

Proposal to Encode the Sharada Script in ISO/IEC 10646

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ISO/IEC JTC 1/SC 2/WG 2
PROPOSAL SUMMARY FORM TO ACCOMPANY SUBMISSIONS
FOR ADDITIONS TO THE REPERTOIRE OF ISO/IEC 10646¹

Please fill all the sections A, B and C below. Please read Principles and Procedures Document (P & P) from
<http://www.dkuug.dk/JTC1/SC2/WG2/docs/principles.html> for guidelines and details before filling this form.
Please ensure you are using the latest Form from <http://www.dkuug.dk/JTC1/SC2/WG2/docs/summaryform.html>.
See also <http://www.dkuug.dk/JTC1/SC2/WG2/docs/roadmaps.html> for latest Roadmaps.

A. Administrative

1. Title: **Proposal to Encode the Sharada Script in ISO/IEC 10646**
2. Requester's name: **University of California, Berkeley Script Encoding Initiative (Universal Scripts Project); author: Anshuman Pandey (pandey@umich.edu)**
3. Requester type (Member Body/Liaison/Individual contribution): **Liaison contribution**
4. Submission date: **January 29, 2009**
5. Requester's reference (if applicable): **N/A**
6. Choose one of the following:
 - (a) This is a complete proposal: **No**
 - (b) or, More information will be provided later: **Yes**

B. Technical - General

1. Choose one of the following:
 - (a) This proposal is for a new script (set of characters): **Yes**
 - i. Proposed name of script: **Sharada**
 - (b) The proposal is for addition of character(s) to an existing block: **No**
 - i. Name of the existing block: **N/A**
2. Number of characters in proposal: **84**
3. Proposed category: **C - Major extinct**
4. Is a repertoire including character names provided?: **Yes**
 - (a) If Yes, are the names in accordance with the "character naming guidelines" in Annex L of P&P document?: **Yes**
 - (b) Are the character shapes attached in a legible form suitable for review?: **Yes**
5. Who will provide the appropriate computerized font (ordered preference: True Type, or PostScript format) for publishing the standard?: **Anshuman Pandey; True Type format**
 - (a) If available now, identify source(s) for the font and indicate the tools used: **The letters of the digitized Sharada font are based on normalized forms of written Sharada found in manuscripts. The font was drawn by Anshuman Pandey with Metafont and converted to True Type with FontForge.**
6. References:
 - (a) Are references (to other character sets, dictionaries, descriptive texts etc.) provided?: **Yes**
 - (b) Are published examples of use (such as samples from newspapers, magazines, or other sources) of proposed characters attached?: **Yes**
7. Special encoding issues:
 - (a) 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; see proposal for additional details..**
8. Additional Information: 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 <http://www.unicode.org/Public/UNIDATA/UCD.html> and associated Unicode Technical Reports for information needed for consideration by the Unicode Technical Committee for inclusion in the Unicode Standard. **Character properties and numeric information are included.**

¹ Form number: N3102-F (Original 1994-10-14; Revised 1995-01, 1995-04, 1996-04, 1996-08, 1999-03, 2001-05, 2001-09, 2003-11, 2005-01, 2005-09, 2005-10, 2007-03)

C. Technical - Justification

1. Has this proposal for addition of character(s) been submitted before?: **No**
2. 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**
 - (a) If Yes, with whom?:
 - **Dr. Jürgen Hanneder (hanneder@staff.uni-marburg.de), Philipps-Universität, Marburg, Germany**
 - **Dr. Walter Slaje (walter.slaje@indologie.uni-halle.de), Martin-Luther-Universität, Halle, Germany**
 - i. If Yes, available relevant documents: **N/A**
3. Information on the user community for the proposed characters (for example: size, demographics, information technology use, or publishing use) is included? **Yes**
 - (a) Reference: **Manuscriptologists, linguists, and historians working with ancient and medieval India; also scholars from the Kashmiri-speaking community of South Asia, known as Kashmiri Pandits.**
4. The context of use for the proposed characters (type of use; common or rare): **Common**
 - (a) Reference: **Inscriptions, coins, and manuscripts in Sanskrit, Kashmiri, and the regional languages of northern South Asia.**
5. Are the proposed characters in current use by the user community?: **The script is in very limited use by the Kashmiri Pandit community. However, there is a scholarly community engaged in the study of Sharada manuscripts.**
 - (a) If Yes, where? Reference: **In India, Germany, and the United States.**
6. After giving due considerations to the principles in the P&P document must the proposed characters be entirely in the BMP?: **No**
 - (a) If Yes, is a rationale provided?: **N/A**
 - i. If Yes, reference: **N/A**
7. Should the proposed characters be kept together in a contiguous range (rather than being scattered)? **Yes**
8. Can any of the proposed characters be considered a presentation form of an existing character or character sequence? **No**
 - (a) If Yes, is a rationale for its inclusion provided?: **N/A**
 - i. If Yes, reference: **N/A**
9. Can any of the proposed characters be encoded using a composed character sequence of either existing characters or other proposed characters? **No**
 - (a) If Yes, is a rationale provided?: **N/A**
 - i. If Yes, reference: **N/A**
10. Can any of the proposed character(s) be considered to be similar (in appearance or function) to an existing character? **Yes**
 - (a) If Yes, is a rationale for its inclusion provided? **Yes**
 - i. If Yes, reference: **See text of proposal**
11. Does the proposal include use of combining characters and/or use of composite sequences? **Yes**
 - (a) If Yes, is a rationale for such use provided? **Yes**
 - i. If Yes, reference: **See text of proposal**
 - (b) Is a list of composite sequences and their corresponding glyph images (graphic symbols) provided? **Yes**
 - i. If Yes, reference: **See text of proposal**
12. Does the proposal contain characters with any special properties such as control function or similar semantics? **Yes**
 - (a) If Yes, describe in detail (include attachment if necessary): **Virama**
13. Does the proposal contain any Ideographic compatibility character(s)? **No**
 - (a) If Yes, is the equivalent corresponding unified ideographic character(s) identified? **N/A**
 - i. If Yes, reference: **N/A**

1 Introduction

Purpose This is a proposal to encode the Sharada script in the Universal Character Set (ISO/IEC 10646). The present proposal replaces the following documents:

- N3245 L2/08-200: “Draft Proposal to Encode the Sharada Script in ISO/IEC 10646”, May 2008
- N3245 L2/05-377: “Request to Allocate the Sharada Script in the Unicode Roadmap”, November 2005

Acknowledgments The proposal author is indebted to Prof. Dr. Jürgen Hanneder (Philipps-Universität, Marburg, Germany) for sharing his knowledge of Sharada, for providing Sharada specimens, for offering detailed comments on the forms of Sharada characters, and for his patience with the author’s ignorance.

This project was made possible in part by a grant from the United States National Endowment for the Humanities, which funded the Universal Scripts Project (part of the Script Encoding Initiative at the University of California, Berkeley). Any views, findings, conclusions or recommendations expressed in this publication do not necessarily reflect those of the National Endowment of the Humanities.

2 Background

Overview Sharada is a major historical Brahmi-based script of South Asia. It is the progenitor of a major sub-family of Brahmi and is a sibling of the Nagari and Proto-Bengali families. Sharada was the principal inscriptional and literary script of Kashmir from the 8th century CE until the 20th century. The script was used to write Sanskrit, Kashmiri, and other languages of northern South Asia, first as inscriptions on stone, copper, and other media through to the 19th century. From the 12th century, Sharada was used to write manuscripts of Vedic and classical Sanskrit texts. In the 19th century, the expanded use of the Persian script for writing Kashmiri and the growth of Devanagari, contributed to the marginalization of Sharada as a medium of education and literary production.

Name The name of the script is Sharada (𑆖𑆫𑆯𑆳), normalized without diacritics. It is believed that the term refers to a traditional Sanskrit name for the Kashmir region, Śāradādeśa or Śāradāmaṇḍala bhūmi.¹ Another tradition states that the name is derived from that of the tutelary deity of Kashmir, Śāradā (𑆖𑆫𑆯𑆳), the goddess of knowledge and the arts, and another name of the Hindu goddess Sarasvatī.² Yet, another anecdote holds that the name refers to one Śāradānandan, who first developed a writing system for the Kashmiri language.³ The name is not found in early sources and is believed to be of relatively later origin. The script is also referred to as ‘Kashmiri’ in several European sources (see Figure 30), which is a geographical appellation of the script. The name Sharada appears in several English sources as ‘Sarada’ and ‘Sharda’, but the preferred form is ‘Sharada’.

Geographic Distribution The historical geographic distribution of Sharada is shown in Figure 1. The core geography of Sharada is roughly the area between longitudes 72° and 78° east and latitudes 32° and 36° north.⁴ Sharada inscriptions, coins, and manuscripts have been found as far west as Afghanistan (Gandhara and Bamiyan);⁵ as far south as in the village of Palam, south-west of Delhi; and on account of the migrations of Kashmiri Pandits, as far east as Benares in Uttar Pradesh.⁶

Origins and Development Sharada is descended from Gupta Brahmi through the Kutila script (see Figure 23). Specialists agree that the script evolved into its present form through three distinct stages of develop-

¹ Bühler 1877: 31. ² Upadhyay 1998: 2. ³ Elmslie 1872: 219. ⁴ Kaye 1927: 3. ⁵ Allchin and Hammond 1978: 244.

⁶ Bühler 1904: 76.

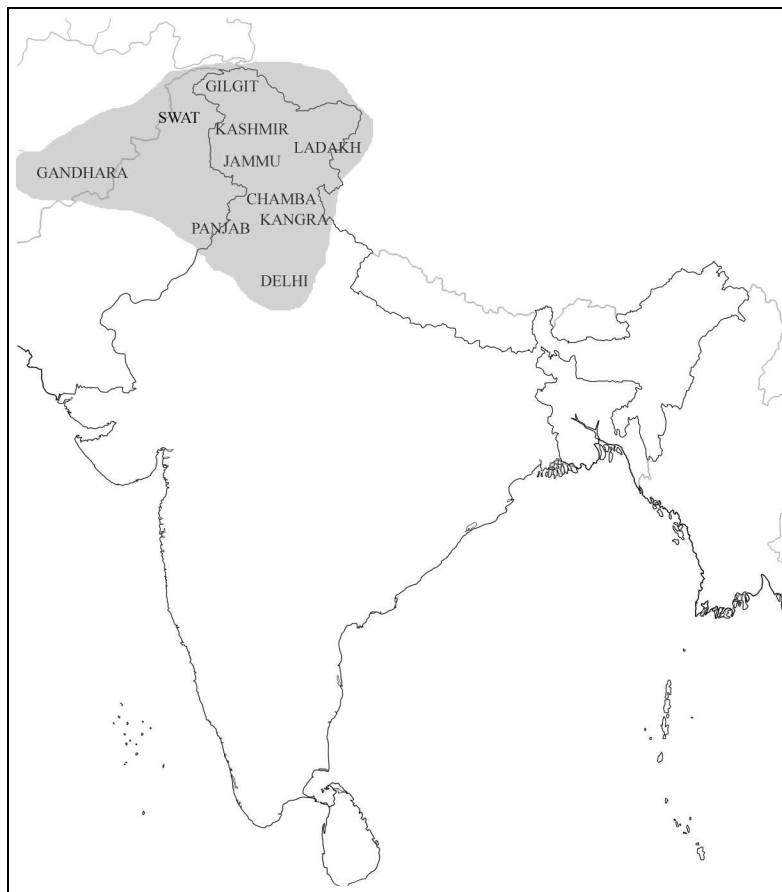


Figure 1: Historical geographic distribution of Sharada

ment. The earliest phase is a transition from the Kutila form to ‘Sharada proper’ during the 8th–9th century.⁷ This was followed by another period of development during the 9th–10th centuries. Then a stage of final development during the 11th–13th centuries.⁸ This timeline is supported by inscriptional evidence. The form of Sharada of the earliest period is attested through the inscriptions and coins of the 8th through 10th centuries. The middle phase is evidenced by inscriptions and coins of the 11th through 14th centuries. The last phase is represented by inscriptional and manuscript records of the 15th and 16th centuries.⁹

The earliest-known record in Sharada is considered to be found on the coins struck by rulers of the Utpala dynasty (9–10th centuries), founded by Avanti Varman.¹⁰ Some specialists attest that the stone-slab inscription (774–775 CE) found at the village Hund (Attock District) of northern Punjab in Pakistan is the oldest record;¹¹ although, others suggest that the Hund inscriptions resemble Sharada forms of the 10th or 11th century.¹² The latest inscriptional record in Sharada is dated at 1789 and was found at Digom (Kapal Mochan, Shopian district) of southern Kashmir in India.¹³

The earliest manuscript in Sharada is the Bakhshali manuscript, dated to the 12th century, and named after the village in the Peshawar district of North-West Frontier Province in Pakistan where it was found.¹⁴ The manuscript is a significant mathematical treatise written in Sanskrit (Figure 3). Another birch-bark manuscript, the *Muni-mata-maṇi-mālā*, from the 14th century is significant as it is representative of middle Sharada and it the oldest Sharada manuscript found in Kashmir. The final stages of the development of Sharada are evidenced in the forms that appear in the 16th century birch-bark manuscripts of the Kashmiri

⁷ Archaeological Survey of India 2007; Deambi 1982: 60; Upadhyay 1998: 22. ⁸ Upadhyay 1998: 28, 32, 44; Harmata and Litvinsky 1992: 388. ⁹ Deambi 1982: 4. ¹⁰ Deambi 1982: 25; Upadhyay 1998: 3. ¹¹ Deambi 1982: 24. ¹² Upadhyay 1998: 3. ¹³ Deambi 1982: 62. ¹⁴ Deambi 1982: 67.

recension of Kālidāsa's *Śakuntalā*, the *Mahābhārata*, and other classical Sanskrit texts.¹⁵ The most famous Sharada manuscript, however, is the Kashmiri Atharvaveda, which contains one of the only two known texts of the Paippalada recension of the Atharvaveda (Figure 2).

The 13th century marks a milestone in the development of Sharada. With the inscriptions of the Baijnath *praśastis* (1204 CE),¹⁶ “the history of the Śāradā proper comes practically to an end.”¹⁷ By this time the development of Sharada may be separated into two major palaeographical periods:¹⁸ ‘Sharada proper’ and ‘modern Sharada’¹⁹ (see Figure 16, Figure 17, and Figure 18). Further development of Sharada resulted in the emergence of new scripts such as Takri, Landa, and Gurmukhi (a comparison of these scripts is given in Table 10, Table 11, Table 12, and Table 13). By the 15th century Sharada evolved “so considerably from [the script] of the pre-Muhammadan documents that it seems desirable to denote it by a special name.”²⁰ The term ‘*devāśeṣa*’ was used for this new form, particularly in Chamba and the surrounding areas from the 14–18th centuries (Figure 22). In particular, *devāśeṣa* was the intermediate script between Sharada and Takri.²¹

While the Sharada literary tradition is one based predominantly on the medium of manuscripts, Sharada entered the world of print in the 19th century. In 1821, the Serampore Missionaries of Calcutta published a Kashmiri translation of the New Testament printed in Sharada (Figure 21).²² However, the Sharada print tradition was short-lived. In the *Linguistic Survey of India*, Sir George A. Grierson writes that a metal font for Sharada had been cut at Serampore;²³ however, he discovered that the font “and the punches, had long disappeared, having been sold as waste metal.”²⁴ It is interesting to note that the appearance of printed Sharada as shown in Figure 21 highly resembles the inventory of Sharada letter printed in Carl Faulmann's *Das Buch der Schrift* (1880), shown in Figure 6.

By the 19th century, the growing influence of the Persian and Takri scripts contributed to the decline of Sharada to the margins. The use of Sharada for education and literary production, however, is attested through the first quarter of the 20th century.²⁵ Today, Sharada is not used, except in a very limited capacity by Kashmiri Pandits, who employ the script for ritual purposes and for writing horoscopes. The Kashmiri language itself is now written in the Persian script, to which new signs have been added in order to represent Kashmiri vowels.²⁶ Sharada itself was not well-suited for writing modern Kashmiri because it could not adequately represent these sounds using its vowel signs. Despite, its current obsolescence, that the Serampore missionaries decided to print bibles in Sharada suggests that there was a significant number of Kashmiri speakers who were proficient in Sharada in the middle 19th century.

Interest in Sharada continues to grow within academia. In India, the Indira Gandhi National Centre for the Arts (IGNCA) has organized workshops on manuscriptology and palaeography in order to train specialists to read Sharada for the purpose of preserving Kashmiri manuscripts and producing critical editions of the texts.²⁷ In Germany, specialists such as Prof. Dr. Walter Slaje (Martin-Luther-Universität, Halle) and Prof. Dr. Jürgen Hanneder (Philipps-Universität, Marburg) are actively engaged in research on Kashmiri manuscripts in Sharada, and digital projects such as Indoskript, managed by Prof. Dr. Harry Falk (Freie Universität Berlin) continue to advance the study of Sharada.

¹⁵ Deambi 1982: 76. ¹⁶ Upadhyay 1998: 3–4. ¹⁷ Vogel 1911: 47. ¹⁸ Vogel 1911: 47. ¹⁹ Kaye 1927: 10. ²⁰ Vogel 1911: 47. ²¹ Chhabra 1957: 3. ²² American Bible Society 1938: 190. ²³ Grierson 1919: 236. ²⁴ Grierson 1919: 235fn1. ²⁵ Grierson 1919: 254. ²⁶ Wali et al. 1997: xix. ²⁷ Government of India. Indira Gandhi National Centre for the Arts 1994.

