

Universal Multiple-Octet Coded Character Set
International Organization for Standardization
Organisation Internationale de Normalisation
Международная организация по стандартизации

Doc Type: Working Group Document**Title: Proposal for encoding additional Sundanese characters for Old Sundanese in the UCS****Source: UC Berkeley Script Encoding Initiative (Universal Scripts Project)****Author: Michael Everson****Status: Liaison Contribution****Action: For consideration by JTC1/SC2/WG2 and UTC****Replaces: N3648****Date: 2009-09-05**

Sundanese has been written in a number of scripts. *Pallawa* or *Pra-Nagari* was first used in West Java to write Sanskrit from the fifth to eighth centuries CE, and from Pallawa was derived *Sunda Kuna* or *Old Sundanese* which was used in the Sunda Kingdom from the 14th to 18th centuries. Both Javanese and Arabic script were used from the 17th to 19th centuries and the 17th to the mid-20th centuries respectively. Latin script has had currency since the 20th century. The modern Sundanese script, called *Sunda Baku* or *Official Sundanese*, was made official in 1996. The modern script itself was derived from Old Sundanese, the earliest example of which is the Prasasti Kawali stone (see Figure 1).

The Sundanese script was originally more similar to other scripts of the Brahmic type, in that it made use of conjunct characters. Consonant conjuncts are not formed productively in the modern script, which uses the explicit SUNDANESE SIGN PAMAAEH character to show indicate the absence of the inherent vowel; PAMAAEH does not cause Brahmic conjunct formation. (Some consonant clusters are represented in the modern script with the encoded medial signs *-ya*, *-ra*, and *-la*, but these are not *conjuncts*.) In order to support older orthography, the “Myanmar model” as opposed to the “Devanagari model” is used. An explicit SUNDANESE SIGN VIRAMA is proposed here to cause true Brahmic consonant clustering. Since PAMAAEH does not cause conjunct formation, and is always visible, and since modern users do not want conjuncts to be formed, the Myanmar model, which has an explicit ASAT alongside a conjunct-forming VIRAMA, is the model used here. Analogous is the modern Meetei Mayek script, which has its explicit KILLER, alongside the older Meetei Mayek orthography, which uses a conjunct-forming VIRAMA.

This proposal also supports some additional characters used in Sanskrit.

1BAB SUNDANESE SIGN VIRAMA

This character forms conjuncts in older orthography. This causes no interference with the modern orthography, though care should be taken because three explicitly encoded consonant signs, *-ya*, *-ra*, and *-la* have been encoded for modern orthography. If virama were to precede *ya*, *ra*, or *la*, a conjunct is formed, but it would look different from the modern subjoined consonants. This is a matter of orthography. Note that in modern orthography, the explicit killer U+1BAA ☉ SUNDANESE SIGN PAMAAEH is regularly used; it does not cause conjunct formation. Some conjuncts have an archaic glyph style and a modern glyph style but *neither the VIRAMA nor any of the conjuncts are used in modern standard orthography*.

<p>ꦗꦪ <i>jya</i> (ja ꦗ + -ya ☉)</p> <p>ꦲꦫ <i>hra</i> (ha ꦲ + -ra ☉)</p> <p>ꦏꦭ <i>kla</i> (ka ꦏ + -la ☉)</p>	<p>ꦗꦪꦠ <i>jya</i> (ja ꦗ + virama ☐ + ya ꦠ)</p> <p>ꦲꦫꦫ <i>hra</i> (ha ꦲ + virama ☐ + ra ꦫ)</p> <p>ꦏꦭꦭ <i>kla</i> (ka ꦏ + virama ☐ + la ꦭ)</p>
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The following conjuncts (all formed with VIRAMA) are known to occur:

ᮊᮊ	<i>ska</i>	ᮊᮊ	<i>lka</i>	ᮊᮊ	<i>lga</i>	ᮊᮊ	<i>kña</i>	ᮊᮊ	<i>nca</i>
ᮊᮊ	<i>ñja</i>	ᮊᮊ	<i>nja</i>	ᮊᮊ	<i>kta</i>	ᮊᮊ	<i>pta</i>	ᮊᮊ	<i>nta</i>
ᮊᮊ	<i>nda</i>	ᮊᮊ	<i>hda</i>	ᮊᮊ	<i>tna</i>	ᮊᮊ	<i>sna</i>	ᮊᮊ	<i>mpa</i>
ᮊᮊ	<i>mba</i>	ᮊᮊ	<i>dma</i>	ᮊᮊ	<i>jya</i>	ᮊᮊ	<i>hra</i>	ᮊᮊ	<i>dwa</i>
ᮊᮊ	<i>ksa</i>	ᮊᮊ	<i>lsa</i>	ᮊᮊ	<i>tha</i>	ᮊᮊ	<i>mha</i>		

Note the difference between ᮊᮊ SUNDANESE LETTER KHA and ᮊᮊ the conjunct of *ka* and *ha*, as well as ᮊᮊ SUNDANESE LETTER SYA and ᮊᮊ the conjunct of *sa* and *ya*. The archaic shapes in ᮊᮊ *kta* (modern style ᮊᮊ) and ᮊᮊ *mpa* (modern style ᮊᮊ) are a matter of font choice. (Such a choice would be made only for “historical” fonts; modern readers do not know or expect the archaic shapes.)

