Request to Allocate the Maithili Script in the Unicode Roadmap

Anshuman Pandey
University of Washington
Seattle, Washington, USA
apandey@u.washington.edu

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1 Introduction

This proposal seeks to allocate the Maithili script in the Supplementary Multilingual Plane (Plane 1) of Unicode. The Maithili script is a Brahmi-based script that is used predominantly in the state of Bihar in India and in Nepal for writing Maithili, an Indo-Aryan language spoken by more than 22 million people worldwide. Maithili is an officially-recognized language of India and the second most-commonly spoken language in Nepal. Known also by the names Mithilākṣara and Tirahutā, the script is the traditional writing system for the Maithili language.

The Maithili script is associated with a scholarly and scribal tradition that is responsible for the production of literary and philosophical works in the Maithili and Sanskrit languages from at least the 14th century CE. The majority of literary manuscripts in the Maithili language and script are the songs of the famous poet Vidyāpati Ṭhākura (14th century) and several Sanskrit dramas. Manuscripts on philosophy include Sanskrit treatises on the *Nyāyasūtra* and other aspects of Nyāya philosophy. The Maithil Brahmin community employs the Maithili script for ceremonial purposes, most notably for keeping *pāñjī*, or genealogical, records, which have been systematically maintained since the early 14th century. During the 20th century, the use of the Maithili script diminished with the rise of Devanagari, the script now commonly used for printing Maithili-language books and periodicals. Since the 1950s, Maithili literary and cultural societies in India and Nepal have preserved the language and script through the small-scale publication of books and pamphlets on Maithili culture, dictionaries such as the *Bṛhat Maithilī Śabdakośa*, and script primers such as the *Maithilī Prathama Pustaka*. The recognition of Maithili as a scheduled language of India in 2004 has revitalized interest in developing the Maithili language and script.

Although traditionally used for manuscripts, Maithili entered the world of print in the 1920s, when the first Maithili metal types were cut in Calcutta. However, the rate of print production was minimal and there was an absence of high-quality Maithili types. The specimens in Figure 3 and Figure 4 provide examples from the Maithili-English dictionary, *Bṛhat Maithilī Śabdakośa*, of text typeset in Maithili metal fonts. A better font was used in the production of the *Maithilī Prathama Pustaka*, an excerpt of which is provided in Figure 5. An analysis of the fonts used in these works reveals dissonance in the optical uniformity and clarity of letterforms. A reason for this is that Maithili metal fonts were at times derived from Bengali sets. Maithili letters not found in the Bengali script were cut anew, but the imprecise nature of the work gave the Maithili letters a rather unpolished appearance, which set them apart from the unmodified letters borrowed from the Bengali font. However, progress in the development of Maithili fonts is evident from a comparison of the types used in the *Bṛhat Maithilī Śabdakośa* with those in the *Maithilī Prathama Pustaka*.

Recently, technical groups in Nepal, such as eCube: Solutions & Research, have created digitized Maithili fonts. These digitized fonts are high-quality typefaces suitable for print and display purposes (see Figure 8).

The font used in this proposal was designed by the present author and was created to provide a high-quality Maithili typeface suitable for digital and print production. It is incomplete in that several consonant conjuncts have not yet been drawn. In cases where conjuncts not available in the font are needed for illustration, the respective letter has been excerpted from Maithili documents. A complete font will be developed to accompany the formal proposal.

2 Classifying the Script

Due to the historical scribal and manuscript traditions of Maithili; the ceremonial use of the script by the Maithil Brahmin community; the continued use of the script for the production of books; and the preservation and development of the script for contemporary communication by Maithili organizations, the Maithili script should be classified as either a "Category A" (contemporary) script or a "Category B.1" (specialized) script. The appropriate classification of the script will be determined in the formal proposal to encode the Maithili script in Unicode.

The name of the script also requires attention. The script is known by the names Maithilī, Mithilākṣara, and Tirahutā. All three names refer to the characters in use within the geographic region of Mithila, or Tirhut, in north Bihar. Each of the names are attested historically and are used interchangably in reference to the script. As the common traditional name of the script, "Tirahutā" might justifiably serve as the standard name of the script. The Script Encoding Initiative (2006) already recognizes the script under the name "Tirhuta," with "Maithili" and "Mithilakshar" as alternate names. Input from the Maithili-speaking community will assist in settling the matter. Of these names, "Maithili" is a convenient designation due to the association of the script with the language of the same name, and for the present purpose it is sufficient for identifying the script.

3 Letters of the Maithili Script

A preliminary glyph chart for Maithili is presented in Table 1 and character names are shown in Table 2. An initial estimate indicates that the Maithili script will require a minimum of 86 code-points, consisting of:

- Vowels: 14 letters
- Vowel signs: 15 signs
- Consonants: 36 letters
- Signs: 5 (*anusvāra*, *candrabindu*, *visarga*, *virāma*, *avagraha*)
- Punctuation: 3 (*daṇḍā*, double *daṇḍā*, and an abbreviation sign)
- Special signs: 2 (the sacred symbols *añjī* and *om*)
- Digits: 10

As Maithili was used for recording Vedic and classical Sanskrit texts, the script has several specialized signs, like the Vedic *anusvāra*. At present, there is insufficient information regarding the number of these signs to enumerate them fully in the character inventory. Further investigation of Maithili manuscripts and modern Maithili publications may uncover other marks used in Maithili orthography. In order to accommodate characters as yet unaccounted in the above tabulation, Maithili should be allocated 96 code-points (6 rows).

4 Relationship of Maithili to Bengali

The Maithili script is most closely related to the Bengali script. It is often considered a variant of Bengali because of the similarity in the structure and design of the two script, but such conclusions are inaccurate. Traditionally, the Maithili script is regarded as an independent script and is known in Bengal as *tiruṭe*, meaning "of the Tirhuta region," ie. the Tirahutā script (Chatterji, 1926: 225). The close relationship of Maithili to Bengali, and more distantly to the Oriya, Assamese, and Newari scripts, is due to the genesis of these scripts from a common source, the Proto-Bengali, or Gauḍī, script, which itself evolved from the Kuṭila descendent of Brahmi around 1000 CE. These five scripts became clearly differentiated by the 14th and 15th centuries (Salomon, 1998: 41).

A comparison of the Maithili script to Bengali indicates that several Maithili letters may be considered identical to Bengali letters. For instance, 4 of the 14 Maithili vowel letters; 5 of the 15 Maithili vowel signs; 21 of the 37 Maithili consonant letters; and 4 of the 10 Maithili digits resemble forms found in Bengali (see Tables 3, 4, and 5 for specific comparisons).

Despite such resemblance, Maithili possesses several vowel and consonant letter shapes, consonant conjunct shapes, and orthographic features that are not found in the modern Bengali script. While several of the Maithili consonant letters resemble Bengali letters when written independently, the conjunct forms produced by these letters are different in the two scripts. For example, conjuncts like *ṅga* and *rga*, as well as consonant-vowel ligatures like *gu*, take different shapes in the two scripts despite the similarity in the shape of *ga*. Another major difference between Maithili and Bengali is the use of *phala* elements for writing consonant-vowel ligatures and a broader *phala* repertoire for the creation of consonant conjuncts. Through a description of the unique features of the Maithili script, this proposal shows that Maithili is an independent script, despite its resemblance to Bengali, and should be encoded separately in Unicode.

5 Unique Features of the Maithili Script

5.1 Symbols and Signs

- The sacred sign, *añjī* (𑒀), is unique to Maithili and is used in the invocations of manuscripts, books, and charts of the Maithili script, or *varṇamālā* (see Figure 1 and Figure 6).
- The form of Maithili *anusvāra* resembles the Devanagari *anusvāra* more than the Bengali. Compare Maithili ◌𑓀 and Bengali ◌ং.

5.2 Vowels

- A vowel sign for short *e*: ◌𑒺. There is no independent or initial form of this vowel because the sound it represents does not occur at the beginning of words.
- A vowel sign for short *o*: ◌𑒽. There is no independent or initial form of this vowel because the sound it represents does not occur at the beginning of words. This sign may be similar to the letter U+09D7 BENGALI AU LENGTH MARK.