	1118	1119	111A	111B	111C	111D
0	ॐ 11180	ॐ 11190	ॐ 111A0	ॐ 111B0	ॐ 111C0	ॐ 111D0
1	ॐ 11181	ॐ 11191	ॐ 111A1	ॐ 111B1	ॐ 111C1	ॐ 111D1
2	ॐ 11182	ॐ 11192	ॐ 111A2	ॐ 111B2	ॐ 111C2	ॐ 111D2
3	ॐ 11183	ॐ 11193	ॐ 111A3	ॐ 111B3	ॐ 111C3	ॐ 111D3
4	ॐ 11184	ॐ 11194	ॐ 111A4	ॐ 111B4	ॐ 111C4	ॐ 111D4
5	ॐ 11185	ॐ 11195	ॐ 111A5	ॐ 111B5	ॐ 111C5	ॐ 111D5
6	ॐ 11186	ॐ 11196	ॐ 111A6	ॐ 111B6	ॐ 111C6	ॐ 111D6
7	ॐ 11187	ॐ 11197	ॐ 111A7	ॐ 111B7	ॐ 111C7	ॐ 111D7
8	ॐ 11188	ॐ 11198	ॐ 111A8	ॐ 111B8	ॐ 111C8	ॐ 111D8
9	ॐ 11189	ॐ 11199	ॐ 111A9	ॐ 111B9	ॐ 111C9	ॐ 111D9
A	ॐ 1118A	ॐ 1119A	ॐ 111AA	ॐ 111BA		
B	ॐ 1118B	ॐ 1119B	ॐ 111AB	ॐ 111BB		
C	ॐ 1118C	ॐ 1119C	ॐ 111AC	ॐ 111BC		
D	ॐ 1118D	ॐ 1119D	ॐ 111AD	ॐ 111BD		
E	ॐ 1118E	ॐ 1119E	ॐ 111AE	ॐ 111BE		
F	ॐ 1118F	ॐ 1119F	ॐ 111AF	ॐ 111BF		

Table 1: Glyph chart for Sharada

Various signs

11180	◦	SHARADA SIGN CANDRABINDU
11181	◦	SHARADA SIGN ANUSVARA
11182	◦	SHARADA SIGN VISARGA

Independent vowels

11183	𑀀	SHARADA LETTER A
11184	𑀁	SHARADA LETTER AA
11185	𑀂	SHARADA LETTER I
11186	𑀃	SHARADA LETTER II
11187	𑀄	SHARADA LETTER U
11188	𑀅	SHARADA LETTER UU
11189	𑀆	SHARADA LETTER VOCALIC R
1118A	𑀇	SHARADA LETTER VOCALIC RR
1118B	𑀈	SHARADA LETTER VOCALIC L
1118C	𑀉	SHARADA LETTER VOCALIC LL
1118D	𑀊	SHARADA LETTER E
1118E	𑀋	SHARADA LETTER AI
1118F	𑀌	SHARADA LETTER O
11190	𑀍	SHARADA LETTER AU

Consonants

11191	𑀎	SHARADA LETTER KA
11192	𑀏	SHARADA LETTER KHA
11193	𑀐	SHARADA LETTER GA
11194	𑀑	SHARADA LETTER GHA
11195	𑀒	SHARADA LETTER NGA
11196	𑀓	SHARADA LETTER CA
11197	𑀔	SHARADA LETTER CHA
11198	𑀕	SHARADA LETTER JA
11199	𑀖	SHARADA LETTER JHA
1119A	𑀗	SHARADA LETTER NYA
1119B	𑀘	SHARADA LETTER TTA
1119C	𑀙	SHARADA LETTER TTHA
1119D	𑀚	SHARADA LETTER DDA
1119E	𑀛	SHARADA LETTER DDHA
1119F	𑀜	SHARADA LETTER NNA
111A0	𑀝	SHARADA LETTER TA
111A1	𑀞	SHARADA LETTER THA
111A2	𑀟	SHARADA LETTER DA
111A3	𑀠	SHARADA LETTER DHA
111A4	𑀡	SHARADA LETTER NA
111A5	𑀢	SHARADA LETTER PA
111A6	𑀣	SHARADA LETTER PHA
111A7	𑀤	SHARADA LETTER BA
111A8	𑀥	SHARADA LETTER BHA
111A9	𑀦	SHARADA LETTER MA
111AA	𑀧	SHARADA LETTER YA
111AB	𑀨	SHARADA LETTER RA
111AC	𑀩	SHARADA LETTER LA
111AD	𑀪	SHARADA LETTER LLA
111AE	𑀫	SHARADA LETTER VA
111AF	𑀬	SHARADA LETTER SHA
111B0	𑀭	SHARADA LETTER SSA
111B1	𑀮	SHARADA LETTER SA
111B2	𑀯	SHARADA LETTER HA

Dependent vowel signs

111B3	𑀰	SHARADA VOWEL SIGN AA
111B4	𑀱	SHARADA VOWEL SIGN I
111B5	𑀲	SHARADA VOWEL SIGN II
111B6	𑀳	SHARADA VOWEL SIGN U

111B7	𑀴	SHARADA VOWEL SIGN UU
111B8	𑀵	SHARADA VOWEL SIGN VOCALIC R
111B9	𑀶	SHARADA VOWEL SIGN VOCALIC RR
111BA	𑀷	SHARADA VOWEL SIGN VOCALIC L
111BB	𑀸	SHARADA VOWEL SIGN VOCALIC LL
111BC	𑀹	SHARADA VOWEL SIGN E
111BD	𑀺	SHARADA VOWEL SIGN AI
111BE	𑀻	SHARADA VOWEL SIGN O
111BF	𑀼	SHARADA VOWEL SIGN AU

Various signs

111C0	𑀽	SHARADA SIGN VIRAMA
111C1	𑀾	SHARADA SIGN AVAGRAHA
111C2	𑀿	SHARADA SIGN JHVAMULIYA
111C3	𑁀	SHARADA SIGN UPADHMANIYA
111C4	𑁁	SHARADA OM
111C5	𑁂	SHARADA EKAM

Punctuation

111C6		SHARADA DANDA
111C7		SHARADA DOUBLE DANDA
111C8	·	SHARADA ABBREVIATION SIGN
111C9	,	SHARADA SEPARATOR

Digits

111D0	•	SHARADA DIGIT ZERO
111D1	◦	SHARADA DIGIT ONE
111D2	॑	SHARADA DIGIT TWO
111D3	॒	SHARADA DIGIT THREE
111D4	𑀿	SHARADA DIGIT FOUR
111D5	𑁀	SHARADA DIGIT FIVE
111D6	𑁁	SHARADA DIGIT SIX
111D7	𑁂	SHARADA DIGIT SEVEN
111D8	॑	SHARADA DIGIT EIGHT
111D9	॒	SHARADA DIGIT NINE

Table 2: Names list for Sharada

3 Characters Proposed

Number of Characters The 84 letters proposed here comprise the core Sharada character set.

Character Names The convention used for naming Sharada characters in the UCS follows that used for Devanagari. However, there are traditional Kashmiri names for each Sharada character. For example, SHARADA LETTER A is known as *adau a*, SHARADA LETTER AA is known as *aitav a*, etc. This is similar to traditional character names in Gurmukhi, eg. U+0A05 GURMUKHI LETTER A is traditionally called *airā*, etc. The Kashmiri names are given in Table 8 (consonants) and Table 9 (vowels and signs).

Allocation Sharada is currently allocated five columns in the Supplementary Multilingual Plane (SMP) (Plane 1) of the UCS at the range U+11180..U+111DF.²⁸ The code-points are not referenced for individual characters in this proposal in order to accommodate possible changes to the present allocation.

3.1 Character Inventory

Consonants There are 34 consonant letters:

क	SHARADA LETTER KA	ड	SHARADA LETTER DDA	भ	SHARADA LETTER MA
ख	SHARADA LETTER KHA	ढ	SHARADA LETTER DDHA	घ	SHARADA LETTER YA
ग	SHARADA LETTER GA	न्	SHARADA LETTER NNA	र	SHARADA LETTER RA
घ	SHARADA LETTER GHA	त	SHARADA LETTER TA	ल	SHARADA LETTER LA
ण	SHARADA LETTER NGA	थ	SHARADA LETTER THA	ळ	SHARADA LETTER LLA
च	SHARADA LETTER CA	ड	SHARADA LETTER DA	व	SHARADA LETTER VA
छ	SHARADA LETTER CHA	ध	SHARADA LETTER DHA	श	SHARADA LETTER SHA
ज	SHARADA LETTER JA	न	SHARADA LETTER NA	ष	SHARADA LETTER SSA
झ	SHARADA LETTER JHA	प	SHARADA LETTER PA	भ	SHARADA LETTER SA
ञ	SHARADA LETTER NYA	फ	SHARADA LETTER PHA	ह	SHARADA LETTER HA
ट	SHARADA LETTER TTA	ब	SHARADA LETTER BA		
ठ	SHARADA LETTER TTHA	ड	SHARADA LETTER BHA		

Vowels There are 14 independent vowels:

अ	SHARADA LETTER A	ऋ	SHARADA LETTER VOCALIC RR
आ	SHARADA LETTER AA	ऌ	SHARADA LETTER VOCALIC L
इ	SHARADA LETTER I	ऍ	SHARADA LETTER VOCALIC LL
ई	SHARADA LETTER II	ए	SHARADA LETTER E
उ	SHARADA LETTER U	ऐ	SHARADA LETTER AI
ऊ	SHARADA LETTER UU	ओ	SHARADA LETTER O
ऋ	SHARADA LETTER VOCALIC R	औ	SHARADA LETTER AU

²⁸ Unicode Roadmap Committee 2008.

Vowel Signs There are 13 dependent vowel signs:

◌̄	SHARADA VOWEL SIGN AA	◌̄	SHARADA VOWEL SIGN VOCALIC L
◌̇	SHARADA VOWEL SIGN I	◌̄◌̄	SHARADA VOWEL SIGN VOCALIC LL
◌̆	SHARADA VOWEL SIGN II	◌̄◌̄◌̄	SHARADA VOWEL SIGN E
◌̅	SHARADA VOWEL SIGN U	◌̄◌̄◌̄◌̄	SHARADA VOWEL SIGN AI
◌̃	SHARADA VOWEL SIGN UU	◌̄◌̄◌̄◌̄◌̄	SHARADA VOWEL SIGN O
◌̂	SHARADA VOWEL SIGN VOCALIC R	◌̄◌̄◌̄◌̄◌̄◌̄	SHARADA VOWEL SIGN AU
◌́	SHARADA VOWEL SIGN VOCALIC RR		

Various Signs There are 9 various signs:

◌̆	SHARADA SIGN CANDRABINDU	◌̄◌̄	SHARADA SIGN JHVAMULIYA
◌̇	SHARADA SIGN ANUSVARA	◌̄◌̄◌̄	SHARADA SIGN UPADHMANIYA
◌̄:	SHARADA SIGN VISARGA	◌̄◌̄◌̄◌̄	SHARADA OM
◌̄	SHARADA SIGN VIRAMA	◌̄◌̄◌̄◌̄◌̄	SHARADA EKAM
◌̄	SHARADA AVAGRAHA		

Punctuation Signs There are 4 punctuation signs:

	SHARADA DANDA	◌̄	SHARADA ABBREVIATION SIGN
	SHARADA DOUBLE DANDA	◌̄◌̄	SHARADA SEPARATOR

Digits There are 10 digits:

◌̄	SHARADA DIGIT ZERO	◌̄	SHARADA DIGIT FOUR	◌̄	SHARADA DIGIT EIGHT
◌̄	SHARADA DIGIT ONE	◌̄	SHARADA DIGIT FIVE	◌̄	SHARADA DIGIT NINE
◌̄	SHARADA DIGIT TWO	◌̄	SHARADA DIGIT SIX		
◌̄	SHARADA DIGIT THREE	◌̄	SHARADA DIGIT SEVEN		

3.2 Characters Not Proposed

The following characters are attested in written Sharada materials, but they are not proposed for encoding at present for one or more of the following reasons: (a) insufficient information regarding the characters and their properties; (b) the possibility of representing a character with another of similar or equal function; or (c) a policy recommendation made by the UTC. Space is available in the Sharada block, or will be requested from the Unicode Roadmap Committee, to accommodate the possible inclusion of these characters in the future.

Variant forms of VOWEL SIGN E and VOWEL SIGN AI The SHARADA VOWEL SIGN E and SHARADA VOWEL SIGN AI are written in two different ways: horizontally and diagonally (as in Devanagari). Both forms may occur within the same document, at times in the same line. Both forms are semantically identical.

However, the presence of both forms within a single document might require that the forms be treated uniquely, not simply as variants. At present only the horizontal form is proposed for encoding.

Horizontal and diagonal forms of SHARADA VOWEL SIGN E within the same line:

दधुभिः ॥ श्रीगणेशायनमः ॥ ॐ उधुमेवंत

Horizontal and diagonal forms of SHARADA VOWEL SIGN AI within the same line:

भरुपि कनेडुः, सुदं, यभकैः, श्लैकैः, नडु, लीयय, श्लैक

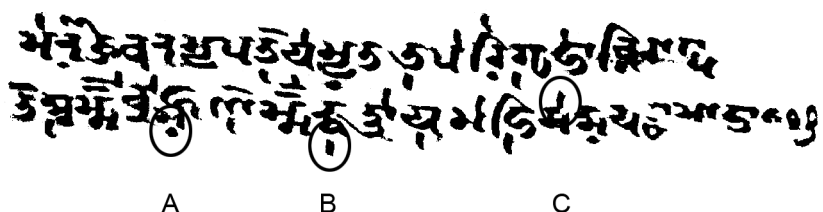
Inverted CANDRABINDU The CANDRABINDU often appears in Sharada manuscripts in an inverted form, which resembles the appearance of DEVANAGARI SIGN CANDRABINDU. Both the regular and inverted forms may appear within the same document and are semantically identical. The specimen below shows both forms of CANDRABINDU used to write SHARADA OM within the same document. The presence of both forms within a given document might require both forms to be represented uniquely and not simply as variants. However, at present only the common form is proposed for encoding.

ॐ श्रीगणेशायनमः ॥ ॥ ॐ
ॐ श्रीगणेशायनमः ॥ ॥ ॐ

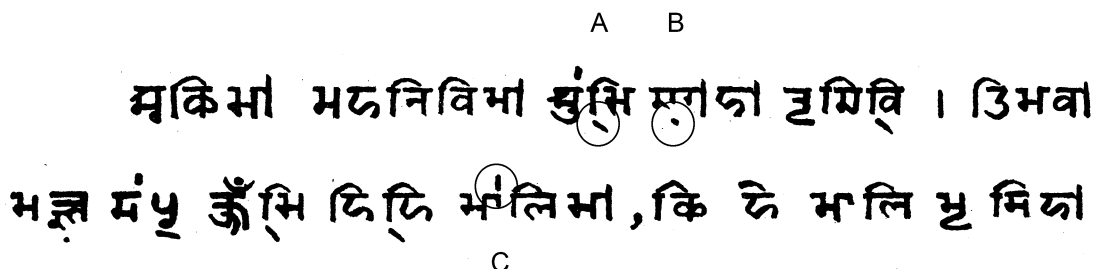
Miscellaneous Punctuation Several punctuation marks have been identified in Sharada manuscripts. Signs such as \approx and $\hat{\approx}$ are used as section marks (as shown below). Not enough information was available at the time of submitting this proposal to confidently include them here. A determination on encoding these and other punctuation signs will be made upon further investigation.

इतिवेवमिदुः इतिवेवमिदुः ॐ उतिवेवमिदुः ॥ सुभ मधु दधुभा
॥ \approx ॥ $\hat{\approx}$ ॥ \approx ॥ $\hat{\approx}$ ॥ \approx ॥ $\hat{\approx}$ ॥
मिदुः इतिवेवमिदुः इतिवेवमिदुः इतिवेवमिदुः इतिवेवमिदुः

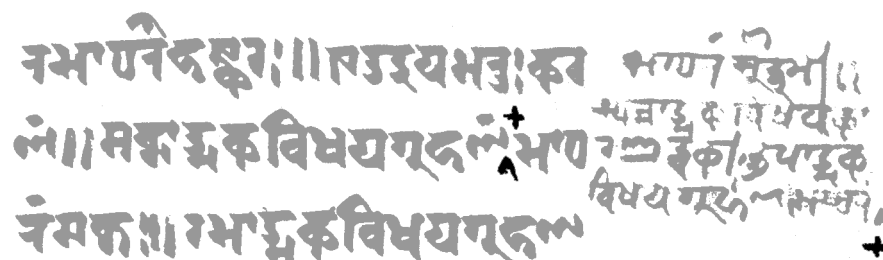
Signs for Representing Vedic Sanskrit Sharada has signs for representing Vedic tones. It may be possible to unify these with the characters proposed by Michael Everson and Peter Scharf (2008) at U+1cD0..1CF1, eg. the proposed sign U+1CE0 VEDIC TONE RIGVEDIC KASHMIRI INDEPENDENT SVARITA. A determination will be made upon further research of the matter. Although necessary for the complete encoding of Sharada, such signs may be considered supplementary. The specimen below shows three signs found in the Kashmiri Atharvaveda, excerpted from Figure 2:



Signs for Representing Kashmiri Diacritic signs were introduced to modern Sharada, presumably by Grierson, for the purpose of representing the Kashmiri language, whose complete vowel repertoire could not be expressed using the regular Sharada vowel signs. On account of limited information on Kashmiri written in Sharada, the full inventory and semantics of these signs remains to be determined. Grierson made use of three signs (shown below), which are graphically similar to U+094D DEVANAGARI SIGN VIRAMA (A), U+093C DEVANAGARI SIGN NUKTA (B), and U+0952 DEVANAGARI STRESS SIGN ANUDATTA (C). It may be assumed that Grierson added these characters to the Sharada repertoire in order to document fully the phonetic repertoire of the Kashmiri language in the presumed native script of the Kashmir region. These signs should be considered supplementary characters as they do not appear in the majority of Sharada documents.



Revision Marks Sharada manuscripts contain numerous signs used for annotation and revision, such as the ‘plus’ and ‘caret’ signs shown in the specimen below: Several of these signs have been identified and document; however, a complete inventory of these characters and their function has yet to be determined. Once more information is acquired regarding these characters they will be formally proposed for encoding in the Sharada block.



4 Basis for Character Shapes

When attempting to develop a standard encoding for a script such as Sharada, it is difficult to determine which form of the script along its millenium-long history should serve as the representative of its ancestors and descendants. An analysis of Sharada specimens from the 8th through the 20th century indicates that Sharada evolved significantly throughout its history, but that the forms of the script from the 13th century onwards display marked uniformity in the appearance of characters (compare the forms in the Bakhshali

manuscript of the 12th century (Figure 3) with those of the specimen in the *Linguistic Survey of India* from the late 19th century (Figure 20), and also see the comparison of manuscript forms in Figure 19). Such uniformity coincides with the emergence of ‘modern Sharada’ after the 13th century, which is distinguished from ‘Sharada proper’.²⁹ The distinction between ‘proper’ and ‘modern’ Sharada may be understood as the difference between inscriptional and hand-written Sharada, respectively (see Section 2). The uniformity of ‘modern Sharada’ forms suggests that the essential typology of the script was best captured with the fluidity of reed pen and ink on birch bark than through the relative staidness of stylus on copper or chisel on stone.

Given this, the form of Sharada proposed for encoding in the UCS is modern Sharada. Modern Sharada is the script of Sharada manuscripts, which are the most plentiful of extant Sharada records. Thus, the Sharada characters proposed here are digitized forms that were designed from a comparative analysis of the typology of each character across various hand-written sources (Table 3, Table 4, and Table 5). Comparison was also made with printed (Table 6) and digitized (Table 7) forms. The resulting digitized typeface, therefore, represents an idealized form of Sharada glyphs that seeks to complement an idealized character set that encompasses characters from the various periods of the history of Sharada.

Ultimately, the principle that guides this proposal is not so much the decision to base Unicode Sharada upon modern Sharada, but the establishing of a standard character set for the script. The most important aspect of any proposal to encode a script in the UCS is adherence to the character-glyph model, or distinguishing between the semantics of a character and the appearance of that character. Applying the principle of encoding characters, not glyphs in developing a standard character set for Sharada ensures that not only modern Sharada, but any historical incarnation of the script may be ultimately represented using the UCS standard for Sharada, be it the Sharada of the coins struck by Rāja Avanti Varman of the Utpala dynasty of the 9th century or the script of the Kashmiri documents written by Mahāmahopādhyāy Paṇḍit Mukund Rām Śāstrī in the 19th century.

²⁹ Kaye 1927: 10; Upadhyay 1998: 3–4; Vogel 1911: 47.

	A	B	C	D		A	B	C	D
KA	क	क	क	क	DA	ड	ड	ड	ड
KHA	ख	ख	ख	ख	DHA	ढ	ढ	ढ	ढ
GA	ग	ग	ग	ग	NA	न	न	न	न
GHA	घ	घ	घ	घ	PA	प	प	प	प
NGA	ङ	ङ	ङ	ङ	PHA	फ	फ	फ	फ
CA	च	च	च	च	BA	ब	ब	ब	ब
CHA	छ	छ	छ	छ	BHA	भ	भ	भ	भ
JA	ज	ज	ज	ज	MA	म	म	म	म
JHA	झ	झ	झ	झ	YA	य	य	य	य
NYA	ण	ण	ण	ण	RA	र	र	र	र
TTA	ट	ट	ट	ट	LA	ल	ल	ल	ल
TTHA	ठ	ठ	ठ	ठ	LLA	—	—	ॠ	ॠ
DDA	ड	ड	ड	ड	VA	व	व	व	व
DDHA	ढ	ढ	ढ	ढ	SHA	श	श	श	श
NNA	ॠ	ॠ	ॠ	ॠ	SSA	ष	ष	ष	ष
TA	उ	उ	उ	उ	SA	स	स	स	स
THA	थ	थ	थ	थ	HA	ह	ह	ह	ह

Table 3: Comparison of hand-written Sharada consonants shown in Slaje and Hanneder (column ‘A’), Ojhā (column ‘B’), and Grierson (column ‘C’) with digitized forms designed by Pandey (column ‘D’).

	A	B	C	D		A	B	C	D
A					RR				
AA					L				
I					LL				
II					E				
U					AI				
UU					O				
R					AU				

Table 4: Comparison of hand-written Sharada vowels shown in Slaje and Hanneder (column ‘A’), Ojhā (column ‘B’), and Grierson (column ‘C’) with digitized forms designed by Pandey (column ‘D’).

	A	B	C	D	E		A	B	C	D	E
0						5					
1						6					
2						7					
3						8					
4						9					

Table 5: Comparison of hand-written Sharada digits shown in Slaje and Hanneder (column ‘A’), Ojhā (column ‘B’), and Grierson (column ‘C’) with metal forms shown in Pihan (column ‘D’) and digitized forms designed by Pandey (column ‘E’).

