

Universal Multiple-Octet Coded Character Set
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Analysis of the Nepalese scripts is slightly complicated because different font styles have different names, and some writers equate name with script identity. Analysis of the chief features suggests that a number of these can be unified on structural grounds.

1 RAÑJANA encompasses:

Rañjana (Figure 1, 2, 3)

Wartu (Figure 4)

This is the most complex of the scripts, in particular because it is used for Tibetan, which has introduced some innovations from Tibetan script itself which do not occur in other Brahmic scripts. (An example is the use of an explicit “*head-ra*” alongside regular *ra*.) One unique feature is the long or short mark used for *-ā*; compare **𑖅** *ka*, **𑖆** *kā* and **𑖇** *ga*, **𑖈** *gā*. Named scripts which should be unified here are Rañjana (Tibetan ལྷོ *lañdza*), and Wartu (Tibetan ལྷུ *wartu*). Stylistically, Wartu is much the same as Rañjana but with a wiggly headline on many of the letters. See Figures 3 and 4.

2 PRACALIT

There are many scripts in this group, mostly distinguished by their headlines. The major difference between the PRACALIT scripts and the RAÑJANA scripts is the way in which *-e* and *-ai* are made by changing the top bar (see Figure 20). Two major varieties are distinguished, and there is not yet enough evidence available to determine whether or not it is appropriate to encode them separately from one another. At this stage, at least we can distinguish:

2.1 PRACALIT flat-headed script, which encompasses:

Pracalit (Figures 5, 6, 7)

Pācūmol (Figure 8)

Him̄mol (Figure 9)

Kum̄mol (Figure 10)

2.2 BHUJIMMOL curve-headed script, which encompasses:

Bhujim̄mol (Figures 11, 12, 13)

Golmol (Figure 14)

Kveim̄mol (Figure 15)

Litumol (Figure 16)

Documentary evidence for the popularity or use of these so-called “nine scripts” (the eight PRACALIT scripts plus Rañjana) is rare except for Rañjana, Golmol and current Pracalit script in which the majority of Nepalese manuscripts and inscriptions were written from the 15th to 18th centuries CE. Golmol is said to have been introduced in Nepal by Bhaumagupta (ca. late 6th century CE.). The heyday of its use was, however, the early medieval period, i.e., the 13th-15th century CE. Though it was widely used in the 13th century, even then its use was not universal.

Traditionally, Rañjana was restricted to copying sacred texts—Hindu as well as Buddhist. It was rarely, if ever, used for secular purposes. More recently, however, Newars have used Rañjana as an ornamental script for invitations, very formal manuscripts and so on, and until about 1900 used it for their Sanskrit and Newari manuscripts. In the 1990s it was common to see posters and banners advertising Buddhist lectures, new year's parties and so forth with the heading in *Rañjana* and body in Newa Lipi (*Pracalit*) which only Newars could read.

Encoding considerations. It should first be said that some members of the user community have criticized the idea of unifying these “scripts”. It may be that this is a misunderstanding of the UCS; the analogy of the Latin script with its Υ and **Fraktur** variants, however, is probably applicable, which is why the recommendations here have been made.

A complete inventory of the shaping behaviour of any of the PRACALIT scripts (apart from *Pracalit* itself) has been unavailable, but it seems unlikely that any of them will exhibit behaviour that should warrant anything but the standard VIRAMA encoding model (𑀓 KA + VIRAMA + 𑀔 SHA = 𑀕 KSHA) to be used for them. It has been suggested, however, that the Tibetan stacking model (ྐ KA + ྐ SUBJOINED-SHA = ྑ KSHA) could be used for the RAÑJANA scripts (*Rañjana* and *Wartu*). It does not seem that there is any benefit on either structural or practical grounds to doing so. Structurally, Rañjana’s behaviour is classically Brahmic; ྐ is a stack: 𑀕 is a conjunct. Using the Tibetan model would seem to be artificial. Further discussion of the options and elaboration on this point is expected during the proposal process itself.

The Rañjana scripts differ in many ways from Tibetan. Both of them (and all the PRACALIT scripts) have unique Brahmic voiced aspirates 𑀧 *gha*, 𑀨 *jha*, 𑀩 *dha*, 𑀪 *dha*, rather than the Tibetan stacked ྀ, ྆, ྇, ྈ, ྉ, which are decomposed for Tibetan in Normalization Form C, so a one-to-one transliteration is in any case not feasible.

