1. Introduction. Meitei is a Tibeto-Burman language spoken chiefly in Manipur State in India, with Myanmar on its eastern border. Its earliest use is dated to between the 11th and 12th centuries CE. The script derives from the Tibetan group of scripts, themselves deriving from Gupta Brahmi. A stone inscription found at Khoibu in Tengnoupal District contains royal edicts of Kiyamba; the royal chronicle Cheitharol Kumbaba commenced from his time. King Khageomba (1597-1652) popularized the spread of education and the production of manuscripts in the script. The script continued to be used until the late 18th century CE. King Garibnawas (1709-1748) embraced Hinduism during his reign and many Hindu texts, such as the Rāmāyāna and the Mahābhārata, were translated into the Meitei language written in the Meitei script. But after the Meitei adopted Hindu practices in 1729, many literary works written about the pre-Hindu religion as well as other historical documents were burnt, and Bengali script was adopted to write Meitei. The Meitei Mayek script has been revived in recent times, omitting nine letters which are not used in modern Meitei. There are, however, at least 437 pre-20th century inscriptions and manuscripts written in the traditional version of the script, so the encoded script must be able to support both traditional and modern repertoires. The Khoibu inscription shows that 35 base letters were used in the Meitei Mayek script from its inception. Although modern Meitei texts do not make use of the letters نى cha, ى na, ىا ṭa, ى tha, ṭa ṭha, ىa ṭha, ىa ṭa, and ىa ṭa, these characters are attested as historical letters and are therefore included here. This encoding caters for a “unified Meitei Mayek” script supporting both modern Meitei and historical Meitei texts.

Reviewers should note that the historical version of the script is more complicated than the modern version of the script, which is why there is somewhat more discussion of it in the document below than of the modern version. But it is the modern version which enjoys the most use at the present day.

Structure. The Meitei Mayek script was originally of the Brahmic type: consonants bear the inherent vowel, and vowel matras modify it. Unlike most other Brahmic scripts, Meitei Mayek makes use of explicit final consonants which have no inherent vowel. Consonant conjuncts are not formed productively in the modern script, although some conjuncts are known in earlier texts (see “Conjunct consonants” below). The MEITEI MAYEK KILLER does not cause conjunct formation, and is always visible when used. Its use is an optional feature of spelling. The use of the KILLER with letters (like ىa ṭa) which have an explicit final consonant (ىa ṭa) is not attested, and would not be expected because of the existence of explicit finals. In other contexts, the KILLER helps to show the absence of an inherent vowel—while ىa ṭa may be read either kara or kra, ىa ṭa must be read kra. When word internal, the glyph of the KILLER
typically extends beneath the killed letter and the letter following. A syllable is structured (and represented in the backing store) as follows:

\[ \text{Vi} = [ \text{Å}, \text{Ç}, \text{É}, \text{Ñ} ] \]

\[ \text{C} = [ \text{Ä}, \text{Ö}, \text{Ü}, \text{á}, \text{à}, \text{â}, \text{ä}, \text{ã}, \text{å}, \text{ç}, \text{é}, \text{è}, \text{ê}, \text{ë}, \text{í}, \text{ì}, \text{î}, \text{ï}, \text{ñ}, \text{ó}, \text{ò}, \text{ô}, \text{ö}, \text{õ}, \text{ú}, \text{ù}, \text{û}, \text{ü}, \text{†}, \text{°}, \text{¢}, \text{£}, \text{§}, \text{•} ] \]

\[ \text{Vm} = [ @¶, @ß, ®@, @©, @™, @´, @¨, @≠, @Æ, @Ø, ∞@, @± ] \]

\[ \text{F} = [ \text{Å}, \text{Ç}, \text{Ñ}, \partial, \sum, \∏, \pi, \int, ª, º, @≤, @≥ ] \]

\[ (\text{Vi} \mid (\text{C} \text{Vm}^* \text{F}^*)) \], where “Vi” is an independent vowel, “C” is a consonant (including the independent vowel \( \text{Ä} \)), “Vm” is a vowel matra, “F” is an independent vowel used in final position or a final consonant or ANUSVARA or VISARGA. In the unusual and historic abbreviations described below, the syntax is \( (\text{Vi} \mid (\text{C} \text{Vm}^* \text{F}^*)) \).