		CONSONANTS				VOWELS		DIGITS			
		A	B	A	B			A	B		
KA	क	क	DA	क	क	A	अ	अ	0	.	.
KHA	ख	ख	DHA	ख	ख	AA	आ	आ	1	१	०
GA	ग	ग	NA	ग	ग	I	इ	इ	2	३	३
GHA	घ	घ	PA	घ	घ	II	ई	ई	3	७	३
NGA	ङ	ङ	PHA	ङ	ङ	U	उ	उ	4	१	५
CA	च	च	BA	च	च	UU	ऊ	ऊ	5	५	५
CHA	छ	छ	BHA	छ	छ	R	र	र	6	२	७
JA	ज	ज	MA	ज	ज	RR	र	र	7	५	१
JHA	झ	झ	YA	ज	ज	L	ल	ल	8	५	३
NYA	ञ	ञ	RA	र	र	LL	ल	ल	9	७	७
TTA	ट	ट	LA	ल	ल	E	ए	ए			
TTHA	ठ	ठ	LLA	—	रु	AI	ऐ	ऐ			
DDA	ड	ड	VA	व	व	O	ओ	ओ			
DDHA	ढ	ढ	SHA	स	स	AU	आ	आ			
NNA	न	न	SSA	ष	ष						
TA	त	त	SA	थ	थ						
THA	थ	थ	HA	द	द						

Table 6: Comparison of Sharada characters from the metal fonts produced at Serampore (column 'A') and Pandey (column 'B'). The metal fonts were used to print the Kashmiri bible shown in Figure 21.

CONSONANTS		CONSONANTS		VOWELS		DIGITS					
	A	B		A	B		A	B			
KA	क	क	DA	म	द	A	अ	म	0	•	•
KHA	ख	प	DHA	ढ	ठ	AA	आ	मु	1	०	०
GA	ग	ग	NA	न	न	I	इ	उ	2	१	१
GHA	घ	ध	PA	प	प	II	ई	ऋ	3	३	३
NGA	ए	ए	PHA	फ	ढ	U	उ	उ	4	४	४
CA	च	म	BA	ब	व	UU	ऊ	उ	5	५	५
CHA	क	क	BHA	रु	रु	R	ट	ट	6	६	६
JA	ज	झ	MA	म	म	RR	—	ट	7	७	७
JHA	ञ	ञ	YA	य	घ	L	—	ट	8	८	८
NYA	न	न	RA	र	र	LL	—	ट	9	९	९
TTA	ट	ट	LA	ल	ल	E	ए	ए			
TTHA	ठ	ठ	LLA	—	रु	AI	ऐ	ऐ			
DDA	ड	ड	VA	व	व	O	ओ	ओ			
DDHA	ड	ड	SHA	श	म	AU	औ	औ			
NNA	न	न	SSA	ष	ध						
TA	त	उ	SA	स	म						
THA	थ	घ	HA	ह	द						

Table 7: Comparison of Sharada characters from digitized fonts designed by Raman Kaul (column 'A') and Pandey (column 'B').

5 Technical Features

5.1 Encoding Model

The Sharada script is an abugida of the Brahmic type. It is written from left to right. The formation of syllables in Sharada follows the pattern common to north Indic scripts. The encoding model for Sharada should be based on the model implemented for Devanagari.

Consonant letters bear the inherent vowel *a* (SHARADA LETTER A) when unaccompanied by a vowel sign. The inherent vowel is suppressed by the *virāma* (SHARADA SIGN VIRAMA) to produce the bare consonant. The inherent vowel is changed by applying a vowel sign to the consonant. With two exceptions, all vowel signs are written either above or below the consonant letter. The exceptions are SHARADA VOWEL SIGN I, which is written to the left of the consonant, and SHARADA VOWEL SIGN II, which is written to the right.

A sequence of consonants (in which all but the final consonant have no vowel) is written as a consonant conjunct, which may occur as (a) a true ligature; (b) half-forms of all consonants except the final consonant, which assumes a full form; or (c) a combination of the above.

5.2 Collation

The collating order for Sharada is based on Sanskrit and follows the pattern for Devanagari. Independent vowel letters are sorted before consonant letters. The signs *candrabindu*, *anusvāra*, and *visarga* appear at the head of the vowel order and are written in combination with SHARADA LETTER A.

The collating order for *candrabindu*, *anusvāra*, *visarga*, and independent vowels in Sharada is:

मीं मं मः म मु उ रं उ उ ङ ङ ङ ङ ङ ङ ङ
aṁ aṃ aḥ a ā i ī u ū ṛ ṝ ḷ ḹ e ai o au

Dependent vowel signs are sorted in the same position as their independent shape. Consonants with dependent vowels are sorted first by consonant letter and then by the vowel sign (including *candrabindu*, *anusvāra*, and *visarga*) attached to the letter. A consonant with *virāma* is sorted last.

पी पं पः प फ पि पी पु पु
paṁ paṃ paḥ pa pā pi pī pu pū
 पृ पृ पृ पृ पृ पृ पृ पृ पृ
ṛ ṝ ḷ ḹ pe pai po pau p

The pattern for consonants is identical to the suggested encoding order, as follows:

क ख ग घ ङ च छ ज झ ण ट ठ ड ढ ण उ ष
ka kha ga gha ṅa ca cha ja jha ṅa ṭa ṭha ḍa ḍha ṅa ta tha
 दा धा ना पा फा बा भा मा या रा ला ङा वा सा शा सा हा
da dha na pa pha ba bha ma ya ra la ṅa va śa śa sa ha

5.3 Character Properties

The properties for Sharada characters in the Unicode Character Database format are:

```

11180;SHARADA SIGN CANDRABINDU;Mn;0;NSM;;;;;N;;;;;
11181;SHARADA SIGN ANUSVARA;Mn;0;NSM;;;;;N;;;;;
11182;SHARADA SIGN VISARGA;Mc;0;L;;;;;N;;;;;
11183;SHARADA LETTER A;Lo;0;L;;;;;N;;;;;
11184;SHARADA LETTER AA;Lo;0;L;;;;;N;;;;;
11185;SHARADA LETTER I;Lo;0;L;;;;;N;;;;;
11186;SHARADA LETTER II;Lo;0;L;;;;;N;;;;;
11187;SHARADA LETTER U;Lo;0;L;;;;;N;;;;;
11188;SHARADA LETTER UU;Lo;0;L;;;;;N;;;;;
11189;SHARADA LETTER VOCALIC R;Lo;0;L;;;;;N;;;;;
1118A;SHARADA LETTER VOCALIC RR;Lo;0;L;;;;;N;;;;;
1118B;SHARADA LETTER VOCALIC L;Lo;0;L;;;;;N;;;;;
1118C;SHARADA LETTER VOCALIC LL;Lo;0;L;;;;;N;;;;;
1118D;SHARADA LETTER E;Lo;0;L;;;;;N;;;;;
1118E;SHARADA LETTER AI;Lo;0;L;;;;;N;;;;;
1118F;SHARADA LETTER O;Lo;0;L;;;;;N;;;;;
11190;SHARADA LETTER AU;Lo;0;L;;;;;N;;;;;
11191;SHARADA LETTER KA;Lo;0;L;;;;;N;;;;;
11192;SHARADA LETTER KHA;Lo;0;L;;;;;N;;;;;
11193;SHARADA LETTER GA;Lo;0;L;;;;;N;;;;;
11194;SHARADA LETTER GHA;Lo;0;L;;;;;N;;;;;
11195;SHARADA LETTER NGA;Lo;0;L;;;;;N;;;;;
11196;SHARADA LETTER CA;Lo;0;L;;;;;N;;;;;
11197;SHARADA LETTER CHA;Lo;0;L;;;;;N;;;;;
11198;SHARADA LETTER JA;Lo;0;L;;;;;N;;;;;
11199;SHARADA LETTER JHA;Lo;0;L;;;;;N;;;;;
1119A;SHARADA LETTER NYA;Lo;0;L;;;;;N;;;;;
1119B;SHARADA LETTER TTA;Lo;0;L;;;;;N;;;;;
1119C;SHARADA LETTER TTHA;Lo;0;L;;;;;N;;;;;
1119D;SHARADA LETTER DDA;Lo;0;L;;;;;N;;;;;
1119E;SHARADA LETTER DDHA;Lo;0;L;;;;;N;;;;;
1119F;SHARADA LETTER NNA;Lo;0;L;;;;;N;;;;;
111A0;SHARADA LETTER TA;Lo;0;L;;;;;N;;;;;
111A1;SHARADA LETTER THA;Lo;0;L;;;;;N;;;;;
111A2;SHARADA LETTER DA;Lo;0;L;;;;;N;;;;;
111A3;SHARADA LETTER DHA;Lo;0;L;;;;;N;;;;;
111A4;SHARADA LETTER NA;Lo;0;L;;;;;N;;;;;
111A5;SHARADA LETTER PA;Lo;0;L;;;;;N;;;;;
111A6;SHARADA LETTER PHA;Lo;0;L;;;;;N;;;;;
111A7;SHARADA LETTER BA;Lo;0;L;;;;;N;;;;;
111A8;SHARADA LETTER BHA;Lo;0;L;;;;;N;;;;;
111A9;SHARADA LETTER MA;Lo;0;L;;;;;N;;;;;
111AA;SHARADA LETTER YA;Lo;0;L;;;;;N;;;;;
111AB;SHARADA LETTER RA;Lo;0;L;;;;;N;;;;;
111AC;SHARADA LETTER LA;Lo;0;L;;;;;N;;;;;
111AD;SHARADA LETTER LLA;Lo;0;L;;;;;N;;;;;
111AE;SHARADA LETTER VA;Lo;0;L;;;;;N;;;;;
111AF;SHARADA LETTER SHA;Lo;0;L;;;;;N;;;;;
111B0;SHARADA LETTER SSA;Lo;0;L;;;;;N;;;;;
111B1;SHARADA LETTER SA;Lo;0;L;;;;;N;;;;;
111B2;SHARADA LETTER HA;Lo;0;L;;;;;N;;;;;
111B3;SHARADA VOWEL SIGN AA;Mc;0;L;;;;;N;;;;;
111B4;SHARADA VOWEL SIGN I;Mc;0;L;;;;;N;;;;;
111B5;SHARADA VOWEL SIGN II;Mc;0;L;;;;;N;;;;;
111B6;SHARADA VOWEL SIGN U;Mn;0;NSM;;;;;N;;;;;
111B7;SHARADA VOWEL SIGN UU;Mn;0;NSM;;;;;N;;;;;
111B8;SHARADA VOWEL SIGN VOCALIC R;Mn;0;NSM;;;;;N;;;;;

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111B9;SHARADA VOWEL SIGN VOCALIC RR;Mn;0;NSM;;;;;N;;;;;
111BA;SHARADA VOWEL SIGN VOCALIC L;Mn;0;NSM;;;;;N;;;;;
111BB;SHARADA VOWEL SIGN VOCALIC LL;Mn;0;NSM;;;;;N;;;;;
111BC;SHARADA VOWEL SIGN E;Mn;0;NSM;;;;;N;;;;;
111BD;SHARADA VOWEL SIGN AI;Mn;0;NSM;;;;;N;;;;;
111BE;SHARADA VOWEL SIGN O;Mn;0;NSM;;;;;N;;;;;
111BF;SHARADA VOWEL SIGN AU;Mc;0;L;;;;;N;;;;;
111C0;SHARADA SIGN VIRAMA;Mc;9;L;;;;;N;;;;;
111C1;SHARADA SIGN AVAGRAHA;Lo;0;L;;;;;N;;;;;
111C2;SHARADA SIGN JIHVAMULIYA;Mn;0;NSM;;;;;N;;;;;
111C3;SHARADA SIGN UPADHMANIYA;Mn;0;NSM;;;;;N;;;;;
111C4;SHARADA OM;Lo;0;L;;;;;N;;;;;
111C5;SHARADA EKAM;Lo;0;L;;;;;N;;;;;
111C6;SHARADA DANDA;Po;0;L;;;;;N;;;;;
111C7;SHARADA DOUBLE DANDA;Po;0;L;;;;;N;;;;;
111C8;SHARADA ABBREVIATION SIGN;Po;0;L;;;;;N;;;;;
111C9;SHARADA SEPARATOR;Po;0;L;;;;;N;;;;;
111D0;SHARADA DIGIT ZERO;Nd;0;L;;0;0;0;N;;;;;
111D1;SHARADA DIGIT ONE;Nd;0;L;;1;1;1;N;;;;;
111D2;SHARADA DIGIT TWO;Nd;0;L;;2;2;2;N;;;;;
111D3;SHARADA DIGIT THREE;Nd;0;L;;3;3;3;N;;;;;
111D4;SHARADA DIGIT FOUR;Nd;0;L;;4;4;4;N;;;;;
111D5;SHARADA DIGIT FIVE;Nd;0;L;;5;5;5;N;;;;;
111D6;SHARADA DIGIT SIX;Nd;0;L;;6;6;6;N;;;;;
111D7;SHARADA DIGIT SEVEN;Nd;0;L;;7;7;7;N;;;;;
111D8;SHARADA DIGIT EIGHT;Nd;0;L;;8;8;8;N;;;;;
111D9;SHARADA DIGIT NINE;Nd;0;L;;9;9;9;N;;;;;

```

CONSONANTS			
क	<i>ka</i>	<i>kov ka</i>	SHARADA LETTER KA
ख	<i>kha</i>	<i>khvani kha</i>	SHARADA LETTER KHA
ग	<i>ga</i>	<i>gagar ga</i>	SHARADA LETTER GA
घ	<i>gha</i>	<i>gasi ga</i>	SHARADA LETTER GHA
ङ	<i>ṅa</i>	<i>narug na</i>	SHARADA LETTER NGA
च	<i>ca</i>	<i>catuv ca</i>	SHARADA LETTER CA
छ	<i>cha</i>	<i>chvatin cha</i>	SHARADA LETTER CHA
ज	<i>ja</i>	<i>zayi za</i>	SHARADA LETTER JA
झ	<i>jha</i>	<i>zashin za</i>	SHARADA LETTER JHA
ण	<i>ṅa</i>	<i>khvana phuti na</i>	SHARADA LETTER NYA
ट	<i>ṭa</i>	<i>ar manta</i>	SHARADA LETTER TTA
ठ	<i>ṭha</i>	<i>sar mantha</i>	SHARADA LETTER TTHA
ड	<i>ḍa</i>	<i>dud da</i>	SHARADA LETTER DDA
ढ	<i>ḍha</i>	<i>daka da</i>	SHARADA LETTER DDHA
न	<i>na</i>	<i>nanaguri na</i>	SHARADA LETTER NNA
त	<i>ta</i>	<i>tov ta</i>	SHARADA LETTER TA
थ	<i>tha</i>	<i>thashi tha</i>	SHARADA LETTER THA
द	<i>da</i>	<i>dadav da</i>	SHARADA LETTER DA
ध	<i>dha</i>	<i>dun da</i>	SHARADA LETTER DHA
न	<i>na</i>	<i>nastuv na</i>	SHARADA LETTER NA
प	<i>pa</i>	<i>paduri pa</i>	SHARADA LETTER PA
फ	<i>pha</i>	<i>pharin pha</i>	SHARADA LETTER PHA
ब	<i>ba</i>	<i>bub ba</i>	SHARADA LETTER BA
भ	<i>bha</i>	<i>bayi ba</i>	SHARADA LETTER BHA
म	<i>ma</i>	<i>mov ma</i>	SHARADA LETTER MA
य	<i>ya</i>	<i>yava ya</i>	SHARADA LETTER YA
र	<i>ra</i>	<i>raka ra</i>	SHARADA LETTER RA
ल	<i>la</i>	<i>lava la</i>	SHARADA LETTER LA
ळ	<i>ḷa</i>	<i>bodu dud da</i>	SHARADA LETTER LLA
व	<i>va</i>	<i>vasha va</i>	SHARADA LETTER VA
श	<i>śa</i>	<i>shekar sha</i>	SHARADA LETTER SHA
ष	<i>ṣa</i>	<i>phori sha</i>	SHARADA LETTER SSA
स	<i>sa</i>	<i>sus sa</i>	SHARADA LETTER SA
ह	<i>ha</i>	<i>hala ha</i>	SHARADA LETTER HA

Table 8: Transliteration and traditional Kashmiri names of Sharada consonants

INDEPENDENT VOWELS			
अ	<i>a</i>	<i>adau a</i>	SHARADA LETTER A
आ	<i>ā</i>	<i>aitav a</i>	SHARADA LETTER AA
इ	<i>i</i>	<i>yeyev ye</i>	SHARADA LETTER I
ई	<i>ī</i>	<i>yisherav yi</i>	SHARADA LETTER II
उ	<i>u</i>	<i>vopal vo</i>	SHARADA LETTER U
ऊ	<i>ū</i>	<i>vopal ba u</i>	SHARADA LETTER UU
ऋ	<i>r̄</i>	<i>renav</i>	SHARADA LETTER VOCALIC R
ॠ	<i>r̄̄</i>	<i>rakhav</i>	SHARADA LETTER VOCALIC RR
ऌ	<i>l̄</i>	<i>leyev</i>	SHARADA LETTER VOCALIC L
ॡ	<i>l̄̄</i>	<i>lisav</i>	SHARADA LETTER VOCALIC LL
ए	<i>e</i>	<i>talavya ye</i>	SHARADA LETTER E
ऐ	<i>ai</i>	<i>toli ai</i>	SHARADA LETTER AI
ओ	<i>o</i>	<i>vutho o</i>	SHARADA LETTER O
औ	<i>au</i>	<i>ashidi au</i>	SHARADA LETTER AU
DEPENDENT VOWEL SIGNS			
◌̄	<i>-ā</i>	<i>vahay</i>	SHARADA VOWEL SIGN AA
◌ि	<i>-i</i>	<i>munthar</i>	SHARADA VOWEL SIGN I
◌ी	<i>-ī</i>	<i>ar munthar</i>	SHARADA VOWEL SIGN II
◌ु	<i>-u</i>	<i>khuru</i>	SHARADA VOWEL SIGN U
◌ू	<i>-ū</i>	<i>ar khuru</i>	SHARADA VOWEL SIGN UU
◌ृ	<i>-r̄</i>	<i>renav ra</i>	SHARADA LETTER VOCALIC R
◌ॠ	<i>-r̄̄</i>	<i>rakhav ru</i>	SHARADA LETTER VOCALIC RR
◌ौ	<i>-l̄</i>	<i>leyev la</i>	SHARADA LETTER VOCALIC L
◌ॡ	<i>-l̄̄</i>	<i>lisav la</i>	SHARADA LETTER VOCALIC LL
◌े	<i>-e</i>	<i>hvandu</i>	SHARADA VOWEL SIGN E
◌ै	<i>-ai</i>	<i>hvanjor</i>	SHARADA VOWEL SIGN AI
◌ो	<i>-o</i>	<i>oku shyur</i>	SHARADA VOWEL SIGN O
◌ौ	<i>-au</i>	<i>okushi vahay</i>	SHARADA VOWEL SIGN AU
VARIOUS SIGNS			
◌◌	<i>ṁ</i>	<i>adi candra phyoru</i>	SHARADA SIGN CANDRABINDU
◌◌̣	<i>ṃ̇</i>	<i>mas phyori am</i>	SHARADA SIGN ANUSVARA
◌ः	<i>ḥ</i>	<i>do phyori ah</i>	SHARADA SIGN VISARGA
◌ा		<i>morith</i>	SHARADA SIGN VIRAMA
◌ाँ	<i>ḥ</i>	<i>jihvamuliya</i>	SHARADA SIGN JIHVAMULIYA
◌ाँ	<i>ḥ</i>	<i>upadhmaniya</i>	SHARADA SIGN UPADHMANIYA
◌,	<i>,</i>	<i>do adau a</i>	SHARADA AVAGRAHA

Table 9: Transliteration and traditional Kashmiri names of Sharada vowels and signs

6 Orthography

6.1 Distinguishing Features

Appearance Georg Bühler states that “[a] general characteristic of the Śāradā of all periods is found in the stiff, thick strokes which give the characters an uncouth appearance and a certain resemblance to those of the Kuṣāna period.”³⁰

Compared to a more cursive style:

Headstroke In Sharada, the headstroke of characters do not necessarily connect to the following character. Characters for dependent vowel signs that possess a headstroke generally connect to the headstroke of the consonant character they combine with.

6.2 Consonant-Vowel Ligatures

In Sharada, consonant-vowel combinations are often written as consonant-vowel ligatures. This is most commonly the case with the non-spacing vowel signs.

³⁰ Bühler 1904: 76.

SHARADA VOWEL SIGN U The basic shape of the dependent sign for the vowel u is ು. This shape changes when the sign is combined with certain consonants:

क ku, ग gu, ज् ju, ण ñu, ड् du,
 त tu, भ bh, र ru, सु su.