- The vowel sign for *ai* is a two-part dependent vowel sign. The first element is written before the consonant and the other attaches above the letter: ◌𑒻. In Bengali, the *ai* vowel sign is a single sign that is written before the consonant: ◌ৈ. Compare Maithili *mai* 𑒧𑒻 and Bengali *mai* মৈ.

5.3 Dependent Vowels

- There are two forms of the sign for the vowel *u*: ◌𑒳 and ◌𑒳 . The first shape is the general *mātrā* sign and the second shape is the *phala* form. The *mātrā* form ◌𑒳 (compare to Bengali ◌ু) is written below the consonant:

	ghu	*cu*	*ṭhu*
Maithili	𑒒𑒳	𑒔𑒳	𑒚𑒳
Bengali	ঘু	চু	ঠু

For combinations of consonants and *u* where consonants have right-hand vertical stems, the *u* assumes the *phala* shape ◌𑒳 . The *phala* element is attached to the consonant stem to produce a consonant-vowel ligature:

	gu	*mu*	*ṇu*	*nu*	*pu*	*lu*	*śu*	*su*
Maithili	𑒑𑒳	𑒧𑒳	𑒝𑒳	𑒢𑒳	𑒣𑒳	𑒪𑒳	𑒬𑒳	𑒮𑒳
Bengali	গু	মু	ণু	নু	পু	লু	শু	সু

With certain consonants independent consonant-*u* ligatures are produced:

	ku	*tu*	*bhu*	*ẏu*	*yu*	*ṣu*	*hu*
Maithili	𑒏𑒳	𑒞𑒳	𑒦𑒳	𑒨𑓃𑒳	𑒨𑒳	𑒭𑒳	𑒯𑒳
Bengali	কু	তু	ভু	য়ু	যু	ষু	হু

- The sign for *r̥* is ◌𑒵 (compare Bengali ◌ৃ). With most consonants, the sign is written below the letter:

	pr̥	*ṭr̥*	*br̥*
Maithili	𑒣𑒵	𑒙𑒵	𑒥𑒵
Bengali	পৃ	টৃ	বৃ

With certain consonants independent consonant-*r̥* ligatures are produced:

	kr̥	*tr̥*	*bhr̥*	*hr̥*
Maithili	𑒏𑒵	𑒞𑒵	𑒦𑒵	𑒯𑒵
Bengali	কৃ	তৃ	ভৃ	হৃ

5.4 Consonants

- Maithili possesses distinct characters for *ba* 𑒥 and *va* 𑒫. Bengali uses the single letter *ba* ব for both sounds. In consonant conjuncts, Maithili *ba* is represented by the dotted *ba-phala* and *va* is represented by the dotted *ba-phala* and a *candra* above the top-line, for example, *mba* 𑒧𑓂𑒥 and *mva* 𑒧𑓂𑒫.

This is to distinguish such forms from consonant-vowel ligatures formed with the *u* vowel sign, for example, *mu* 𑒧𑒳.

- Maithili *ba* also takes different shapes when it appears in conjuncts with certain consonants. It typically retains its base shape 𑒥, but it also takes the form 𑒥𑓂◌, as in *bda* 𑒥𑓂𑒠 in the word *śabda* 𑒬𑒥𑓂𑒠.

5.5 Consonant Conjuncts

- In consonant clusters where *ya* is the second element, it either takes the *phala* form ◌𑓂𑒨 or it merges with the consonant to produce an independent ligature. The use of *ya-phala* in Maithili is similar to that in Bengali: 𑒣𑓂𑒨. The conjunct forms created with *ya* occur with certain consonants due to the shape of the letters:

	tya	*dya*	*nya*	*bhya*	*śya*	*hya*
Maithili	𑒞𑓂𑒨	𑒠𑓂𑒨	𑒢𑓂𑒨	𑒦𑓂𑒨	𑒬𑓂𑒨	𑒯𑓂𑒨
Bengali	ত্য	দ্য	ন্য	ভ্য	শ্য	হ্য

- The function of *repha* in Maithili is similar to that in Bengali and Devanagari. Generally, it is written above the following consonant: *rpa* in Maithili 𑒩𑓂𑒣 and in Bengali র্প. In some cases, the *repha* merges with the consonant to which it is applied to create a distinct ligature: *rga* in Maithili 𑒩𑓂𑒑 and Bengali র্গ.

- Some consonant conjuncts involving *la* are produced using the *phala* form of *la*, ◌𑓂𑒪: *kla* in Maithili 𑒏𑓂𑒪 and in Bengali ক্ল; *phla* in Maithili 𑒤𑓂𑒪 and in Bengali ফ্ল.

- Some consonant conjuncts involving *na* are produced using the *phala* form of *na*, ◌𑓂𑒢: *kna* in Maithili 𑒏𑓂𑒢 and Bengali ক্ন.

- Several consonant conjuncts are unique to Maithili and do not occur in Bengali. Some examples are:

	ṅga	*cca*	*ccha*	*ṭṭa*	*ṣṭa*	*hra*	*hla*
Maithili	𑒓𑓂𑒑	𑒔𑓂𑒔	𑒔𑓂𑒕	𑒙𑓂𑒙	𑒭𑓂𑒙	𑒯𑓂𑒩	𑒯𑓂𑒪
Bengali	ঙ্গ	চ্চ	চ্ছ	ট্ট	ষ্ট	হ্র	হ্ল

5.6 Special Cases

- When *ta* 𑒞 is the first element in a consonant cluster, it is represented differently depending on the second element of the cluster. When it appears as the first element in clusters with *ta*, *ya*, *ra*, and *va*, it combines with these second elements to form conjuncts similar to those in Bengali. With all other consonants, *ta* takes the form 𑒞𑓂◌. For example, *tka* 𑒞𑓂𑒏, as in the word *saratkāla* is written in Maithili as 𑒮𑒩𑒞𑓂𑒏𑒰𑒪, but in Bengali as সরৎকাল. This shape of *ta* is semantically similar to Bengali *khaṇḍa ta* ৎ; however, unlike *khaṇḍa ta*, it is unnecessary to encode 𑒞𑓂◌ explicitly since all of the possible contexts for its use are known.

- When *ta* appears in the word-final position with a *virāma*, it is written as is the convention in Devanagari: 𑒞𑓂. A variant method is to curve the head-stroke towards the base: 𑒞𑓂.

5.7 Homoglyphs

The forms of several Maithili letters resemble those in Bengali, but the meaning of the forms are different in the two scripts. Some of the prominent differences are discussed below.

- In Maithili the element ◌্ব represents an alternate form of the vowel sign *u*. In modern Bengali it represents *ba-phala* and is used only in the creation of conjuncts. For example, the form স্ব represents *su* in Maithili, but *sva* in Bengali.

- The Maithili letter 𑒫 represents *va*. In Bengali, the letter represents *ra*. Similarly, the letter 𑒩 represents Maithili *ra*, but Bengali *ba*.

- Maithili *ṇa* 𑒝 resembles Bengali *la* ল; while Maithili *la* 𑒪 resembles Bengali *ṇa* ণ.

6 Encoding the Maithili Script in Unicode

The above description of the Maithili script and its unique features indicates that Maithili letters are elements of a distinct script, not typographical variants of Bengali letters. Therefore, Maithili should be encoded as an independent script in Unicode. The similarities between Maithili and Bengali, however, might prompt a call to unify Maithili with Bengali. This approach is not recommended as it would contribute to conflicts in the semantics of Maithili and Bengali letters, especially homoglyphs and script-specific conjuncts created from independent forms of common letters. A separate encoding for Maithili is required in order to distinguish the Maithili script from Bengali in plain-text. Unification would force distinctions between the scripts to be maintained solely at the font or representation level and would limit the ability to differentiate between the scripts programmatically for text-processing purposes. This would pose technological difficulties in instances where Maithili and Bengali appear in the same document.

The distinctness of the Maithili script and the historical and contemporary uses of the script support the encoding of Maithili in Unicode as a separate script. A standard encoding for Maithili will benefit the Maithili-speaking community by enabling it to adapt the traditional script of its language in electronic media for general communication and for literary development. A standard for the script will also enable scholars engaged in research on Maithili language and literature to preserve and reproduce Maithili manuscripts through digital technologies. Moreover, organizations in South Asia are working to develop fonts and standards for representing the Maithili script on computers. A standard encoding in Unicode would benefit technical groups that are implementing the Maithili language and script for use in information technology. Although Maithili is an endangered script, the Maithili-speaking community continues to preserve the script for traditional purposes, while seeking to implement it to meet the needs of modern communication and computing technologies.