Figures 17, 18, and 19 show examples of Rañjana consonant clusters. These are not simple stacks or even complex consonant conjuncts: they are monograms representing seed syllables, and should probably be encoded as such. Some of these may also be “example” clusters, such as *kkhghghña* (*ka + kha + ga + gha + ña*), and three different examples of *cchjjhña* (*ca + cha + ja + jha + ña*). Although it is in principle possible to predict what a string of a Tibetan base + *n* subjoins will look like, it wouldn’t be possible to do the same for Rañjana; in Figure 18, for instance, several of the conjunct monograms have more than one rendering. It is unlikely that any rendering engine should be expected to render these dynamically; rather, they ought to be font-specific special ligatures, or, as mentioned above, encoded as monograms. (It should be pointed out that these are typically not set in type, but hand-drawn.)

Bibliography

- Gu Wenyi & Shi Xueli. 1995. *Gaṅs-can mkhas pa'i phyag bris sna tshogs phyogs bsdus rin chen phreṅ ba* (= *Zang wen shu fa hui cui*). Lanzhou : Kan-su'u mi rigs dpe skrun khañ : Kan-su'u Žin-chen Žin-hwa dpe khañ gis bkram pa. ISBN 7-5421-0048-3
- Hemraj Shakyavansha. 1985. *Nepalese Alphabets = Nepāl lipi saṁgraha*. Seventh Edition.
- Shakya, Rabison. 2002. *Nepāl lipi Varṇamālā = Alphabet of the Nepalese script*. Patan: Motirāj Shakya. ISBN 99933-34-36-7
- Tshe-tan Zabs-drun. 1992. *Landzai thig rtsai dka gnad gsal byed dba brgya ldan pai glog sgron zes bya ba dpe ris dan bcas pa*. ISBN 7-5420-0248-1

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Figures

क	का	कि	की	कु	कू	कृ	कृ	के	कै	को	कौ	कं	कः
क-ka	का-kā	कि-ki	की-kī	कु-ku	कू-kū	कृ-kr	कृ-kr	के-ke	कै-kai	को-ko	कौ-kau	कं-kam	कः-kah
ख	खा	खि	खी	खु	खू	खृ	खृ	खे	खै	खो	खौ	खं	खः
ख-ka	खा-khā	खि-khi	खी-khī	खु-khu	खू-khū	खृ-khr	खृ-khr	खे-khe	खै-khai	खो-kho	खौ-khau	खं-kham	खः-kah
ग	गा	गि	गी	गु	गू	गृ	गृ	गे	गै	गो	गौ	गं	गः
ग-ga	गा-gā	गि-gi	गी-gī	गु-gu	गू-gū	गृ-gr	गृ-gr	गे-ge	गै-gai	गो-ko	गौ-kau	गं-kam	गः-kah
घ	घा	घि	घी	घु	घू	घृ	घृ	घे	घै	घो	घौ	घं	घः
घ-gha	घा-ghā	घि-ghi	घी-ghī	घु-ghu	घू-ghū	घृ-ghr	घृ-ghr	घे-ghe	घै-ghai	घो-gho	घौ-ghau	घं-gham	घः-ghah
ङ	ङा	ङि	ङी	ङु	ङू	ङृ	ङृ	ङे	ङै	ङो	ङौ	ङं	ङः
ङ-ṅa	ङा-ṅā	ङि-ṅi	ङी-ṅī	ङु-ṅu	ङू-ṅū	ङृ-ṅr	ङृ-ṅr	ङे-ṅe	ङै-ṅai	ङो-ṅo	ङौ-ṅau	ङं-ṅam	ङः-ṅah

Figure 1. Consonants with vowel matras in Rañjana script from Shakya 2002. Note the particular shapes of -ā, -ī, -e, -ai, -o, and -au.

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

Figure 2. Consonants in Rañjana script from Shakya 2002.



Figure 3. Example text in Rañjana script from Gu & Shi 1995. Note that the shapes of *a*, *e*, and *o* are unrelated to one another, that the voiced aspirates are Brahmic, and that *l* and *l̥* are distinct.



Figure 4. Example text in Warty script from Gu & Shi 1995. Note that the shapes of *a*, *e*, and *o* are unrelated to one another, that the voiced aspirates are Brahmic, and that *l* and *l̥* are distinct.