SHARADA VOWEL SIGN UU The basic shape of the dependent sign for the vowel uu is ೂ. This shape changes when the sign is combined with certain consonants:

कू kū, गु gū, जू jhū, णू ñū, डू dū,
 तू tū, भू bhū, रू rū, सू sū.

6.3 Consonant Conjuncts

Sharada has an extensive set of consonant conjuncts. See Figure 9, Figure 10, Figure 11, and Figure 12 for a list of Sharada conjuncts in comparison with those of Devanagari.

6.4 Digits

Sharada digits represent values of the decimal system. The notation system of Sharada is unique among Brahmi-based systems in that a dot represents zero and the circle used in other notation systems to represent 0 is used to represent the digit 1 in Sharada.

6.5 Special Signs

SHARADA SIGN CANDRABINDU The sign ೀ SHARADA SIGN CANDRABINDU is distinct from the character U+0900 DEVANAGARI SIGN INVERTED CANDRABINDU proposed by Everson and Scharf (2008). The sign is the common shape of *candrabindu* as found in Sharada manuscripts and is semantically identical to the common *candrabindu* characters found in other Indic scripts. It is semantically distinct from DEVANAGARI SIGN INVERTED CANDRABINDU, which is “used to mark *anusvāra* before spirant’s in [Leopold von] Schröder’s edition of the *Kṛṣṇayajurveda Kāṭhaka-Saṁhitā*.”³¹

The typical shape of *candrabindu* is that proposed for encoding.

The excerpts below show two forms of SHARADA OM. Although an inverted form of the sign appears in several manuscripts. Sometimes both forms are used within a single manuscript. There is no semantic difference in the variant forms:

The typical form of SHARADA OM with CANDRABINDU:

³¹ Everson and Scharf 2007: 9.

नडि इन्द्रं पद्मं मीडं भुवः कवडि यम्भुभुभिस्तु
 मध्वनस्तु कवेडा केन युजेन भरभाडुभुभुभिस्तु ॥
 सुखा गैकुसा न मभिभानभा कडा येभवा
 इवाडेभा गया यमेसा मधुा वेरुभुभिस्तु



A variant form of SHARADA OM with inverted CANDRABINDU:

केपनिरडा नर कुषा सुकलमिडा या बुन
 नकेने कुलि कुला डा या कुला न केना ॐ ॥ ॥
 इ ई भनिव फिम भान नु भंतिर सुडं
 कप नडं विठुडि विमगडं भव विरुग



Different forms of candrabindu used to write om and candrabindu sign:

मं सुप्रिधरुमीडि सुड सुभनेरुदुलः तं सुप्रिधरुमिद
 इरु सुकिभुविपुष्टव भभिभुः सुड सुडः उंभेभमि
 इडिभुं गैलिडिधरु उंभे सुड सुडः सुयंय सुंभवेदि

Different forms of candrabindu used to write om:

ॐ श्रीगन्तमयभुमः ॥ ॥ ॥
 विमि सुड सुडि क सुप सुपुग

SHARADA SIGN VIRAMA The sign ो SHARADA SIGN VIRAMA is written to the right of the consonant letter it modifies. This practice differs from the usual mode in Indic scripts of writing *virāma* beneath consonants, eg. Sharada क् k and Devanagari क् k. While the Sharada *virāma* is a spacing mark, it is semantically identical to *virāma* of Devanagari and other Indic Brahmi-based scripts.

कुभिकपेसकहभ सुं सुं गभड
 यं सुभ ॥ सुहनुग लु व ह नं
 परु कु न भ ठ व न ड ॥ पर पू य डे
 न सि रं भु य के न कु वे प न ड ॥ परु

SHARADA AVAGRAHA The sign ॐ SHARADA AVAGRAHA is used for representing the elision of word-initial *a*. It is written at or below the baseline. This practice differs from the usual practice in Devanagari (U+09D3 DEVANAGARI SIGN AVAGRAHA) and other scripts of writing *avagraha* at the normal letter height, attaching to the top stroke of the following character; eg. Sharada ॐ 'k and Devanagari क 'k.



SHARADA JIHVAMULIYA The sign ॐ SHARADA SIGN JIHVAMULIYA is used for representing a velar fricative [x] that occurs only before the unvoiced velar stops क KA and ण KHA. Is written as a combining sign with the following consonant, eg. ॐ हka. This practice differs from that in Devanagari, where *jihvāmūliya* is written before the consonant, eg. हक *hka*.

Jihvāmūliya ॐ > हka क

SHARADA UPADHMANIYA The sign ॐ SHARADA SIGN UPADHMANIYA is used for representing a bilabial fricative [ɸ] that occurs only before the unvoiced labial stops प PA and फ PHA. It is written as a combining sign with the following consonant, eg. ॐ हpa. This practice differs from that in Devanagari, where *upadhmāniya* is written before the consonant, eg. फप *hpa*.

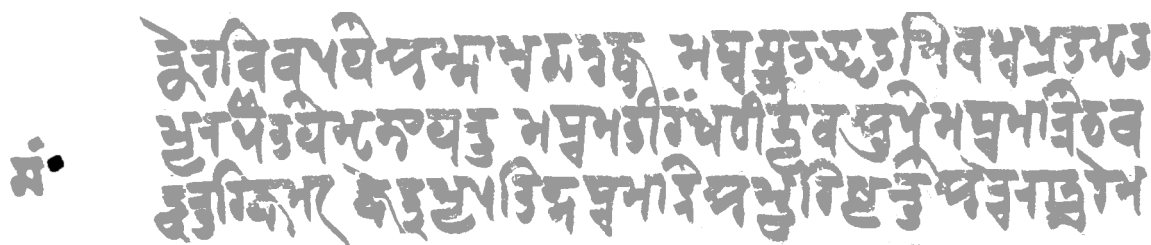
Upadhmāniya ॐ > हpa प

SHARADA EKAM The sign ॐ SHARADA EKAM is a sacred sign in Kashmiri Shaivism, on par with ॐ SHARADA OM.

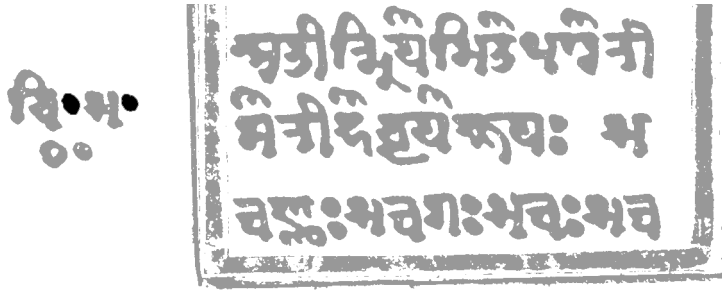
6.6 Punctuation

Abbreviation An abbreviation sign is common in manuscripts. The proposed sign ॐ SHARADA ABBREVIATION SIGN.

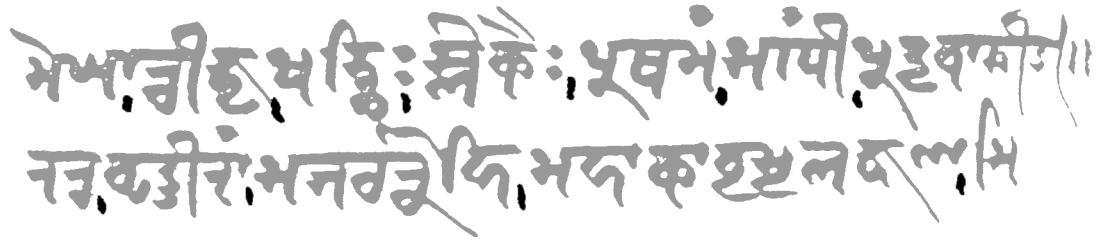
The following specimen shows the use of abbreviation sign with a consonant letter + ANUSVARA:



The circled text is “वि.१० / ००”, which is the abbreviation for “*Viṣṇunāma Sahasram* / [folio] 10”.



Separator Manuscripts contain signs used to mark word and other boundaries. The character , SHARADA SEPARATOR is proposed to represent such signs. The following specimen shows the use of separator to mark word boundaries. The specimen also shows SHARADA SEPARATOR as not marking all word boundaries,



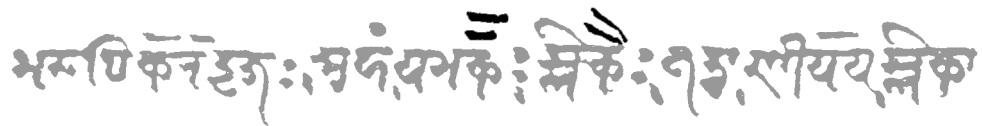
*megā- | -nvikṣya | ṣaḍbhiḥ | ślokaiḥ | prathamam | sakhīm | pratyavādīt
nanu | vṛtīnām | sargabandho hi | mahākāvyaśya lakṣaṇa- | -mi*

6.7 Variants

SHARADA VOWEL SIGN E The SHARADA VOWEL SIGN E is written two different ways. There is no semantic difference. The specimen below shows the two forms written within a single line:



SHARADA VOWEL SIGN AI The SHARADA VOWEL SIGN AI is written two different ways. There is no semantic difference. The specimen below shows the two forms written within a single line:



6.8 Homographs

There are a few characters in Sharada that are similar, eg. 𑀢 SHARADA LETTER MA and 𑀣 SHARADA LETTER SA; 𑀤 SHARADA LETTER U and 𑀥 SHARADA LETTER TA, etc. These, however, are distinguished through subtle features. In the case of MA and SA, the difference lies in the shape of the lower-left loop: that of MA is rounded, while that of SA is angular. Other homographs such as • SHARADA ABBREVIATION SIGN and • SHARADA DIGIT ZERO are distinguishable through context. A list of other homographs (and near-homographs) is presented below:

a/ya : ञ ण ju/jva : ङ ञ u/ta उ उ
 ku/kta : क क ñka/tka : ङ ङ ḍa/ta/ru : ङ उ उ
 ca/da/śa : स ष ष cya/dya/mya/śya/sya: ष ष ष ष ष
 tu / tta / nta / rta : उ उ उ उ t-(ya) / tt-(ya) / n-(ya) : उ उ उ
 tya / dya / bhya : उ ष ष tya / ṭṛ : उ उ tva / dva : उ ष
 tha / śa : ष ष dya / dhya / pya / yya / śya : ष ष ष ष ष
 dhva / śva : ष ष pha / ha : ङ ङ ba/rdhva : उ उ उ उ
 bdha/bva : उ उ bya/bva : उ उ bra/vra : उ ष
 ma/sa : म म ya/śa : ष ष
 rū/rtha : उ उ ḥṛ/hya : ङ ङ

	SHARADA	TAKRI	GURMUKHI	DEVANAGARI		SHARADA	TAKRI	GURMUKHI	DEVANAGARI
<i>ka</i>	क	𑆫	ਕ	क	<i>tha</i>	थ	थ	थ	थ
<i>kha</i>	ख	𑆬	ਖ	ख	<i>da</i>	द	द	ਦ	द
<i>ga</i>	ग	𑆭	ਗ	ग	<i>dha</i>	ध	ध	ਧ	ध
<i>gha</i>	घ	𑆮	ਘ	घ	<i>na</i>	न	न	ਨ	न
<i>ña</i>	𑆯	𑆯	ਙ	ङ	<i>pa</i>	प	प	ਪ	प
<i>ca</i>	च	𑆰	ਚ	च	<i>pha</i>	फ	फ	ਫ	फ
<i>cha</i>	छ	𑆱	ਛ	छ	<i>ba</i>	ब	ब	ਬ	ब
<i>ja</i>	ज	𑆲	ਜ	ज	<i>bha</i>	भ	भ	ਭ	भ
<i>jha</i>	झ	𑆳	ਝ	झ	<i>ma</i>	म	म	ਮ	म
<i>ña</i>	ञ	𑆴	ਞ	ञ	<i>ya</i>	य	य	ਯ	य
<i>ṭa</i>	ट	𑆵	ਟ	ट	<i>ra</i>	र	र	ਰ	र
<i>ṭha</i>	ठ	𑆶	ਠ	ठ	<i>la</i>	ल	ल	ਲ	ल
<i>ḍa</i>	ड	𑆷	ਡ	ड	<i>ḷa</i>	ळ	ळ	ਲ਼	ळ
<i>ṛa</i>	—	𑆸	ੜ	ड़	<i>va</i>	व	व	ਵ	व
<i>ḍha</i>	ढ	𑆹	ਢ	ढ	<i>śa</i>	श	श	ਸ਼	श
<i>ṛha</i>	—	—	ॠ	ॠ	<i>ṣa</i>	ष	—	—	ष
<i>ṇa</i>	ॢ	𑆺	ਣ	ण	<i>sa</i>	स	स	ਸ	स
<i>ta</i>	त	𑆻	ਤ	त	<i>ha</i>	ह	ह	ਹ	ह

Table 10: A comparison of digitized consonant letters of Sharada, Takri, Gurmukhi, and Devanagari.

	INDEPENDENT VOWELS				DEPENDENT VOWEL SIGNS			
	SHARADA	TAKRI	GURMUKHI	DEVANAGARI	SHARADA	TAKRI	GURMUKHI	DEVANAGARI
<i>a</i>	अ	ਅ	ਅ	अ	-a	—	—	—
<i>ā</i>	आ	ਆ	ਆ	आ	-ā	ा	ा	ा
<i>i</i>	इ	ਇ	ਇ	इ	-i	ि	ि	ि
<i>ī</i>	ई	ਈ	ਈ	ई	-ī	ी	ी	ी
<i>u</i>	उ	ਉ	ਉ	उ	-u	ु	ੁ	ु
<i>ū</i>	ऊ	ਊ	ਊ	ऊ	-ū	ू	ू	ू
<i>r̥</i>	ऋ	—	—	ऋ	-r̥	ृ	—	ृ
<i>r̄</i>	ॠ	—	—	ॠ	-r̄	ॠ	—	ॠ
<i>l̥</i>	ऌ	—	—	ऌ	-l̥	ॡ	—	ॡ
<i>l̄</i>	ॡ	—	—	ॡ	-l̄	ॢ	—	ॢ
<i>e</i>	ए	ਏ	ਏ	ए	-e	े	ੇ	ੇ
<i>ai</i>	ऐ	ਐ	ਐ	ऐ	-ai	ै	ै	ै
<i>o</i>	ओ	ਓ	ਓ	ओ	-o	ो	ो	ो
<i>au</i>	औ	ਔ	ਔ	औ	-au	ौ	ौ	ौ

Table 11: A comparison of digitized vowel letters and signs of Sharada, Takri, Gurmukhi, and Devanagari.

	SHARADA	TAKRI	GURMUKHI	DEVANAGARI		SHARADA	TAKRI	GURMUKHI	DEVANAGARI
0	•	•	○	०	5	५	५	੫	५
1	०	०	१	१	6	६	६	੬	६
2	३	३	२	२	7	७	७	੭	७
3	३	३	३	३	8	४	੪	੮	੮
4	५	੪	੪	੪	9	७	੬	੯	੯

Table 12: A comparison of digitized digits of Sharada, Takri, Gurmukhi, and Devanagari.

	SHARADA	TAKRI	GURMUKHI	DEVANAGARI
<i>om</i>	ॐ	—	ੴ	ॐ
<i>ekam</i>	ॐ	—	—	—
<i>jihvāmūlīya</i>	ॐ	—	—	ॐ
<i>upadhmanīya</i>	ॐ	—	—	ॐ

Table 13: A comparison of various signs of Sharada, Takri, Gurmukhi, and Devanagari.

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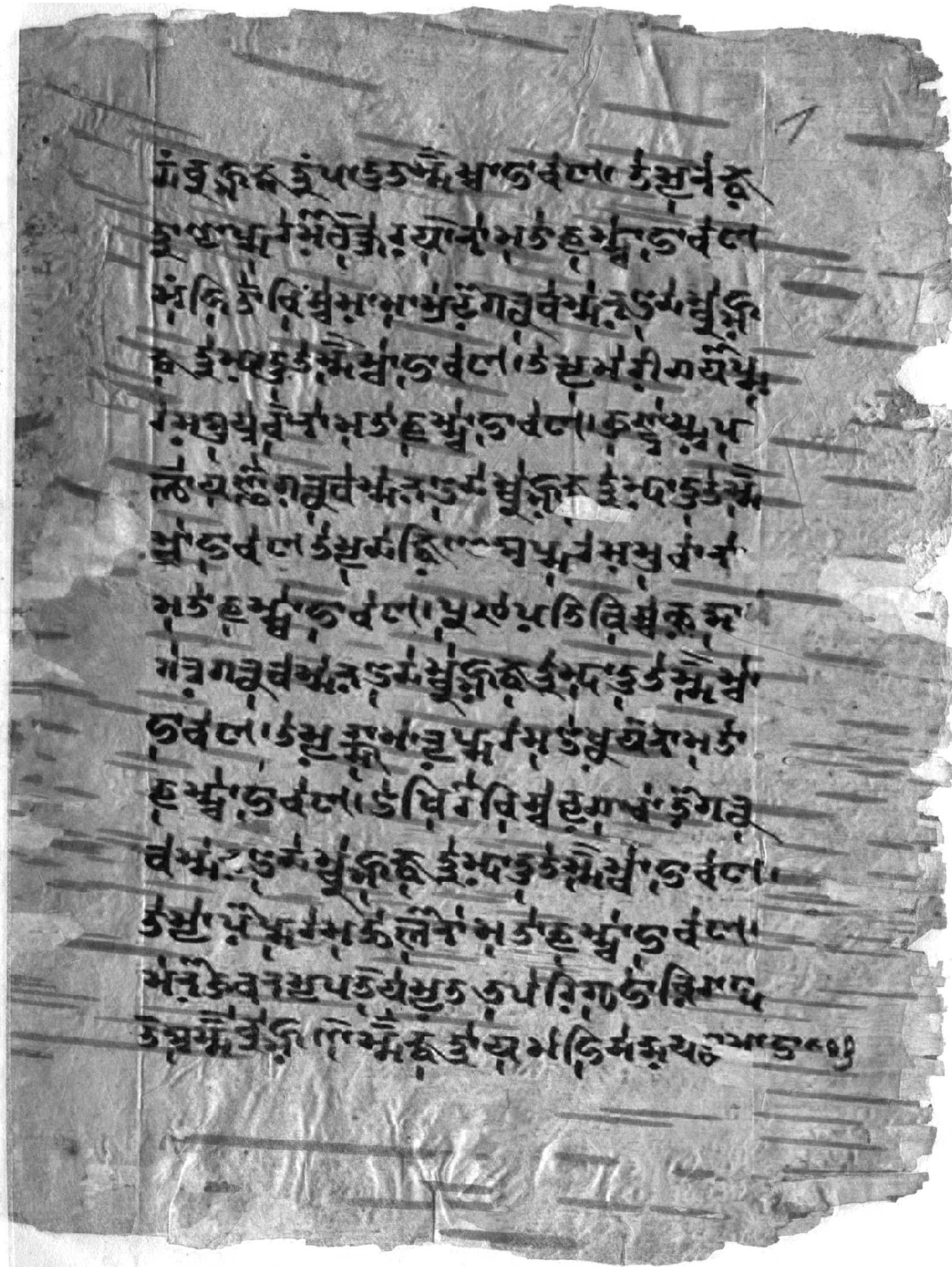


Figure 2: Folio 1 (verso) of a birch-bark manuscript of the Kashmiri Paippalada recension of the *Atharvaveda*. Text is Sanskrit written in the Sharada script. (From digitized version produced by Anthos Imprint, 2001.)