ᮊ SUNDANESE CONSONANT SIGN PASANGAN MA

Like the explicitly encoded consonant signs, *-ya*, *-ra*, and *-la*, a subjoined spiral-shaped *ma* is found in historical texts. This contrasts with the conjunct form of *ma* as formed regularly by VIRAMA: compare ᮊᮊ *padma* and ᮊᮊ *padma*. A similar explicit subjoined *ma* is found in Burmese (U+105F ᮊ MYANMAR CONSONANT SIGN MON MEDIAL MA). In the modern script the shape of the explicit consonant sign ᮊ is unknown.

ᮊ SUNDANESE CONSONANT SIGN PASANGAN WA

This contrasts with the conjunct form of *wa* as formed regularly by VIRAMA: compare ᮊᮊ *bwana* and ᮊᮊ *bwana*. In the modern script the shape of the explicit consonant sign ᮊ is unknown.

ᮊ SUNDANESE AVAGRAHA

Historically the avagraha deleted an initial vowel, but in older Sundanese orthography it came to have a different function: it kills the vowel of a preceding consonant but introduces a hiatus before an initial *a*-. An example is the word ᮊᮊᮊᮊ *alun-agung* ‘tidal wave’; this could also be written as two words ᮊᮊᮊ ᮊᮊ *alun agung*; ᮊᮊᮊᮊ reads *alungung*.

ᮊ SUNDANESE LETTER REU

The letter ᮊ is the historic descendent of the Brahmi letter ᮊ (Devanagari ᮊ) and is found on ancient inscriptions. Although the modern orthography writes this syllable ᮊ *ra* + ᮊ *eu*, the modern spelling is historically a character sequence which differs from the Brahmic antecedent. For its form, compare the related U+1B0B ᮊ BALINESE LETTER RA REPA with U+1B27 ᮊ BALINESE LETTER PA, as well as U+1B95 ᮊ SUNDANESE LETTER PA.

ᮊ SUNDANESE LETTER LEU

The letter ᮊ is the historic descendent of the Brahmi letter ᮊ (Devanagari ᮊ) and is found on ancient inscriptions. Although the modern orthography writes this syllable ᮊ *la* + ᮊ *eu*, the modern spelling is historically a character sequence which differs from the Brahmic antecedent.

ᮊ SUNDANESE LETTER BHA

Found on the Prasasta Kawali.

ᮊ SUNDANESE LETTER FINAL K

Now written with the sequence ᮊ SUNDANESE LETTER FINAL K is found in palm leaf manuscripts. Note that the explicit killer U+1BAA ᮊ, can be used to produce a phonetic final *-k*, as in ᮊ. The letter ᮊ, however, is not a presentation form of ᮊ KA + ᮊ PAMAAEH. Although the archaic glyph

shape of conjunct *-ka* (modern $\text{ᮊᮧ} kta$, archaic $\text{ᮊᮧ} kta$) is similar to this, there is no corresponding modern form of the character FINAL K.

ᮊᮧ 1BBF SUNDANESE LETTER FINAL M

The letter ᮊᮧ is found in palm leaf manuscripts. Note that the explicit killer U+1BAA ᮊᮧ SUNDANESE SIGN PAMAAEH, can be used to produce a phonetic final *-m*, as in ᮊᮧ . The letter ᮊᮧ , however, is not a presentation form of ᮊ MA + ᮊᮧ PAMAAEH. Although the archaic glyph shape of conjunct *-ma* (modern $\text{ᮊᮧ} mpa$, archaic $\text{ᮊᮧ} mpa$) is similar to this, there is no corresponding modern form of the character FINAL M.

ᮊᮧ 1CC0 SUNDANESE PUNCTUATION BINDU SURYA

‘Sun dot’; when used in the sequence $\text{ᮊᮧ} \text{ᮊᮧ} \text{ᮊᮧ}$, this punctuation character helps to indicate that the content of a manuscript is religious. When 1C80 ᮊᮧ BINDU SURYA is used as a closing bindu (final punctuation), 1C82 ᮊᮧ BINDU PURNAMA is used as a comma.

ᮊᮧ 1CC1 SUNDANESE PUNCTUATION BINDU PANGLONG

‘Half moon dot’; when used in the sequence $\text{ᮊᮧ} \text{ᮊᮧ}$ this punctuation character helps to indicate that the content of a manuscript is religious. See Figure 7.