7 Acknowledgments

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	xx00	xx01	xx02	xx03	xx04	xx05
0	𑒀	𑒍	𑒜	𑒪	◌𑒹	𑓐
1	◌𑒿	𑒎	𑒜𑓃	𑒪𑓃	◌𑒻	𑓑
2	◌𑓀	𑒏	𑒝	𑒫	◌𑒺	𑓒
3	◌𑓁	𑒐	𑒞	𑒬	◌𑒼	𑓓
4	𑒁	𑒑	𑒟	𑒭	◌𑒽	𑓔
5	𑒂	𑒒	𑒠	𑒮	◌𑒾	𑓕
6	𑒃	𑒓	𑒡	𑒯	◌𑓂	𑓖
7	𑒄	𑒔	𑒢	◌𑒰	𑓄	𑓗
8	𑒅	𑒕	𑒣	◌𑒱	।	𑓘
9	𑒆	𑒖	𑒤	◌𑒲	॥	𑓙
A	𑒇	𑒗	𑒥	◌𑒳	𑓆	
B	𑒈	𑒘	𑒦	◌𑒴	𑓇	
C	𑒉	𑒙	𑒧	◌𑒵		
D	𑒊	𑒚	𑒨	◌𑒶		
E	𑒋	𑒛	𑒨𑓃	◌𑒷		
F	𑒌	𑒛𑓃	𑒩	◌𑒸		

Table 1: Preliminary Glyph Chart for Maithili. Gray highlighting indicates that there is a similar letter in the Bengali script.

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xx00;MAITHILI SYMBOL ANJI
xx01;MAITHILI SIGN CANDRABINDU
xx02;MAITHILI SIGN ANUSVARA
xx03;MAITHILI SIGN VISARGA
xx04;MAITHILI LETTER A
xx05;MAITHILI LETTER AA
xx06;MAITHILI LETTER I
xx07;MAITHILI LETTER II
xx08;MAITHILI LETTER U
xx09;MAITHILI LETTER UU
xx0A;MAITHILI LETTER VOCALIC R
xx0B;MAITHILI LETTER VOCALIC RR
xx0C;MAITHILI LETTER VOCALIC L
xx0D;MAITHILI LETTER VOCALIC LL
xx0E;MAITHILI LETTER E
xx0F;MAITHILI LETTER AI
xx10;MAITHILI LETTER O
xx11;MAITHILI LETTER AU
xx12;MAITHILI LETTER KA
xx13;MAITHILI LETTER KHA
xx14;MAITHILI LETTER GA
xx15;MAITHILI LETTER GHA
xx16;MAITHILI LETTER NGA
xx17;MAITHILI LETTER CA
xx18;MAITHILI LETTER CHA
xx19;MAITHILI LETTER JA
xx1A;MAITHILI LETTER JHA
xx1B;MAITHILI LETTER NYA
xx1C;MAITHILI LETTER TTA
xx1D;MAITHILI LETTER TTHA
xx1E;MAITHILI LETTER DDA
xx1F;MAITHILI LETTER DDDHA
xx20;MAITHILI LETTER DDHA
xx21;MAITHILI LETTER RHA
xx22;MAITHILI LETTER NNA
xx23;MAITHILI LETTER TA
xx24;MAITHILI LETTER THA
xx25;MAITHILI LETTER DA
xx26;MAITHILI LETTER DHA
xx27;MAITHILI LETTER NA
xx28;MAITHILI LETTER PA
xx29;MAITHILI LETTER PHA
xx2A;MAITHILI LETTER BA
xx2B;MAITHILI LETTER BHA
xx2C;MAITHILI LETTER MA
xx2D;MAITHILI LETTER YA
xx2E;MAITHILI LETTER YYA
xx2F;MAITHILI LETTER RA
xx30;MAITHILI LETTER LA
xx31;MAITHILI LETTER LLA
xx32;MAITHILI LETTER VA
xx33;MAITHILI LETTER SHA
xx34;MAITHILI LETTER SSA
xx35;MAITHILI LETTER SA
xx36;MAITHILI LETTER HA
xx37;MAITHILI VOWEL SIGN AA
xx38;MAITHILI VOWEL SIGN I
xx39;MAITHILI VOWEL SIGN II
xx3A;MAITHILI VOWEL SIGN U
xx3B;MAITHILI VOWEL SIGN UU
xx3C;MAITHILI VOWEL SIGN VOCALIC R
xx3D;MAITHILI VOWEL SIGN VOCALIC RR
xx3E;MAITHILI VOWEL SIGN VOCALIC L
xx3F;MAITHILI VOWEL SIGN VOCALIC LL
xx40;MAITHILI VOWEL SIGN E
xx41;MAITHILI VOWEL SIGN SHORT E
xx42;MAITHILI VOWEL SIGN AI
xx43;MAITHILI VOWEL SIGN O
xx44;MAITHILI VOWEL SIGN SHORT O
xx45;MAITHILI VOWEL SIGN AU
xx46;MAITHILI SIGN VIRAMA
xx47;MAITHILI SIGN AVAGRAHA
xx48;MAITHILI DANDA
xx49;MAITHILI DOUBLE DANDA
xx4A;MAITHILI ABBREVIATION SIGN
xx4B;MAITHILI SYMBOL OM
xx50;MAITHILI DIGIT ZERO
xx51;MAITHILI DIGIT ONE
xx52;MAITHILI DIGIT TWO
xx53;MAITHILI DIGIT THREE
xx54;MAITHILI DIGIT FOUR
xx55;MAITHILI DIGIT FIVE
xx56;MAITHILI DIGIT SIX
xx57;MAITHILI DIGIT SEVEN
xx58;MAITHILI DIGIT EIGHT
xx59;MAITHILI DIGIT NINE
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Table 2: Preliminary Character Names for Maithili

	MAITHILI	BENGALI
a	𑒁	অ
ā	𑒂	আ
i	𑒃	ই
ī	𑒄	ঈ
u	𑒅	উ
ū	𑒆	ঊ
r̥	𑒇	ঋ
r̥̄	𑒈	ৠ
l̥	𑒉	ঌ
l̥̄	𑒊	ৡ
e	𑒋	এ
ĕ	*no independent form*	
ai	𑒌	ঐ
o	𑒍	ও
ŏ	*no independent form*	
au	𑒎	ঔ

	MAITHILI	BENGALI
a	*implicit vowel*	
-ā	◌𑒰	◌া
-i	◌𑒱	◌ি
-ī	◌𑒲	◌ী
-u	◌𑒳	◌ু
-ū	◌𑒴	◌ূ
-r̥	◌𑒵	◌ৃ
-r̥̄	◌𑒶	◌ৄ
-l̥	◌𑒷	◌ৢ
-l̥̄	◌𑒸	◌ৣ
-e	◌𑒹	◌ে
-ĕ	◌𑒺	—
-ai	◌𑒻	◌ৈ
-o	◌𑒼	◌ো
-ŏ	◌𑒽	—
-au	◌𑒾	◌ৌ

Table 3: Comparison of Maithili and Bengali vowel letters and signs. Gray highlighting indicates similarities between letters of the two scripts.