**Independent vowel letters.** The unified Meitei Mayek script can represent five initial vowels with the unique independent vowel characters \( \text{Å}, \text{Ç}, \text{É}, \text{Ñ} \); these may occur word-internally as well as in initial position, as in the title of the newspaper *Hueiyen Lanpao*: \( \text{å} \text{ç} \text{é} \text{ñ} \text{huiyen lānpāu} \). Modern Meitei only makes use of the first three of these vowel letters; where \( \text{pāu} \) is written \( \text{pāo} \) in modern orthography it might be written \( \text{pāo} \) in traditional orthography. Other vowels which do not have independent forms are represented by vowel matras applied to the letter \( \text{Ä} \): \( \text{ä} \text{å} \text{æ} \text{œ} \text{è} \text{ê} \text{ë} \text{æ} \text{ê} \text{ô} \text{ö} \text{î} \text{ou} \text{äu} \text{ah} \), (including here \( ∞\text{Ä} \text{æ} \text{ã} \text{á} \text{å} \text{ä} \text{é} \text{ê} \text{ë} \text{æ} \text{ê} \text{ô} \text{ö} \text{î} \text{ou} \text{äu} \text{ah} \) which are not strictly speaking vowel letters, but rather consonants which behave in the same way as vowel letters and are therefore listed here). Of these, only \( \text{ä} \text{å} \text{æ} \text{œ} \text{è} \text{ê} \text{ë} \text{æ} \text{ê} \text{ô} \text{ö} \text{î} \text{ou} \text{äu} \text{ah} \) are used in modern orthography).

**Dependent vowel signs.** The full set of attested dependent vowels is as follows (shown with \( ∞\text{SA} \)):

<table>
<thead>
<tr>
<th>sa</th>
<th>sā</th>
<th>sa-Sah</th>
<th>si</th>
<th>sī</th>
<th>su</th>
<th>sū</th>
</tr>
</thead>
<tbody>
<tr>
<td>se</td>
<td>seı</td>
<td>sei-Sei</td>
<td>sāi</td>
<td>sāı</td>
<td></td>
<td></td>
</tr>
<tr>
<td>so</td>
<td>sou</td>
<td>sau-Soa</td>
<td>sāu</td>
<td>sāu</td>
<td></td>
<td></td>
</tr>
<tr>
<td>sañ</td>
<td>saña</td>
<td>sañ-Sañ</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In modern orthography, only the following are used:

<table>
<thead>
<tr>
<th>sa</th>
<th>sā</th>
<th>si</th>
<th>su</th>
</tr>
</thead>
<tbody>
<tr>
<td>se</td>
<td>seı</td>
<td>sei-Sei</td>
<td></td>
</tr>
<tr>
<td>so</td>
<td>sou</td>
<td></td>
<td></td>
</tr>
<tr>
<td>sañ</td>
<td>sañ</td>
<td>sañ-Sañ</td>
<td></td>
</tr>
</tbody>
</table>

Unusual abbreviations sometimes occur, with a single consonant carrying more than one vowel matra: \( \text{pēpūpā} \) ‘the carrying of an umbrella’ can be written \( \text{pēpū} \); \( \text{keke} \) may be written \( \text{keke} \). This is similar to Tibetan practice; for example, \( \text{bcu gcig} \) ‘eleven’ can be written \( \text{bcuig} \).

Diphthongs can be written in a number of ways. In traditional orthography, the following syllable-initial combinations occur:
In modern orthography, the choice of spelling sometimes distinguishes words by tone.

*kan*  ‘chariot’ (in older orthography  ; not used today)

*kân*  ‘mosquito’ with falling tone (in older orthography  ; not used today)

*kai*  ‘tiger’

*kâi*  ‘grain, barn’ with falling tone (in older orthography  ; not considered proper today)

*kâw*  ‘call’

*kâw*  ‘short’ with falling tone (in older orthography  ; not used today)

This encoding supports both orthographic conventions.

**Final consonants.** Final consonants are indicated in three ways: by explicit final consonants (K, NG, T, N, P, M, L;  is now often counted as a final Y, but it is independent I), by combining marks (ANUSVARA, VISARGA, discussed under “Independent vowel signs”, above), and by  and  (and in traditional orthography O), which function as a final consonant without modification.

**Conjunct consonants.** Conjuncts sometimes occur in pre-1800 texts. Although the reformed, modern script does not form conjuncts, the encoding model for Meitei Mayek includes a VIRAMA to form conjuncts in older orthography, which behaves as other Brahmic scripts do. For example, NGA + VIRAMA + HA =  ‘hna’; PA + VIRAMA + RA =  ‘pra’; MA + VIRAMA + HA =  ‘mha’; and SSA + VIRAMA + ARIA NNA =  ‘sha’. An example:  ‘Sri Jay Sinh’, which could be spelled in modern orthography Sri Jay Sinh. An inventory of conjuncts is a matter for specialists in traditional Meitei, and as such they are not discussed further here. The letter which as in other Brahmic scripts has its own place at the end of the alphabet, is written as KA + VIRAMA + ARIA SHA. In modern Meitei fonts which do not support conjuncts, this would render simply as (assuming that the font supported a glyph for ARIA SHA).