क	का	कि	की	कु	कू	कृ	कृ	कै	कौ	का	कौ	कं	कः
क-ka	का-kā	कि-ki	की-ki	कु-ku	कू-kū	कृ-kr	कृ-kr	कै-ke	कौ-kai	को-ko	कौ-kau	कं-kaṃ	कः-kaḥ
ख	खा	खि	खी	खु	खू	खृ	खृ	खे	खौ	खा	खौ	खं	खः
ख-kha	खा-khā	खि-khi	खी-khi	खु-khu	खू-khū	खृ-khr	खृ-khr	खे-khe	खौ-khai	खो-kho	खौ-khau	खं-khaṃ	खः-kah
ग	गा	गि	गी	गु	गू	गृ	गृ	गे	गौ	गा	गौ	गं	गः
ग-ga	गा-gā	गि-gi	गी-gi	गु-gu	गू-gū	गृ-gr	गृ-gr	गे-ge	गौ-gai	गो-ko	गौ-kau	गं-kaṃ	गः-kah
घ	घा	घि	घी	घु	घू	घृ	घृ	घे	घौ	घा	घौ	घं	घः
घ-gha	घा-ghā	घि-ghi	घी-ghi	घु-ghu	घू-ghū	घृ-ghr	घृ-ghr	घे-ghē	घौ-ghai	घो-gho	घौ-ghau	घं-ghaṃ	घः-ghah
ङ	ङा	ङि	ङी	ङु	ङू	ङृ	ङृ	ङे	ङौ	ङा	ङौ	ङं	ङः
ङ-ṅa	ङा-ṅā	ङि-ṅi	ङी-ṅi	ङु-ṅu	ङू-ṅū	ङृ-ṅr	ङृ-ṅr	ङे-ṅe	ङौ-ṅai	ङो-ṅo	ङौ-ṅau	ङं-ṅaṃ	ङः-ṅah

Figure 5. Consonants with vowel matras in Pracalit script from Shakya 2002.
Note the horizontal head-line, and the particular shapes of -u, -e, -ai, -o, and -au.

क	ख	ग	घ	ङ	झ		
क ka	ख kha	ग ga	घ gha	ङ ṅa	झ ṅha		
च	छ	ज	झ	ञ	ट		
च ca	छ cha	ज ja	झ jha	ञ ṅa	ट ta		
ठ	ड	ढ	ण	त	थ		
ठ ṭha	ड ḍa	ढ ḍha	ण ṅa	त ta	थ tha		
द	ध	न	न्	प	फ		
द da	ध dha	न na	न् nha	प pa	फ pha		
ब	भ	म	म्	य	ह्य		
ब ba	भ bha	म ma	म् mha	य ya	ह्यhya		
र	रह	ल	लह	व	वह		
र ra	रह rha	ल la	लह lha	व va	वह vha		
श	ष	स	ह	क्ष	त्र		
श śa	ष ṣa	स sa	ह ha	क्ष kṣa	त्र tra		
<table border="1"> <tr> <td>ज्ञ</td> </tr> <tr> <td>ज्ञ jña</td> </tr> </table>						ज्ञ	ज्ञ jña
ज्ञ							
ज्ञ jña							

Figure 6. Consonants in Pracalit script from Shakya 2002.

Consonants and Vowels of Nepalese Alphabets
Currently in use

थौंरुन्हे प्रचलित आखलया स्वर व व्यञ्जन

अ आ इ ई उ ऊ ऋ ॠ लृ ल्रे
A A I EE U OO Ri Ree Lri Lree
अ आ इ ई उ ऊ ऋ ॠ लृ लृ
ए ऐ ओ औ अं अः
E Ai O Au Am Ah
ए ऐ ओ औ अं अः

क ख ग घ ङ च छ ज झ ञ
Ka Kha Ga Gha Na Cha Chha Ja Jha Yan
क ख ग घ ङ च छ ज झ ञ

ट ठ ड ढ ण त थ द ध न
Ta Tha Da Dha Na Ta Tha Da Dha Na
ट ठ ड ढ ण त थ द ध न

य रू व रु म य र ल व
Pa Pha Ba Bha Ma Ya Ra La Wa
प फ ब भ म य र ल व

श ष स ह षा त्र ज्ञ
Sha Sha Sa Ha Ksha Tra Jna
श ष स ह षा त्र ज्ञ

Figure 7. Alphabet in Pracalit script from Shakya 2002. Note that the shapes of *a*, *e*, and *o* are unrelated to one another, that the voiced aspirates are Brahmic, and that *l* and *l* are distinct.

