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

Doc Type: **Working Group Document**
Title: **Preliminary proposal for encoding the Meithei Mayek script in the BMP of the UCS**
Source: **Michael Everson**
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1. Introduction. Meithei 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 Khagemba (1597-1652) popularized the spread of education and the production of manuscripts in the script. The script continued to be used until to write the Meithei language until the late 18th century CE. King Garibnawas (1709-1748) embraced Hinduism during his reign and many Hindu texts, such as the *Rāmayāna* and the *Mahābhārata*, were translated into the Meithei language written in the Meithei script. But after the Meithei adopted Hindu practices in 1729, many literary works written about the pre-Hindu religion as well as other historical documents were burnt, and Bengali script was adopted to write Meithei. The Meithei Mayek script has been revived in recent times, omitting nine letters which are not used in modern Meithei. There are, however, at least 437 pre-20th century manuscripts written in the older version of the script, so the encoded script must be able to support both older and newer repertoires. The Khoibu inscription shows that 35 characters were used in the Meithei script from its inception. Although modern Meithei texts do not make use of the letters CHA, NYA, TTA, TTHA, DDA, NNA, DA, SHA and SSA, glyphs for these characters did exist and are therefore included in this encoding. This encoding caters for a "unified Meithei Mayek" script supporting both modern Meithei and historical Meithei texts.

Structure

The Meithei Mayek script is of the Brahmic type. Consonants bear the inherent vowel; vowel matras modify it, and explicit final consonants are used where there is no inherent vowel. Consonant conjuncts are not formed productively in the modern script, although some conjuncts are known in earlier texts (see "Conjuncts" below). A "killer" can be used optionally to show a killed vowel for letters which do not have an explicit final consonant. A syllable is structured (and represented in the backing store) as C(V(V))(F) the initial consonant "C" (including the independent vowels) may be followed by one or two optional vowel matra (V(V)), and optionally a final consonant (F).

Independent vowel letters

The unified Meithei Mayek script can represent five initial vowels are represented with the unique independent vowels ꯑ A, ꯏ I, ꯎ U, ꯔ E, ꯕ O; these may occur word-internally as well as in initial position, as in the title of the newspaper *Hueiyen Lanpao*: ꯍꯨꯏꯌꯦꯟ ꯂꯥꯟꯄꯥꯎ *huiyen lānpāu*. Modern

Meithei only makes use of the first three of these; where *pāu* is written ꯄꯥꯎ in newer orthography it might be written ꯑꯥꯒ *kao* in older orthography. Other vowels which do not have independent forms are represented by vowel matras applied to the letter ꯑ A: ꯑꯥ *ā*, ꯑꯤ *i*, ꯑꯤꯥ *ī*, ꯑꯨ *u*, ꯑꯨꯥ *ū*, ꯑꯦ *e*, ꯑꯩ *ei*, ꯑꯥꯤ *āi*, ꯑꯣ *o*, ꯑꯧ *ou*, ꯑꯤꯥꯎ *au*, ꯑꯤꯥꯤ *āu*, ꯑꯣꯟ *aṅ*, ꯑꯦꯡ *aḥ*, (of which only ꯑꯥ *ā*, ꯑꯤ *i*, ꯑꯨ *u*, ꯑꯦ *e*, ꯑꯩ *ei*, ꯑꯣ *o*, ꯑꯧ *ou*, and ꯑꯣꯟ *aṅ* are used in modern orthography).

Dependent vowel signs
The full set of attested dependent vowels is as follows (shown with ꯀ KA):

ka ꯀ	kā ꯀꯥ	ki ꯀꯤ	kī ꯀꯤꯥ	ku ꯀꯨ	kū ꯀꯨꯥ
ke ꯀꯦ	kei ꯀꯩ	kāi ꯀꯥꯤ			
ko ꯀꯣ	kou ꯀꯧ	kau ꯀꯤꯥꯎ	kāu ꯀꯤꯥꯤ		
kaṅ ꯀꯣꯟ	kaḥ ꯀꯦꯡ				

Diphthongs can be written in a number of ways; the choice of spelling sometimes distinguishes words by tone.

In older orthography, the following combinations occur: [To be supplied]

In modern orthography, the following combinations occur: [To be supplied]

Final consonants
Final consonants are indicated in three ways: by explicit final consonants (ꯔ K, ꯕ NG, ꯇ T, ꯅ N, ꯄ P, ꯃ M, ꯂ L; ꯌ is now often counted as a final Y, but it is independent I), by combining marks (◌ꯣ ANUSVARA, ◌ꯦ VISARGA), and by ꯌ I and ꯎ U (and in older orthography ꯒ O), which function as a final consonant without modification.

Unusual abbreviations sometimes occur: ꯄꯦꯄꯨꯄꯥ *pepupā* 'the carrying of an umbrella' can be written ꯄꯨꯦ.