**Character names.** The name of the script itself has a number of different names and spellings: Meitei Mayek, is found alongside Methei and Meetei as well as the older Manipuri. In the modern version of the script, each letter is named after a part of the body: so KA is named ‘head’, SA is named ‘hair’, and so on for LA lāi ‘forehead’, MA mit ‘eye’, PA ‘eyelash’, NA ‘ear’,  cil ‘lips’, TA ‘saliva’, KHA ‘throat’, NGA ‘pharynx’, THA ‘chest’, WA wāi ‘navel’, YA ‘backbone’, HA huk ‘lower spine’, U un ‘skin’, i ‘blood’, PHA pham ‘placenta’, and apart from the body A atiya ‘sky’. The unified version of the script uses the Brahmic names for the convenience of implementers who may find familiar names helpful. The Meitei word ARIA ‘old’ is appended to the names of those letters which are only used historically, and which are not used in modern Meitei texts, in order to indicate that they are not used in modern orthography. This addresses a concern by the modern user community that the distinction be indicated. There may be other ways to indicate this; it would be reasonable to explore such options.

**Digits and punctuation.** Digits have distinctive forms in Meitei Mayek. Five punctuation marks are attested for Meitei Mayek: the  DANDA,  DOUBLE DANDA, and QUESTION MARK are in current use, but the SYLLABLE REPETITION MARK and WORD REPETITION MARK seem to have fallen out of use. The shape of the DOUBLE DANDA shows some variation; the width varies from the distance between the verticals in GA and those in M. The symbol ANII is a philosophical symbol representing the
primordial act of creation between the male and the female principles and is similar to the \textit{DEVANAGARI} Om; N. Debendra Singh 1990 gives it this name and lists it first in a table of consonants, preceding \textit{KA}.

\textbf{Collating order.} The traditional Brahmic order would have been used for ordering Meitei Mayek, and Sanskrit texts in Meitei Mayek script are likely to follow this practice. Contemporary Meitei uses a different order, given below. As this order omits a number of letters, they are given at the end in their Brahmic order. Localized software for Meitei users should follow this order. The letters which are not used in the modern orthography are given in [square brackets]. The \textit{KILLER} is ignored in sorting.

\begin{verbatim}
ka < sa < la < ma < pa < na < ca < \text{ka} < kh < ha < th < wa < yu < la < u < pha < a < ga < ja < da < gha < dha < bha < e < o < cha < na < sa < ksa < u < j < t i < d < o e < o' ou < ei [< o' ai < au < ou < h ] < k < l < m < n < t < n h < o' m.
\end{verbatim}

\textbf{Linebreaking.} Opportunities for hyphenation occur after any full orthographic syllable. Meitei Mayek punctuation marks can be expected to have behaviour similar to that of Devanagari \textit{DANDA} and \textit{DOUBLE DANDA}.