6-६
Pachumol Alphabet

पाचूमोल आखलया स्वर व व्यञ्जन

अ आ डी ड्री उ उ मृ मृ नृ नृ
A A I EE U OO Ri Ree Lri Lree
अ आ इ ई उ ऊ ऋ ॠ लृ लृ
ए ऐ ओ औ अं अः
E Ai O Au Am Ah
ए ऐ ओ औ अं अः

क ख ग घ ङ च छ ज झ ञ
Ka Kha Ga Gha Na Cha Chha Ja Jha Yan
क ख ग घ ङ च छ ज झ ञ

ट ठ ड ढ ण त थ द ध न
Ta Tha Da Dha Na Ta Tha Da Dha Na
ट ठ ड ढ ण त थ द ध न

य रू व रु म य र ल व
Pa Pha Ba Bha Ma Ya Ra La Wa
प फ ब भ म य र ल व

श ष स ह षा त्र ज्ञ
Sha Sha Sa Ha Ksha Tra Jna
श ष स ह षा त्र ज्ञ

Figure 8. Alphabet in Pācūmol script from Shakya 2002. Note that the shapes of *a*, *e*, and *o* are unrelated to one another, that the voiced aspirates are Brahmic, and that *l* and *l* are distinct.

Himmol Alphabet
हिमोल आखलया स्वर व व्यञ्जन

अ आ इ ई उ ऊ ऋ ॠ
A A I EE U OO Ri Ree
अ आ इ ई उ ऊ ऋ ॠ

ए ऐ ओ औ अं अः
E Ai O Au Am Ah
ए ऐ ओ औ अं अः

क ख ग घ ङ च छ ज झ य
Ka Kha Ga Gha Na Cha Chha Ja Jha Yan
क ख ग घ ङ च छ ज झ य

ट ठ ड ढ ण त थ द ध न
Ta Tha Da Dha Na Ta Tha Da Dha Na
ट ठ ड ढ ण त थ द ध न

प फ ब भ म य र ल व
Pa Pha Ba Bha Ma Ya Ra La Wa
प फ ब भ म य र ल व

श ष स ह क्ष त्र ज्ञ
Sha Sha Sa Ha Ksha Tra Jna
श ष स ह क्ष त्र ज्ञ

Figure 9. Alphabet in Himmol script from Shakya 2002. Note that the shapes of *a* and *e* are unrelated to one another, though *o* is based on *a*, and that the voiced aspirates are Brahmic.

3-३
Kunmol Alphabet

कुंमोल आखलया स्वर व व्यञ्जन

अ आ इ ई उ ऊ ए ऐ ओ औ
A A I EE U OO E Ai O Au
अ आ इ ई उ ऊ ए ऐ ओ औ

क ख ग घ ङ च छ ज झ य
Ka Kha Ga Gha Na Cha Chha Ja Jha Yan
क ख ग घ ङ च छ ज झ य

ट ठ ड ढ ण त थ द ध न
Ta Tha Da Dha Na Ta Tha Da Dha Na
ट ठ ड ढ ण त थ द ध न

प फ ब भ म य र ल व
Pa Pha Ba Bha Ma Ya Ra La Wa
प फ ब भ म य र ल व

श ष स ह क्ष त्र ज्ञ
Sha Sha Sa Ha Ksha Tra Jna
श ष स ह क्ष त्र ज्ञ

Figure 10. Alphabet in Kummol script from Shakya 2002. Note that the shapes of *a*, *e*, and *o* are unrelated to one another, and that the voiced aspirates are Brahmic.

