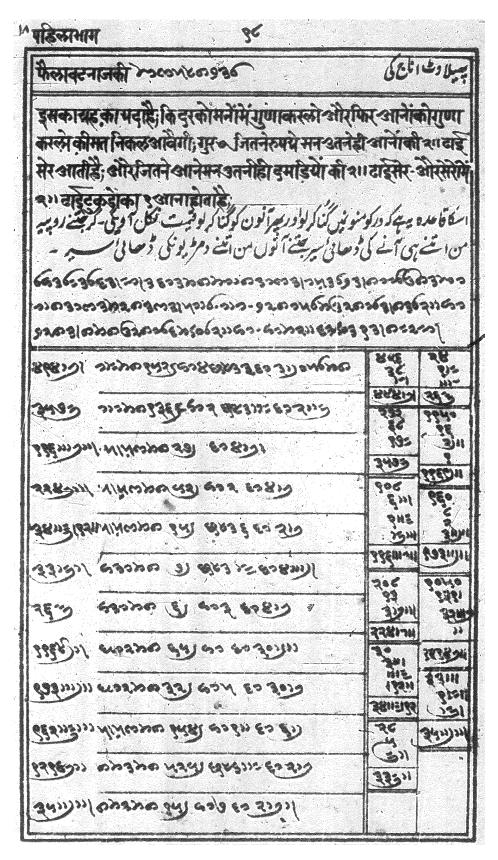


Figure 4: Page from Gaṅgādāsa containing in Devanagari, Mahajani, and Arabic (from Gaṅgādāsa 18–7: 18).

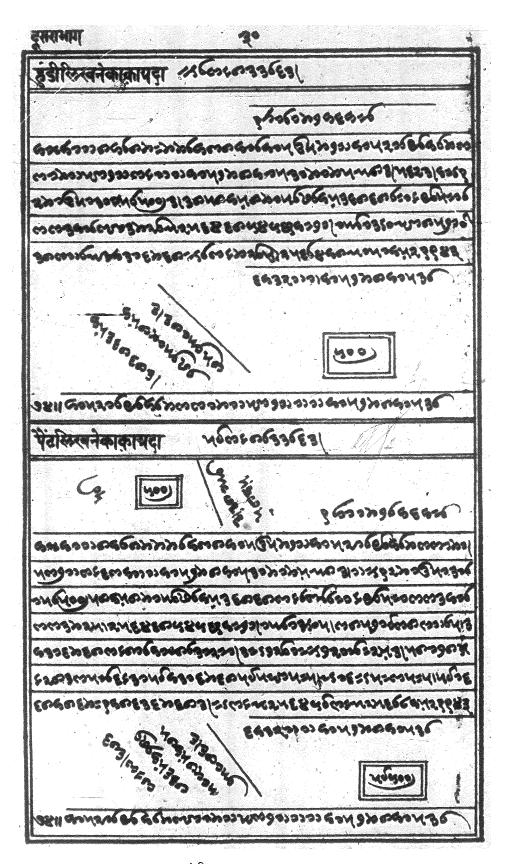


Figure 5: Instructions for writing a हुंडी $humd\bar{\iota}$ 'bill of exchange' (from Gangādāsa 18–?: 30).

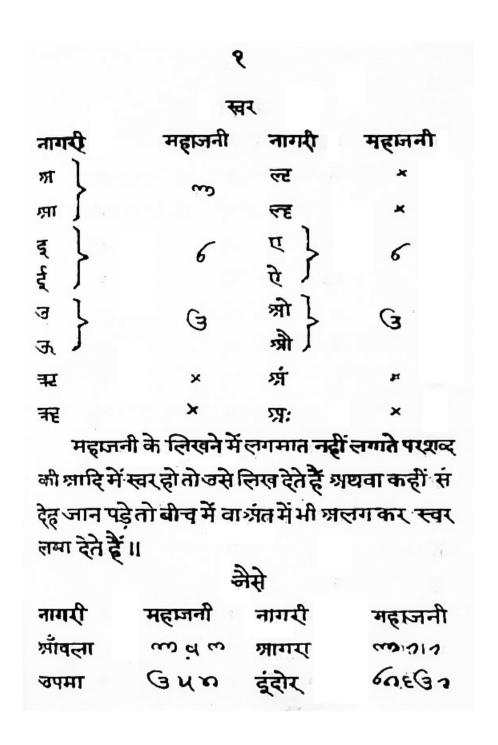


Figure 6: Table of Mahajani vowel letters (from Śrīlāla 1875: 1).