\textbf{Unicode Character Properties}

\begin{verbatim}
1C80:MEITEI MAYEK LETTER A;Lo;0;L;;;;;N;;atiya;;;
1C81:MEITEI MAYEK LETTER I;Lo;0;L;;;;;N;;;;;
1C82:MEITEI MAYEK LETTER U;Lo;0;L;;;;;N;un;;;
1C83:MEITEI MAYEK LETTER ARIBA E;Lo;0;L;;;;;N;1;;
1C84:MEITEI MAYEK LETTER ARIBA O;Lo;0;L;;;;;N;;;;;;;;
1C85:MEITEI MAYEK LETTER KA;Lo;0;L;;;;;N;kok;;;
1C86:MEITEI MAYEK LETTER KHA;Lo;0;L;;;;;N;khou;;;
1C87:MEITEI MAYEK LETTER GA;Lo;0;L;;;;;N;gok;;;
1C88:MEITEI MAYEK LETTER GHA;Lo;0;L;;;;;N;ghou;;;
1C89:MEITEI MAYEK LETTER NGA;Lo;0;L;;;;;N;ngou;;;
1C8A:MEITEI MAYEK LETTER ARIBA CHA;Lo;0;L;;;;;N;;;;;
1C8B:MEITEI MAYEK LETTER JA;Lo;0;L;;;;;N;jil;;;
1C8C:MEITEI MAYEK LETTER ARIBA TTA;Lo;0;L;;;;;N;;;;;
1C8D:MEITEI MAYEK LETTER ARIBA THA;Lo;0;L;;;;;N;;;;;
1C8E:MEITEI MAYEK LETTER ARIBA DDA;Lo;0;L;;;;;N;;;;;
1C8F:MEITEI MAYEK LETTER ARIBA DDHA;Lo;0;L;;;;;N;;;;;
1C90:MEITEI MAYEK LETTER ARIBA NNA;Lo;0;L;;;;;N;;;;;
1C91:MEITEI MAYEK LETTER TA;Lo;0;L;;;;;N;til;;;
1C92:MEITEI MAYEK LETTER THA;Lo;0;L;;;;;N;thou;;;
1C93:MEITEI MAYEK LETTER DA;Lo;0;L;;;;;N;dil;;;
1C94:MEITEI MAYEK LETTER DHA;Lo;0;L;;;;;N;dhou;;;
1C95:MEITEI MAYEK LETTER BA;Lo;0;L;;;;;N;bar;;;
1C96:MEITEI MAYEK LETTER BHA;Lo;0;L;;;;;N;bham;;;
1C97:MEITEI MAYEK LETTER MA;Lo;0;L;;;;;N;mit;;;
1C98:MEITEI MAYEK LETTER YA;Lo;0;L;;;;;N;yam;;;
1C99:MEITEI MAYEK LETTER RA;Lo;0;L;;;;;N;rai;;;
1C9A:MEITEI MAYEK LETTER LA;Lo;0;L;;;;;N;lai;;;
1C9B:MEITEI MAYEK LETTER ARIBA SHA;Lo;0;L;;;;;N;;;;
1C9C:MEITEI MAYEK LETTER ARIBA SSA;Lo;0;L;;;;;N;;;;;
1C9D:MEITEI MAYEK LETTER SA;Lo;0;L;;;;;N;sam;;;
1C9E:MEITEI MAYEK LETTER HA;Lo;0;L;;;;;N;huk;;;
1C9F:MEITEI MAYEK VOWEL SIGN AA;Mn;0;Nsm;;;;;N;;aatap;;;
1CA0:MEITEI MAYEK VOWEL SIGN I;Mc;0;Nsm;;;;;N;;inap;;;
1CA1:MEITEI MAYEK VOWEL SIGN ARIBA II;I;Mc;0;1;;;;;N;;;;;;;;;
1CA2:MEITEI MAYEK VOWEL SIGN U;Mn;0;Nsm;;;;;N;;unap;;;
1CA3:MEITEI MAYEK VOWEL SIGN ARIBA UU;U;Mn;0;Nsm;;;;;N;;;;;
1CA4:MEITEI MAYEK VOWEL SIGN E;Mc;0;L;;;;;N;etnap;;;
1CA5:MEITEI MAYEK VOWEL SIGN EI;Mc;0;Nsm;;;;;N;;einap;;;
1CA6:MEITEI MAYEK VOWEL SIGN ARIBA AAI;A;Mn;0;Nsm;;;;;N;;;;;
1CA7:MEITEI MAYEK VOWEL SIGN I;Mc;0;L;;;;;N;inap;;;
1CA8:MEITEI MAYEK VOWEL SIGN ARIBA II;I;Mc;0;1;;;;;N;;;;;;;;;
1CA9:MEITEI MAYEK VOWEL SIGN U;Mn;0;Nsm;;;;;N;;unap;;;
1CAA:MEITEI MAYEK VOWEL SIGN ARIBA UU;U;Mn;0;Nsm;;;;;N;;;;;
1CAB:MEITEI MAYEK VOWEL SIGN E;Mc;0;L;;;;;N;etnap;;;
1CAC:MEITEI MAYEK VOWEL SIGN EI;Mc;0;Nsm;;;;;N;;einap;;;
1CAD:MEITEI MAYEK VOWEL SIGN ARIBA AAI;A;Mn;0;Nsm;;;;;N;;;;;
1CAE:MEITEI MAYEK VOWEL SIGN O;Mn;0;L;;;;;N;otnap;;;
\end{verbatim}
Bibliography
Debendra Singh, N. 1990. Evolution of Manipuri script. (Research Report No. 5) [Imphal]: Manipur University, Centre for Manipuri Studies.

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TABLE XX - Row 1C: MEITEI MAYEK

<table>
<thead>
<tr>
<th></th>
<th>1C8</th>
<th>1C9</th>
<th>1CA</th>
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<th>1CC</th>
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<td>ରୣ</td>
<td>ର୨</td>
<td>ର୧</td>
</tr>
<tr>
<td>A</td>
<td>ର୵</td>
<td>ର୨</td>
<td>ରୣ</td>
<td>ର୨</td>
<td>ର୧</td>
</tr>
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<td>ର୶</td>
<td>ର୨</td>
<td>ରୣ</td>
<td>ର୨</td>
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<td>ର୨</td>
<td>ର୧</td>
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<td>F</td>
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<td>ର୨</td>
<td>ରୣ</td>
<td>ର୨</td>
<td>ର୧</td>
</tr>
</tbody>
</table>
### TABLE XXX - Row 1C: MEITEI MAYEK