ᮊᮧ 1CC2 SUNDANESE PUNCTUATION BINDU PURNAMA

‘Full moon dot’; when used in the sequence $\text{ᮊᮧ} \text{ᮊᮧ}$, this punctuation character helps to indicate that the content of a manuscript is historical. When 1C80 ᮊᮧ BINDU SURYA is used as a closing bindu (final punctuation), 1C82 ᮊᮧ BINDU PURNAMA is used as a comma.

ᮊᮧ 1CC3 SUNDANESE PUNCTUATION BINDU CAKRA

‘Wheel dot’; used generally as a punctuation comma.

ᮊᮧ 1CC4 SUNDANESE PUNCTUATION BINDU LEU SATANGA

The semantic domain indicated by this punctuation character is unclear, but it occurs in manuscripts as do the following three. It is in origin a “decorated” version of U+1BBC ᮊᮧ SUNDANESE LETTER LEU but it is not a *leu*, in the same way that ᮊᮧ is not an *R* and ᮊᮧ is not a *C*.

ᮊᮧ 1CC5 SUNDANESE PUNCTUATION BINDU KA SATANGA

When used in the sequence $\text{ᮊᮧ} \text{ᮊᮧ}$, this punctuation character helps to indicate that the content of a manuscript is historical. It is in origin a “decorated” version of “half” a U+1B8A ᮊᮧ SUNDANESE LETTER KA.

ᮊᮧ 1CC6 SUNDANESE PUNCTUATION BINDU DA SATANGA

When used in the sequence $\text{ᮊᮧ} \text{ᮊᮧ}$, this punctuation character helps to indicate that the content of a manuscript is religious. It is in origin a “decorated” version of U+1B93 ᮊᮧ SUNDANESE LETTER DA.

ᮊᮧ 1CC7 SUNDANESE PUNCTUATION BINDU BA SATANGA

When used in the sequence $\text{ᮊᮧ} \text{ᮊᮧ}$, this punctuation character helps to indicate that the content of a manuscript is religious. It is in origin a “decorated” version of U+1B98 ᮊᮧ SUNDANESE LETTER BA. See Figure 8 for an example of contrastive use.

Linebreaking

The letters, avagraha, and virama behave as in Devanagari. The bindu symbols can occur in initial position in a paragraph, or in final position at the end of a clause, sentence, or paragraph. Since half of the bindus are derived from letters, and since sequences like $\overset{\text{bindu}}{\text{ka}}\text{-}\overset{\text{bindu}}{\text{ka}}\text{-}\overset{\text{bindu}}{\text{ka}}$ should not be broken, linebreaking properties for all of these should be the same as those for letters. A space should be used if a user wishes to cause a linebreak before or after any of the bindu symbols.

Ordering

The arrangement of characters in the code table here follows the Brahmic ordering, for transparency to implementors of ISO/IEC 10646 and Unicode. The *ha-na-ca-ra-ka* order found in Javanese and Balinese does not seem to have currency in Sundanese. Two Brahmic orderings do have some currency, however. One of these inserts modern additions to the character set into the order according to place of articulation and lettershape. The principle followed here is the same principle that was applied in the ordering of Balinese; it also follows the way the characters are taught (as in the children's primer *Ngalagena*, 2002).

3 a >> ᳵ ᳄ > ᳛ i > ᳚ u > 3 ae > ᳞ o > 3 e > 3 eu >
 ᳖ ka >> ᳖᳕ ᳕ > ᳖᳗᳚ kha > ᳖ ga > ᳖᳚ nga > ᳖ ca > ᳖᳗᳚ ja > ᳖᳚ nya >
 ᳖᳚ ta > ᳖᳚ da > ᳖᳚ na > ᳖᳚ pa > ᳖᳚ ba > ᳖᳚᳚ bha > ᳖᳚ ma >> ᳖᳚ ᳖᳚
 ᳖᳚ ya > ᳖᳚ ra > ᳖᳚ reu > ᳖᳚ la > ᳖᳚᳚ leu > ᳖᳚ wa > ᳖᳚ sa > ᳖᳚ ha >
 ᳖᳚ qa > ᳖᳚ va > ᳖᳚ xa > ᳖᳚᳚ sya > ᳖᳚ za >

Font

The Sundanese community has developed a new, modern font which is used in the code chart below, which they released on CD with their publication on Unicode implementation for Sundanese (Baidillah 2008). They have requested that this font should replace the font currently used in the standard. A comparison of the glyphs used in each; the letters are given above, the matras and digits is given below. The new font is used in top row, the old font in the bottom row:

a i u ae o e eu ka qa ga nga ca ja za nya ta da na pa fa va ba ma ya ra la wa sa xa ha kha sya
 3 ᳛ ᳚ 3 ᳞ 3 3 ᳖ ᳖᳚ ᳖ ᳖᳚ ᳖᳗᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚
 3 ᳛ ᳚ 3 ᳞ 3 3 ᳖ ᳖᳚ ᳖ ᳖᳚ ᳖᳗᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚

kam kar kah kya kra kla ki ku kae ko ke keu k 0 1 2 3 4 5 6 7 8 9
 ᳖᳚ ᳖᳚ ᳖᳚᳚ ᳖᳚᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚᳚ ᳖᳚᳚ ᳖᳚ ᳖᳚ ᳖᳚᳚ ᳖᳚᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚
 ᳖᳚ ᳖᳚ ᳖᳚᳚ ᳖᳚᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚᳚ ᳖᳚᳚ ᳖᳚ ᳖᳚ ᳖᳚᳚ ᳖᳚᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚ ᳖᳚