	MAITHILI	BENGALI
ka	𑒏	ক
kha	𑒐	খ
ga	𑒑	গ
gha	𑒒	ঘ
ṅa	𑒓	ঙ
ca	𑒔	চ
cha	𑒕	ছ
ja	𑒖	জ
jha	𑒗	ঝ
ña	𑒘	ঞ
ṭa	𑒙	ট
ṭha	𑒚	ঠ
ḍa	𑒛	ড
ḍha	𑒜	ঢ
ṇa	𑒝	ণ
ta	𑒞	ত
tha	𑒟	থ
da	𑒠	দ
dha	𑒡	ধ
na	𑒢	ন

	MAITHILI	BENGALI
pa	𑒣	প
pha	𑒤	ফ
ba	𑒥	ব
bha	𑒦	ভ
ma	𑒧	ম
ya	𑒨	য
ẏa	𑒨𑓃	য়
ra	𑒩	র
la	𑒪	ল
va	𑒫	—
śa	𑒬	শ
ṣa	𑒭	ষ
sa	𑒮	স
ha	𑒯	হ
Ra	𑒛𑓃	ড়
Rha	𑒜𑓃	ঢ়
ḷa	𑒪𑓃	—

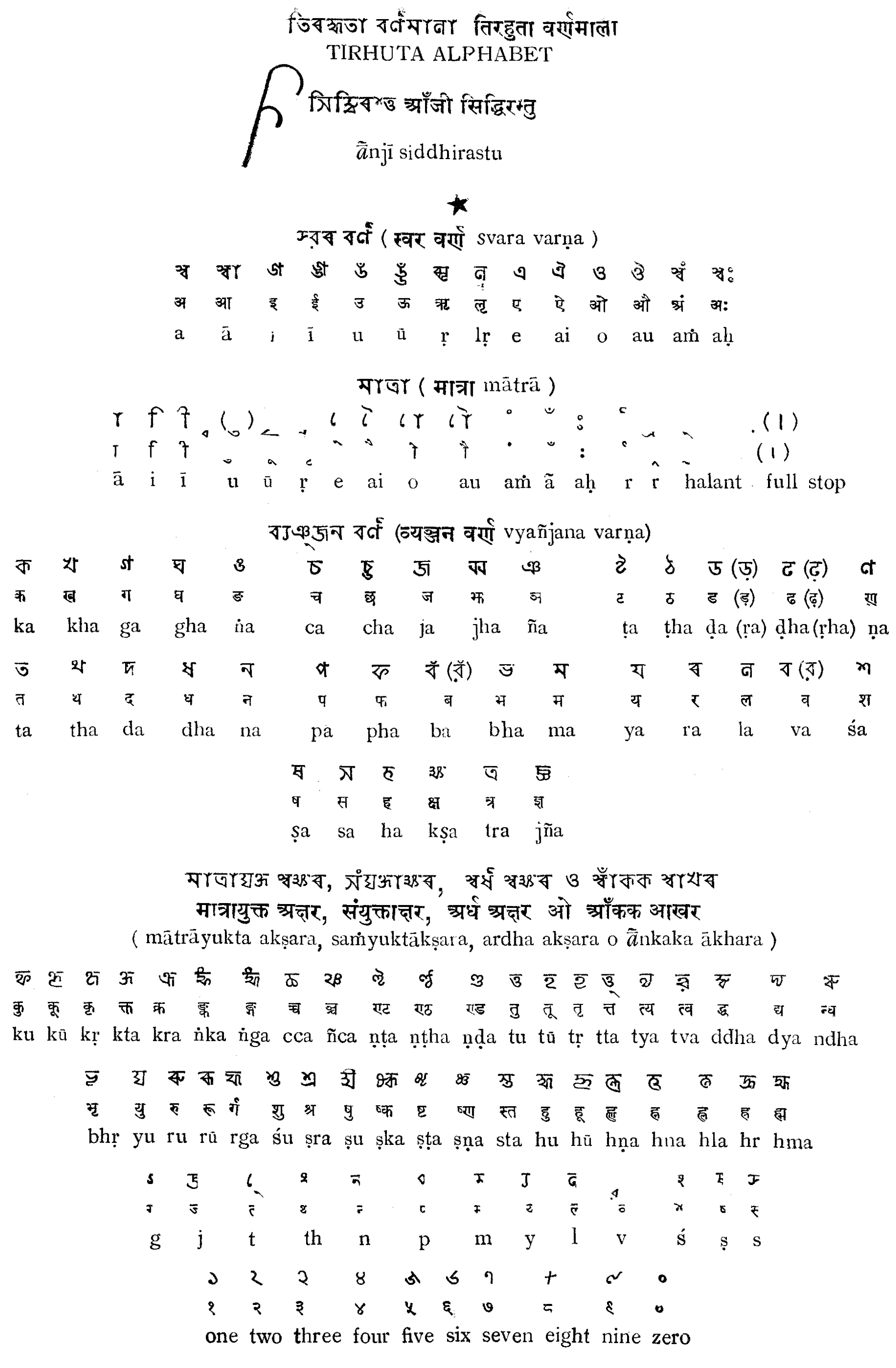
Table 4: Comparison of Maithili and Bengali consonant letters. Gray highlighting indicates similarities between letters of the two scripts.

	MAITHILI	BENGALI
0	𑓐	০
1	𑓑	১
2	𑓒	২
3	𑓓	৩
4	𑓔	৪
5	𑓕	৫
6	𑓖	৬
7	𑓗	৭
8	𑓘	৮
9	𑓙	৯

Table 5: Comparison of Maithili and Bengali digits. Gray highlighting indicates similarities between letters of the two scripts.

	MAITHILI	BENGALI
candrabindu	◌𑒿	◌ঁ
anusvāra	◌𑓀	◌ং
visarga	◌𑓁	◌ঃ

Table 6: Comparison of Maithili and Bengali miscellaneous signs. Gray highlighting indicates similarities between letters of the two scripts.



तिरहुता वर्णमाला
TIRHUTA ALPHABET
आँजी सिद्धिरस्तु
ãnjī siddhirastu

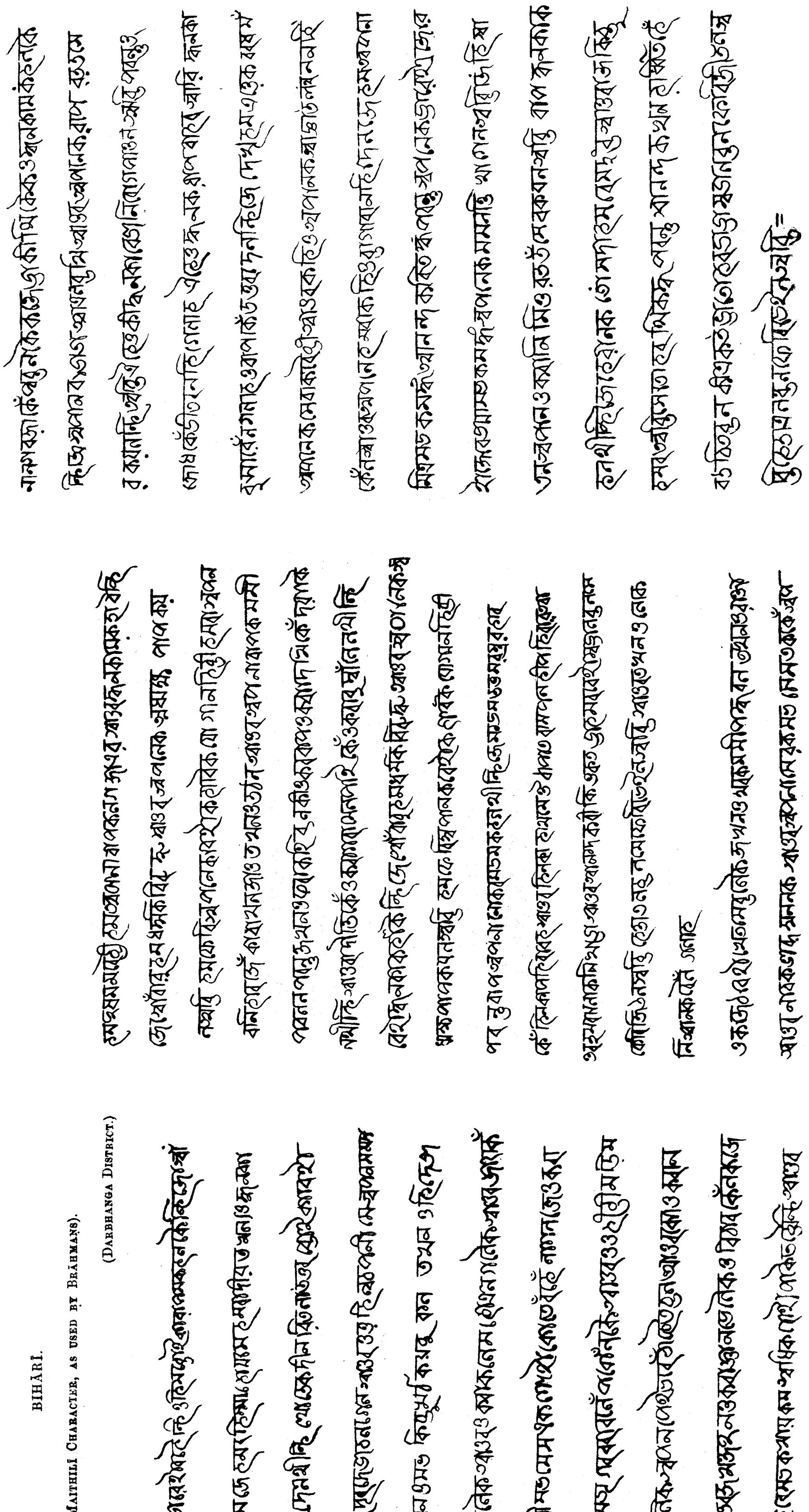
स्वर वर्ण svara varṇa
अ आ इ ई उ ऊ ऋ ऌ ए ऐ ओ औ अं अः
a ā i ī u ū ṛ lṛ e ai o au aṁ aḥ