<table>
<thead>
<tr>
<th>hex</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>80</td>
<td>MEITEI MAYEK LETTER A (aliya)</td>
</tr>
<tr>
<td>81</td>
<td>MEITEI MAYEK LETTER I</td>
</tr>
<tr>
<td>82</td>
<td>MEITEI MAYEK LETTER U (jun)</td>
</tr>
<tr>
<td>83</td>
<td>MEITEI MAYEK LETTER ARIBA E</td>
</tr>
<tr>
<td>84</td>
<td>MEITEI MAYEK LETTER ARIBA O</td>
</tr>
<tr>
<td>85</td>
<td>MEITEI MAYEK LETTER KA (kok)</td>
</tr>
<tr>
<td>86</td>
<td>MEITEI MAYEK LETTER KHA (khou)</td>
</tr>
<tr>
<td>87</td>
<td>MEITEI MAYEK LETTER GA (gouk)</td>
</tr>
<tr>
<td>88</td>
<td>MEITEI MAYEK LETTER GHA (ghou)</td>
</tr>
<tr>
<td>89</td>
<td>MEITEI MAYEK LETTER NGA (ngou)</td>
</tr>
<tr>
<td>90</td>
<td>MEITEI MAYEK LETTER CA (chil)</td>
</tr>
<tr>
<td>91</td>
<td>MEITEI MAYEK LETTER ARIBA CHA</td>
</tr>
<tr>
<td>92</td>
<td>MEITEI MAYEK LETTER JA (jil)</td>
</tr>
<tr>
<td>93</td>
<td>MEITEI MAYEK LETTER JHA (jham)</td>
</tr>
<tr>
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<td>A0</td>
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</tr>
<tr>
<td>A5</td>
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<td>A6</td>
<td>MEITEI MAYEK VOWEL SIGN AA (aatap)</td>
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<td>A7</td>
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<td>A8</td>
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<tr>
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</tr>
<tr>
<td>AE</td>
<td>MEITEI MAYEK VOWEL SIGN O (otnap)</td>
</tr>
<tr>
<td>AF</td>
<td>MEITEI MAYEK VOWEL SIGN OU (sounap)</td>
</tr>
<tr>
<td>B0</td>
<td>MEITEI MAYEK VOWEL SIGN ARIBA AU</td>
</tr>
<tr>
<td>B1</td>
<td>MEITEI MAYEK VOWEL SIGN ANUSVARA (nung)</td>
</tr>
<tr>
<td>B2</td>
<td>MEITEI MAYEK VOWEL SIGN ARIBA VISARGA</td>
</tr>
<tr>
<td>B3</td>
<td>MEITEI MAYEK HEAVY TONE (lim yek)</td>
</tr>
<tr>
<td>B4</td>
<td>MEITEI MAYEK KILLER (apun yek)</td>
</tr>
<tr>
<td>B5</td>
<td>MEITEI MAYEK LETTER K (kok lonsum)</td>
</tr>
<tr>
<td>B6</td>
<td>MEITEI MAYEK LETTER NG (ngou lonsum)</td>
</tr>
<tr>
<td>B7</td>
<td>MEITEI MAYEK LETTER N (na lonsum)</td>
</tr>
<tr>
<td>B8</td>
<td>MEITEI MAYEK LETTER P (pa lonsum)</td>
</tr>
<tr>
<td>B9</td>
<td>MEITEI MAYEK LETTER M (mit lonsum)</td>
</tr>
<tr>
<td>BC</td>
<td>MEITEI MAYEK LETTER L (lai lonsum)</td>
</tr>
<tr>
<td>BD</td>
<td>MEITEI MAYEK VOWEL SIGN VIRAMA</td>
</tr>
<tr>
<td>BE</td>
<td>MEITEI MAYEK DIGIT ZERO</td>
</tr>
<tr>
<td>BF</td>
<td>MEITEI MAYEK DIGIT ONE</td>
</tr>
<tr>
<td>C0</td>
<td>MEITEI MAYEK DIGIT TWO</td>
</tr>
<tr>
<td>C1</td>
<td>MEITEI MAYEK DIGIT THREE</td>
</tr>
<tr>
<td>C2</td>
<td>MEITEI MAYEK DIGIT FOUR</td>
</tr>
<tr>
<td>C3</td>
<td>MEITEI MAYEK DIGIT FIVE</td>
</tr>
<tr>
<td>C4</td>
<td>MEITEI MAYEK DIGIT SIX</td>
</tr>
<tr>
<td>C5</td>
<td>MEITEI MAYEK DIGIT SEVEN</td>
</tr>
<tr>
<td>C6</td>
<td>MEITEI MAYEK DIGIT EIGHT</td>
</tr>
<tr>
<td>C7</td>
<td>MEITEI MAYEK DIGIT NINE</td>
</tr>
<tr>
<td>C8</td>
<td>MEITEI MAYEK SYLLABLE REPETITION MARK</td>
</tr>
<tr>
<td>C9</td>
<td>MEITEI MAYEK WORD REPETITION MARK</td>
</tr>
<tr>
<td>CA</td>
<td>MEITEI MAYEK ANJI</td>
</tr>
<tr>
<td>CB</td>
<td>MEITEI MAYEK DOUBLE DANDA (ceikhan iyek)</td>
</tr>
<tr>
<td>CC</td>
<td>MEITEI MAYEK QUESTION MARK (ahang khudam)</td>
</tr>
</tbody>
</table>
Figure 1. Sample from Damant 1877.
Figure 2. Sample from Damant 1877.

SPECIMEN OF MANIPURI WRITING.