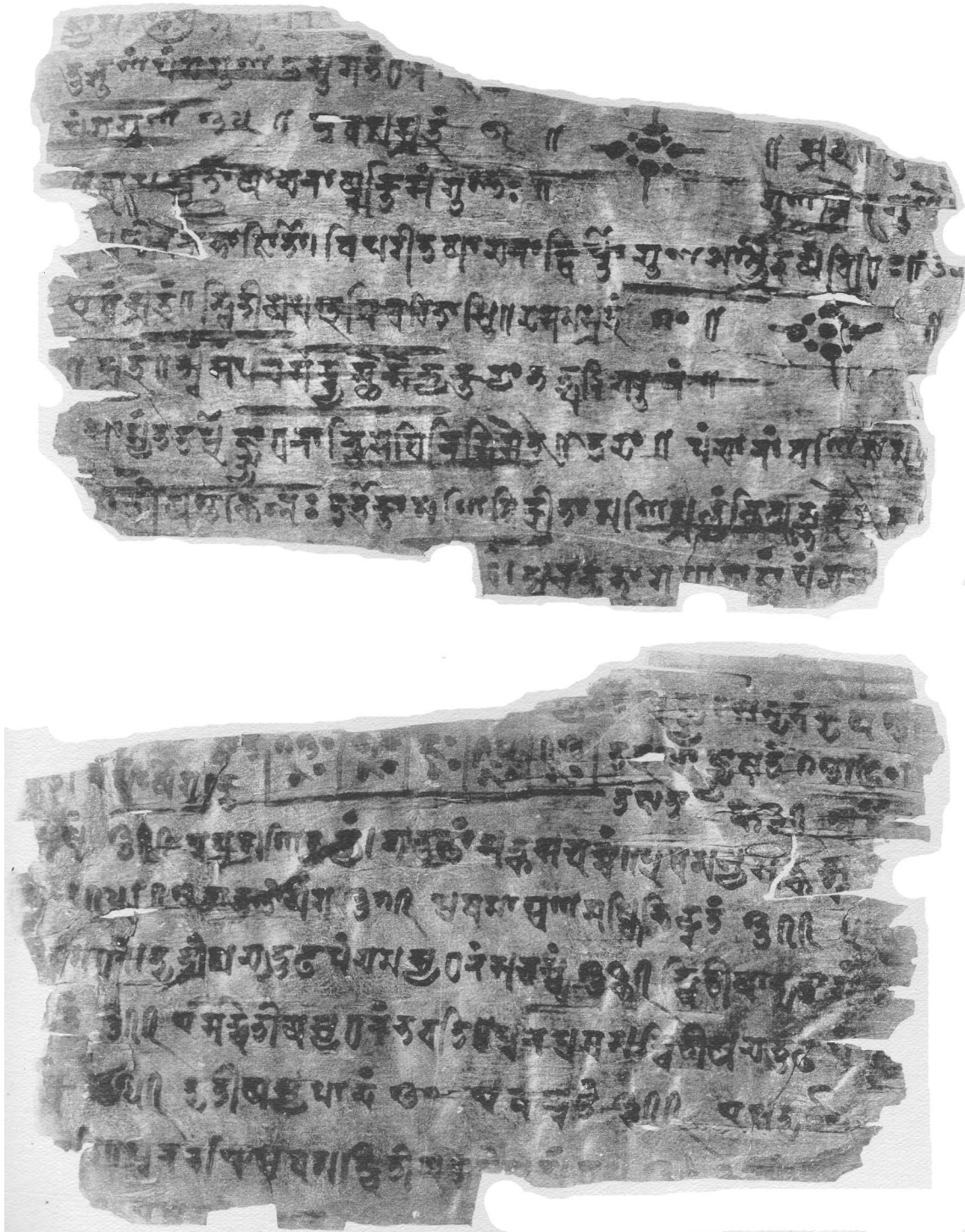


Figure 3: Folio 1 (verso) of the Bakhshali manuscript. Text is Sanskrit written in the Sharada script (from Kaye 1927: Plate II).

Roman.	Nāgarī.	Śāradā.	Kāshmirī name in Nāgarī.	Kāshmirī name in Śāradā.	Kāshmirī name in Roman.	Remarks.
<i>ōm</i>	ओं	ॐ	ओंकारा ओं	ॐकारा ॐ	<i>ōmkārā ōm</i>	Read as <i>ēkaṁ</i> . There are no sonant aspirates in Kāshmirī.
<i>sva</i>	स्व	ध्व	स्वयं सो	ध्वयं भे	<i>sōyam sō</i>	
<i>sti</i>	स्ति	भित्ति	त्वयिस् ते	ट्टु विभाउ	<i>tēvis tē</i>	
<i>ēkaṁ</i>		ॐ	अंकु सं गोर (एकं)	अंकु सं गोर (एकं)	<i>oku saṁ gōr</i>	
<i>si</i>	सि	भित्ति	स्वदिव् से	ध्वदिव् भे	<i>sēdiv sē</i>	
<i>ddham</i>	धं	धं	दमर् दं	दमर् दं	<i>damar daṁ</i>	
<i>a</i>	अ	अ	आदौ अ	आदौ अ	<i>ādaru a</i>	
<i>ā</i>	आ	आ	ऐतव् आ	ऐतव् आ	<i>aitav ā</i>	
<i>-ā</i>	ा	ा	वहाय्	वहाय्	<i>wahāy</i>	
<i>i</i>	इ	इ	ययव् ये	ययव् ये	<i>yēyēv yē</i>	
<i>-i</i>	ि	ि	मून्थर्	मून्थर्	<i>mūnthar</i>	
<i>ī</i>	ई	ई	इशरव् ई	इशरव् ई	<i>yishērav yī</i>	

Roman.	Nāgarī.	Śāradā.	Kāshmirī name in Nāgarī.	Kāshmirī name in Śāradā.	Kāshmirī name in Roman.	Remarks.
<i>-r</i>	री	ॠ	अर् मून्थर्	अर् मून्थर्	<i>ar mūnthar</i>	Same name as for the initial form. Thus, र <i>kr</i> is called <i>kōv kahās tal rēnav rē</i> , or <i>rēnav rē</i> under <i>kōv ka</i> , i.e. <i>r</i> under <i>ka</i> .
<i>u</i>	उ	उ	वपल् वो	वपल् वो	<i>wōpal wō</i>	
<i>-u</i>	ु	ु	खूर्	खूर्	<i>khūru</i>	
<i>ū</i>	ऊ	ऊ	वपल् वा ऊं	वपल् वा ऊं	<i>wōpal bā ū</i>	
<i>-ū</i>	ू	ू	अर् खूर्	अर् खूर्	<i>ar khūrū</i>	
<i>ṛ</i>	ऋ	ॠ	ऋनव् ऋ	ऋनव् ऋ	<i>rēnav rē</i>	
<i>-ṛ</i>	ॠ	ॠ	Same name as for the initial form. Thus, र <i>kr</i> is called <i>kōv kahās tal rēnav rē</i> .			
<i>r̄</i>	ऋ	ॠ	रखव् ऋ [रू]	गणव् ऋ [रू]	<i>rakhav rū</i>	Same name as for the initial form. Thus, रू <i>kr̄</i> is called <i>kōv kahās tal rakhav rū</i> .
<i>-r̄</i>	ॠ	ॠ	ल्ययव् लृ	ल्ययव् लृ	<i>lēyēv lē</i>	
<i>l̄</i>	लृ	लृ	लीसव् लृ	लीसव् लृ	<i>līsav l̄</i>	Same name as for the initial form. Thus, लृ <i>kl̄</i> is called <i>kōv kahās tal lēyēv lē</i> .
<i>-l̄</i>	ॠ	ॠ	Same name as for the initial form, as above.			

Figure 4: Sharada vowels and various signs (from Grierson 1916: 681–682).

<i>ē</i>	ए	८	तालव्य ए	उलव्य ए	<i>talavy yē</i>	
<i>-ē</i>	८	८	ह्रस्व	ह्रस्व	<i>hōṅḍū</i>	
<i>ai</i>	ऐ	९	ताली ऐ	ताली ऐ	<i>tōlī ai</i>	
<i>-ai</i>	९	९	ह्रजोर	ह्रजोर	<i>hōṅjōr</i>	
<i>ō</i>	ओ	१०	वुठो ओ	वुठो ओ	<i>wuṭhō ō</i>	
<i>-ō</i>	१०	१०	अंकु श्यूर	अंकु श्यूर	<i>oku shyūr</i>	
<i>au</i>	औ	११	अशिदी औ	अशिदी औ	<i>ashidī au</i>	
<i>-au</i>	११	११	अकुशि वहाय	अकुशिवहाय	<i>akushi wahāy</i>	
<i>m̄</i>	१२	१२	मस फ्यरि अं	मसा ह्रि अं	<i>mas phēri am̄</i>	
<i>m̄</i>	१३	१३	अडि त्रन्द्र फ्यरु	अडि मस्र ह्रु	<i>aḍi tsandra phyoru</i>	
<i>h</i>	:	:	दो फ्यरि अः	दो ह्रि मः	<i>dō phēri ah</i>	Also called <i>dō phyōr ah</i> .
			[दो फ्योर अः]	[दो ह्रि मः]		
<i>χ</i>	१४	१४	जिहामूलीय	जिहामूलीय	<i>zihwāmūlīyē</i>	
<i>φ</i>	१५	१५	उपध्मानीय	उपध्मानीय	<i>wupadhmanīyē</i>	Thus, उ <i>φpa</i> , उ <i>φpha</i> .
	१६	१६	मारिथ	मारिथ	<i>mōrith</i> (“having killed”)	Thus, क <i>k</i> is called <i>kōv ka mōrith</i> .
	१७	१७	अडु आदौ अ	अडु अदौ अ	<i>aḍu ādau a</i> (“half a”)	<i>Avagraha</i> .

Figure 5: Sharada vowels and various signs (from Grierson 1916: 683).

KAŠMIRISCH.

Zeichen	Wert	Zeichen	Wert	Zeichen	Wert	Zeichen	Wert	Zeichen	Wert	Zeichen	Wert
अ	a	इ	i	ग	ga	ए	ṭa	उ	dha	र	ra
आ	ā	ई	ī	घ	gha	०	ṭha	न	na	ल	la
उ	i	ऐ	e	ण	ṇa	ॠ	ḍa	प	pa	व	va
अ	ī	ॠ	ai	श	tṣha	ॡ	ḍha	ढ	pha,fa	भ	sa
उ	u	ॡ	o	स	tṣha	ॢ	ṇa	ब	ba	ष	ṣa
ऊ	ū	ॢ	au	ह	dḥa,za	उ	ta	ठ	bha	म	ṣa
ए	r	क	ka	ण	dḥha	ष	tha	भ	ma	न	ha
ऐ	r	ख	kha	ॠ	ṇa	ॠ	da	य	ya		

Ligaturen.

क्य	kya	तमा	tma	नु	nu	म्पा	mpa	समा	sma	तश्या	tṣya
तशु	tṣu	तु	tu	न्या	nya	रदजा	rdḥa	स्वा	swa	तश्या	tṣhya
दज्या	dḥya	न्तशु	ntṣu	प्रा	pra	शु	ṣu	ह्या	hya		

Vokalverbindung: का kā, कि kī, कु ku, के ke, कं kā, कः k.

Ziffern: १ 1, ३ 2, ३ 3, १ 4, ५ 5, २ 6, ५ 7, ३ 8, ७ 9, ० 0.

Figure 6: Inventory of Sharada letters from a German compendium of writing systems (from Faulmann 1880: 139).

VOKALE UND DIPHTONGE

a	अ	ā	आ	i	इ	ī	ई	u	उ
ū	ऊ	ī	ऀ	ī	ऀ	!	ऀ	!	ऀ
e	ए	ai	ऐ	o	ओ	au	औ	om̐	ॐ

KONSONANTEN

ka	क	kha	ख	ga	ग	gha	घ	ṅa	ङ
ca	च	cha	छ	ja	ज	jha	झ	ṅa	ञ
ṭa	ट	ṭha	ठ	ḍa	ड	dha	ढ	ṇa	ण
ta	त	tha	थ	da	द	dha	ध	na	न
pa	प	pha	फ	ba	ब	bha	भ	ma	म
ya	य	ra	र	la	ल	va	व		
śa	श	ṣa	ष	sa	स	ha	ह		

VISARGA ETC.

Visarga	ḥ	:	>	kah	कः	Jihvāmūliya	ḥ	ḥ	>	hka	क
Upadhmaniya	ḥ	ḥ	>	hpa	पै	Anusvāra	m̐	ḥ	>	kam	कं
Anunāsika	m̐	ḥ	>	kaṁ	कै	Avagraha	'	ḥ	>	'ja	ज
Virāma	ḥ		>	m	मी						

Figure 7: Inventory of Sharada letters (from Slaje and Hanneder 2005: 3).

Roman.	Nāgarī.	Śaradā.	Kāshmirī name in Nāgarī.	Kāshmirī name in Śaradā.	Kāshmirī name in Roman.	Remarks.
<i>ka</i>	क	क	कोव् क	केव् क	<i>kōv ka</i>	The Kāshmirī language does not possess the letter <i>gha</i> .
<i>kha</i>	ख	ख	खुनि ख	खुनि ख	<i>khōni kha</i>	
<i>ga</i>	ग	ग	गगर् ग	गगर् ग	<i>gagar ga</i>	
<i>gha</i>	घ	घ	गांसि ग [घ]	गांसि ग [घ]	<i>gōsi ga [gha]</i>	
<i>ṅa</i>	ङ	ङ	नारुग् न	नारुग् न	<i>nārug na</i>	
<i>ca</i>	च	च	चाटुव् च	चाटुव् च	<i>tsātuv tsa</i>	The Kāshmirī language does not possess the letter <i>jha</i> .
<i>cha</i>	छ	छ	छुटिच् च	छुटिच् च	<i>tshōṭiñ tsha</i>	
<i>ja</i>	ज	ज	जांसि ज	जांसि ज	<i>zāysi za</i>	
<i>jha</i>	झ	झ	जांसिच् ज [झ]	जांसिच् ज [झ]	<i>zōshiñ za [jha]</i>	
<i>ṅa</i>	ञ	ञ	खून फुटि ज	खून फुटि ज	<i>khōna phuṭi ñē</i>	
<i>ṭa</i>	ट	ट	अर-माँट	अर-माँट	<i>ar-māṭa</i>	The Kāshmirī language does not possess the letters <i>dha</i> or <i>ṅa</i> .
<i>ṭha</i>	ठ	ठ	सर-माँठ	सर-माँठ	<i>sar-māṭha</i>	
<i>ḍa</i>	ड	ड	डुड् ड	डुड् ड	<i>ḍuḍ ḍa</i>	
<i>dha</i>	ढ	ढ	डक ड [ढ]	डक ड [ढ]	<i>ḍaka ḍa [dha]</i>	
<i>ṅa</i>	ण	ण	नानगुरि न [ण]	नानगुरि न [ण]	<i>nānaguri na [ṅa]</i>	
<i>ta</i>	त	त	तोव् त	तोव् त	<i>tōv ta</i>	The Kāshmirī language does not possess the letter <i>dha</i> .
<i>tha</i>	थ	थ	थांसि थ	थांसि थ	<i>thōshi tha</i>	
<i>ḍa</i>	द	द	ददव् द	ददव् द	<i>dadav ḍa</i>	
<i>dha</i>	ध	ध	दूज् द [ध]	दूज् द [ध]	<i>ḍūñ ḍa [dha]</i>	
<i>na</i>	न	न	नस्तुव् न	नस्तुव् न	<i>nastuv na</i>	
<i>pa</i>	प	प	पडुरि प	पडुरि प	<i>paḍuri pa</i>	The Kāshmirī language does not possess the letter <i>bha</i> .
<i>pha</i>	फ	फ	फरिच् फ	फरिच् फ	<i>phariñ pha</i>	
<i>ba</i>	ब	ब	बुब् ब	बुब् ब	<i>bub ba</i>	
<i>bha</i>	भ	भ	बांसि ब [भ]	बांसि ब [भ]	<i>bōyi ba [bha]</i>	
<i>ma</i>	म	म	मोव् म	मोव् म	<i>mōv ma</i>	

Figure 9: Sharada consonants (from Grierson 1916: 684–685).

Roman.	Nāgarī.	Śāradā.	Kāshmirī name in Nāgarī.	Kāshmirī name in Śāradā.	Kāshmirī name in Roman.	Remarks.
<i>ya</i>	य	य	याव य	यय्व य	<i>yāwa yě</i>	
<i>ra</i>	र	र	रक र	रक र	<i>raka ra</i>	
<i>la</i>	ल	ल	लाव ल	लव ल	<i>lāwa la</i>	
<i>va</i>	व	व	वश व	वम व	<i>washě wa</i>	
<i>śa</i>	श	श	शकर श	मकग म	<i>shēkar shě</i>	The Kāshmirī language does not possess the letter śa.
<i>ṣa</i>	ष	ष	फारि श [ष]	कुरि म [ष]	<i>phōri shě [ṣa]</i>	
<i>sa</i>	स	स	सुस स	मुभा म	<i>sus sa</i>	
<i>ha</i>	ह	ह	हाल ह	कल ह	<i>hāla ha</i>	
<i>kṣa</i>	क्ष	क	कलि वंठि क्ष	कलिवंठि क	<i>kōli vēṭhi kshě</i>	
<i>tra</i>	त्र	त्र	त्रुक तोव त्र	रुकउवा त्र	<i>truka tov tra</i>	
<i>jña</i>	ज्ञ	झ	(ज्ञयि ज्ञहस् तल् खून फुटि ज्ञ)	(ज्ञयि झहमा ज्ञ खुन फुटि झ)	(<i>zāyī zahas tal khōna phuṭi ñě</i>)	This compound has no special name, and is simply spelt out, <i>khōna phuṭi ñě</i> (= <i>ña</i>) under <i>zāyī za</i> (= <i>ja</i>).
<i>ḷa</i>	ळ	ड	बडु डुडु ड (वा बडु रक र)	बडु डुडु ड (वा बडु रक र)	<i>boḍu ḍuḍ ḍa</i> (or <i>boḍu raka ra</i>)	
<i>ḷha</i>	ऌ		There is no equivalent for this letter in Śāradā.			

Figure 10: Sharada consonants (from Grierson 1916: 686–687).

Roman.	Nāgarī.	Śāradā.	Roman.	Nāgarī.	Śāradā.	Roman.	Nāgarī.	Śāradā.	Roman.	Nāgarī.	Śāradā.	Roman.	Nāgarī.	Śāradā.	Roman.	Nāgarī.	Śāradā.
kka	कक	कक	khya	ख	ख	ñkha	ख	ख	jjha	झ	झ	dgha	झ	झ	nmaru	झ	झ
kkha	कख	कख	khra	ख	ख	ñkhya	ख	ख	jña	ञ	ञ	dghra	ञ	ञ	nma	ञ	ञ
kña	कण	कण	gna	गण	गण	ñkhyā	ख	ख	jñā	ञ	ञ	dja	ञ	ञ	nmā	ञ	ञ
kea	कए	कए	gda	गद	गद	ñga	ख	ख	jñya	ञ	ञ	djā	ञ	ञ	nya	ञ	ञ
kṇa	कण	कण	gdha	गध	गध	ñgya	ख	ख	jma	जम	जम	ḍḍha	ञ	ञ	nva	ञ	ञ
kta	कत	कत	gna	गन	गन	ñgyā	ख	ख	jya	जय	जय	ḍḍha	ञ	ञ	tka	क	क
ktya	कय	कय	gba	गब	गब	ñgha	ख	ख	jra	ज्र	ज्र	ḍḍha	ञ	ञ	tkra	क	क
ktra	कत्र	कत्र	gma	गम	गम	ñghya	ख	ख	jva	जव	जव	ḍma	ञ	ञ	ttra	क	क
ktrya	कय	कय	gya	गय	गय	ñghra	ख	ख	ñca	ञ	ञ	dya	ञ	ञ	ttya	क	क
ktva	कत	कत	gra	गर	गर	ñghrā	ख	ख	ñcma	ञ	ञ	dra	ञ	ञ	ttra	क	क
ktha	कथ	कथ	grya	गरय	गरय	ñghrau	ख	ख	ñcya	ञ	ञ	dhya	ञ	ञ	ttva	क	क
kthya	कथ	कथ	gva	गव	गव	ñna	ख	ख	ñcha	ञ	ञ	dhra	ञ	ञ	tna	क	क
kna	कन	कन	ghna	घन	घन	ñya	ख	ख	ñja	ञ	ञ	nta	न	न	tnya	क	क
kenya	कय	कय	ghnya	घय	घय	cca	च	च	ñña	ञ	ञ	ntā	न	न	tpa	क	क
kpa	कप	कप	ghma	घम	घम	ccha	च	च	ñya	ञ	ञ	ntha	न	न	tpra	क	क
kma	कम	कम	ghya	घय	घय	cchra	च	च	ñca	ञ	ञ	nthya	न	न	tma	क	क
kya	कय	कय	ghra	घर	घर	cña	च	च	cma	च	च	nthyau	न	न	tmya	क	क
kra	क	क	ñka	क	क	cya	च	च	cra	च	च	nd	न	न	tya	क	क
krya	कय	कय	ñkta	क	क	chya	च	च	chra	च	च	ndya	न	न	tra	क	क
kla	कल	कल	ñktya	क	क	chra	च	च	jga	ज	ज	ndra	न	न	trya	क	क
kva	कव	कव	ñktyā	क	क	jga	ज	ज	jjha	झ	झ	ndrya	न	न	tva	क	क
kvya	कव	कव	ñktaru	क	क	jjha	झ	झ	thya	थ	थ	ndha	न	न	tsa	क	क
kṣa	कष	कष	ñkya	क	क	thya	थ	थ	thra	थ	थ	ndhā	न	न	tsna	क	क
kṣma	कष	कष	ñkya	क	क	thra	थ	थ	dga	ड	ड	nda	न	न	tsnya	क	क
kṣya	कष	कष	ñkya	क	क	dga	ड	ड	dgya	ड	ड	nnā	न	न	tsya	क	क
kṣva	कष	कष	ñkya	क	क	dgya	ड	ड	nnā	न	न	nnā	न	न			

Figure 11: Sharada conjuncts from kka to tsya (from Grierson 1916: 694–695).

