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Universal Multiple-Octet Coded Character Set
International Organization for Standardization
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Международная организация по стандартизации

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1. Introduction. The Warang Citi script is used to write the Ho language. Ho is a North Munda language, which family, together with the Mon-Khmer languages, makes up Austro-Asiatic. Warang Citi was devised by charismatic community leader Lako Bodra as part of a comprehensive cultural program, and was offered as an improvement over scripts used by Christian missionary linguists. Ho people live in the Indian states of Orissa and Jharkand. In Jharkand, they are found in Ranchi, Chaibasa and Jamshedpur, and in villages like Pardsa, Jaldhar, Tekasi, Tilupada, Baduri, Purtydigua, Roladih, Tupu Dana, Jetia, Dumbisai, Harira, Gitilpi, Karlajuri, Sarliburu, Narsana, Gidibas Kokcho, Lupungutu, Pandaveer, Jhinkapani, Kondwa. According to the SIL *Ethnologue*, there are 1,026,000 speakers of Ho. There are at present two publications in the script: a magazine *Ho Sanagam* (‘meeting’ from Hindi *saṅgam*), which comes out yearly and *Kolhan Sakam*, which comes out biweekly.

Today, the Ho community can be characterized as still a primarily oral community, with an emergent literary tradition. Many Ho do not write their language in any form. Among those who do, there are different camps. One camp that promotes the use of Devanagari for Ho; another camp knows how to use Warang Citi, and expresses a strong sentiment, even a kind of reverence towards it. And there are some people who seem to fall into both camps. There are also people who use Latin letters to write Ho on an ad-hoc basis and for things like e-mail or SMS. The use of Warang Citi seems to be stronger in the eastern part of the diaspora, where books that use it have been printed. (See samples below.) The expert we consulted, Mr Dobro Buriuli, teaches the script and over 200 students have passed his courses. In the opinion of Anna Pucilowski, who did fieldwork in February 2012, “the people that are interested in Warang Chiti are all ages I would say but they're mostly educated. Literacy is pretty low outside the towns and cities.”

2. Structure. Warang Citi is a casing script, written from left to right. Unlike many other Indic scripts, it has features of an alphabet: vowels are written as full letters, with no vowel-modifiers. However, consonants may have an inherent vowel; it typically is pronounced [a] or [ɔ], and less often [ɛ], and never occurs in final position. Because the inherent vowels do not appear explicitly, there can be ambiguity in the reading of certain words. The script has no regular system of conjuncts nor an explicit virama. In the presentation here, the inherent vowel is transcribed *Aa* and the explicit vowel 𑢡 𑣁 is transcribed *Åå*.

The letter 𑢹 𑣙 HIYO is used after a vowel to indicate lengthening or aspiration: 𑢡𑢹 𑣁𑣙 *ÅH åh* (*Ā ā*). Long *i* and *u* are represented by the individual letters 𑢦 𑣆 *Ī ī* and 𑢧 𑣇 *Ū ū*; these do not appear to be equivalent to 𑢢𑢹 𑣂𑣙 *IH ih* or 𑢣𑢹 𑣃𑣙 *UH uh*. The letters 𑢦 𑣆 *Ī ī* and 𑢧 𑣇 *Ū ū* may also, in certain cases, be pronounced as short vowels or diphthongs ([ai] for long *i* or [au] for long *u*). The details of how (or if) length is handled orthographically in Warang Citi is unclear at this point.

As in the Brahmi-derived scripts, Warang Citi includes the OM sign 𑣿, which occasionally appears in words, such as 𑣝𑣿𑣞 *ṣoṁs*, representing Hindi *śvāṃs* ‘breathing’. The script does not include a diacritic mark for anusvara as in Devanagari, but rather has a separate grapheme, 𑣀 NGAA.

The script has four so-called “ligatures” 𑢤 YA (𑢠 + 𑢠 Ṃ + Ṃ), 𑢥 YO (𑢡 + 𑢡 A + A), 𑢦 II (𑢢 I + 𑢢 I), and 𑢧 UU (𑢣 U + 𑢣 U). None of these “ligatures” are decomposable, and so are encoded separately. The digraph hb occurs occasionally and is used for [b] or [w].

3. Digits and numbers. Warang Citi now makes use of a zero, though this may not have been the case previously; no zero is given in Pinnow 1972 or Zide 1996, but more recent materials use zero, as for instance in the date 𑣡𑣥-𑣡𑣠-𑣢𑣠𑣠𑣣 ‘15-10-2003’ (see Figure 6). Note that the higher digits may have fallen into disuse. In the date, for example, 118EA WARANG CITI NUMBER TEN is not used, but rather 118E1 WARANG CITI DIGIT ONE and 118E0 WARANG CITI DIGIT ZERO. No symbols for 100 or 1000 are known, though Pinnow postulated that they may exist.

4. Sorting. Collation order is as in the code chart, with casing pairs interfiling as in Latin. An exception here is U+118FF WARANG CITI OM, which does not file like 𑢩𑢠 𑣉𑣀 *OṂ oṃ*, but rather comes at the beginning of the alphabet, although it is placed last in the code chart so that the alphabet itself can have a constant offset. The order is as given in Figure 5, which is considered authoritative. In the code chart all the capital letters are given, then all the small letters, as in ASCII, Armenian, Cyrillic, Deseret, Glagolitic, and Greek.

𑣿 *oṁ* < 𑢠 *Ṃ* <<< 𑣀 *ṃ* < 𑢡 *Å* <<< 𑣁 *å* < 𑢢 *I* <<< 𑣂 *i* < 𑢣 *U* <<< 𑣃 *u* < 𑢤 *Ɂ* <<< 𑣄 *ɂ* < 𑢥 *Y* <<< 𑣅 *y* <
𑢦 *Ī* <<< 𑣆 *ī* < 𑢧 *Ū* <<< 𑣇 *ū* < 𑢨 *E* <<< 𑣈 *e* < 𑢩 *O* <<< 𑣉 *o* < 𑢪 *Ṅ* <<< 𑣊 *ṅ* < 𑢫 *G* <<< 𑣋 *g* <
𑢬 *K* <<< 𑣌 *k* < 𑢭 *Ñ* <<< 𑣍 *ñ* < 𑢮 *J* <<< 𑣎 *j* < 𑢯 *C* <<< 𑣏 *c* < 𑢰 *Ṇ* <<< 𑣐 *ṇ* < 𑢱 *Ḍ* <<< 𑣑 *ḍ* <
𑢲 *Ṭ* <<< 𑣒 *ṭ* < 𑢳 *N* <<< 𑣓 *n* < 𑢴 *D* <<< 𑣔 *d* < 𑢵 *T* <<< 𑣕 *t* < 𑢶 *M* <<< 𑣖 *m* < 𑢷 *B* <<< 𑣗 *b* <
𑢸 *P* <<< 𑣘 *p* < 𑢹 *H* <<< 𑣙 *h* < 𑢺 *L* <<< 𑣚 *l* < 𑢻 *Ṛ* <<< 𑣛 *ṛ* < 𑢼 *R* <<< 𑣜 *r* < 𑢽 *Ṣ* <<< 𑣝 *ṣ* <
𑢾 *S* <<< 𑣞 *s* < 𑢿 *V* <<< 𑣟 *v*

5. Character names. The name of the script is 𑢹𑣗𑣁𑣜𑣊 𑣏𑣂𑣕𑣂 *Hbårŋ citi* ‘undying writing’, where 𑣙𑣗 *hb* is a digraph representing /w/. The name *Varang Kshiti* found in some literature is a sanskritized form. Letter names are traditional. Pinnow 1972 gives the following transcriptions. After those are given the recommended spellings for English and French. The name VIYO for the last letter 𑢿𑣟 [v] has been constructed; it is an original ligature of 𑢡𑣁 A and 𑢹𑣙 HIYO.

ŋāʔ	NGAA	NGÂ’	ʔɛʔ	E	’E’	ʔɛr̥	ENN	’ENN	puʔ	PU	PU’
ʔa	A	’A	ʔɔʔ	O	’O’	ʔɔḍ	ODD	’ODD	hiyɔ	HIYO	HIYO
ʷüʔⁱ	WI	Ü’I	ʔang	ANG	’ANG	ṭɛʔ	TTE	TTE’	hɔlɔ	HOLO	HOLO
ʸuʔᵘ	YU	YU’U	gaʔ	GA	GA’	nuŋ	NUNG	NUNG	hɔṛ	HORR	HORR
’yaʔ	YA	YA’	kɔʔ	KO	KO’	daʔ	DA	DA’	har	HAR	HAR
’yɔʔ	YO	YO’	ʔɛñ	ENY	’EÑ	ʔat	AT	’AT	śuː	SSUU	ÇÛ
ʔiː	II	’Î	yü’j	YUJ	YÜ’J	ʔam	AM	’AM	sīː	SII	SÎ
ʔuː	UU	’Û	ʔüc	UC	’ÜC	bu	BU	BU	viyɔ	VIYO	VIYO

6. Punctuation. Pinnow states explicitly that European punctuation is used as in English. The following characters have been observed: . , : … ‘ ’ “ ” - — ? and !. In some fonts the dots tend to be drawn rather high—but this is still FULL STOP, not MIDDLE DOT. The apostrophe ’ (RIGHT SINGLE QUOTATION MARK) is used very frequently in words ending in -’𑣄 -’*ɂ*, as in 𑣜𑣁𑣎𑣁’𑣄 *råjå’ɂ*.

7. Conjunct forms. A small number of conjunct forms are known, most of these represent doubled consonants. Pinnow calls them “ligatures” and says:

> Sonstige Ligaturen kommen in den älteren Büchern gar nicht vor; in den späteren warden gelegentlich Ligaturen gebraucht, besonders zur Umschrift von Hindi-Wörtern. Die Ligaturen bestehen einfach darin, daß des jeweils zweite der ohne durch Vokal getrennten Konsonantenzeichen über das erste gesetzt wird, z.B. *b*(*a*)*r*ⁿ, eigentlich *br*ⁿ… Da die Ligaturen nur selten vorkommen, sind Druck und Schrift des Alphabets relativ einfach.
>
> 'Other ligatures do not appear at all in the older books; in later ones ligatures were occasionally used, especially for the transliteration of Hindi words. The ligatures consist of the simple positioning of the second of two consonants which are not separated by a vowel on top of the first, e.g. *b*(*a*)*r*ⁿ, actually *br*ⁿ… Since the ligatures occur only rarely, printing and writing the alphabet are relatively simple.'