TRANSLITERATION.

hāyārauna saithirakkē // aawatengkēi ningθaavē // paumānθi // thērem. selbī māyāngkong lausingpē // avā tuŋlācē lausingpē. amā v o

nāpingatē // paika tamē: tārūgāvē //
マンプール文字

ベンガル地方からのヒンドゥー教ヴィシュヌ信仰の
普及に伴い、18世紀以降、サンスクリット、ベン
ガル語、ヒンディー語など、インド・アーリア系の
語彙を大量に収容することになった。インド・アーリ
ア系の言語に親しみた階層のメイティ語には、有声有
気の頭子音音素/hh, dh, gh/など、外来の言葉が加
わることもなった。しかし、もともと異音としてメイ
ティ語にあった/b, d, g, z/以外は、新しい音節として
定着してはいない。借用語の表記上の区別にとどま
っていて、繰り発音として用いられた。

こうして、借用語表記のために採用された文字を加
えて、次のような字母表（頭子音音節）が作られた。

\[
\begin{align*}
\text{k} & \rightarrow \text{kh} \\
\text{c} & \rightarrow \text{ch} \\
\text{t} & \rightarrow \text{j} \\
\text{d} & \rightarrow \text{dh} \\
\text{p} & \rightarrow \text{b} \\
\text{a} & \rightarrow \text{r} \\
\text{s} & \rightarrow \text{s} \\
\text{e} & \rightarrow \text{h} \\
\text{ks} & \\
\end{align*}
\]

本音のメイティ語にはなかった子音結合を表記する
綴り字（kw, kr, ky, kl, rk, sk, ñh, kr, sn, tm）なども
考察された。

尾子音文字は、次の通りである。

\[
\begin{align*}
\text{k} & \rightarrow \text{-} \\
\text{-} & \rightarrow \text{-} \\
\text{p} & \rightarrow \text{-} \\
\text{a} & \rightarrow \text{-} \\
\end{align*}
\]

母音符号は、次の通りである（/k/-についての場合）。

\[
\begin{align*}
\text{a} & \rightarrow \text{a} \\
\text{u} & \rightarrow \text{u} \\
\end{align*}
\]

二重母音表記は、次の通りである（/k/-についての場合）。

\[
\begin{align*}
\text{ay} & \rightarrow \text{ai} \\
\text{ay} & \rightarrow \text{ei} \\
\text{au} & \rightarrow \text{aw} \\
\text{au} & \rightarrow \text{aw} \\
\end{align*}
\]

このメイティ文字の改良版をメイティ語の話し手の
間に普及させるようという運動があり、州都インパール
の町にはメイティ文字による看板なども見られる
ようになった。しかし、現地でも、メイティ語の文
字体系をベンガル文による現在の新マンプール文字か
ら旧マンプール文字（メディイ文字）に替えることは
難しいであろうと見られるが、現在の文字体系
の普及度がきわめて高いからである。

一方、1992年、インドの連邦政府は、書法を改正し
マンプール州の希望に沿ってマンプール語（メディイ
語）を連邦公用語に指定した。このマンプール語は、ベ
ンガル文字による現在の新マンプール文字によるもの
を想定している。

Figure 3. Sample from The Sanseido Encyclopaedia, showing old and new orthographies for Meitei.
Figure 4. Samples from Jensen, following Greerson's report in the *Linguistic Survey of India*.

Appendix III
Meitei writing systems

Meitei is written in either the Meitei Mayek or Bengali scripts. The accepted date for the earliest use of Meitei Mayek is between the 11th and 12th centuries (Ch. Manibai Singh 1984: 23). In the classification of scripts provided by K. S. Singh and Monohara (1993: 76–79), Meitei Mayek is part of the Tibeto-Burman group of scripts, which originated from the Gusha Brahmi script. The original Brahmi script was modified to accommodate the phonemic distinctions of Meitei. Like other Brahmi scripts, Meitei Mayek is syllabic. Each vowel has two representations: an independent grapheme at the beginning of a word and a diacritic off the consonant, it combines with to form a syllable when it occurs elsewhere. See Tables 1 and 2.