Roman.	Nāgarī.	Śāradā.	Roman.	Nāgarī.	Śāradā.	Roman.	Nāgarī.	Śāradā.	Roman.	Nāgarī.	Śāradā.	Roman.	Nāgarī.	Śāradā.	Roman.	Nāgarī.	Śāradā.
thna	थ	𑖞	nka	क	𑖕	pva	व	𑖩	mra	म	𑖠	rbha	भ	𑖩	śra	श	𑖞
thya	थ	𑖞	nta	त	𑖞	psa	स	𑖩	m̄la	ल	𑖞	rma	म	𑖩	śrya	श्र	𑖞
dga	ग	𑖞	ntyā	त्य	𑖞	psva	स्व	𑖩	m̄va	व	𑖩	rya	य	𑖞	śla	श्ल	𑖞
dgha	घ	𑖞	ntra	त्र	𑖞	bḡha	भ	𑖩	yya	य	𑖞	rla	ल	𑖞	śva	श्व	𑖞
dghra	घ्र	𑖞	ntha	थ	𑖞	bja	ज	𑖞	yva	य	𑖞	rva	व	𑖞	śvya	श्व्य	𑖞
dda	द	𑖞	nda	न	𑖞	bda	द	𑖞	rr̄	र	𑖞	r̄sa	स	𑖞	śśa	शश	𑖞
ddyā	दय	𑖞	ndra	द्र	𑖞	bdha	ध	𑖞	r̄ka	क	𑖞	r̄sa	स	𑖞	śta	शत	𑖞
ddhā	दध	𑖞	ndha	ध	𑖞	bna	न	𑖞	r̄ka	क	𑖞	r̄ha	ह	𑖞	śtya	शत	𑖞
ddhya	दध	𑖞	ndhra	ध्र	𑖞	bna	न	𑖞	r̄kha	ख	𑖞	r̄ha	ह	𑖞	śtra	शत्र	𑖞
dna	न	𑖞	nna	न	𑖞	bb̄ha	भ	𑖞	rga	ग	𑖞	lka	क	𑖞	śtrya	शत्र	𑖞
dba	ब	𑖞	npa	प	𑖞	bbhya	भ्य	𑖞	rḡha	घ	𑖞	lpa	प	𑖞	śtva	शत्र	𑖞
db̄ha	भ	𑖞	np̄ra	प्र	𑖞	bya	य	𑖞	rea	र	𑖞	lpha	फ	𑖞	śtvā	शत्र	𑖞
dbhya	भ्य	𑖞	npha	फ	𑖞	bra	ब	𑖞	r̄cha	च	𑖞	lma	म	𑖞	śth	थ	𑖞
dma	म	𑖞	nma	म	𑖞	bva	व	𑖞	r̄ja	ज	𑖞	lya	ल	𑖞	śthā	था	𑖞
dya	य	𑖞	nya	य	𑖞	b̄hna	भ	𑖞	r̄ja	ज	𑖞	lra	र	𑖞	śna	शन	𑖞
dra	र	𑖞	nra	र	𑖞	b̄hya	भ्य	𑖞	r̄ta	त	𑖞	lla	ल	𑖞	śnya	शन्य	𑖞
drya	र्य	𑖞	n̄sa	स	𑖞	b̄hra	भ्र	𑖞	r̄ta	त	𑖞	lva	व	𑖞	śpa	शप	𑖞
dva	व	𑖞	nsa	स	𑖞	b̄hva	भ्र	𑖞	rd̄ha	ध	𑖞	vna	व	𑖞	śpra	शप्र	𑖞
dvya	व्य	𑖞	pta	प	𑖞	mna	म	𑖞	r̄na	न	𑖞	vya	य	𑖞	śpha	शप्र	𑖞
dhna	ध	𑖞	ptya	प्य	𑖞	mp̄na	म	𑖞	r̄ta	त	𑖞	vra	व	𑖞	śma	शम	𑖞
dh̄nya	ध्न	𑖞	pna	प	𑖞	mp̄ra	म	𑖞	r̄tha	थ	𑖞	vva	व	𑖞	śya	श्य	𑖞
dh̄ma	धम	𑖞	ppa	प	𑖞	m̄pra	म	𑖞	r̄da	द	𑖞	śca	च	𑖞	śva	श्च	𑖞
dh̄ya	धय	𑖞	p̄ma	म	𑖞	m̄ba	भ	𑖞	r̄d̄ha	ध	𑖞	śca	च	𑖞	śka	श्च	𑖞
dh̄ra	ध्र	𑖞	p̄ya	य	𑖞	m̄bha	भ्य	𑖞	r̄pa	प	𑖞	śca	च	𑖞	śkha	श्च	𑖞
dh̄rya	ध्र्य	𑖞	pra	प	𑖞	m̄ma	म	𑖞	r̄pha	फ	𑖞	śna	न	𑖞	śta	श्च	𑖞
dh̄va	ध्र	𑖞	pla	प	𑖞	m̄ya	य	𑖞	r̄ba	ब	𑖞	śya	य	𑖞	śtya	श्च	𑖞

Figure 12: Sharada conjuncts from thna to stya (from Grierson 1916: 696–697).

Rom.	Nāg.	Śār.	Rom.	Nāg.	Śār.	Rom.	Nāg.	Śār.
stra	श्र	𑖞	sma	स	𑖞	h̄ya	ह्य	𑖞
st̄va	श्व	𑖞	smya	श्र	𑖞	h̄na	ह्न	𑖞
st̄ha	श्व	𑖞	sya	श्र	𑖞	h̄ma	हम	𑖞
sna	शन	𑖞	sra	श्र	𑖞	h̄ya	ह्य	𑖞
s̄nya	शन्य	𑖞	sva	श्र	𑖞	h̄ra	ह्र	𑖞
spa	शप	𑖞	ssa	श्र	𑖞	h̄la	ह्ल	𑖞
s̄pha	शप्र	𑖞	sha	श्र	𑖞	h̄va	ह्र	𑖞

Figure 13: Sharada conjuncts from stra to h̄va (from Grierson 1916: 698).

VOKALISIERUNG

क k̄ā णā ङ > ञ n̄ā जा j̄ā ञ > ञ j̄ā ता t̄ā ञ > ञ t̄ā
 णā ञ > ञ णā कि ki की ki
 म cu का क > कु ku गा ग > गु gu
 जहा ञ > झ jhu णā ण > ण n̄u जहु झ > झ jhū णū णु > णū
 दु उ > डु dū तु उ > डु tū भु उ > डु bhū सु उ > डु sū
 रु उ > डु rū वा व > वृ vr̄ ता उ > डु t̄r̄
 ना ण > ण णr̄ का क bildet: कृ kr̄ त्र उ > डु t̄r̄ ता उ > डु t̄j̄
 का क > कृ k̄l̄ का क > के के ke का क > कै कै kai
 का क > को को ko का क > कौ कौ kau

LIGATUREN

ङ (ṅa) + क (ka) > ङका ṅka जा (ja) + जा (ja) > जजा jja जा (ja) + वा (va) > जवा jva etc.
 जा (ja) + घ (ya) > जघ jya उ (ta) + घ (ya) > तु tyā दा (da) + घ (ya) > दघ dya etc.
 ग (ga) + रा (ra) > गर ga उ (ta) + रा (ra) > त्र tra भ (bha) + रा (ra) > भ्र bhra etc.
 रा (ra) + क (ka) > रका rka रा (ra) + ग (ga) > रगा rga रा (ra) + जा (ja) > रजा rja
 रा (ra) + वा (va) > रवा rva रा (ra) + क्ष (ksa) > रक्षा rksa र (ra) + घ (ya) > रघ rya
 रा (ra) + ण (ṅa) > रण raṅa रा (ra) + थ (tha) > रथ rtha रा (ra) + घ (ya) > रघ rya
 रा (ra) + ध (ṣa) > रध rṣa रा (ra) + ह (ha) > राह rha
 कृ kka कृ kta कृ ktva कृ kp̄ra
 क (ka) + ध (ṣa) > कध kṣa जा (ja) + ण (ṅa) > जण jṅa उ (ta) + थ (tha) > तुथ t̄tha

Figure 14: Inventory of Sharada letters (from Slaje and Hanneder 2005: 4).

ढ (da) + ढ (dha) > ढ ddha ढ (na) + ढ (tha) > ढ ntha ढ (na) + ढ (dha) > ढ ndha
 ध (sa) + ढ (ta) > ध षta ध (sa) + ढ (tha) > ध षtha ध (sa) + ढ (na) > ध षna
 म (sa) + ढ (tha) > म षtha ढ (ha) + ढ (ya) > ढ hya (nda) ञ > ञ ndu
 (tsa) ञ > ञ tsu (nta) ञ > ञ ntu (rta) ञ > ञ ntr
 (rya) ढ > ढ ryū (sta) म > म stu (sma) म > म smṛ
 (rtra) ञ > ञ rtrā (nka) ञ > ञ nkā (ñña) ञ > ञ ñnā (jīa) ञ > ञ jīā
 (jīa) ञ > ञ jīā (jya) ञ > ञ jyā (tkā) ञ > ञ tkā (nśa) ञ > ञ nśā
 (kra) ञ > ञ kru (dra) ञ > ञ dru (bhra) ञ > ञ bhru
 (śra) ञ > ञ śru etc. (dru) ञ > ञ drū (śru) ञ > ञ śrū etc.

SEMI-HOMOGRAPHE

a/ya : ञ ञ ju/jva : ञ ञ u/ta उ उ
 ku/kta : ञ ञ nka/tka : ञ ञ ḍa/ta/ru : उ उ उ
 ca/da/śa : म ञ म cya/dya/mya/śya/sya : ञ ञ ञ ञ ञ
 tu / tta / nta / rta : उ उ उ उ t-(ya) / tt-(ya) / n-(ya) : उ उ उ
 tya / dya / bhya : उ ञ ञ tya / ṛ : उ उ tva / dva : उ ञ
 tha / śa : ञ ध dya / dhya / pya / yya / śya : ञ ञ ञ ञ ञ
 dhva / śva : ञ ञ pha / ha : ञ ञ ba/rdhva : ञ ञ ञ ञ
 bdha/bva : उ उ bya/bva : उ उ bra/vra : उ उ
 ma/sa : म म ya/śa : ञ ध
 rū/rtha : उ उ ḥṛ/hya : ञ ञ

ZAHLEN

0 • 1 ० 2 ३ ३ 4 ५ 5 ५ 6 ७ 7 ८ 8 ३ 9 ७ 10 ००

Figure 15: Inventory of Sharada letters (from Slaje and Hanneder 2005: 5).

	a	ā	i	u	e	ka	kha	ga	gha	na	cha	chha	ja	jha	ṅa	ṭa	ṭha	ḍa	ḍha	ṣa	ṣa	ta	tha	da	dha	na	ṇa	ṇha	ba	bha	ma	ya	ra	la	va	ḷa	ḷha	sa	ha	
BRĀHMĪ	𑀅	𑀆	𑀇	𑀈	𑀉	𑀊	𑀋	𑀌	𑀍	𑀎	𑀏	𑀐	𑀑	𑀒	𑀓	𑀔	𑀕	𑀖	𑀗	𑀘	𑀙	𑀚	𑀛	𑀜	𑀝	𑀞	𑀟	𑀠	𑀡	𑀢	𑀣	𑀤	𑀥	𑀦	𑀧	𑀨	𑀩	𑀪	𑀫	𑀬
BOWER MS	𑀅	𑀆	𑀇	𑀈	𑀉	𑀊	𑀋	𑀌	𑀍	𑀎	𑀏	𑀐	𑀑	𑀒	𑀓	𑀔	𑀕	𑀖	𑀗	𑀘	𑀙	𑀚	𑀛	𑀜	𑀝	𑀞	𑀟	𑀠	𑀡	𑀢	𑀣	𑀤	𑀥	𑀦	𑀧	𑀨	𑀩	𑀪	𑀫	𑀬
ACUTE-ANGLED	𑀅	𑀆	𑀇	𑀈	𑀉	𑀊	𑀋	𑀌	𑀍	𑀎	𑀏	𑀐	𑀑	𑀒	𑀓	𑀔	𑀕	𑀖	𑀗	𑀘	𑀙	𑀚	𑀛	𑀜	𑀝	𑀞	𑀟	𑀠	𑀡	𑀢	𑀣	𑀤	𑀥	𑀦	𑀧	𑀨	𑀩	𑀪	𑀫	𑀬
SARĀHAN	𑀅	𑀆	𑀇	𑀈	𑀉	𑀊	𑀋	𑀌	𑀍	𑀎	𑀏	𑀐	𑀑	𑀒	𑀓	𑀔	𑀕	𑀖	𑀗	𑀘	𑀙	𑀚	𑀛	𑀜	𑀝	𑀞	𑀟	𑀠	𑀡	𑀢	𑀣	𑀤	𑀥	𑀦	𑀧	𑀨	𑀩	𑀪	𑀫	𑀬
BAKSHĀLĪ MS	𑀅	𑀆	𑀇	𑀈	𑀉	𑀊	𑀋	𑀌	𑀍	𑀎	𑀏	𑀐	𑀑	𑀒	𑀓	𑀔	𑀕	𑀖	𑀗	𑀘	𑀙	𑀚	𑀛	𑀜	𑀝	𑀞	𑀟	𑀠	𑀡	𑀢	𑀣	𑀤	𑀥	𑀦	𑀧	𑀨	𑀩	𑀪	𑀫	𑀬
BALJNĀTH	𑀅	𑀆	𑀇	𑀈	𑀉	𑀊	𑀋	𑀌	𑀍	𑀎	𑀏	𑀐	𑀑	𑀒	𑀓	𑀔	𑀕	𑀖	𑀗	𑀘	𑀙	𑀚	𑀛	𑀜	𑀝	𑀞	𑀟	𑀠	𑀡	𑀢	𑀣	𑀤	𑀥	𑀦	𑀧	𑀨	𑀩	𑀪	𑀫	𑀬
ŚĀRADĀ (Modern)	𑀅	𑀆	𑀇	𑀈	𑀉	𑀊	𑀋	𑀌	𑀍	𑀎	𑀏	𑀐	𑀑	𑀒	𑀓	𑀔	𑀕	𑀖	𑀗	𑀘	𑀙	𑀚	𑀛	𑀜	𑀝	𑀞	𑀟	𑀠	𑀡	𑀢	𑀣	𑀤	𑀥	𑀦	𑀧	𑀨	𑀩	𑀪	𑀫	𑀬
NĀGARĪ	𑀅	𑀆	𑀇	𑀈	𑀉	𑀊	𑀋	𑀌	𑀍	𑀎	𑀏	𑀐	𑀑	𑀒	𑀓	𑀔	𑀕	𑀖	𑀗	𑀘	𑀙	𑀚	𑀛	𑀜	𑀝	𑀞	𑀟	𑀠	𑀡	𑀢	𑀣	𑀤	𑀥	𑀦	𑀧	𑀨	𑀩	𑀪	𑀫	𑀬

Figure 16: Comparison of Sharada forms found in major records (from Kaye 1927: Table 1)

	HUND INSCRIPTION	COINS OF UTPALS	SARAHAN PRASASTI	DEWAI INSCRIPTION	BARIKOT INSCRIPTION	S.P.S. MUSEUM IMAGE INSC.	SRINAGAR INSC.	BRAHMOR COPPER PLATE	SUNGAL COPPER PLATE
k	क	क	क	क क	क	क	क	क	क
kh			ख				ख	ख	ख
g	ग		ग			ग	ग	ग	गग
gh									घ
n		क	क			क	क	क	क
c	म		म			म	म	म	म
ch								च	च
t	त		त	त		त	त	त	त
th			थ						
d									
dh	द								
n	न		न						
t			त	त	त	त		त	त
th			थ						
d									
dh	द								
n	न		न						
t	त		त		त	त	त	त	त

क			व			व	व	व	व
क	क		क	क		क	क	क	क
kh			ख				ख	ख	ख
n	न		न			न	न	न	न
p	प	पु	प	प	प	प	प	प	पप
ph			फ					फ	फ
ch	क	क	क	क	क	क	क	क	क
m	म		म	म	म	म	म	म	म
y	य		य		य	य	य	य	य
r	र		र	र			र	र	र
l	ल	ल	ल	ल	ल		ल	ल	ल
v	व	व	व	व			व	व	व
b	भ	भ	भ	भ	भ		भ	भ	भ
s	ष		ष		ष		ष	ष	ष
s	श		श				श	श	श
h	ह		ह	ह			ह	ह	ह
khiri-mudra			क					क	क
epigraph			क					क	क
manuscript			क					क	क
modern	क		क					क	क

Figure 17: Comparison of Sharada forms found in inscriptions from 8th–10th century (from Deambi 1982: Table 2b). Compare with forms found in inscriptions from 14th–16th century, as shown in Figure 18.

	KOTIHER INSCRIPTION	KHONAMIJH INSC. KALI	PESHAWAR MUSEUM INSCRIPTION	HARI PARBAT GRAVE STONE INSC.	USHKUR RELIEF INSC.	S.P.S. MUSEUM STORAGE VESSEL INSC.	WULAR - HAMA INSCRIPTION	ZAJI - NAI INSCRIPTION
क	क	क	क	क	कक		क	क
ख	ख	ख	ख	ख	खख		ख	
ग	ग	ग	ग	ग	ग		ग	ग
ङ	ङ		ङ		ङ	ङ		ङ
च	च	च	च		च		च	
छ		छ	छ					
ज	ज	ज	ज	ज			ज	
झ		झ	झ					
ट	ट	ट				ट		ट
ठ	ठ	ठ						
ड	ड	ड	ड					
ढ		ढ						
न	न	न	न					
त	त	त	त	त	त		त	त

थ	थ	थ						थ	थ
द	द	द	द	द	द			द	द
ध	ध	ध						ध	ध
न	न	न	न	न				न	न
प	प	प	प	प	प			प	प
फ							फ		फ
ब		ब			ब				
भ	भ	भ	भ					भ	
म	म	म	म	म	म	म	म	म	म
य	य	य	य		य			य	य
र	र	र	र	र	र			र	र
ल	ल	ल	ल	ल	ल			ल	ल
व	व	व	व	व	व	व	व	व	व
श	श	श	श	श	श			श	श
ष		ष	ष		ष				
स	स	स	स	स	स	स	स	स	स
ह	ह	ह	ह	ह			ह		
ख	ख	ख							
Var.		व	व		व				

Figure 18: Comparison of Sharada forms found in inscriptions from 14th–16th century (from Deambi 1982: Table 4b). Compare with forms found in manuscripts from 12th–16th century, as shown in Figure 19.

KASHMIRI.

SPEIMEN I.

(ŚĀRADĀ CHARACTER.)

(Mahāmahāpādhyāya Paṇḍit Mukund Rām Śāstri, 1896.)