Unicode Character Properties

































































1BAB;SUNDANESE SIGN VIRAMA;Mn;9;NSM;;;;;N;;;;;
 1BAC;SUNDANESE CONSONANT SIGN PASANGAN MA;Mc;0;L;;;;;N;;;;;
 1BAD;SUNDANESE CONSONANT SIGN PASANGAN WA;Mc;0;L;;;;;N;;;;;
 1BBA;SUNDANESE AVAGRAHA;Lo;0;L;;;;;N;;;;;
 1BBB;SUNDANESE LETTER REU;Lo;0;L;;;;;N;;;;;
 1BBC;SUNDANESE LETTER LEU;Lo;0;L;;;;;N;;;;;
 1BBD;SUNDANESE LETTER BHA;Lo;0;L;;;;;N;;;;;
 1BBE;SUNDANESE LETTER FINAL K;Lo;0;L;;;;;N;;;;;
 1BBF;SUNDANESE LETTER FINAL M;Lo;0;L;;;;;N;;;;;
 1CC0;SUNDANESE PUNCTUATION BINDU SURYA;Po;0;L;;;;;N;;;;;
 1CC1;SUNDANESE PUNCTUATION BINDU PANGLONG;Po;0;L;;;;;N;;;;;
 1CC2;SUNDANESE PUNCTUATION BINDU PURNAMA;Po;0;L;;;;;N;;;;;
 1CC3;SUNDANESE PUNCTUATION BINDU CAKRA;Po;0;L;;;;;N;;;;;
 1CC4;SUNDANESE PUNCTUATION BINDU LEU SATANGA;Po;0;L;;;;;N;;;;;
 1CC5;SUNDANESE PUNCTUATION BINDU KA SATANGA;Po;0;L;;;;;N;;;;;
 1CC6;SUNDANESE PUNCTUATION BINDU DA SATANGA;Po;0;L;;;;;N;;;;;
 1CC7;SUNDANESE PUNCTUATION BINDU BA SATANGA;Po;0;L;;;;;N;;;;;

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	1B8	1B9	1BA	1BB
0	 1B80	 1B90	 1BA0	 1BB0
1	 1B81	 1B91	 1BA1	 1BB1
2	 1B82	 1B92	 1BA2	 1BB2
3	 1B83	 1B93	 1BA3	 1BB3
4	 1B84	 1B94	 1BA4	 1BB4
5	 1B85	 1B95	 1BA5	 1BB5
6	 1B86	 1B96	 1BA6	 1BB6
7	 1B87	 1B97	 1BA7	 1BB7
8	 1B88	 1B98	 1BA8	 1BB8
9	 1B89	 1B99	 1BA9	 1BB9
A	 1B8A	 1B9A	 1BA A	 1BB A
B	 1B8B	 1B9B	 1BA B	 1BB B
C	 1B8C	 1B9C	 1BA C	 1BB C
D	 1B8D	 1B9D	 1BA D	 1BB D
E	 1B8E	 1B9E	 1BA E	 1BB E
F	 1B8F	 1B9F	 1BA F	 1BB F

Various signs

1B80	◌̇	SUNDANESE SIGN PANYECEK = anusvara
1B81	◌̇̃	SUNDANESE SIGN PANGLAYAR = repha
1B82	◌̣̇	SUNDANESE SIGN PANGWISAD = visarga

Vowels

1B83	ᮘ	SUNDANESE LETTER A
1B84	ᮙ	SUNDANESE LETTER I
1B85	ᮚ	SUNDANESE LETTER U
1B86	ᮛ	SUNDANESE LETTER AE
1B87	ᮜ	SUNDANESE LETTER O
1B88	ᮝ	SUNDANESE LETTER E
1B89	ᮞ	SUNDANESE LETTER EU

Consonants

1B8A	ᮟ	SUNDANESE LETTER KA
1B8B	ᮠ	SUNDANESE LETTER QA
1B8C	ᮡ	SUNDANESE LETTER GA
1B8D	ᮢ	SUNDANESE LETTER NGA
1B8E	ᮣ	SUNDANESE LETTER CA
1B8F	ᮤ	SUNDANESE LETTER JA
1B90	ᮥ	SUNDANESE LETTER ZA
1B91	ᮦ	SUNDANESE LETTER NYA
1B92	ᮧ	SUNDANESE LETTER TA
1B93	ᮨ	SUNDANESE LETTER DA
1B94	ᮩ	SUNDANESE LETTER NA
1B95	᮪	SUNDANESE LETTER PA
1B96	᮫	SUNDANESE LETTER FA
1B97	ᮬ	SUNDANESE LETTER VA
1B98	ᮭ	SUNDANESE LETTER BA
1B99	ᮮ	SUNDANESE LETTER MA
1B9A	ᮯ	SUNDANESE LETTER YA
1B9B	᮰	SUNDANESE LETTER RA
1B9C	᮱	SUNDANESE LETTER LA
1B9D	᮲	SUNDANESE LETTER WA
1B9E	᮳	SUNDANESE LETTER SA
1B9F	᮴	SUNDANESE LETTER XA
1BA0	᮵	SUNDANESE LETTER HA