की	का	कि	की	कु	कू	कृ	कृ	क	कै	का	कौ	कं	कीं
क-ka	का-kā	कि-ki	की-ki	कु-ku	कू-kū	कृ-kr	कृ-kr	के-ke	कै-kai	को-ko	कौ-kau	कं-kam	कः-kah
खी	खा	खि	खी	खु	खू	खृ	खृ	ख	खै	खा	खौ	खं	खीं
ख-ka	खा-khā	खि-khi	खी-khi	खु-khu	खू-khū	खृ-khr	खृ-khr	खे-khe	खै-khai	खो-kho	खौ-khau	खं-kham	खः-kah
ग	गा	गि	गी	गु	गू	गृ	गृ	ग	गै	गा	गौ	गं	गीं
ग-ga	गा-gā	गि-gi	गी-gi	गु-gu	गू-gū	गृ-gr	गृ-gr	गे-ge	गै-gai	गो-ko	गौ-kau	गं-kam	गः-kah
घ	घा	घि	घी	घु	घू	घृ	घृ	घ	घै	घा	घौ	घं	घीं
घ-gha	घा-ghā	घि-ghi	घी-ghi	घु-ghu	घू-ghū	घृ-ghr	घृ-ghr	घे-ghe	घै-ghai	घो-gho	घौ-ghau	घं-gham	घः-ghah
ङ	ङा	ङि	ङी	ङु	ङू	ङृ	ङृ	ङ	ङै	ङा	ङौ	ङं	ङीं
ङ-na	ङा-nā	ङि-ni	ङी-ni	ङु-nu	ङू-nū	ङृ-nr	ङृ-nr	ङे-ne	ङै-nai	ङो-no	ङौ-nau	ङं-nam	ङः-nah

Figure 11. Consonants with vowel matras in Bhujimol script from Shakya 2002. Note the curved a head-line, and the particular shapes of -ā, -u, -e, -ai, -o, and -au.

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

Figure 12. Consonants in Bhujimol script from Shakya 2002.

2-२
Bhujimol Alphabet
भुजिमोल आखलया स्वर व व्यञ्जन

अ आ इ ई उ ऊ ऋ ॠ ए ऐ
A A I EE U OO Ri Ree E Ai
अ आ इ ई उ ऊ ऋ ॠ ए ऐ

ओ औ अं अः॥
O Au Am Ah
ओ औ अं अः॥

क ख ग घ ङ क्ख ग्ग
Ka Kha Ga Gha Na Cha Chha Ja Jha Yan
क ख ग घ ङ च छ ज झ ञ

ट ठ ड ढ ण त थ द ध न
Ta Tha Da Dha Na Ta Tha Da Dha Na
ट ठ ड ढ ण त थ द ध न

प फ ब भ म य र ल व
Pa Pha Ba Bha Ma Ya Ra La Wa
प फ ब भ म य र ल व

श ष स ह ळ
Sha Sha Sa Ha Ksha
श ष स ह ळ

Figure 13. Alphabet in Bhujimol script from Shakya 2002. Note that the shapes of *a* and *e* are unrelated to one another, though *o* is based on *a*, and that the voiced aspirates are Brahmic.

5-५
Golmol Alphabet
गोलमोल आखलया स्वर व व्यञ्जन

अ आ इ ई उ ऊ ए ऐ ओ औ
A A I EE U OO E Ai O Au
अ आ इ ई उ ऊ ए ऐ ओ औ

क ख ग घ ङ क्ख ग्ग
Ka Kha Ga Gha Na Cha Chha Ja Jha Yan
क ख ग घ ङ च छ ज झ ञ

ट ठ ड ढ ण त थ द ध न
Ta Tha Da Dha Na Ta Tha Da Dha Na
ट ठ ड ढ ण त थ द ध न

प फ ब भ म य र ल व
Pa Pha Ba Bha Ma Ya Ra La Wa
प फ ब भ म य र ल व

श ष स ह ळ त्र ज्ञ
Sha Sha Sa Ha Ksha Tra Jna
श ष स ह ळ त्र ज्ञ

Figure 14. Alphabet in Golmol script from Shakya 2002. Note that the shapes of *a*, *e*, and *o* are unrelated to one another, and that the voiced aspirates are Brahmic.

Kwenmol Alphabet
 क्वेँमोल आखलया स्वर व व्यञ्जन

अ आ इ ई उ ऊ ऋ ॠ
 A A I EE U OO Ri Ree
 अ आ इ ई उ ऊ ऋ ॠ

ए ऐ ओ औ अं अः
 Lri Lree E Ai O Au Am Ah
 ल लृ ए ऐ ओ औ अं अः

क ख ग घ ङ च छ ज झ य
 Ka Kha Ga Gha Na Cha Chha Ja Jha Yan
 क ख ग घ ङ च छ ज झ य

त थ द ध न त थ द ध न
 Ta Tha Da Dha Na Ta Tha Da Dha Na

य फ व ळ म यनलव
 Pa Pha Ba Bha Ma Ya Ra La Wa
 प फ व भ म य र ल ष

श ष स ह क्ष
 Sha Sha Sa Ha Ksha
 श ष स ह क्ष

Figure 15. Alphabet in Kvenmol script from Shakya 2002. Note that the shapes of *a*, *e*, and *o* are unrelated to one another, and that the voiced aspirates are Brahmic, and that *l* and *l̥* are distinct.