The upper letter in the conjunct form is supposed to be drawn upside down. In the example below, where 𑣜‍𑣜 *rra* contrasts with 𑣜‍𑣜 *rra*, the latter is evidently a typographical error. (If this is the case then perhaps 𑣏‍𑣏 *cca*, 𑣓‍𑣔 *nda*, 𑣓‍𑣕 *nta*, and 𑣕‍𑣕 *tta* are errors too.) When capitalized, only the lower letter takes a capital shape, and is reduced in size. (No examples of a capital letter with an inverted conjunct has been seen in the source materials) In the table of contents of the book *Bha butu woṅga buru* (1984), the poem "*Bha Āṭeḍā kana Diṣuma Bano*" is written 𑢷𑣙 𑢡𑣒𑣈𑣑𑣁 𑣌𑣓 𑢴𑣆𑣝𑣃𑣖 𑢷𑣓𑣉, but on p. 49 it is written with a conjunct in the first word, as 𑢷‍𑣙 𑢡𑢲𑢨𑢱𑢡 𑢬𑢳 𑢴𑢦𑢽𑢣𑢶 𑢷𑢳𑢩 "*BHA ÅṬEḌÅ KANA DIṢUMA BANO*". *Bha butu woṅga buru* shows the following conjunct forms:

𑢡‍𑣊 *Åṃ*	𑢡‍𑣊𑣁𑣔𑣈 *Åṃde* /ande/	𑢵‍𑣞 *Tsa*	𑢵‍𑣞𑣆𑣀 *Tsiṅa* /tisiɲ/
𑣏‍𑣏 *cca*	𑢧𑣏‍𑣏𑣃𑣑 *Ūccuḍa* alongside 𑢧𑣏𑣏𑣃𑣑 *Ūccuḍa* /ucuɖ/	𑢷‍𑣙 *Bha*	𑢷‍𑣙 *Bha* and 𑣗‍𑣙 *bha* alongside 𑢷𑣙 *Bha~Baha* /baː/
𑣒‍𑣒 *ṭṭa*	𑢧𑣒‍𑣒𑣃𑣂 *Ūṭṭuī*; 𑣁𑣒‍𑣒𑣚 *åṭṭala* /aʈal/	𑣘‍𑣘 *ppa*	𑣎𑣃𑣘‍𑣘𑣃𑣁𑣙𑣅 *juppuåhɔ* (*juppuāɔ*) /ɟupuwaʔ/
𑣒‍𑣜 *ṭra*	𑣇𑣑𑣜𑣁𑣝𑣒‍𑣜𑣁 *ūḍaråṣaṭrå* /udrast/	𑣜‍𑣜 *rra*	𑣘𑣃𑣜‍𑣜 *purra* /pur/; 𑣘𑣉𑣜‍𑣜 *porra* /por/; 𑢵𑣉𑣜‍𑣜 *Torra*, 𑣕𑣉𑣜‍𑣜 *torra* /tor/; 𑣙𑣞𑣈𑣜‍𑣜 *haserra* /heser/
𑣓‍𑣔 *nda*	𑢾𑣆𑣘‍𑣘𑣆𑣓‍𑣔𑣃𑣜𑣆 *Sippinduri* /sipinduri/ alongside 𑢾𑣆𑣓𑣔𑣃𑣜𑣆𑣆 *Sindurii* /sinduri/	𑣜‍𑣜 *rra*	𑣘𑣜‍𑣜 *parra* /par/; 𑣙𑣆𑣜‍𑣜 *hirra* /hir/
𑣓‍𑣕 *nta*	𑢡𑣓𑣓‍𑣕 *Ånanta* /anante/	𑣚‍𑣚 *lla*	𑣞𑣃𑣚‍𑣚 *sulla* /sul/
𑣕‍𑣕 *tta*	𑢸𑣜𑣃𑣝𑣉𑣕‍𑣕𑣖 *Paruṣottama* /puru sutam/	𑣚‍𑣚 *lla*	𑣉𑣚‍𑣚 *olla* alongside 𑣉𑣚‍𑣚 *olla* /ol/
𑣕‍𑣜 *tra*	𑣕‍𑣜𑣆𑣄𑣃 *triyu* /tiriyu/		

The choice of a conjunct form does not appear to be predictable. The recommended mechanism for representing these conjuncts is to make use of U+200D ZERO-WIDTH JOINER, so that users can specify the discretionary ligatures they prefer to have. There is no difference in meaning between 𑢧𑣏‍𑣏𑣃𑣑 *Ūccuḍa* and 𑢧𑣏𑣏𑣃𑣑 *Ūccuḍa*, but because the variation should be preserved in interchange, ZERO-WIDTH JOINER is preferred to OpenType font features.

8. Linebreaking. Letters and digits behave as in Latin and other alphabetic scripts. U+118FF 𑣿 WARANG CITI OM behaves like a letter.

9. Unicode Character Properties.

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118A0;WARANG CITI CAPITAL LETTER NGAA;Lu;0;L;;;;;N;;;;118C0;
118A1;WARANG CITI CAPITAL LETTER A;Lu;0;L;;;;;N;;;;118C1;
118A2;WARANG CITI CAPITAL LETTER WI;Lu;0;L;;;;;N;;;;118C2;
118A3;WARANG CITI CAPITAL LETTER YU;Lu;0;L;;;;;N;;;;118C3;
118A4;WARANG CITI CAPITAL LETTER YA;Lu;0;L;;;;;N;;;;118C4;
118A5;WARANG CITI CAPITAL LETTER YO;Lu;0;L;;;;;N;;;;118C5;
118A6;WARANG CITI CAPITAL LETTER II;Lu;0;L;;;;;N;;;;118C6;
118A7;WARANG CITI CAPITAL LETTER UU;Lu;0;L;;;;;N;;;;118C7;
118A8;WARANG CITI CAPITAL LETTER E;Lu;0;L;;;;;N;;;;118C8;
118A9;WARANG CITI CAPITAL LETTER O;Lu;0;L;;;;;N;;;;118C9;
118AA;WARANG CITI CAPITAL LETTER ANG;Lu;0;L;;;;;N;;;;118CA;
118AB;WARANG CITI CAPITAL LETTER GA;Lu;0;L;;;;;N;;;;118CB;
118AC;WARANG CITI CAPITAL LETTER KO;Lu;0;L;;;;;N;;;;118CC;
118AD;WARANG CITI CAPITAL LETTER ENY;Lu;0;L;;;;;N;;;;118CD;
118AE;WARANG CITI CAPITAL LETTER YUJ;Lu;0;L;;;;;N;;;;118CE;
118AF;WARANG CITI CAPITAL LETTER UC;Lu;0;L;;;;;N;;;;118CF;
118B0;WARANG CITI CAPITAL LETTER ENN;Lu;0;L;;;;;N;;;;118D0;
118B1;WARANG CITI CAPITAL LETTER ODD;Lu;0;L;;;;;N;;;;118D1;
118B2;WARANG CITI CAPITAL LETTER TTE;Lu;0;L;;;;;N;;;;118D2;
118B3;WARANG CITI CAPITAL LETTER NUNG;Lu;0;L;;;;;N;;;;118D3;
118B4;WARANG CITI CAPITAL LETTER DA;Lu;0;L;;;;;N;;;;118D4;
118B5;WARANG CITI CAPITAL LETTER AT;Lu;0;L;;;;;N;;;;118D5;
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118B6;WARANG CITI CAPITAL LETTER AM;Lu;0;L;;;;;N;;;;118D6;
118B7;WARANG CITI CAPITAL LETTER BU;Lu;0;L;;;;;N;;;;118D7;
118B8;WARANG CITI CAPITAL LETTER PU;Lu;0;L;;;;;N;;;;118D8;
118B9;WARANG CITI CAPITAL LETTER HIYO;Lu;0;L;;;;;N;;;;118D9;
118BA;WARANG CITI CAPITAL LETTER HOLO;Lu;0;L;;;;;N;;;;118DA;
118BB;WARANG CITI CAPITAL LETTER HORR;Lu;0;L;;;;;N;;;;118DB;
118BC;WARANG CITI CAPITAL LETTER HAR;Lu;0;L;;;;;N;;;;118DC;
118BD;WARANG CITI CAPITAL LETTER SSUU;Lu;0;L;;;;;N;;;;118DD;
118BE;WARANG CITI CAPITAL LETTER SII;Lu;0;L;;;;;N;;;;118DE;
118BF;WARANG CITI CAPITAL LETTER VIYO;Lu;0;L;;;;;N;;;;118DF;
118C0;WARANG CITI SMALL LETTER NGAA;Ll;0;L;;;;;N;;;118A0;;118A0
118C1;WARANG CITI SMALL LETTER A;Ll;0;L;;;;;N;;;118A1;;118A1
118C2;WARANG CITI SMALL LETTER WI;Ll;0;L;;;;;N;;;118A2;;118A2
118C3;WARANG CITI SMALL LETTER YU;Ll;0;L;;;;;N;;;118A3;;118A3
118C4;WARANG CITI SMALL LETTER YA;Ll;0;L;;;;;N;;;118A4;;118A4
118C5;WARANG CITI SMALL LETTER YO;Ll;0;L;;;;;N;;;118A5;;118A5
118C6;WARANG CITI SMALL LETTER II;Ll;0;L;;;;;N;;;118A6;;118A6
118C7;WARANG CITI SMALL LETTER UU;Ll;0;L;;;;;N;;;118A7;;118A7
118C8;WARANG CITI SMALL LETTER E;Ll;0;L;;;;;N;;;118A8;;118A8
118C9;WARANG CITI SMALL LETTER O;Ll;0;L;;;;;N;;;118A9;;118A9
118CA;WARANG CITI SMALL LETTER ANG;Ll;0;L;;;;;N;;;118AA;;118AA
118CB;WARANG CITI SMALL LETTER GA;Ll;0;L;;;;;N;;;118AB;;118AB
118CC;WARANG CITI SMALL LETTER KO;Ll;0;L;;;;;N;;;118AC;;118AC
118CD;WARANG CITI SMALL LETTER ENY;Ll;0;L;;;;;N;;;118AD;;118AD
118CE;WARANG CITI SMALL LETTER YUJ;Ll;0;L;;;;;N;;;118AE;;118AE
118CF;WARANG CITI SMALL LETTER UC;Ll;0;L;;;;;N;;;118AF;;118AF
118D0;WARANG CITI SMALL LETTER ENN;Ll;0;L;;;;;N;;;118B0;;118B0
118D1;WARANG CITI SMALL LETTER ODD;Ll;0;L;;;;;N;;;118B1;;118B1
118D2;WARANG CITI SMALL LETTER TTE;Ll;0;L;;;;;N;;;118B2;;118B2
118D3;WARANG CITI SMALL LETTER NUNG;Ll;0;L;;;;;N;;;118B3;;118B3
118D4;WARANG CITI SMALL LETTER DA;Ll;0;L;;;;;N;;;118B4;;118B4
118D5;WARANG CITI SMALL LETTER AT;Ll;0;L;;;;;N;;;118B5;;118B5
118D6;WARANG CITI SMALL LETTER AM;Ll;0;L;;;;;N;;;118B6;;118B6
118D7;WARANG CITI SMALL LETTER BU;Ll;0;L;;;;;N;;;118B7;;118B7
118D8;WARANG CITI SMALL LETTER PU;Ll;0;L;;;;;N;;;118B8;;118B8
118D9;WARANG CITI SMALL LETTER HIYO;Ll;0;L;;;;;N;;;118B9;;118B9
118DA;WARANG CITI SMALL LETTER HOLO;Ll;0;L;;;;;N;;;118BA;;118BA
118DB;WARANG CITI SMALL LETTER HORR;Ll;0;L;;;;;N;;;118BB;;118BB
118DC;WARANG CITI SMALL LETTER HAR;Ll;0;L;;;;;N;;;118BC;;118BC
118DD;WARANG CITI SMALL LETTER SSUU;Ll;0;L;;;;;N;;;118BD;;118BD
118DE;WARANG CITI SMALL LETTER SII;Ll;0;L;;;;;N;;;118BE;;118BE
118DF;WARANG CITI SMALL LETTER VIYO;Ll;0;L;;;;;N;;;118BF;;118BF
118E0;WARANG CITI DIGIT ZERO;Nd;0;L;;0;0;0;N;;;;;
118E1;WARANG CITI DIGIT ONE;Nd;0;L;;1;1;1;N;;;;;
118E2;WARANG CITI DIGIT TWO;Nd;0;L;;2;2;2;N;;;;;
118E3;WARANG CITI DIGIT THREE;Nd;0;L;;3;3;3;N;;;;;
118E4;WARANG CITI DIGIT FOUR;Nd;0;L;;4;4;4;N;;;;;
118E5;WARANG CITI DIGIT FIVE;Nd;0;L;;5;5;5;N;;;;;
118E6;WARANG CITI DIGIT SIX;Nd;0;L;;6;6;6;N;;;;;
118E7;WARANG CITI DIGIT SEVEN;Nd;0;L;;7;7;7;N;;;;;
118E8;WARANG CITI DIGIT EIGHT;Nd;0;L;;8;8;8;N;;;;;
118E9;WARANG CITI DIGIT NINE;Nd;0;L;;9;9;9;N;;;;;
118EA;WARANG CITI NUMBER TEN;No;0;L;;;;10;N;;;;;
118EB;WARANG CITI NUMBER TWENTY;No;0;L;;;;20;N;;;;;
118EC;WARANG CITI NUMBER THIRTY;No;0;L;;;;30;N;;;;;
118ED;WARANG CITI NUMBER FORTY;No;0;L;;;;40;N;;;;;
118EE;WARANG CITI NUMBER FIFTY;No;0;L;;;;50;N;;;;;
118EF;WARANG CITI NUMBER SIXTY;No;0;L;;;;60;N;;;;;
118F0;WARANG CITI NUMBER SEVENTY;No;0;L;;;;70;N;;;;;
118F1;WARANG CITI NUMBER EIGHTY;No;0;L;;;;80;N;;;;;
118F2;WARANG CITI NUMBER NINETY;No;0;L;;;;90;N;;;;;
118FF;WARANG CITI OM;Lo;0;L;;;;;N;;;;;
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10. Bibliography.