मात्रा mātrā
ā i ī u ū ṛ e ai o au aṁ ã aḥ r r halant full stop

व्यञ्जन वर्ण vyañjana varṇa
क ख ग घ ङ च छ ज झ ञ ट ठ ड (ड़) ढ (ढ़) ण
ka kha ga gha ṅa ca cha ja jha ña ṭa ṭha ḍa (ṛa) ḍha (ṛha) ṇa
त थ द ध न प फ ब भ म य र ल व श
ta tha da dha na pa pha ba bha ma ya ra la va śa
ष स ह क्ष त्र ज्ञ
ṣa sa ha kṣa tra jña

मात्रायुक्त अक्षर, संयुक्ताक्षर, अर्ध अक्षर ओ आँकक आखर
(mātrāyukta akṣara, saṁyuktākṣara, ardha akṣara o ãnkaka ākhara)
ku kū kṛ kta kra ṅka ṅga cca ñca ṇṭa ṇṭha ṇḍa tu tū tṛ tta tya tva ddha dya ndha
bhṛ yu ru rū rga śu ṣra ṣu ṣka ṣṭa ṣṇa sta hu hū hṇa hna hla hr hma
g j t th n p m y l v ś ṣ s
१ २ ३ ४ ५ ६ ७ ८ ९ ०
one two three four five six seven eight nine zero

Figure 1: A table of the Maithili script printed with metal type (Mishra, 1973: 41). The *añjī* sign is printed next to the title of the table.

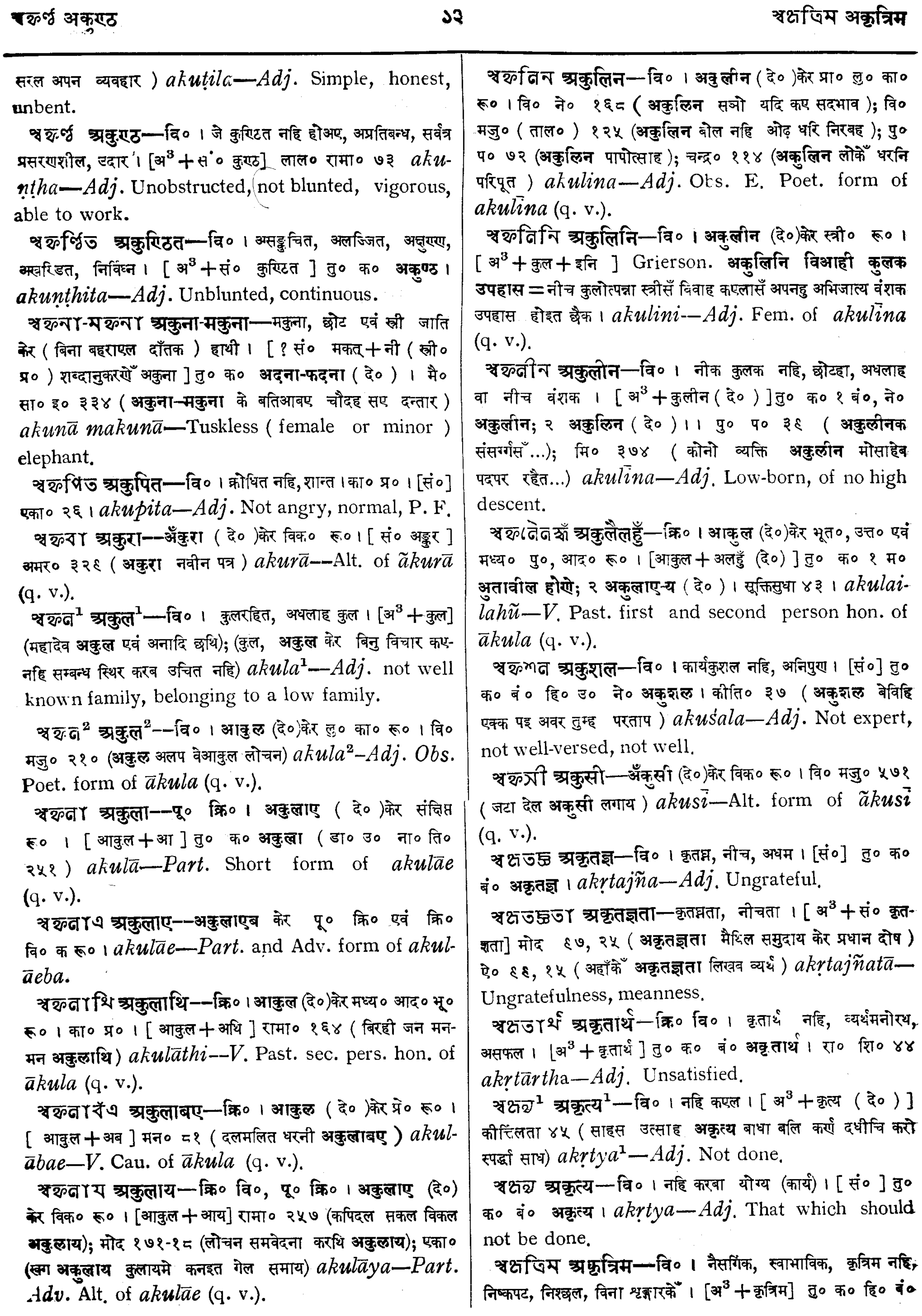


BIHĀRĪ.

MAITHILĪ DIALECT (MAITHILĪ CHARACTER, AS USED BY BRĀHMANS).

(DARBHANGA DISTRICT.)

Figure 2: Specimen of Maithili written in the Maithili script from the *Linguistic Survey of India* (Grierson, 1903: 56-58).



𑒁𑒏𑒳𑒝𑓂𑒚 अकुण्ठ 𑓑𑓒 **𑒁𑒏𑒵𑒞𑓂𑒩𑒱𑒧 अकृत्रिम**

सरल अपन व्यवहार) *akuṭila—Adj*. Simple, honest, unbent.

𑒁𑒏𑒳𑒝𑓂𑒚 अकुण्ठ—वि० । जे कुण्ठित नहि होअए, अप्रतिबन्ध, सर्वत्र प्रसरणशील, उदार । [अ^3+सं० कुण्ठ] लाल० रामा० ७३ *akuṇṭha—Adj*. Unobstructed, not blunted, vigorous, able to work.

𑒁𑒏𑒳𑒝𑓂𑒚𑒱𑒞 अकुण्ठित—वि० । असङ्कुचित, अलज्जित, अक्षुण्ण, अखण्डित, निर्विघ्न । [अ^3+सं० कुण्ठित] तु० क० **अकुण्ठ** । *akuṇṭhita—Adj*. Unblunted, continuous.

𑒁𑒏𑒳𑒢𑒰-𑒧𑒏𑒳𑒢𑒰 अकुना-मकुना—मकुना, छोट एवं स्त्री जाति केर (बिना बहराएल दाँतक) हाथी । [? सं० मकत्+नी (स्त्री० प्र०) शब्दानुकरणेँ अकुना] तु० क० **अदना-फदना** (दे०) । मै० सा० इ० ३३४ (**अकुना-मकुना** के बतिआबए चौदह सए दन्तार) *akunā makunā*—Tuskless (female or minor) elephant.

𑒁𑒏𑒳𑒣𑒱𑒞 अकुपित—वि० । क्रोधित नहि, शान्त । का० प्र० । [सं०] एका० २६ । *akupita—Adj*. Not angry, normal, P. F.