8-८
 Litumol Alphabet
 लितुमोल आखलया स्वर व व्यञ्जन

अ आ इ ई उ ऊ ऋ ॠ
 A A I EE U OO Ri Ree
 अ आ इ ई उ ऊ ऋ ॠ

ए ऐ ओ औ अं अः
 Lri Lree E Ai O Au Am Ah
 ल लृ ए ऐ ओ औ अं अः

क ख ग घ ङ च छ ज झ य
 Ka Kha Ga Gha Na Cha Chha Ja Jha Yan
 क ख ग घ ङ च छ ज झ य

त थ द ध न त थ द ध न
 Ta Tha Da Dha Na Ta Tha Da Dha Na

य फ व ळ म यनलव
 Pa Pha Ba Bha Ma Ya Ra La Wa
 प फ व भ म य र ल ष

श ष स ह क्ष त्र ज्ञ
 Sha Sha Sa Ha Ksha Tra Jna
 श ष स ह क्ष त्र ज्ञ

Figure 16. Alphabet in Litumol script from Shakya 2002. Note that the shapes of *a* and *e* are unrelated to one another, though *o* is based on *a*, and that the voiced aspirates are Brahmic, and that *l* and *l̥* are distinct.



Figure 17. Examples of monograms text in Rañjana script from Gu & Shi 1995. These read in transliteration from left to right as: *kkhgghña*, *cchjjhña*, *ṭṭḍḍhña*, *tthddhña*, *pphbbhma*, *yr̥lwa*, *śṣsha*.