Consonant signs

1BA1	◌̣̤	SUNDANESE CONSONANT SIGN PAMINGKAL = subjoined ya
1BA2	◌̣̥	SUNDANESE CONSONANT SIGN PANYAKRA = subjoined ra
1BA3	◌̣̦	SUNDANESE CONSONANT SIGN PANYIKU = subjoined la

Vowel signs

1BA4	◌̇̈	SUNDANESE VOWEL SIGN PANGHULU = i
1BA5	◌̇̉	SUNDANESE VOWEL SIGN PANYUKU = u
1BA6	◌̇̊̋	SUNDANESE VOWEL SIGN PANAELAENG = ae
1BA7	◌̇̌̍	SUNDANESE VOWEL SIGN PANOLONG = o

1BA8	◌̇̎	SUNDANESE VOWEL SIGN PAMEPET = e
1BA9	◌̇̏	SUNDANESE VOWEL SIGN PANEULEUNG = eu

Virama

1BAA	◌̣̇	SUNDANESE SIGN PAMAAEH = virama • does not form conjuncts
1BAB	◌̣̈	SUNDANESE SIGN VIRAMA • forms conjuncts in older orthography

Consonant signs

1BAC	◌̣̤̥	SUNDANESE CONSONANT SIGN PASANGAN MA = subjoined ma
1BAD	◌̣̤̦	SUNDANESE CONSONANT SIGN PASANGAN WA = subjoined wa

Additional consonants

1BAE	᮶	SUNDANESE LETTER KHA
1BAF	᮷	SUNDANESE LETTER SYA

Digits
















1BB0	ᮠ	SUNDANESE DIGIT ZERO
1BB1	ᮡ	SUNDANESE DIGIT ONE
1BB2	ᮢ	SUNDANESE DIGIT TWO
1BB3	ᮣ	SUNDANESE DIGIT THREE
1BB4	ᮤ	SUNDANESE DIGIT FOUR
1BB5	ᮥ	SUNDANESE DIGIT FIVE
1BB6	ᮦ	SUNDANESE DIGIT SIX
1BB7	ᮧ	SUNDANESE DIGIT SEVEN
1BB8	ᮨ	SUNDANESE DIGIT EIGHT
1BB9	ᮩ	SUNDANESE DIGIT NINE

Sign









1BBA	᮪	SUNDANESE AVAGRAHA
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Historic letters

1BBB	᮫	SUNDANESE LETTER REU • vocalic r
1BBC	ᮬ	SUNDANESE LETTER LEU • vocalic l
1BBD	ᮭ	SUNDANESE LETTER BHA
1BBE	ᮮ	SUNDANESE LETTER FINAL K
1BBF	ᮯ	SUNDANESE LETTER FINAL M

1CC	
0	 1CC0
1	 1CC1
2	 1CC2
3	 1CC3
4	 1CC4
5	 1CC5
6	 1CC6
7	 1CC7
8	
9	
A	
B	
C	
D	
E	
F	

Punctuation

- 1CC0  SUNDANESE PUNCTUATION BINDU SURYA
• sun
- 1CC1  SUNDANESE PUNCTUATION BINDU PANGLONG
• half moon
- 1CC2  SUNDANESE PUNCTUATION BINDU PURNAMA
• full moon
- 1CC3  SUNDANESE PUNCTUATION BINDU CAKRA
• wheel
- 1CC4  SUNDANESE PUNCTUATION BINDU LEU SATANGA
- 1CC5  SUNDANESE PUNCTUATION BINDU KA SATANGA
- 1CC6  SUNDANESE PUNCTUATION BINDU DA SATANGA
- 1CC7  SUNDANESE PUNCTUATION BINDU BA SATANGA

Figures



Figure 1. The Prasasti Kawali 1 stone.

2.2.1.1 AKSARA SWARA ‘Vokal Mandiri’

a	i	u	é	o	e	eu
☉	∟	⊥	⊃	⊄	⊅	☉

2.2.1.2 Aksara *Ngalagena* ‘Konsonan’

ka	ga	nga	ca	ja	nya	ta	da	na	pa
77	⊃	⊄	⊅	⊆	⊇	⊈	⊉	⊊	⊋
ba	ma	ya	ra	la	wa	sa	ha		
⊎	⊏	⊐	⊑	⊒	⊓	⊔	⊕		
fa	kha	qa	sya	va	xa	za			
⊖	⊗	⊘	⊙	⊚	⊛	⊜			

Figure 2a. The alphabet in a modern font from Suryani 2008.