Table 1. Vowel graphemes in Meitei Mayek

<table>
<thead>
<tr>
<th>Lautew</th>
<th>Manipuri</th>
<th>Lautew</th>
<th>Manipuri</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>a</td>
<td>ːa</td>
<td>ːa</td>
</tr>
<tr>
<td>i</td>
<td>i</td>
<td>ːi</td>
<td>ːi</td>
</tr>
<tr>
<td>u</td>
<td>u</td>
<td>ːu</td>
<td>ːu</td>
</tr>
<tr>
<td>e</td>
<td>e</td>
<td>ːe</td>
<td>ːe</td>
</tr>
<tr>
<td>o</td>
<td>o</td>
<td>ːo</td>
<td>ːo</td>
</tr>
<tr>
<td>å</td>
<td>å</td>
<td>å</td>
<td>å</td>
</tr>
<tr>
<td>kou</td>
<td>kou</td>
<td>kou</td>
<td>kou</td>
</tr>
<tr>
<td>kha</td>
<td>kha</td>
<td>kha</td>
<td>kha</td>
</tr>
<tr>
<td>ga</td>
<td>ga</td>
<td>ga</td>
<td>ga</td>
</tr>
<tr>
<td>gha</td>
<td>gha</td>
<td>gha</td>
<td>gha</td>
</tr>
<tr>
<td>ia</td>
<td>ia</td>
<td>ia</td>
<td>ia</td>
</tr>
<tr>
<td>uia</td>
<td>uia</td>
<td>uia</td>
<td>uia</td>
</tr>
<tr>
<td>ria</td>
<td>ria</td>
<td>ria</td>
<td>ria</td>
</tr>
<tr>
<td>ia</td>
<td>ia</td>
<td>ia</td>
<td>ia</td>
</tr>
<tr>
<td>pia</td>
<td>pia</td>
<td>pia</td>
<td>pia</td>
</tr>
<tr>
<td>hia</td>
<td>hia</td>
<td>hia</td>
<td>hia</td>
</tr>
<tr>
<td>jia</td>
<td>jia</td>
<td>jia</td>
<td>jia</td>
</tr>
</tbody>
</table>

In contemporary versions of Meitei Mayek, tone distinctions are often indicated with conventions currently in use in writing Meitei in the Bengali script. For example, the distinction between high and low tone ːa, ːe, ːo can be indicated before ːa by using a distinct syllabic final grapheme for ːa before the high tone vowel. This is illustrated in (1).

(1)

It is not clear how, or if, tone distinctions in other environments are signalled. In examples provided to me by Th. Harimohan Singh, minimal tone pairs such as ːa-ˈfāl' and ːe-ˈbear' cannot be distinguished in writing.

Table 2. Non-syllabic initial vowels in Meitei Mayek with the shape ːa

<table>
<thead>
<tr>
<th>ka</th>
<th>ki</th>
<th>ḳi</th>
<th>ːa</th>
</tr>
</thead>
<tbody>
<tr>
<td>ḳi</td>
<td>ḳe</td>
<td>ḳo</td>
<td></td>
</tr>
</tbody>
</table>

Diphthongs in initial position are represented by a juxtaposition of a glide and a vowel and, as was the case with vowels, not all relevant tone distinctions are represented. Graphemes for diphthongs in initial position and the discri-
tics used with consonants are illustrated in Table 3 and 4 respectively.

Table 3. Syllable initial diphthongs in Meitei Mayek

Figure 5b. Discussion in Chelliah 1997 describing traditional Meitei orthography.

Table 4. Non-syllable initial diphthongs in Meitei Mayek illustrated with [i]

Table 5. Consonant graphemes in Meitei Mayek

Consonants have two representations, a grapheme for syllable initial position and a grapheme for non-initial position. Syllable initial consonant graphemes are given in Table 5. Note that the consonant is read as a combination of the consonant and a schwa. Syllable final consonant graphemes are given in Table 6.

Table 6. Syllable final consonant graphemes in Meitei Mayek

I provide a sample of hand-written Meitei Mayek in (2) which illustrates a marginally different style of the script (note the graphemes for [ŋ] and [ŋ]). Explanation of different styles of Meitei Mayek is given in Tensusha (1993). A longer example of the Meitei Mayek, with interlinear and free translation in English, can be found in Grisson (1903–1928: 32–39).

Figure 5c. Discussion in Chelliah 1997 describing traditional Meitei orthography.
(2) Sample of Meitei in Meitei Mayek from a personal narrative by Th. Harimohan Singh. The script sample and transliteration were provided by the narrator.

Tombu
Tombu went to Kakching.

mahi
tomay
day

He arrived at his maternal uncle's house.

mahakva
mahomuda
manu

He is extremely sincere in carrying out his responsibilities.

madi
cowaba
simay

The two of them eat together.

mahayni
haiimnaboni
grow together

They are both of the same age.

Figure 6a. Sample text in Chelliah 1997 written in modern Meitei orthography.

Figure 6b. Sample text in Chelliah 1997 written in modern Meitei orthography.
Figure 6c. Sample text in Chelliah 1997 written in modern Meitei orthography.

Example:

\[ \text{Example sentence: } \text{He arrived at his maternal uncle's house.} \]

\[ \text{Translation: } \text{He arrived at his maternal uncle's house.} \]

Figure 7. Text from the Manipuri Gazette 1980 discussing Meitei punctuation.
Figure 8. Article in modern Meitei Mayek orthography.
Figure 9. A poem from an anthology of Meitei literature in modern Meitei Mayek orthography.
A. Administrative
1. Title
Proposal to encode the Meitei Mayek script in the BMP of the UCS
2. Requester’s name
UC Berkeley Script Encoding Initiative (Universal Scripts Project)
3. Requester type (Member body/Liaison/Individual contribution)
Liaison contribution.
4. Submission date
2007-01-12
5. Requester’s reference (if applicable)
6. Choose one of the following:
6a. This is a complete proposal
Yes.
6b. More information will be provided later
No.