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Zide, Norman. 1996. “Scripts for Munda languages”, in Peter T. Daniels and William Bright, eds. *The world’s writing systems*. New York; Oxford: Oxford University Press. ISBN 0-19-507993-0

[s.n.]. 2003. 𑣝𑣆𑣞 𑣜𑣁𑣖 (*Ṣiṣu halaṃ*). [s.l.]: [s.n.]. (See Figure 25.)

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	118A	118B	118C	118D	118E	118F
0	𑢠 118A0	𑢰 118B0	𑣀 118C0	𑣐 118D0	𑣠 118E0	𑣰 118F0
1	𑢡 118A1	𑢱 118B1	𑣁 118C1	𑣑 118D1	𑣡 118E1	𑣱 118F1
2	𑢢 118A2	𑢲 118B2	𑣂 118C2	𑣒 118D2	𑣢 118E2	𑣲 118F2
3	𑢣 118A3	𑢳 118B3	𑣃 118C3	𑣓 118D3	𑣣 118E3	▨
4	𑢤 118A4	𑢴 118B4	𑣄 118C4	𑣔 118D4	𑣤 118E4	▨
5	𑢥 118A5	𑢵 118B5	𑣅 118C5	𑣕 118D5	𑣥 118E5	▨
6	𑢦 118A6	𑢶 118B6	𑣆 118C6	𑣖 118D6	𑣦 118E6	▨
7	𑢧 118A7	𑢷 118B7	𑣇 118C7	𑣗 118D7	𑣧 118E7	▨
8	𑢨 118A8	𑢸 118B8	𑣈 118C8	𑣘 118D8	𑣨 118E8	▨
9	𑢩 118A9	𑢹 118B9	𑣉 118C9	𑣙 118D9	𑣩 118E9	▨
A	𑢪 118AA	𑢺 118BA	𑣊 118CA	𑣚 118DA	𑣪 118EA	▨
B	𑢫 118AB	𑢻 118BB	𑣋 118CB	𑣛 118DB	𑣫 118EB	▨
C	𑢬 118AC	𑢼 118BC	𑣌 118CC	𑣜 118DC	𑣬 118EC	▨
D	𑢭 118AD	𑢽 118BD	𑣍 118CD	𑣝 118DD	𑣭 118ED	▨
E	𑢮 118AE	𑢾 118BE	𑣎 118CE	𑣞 118DE	𑣮 118EE	▨
F	𑢯 118AF	𑢿 118BF	𑣏 118CF	𑣟 118DF	𑣯 118EF	𑣿 118FF

Uppercase vowels

118A0	𑢠	WARANG CITI CAPITAL LETTER NGAA
118A1	𑢡	WARANG CITI CAPITAL LETTER A
118A2	𑢢	WARANG CITI CAPITAL LETTER WI
118A3	𑢣	WARANG CITI CAPITAL LETTER YU
118A4	𑢤	WARANG CITI CAPITAL LETTER YA
118A5	𑢥	WARANG CITI CAPITAL LETTER YO
118A6	𑢦	WARANG CITI CAPITAL LETTER II
118A7	𑢧	WARANG CITI CAPITAL LETTER UU
118A8	𑢨	WARANG CITI CAPITAL LETTER E
118A9	𑢩	WARANG CITI CAPITAL LETTER O

Uppercase consonants

118AA	𑢪	WARANG CITI CAPITAL LETTER ANG
118AB	𑢫	WARANG CITI CAPITAL LETTER GA
118AC	𑢬	WARANG CITI CAPITAL LETTER KO
118AD	𑢭	WARANG CITI CAPITAL LETTER ENY
118AE	𑢮	WARANG CITI CAPITAL LETTER YUJ
118AF	𑢯	WARANG CITI CAPITAL LETTER UC
118B0	𑢰	WARANG CITI CAPITAL LETTER ENN
118B1	𑢱	WARANG CITI CAPITAL LETTER ODD
118B2	𑢲	WARANG CITI CAPITAL LETTER TTE
118B3	𑢳	WARANG CITI CAPITAL LETTER NUNG
118B4	𑢴	WARANG CITI CAPITAL LETTER DA
118B5	𑢵	WARANG CITI CAPITAL LETTER AT
118B6	𑢶	WARANG CITI CAPITAL LETTER AM
118B7	𑢷	WARANG CITI CAPITAL LETTER BU
118B8	𑢸	WARANG CITI CAPITAL LETTER PU
118B9	𑢹	WARANG CITI CAPITAL LETTER HIYO
118BA	𑢺	WARANG CITI CAPITAL LETTER HOLO
118BB	𑢻	WARANG CITI CAPITAL LETTER HORR
118BC	𑢼	WARANG CITI CAPITAL LETTER HAR
118BD	𑢽	WARANG CITI CAPITAL LETTER SSUU
118BE	𑢾	WARANG CITI CAPITAL LETTER SII
118BF	𑢿	WARANG CITI CAPITAL LETTER VIYO

Lowercase vowels

118C0	𑣀	WARANG CITI SMALL LETTER NGAA
118C1	𑣁	WARANG CITI SMALL LETTER A
118C2	𑣂	WARANG CITI SMALL LETTER WI
118C3	𑣃	WARANG CITI SMALL LETTER YU
118C4	𑣄	WARANG CITI SMALL LETTER YA
118C5	𑣅	WARANG CITI SMALL LETTER YO
118C6	𑣆	WARANG CITI SMALL LETTER II
118C7	𑣇	WARANG CITI SMALL LETTER UU
118C8	𑣈	WARANG CITI SMALL LETTER E
118C9	𑣉	WARANG CITI SMALL LETTER O

Lowercase consonants

118CA	𑣊	WARANG CITI SMALL LETTER ANG
118CB	𑣋	WARANG CITI SMALL LETTER GA
118CC	𑣌	WARANG CITI SMALL LETTER KO
118CD	𑣍	WARANG CITI SMALL LETTER ENY
118CE	𑣎	WARANG CITI SMALL LETTER YUJ
118CF	𑣏	WARANG CITI SMALL LETTER UC
118D0	𑣐	WARANG CITI SMALL LETTER ENN
118D1	𑣑	WARANG CITI SMALL LETTER ODD
118D2	𑣒	WARANG CITI SMALL LETTER TTE
118D3	𑣓	WARANG CITI SMALL LETTER NUNG
118D4	𑣔	WARANG CITI SMALL LETTER DA
118D5	𑣕	WARANG CITI SMALL LETTER AT
118D6	𑣖	WARANG CITI SMALL LETTER AM
118D7	𑣗	WARANG CITI SMALL LETTER BU
118D8	𑣘	WARANG CITI SMALL LETTER PU
118D9	𑣙	WARANG CITI SMALL LETTER HIYO
118DA	𑣚	WARANG CITI SMALL LETTER HOLO
118DB	𑣛	WARANG CITI SMALL LETTER HORR
118DC	𑣜	WARANG CITI SMALL LETTER HAR
118DD	𑣝	WARANG CITI SMALL LETTER SSUU
118DE	𑣞	WARANG CITI SMALL LETTER SII
118DF	𑣟	WARANG CITI SMALL LETTER VIYO

Digits

118E0	𑣠	WARANG CITI DIGIT ZERO
118E1	𑣡	WARANG CITI DIGIT ONE
118E2	𑣢	WARANG CITI DIGIT TWO
118E3	𑣣	WARANG CITI DIGIT THREE
118E4	𑣤	WARANG CITI DIGIT FOUR
118E5	𑣥	WARANG CITI DIGIT FIVE
118E6	𑣦	WARANG CITI DIGIT SIX
118E7	𑣧	WARANG CITI DIGIT SEVEN
118E8	𑣨	WARANG CITI DIGIT EIGHT
118E9	𑣩	WARANG CITI DIGIT NINE

Numbers

118EA	𑣪	WARANG CITI NUMBER TEN
118EB	𑣫	WARANG CITI NUMBER TWENTY
118EC	𑣬	WARANG CITI NUMBER THIRTY
118ED	𑣭	WARANG CITI NUMBER FORTY
118EE	𑣮	WARANG CITI NUMBER FIFTY
118EF	𑣯	WARANG CITI NUMBER SIXTY
118F0	𑣰	WARANG CITI NUMBER SEVENTY
118F1	𑣱	WARANG CITI NUMBER EIGHTY
118F2	𑣲	WARANG CITI NUMBER NINETY

Signs

118FF	𑣿	WARANG CITI OM

Figures.