𑒁𑒏𑒳𑒩𑒰 अकुरा—**अँकुरा** (दे०)केर विक० रू० । [सं० अङ्कुर] अमर० ३२६ (**अकुरा** नवीन पत्र) *akurā*—Alt. of *ãkurā* (q. v.).

𑒁𑒏𑒳𑒪^1 अकुल^1—वि० । कुलरहित, अधलाह कुल । [अ^3+कुल] (महादेव **अकुल** एवं अनादि छथि); (कुल, **अकुल** केर बिनु विचार कएनहि सम्बन्ध स्थिर करब उचित नहि) *akula^1—Adj*. not well known family, belonging to a low family.

𑒁𑒏𑒳𑒪^2 अकुल^2—वि० । **आकुल** (दे०)केर लु० का० रू० । वि० मजु० २१० (**अकुल** अलप वेआकुल लोचन) *akula^2–Adj. Obs.* Poet. form of *ākula* (q. v.).

𑒁𑒏𑒳𑒪𑒰 अकुला—पू० क्रि० । **अकुलाए** (दे०)केर संक्षिप्त रू० । [आकुल+आ] तु० क० **अकुला** (डा० उ० ना० ति० २५१) *akulā—Part*. Short form of *akulāe* (q. v.).

𑒁𑒏𑒳𑒪𑒰𑒋 अकुलाए—**अकुलाएब** केर पू० क्रि० एवं क्रि० वि० क रू० । *akulāe—Part*. and Adv. form of *akulāeba*.

𑒁𑒏𑒳𑒪𑒰𑒟𑒱 अकुलाथि—क्रि० । **आकुल** (दे०)केर मध्य० आद० भू० रू० । का० प्र० । [आकुल+अथि] रामा० १६४ (बिरही जन मन-मन **अकुलाथि**) *akulāthi—V*. Past. sec. pers. hon. of *ākula* (q. v.).

𑒁𑒏𑒳𑒪𑒰𑒥𑓀𑒋 अकुलाबए—क्रि० । **आकुल** (दे०)केर प्रे० रू० । [आकुल+अब] मन० ८१ (दलमलित धरनी **अकुलाबए**) *akulābae—V*. Cau. of *ākula* (q. v.).

𑒁𑒏𑒳𑒪𑒰𑒨 अकुलाय—क्रि० वि०, पू० क्रि० । **अकुलाए** (दे०) केर विक० रू० । [आकुल+आय] रामा० २५७ (कपिदल सकल विकल **अकुलाय**); मोद १७१-१८ (लोचन समवेदना करथि **अकुलाय**); एका० (खग **अकुलाय** कुलायमे कनइत गेल समाय) *akulāya—Part. Adv*. Alt. of *akulāe* (q. v.).

𑒁𑒏𑒳𑒪𑒱𑒢 अकुलिन—वि० । **अकुलीन** (दे०)केर प्रा० लु० का० रू० । वि० ने० १६८ (**अकुलिन** सञो यदि कए सदभाव); वि० मजु० (ताल०) १२५ (**अकुलिन** बोल नहि ओढ़ धरि निरबह); पु० प० ७२ (**अकुलिन** पापोत्साह); चन्द्र० ११४ (**अकुलिन** लोकेँ धरनि परिपूत) *akulina—Adj*. Obs. E. Poet. form of *akulīna* (q. v.).

𑒁𑒏𑒳𑒪𑒱𑒢𑒱 अकुलिनि—वि० । **अकुलीन** (दे०)केर स्त्री० रू० । [अ^3+कुल+इनि] Grierson. **अकुलिनि विआही कुलक उपहास** = नीच कुलोत्पन्ना स्त्रीसँ विवाह कएलासँ अपनहु अभिजात्य वंशक उपहास होइत छैक । *akulini—Adj*. Fem. of *akulīna* (q. v.).

𑒁𑒏𑒳𑒪𑒲𑒢 अकुलीन—वि० । नीक कुलक नहि, छोटहा, अधलाह वा नीच वंशक । [अ^3+कुलीन (दे०)]तु० क० १ बं०, ने० **अकुलीन**; २ **अकुलिन** (दे०) । । पु० प० ३६ (**अकुलीनक** संसर्गसँ ...); मि० ३७४ (कोनो व्यक्ति **अकुलीन** मोसाहेब पदपर रहैत...) *akulīna—Adj*. Low-born, of no high descent.

𑒁𑒏𑒳𑒪𑒻𑒪𑒯𑒳𑓀 अकुलैलहुँ—क्रि० । **आकुल** (दे०)केर भूत०, उत्त० एवं मध्य० पु०, आद० रू० । [आकुल+अलहुँ (दे०)] तु० क० १ म० **अतावील होणे**; २ **अकुलाए-य** (दे०) । सूक्तिसुधा ४३ । *akulailahũ—V*. Past. first and second person hon. of *ākula* (q. v.).

𑒁𑒏𑒳𑒬𑒪 अकुशल—वि० । कार्यकुशल नहि, अनिपुण । [सं०] तु० क० बं० हि० उ० ने० **अकुशल** । कीर्ति० ३७ (**अकुशल** बेविहि एक्क पइ अवर तुम्ह परताप) *akuśala—Adj*. Not expert, not well-versed, not well.

𑒁𑒏𑒳𑒮𑒲 अकुसी—**अँकुसी** (दे०)केर विक० रू० । वि० मजु० ५७१ (जटा देल **अकुसी** लगाय) *akusī*—Alt. form of *ãkusī* (q. v.).

𑒁𑒏𑒵𑒞𑒖𑓂𑒘 अकृतज्ञ—वि० । कृतघ्न, नीच, अधम । [सं०] तु० क० बं० **अकृतज्ञ** । *akṛtajña—Adj*. Ungrateful.

𑒁𑒏𑒵𑒞𑒖𑓂𑒘𑒞𑒰 अकृतज्ञता—कृतघ्नता, नीचता । [अ^3+सं० कृतज्ञता] मोद ६७, २५ (**अकृतज्ञता** मैथिल समुदाय केर प्रधान दोष) ऐ० ६६, १५ (अहाँकेँ **अकृतज्ञता** लिखब व्यर्थ) *akṛtajñatā*—Ungratefulness, meanness.

𑒁𑒏𑒵𑒞𑒰𑒩𑓂𑒟 अकृतार्थ—क्रि० वि० । कृतार्थ नहि, व्यर्थमनोरथ, असफल । [अ^3+कृतार्थ] तु० क० बं० **अकृतार्थ** । रा० शि० ४४ *akṛtārtha—Adj*. Unsatisfied.

𑒁𑒏𑒵𑒞𑓂𑒨^1 अकृत्य^1—वि० । नहि कएल । [अ^3+कृत्य (दे०)] कीर्त्तिलता ४५ (साहस उत्साह **अकृत्य** बाधा बलि कर्ण दधीचि **करो** स्पर्द्धा साध) *akṛtya^1—Adj*. Not done.

𑒁𑒏𑒵𑒞𑓂𑒨 अकृत्य—वि० । नहि करबा योग्य (कार्य) । [सं०] तु० क० बं० **अकृत्य** । *akṛtya—Adj*. That which should not be done.

𑒁𑒏𑒵𑒞𑓂𑒩𑒱𑒧 अकृत्रिम—वि० । नैसर्गिक, स्वाभाविक, कृत्रिम नहि, निष्कपट, निश्छल, विना श्रृङ्गारकेँ । [अ^3+कृत्रिम] तु० क० हि० बं०

Figure 3: An excerpt from the entries in *Bṛhat Maithilī Śabdakośa*, a Maithili-English dictionary (Mishra, 1973: 13). This specimen is an example of Maithili typeset with metal fonts.