B. Technical – General
1. Choose one of the following:
1a. This proposal is for a new script (set of characters)
Yes.
1b. Proposed name of script
Meitei Mayek.
1c. The proposal is for addition of character(s) to an existing block
No.
1d. Name of the existing block
2. Number of characters in proposal
78.
3. Proposed category (A-Contemporary; B.1-Specialized (small collection); B.2-Specialized (large collection); C-Major extinct; D-Attested extinct; E-Minor extinct; F-Archaic Hieroglyphic or Ideographic; G-Obscure or questionable usage symbols)
Category A.
4a. Is a repertoire including character names provided?
Yes.
4b. If YES, are the names in accordance with the “character naming guidelines” in Annex L of P&P document?
Yes.
4c. Are the character shapes attached in a legible form suitable for review?
Yes.
5a. Who will provide the appropriate computerized font (ordered preference: True Type, or PostScript format) for publishing the standard?
Michael Everson.
5b. If available now, identify source(s) for the font (include address, e-mail, ftp-site, etc.) and indicate the tools used:
Michael Everson, Fontographer.
6a. Are references (to other character sets, dictionaries, descriptive texts etc.) provided?
Yes.
6b. Are published examples of use (such as samples from newspapers, magazines, or other sources) of proposed characters attached?
Yes.
7. Does the proposal address other aspects of character data processing (if applicable) such as input, presentation, sorting, searching, indexing, transliteration etc. (if yes please enclose information)?
Yes.
8. Submitters are invited to provide any additional information about Properties of the proposed Character(s) or Script that will assist in correct understanding of and correct linguistic processing of the proposed character(s) or script. Examples of such properties are: Casing information, Numeric information, Currency information, Display behaviour information such as line breaks, widths etc., Combining behaviour, Spacing behaviour, Directional behaviour, Default Collation behaviour, relevance in Mark Up contexts, Compatibility equivalence and other Unicode normalization related information. See the Unicode standard at http://www.unicode.org for such information on other scripts. Also see Unicode Character Database http://www.unicode.org/Public/UNIDATA/UnicodeCharacterDatabase.html and associated Unicode Technical Reports for information needed for consideration by the Unicode Technical Committee for inclusion in the Unicode Standard.
See above.

C. Technical – Justification
1. Has this proposal for addition of character(s) been submitted before? If YES, explain.
Yes. See N3158, N2042.
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?
2c. If YES, available relevant documents
3. Information on the user community for the proposed characters (for example: size, demographics, information technology use, or publishing use) is included?

Speakers of Meitei.
4a. The context of use for the proposed characters (type of use; common or rare)
Commonly used for modern texts as well as study of historical texts.
4b. Reference

5a. Are the proposed characters in current use by the user community?
Yes.
5b. If YES, where?
In Manipur State in India.
6a. After giving due considerations to the principles in the P&P document must the proposed characters be entirely in the BMP?
Yes.
6b. If YES, is a rationale provided?
Yes.
6c. If YES, reference

Modern use and accordance with the Roadmap.
7. Should the proposed characters be kept together in a contiguous range (rather than being scattered)?
Yes.
8a. Can any of the proposed characters be considered a presentation form of an existing character or character sequence?
No.
8b. If YES, is a rationale for its inclusion provided?
No.
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?
No.
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?
Yes.
10b. If YES, is a rationale for its inclusion provided?
No.
10c. If YES, reference

Like the other minority scripts Balinese, Lepcha, Ol Chiki, Saurashtra, Kayah Li, Lanna, and Cham, the MEITEI MAYEK DANDA and MEITEI MAYEK DOUBLE DANDA are encoded as script-specific characters for Meitei Mayek. A unification with the Devanagari DANDAS is inappropriate; in particular, the use of those in Bengali script (as well as the existence of another pair of Bengali-specific DANDAS which are likely to require encoding) could cause confusion to Meitei Mayek users, who feel very strongly about the uniqueness of their script and its relation to Bengali.

11a. Does the proposal include use of combining characters and/or use of composite sequences (see clauses 4.12 and 4.14 in ISO/IEC 10646-1: 2000)?
No.
11b. If YES, is a rationale for such use provided?
No.
11c. If YES, reference
11d. Is a list of composite sequences and their corresponding glyph images (graphic symbols) provided?
No.
11e. If YES, reference
12a. Does the proposal contain characters with any special properties such as control function or similar semantics?
No.
12b. If YES, describe in detail (include attachment if necessary)
12c. Does the proposal contain any Ideographic compatibility character(s)?
No.
13b. If YES, is the equivalent corresponding unified ideographic character(s) identified?