Conjuncts sometimes occur in pre-1800 texts. [To be supplied]

Character names. The script itself has a number of different names and spellings: *Meithei Mayek*, is found alongside *Meetei Mayek* and the older *Manipuri*. In the modern version of the script, each letter is named after a part of the body: so ꯀ *ka* is named ꯀꯣꯔ *kok* 'head', ꯁꯃ *sam* 'hair', ꯂꯥꯌ *lāi* 'forehead', ꯃꯤꯇ *mit* 'eye', ꯄ *pa* 'eyelash', ꯅ *na* 'ear', ꯆꯤꯂ *cil* 'lips', ꯇꯤꯂ *til* 'saliva', ꯈꯧ *khou* 'throat', ꯉꯧ *ngou* 'pharynx', ꯊꯧ *thou* 'chest', ꯋꯥꯌ *wāi* 'navel', ꯌꯣ *yang* 'backbone', ꯍꯨꯔ *huk* 'lower spine', ꯎꯅ *un* 'skin', ꯌ *i* 'blood', ꯐꯃ *pham* 'placenta', ꯑꯇꯤꯌ *atiya* 'sky'. The unified version of the script uses the Brahmic names for the convenience of implementers who may find familiar names helpful.

Digits and punctuation
Digits have distinctive forms in Meithei Mayek. Four punctuation marks are attested for Meithei Mayek: the ꯫ COMMA, ꯬ FULL STOP, and ꯭ QUESTION MARK are in current use, but the ꯱ SYLLABLE REPETITION MARK and ꯲ WORD REPETITION MARK seem to have fallen out of use. The symbol ꯰ ANJI is has been described as a "praying mark" and may answer to the DEVANAGARI OM; N. Debendra Singh 1990 gives it this name and lists it first in a table of consonants, preceding ꯀ KA.

Collating order

The traditional Brahmic order would have been used for ordering Meithei Mayek, and Sanskrit texts in Meithei Mayek script are likely to follow this practice. Contemporary Meithei 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 Meithei users should follow this order:

ꯀ *ka* < ꯁ *sa* < ꯂ *la* < ꯃ *ma* < ꯄ *pa* < ꯅ *na* < ꯆ *ca* < ꯇ *ta* < ꯈ *kha* < ꯉ *ṅa* < ꯊ *tha* < ꯋ *wa* < ꯌ *ya* < ꯍ *ha* < ꯎ *u* < ꯏ *i* < ꯐ *pha* < ꯑ *a* < ꯒ *ga* < ꯓ *jha* < ꯔ *ra* < ꯕ *ba* < ꯖ *ja* < ꯗ *da* < ꯘ *gha* < ꯙ *dha* < ꯚ *bha* < ꯛ *e* < ꯜ *o* < ꯝ *cha* < ꯞ *ña* < ꯟ *ṭa* < ꯠ *ṭha* < ꯡ *ḍa* < ꯢ *ḍha* < ꯣ *ṇa* < ꯤ *śa* < ꯥ *ṣa* < ꯦ *kṣa* < ◌ꯨ *ā* < ◌ꯩ *i* < ◌ꯪ *ī* < ◌꯫ *u* < ◌꯬ *ū* < ◌꯭ *e* < ◌꯮ *ei* < ◌꯯ *āi* < ◌꯰ *o* < ◌꯱ *ou* < ◌꯲ *au* < ◌꯳ *āu* < ◌꯴ *ṁ* < ◌꯵ *ḥ* < ꯷ *k* < ꯹ *l* > ꯸ *m* < ꯷ *p* < ꯺ *n* < ꯻ *t* < ꯷ *ṅ*.

Linebreaking

Opportunities for hyphenation occur after any full orthographic syllable. Meithei Mayek punctuation marks can be expected to have behaviour similar to that of Devanagari DANDA and DOUBLE DANDA.