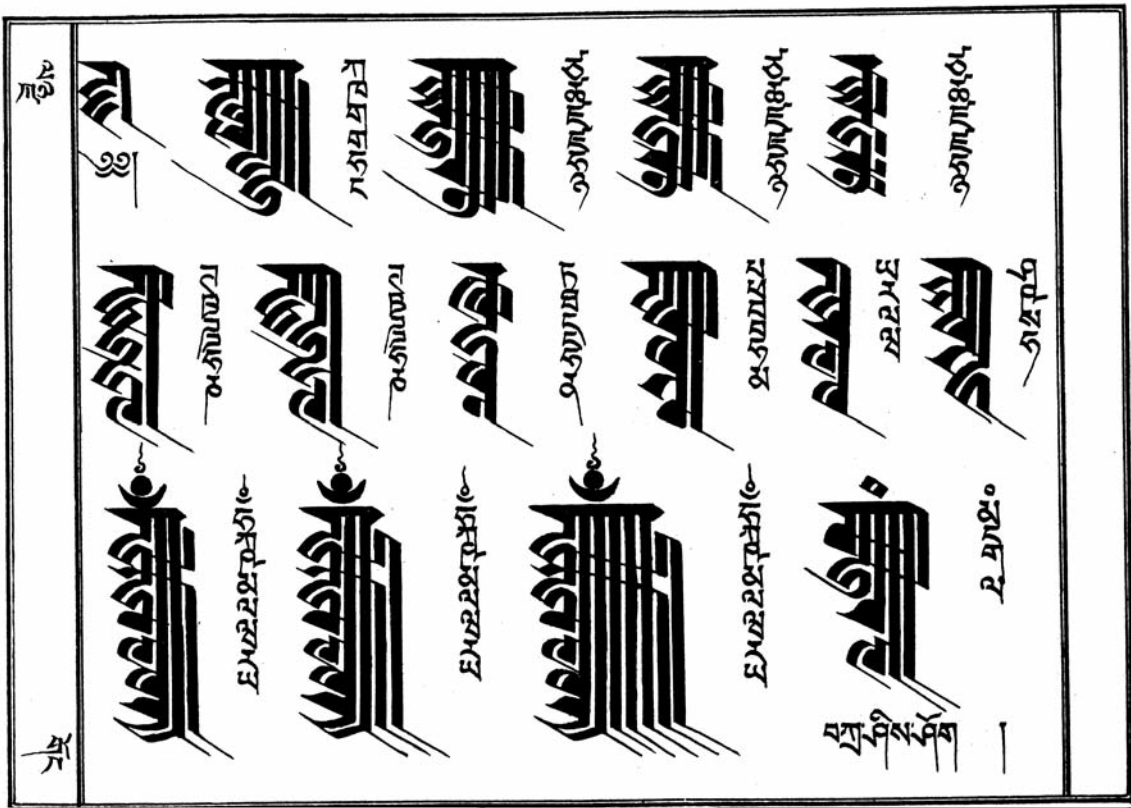


Figure 18. Example text in Rañjana script from Gu & Shi 1995. These read in transliteration from left to right in rows as:
ṣ, *kkhgghña*, *cchjjhña*, *cchjjhña*, *cchjjhña*
ṭṭḍḍhña, *ṭṭḍḍhña*, *tthddhña*, *pphbbhma*, *yr̥lwa*, *śṣsha*
hkṣmlwryam̐ (*ha kṣa ma la va ra yam̐*), *madagalām̐* ~ *mam̐dagala*

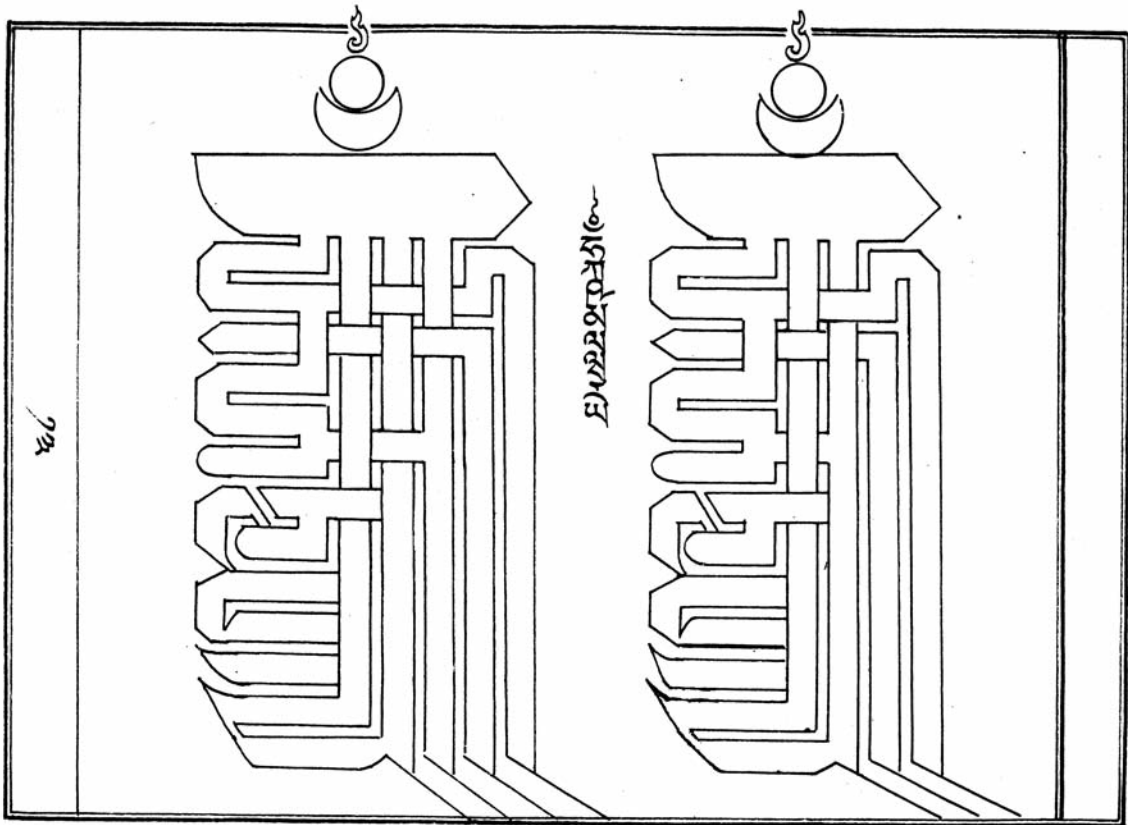


Figure 19a. Monogram in Rañjana script from Tshe-tan Zabs-drun 1992.