Lambang angka-angka yang dimaksud adalah:

○	⊃	⊄	⊅	⊆
0	1	2	3	4
⊖	⊗	⊘	⊙	⊚
5	6	7	8	9

Figure 2b. The digits in a modern font from Suryani 2008.



Figure 3a. Black and white photo of the Prasasti Kawali 1 stone.

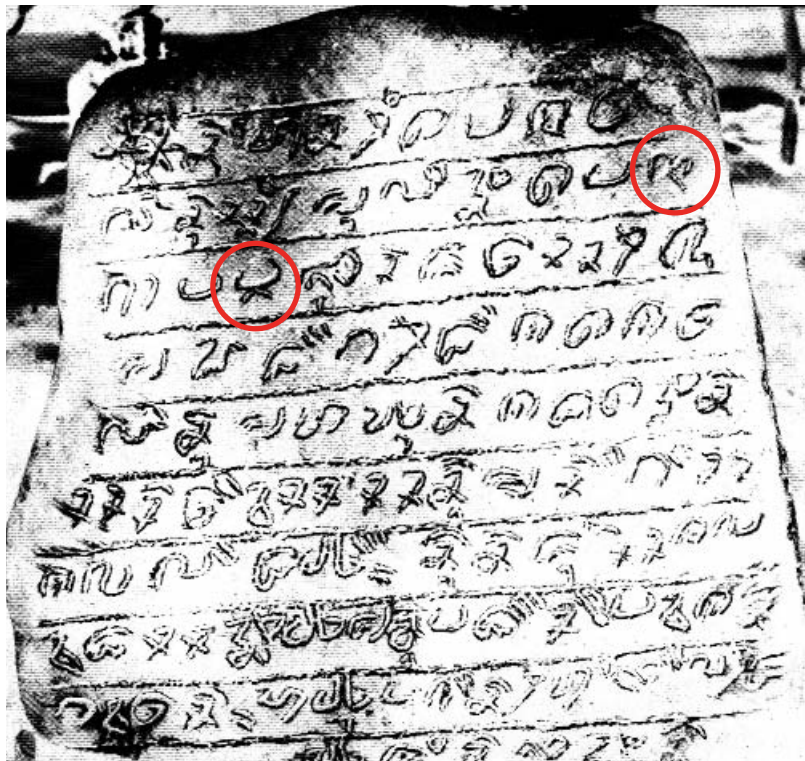


Figure 3b. Inverse black and white photo of the Prasasti Kawali 1 stone.
Circled are  LETTER BHA and  LETTER REU.



Figure 4. The Old Sundanese Prasasti Kawali 3 inscription showing ☉ PUNCTUATION BINDU SURYA

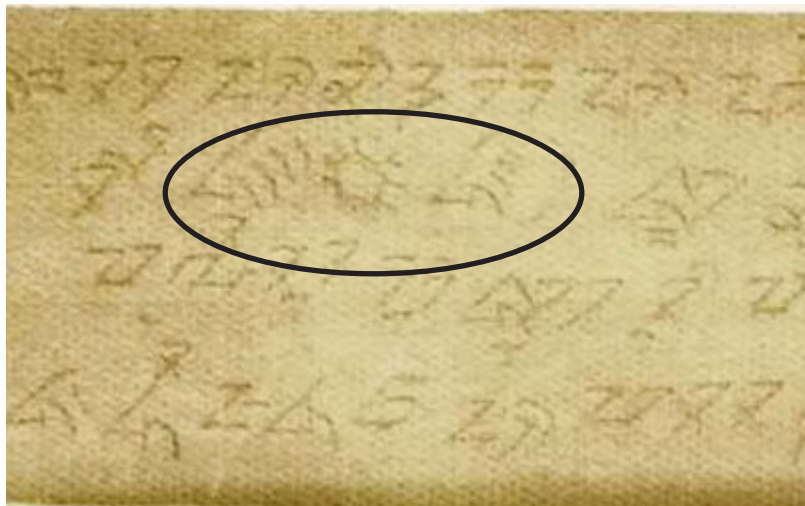


Figure 5. Old Sundanese manuscript showing ☹ PUNCTUATION BINDU DA SATANGA and ☉ PUNCTUATION BINDU SURYA

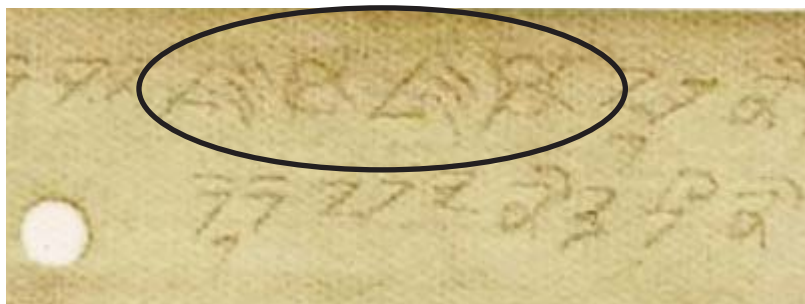


Figure 6. The same Old Sundanese manuscript showing ☹ PUNCTUATION BINDU DA SATANGA and ☉ PUNCTUATION BINDU PURNAMA