मकिभा मदनविभा सुंभि सगला वृषिदि । उमवा
मज्ञ मंपु ऊंभि दिदि मंलिभा, कि दे मलि भृ मिना
मत्रकु दिभु यभा भृ वाडि । उव पउ उंभि उिदन्नि
पणंउर मन रंगारिवना । केंभि सुदवा पउ मला
ऊंभु वैद्यु भेरुया रदिषा सुकिभा सुग मीसभा माय-
दावा । उडि उंभि नकार वृमनभा पषा लगिषा पत्रु
भेरुया मन पञ्चाना । यलि उंभि भेरुया मन पंभु
उषा मीसभा वृषु कदना सुगा मला-डि हृमना सुना
मपसुना । उव पउ मला गकिषा उमि मीसकिभा
ठभवनिभा निम तुम्, उंभि पननि गभऊना णवना
भेग रकनि भेरुना । उडि उंभि भेरना-दन्नि

सुगपा मल-ह्रमवा भुंडा घना वगला उकना
केंभि-डि केंला उमिभा मिम्वान । उमि पउ
मीनिवा वानना कि भृनिभा मंलिभा किना
ऊंडि नेकग सुपृवा भुंडिना इषा मपसुना ।
वुला कभा वृकि भुंडिना मगना । वुला वुला
वृषिषा पननिभा मंलिभा निम गक, उमिभा
वन, कि दे मलिना भृ कंरु परलेऊरु उ
मुंरु विरुदू पाला, वुला उषा वननभा येणु कभा
न, कि मुंरु वृमि वृ कभा वुला मंला भृ पनवना
नेकगना मज्ञ सुपाला गज्ञागवाड । उला वनि-
वा मला वृकवा उ पननिभा मंलिभा निमगषावा ।
मंलि याना मला सुरिया यिवाना वृकना लेल
भुंडा सुरिषा नलमडि रदिषा उमिभा मीं डिम
ना । उव पउ वंरु वृषिदि उभा, कि दे मलिना

Figure 20: Specimens of Kashmiri in hand-written modern Sharada from 1896 (from Grierson 1919: 317–318). The text contains idiosyncratic diacritics for the purposes of representing the vowel sounds of Kashmiri, which cannot be fully expressed natively in Sharada.

KAREN: Sgau dialect

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Burmese characters

ကညီဖိခါအံ၊ ကဘတ်တံယုတ်ထီဂ်အိအိနနအသီး၊- နသီးကယံပုလောအစုကုနကုအီတဂလောလ်နန၊ ကနဘတ်တံပုလီထူလီယံလါအီလီ.- အဂုဒ်အံ၊ ယွါအံဟိဂ်ခိဂ်ဖိ တုအဟုဂ်လီကွံအဖိခါအိဂ်တဂလံ၊ နသီးကယံပုလောအစုကုနကုအီတဂလောလ်နန၊ အသုတဟးဂီတဂုဒီး၊ ကနဘတ်တံပုအထုအယိလီ.- အဂုဒ်အံ၊ တမုဘတ် ယွါမာလီ၊ အဖိခါထူဟိဂ်ခိဂ်အံ၊ နသီးအကစိဂ်ညီဟိဂ်ခိဂ်ဖိတဂ်. မုဒ်သီးဟိဂ်ခိဂ်ဖိကဘတ် တံအဂုကုအိဂ်ကုလါအီလီ.- ပုလောအစုကုနကုအီနန၊ တဘတ်ဘတ်တံစံညီတဂ်. မုမုပုလောအတစုကုနဘတ်အီနန၊ ဘတ်တံစံညီခဲကနနံအံလီ. အဂုဒ်အံ၊ တနဘတ်ယွါအဖိခါတဂလံအမံဘတ်လီ.- ဒီးတံစံညီမုဒ်အံ၊ တံကပီလံလီလါဟိဂ်ခိဂ်, ဒီးပုကညီအံတံခဲအါနုတံကပီတကုလီ. အဂုဒ်အံ၊ အတံမမုဒ်အံအံလီ.- အဂုဒ်အံ၊ ကယံပုလောအမတံအတံသီတဂလောလ်နန, သးဟုတံကပီ, ဒီးနသီးအတံမ သုတဘတ်တံသိဂ်စိဂ်တဂုဒီး, တဟံဘတ်ထု တံကပီအအိဂ်ဘတ်.- မုမုပုလောအမတံမုဒ်တံစိနန. နသီးအတံမကအိဂ်ဖျါလါအမဝဲလါယွါအပူဒီး, ဟဲဝဲထုတံကပီအအိဂ်လီ.

တံနနတဖဂ်အလီခဲဒီး, ယုဂ်လူးလဲဒီးအပျါအဘိဂ် ဆုယုဒါအကီပု, ဒီးအိဂ်ဝဲဒီးအီဖဲနန, ဒီး*ဘျာတံလီ.- ဒီးစီယါဟဂ်*ဘျာတံလါ အဲနနဘူးဒီးရှါလုဂ်လီ. အဂုဒ်အံ, ထံအီဖဲနန

Jn. 3:15-23; 1937

Spoken in the Province of Pegu and Tenasserim, Burma. Reduced to written form by Jonathan Wade, of the American Baptist Missionary Union, about 1830, using the Burmese characters with new values and some diacritical marks. First publication, the New Testament in 1843 at Tavoy by the American and Foreign Bible Society; tr. by Francis Mason, Mr. Wade and San Quala, a native Christian. Bible, 1853. Other versions of note: Revised version: St. Luke's Gospel and 1 Peter, ABMU, Rangoon, 1874; revised by E. B. Cross; New Testament, 1880; Bible, 1896. Conti version: St. Matthew's Gospel, Roman Catholic Mission, Toungoo, 1888; tr. by G. Conti. CP: BFBS.

KARRÉ

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Ouone chi hang joukouli ta, mi ko ke hi poumboui. Goune a me, joukou ko tousaou a me, ke ma lime-naya, yé ke yana kambelè.

Spoken in the mountains of French Equatorial Africa. First publication, St. John's Gospel in 1931 by the BFBS; tr. by Miss Estelle Myers, of the Ubangi-Chari Mission, with two natives; the Acts, 1934; St. Luke's Gospel, 1935; St. Mark's Gospel, 1936; St. Matthew's Gospel, 1937. Selections, by the Mission Oubangui-Chari Evangélique at Bassai, 1934.

KASHMIRI

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Sarada characters

ठिय घिषपां उट्टवा भेमदि वनभंण अठिगर
उिषयपां पाषे मचधमठिभा गवुरभच उलिष नि
चउे उाणुत्त । कि उभृउं घुभुघ दकंका मचध पा
षे पका कगना उभा भभने न एणय नःम पणु अउ
गभुग सुय लठे । कवणे गंउि पाषे ठवभरभृउं
उिषय र्दे ककभउ कि उमि ठिउउ पनच उभृउउभ
उ उउ गवुर कि उभृउं घुभु दकंका मचध वरे पका
उभा भभने न एण उे नःम पणु अउ गभुग सुय लठे ।
कवणे ठवभरभा दगगलगा कगन उमाउ भेषुउ न
गंउि पनच गवुर पणु ठवभर घुष लठे उभठिअषि
डाण ।

Jn. 3:14-17; 1821

Persian characters

بنيامين كرم حياست تيموت مجتوبه تمه بخش
پس كرمه فرزند نيه بس كرمه كس بطه اعتقاد انه
نه هلك بلكه جات ابري نه نه نيكيازه هداين سنده
فرزند جانش انه پله خاطر نه جانش پله ديه نترهك
كلم بلكه پله خاطر نه پله جمان تمويه سبت سخات
شيس كس بطه اعتقاد پله انان كس پله نترهك
لكين نه اعتقاد چنه انان نسته خاطر غيبن نترهك
كلم نيكيازه كرم ان ك فدايه سندس سندس فرنده
ناوس پله اعتقاد نه سترهك كرم سبت چنه نه
دور چنه جانش اندر آست نه انان كرم نيكيازه
ننه زياده مجتوبه نيكيازه ننه كرمه انه ناكه نه
بس كرمه بنوي چنه كران نه چنه دورس نيست

Jn. 3:16-20; 1929

Spoken by more than 1,000,000 people in Kashmir, Northern India. First publication, New Testament in 1821 at the Mission Press, Serampore; tr. by the Serampore missionaries (see No. 87). Pentateuch, 1827; Joshua-2 Kings, 1832. Old Testament, BFBS, Lahore, 1899; tr. by J. H. Knowles, CMS. Other versions: Wade version (Persian character): the Gospels, BFBS, Lahore, 1882; tr. by T. R. Wade, CMS; Acts, 1883; New Testament, 1884. Revised by J. H. Knowles: Gospels, 1899; St. Luke's Gospel, 1912; tr. by E. F. Clive. St. Matthew's and St. Mark's Gospels, 1913; St. John's Gospel, 1914. CP: BFBS.

Figure 21: Entry for the Kashmiri languages in The Book of a Thousand Tongues showing a specimen of a bible printed in Sharada type (from American Bible Society 1938: 190).

PLATE XXV.

A.—CHAMBA PLATE OF BALABHADRA; V. S. 1692.

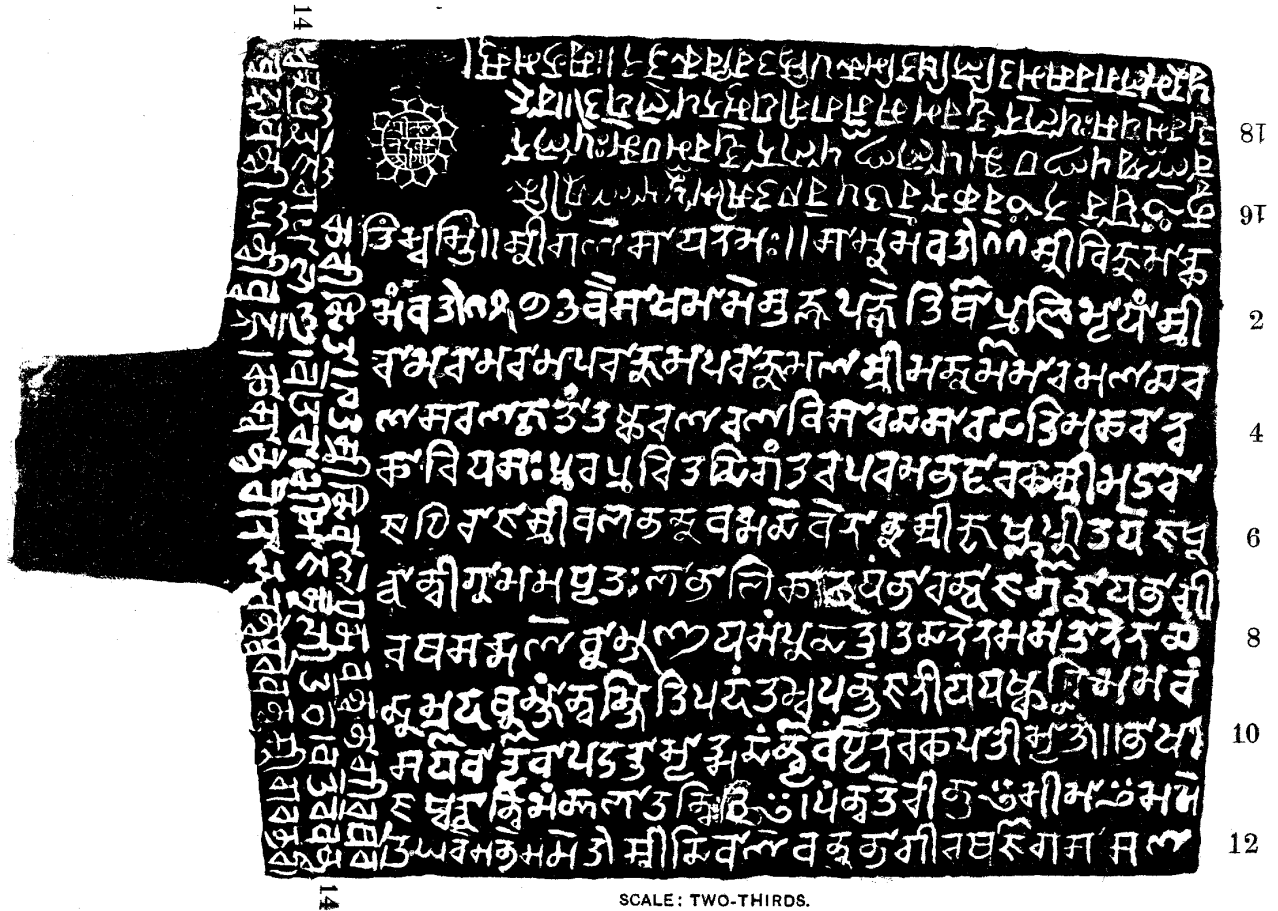


Figure 22: Plate XXV: Chamba Plate of Balabhadra; vikram samvat 1692 (1635 CE). Copper plate 7 3/8" x 8 3/4", excluding left handle. 19 lines. Language partly Sanskrit and Chambyali. Land granted by Balabhadravarma to the brahmin Bhāgirathasarma. (from Chhabra: 127–129).

शारदा (कश्मीरी) लिपि की उत्पत्ति.

प्र = 𑀧 𑀨 𑀩 𑀪 𑀫	ण = 𑀯 𑀰 𑀱 𑀲 𑀳	प = 𑀵 𑀶 𑀷 𑀸
उ = 𑀺 𑀻 𑀼 𑀽 𑀾	श = 𑀿 𑁀 𑁁 𑁂 𑁃	ढ = 𑁄 𑁅 𑁆
ई = 𑁉 𑁊 𑁋 𑁌	ह = 𑁍 𑁎 𑁏 𑁐 𑁑	र = 𑁒 𑁓 𑁔 𑁕 𑁖
उ = 𑁗 𑁘 𑁙 𑁚 𑁛	ए = 𑁜 𑁝 𑁞 𑁟	रु = 𑁠 𑁡 𑁢 𑁣
ई = 𑁤 𑁥 𑁦 𑁧	० = ०	म = 𑁨 𑁩 𑁪 𑁫 𑁬
रु = 𑁭 𑁮 𑁯 𑁰 𑁱	रु = 𑁲 𑁳 𑁴 𑁵 𑁶	य = 𑁷 𑁸 𑁹 𑁺
क = 𑁻 𑁼 𑁽 𑁾 𑁿	फ = 𑂀 𑂁 𑂂 𑂃	र = 𑂄 𑂅 𑂆
प = 𑂇 𑂈 𑂉 𑂊 𑂋	ल = 𑂌 𑂍 𑂎 𑂏 𑂐	ल = 𑂑 𑂒 𑂓 𑂔 𑂕
ग = 𑂖 𑂗 𑂘 𑂙 𑂚	उ = 𑂛 𑂜 𑂝 𑂞 𑂟	व = 𑂠 𑂡 𑂢 𑂣 𑂤
ख = 𑂥 𑂦 𑂧	ष = 𑂨 𑂩 𑂪 𑂫 𑂬	म = 𑂭 𑂮 𑂯 𑂰
ट = 𑂱 𑂲	रु = 𑂳 𑂴 𑂵 𑂶 𑂷	ष = 𑂸 𑂹 𑂺 𑂻
म = 𑂼 𑂽 𑂾 𑂿 𑃀	उ = 𑃁 𑃂 𑃃 𑃄	म = 𑃅 𑃆 𑃇 𑃈
क = 𑃉 𑃊 𑃋	न = 𑃌 𑃍 𑃎 𑃏 𑃐	ढ = 𑃑 𑃒 𑃓

Figure 23: Stages of development of Sharada characters from Brahmi (from Ojhā 1971: Plate LXXXII).

लं रुं मं यं सं वं लं उं यं मं ठं रं ढं पं
 नं षं षं उं लं षं षं उं लं षं षं उं लं षं षं उं
 मं एं अं गं षं कं सुः सुं षं षं षं षं
 षं षं षं षं उं उं उं उं उं उं उं उं उं उं
 उं उं यं यं मं ॥ ॥ ॥ ॥
 सुं सुं उं उं उं उं उं उं उं उं उं उं उं उं
 सुं सुः कं षं गं अं एं मं कं लं षं षं उं
 उं षं षं लं उं षं मं षं नं यं षं रं षं मं यं
 गं लं वं मं यं मं षं लं ॥ ॥ ॥

Figure 24: An inventory of Sharada characters typically found in manuscripts (from Lokesh Chandra 1982a: 761).

CHIFFRES.	VALEURS.	NOMS DE NOMBRES.	CHIFFRES.	VALEURS.	NOMS DE NOMBRES.
०	1	akh.	३०	30	vouh.
३	2	dzouh (pour douh).	३०	31	akavouh.
३	3	tré.	३३	32	dzitavouh.
न	4	tsór, tchór.	३३	33	trouvouh.
५	5	páñts, páñtch.	३न	34	tsououh, tchououh.
०	6	chek.	३५	35	páñtsouh, páñtchouh.
१	7	sat.	३०	36	chouvoouh.
३	8	aét.	३१	37	satávouh.
७	9	nouñ.	३३	38	dítouh.
००	10	dah.	३७	39	kounatrouh.
००	11	kéh.	३०	30	trouh.
०३	12	bouah.	३०	31	akatrouh.
०३	13	tourva.	३३	32	doitrouh.
०न	14	tsóda, tchóda.	३३	33	tétrouh.
०५	15	páñda.	३न	34	tsouitrouh.
००	16	choura.	३५	35	páñtsatrouh.
०१	17	sada.	३०	36	chéitrouh.
०३	18	arada.	३१	37	sataitrouh.
०७	19	kounavouh.	३३	38	aratrouh.
३७	39	kounatádji.	००	61	akahdt.
न०	40	tsatádji.	०३	62	douhdt.
न०	41	akaitádji.	०३	63	tréihdt.
न३	42	douitádji.	०न	64	tsouhdt.
न३	43	téitádji.	०५	65	páñtsahdt.
नन	44	tsouitádji.	००	66	chihdt.
न५	45	páñtsitádji.	०१	67	satahdt.
न०	46	chéitádji.	०३	68	arahdt.
न१	47	sataitádji.	०७	69	kounasatat.
न३	48	aratádji.	१०	70	satat.
न७	49	kounavandzah.	१०	71	akasatat.
५०	50	páñtsah, páñtchah.	१३	72	dousatat.
५०	51	akavandzah.	१३	73	trésatat.
५३	52	douvandzah.	१न	74	tsosatat.
५३	53	trouvandzah.	१५	75	páñtsasatat.
५न	54	tsouvandzah.	१०	76	chehsatat.
५५	55	páñtsouvandzah.	११	77	satasatat.
५०	56	chavandzah.	१३	78	arasatat.
५१	57	satavandzah.	१७	79	kounachít.
५३	58	aravandzah.	३०	80	chít.
५७	59	kounahdt.	३०	81	akachít.
००	60	chdhdt.	३३	82	doichít.
३३	83	tréichít.	७३	93	trénamat.
३न	84	tsouichít.	७न	94	tsouamat.
३५	85	páñtsachít.	७५	95	páñtsanamat.
३०	86	chéichít.	७०	96	chehnamat.
३१	87	satachít.	७१	97	satanamat.
३३	88	arachít.	७३	98	aranamat.
३७	89	kounanamat.	७७	99	naménamat.
७०	90	namat.	०००	100	kat.
७०	91	akanamat.	०००	1,000	sds.
७३	92	dounamat.			

Figure 25: The numbers 1 to 100 printed with digits from a Sharada metal font (from Pihan 1860: 86–88).

NUMERALS

Roman.	Nāgarī.	Śāradā.	Kāshmirī (Nāgarī).	Kāshmirī (Śāradā).	Trans- literation.
1	१	०	अख्	श्याण	<i>akh</i>
2	२	७	झह्	झाण	<i>zah</i>
3	३	३	त्र	त्रे	<i>trē</i>
4	४	५	चौर	चौर	<i>tsōr</i>
5	५	५	पाँक्	पाँक्	<i>pōtsh</i>
6	६	६	षह्	षाण	<i>shēh</i>
7	७	७	सथ्	साण	<i>sath</i>
8	८	८	ऐट्	ऐण	<i>aīth</i>
9	९	९	नव्	नाण	<i>nav</i>
10	१०	००	दह्	दाण	<i>dah</i>
11	११	००	काह्	काण	<i>kāh</i>
20	२०	७०	बुह्	बाण	<i>wuh</i>
30	३०	३०	त्रह्	त्राण	<i>trah</i>
100	१००	०००	हथ्	हाण	<i>hath</i>
1000	१०००	००००	सास्	सासाण	<i>sās</i>

Figure 26: Sharada numerals (from Grierson 1916: 698).