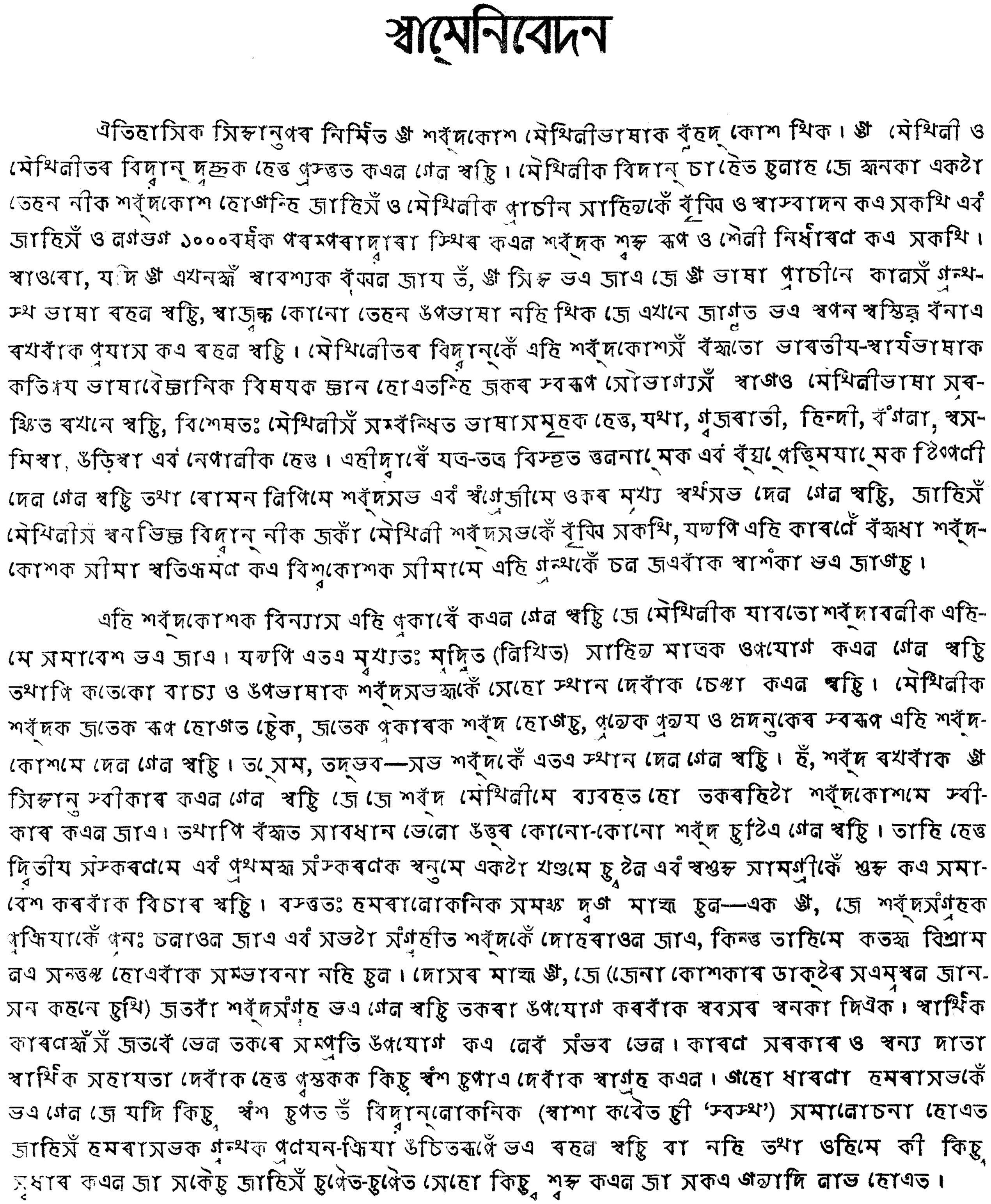


Figure 4: An excerpt from the preface to *Bṛhat Maithilī Śabdakośa*, a Maithili-English dictionary (Mishra, 1973: 25). This specimen is an example of Maithili typeset with metal fonts.

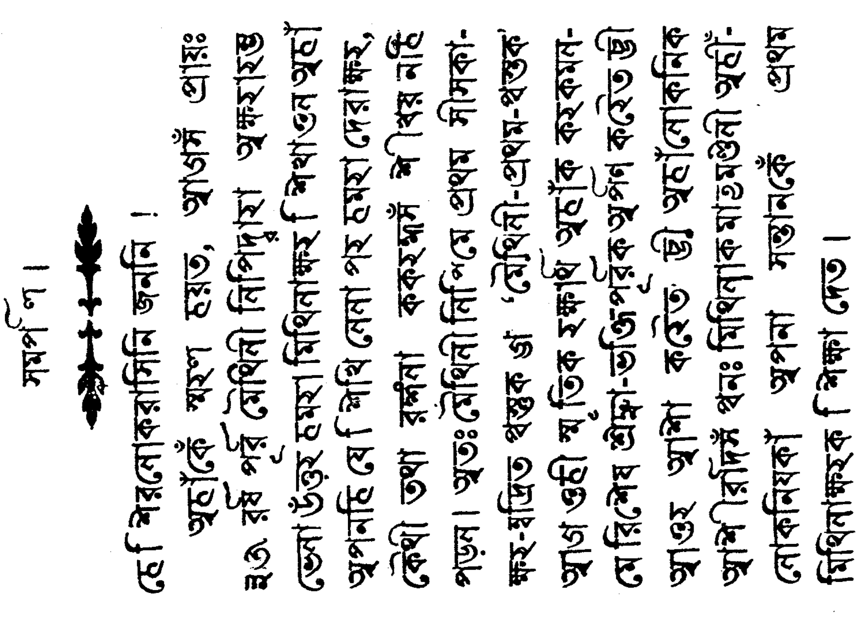


Figure 5: The preface from *Maithilī Prathama Pustaka*, printed in Maithili type (Rāya, 2003).

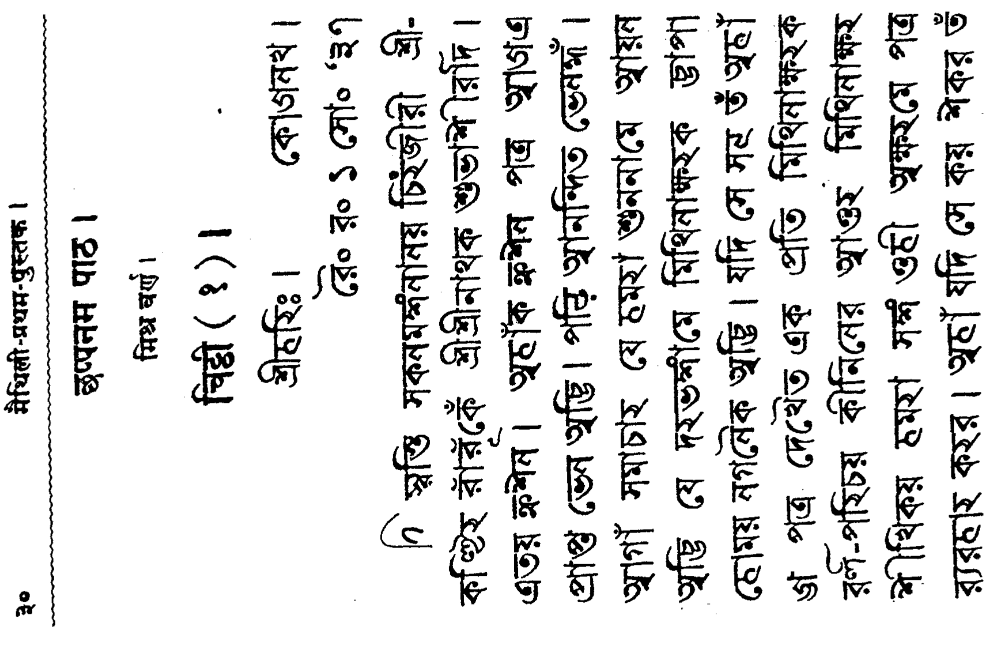
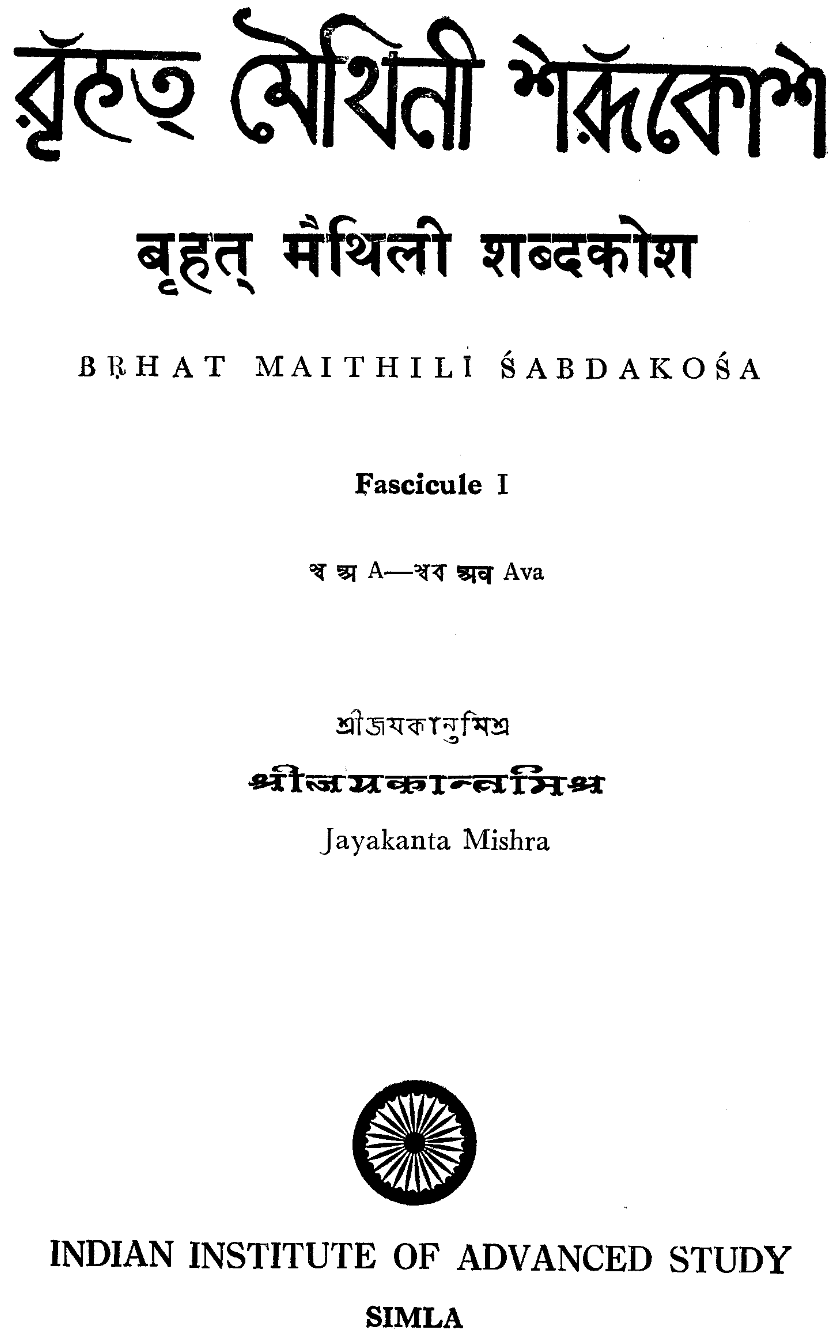