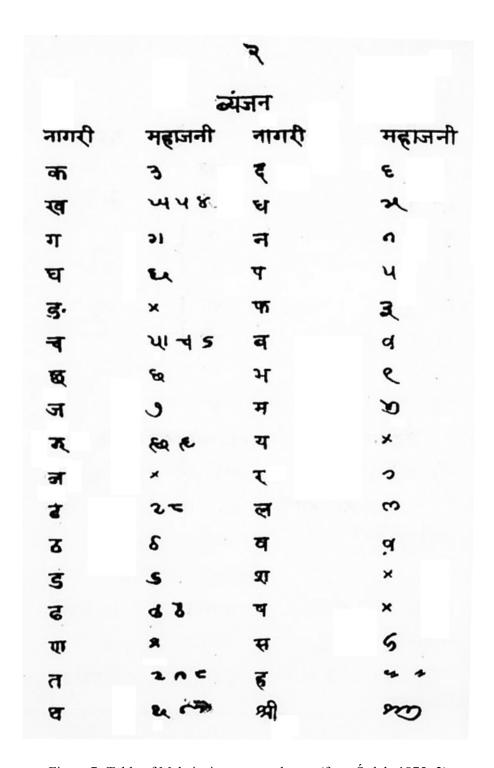


Figure 7: Table of Mahajani consonant letters (from Śrīlāla 1875: 2).

पन्ना ४

.

gman 38 30

की राम राम बंचने छागे हंडी १तुमारे अपरकारीर सिधि श्रीबनारस सुषान श्री पत्रीभा ईपरमसीपर तापसी मोगलिखी घ्यागरेसे संतोखराय रूप चंद जो गचलन बाजार ि काना लगाइ चो क सकर दाम सा हे पांच सी के ट्रेने ट्रेनाय हार क्रेमा ईंच संतराम पेये अ 🍛 अंसनमपैय ग्यारह मी सेनी में स्पेये माषोरामकोकातिगवदी ६ दिन २१ पाझेसाह देना रंबत् १८०३ कातिगबदी ६ 106 80 38 U 88 0 3 0 3 0 5 5 5 6 M Ex 6=871 Limes ag 183 amale nosghe wassek ghe osci 115623E0E06=14166 a501 xxx 2003 3001 065 60 38 4 09901000 mw16899hoch990 इसम्मा स्वा न ५६ हर्ष १३ म त न मही पह हिन्द्र नायह ३०० वर्ष व्यान १००० 00 2 000 (3 47 37 246 800)

दस खत बसतराम के इंडी के मिरेकपर इसरी तसे लिखाजाता है एक. किनारेपर निशानी अपनी बद वाउन की बद लि-खीजाती है

दिस कड में डे प्रह डिम है ल प्यवतन्ह

ग्वह ह हर्या वड्गाम ३०

pason mosoch coeeg1

एकतरफद्सर्वतमालिकके इसरीत मेर्सखत मंतोरर एय क्षचंद्के इंडीलिखे म्जनस्कार्व महेनाद्स खतब्हाद्र सिंघ के इंडीमें र्सखत नंसतरमके

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(303 ace m 20 = 6

5005 ER3 & DES UN 45000

336 m wom 323 66

9=usw

pum530303165660mu

Figure 8: Excerpts from Mahajani (1875: 5) and Devanagari (1850: 5) versions of Śrīlāla's primer.

PLATE I.

Deva nág ar i		Mahájani	English	Devand gari.		Mahdjani	English:	Deva- noigari	Kayathi	Mahájani	English!
য	શ્ર	S.	a	3.	G	્ર	n	न	ৰ	0	n
ग्रा ।	ઝું ા	3,5	á	च	4	九	ch	प	ч.	20	p
दू १	* 9	र्र	$\dot{\nu}$	8	છ	છ	chh	4	ઝુ	3	ph
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S &	6	CU	u	邗	હ	Œ	jh	म	1	e	bh
510	3	6	ú	স	ઝ	3	'n	म	H	32	m
我と		೭	ri	3	દ	2	ţ	य	ч	63	yj
	8) g 3	67	e	ठ	8	. ර	th	र	1	2	r
3 3	3	5	ai	3	3	2	d	लं	6	S	i
ग्रोने	ओो प	Q,	0	उ	b	79	dh	व	4	ce	$\boldsymbol{v}.\boldsymbol{b}$
到了	ओं ने	ex	au	सा	1	3))	ņ	य	21	रट	\$
क	ቀሣ	3	k	त	9	10	t	स्र	બ	20	sh,kh
ख	બ	ಕಲ .	kh	घ	थ	مى	th	स	स	20	s
ग	11	22	g	दं	4	8	d	ह	5	3	h
द्य	ध्	EC	gh	घ	ধ	فد	dh				

COMBINATIONS OF VOWELS.

Devanágari	Kayathi'.	Mahájani	English!	Devanágari	Kayathi.	Mahájani.	English.
त्रुक ः	भ्रक्ष	3	aka	ऋक	निकेस	2312	rikri
ग्राका .	श्रा काया	3 533	áká	स्क	e 3 के	63	eke
11 94	इकि छ	દરૂ	iki	रेके	श्रेके उ	836	aikai
ट्रैकी े	हिता की	દસ	iki	ग्रोको	श्रीओं की	433	oko
उकु	८ ते के	(63)	uku	त्रीकी	એ) હો	1636	aukau,
জক্	उ है क	(3)	ukú		α , , , , , , , , , , , , , , , , , , ,		

Table showing the corresponding forms of the Devandgari, Kayathi, Mahajani and English alphabets.