शारदा	सुरुमुक्ती	कैथि	बंगला	भैथिली	उत्कल	गुजराती	देव नागरी
७ 1	१ 1	१ 1	१ 1	१ 1	१ 1	१ 1	१ 1
७ 2	२ 2	२ 2	२ 2	२ 2	२ 2	२ 2	२ 2
७ 3	३ 3	३ 3	३ 3	३ 3	३ 3	३ 3	३ 3
७ 4	४ 4	४ 4	४ 4	४ 4	४ 4	४ 4	४ 4
७ 5	५ 5	५ 5	५ 5	५ 5	५ 5	५ 5	५ 5
७ 6	६ 6	६ 6	६ 6	६ 6	६ 6	६ 6	६ 6
७ 7	७ 7	७ 7	७ 7	७ 7	७ 7	७ 7	७ 7
७ 8	८ 8	८ 8	८ 8	८ 8	८ 8	८ 8	८ 8
७ 9	९ 9	९ 9	९ 9	९ 9	९ 9	९ 9	९ 9
७० 10	१० 10	१० 10	१० 10	१० 10	१० 10	१० 10	१० 10

Figure 27: Inventory of Sharada numerals (from Śākyavaṃśa 1974: 76).

Plate LXXVII.

लिपिपत्र ७७वां.

वर्तमान शारदा (कश्मीरी), टाकरी और गुरमुखी (पंजाबी) लिपियां.

शारदा (कश्मीरी) लिपि.

अ आ इ ई उ ऊ ऋ ॠ ए ऐ ओ औ अं अः क ख ग
 प्र ऋ ॠ उ ऊ ऋ ॠ 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 म म य र ल व श ष स ह का कि की कु कू
 के कै को कौ कं कः १ २ ३ ४ ५ ६ ७ ८ ९ ०
 के कै केँ केँँ कं कः ० ३ ३ २ ५ ७ १ ५ ७ ०

टाकरी लिपि.

अ आ इ ई उ ऊ ऋ ॠ ओ औ अं क ख ग घ ङ च
 छ ज झ ञ ट ठ ड ढ ण त थ द ध न प फ ब म
 य र ल व श ष स ह का कि की कु कू के कै
 को कौ कं कः १ २ ३ ४ ५ ६ ७ ८ ९ ०
 केँ केँँ केँँँ ० ३ ३ २ ५ ७ १ ५ ७ ०

गुरमुखी (पंजाबी) लिपि.

अ आ इ ई उ ऊ ऋ 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 म म य र ल व श ष स ह ख ग ज फ का
 कि की कु कू के कै को कौ कं कः १ २ ३ ४ ५ ६ ७ ८ ९ ०
 रि री रु रू रे रै रें रेंँ रेंँँ १ २ ३ ४ ५ ६ ७ ८ ९ ०

Figure 28: Comparison of Sharada, Takri, and Gurmukhi (from Ojhā 1971: Plate LXXVII).

Gurmukhi.	Landa.	Takri.	Sharada.		Gurmukhi.	Landa.	Takri.	Sharada.	
ਮ	ᳵ	𑆞	𑆞	'āīrā'	ੳ	ᳶ	ᳶ	𑆞	da
ਫ	ᳶ	𑆟	𑆟	'īpī'	ਫ	᳷	᳷	𑆟	dha
ਭ	᳷	𑆠	𑆠	'ūrā'	ਭ	᳸	᳸	𑆠	ya
ਠ	᳸	𑆡	𑆡	ō	ੳ	᳹	᳹	𑆡	ta
ਸ	᳹	𑆢	𑆢	sa	ਬ	ᳺ	ᳺ	𑆢	tha
ਹ	ᳺ	𑆣	𑆣	ha	ੲ	᳻	᳻	𑆣	da
ਕ	᳻	𑆤	𑆤	ka	ਖ	᳼	᳼	𑆤	dha
ਖ	᳼	𑆥	𑆥	kha	ਨ	᳽	᳽	𑆥	na
ਗ	᳽	𑆦	𑆦	ga	ਪ	᳾	᳾	𑆦	pa
ਘ	᳾	𑆧	𑆧	gha	ਠ	᳿	᳿	𑆧	pha
ਙ	᳿	𑆨	𑆨	na	ਬ	ᳺ	ᳺ	𑆨	ba
ਚ	ᳺ	𑆩	𑆩	cha	ਭ	᳷	᳷	𑆩	bha
ਛ	᳷	𑆪	𑆪	chha	ਮ	᳹	᳹	𑆪	ma
ਜ	᳹	𑆫	𑆫	ja	ਯ	ᳺ	...	ਯ	ya
ਝ	ᳺ	𑆬	𑆬	jha	ਰ	᳼	᳼	𑆬	ra
ੲ	᳽	...	ੲ	᳽	ਲ	᳾	᳾	ੲ	la
ੳ	ᳶ	ᳶ	ੳ	ੳ	ੲ	᳷	᳷	ੳ	va
ੴ	᳷	᳷	ੴ	ੴ	ੳ	᳸	᳸	...	ra

Figure 29: Comparison of Gurmukhi, Landa, Takri, and Sharada letters (from Grierson 1916b: 625).

Lautwert	Śāradā 804	Kasch- mirī	Ṭākri		Laṇḍā		Multani	Gur- mukhi
			Jaun- sari	Cha- meāli	Khu- dāvādi	Sindhi- Schrift		
a	𑆑	𑆑	𑆑	𑆑	𑆑	𑆑	𑆑	𑆑
i	𑆒	𑆒	𑆒	𑆒	𑆒	𑆒	𑆒	𑆒
u	𑆓	𑆓	𑆓	𑆓	𑆓	𑆓	𑆓	𑆓
e	𑆔	𑆔	𑆔	𑆔	𑆔	𑆔	𑆔	𑆔
o	𑆕	𑆕	𑆕	𑆕	𑆕	𑆕	𑆕	𑆕
ā	𑆖	𑆖	𑆖	𑆖	𑆖	𑆖	𑆖	𑆖
ka	𑆗	𑆗	𑆗	𑆗	𑆗	𑆗	𑆗	𑆗
kha	𑆘	𑆘	𑆘	𑆘	𑆘	𑆘	𑆘	𑆘
ga	𑆙	𑆙	𑆙	𑆙	𑆙	𑆙	𑆙	𑆙
gha	𑆚	𑆚	𑆚	𑆚	𑆚	𑆚	𑆚	𑆚
ṅa	𑆛	𑆛	𑆛	𑆛	𑆛	𑆛	𑆛	𑆛
ḥa	𑆜	𑆜	𑆜	𑆜	𑆜	𑆜	𑆜	𑆜
ḡa	𑆝	𑆝	𑆝	𑆝	𑆝	𑆝	𑆝	𑆝
ḥa	𑆞	𑆞	𑆞	𑆞	𑆞	𑆞	𑆞	𑆞
ḡa	𑆟	𑆟	𑆟	𑆟	𑆟	𑆟	𑆟	𑆟
ṅa	𑆠	𑆠	𑆠	𑆠	𑆠	𑆠	𑆠	𑆠
ṭa	𑆡	𑆡	𑆡	𑆡	𑆡	𑆡	𑆡	𑆡
ṭha	𑆢	𑆢	𑆢	𑆢	𑆢	𑆢	𑆢	𑆢
ḍa	𑆣	𑆣	𑆣	𑆣	𑆣	𑆣	𑆣	𑆣
ḍha	𑆤	𑆤	𑆤	𑆤	𑆤	𑆤	𑆤	𑆤
ṇa	𑆥	𑆥	𑆥	𑆥	𑆥	𑆥	𑆥	𑆥
ṇa	𑆦	𑆦	𑆦	𑆦	𑆦	𑆦	𑆦	𑆦
ṭa	𑆧	𑆧	𑆧	𑆧	𑆧	𑆧	𑆧	𑆧
ṭha	𑆨	𑆨	𑆨	𑆨	𑆨	𑆨	𑆨	𑆨
ḍa	𑆩	𑆩	𑆩	𑆩	𑆩	𑆩	𑆩	𑆩
ḍha	𑆪	𑆪	𑆪	𑆪	𑆪	𑆪	𑆪	𑆪
ṇa	𑆫	𑆫	𑆫	𑆫	𑆫	𑆫	𑆫	𑆫
ṇa	𑆬	𑆬	𑆬	𑆬	𑆬	𑆬	𑆬	𑆬
pa	𑆭	𑆭	𑆭	𑆭	𑆭	𑆭	𑆭	𑆭
pha	𑆮	𑆮	𑆮	𑆮	𑆮	𑆮	𑆮	𑆮
ba	𑆯	𑆯	𑆯	𑆯	𑆯	𑆯	𑆯	𑆯
bha	𑆰	𑆰	𑆰	𑆰	𑆰	𑆰	𑆰	𑆰
ma	𑆱	𑆱	𑆱	𑆱	𑆱	𑆱	𑆱	𑆱
ya	𑆲	𑆲	𑆲	𑆲	𑆲	𑆲	𑆲	𑆲
ra	𑆳	𑆳	𑆳	𑆳	𑆳	𑆳	𑆳	𑆳
la	𑆴	𑆴	𑆴	𑆴	𑆴	𑆴	𑆴	𑆴
va	𑆵	𑆵	𑆵	𑆵	𑆵	𑆵	𑆵	𑆵
śa	𑆶	𑆶	𑆶	𑆶	𑆶	𑆶	𑆶	𑆶
ṣa	𑆷	𑆷	𑆷	𑆷	𑆷	𑆷	𑆷	𑆷
sa	𑆸	𑆸	𑆸	𑆸	𑆸	𑆸	𑆸	𑆸
ha	𑆹	𑆹	𑆹	𑆹	𑆹	𑆹	𑆹	𑆹

Figure 30: Comparison of Sharada and its descendents (from Jensen 1969: 366).

नागरी	ब्राह्मी	शारदा	टाकरी	लंडा	महाजनी	गुरुमुखी	नागरी	ब्राह्मी	शारदा	टाकरी	लंडा	महाजनी	गुरुमुखी	नागरी	ब्राह्मी	शारदा	टाकरी	लंडा	महाजनी	गुरुमुखी
अ	𑀅	𑀓	𑀔	𑀕	𑀖	𑀗	क	𑀅	𑀓	𑀔	𑀕	𑀖	𑀗	प	𑀅	𑀓	𑀔	𑀕	𑀖	𑀗
आ	𑀆	𑀔	𑀕	𑀖	𑀗	𑀘	ख	𑀆	𑀔	𑀕	𑀖	𑀗	𑀘	फ	𑀆	𑀔	𑀕	𑀖	𑀗	𑀘
इ	𑀇	𑀕	𑀖	𑀗	𑀘	𑀙	ग	𑀇	𑀕	𑀖	𑀗	𑀘	𑀙	ब	𑀇	𑀕	𑀖	𑀗	𑀘	𑀙
ई	𑀈	𑀕	𑀖	𑀗	𑀘	𑀙	घ	𑀈	𑀕	𑀖	𑀗	𑀘	𑀙	भ	𑀈	𑀕	𑀖	𑀗	𑀘	𑀙
उ	𑀉	𑀖	𑀗	𑀘	𑀙	𑀚	ङ	𑀉	𑀖	𑀗	𑀘	𑀙	𑀚	म	𑀉	𑀖	𑀗	𑀘	𑀙	𑀚
ऊ	𑀊	𑀖	𑀗	𑀘	𑀙	𑀛	च	𑀊	𑀖	𑀗	𑀘	𑀙	𑀛	य	𑀊	𑀖	𑀗	𑀘	𑀙	𑀛
ऋ	𑀋	𑀗	𑀘	𑀙	𑀚	𑀜	छ	𑀋	𑀗	𑀘	𑀙	𑀚	𑀜	र	𑀋	𑀗	𑀘	𑀙	𑀚	𑀜
ॠ	𑀌	𑀗	𑀘	𑀙	𑀚	𑀝	ज	𑀌	𑀗	𑀘	𑀙	𑀚	𑀝	ल	𑀌	𑀗	𑀘	𑀙	𑀚	𑀝
ऌ	𑀍	𑀘	𑀙	𑀚	𑀛	𑀞	झ	𑀍	𑀘	𑀙	𑀚	𑀛	𑀞	व	𑀍	𑀘	𑀙	𑀚	𑀛	𑀞
ॡ	𑀎	𑀘	𑀙	𑀚	𑀛	𑀟	ञ	𑀎	𑀘	𑀙	𑀚	𑀛	𑀟	श	𑀎	𑀘	𑀙	𑀚	𑀛	𑀟
ॢ	𑀏	𑀘	𑀙	𑀚	𑀛	𑀠	ट	𑀏	𑀘	𑀙	𑀚	𑀛	𑀠	ष	𑀏	𑀘	𑀙	𑀚	𑀛	𑀠
ॣ	𑀐	𑀘	𑀙	𑀚	𑀛	𑀡	ड	𑀐	𑀘	𑀙	𑀚	𑀛	𑀡	स	𑀐	𑀘	𑀙	𑀚	𑀛	𑀡
।	𑀑	𑀘	𑀙	𑀚	𑀛	𑀢	ढ	𑀑	𑀘	𑀙	𑀚	𑀛	𑀢	ह	𑀑	𑀘	𑀙	𑀚	𑀛	𑀢
॥	𑀒	𑀘	𑀙	𑀚	𑀛	𑀣	ण	𑀒	𑀘	𑀙	𑀚	𑀛	𑀣	ॠ	𑀒	𑀘	𑀙	𑀚	𑀛	𑀣
०	𑀓	𑀘	𑀙	𑀚	𑀛	𑀤	त	𑀓	𑀘	𑀙	𑀚	𑀛	𑀤	ॡ	𑀓	𑀘	𑀙	𑀚	𑀛	𑀤
१	𑀔	𑀘	𑀙	𑀚	𑀛	𑀥	थ	𑀔	𑀘	𑀙	𑀚	𑀛	𑀥	ॢ	𑀔	𑀘	𑀙	𑀚	𑀛	𑀥
२	𑀕	𑀘	𑀙	𑀚	𑀛	𑀦	द	𑀕	𑀘	𑀙	𑀚	𑀛	𑀦	ॣ	𑀕	𑀘	𑀙	𑀚	𑀛	𑀦
३	𑀖	𑀘	𑀙	𑀚	𑀛	𑀧	ध	𑀖	𑀘	𑀙	𑀚	𑀛	𑀧	।	𑀖	𑀘	𑀙	𑀚	𑀛	𑀧
४	𑀗	𑀘	𑀙	𑀚	𑀛	𑀨	न	𑀗	𑀘	𑀙	𑀚	𑀛	𑀨	॥	𑀗	𑀘	𑀙	𑀚	𑀛	𑀨
५	𑀘	𑀘	𑀙	𑀚	𑀛	𑀩	प	𑀘	𑀘	𑀙	𑀚	𑀛	𑀩	०	𑀘	𑀘	𑀙	𑀚	𑀛	𑀩
६	𑀙	𑀘	𑀙	𑀚	𑀛	𑀪	फ	𑀙	𑀘	𑀙	𑀚	𑀛	𑀪	१	𑀙	𑀘	𑀙	𑀚	𑀛	𑀪
७	𑀚	𑀘	𑀙	𑀚	𑀛	𑀫	ब	𑀚	𑀘	𑀙	𑀚	𑀛	𑀫	२	𑀚	𑀘	𑀙	𑀚	𑀛	𑀫
८	𑀛	𑀘	𑀙	𑀚	𑀛	𑀬	भ	𑀛	𑀘	𑀙	𑀚	𑀛	𑀬	३	𑀛	𑀘	𑀙	𑀚	𑀛	𑀬
९	𑀜	𑀘	𑀙	𑀚	𑀛	𑀭	म	𑀜	𑀘	𑀙	𑀚	𑀛	𑀭	४	𑀜	𑀘	𑀙	𑀚	𑀛	𑀭
१०	𑀝	𑀘	𑀙	𑀚	𑀛	𑀮	य	𑀝	𑀘	𑀙	𑀚	𑀛	𑀮	५	𑀝	𑀘	𑀙	𑀚	𑀛	𑀮
११	𑀞	𑀘	𑀙	𑀚	𑀛	𑀯	र	𑀞	𑀘	𑀙	𑀚	𑀛	𑀯	६	𑀞	𑀘	𑀙	𑀚	𑀛	𑀯
१२	𑀟	𑀘	𑀙	𑀚	𑀛	𑀰	ल	𑀟	𑀘	𑀙	𑀚	𑀛	𑀰	७	𑀟	𑀘	𑀙	𑀚	𑀛	𑀰
१३	𑀠	𑀘	𑀙	𑀚	𑀛	𑀱	व	𑀠	𑀘	𑀙	𑀚	𑀛	𑀱	८	𑀠	𑀘	𑀙	𑀚	𑀛	𑀱
१४	𑀡	𑀘	𑀙	𑀚	𑀛	𑀲	श	𑀡	𑀘	𑀙	𑀚	𑀛	𑀲	९	𑀡	𑀘	𑀙	𑀚	𑀛	𑀲
१५	𑀢	𑀘	𑀙	𑀚	𑀛	𑀳	ष	𑀢	𑀘	𑀙	𑀚	𑀛	𑀳	१०	𑀢	𑀘	𑀙	𑀚	𑀛	𑀳
१६	𑀣	𑀘	𑀙	𑀚	𑀛	𑀴	स	𑀣	𑀘	𑀙	𑀚	𑀛	𑀴	११	𑀣	𑀘	𑀙	𑀚	𑀛	𑀴
१७	𑀤	𑀘	𑀙	𑀚	𑀛	𑀵	ह	𑀤	𑀘	𑀙	𑀚	𑀛	𑀵	१२	𑀤	𑀘	𑀙	𑀚	𑀛	𑀵
१८	𑀥	𑀘	𑀙	𑀚	𑀛	𑀶	ॠ	𑀥	𑀘	𑀙	𑀚	𑀛	𑀶	१३	𑀥	𑀘	𑀙	𑀚	𑀛	𑀶
१९	𑀦	𑀘	𑀙	𑀚	𑀛	𑀷	ॡ	𑀦	𑀘	𑀙	𑀚	𑀛	𑀷	१४	𑀦	𑀘	𑀙	𑀚	𑀛	𑀷
२०	𑀧	𑀘	𑀙	𑀚	𑀛	𑀸	ॢ	𑀧	𑀘	𑀙	𑀚	𑀛	𑀸	१५	𑀧	𑀘	𑀙	𑀚	𑀛	𑀸
२१	𑀨	𑀘	𑀙	𑀚	𑀛	𑀹	ॣ	𑀨	𑀘	𑀙	𑀚	𑀛	𑀹	१६	𑀨	𑀘	𑀙	𑀚	𑀛	𑀹
२२	𑀩	𑀘	𑀙	𑀚	𑀛	𑀺	।	𑀩	𑀘	𑀙	𑀚	𑀛	𑀺	१७	𑀩	𑀘	𑀙	𑀚	𑀛	𑀺
२३	𑀪	𑀘	𑀙	𑀚	𑀛	𑀻	॥	𑀪	𑀘	𑀙	𑀚	𑀛	𑀻	१८	𑀪	𑀘	𑀙	𑀚	𑀛	𑀻
२४	𑀫	𑀘	𑀙	𑀚	𑀛	𑀼	०	𑀫	𑀘	𑀙	𑀚	𑀛	𑀼	१९	𑀫	𑀘	𑀙	𑀚	𑀛	𑀼
२५	𑀬	𑀘	𑀙	𑀚	𑀛	𑀽	१	𑀬	𑀘	𑀙	𑀚	𑀛	𑀽	२०	𑀬	𑀘	𑀙	𑀚	𑀛	𑀽
२६	𑀭	𑀘	𑀙	𑀚	𑀛	𑀾	२	𑀭	𑀘	𑀙	𑀚	𑀛	𑀾	२१	𑀭	𑀘	𑀙	𑀚	𑀛	𑀾
२७	𑀮	𑀘	𑀙	𑀚	𑀛	𑀿	३	𑀮	𑀘	𑀙	𑀚	𑀛	𑀿	२२	𑀮	𑀘	𑀙	𑀚	𑀛	𑀿
२८	𑀯	𑀘	𑀙	𑀚	𑀛	𑀿	४	𑀯	𑀘	𑀙	𑀚	𑀛	𑀿	२३	𑀯	𑀘	𑀙	𑀚	𑀛	𑀿
२९	𑀰	𑀘	𑀙	𑀚	𑀛	𑀿	५	𑀰	𑀘	𑀙	𑀚	𑀛	𑀿	२४	𑀰	𑀘	𑀙	𑀚	𑀛	𑀿
३०	𑀱	𑀘	𑀙	𑀚	𑀛	𑀿	६	𑀱	𑀘	𑀙	𑀚	𑀛	𑀿	२५	𑀱	𑀘	𑀙	𑀚	𑀛	𑀿

Figure 31: Comparison of Sharada with other Indic scripts (from Mule 1974: 160–162).