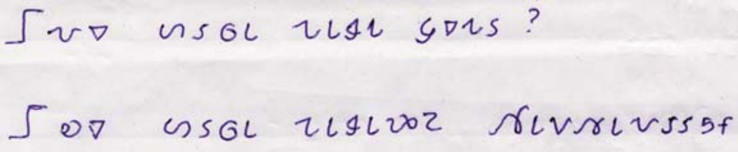
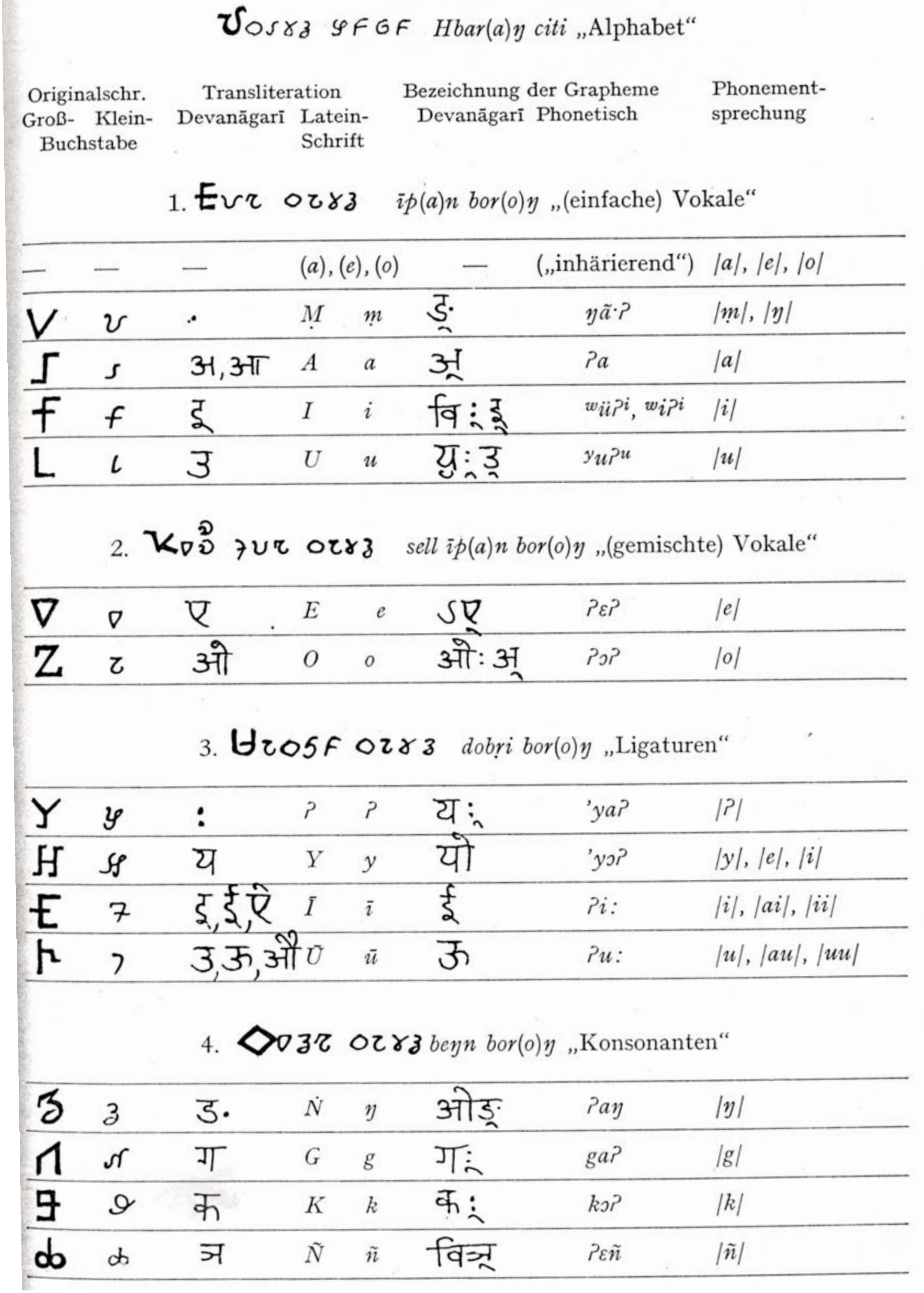


Figure 1. Sample of Warang Citi handwriting.



Hbar(a)ŋ citi „Alphabet"

Originalschr. Groß-Buchstabe	Klein-Buchstabe	Transliteration Devanāgarī	Latein-Schrift		Bezeichnung der Grapheme Devanāgarī	Phonetisch	Phonementsprechung

1. *īp(a)n bor(o)ŋ* „(einfache) Vokale"

—	—	—	(*a*), (*e*), (*o*)		—	(„inhärierend")	/*a*/, /*e*/, /*o*/
𑢠	𑣀	·	*M*	*ṃ*	ङ्·	*ŋā·ʔ*	/*ṃ*/, /*ŋ*/
𑢡	𑣁	अ, आ	*A*	*a*	अ्	*ʔa*	/*a*/
𑢢	𑣂	इ	*I*	*i*	वि : इ्	*wüʔi*, *wiʔi*	/*i*/
𑢣	𑣃	उ	*U*	*u*	यु : उ्	*yuʔu*	/*u*/

2. *sell īp(a)n bor(o)ŋ* „(gemischte) Vokale"

𑢨	𑣈	ए	*E*	*e*	ऽए्	*ʔɛʔ*	/*e*/
𑢩	𑣉	ओ	*O*	*o*	ओ : अ्	*ʔɔʔ*	/*o*/

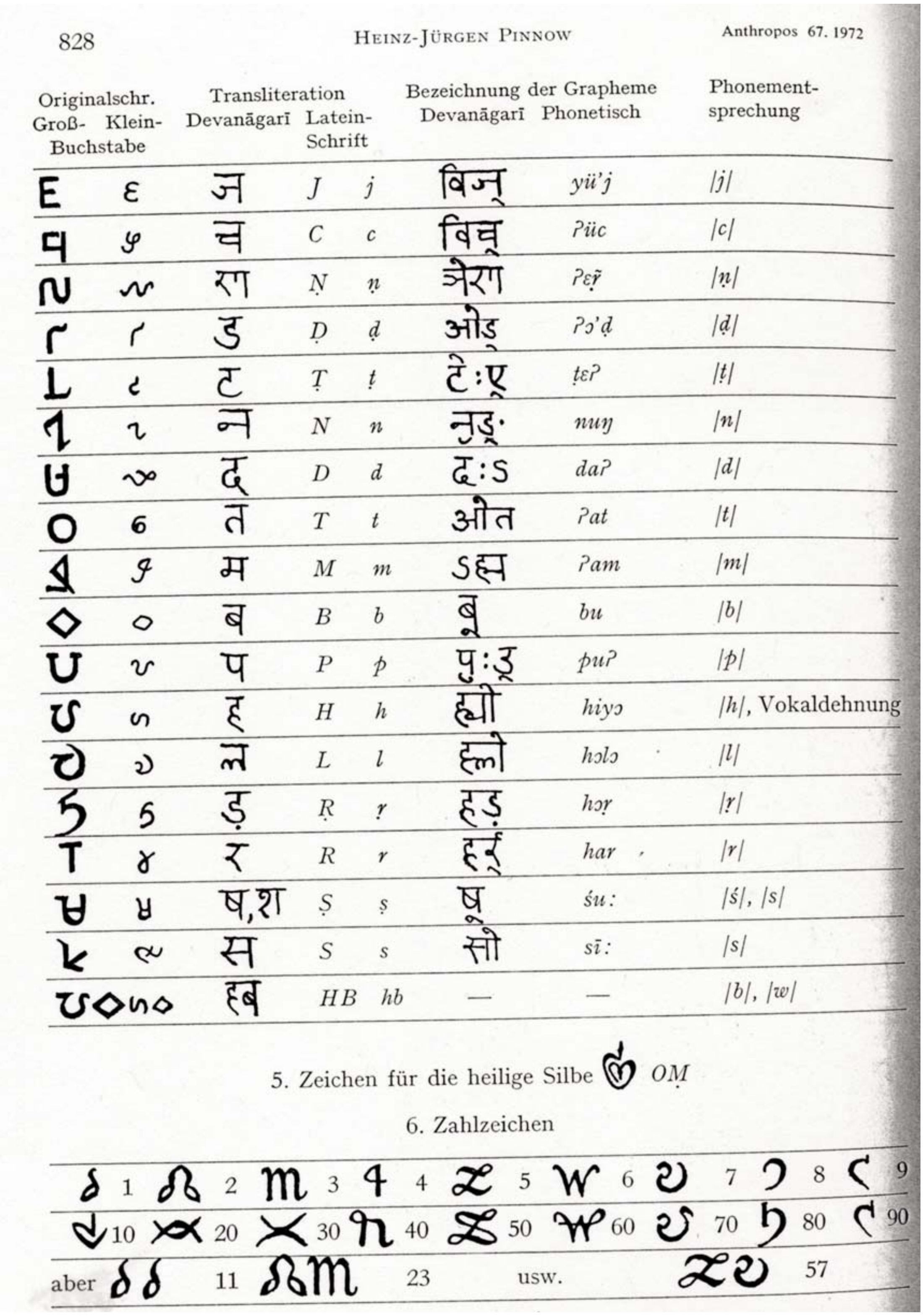
3. *dobṛi bor(o)ŋ* „Ligaturen"

𑢤	𑣄	:	*ʔ*	*ʔ*	य :	*'yaʔ*	/*ʔ*/
𑢥	𑣅	य	*Y*	*y*	यो	*'yɔʔ*	/*y*/, /*e*/, /*i*/
𑢦	𑣆	इ, ई, ऐ	*Ī*	*ī*	ई्	*ʔi:*	/*i*/, /*ai*/, /*ii*/
𑢧	𑣇	उ, ऊ, औ	*Ū*	*ū*	ऊ	*ʔu:*	/*u*/, /*au*/, /*uu*/

4. *beŋn bor(o)ŋ* „Konsonanten"

𑢪	𑣊	ङ·	*Ṅ*	*ŋ*	ओङ्	*ʔaŋ*	/*ŋ*/
𑢫	𑣋	ग	*G*	*g*	ग :	*gaʔ*	/*g*/
𑢬	𑣌	क	*K*	*k*	क :	*kɔʔ*	/*k*/
𑢭	𑣍	ञ	*Ñ*	*ñ*	विञ्	*ʔɛñ*	/*ñ*/

Figure 2a. Description of the alphabet from Pinnow 1972.