Figure 9: Comparison of Mahajani, Kaithi, and Devanagari (from Grierson, 1899: Plate I).

Någari.	Kaithí.	Mahájaní	Nágari.	Kaithí.	Mahájaní.
স্থ	ल	സ	ठ	8	6
श्रा १	ल्नाा	സ	ङ	3	.5 5
इरी	इि	6	ह	5	る
र्द्	इ दे १	6	ण	<i>त</i> त	0
उ०	કે હ	6	त	त	~
सा क्षमक के कि	31 ~	6	घ	न्प	80 V 87 E
おとなるが、	-	-	द		E
ਦ 2	E A	μ	ध	च	ન્ય ધ
रे के	र्ट क्र	يو	न	त	5
ख्रो	ए रे ए के ल्लो रे	Suo	प	ध य र	ч
ख़ी नै	लोी	يمي	দ্	फ् यं च हुन	य ६ प म य ७
क	কা	3	ब	व	વ
ख	व्य	u	भ	প	e
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⁻घ	च	हुं हुं	य	यान	4 B)
ड∙	ก	6	र	7	フ
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क ख़ म घ छ च छ	ह्	હ્ય	ठ छ छ ए ह ष ४ म ए ४ ए व	व	ব
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न	đ	6	स	प्प स्	S
_ S.	2	2	ह	इ	= 5

Figure 10: Comparison of Mahajani, Kaithi, and Devanagari (from Kellogg 1876: plate after p18).

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-HINDI ALPH Mahájaní.	2	8	5 5	ન દ		h	£ 1	η <u>γ</u> Ά <u>α</u>	· 6	,	2	m	ัช .	ص الا	; ,	<u>ي</u>	N	3	,	2	3	S) (I
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5. Baniautí.	33	ξ.	Ų	yo o	o Vo)	Þ	1/1	<i>)</i>	ક્ષિ	Ę		m	3.),	હ	8	`	¥ 	ঠ	~	3u	y
IE I.—HINDI ALPHABETS Kayathi. Mahájaní.	æ	ξ		, 6,	o 4c)	4	Ò	\ ·	£	£		'n	3	Я	-Si	٦,	!	<u>2</u>	œ	ಶ	Æ,	E
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Figure 11: Comparison of Kaithi with other scripts used for writing Hindi (from Kellogg 1893: 26–27).

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Figure 12: Comparison of Mahajani and other scripts (from Hoernle 1880).

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Figure 13: Comparison of various Landa forms with Delhi Sarrafi (from Leitner 1882: Set 2).

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Figure 14: Comparison of various Landa forms with Delhi Sarrafi (from Leitner 1882: Set 2).

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Figure 15: Comparison of various Landa forms with Delhi Sarrafi (from Leitner 1882: Set 2).

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Figure 16: Comparison of various Landa forms with Delhi Sarrafi (from Leitner 1882: Set 2).

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Figure 17: Comparison of Mahajani with Brahmi and other scripts of the Sharada family (from Mule 1974: 160-162).

	MAHAJANI	LANDA	KAITHI	DEVANAGARI		MAHAJANI	LANDA	KAITHI	DEVANAGARI
KA	3	ચ	41	क	DA	દ	Y	٤	द
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JA	9	7	Ŋ	ज	MA	જ	N	H	म
ЈНА	吳	*	Ę	झ	YA	_	21	યૂ	य
NYA	ઝ	A	બ	স	RA	3	ð	1	र
TTA	૪	4	ડ	ट	LA	ဇာ	7 0	9	ल
TTHA	8	٥	S	ठ	VA	ņ	2	વ઼	व
DDA	\$	3	ઙ	ड	SHA	_	_	શ	श
DDHA	v	ર	ઢ	ढ	SA	5	ゝ	સ	स
NNA	Ш	ک	Ж	ण	НА	4	5	۶	ह
TA	2.	3	\mathbf{Q}	त	RRA	\$0	ች	(\$)	(\square)
THA	ಉ	a	થ	थ					

Table 2: Comparison of consonant letters of Mahajani, Landa, Kaithi, and Devanagari.

	MAHAJANI	LANDA	KAITHI	DEVANAGARI		MAHAJANI	LANDA	KAITHI	DEVANAGARI
A	31	w	શ્ર	अ	-A	_	_	_	_
AA	_	_	શ્રા	आ	-AA	_		્	ा
I	6	6	২	इ	-I	_	_	િ	ি
II	_	_	ई	इ	-II	_	_	ી	ी
U	3	6	E	उ	-U	_	_	ु	ુ
UU	_	_	ઝ	ऊ	-UU	_	_	ૂ	्
E	_	_	у	ए	-E	_	_	े	9
AI	_	_	б	ऐ	-AI	_	_	ै	ै
0	_	_	શ્રો	ओ	-О	_	_	ો	ो
AU	_	_	શ્રૌ	औ	-AU	_	_	ী	ौ

Table 3: Comparison of vowel letters and signs of Mahajani, Landa, Kaithi, and Devanagari.