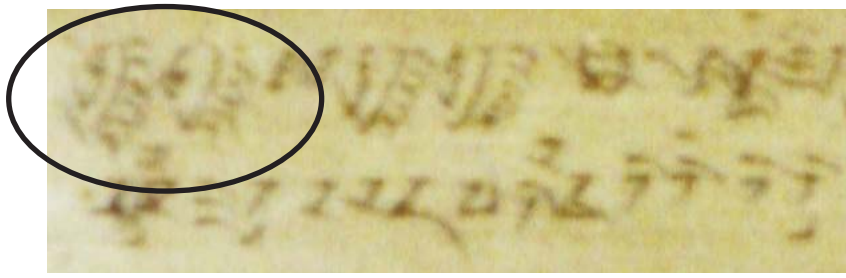


Figure 7. Old Sundanese manuscript showing  PUNCTUATION BINDU LEU SATANGA



Figure 8. Old Sundanese manuscript showing  PUNCTUATION BINDU PANGLONG

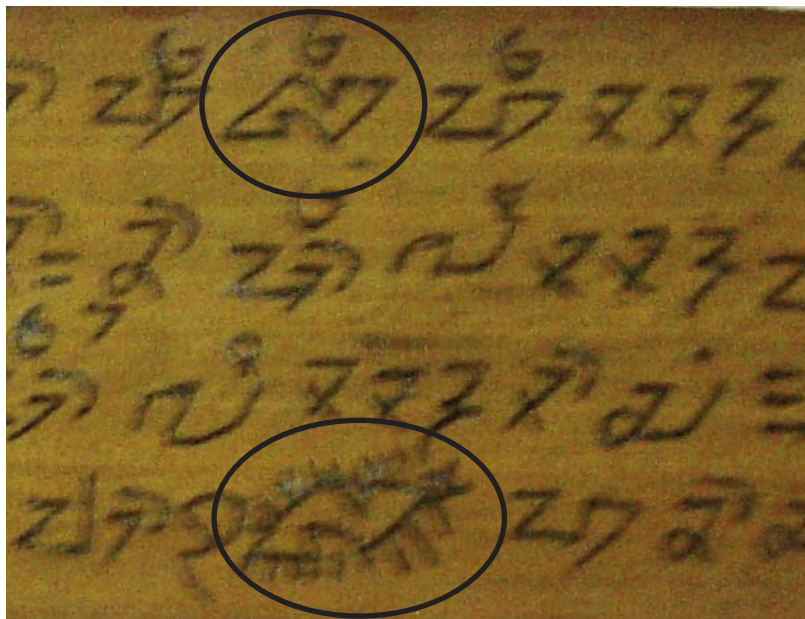




Figure 9. Old Sundanese manuscript showing  PUNCTUATION BINDU BA SATANGA looking like a furry caterpillar.  LETTER BA is seen in the top line.

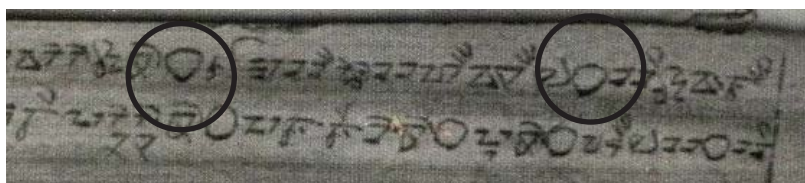



Figure 10. Old Sundanese manuscript showing a number of examples of  PUNCTUATION BINDU CAKRA

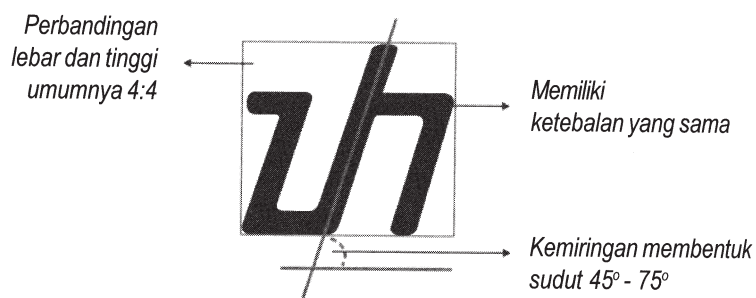
B. Desain Font Aksara Sunda

Font adalah bagian yang penting dalam dunia tipografi. Bentuk font bukan hanya menjadi *wakil sora* aksara Sunda, tetapi juga sebaiknya memiliki nilai artistik yang menawan. Oleh karena itu, diharapkan para desainer dari Tatar Sunda menyumbangkan karyanya untuk membuat bentuk aksara Sunda yang lebih variatif.