Originalschr. Groß- Buchstabe	Originalschr. Klein- Buchstabe	Transliteration Devanāgarī	Transliteration Latein-Schrift		Bezeichnung der Grapheme Devanāgarī	Bezeichnung der Grapheme Phonetisch	Phonement-sprechung
		ज	*J*	*j*	विज्	*yü'j*	/*j*/
		च	*C*	*c*	विच्	*ʔüc*	/*c*/
		ण	*Ṇ*	*ṇ*	ञेरग	*ʔεr̃*	/*ṇ*/
		ड	*Ḍ*	*ḍ*	ओड्	*ʔɔ'ḍ*	/*ḍ*/
		ट	*Ṭ*	*ṭ*	टे:ए्	*ṭεʔ*	/*ṭ*/
		न	*N*	*n*	नुड्·	*nuŋ*	/*n*/
		द	*D*	*d*	द:ऽ	*daʔ*	/*d*/
		त	*T*	*t*	ओत	*ʔat*	/*t*/
		म	*M*	*m*	ऽह्म	*ʔam*	/*m*/
		ब	*B*	*b*	बू	*bu*	/*b*/
		प	*P*	*p*	पु:उ्	*puʔ*	/*p*/
		ह	*H*	*h*	ह्यो	*hiyɔ*	/*h*/, Vokaldehnung
		ल	*L*	*l*	ह्लो	*hɔlɔ*	/*l*/
		ड़	*Ṛ*	*ṛ*	हड़्	*hɔṛ*	/*ṛ*/
		र	*R*	*r*	हर्	*har*	/*r*/
		ष,श	*Ṣ*	*ṣ*	षू	*śu:*	/*ś*/, /*s*/
		स	*S*	*s*	सी	*sī:*	/*s*/
		हब	*HB*	*hb*	—	—	/*b*/, /*w*/

5. Zeichen für die heilige Silbe *OṂ*

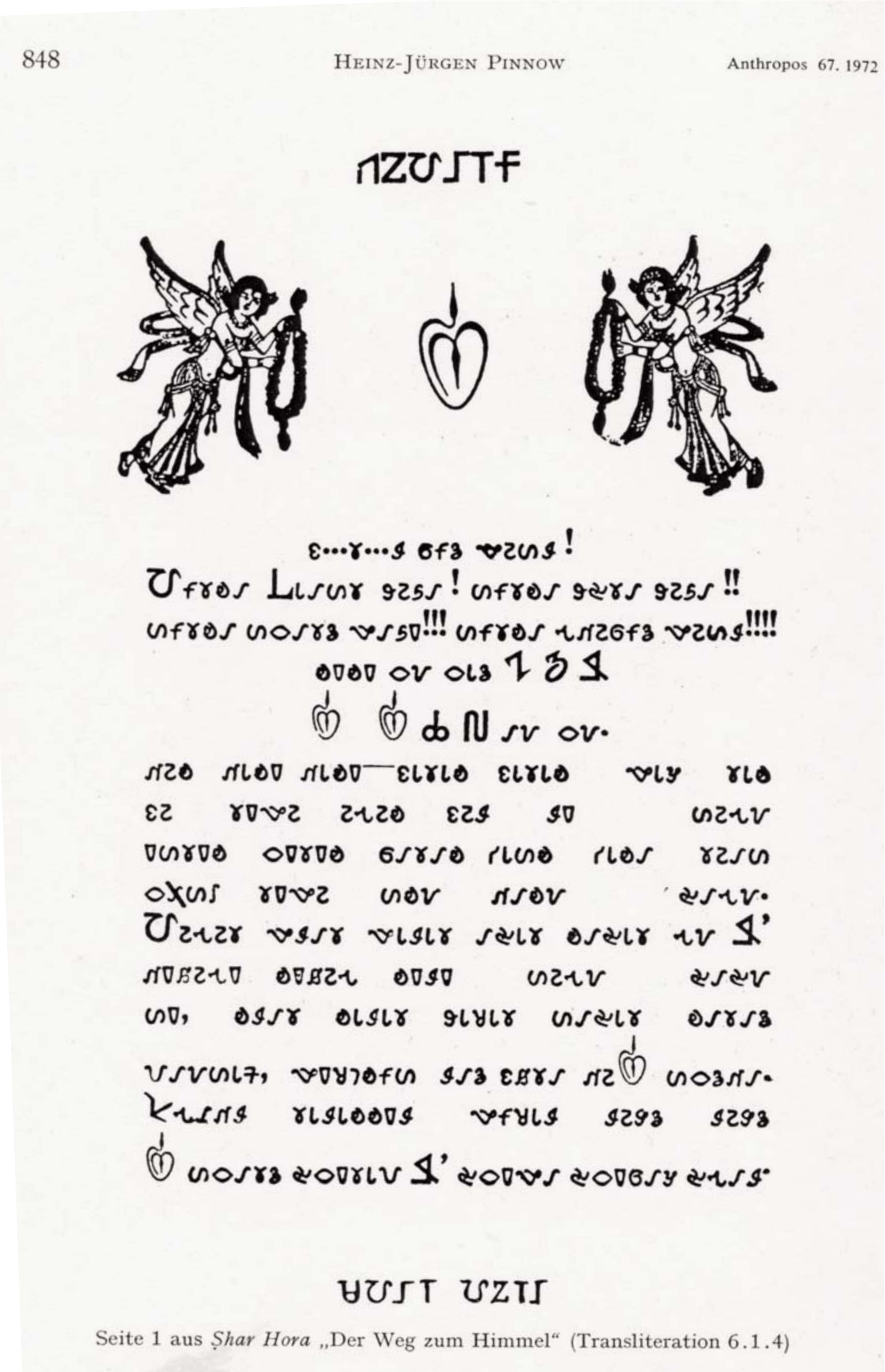
6. Zahlzeichen

1 2 3 4 5 6 7 8 9

10 20 30 40 50 60 70 80 90

aber 11 23 usw. 57

Figure 2b. Description of the alphabet from Pinnow 1972.



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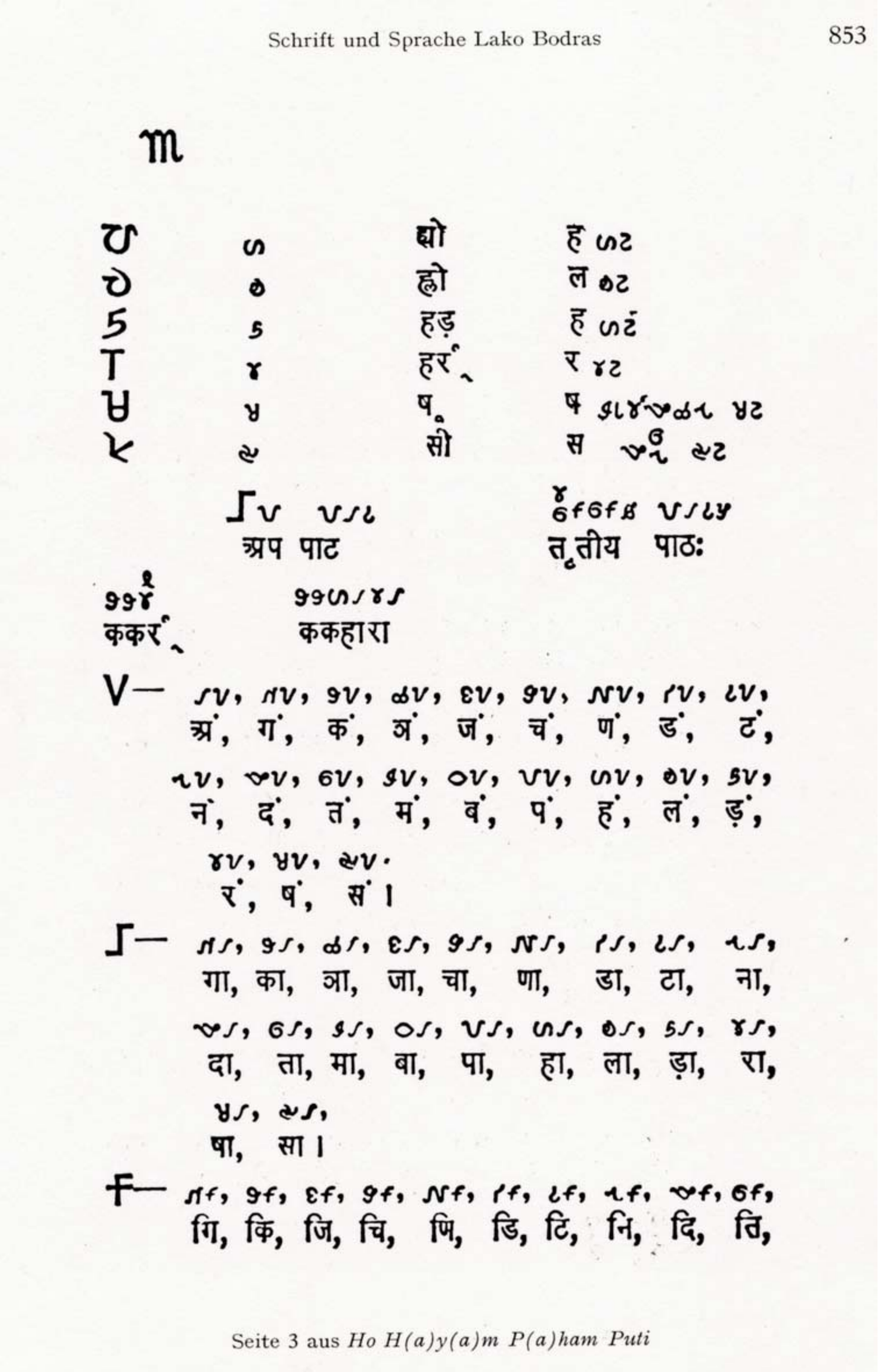
Seite 1 aus *Ṣhar Hora* „Der Weg zum Himmel“ (Transliteration 6.1.4)

Figure 3. Sample text from Pinnow 1972.



Schrift und Sprache Lako Bodras 853

घो हे

ह्लो ल

हड़ हे

हरं र

ष़ ष

सी स

अप पाठ तृतीय पाठः

ककरं ककहारा

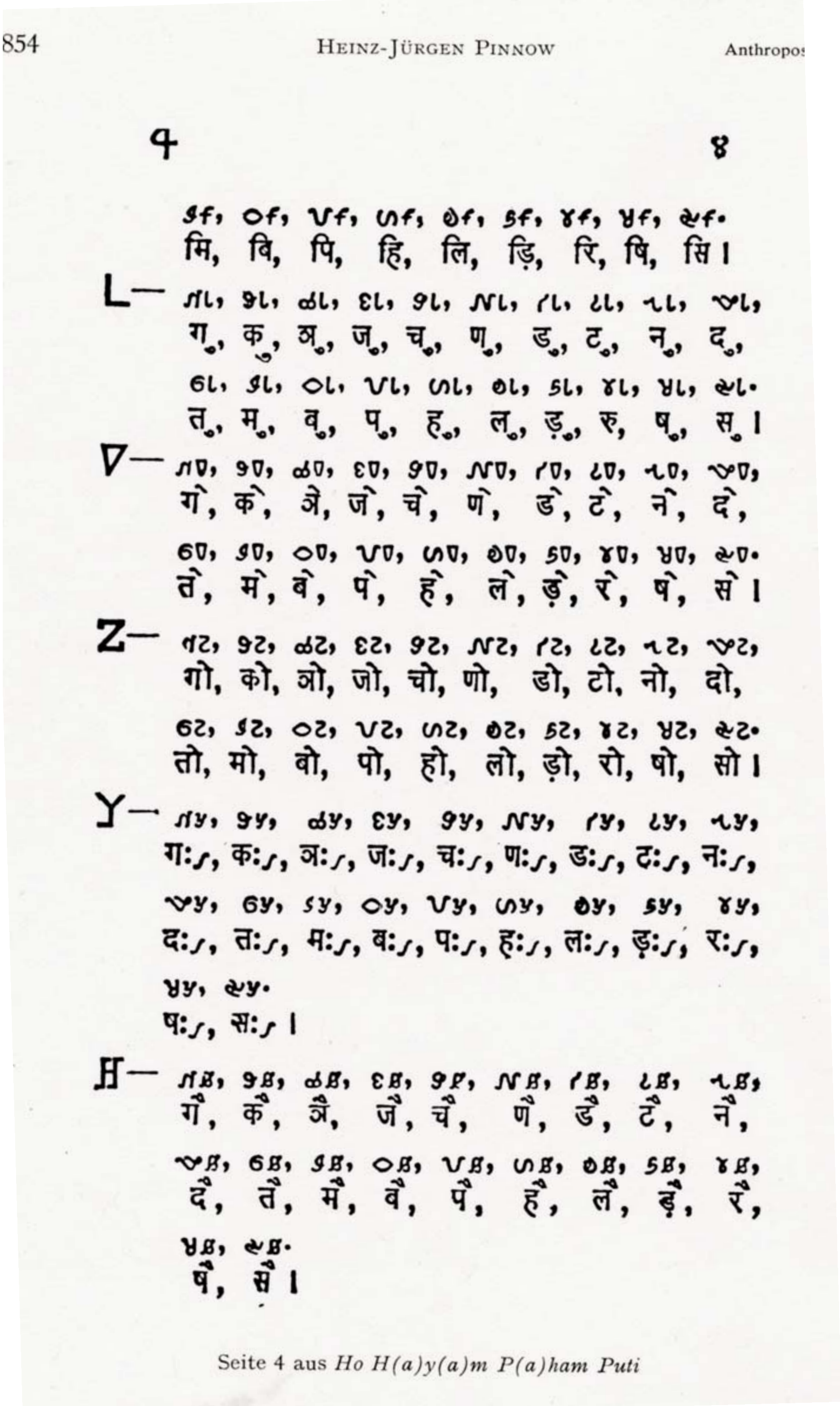
अं, गं, कं, ञं, जं, चं, णं, डं, टं,
नं, दं, तं, मं, बं, पं, हं, लं, ड़ं,
रं, षं, सं।

गा, का, ञा, जा, चा, णा, डा, टा, ना,
दा, ता, मा, बा, पा, हा, ला, ड़ा, रा,
षा, सा।

गि, कि, जि, चि, णि, डि, टि, नि, दि, ति,

Seite 3 aus *Ho H(a)y(a)m P(a)ham Puti*

Figure 4a. Sample text with syllabary from Pinnow 1972.