Figure 6: An excerpt from *Maithilī Prathama Pustaka* (Rāya, 2003: 30). The passage begins with the symbol *añjī*.



𑒥𑒵𑒯𑒞𑓂 𑒧𑒻𑒟𑒱𑒪𑒲 𑒬𑒥𑓂𑒠𑒏𑒼𑒬

बृहत् मैथिली शब्दकोश

BṚHAT MAITHILĪ ŚABDAKOŚA

Fascicule I

𑒁 अ A—𑒁𑒫 अव Ava

𑒬𑓂𑒩𑒲𑒖𑒨𑒏𑒰𑒢𑓂𑒞𑒧𑒱𑒬𑓂𑒩

श्रीजयकान्तमिश्र

Jayakanta Mishra

INDIAN INSTITUTE OF ADVANCED STUDY

SIMLA

Figure 7: Title page of *Bṛhat Maithilī Śabdakośa*, a Maithili-English dictionary (Mishra, 1973).

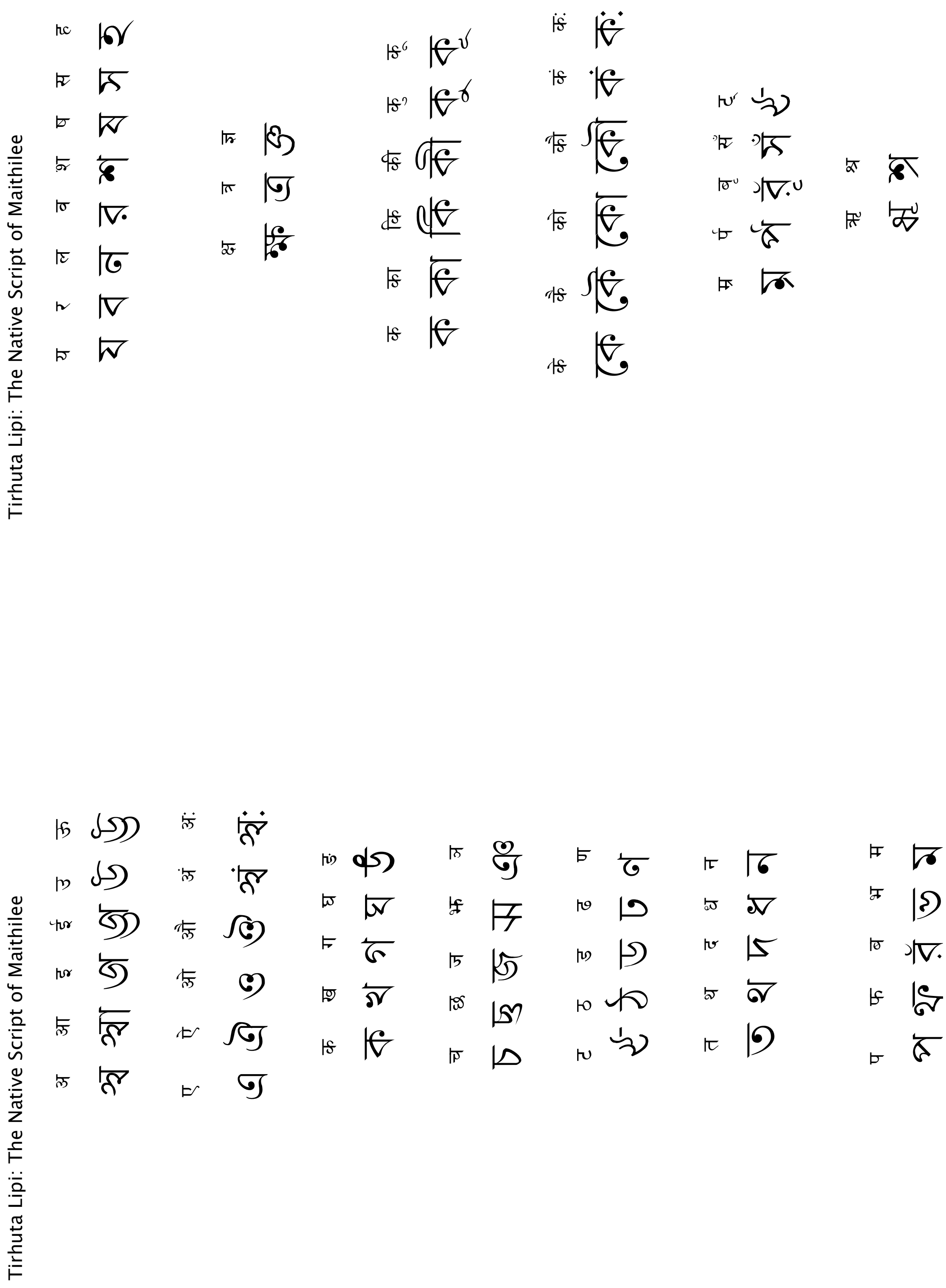

Tirhuta Lipi: The Native Script of Maithilee
अ आ इ ई उ ऊ
ए ऐ ओ औ अं अः
क ख ग घ ङ
च छ ज झ ञ
ट ठ ड ढ ण
त थ द ध न
प फ ब भ म
Tirhuta Lipi: The Native Script of Maithilee
य र ल व श ष स ह
क्ष त्र ज्ञ
क का कि की कु कू
के कै को कौ कं कः

Figure 8: A chart of the Maithili script typeset with the digitized Maithili font, "Tirhuta," developed by eCube: Solutions & Research (2003).