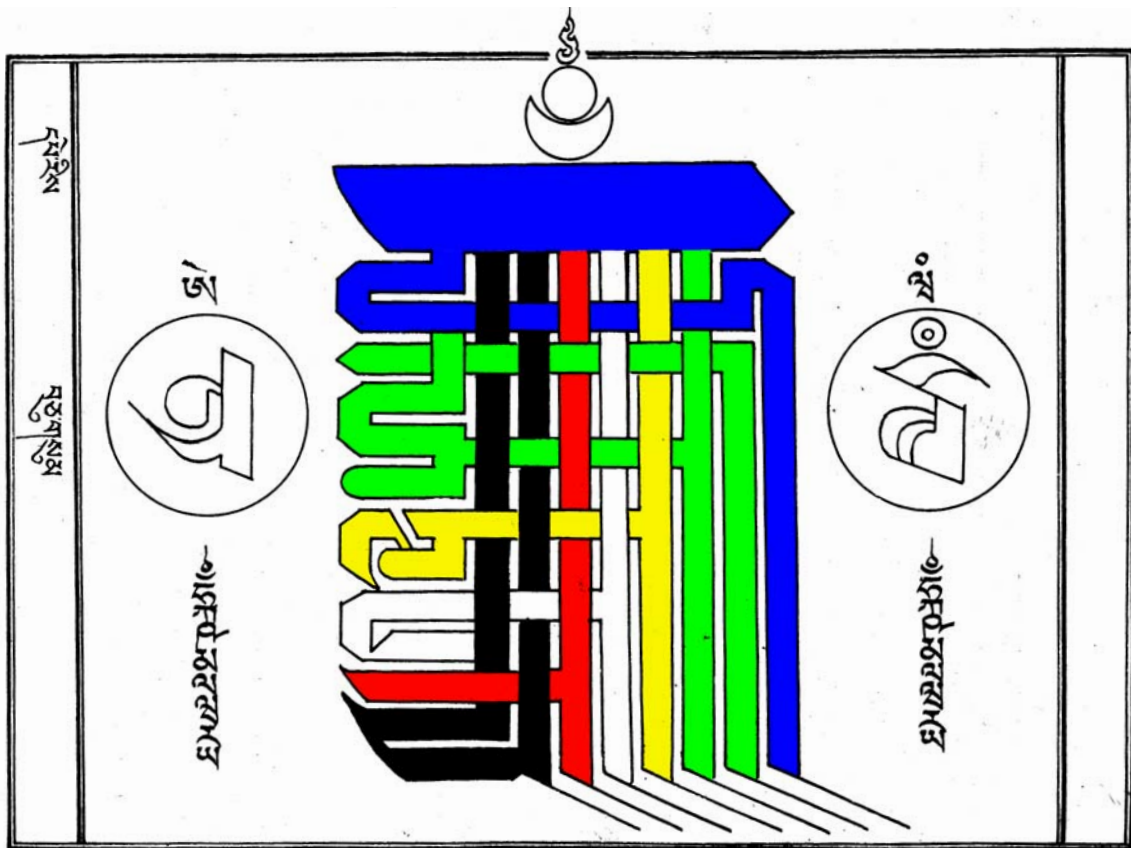


Figure 19b. Example text in Rañjana script from Tshe-tan Zabs-drun 1992. The text of the syllable is from the Kalacakra Vajra mantra. The green elements in this rendering should read *kṣa ma* but it is difficult to parse as it is the lowest element that ought to be the *ma*. The *la wa ra ya* (yellow, white, red, black) are quite clear.

	Ra	Wa	Pra	Pā	Him	Kuṁ	Bhu	Gol	Kvem	Li
<i>a</i>										
<i>e</i>										
<i>o</i>										
<i>gha</i>										
<i>jha</i>										
<i>ḍha</i>										
<i>dha</i>										
<i>bha</i>										
<i>ḷ</i>										
<i>la</i>										

Figure 21. Summary chart comparison of Rañjana, Wartu, Pracalit, Pācūmol, Himṁmol, Kuṁmol, Bhuṁmol, Golmol, Kvemṁmol, and Litumol, from Gu & Shi 1995; These are taken from Figures 3, 4, 7, 8, 9, 10, 13, 14, 15, and 16.