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मि, वि, पि, हि, लि, ड़ि, रि, षि, सि।

L— ग̥, क̥, ञ̥, ज̥, च̥, ण̥, ड̥, ट̥, न̥, द̥,

त̥, म̥, व̥, प̥, ह̥, ल̥, ड़̥, रु, ष̥, स̥।

V— गे, के, ञे, जे, चे, णे, डे, टे, ने, दे,

ते, मे, बे, पे, हे, ले, ड़े, रे, षे, से।

Z— गो, को, ञो, जो, चो, णो, डो, टो, नो, दो,

तो, मो, बो, पो, हो, लो, ड़ो, रो, षो, सो।

Y— गःʃ, कःʃ, ञःʃ, जःʃ, चःʃ, णःʃ, डःʃ, टःʃ, नःʃ,

दःʃ, तःʃ, मःʃ, बःʃ, पःʃ, हःʃ, लःʃ, ड़ःʃ, रःʃ,

षःʃ, सःʃ।

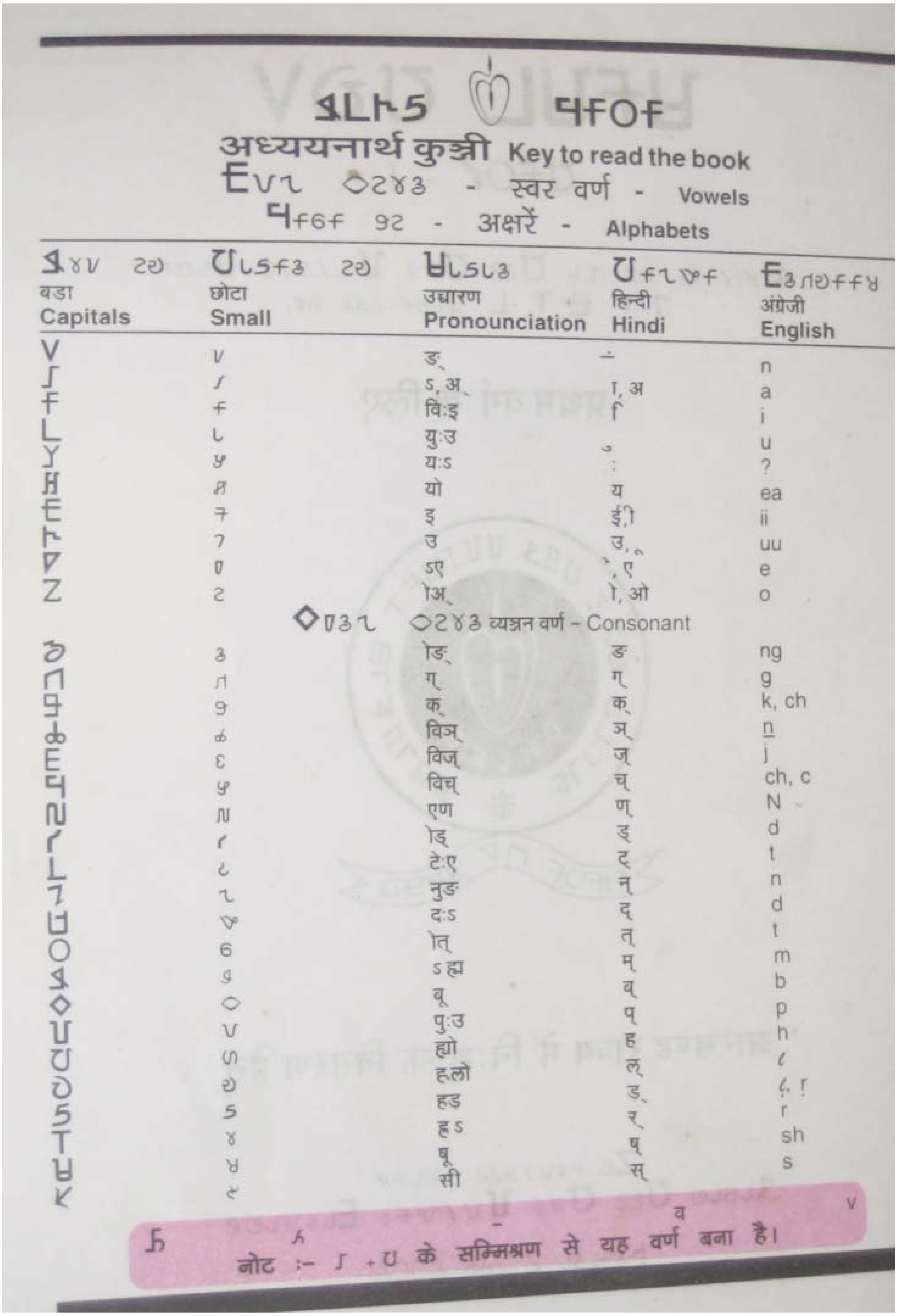
Ħ— गै, कै, ञै, जै, चै, णै, डै, टै, नै,

दै, तै, मै, वै, पै, है, लै, ड़ै, रै,

षै, सै।

Seite 4 aus *Ho H(a)y(a)m P(a)ham Puti*

Figure 4b. Sample text with syllabary from Pinnow 1972.



अध्ययनार्थ कुञ्जी Key to read the book

स्वर वर्ण - Vowels

अक्षरें - Alphabets

बडा Capitals	छोटा Small	उच्चारण Pronounciation	हिन्दी Hindi	अंग्रेजी English
𑢠	𑣀	ङ्	ं	n
𑢡	𑣁	ऽ, अ्	ा, अ	a
𑢢	𑣂	वि:इ	ि	i
𑢣	𑣃	यु:उ	ु	u
𑢤	𑣄	य:ऽ	ः	?
𑢥	𑣅	यो	य	ea
𑢦	𑣆	इ	ई, ी	ii
𑢧	𑣇	उ	उ, ू	uu
𑢨	𑣈	ऽए	े, ए	e
𑢩	𑣉	ोअ्	ो, ओ	o
		व्यञ्जन वर्ण - Consonant		
𑢪	𑣊	ोङ्	ङ	ng
𑢫	𑣋	ग्	ग्	g
𑢬	𑣌	क्	क्	k, ch
𑢭	𑣍	विञ्	ञ्	n̲
𑢮	𑣎	विज्	ज्	j
𑢯	𑣏	विच्	च्	ch, c
𑢰	𑣐	एण	ण्	N
𑢱	𑣑	ोड्	ड्	d
𑢲	𑣒	टे:ए	ट्	t
𑢳	𑣓	नुङ	न्	n
𑢴	𑣔	द:ऽ	द्	d
𑢵	𑣕	ोत्	त्	t
𑢶	𑣖	ऽह्म	म्	m
𑢷	𑣗	बू	ब्	b
𑢸	𑣘	पु:उ	प्	p
𑢹	𑣙	ह्यो	ह	h
𑢺	𑣚	हलो	ल्	ℓ
𑢻	𑣛	हड	ड़्	ṛ, ṛ
𑢼	𑣜	हऽ	र्	r
𑢽	𑣝	षू	ष्	sh
𑢾	𑣞	सी	स्	s

𑢿 𑣟 नोट :- 𑢡 + 𑢹 के सम्मिश्रण से यह वर्ण बना है।

Figure 5. Alphabet chart from the book 𑢽𑣂𑣝𑣃 𑢹𑣚𑣀 *Ṣiṣu halaṃ*, 2003.
In the last line the letter 𑢿𑣟 VIYO is given with the text “𑢡 + 𑢹 *ke sammiśraṇa yah varna banā hai*” ‘from a ligature of 𑢡 + 𑢹 this character is made’.

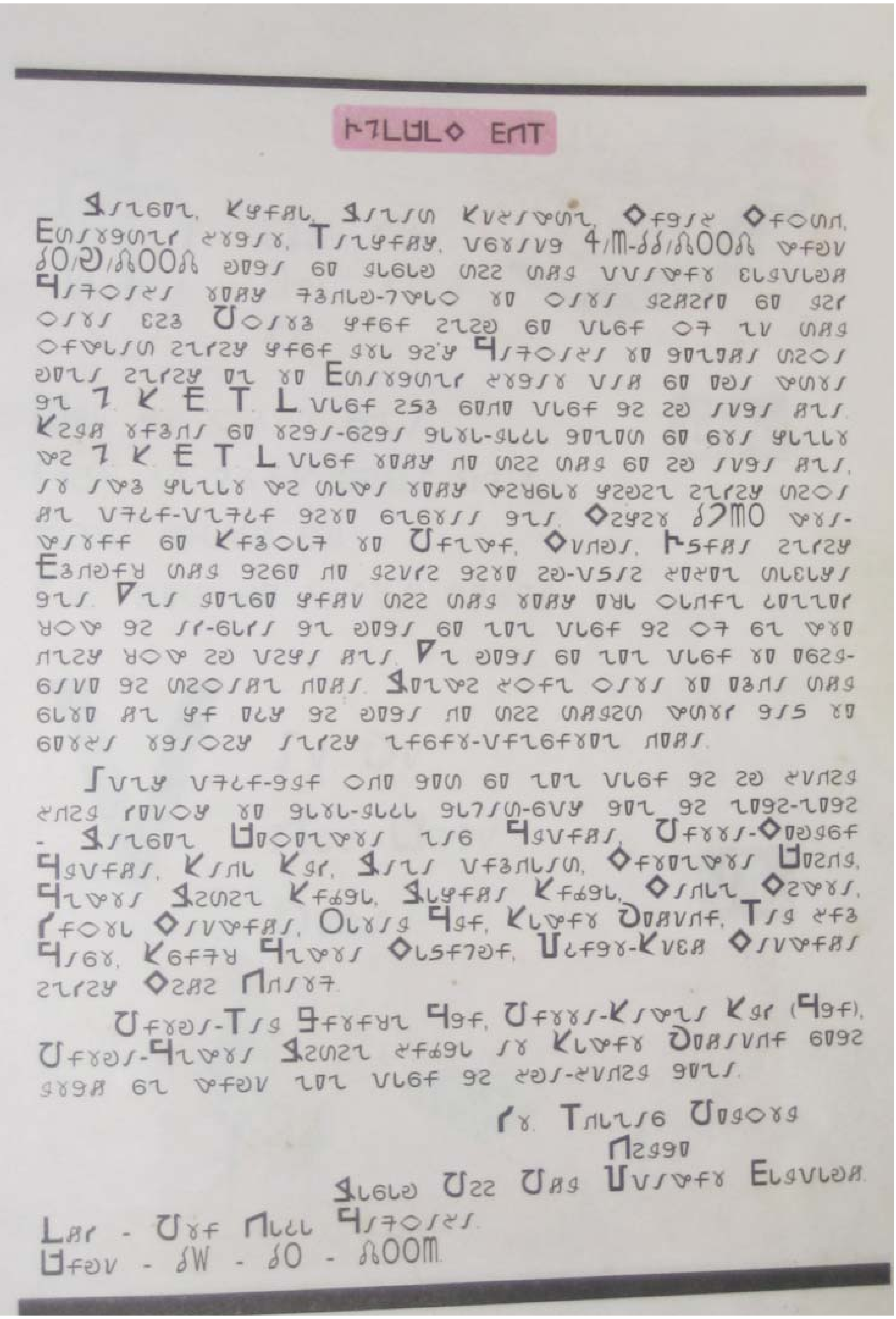


Figure 6. Introduction of the book *Șișu halaṃ*, 2003.