Meski kita bisa membuat bermacam-macam font, tetapi mesti ada satu font yang dianggap standar. Font standar aksara Sunda adalah font yang bentuknya mengikuti aturan penulisan aksara Sunda, seperti tinggi, lebar, dan kemiringannya. Adapun karakteristik font

standar aksara Sunda adalah sebagai berikut:

- Memiliki kemiringan antara 45° - 75°
- Tipe *sans-serif*, memiliki ketebalan yang sama.
- Mudah ditiru ketika ditulis tidak menggunakan komputer.
- Perbandingan lebar dan tinggi seperti yang dibahas pada BAB III.2.
- Pungtuasi (tanda baca) mengadopsi semua tanda baca yang berlaku pada sistem tata tulis huruf Latin.



Gambar 4.8 Karakteristik aksara Sunda standar

Bentuk font aksara Sunda dapat didesain secara manual pada kertas, dan kemudian dipindai ke komputer. Bisa juga menggunakan *software* pengolah citra berbasis vektor. Alangkah baiknya jika pada tahap ini, ada kerjasama antara desainer dengan mereka yang mahir menggunakan komputer.

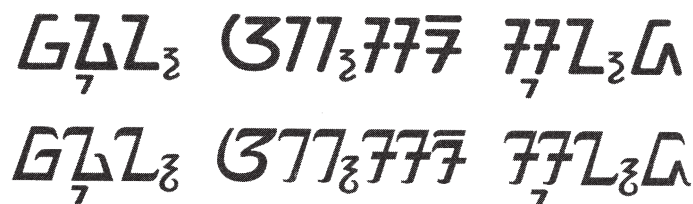


Figure 16. Discussion of font design and example of sans-serif and serif fonts in the modern style.

A. Administrative

1. Title

Proposal for encoding additional Sundanese characters for Old Sundanese in the UCS.

2. Requester's name

UC Berkeley Script Encoding Initiative (Universal Scripts Project)

3. Requester type (Member body/Liaison/Individual contribution)

Liaison contribution.

4. Submission date

2009-09-05

5. Requester's reference (if applicable)

6. Choose one of the following:

6a. This is a complete proposal

Yes.

6b. More information will be provided later

No.

B. Technical – General

1. Choose one of the following:

1a. This proposal is for a new script (set of characters)

No.

Proposed name of script

1b. The proposal is for addition of character(s) to an existing block

Yes.

1c. Name of the existing block

Sundanese, Sundanese Supplement.

2. Number of characters in proposal

17.

3. Proposed category (A-Contemporary; B.1-Specialized (small collection); B.2-Specialized (large collection); C-Major extinct; D-Attested extinct; E-Minor extinct; F-Archaic Hieroglyphic or Ideographic; G-Obscure or questionable usage symbols)

Category A.

4a. Is a repertoire including character names provided?

Yes.

4b. If YES, are the names in accordance with the "character naming guidelines" in Annex L of P&P document?

Yes.

4c. Are the character shapes attached in a legible form suitable for review?

Yes.

5a. Who will provide the appropriate computerized font (ordered preference: True Type, or PostScript format) for publishing the standard?

Michael Everson and "Tim Unicode Aksara Sunda".

5b. If available now, identify source(s) for the font (include address, e-mail, ftp-site, etc.) and indicate the tools used:

Michael Everson, Fontographer.

6a. Are references (to other character sets, dictionaries, descriptive texts etc.) provided?

No.

6b. Are published examples of use (such as samples from newspapers, magazines, or other sources) of proposed characters attached?

Yes.

7. Special encoding issues: Does the proposal address other aspects of character data processing (if applicable) such as input, presentation, sorting, searching, indexing, transliteration etc. (if yes please enclose information)?

Yes.

8. 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.

See above.

C. Technical – Justification

1. Has this proposal for addition of character(s) been submitted before? If YES, explain.

No.

2a. Has contact been made to members of the user community (for example: National Body, user groups of the script or characters, other experts, etc.)?

Yes.

2b. If YES, with whom?

Sai Zin Di Di Zone, Khwaan Tai, Sai Murngzuen Hengtai.

2c. If YES, available relevant documents

3. Information on the user community for the proposed characters (for example: size, demographics, information technology use, or publishing use) is included?

People in West Java, Indonesia.

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

Rare.

4b. Reference

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

Yes.

5b. If YES, where?

In Indonesia.

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

Yes.

6b. If YES, is a rationale provided?

Yes.

6c. If YES, reference

Keep with other Sundanese characters.

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

No.

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

No.

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

8c. If YES, reference

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

No.

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

9c. If YES, reference

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

No.

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

10c. If YES, reference

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

Yes.

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

Yes.

11c. If YES, reference

Brahmic vowel and consonant signs.

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

No.

11e. If YES, reference

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

No.

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

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

No.

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