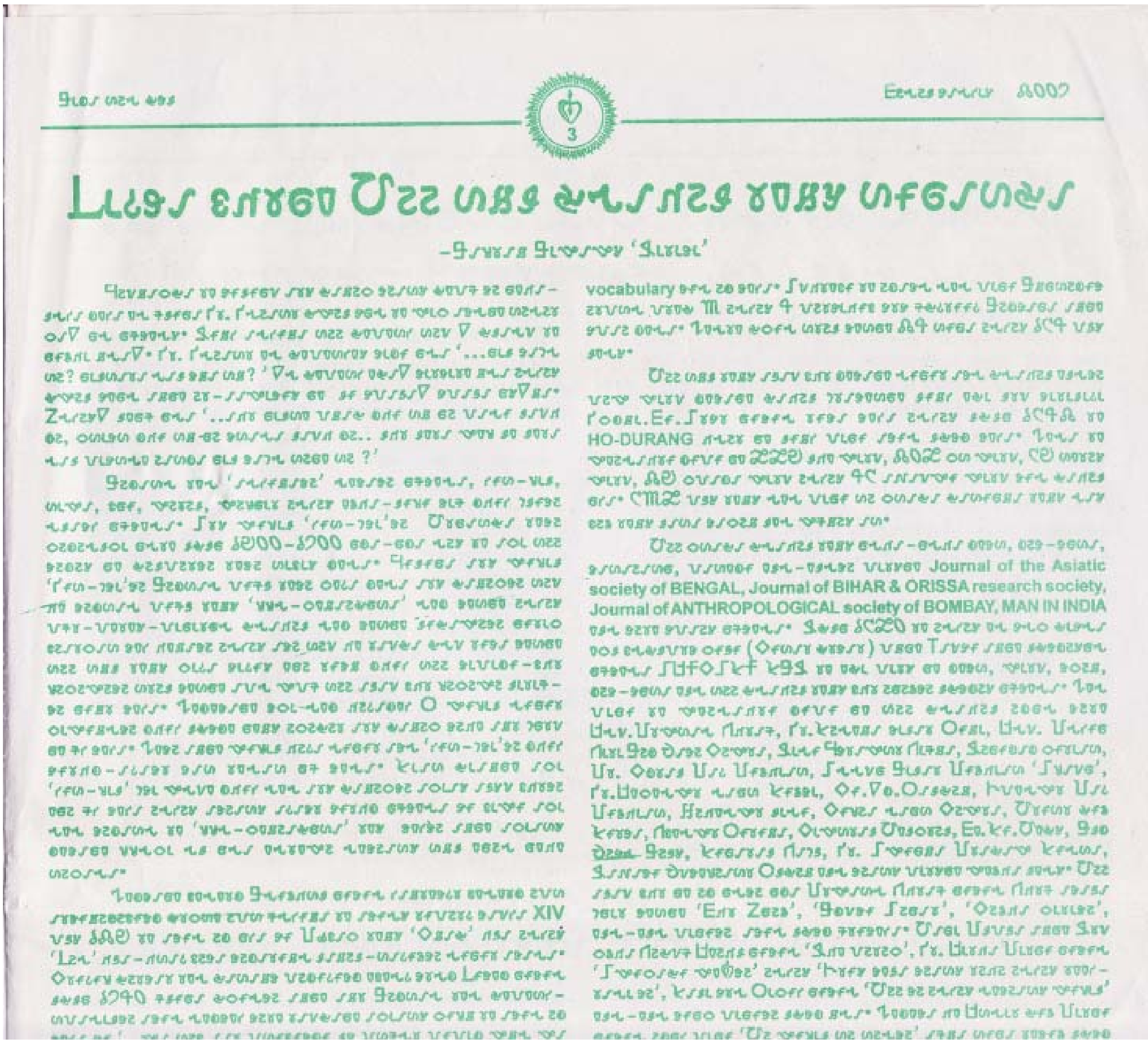


Figure 7. Part of a newsletter in Warang Citi.

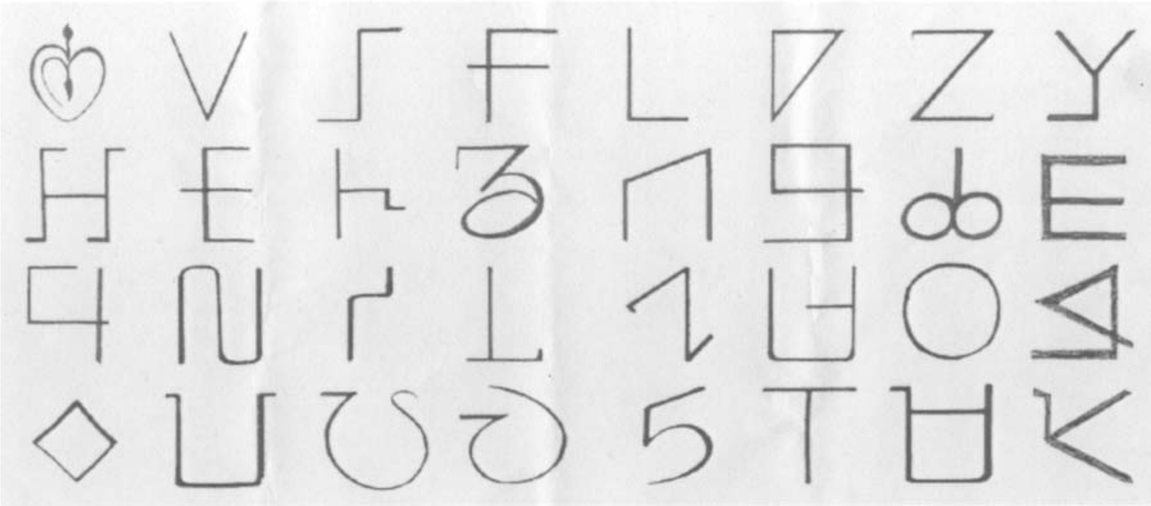


Figure 8. Warang Citi alphabet as written out by K. C. Naik.

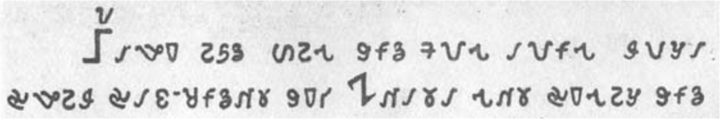


Figure 9. Text showing *Åṃde* /ande/, with a conjunct.

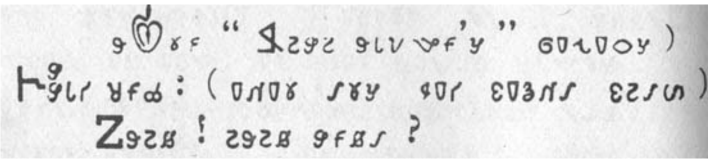


Figure 10. Text showing *Ūccuḍa* /ucuɖ/, with a conjunct.

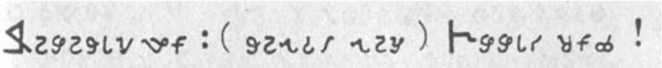


Figure 11. Text showing *Ūccuḍa* /ucuɖ/, without a conjunct.

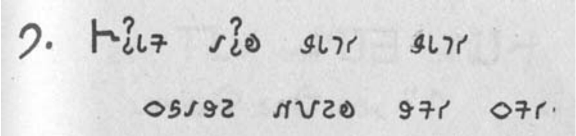


Figure 12. Text showing *Ūṭṭuī* and *åṭṭala* /aʈal/, with conjuncts.

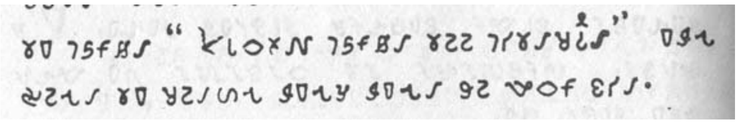


Figure 13. Text showing *ūḍaråṣaṭrå* /udrast/, with a conjunct.

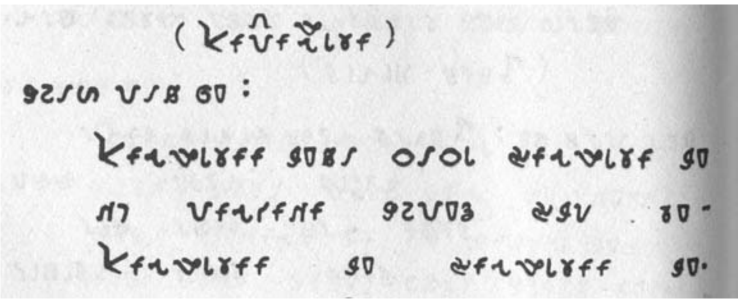


Figure 14. Text showing *Sippinduri* /sipinduri/, with and conjuncts.
Below is *Sindurii* /sinduri/, which has no conjunct.

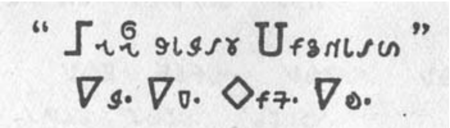


Figure 15. Text showing *Ånanta* /anante/, with a conjunct.

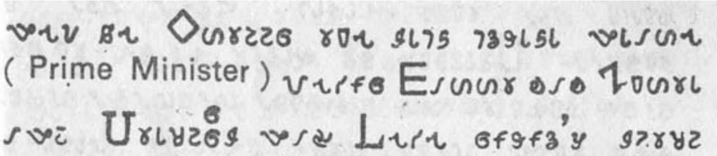

(Prime Minister)

Figure 16. Text showing *Paruṣottama* /puru sutam/, with a conjunct.

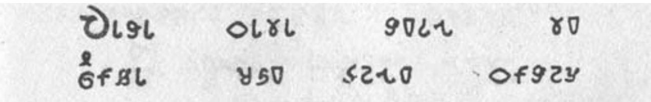


Figure 17. Text showing *triyu* /tiriyu/, with a conjunct.

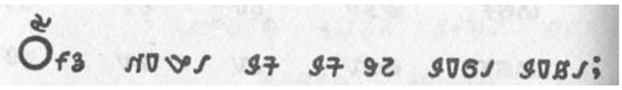


Figure 18. Text showing *Tsiṅa* /tisiɲ/, with a conjunct.

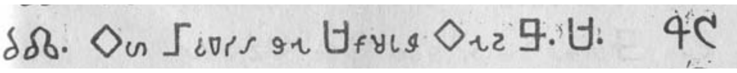


Figure 19. Text showing *Bha~Baha* /baː/, without a conjunct.

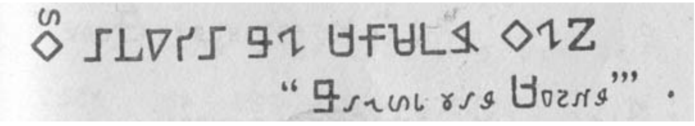


Figure 20. Text showing *Bha* /baː/, with a conjunct.

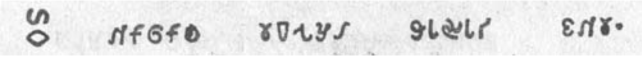


Figure 21. Text showing *bha* /baː/, with a conjunct.

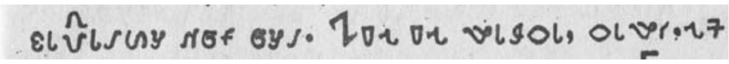


Figure 22. Text showing *juppuåhɔ*, (*juppuāɔ*) /ɟupuwaʔ/, with a conjunct.

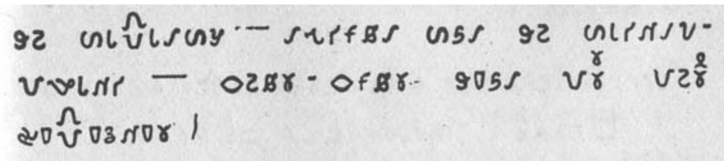


Figure 23. Text showing *parra* /par/ and *porra* /por/, each with a conjunct.
It appears that the right-side-up conjunct form on *parra* is an error and should be *parra*.

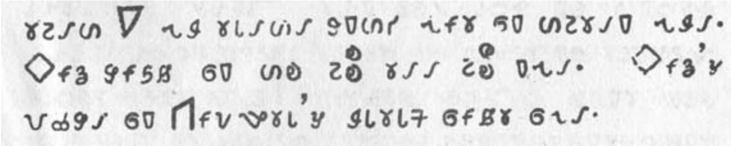
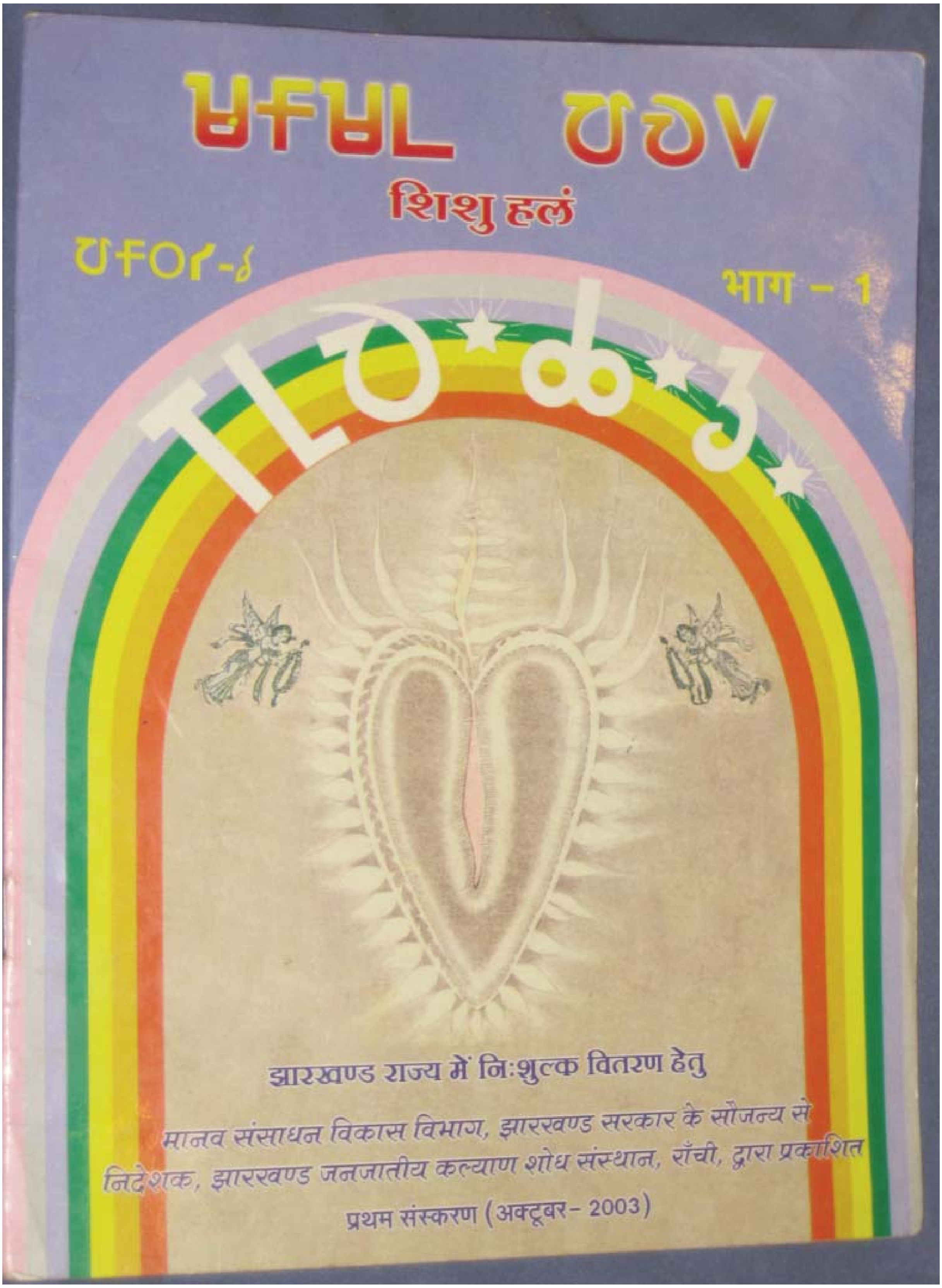


Figure 24. Text showing *olla* /ol/ and *olla*, each with a conjunct.
It appears that the right-side-up conjunct form on *olla* is an error and should be *olla*.



शिशु हलं

भाग - 1

झारखण्ड राज्य में निःशुल्क वितरण हेतु

मानव संसाधन विकास विभाग, झारखण्ड सरकार के सौजन्य से
निदेशक, झारखण्ड जनजातीय कल्याण शोध संस्थान, राँची, द्वारा प्रकाशित
प्रथम संस्करण (अक्टूबर- 2003)

Figure 25. The cover of (*Ṣiṣu halaṃ*).

A. Administrative

1. Title
Revised proposal for encoding the Warang Citi script in the SMP of the UCS
2. Requester’s name
UC Berkeley Script Encoding Initiative (Universal Scripts Project)
3. Requester type (Member body/Liaison/Individual contribution)
Liaison contribution.
4. Submission date
2012-04-19
5. Requester’s reference (if applicable)
6. Choose one of the following:
6a. This is a complete proposal
Yes.
6b. More information will be provided later
No.

B. Technical – General

1. Choose one of the following:
1a. This proposal is for a new script (set of characters)
Yes.
1b. Proposed name of script
Warang Citi.
1c. The proposal is for addition of character(s) to an existing block
No.
1d. Name of the existing block
2. Number of characters in proposal
84.
3. Proposed category (A-Contemporary; B.1-Specialized (small collection); B.2-Specialized (large collection); C-Major extinct; D-Attested extinct; E-Minor extinct; F-Archaic Hieroglyphic or Ideographic; G-Obscure or questionable usage symbols)
Category A.
4a. Is a repertoire including character names provided?
Yes.
4b. If YES, are the names in accordance with the “character naming guidelines” in Annex L of P&P document?
Yes.
4c. Are the character shapes attached in a legible form suitable for review?
Yes.
5a. Who will provide the appropriate computerized font (ordered preference: True Type, or PostScript format) for publishing the standard?
Michael Everson.
5b. If available now, identify source(s) for the font (include address, e-mail, ftp-site, etc.) and indicate the tools used:
Michael Everson, Fontographer.
6a. Are references (to other character sets, dictionaries, descriptive texts etc.) provided?
Yes.
6b. Are published examples of use (such as samples from newspapers, magazines, or other sources) of proposed characters attached?
Yes.
7. 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. 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/Public/UNIDATA/ UnicodeCharacterDatabase.html and associated Unicode Technical Reports for information needed for consideration by the Unicode Technical Committee for inclusion in the Unicode Standard.
See above.

C. Technical – Justification

1. Has this proposal for addition of character(s) been submitted before? If YES, explain.
Yes, in N1958, N3411, N3668.
2a. Has contact been made to members of the user community (for example: National Body, user groups of the script or characters, other experts, etc.)?
Yes.
2b. If YES, with whom?
Dobro Buriuli (teacher of Warang Citi), Chandra Mohan Haibru, K.C. Naik Biruli, Anna Pucilowski, K. David Harrison, Gregory Anderson.
2c. 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?

Speakers of the Ho language, whose population is 1,026,000, with 25%-50% literacy, according to the SIL *Ethnologue*. The *Ethnologue* mentions only the Oriya and Devanagari script areas.

4a. The context of use for the proposed characters (type of use; common or rare)

To write the Ho language.

4b. Reference

5a. Are the proposed characters in current use by the user community?

Yes.

5b. If YES, where?

In India.

6a. After giving due considerations to the principles in the P&P document must the proposed characters be entirely in the BMP?

Yes.

6b. If YES, is a rationale provided?

Yes.

6c. If YES, reference

Contemporary use and accordance with the Roadmap.

7. Should the proposed characters be kept together in a contiguous range (rather than being scattered)?

Yes.

8a. Can any of the proposed characters be considered a presentation form of an existing character or character sequence?

No.

8b. If YES, is a rationale for its inclusion provided?

8c. If YES, reference

9a. Can any of the proposed characters be encoded using a composed character sequence of either existing characters or other proposed characters?

No.

9b. If YES, is a rationale for its inclusion provided?

9c. If YES, reference

10a. Can any of the proposed character(s) be considered to be similar (in appearance or function) to an existing character?

No.

10b. If YES, is a rationale for its inclusion provided?

10c. If YES, reference

11a. Does the proposal include use of combining characters and/or use of composite sequences?

No.

11b. If YES, is a rationale for such use provided?

11c. If YES, reference

11d. Is a list of composite sequences and their corresponding glyph images (graphic symbols) provided?

No.

11e. If YES, reference

12a. Does the proposal contain characters with any special properties such as control function or similar semantics?

No.

12b. If YES, describe in detail (include attachment if necessary)

13a. Does the proposal contain any Ideographic compatibility character(s)?

No.

13b. If YES, is the equivalent corresponding unified ideographic character(s) identified?