Unicode Character Properties

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AA00;MEITHEI MAYEK LETTER A;Lo;0;L;;;;;N;;atiya;;;
AA01;MEITHEI MAYEK LETTER I;Lo;0;L;;;;;N;;;;;
AA02;MEITHEI MAYEK LETTER U;Lo;0;L;;;;;N;;un;;;
AA03;MEITHEI MAYEK LETTER E;Lo;0;L;;;;;N;;;;;
AA04;MEITHEI MAYEK LETTER O;Lo;0;L;;;;;N;;;;;
AA05;MEITHEI MAYEK LETTER KA;Lo;0;L;;;;;N;;kok;;;
AA06;MEITHEI MAYEK LETTER KHA;Lo;0;L;;;;;N;;khou;;;
AA07;MEITHEI MAYEK LETTER GA;Lo;0;L;;;;;N;;gok;;;
AA08;MEITHEI MAYEK LETTER GHA;Lo;0;L;;;;;N;;ghou;;;
AA09;MEITHEI MAYEK LETTER NGA;Lo;0;L;;;;;N;;ngou;;;
AA0A;MEITHEI MAYEK LETTER CA;Lo;0;L;;;;;N;;cil;;;
AA0B;MEITHEI MAYEK LETTER CHA;Lo;0;L;;;;;N;;;;;
AA0C;MEITHEI MAYEK LETTER JA;Lo;0;L;;;;;N;;jil;;;
AA0D;MEITHEI MAYEK LETTER JHA;Lo;0;L;;;;;N;jham;;;
AA0E;MEITHEI MAYEK LETTER NYA;Lo;0;L;;;;;N;;;;;
AA0F;MEITHEI MAYEK LETTER TTA;Lo;0;L;;;;;N;;;;;
AA10;MEITHEI MAYEK LETTER TTHA;Lo;0;L;;;;;N;;;;;
AA11;MEITHEI MAYEK LETTER DDA;Lo;0;L;;;;;N;;;;;
AA12;MEITHEI MAYEK LETTER DDHA;Lo;0;L;;;;;N;;;;;
AA13;MEITHEI MAYEK LETTER NNA;Lo;0;L;;;;;N;;;;;
AA14;MEITHEI MAYEK LETTER TA;Lo;0;L;;;;;N;;til;;;
AA15;MEITHEI MAYEK LETTER THA;Lo;0;L;;;;;N;;thou;;;
AA16;MEITHEI MAYEK LETTER DA;Lo;0;L;;;;;N;;dil;;;
AA17;MEITHEI MAYEK LETTER DHA;Lo;0;L;;;;;N;;dhou;;;
AA18;MEITHEI MAYEK LETTER NA;Lo;0;L;;;;;N;;;;;
AA19;MEITHEI MAYEK LETTER PA;Lo;0;L;;;;;N;;;;;
AA1A;MEITHEI MAYEK LETTER PHA;Lo;0;L;;;;;N;;pham;;;
AA1B;MEITHEI MAYEK LETTER BA;Lo;0;L;;;;;N;;;;;
AA1C;MEITHEI MAYEK LETTER BHA;Lo;0;L;;;;;N;;bham;;;
AA1D;MEITHEI MAYEK LETTER MA;Lo;0;L;;;;;N;;mit;;;
AA1E;MEITHEI MAYEK LETTER YA;Lo;0;L;;;;;N;;yang;;;
AA1F;MEITHEI MAYEK LETTER RA;Lo;0;L;;;;;N;;rai;;;
AA20;MEITHEI MAYEK LETTER LA;Lo;0;L;;;;;N;;lai;;;
AA21;MEITHEI MAYEK LETTER WA;Lo;0;L;;;;;N;;wai;;;
AA22;MEITHEI MAYEK LETTER SHA;Lo;0;L;;;;;N;;;;;
AA23;MEITHEI MAYEK LETTER SSA;Lo;0;L;;;;;N;;;;;
AA24;MEITHEI MAYEK LETTER SA;Lo;0;L;;;;;N;;sam;;;
AA25;MEITHEI MAYEK LETTER HA;Lo;0;L;;;;;N;;huk;;;
AA26;MEITHEI MAYEK LETTER KSSA;Lo;0;L;;;;;N;;;;;
AA27;MEITHEI MAYEK VOWEL SIGN AA;Mc;0;L;;;;;N;;atap;;;
AA28;MEITHEI MAYEK VOWEL SIGN I;Mc;0;L;;;;;N;;inap;;;
AA29;MEITHEI MAYEK VOWEL SIGN II;Mc;0;L;;;;;N;;;;;
AA2A;MEITHEI MAYEK VOWEL SIGN U;Mc;0;L;;;;;N;;unap;;;
AA2B;MEITHEI MAYEK VOWEL SIGN UU;Mc;0;L;;;;;N;;;;;
AA2C;MEITHEI MAYEK VOWEL SIGN E;Mc;0;L;;;;;N;;yetnap;;;
AA2D;MEITHEI MAYEK VOWEL SIGN EI;Mc;0;L;;;;;N;;cheinap;;;
AA2E;MEITHEI MAYEK VOWEL SIGN AAI;Mc;0;L;;;;;N;;;;;
AA2F;MEITHEI MAYEK VOWEL SIGN O;Mc;0;L;;;;;N;;otnap;;;
AA30;MEITHEI MAYEK VOWEL SIGN OU;Mc;0;L;;;;;N;;sounap;;;
AA31;MEITHEI MAYEK VOWEL SIGN AU;Mc;0;L;;;;;N;;;;;
AA32;MEITHEI MAYEK VOWEL SIGN AAU;Mc;0;L;;;;;N;;;;;
AA33;MEITHEI MAYEK VOWEL SIGN ANUSVARA;Mc;0;L;;;;;N;;nung;;;
AA34;MEITHEI MAYEK VOWEL SIGN VISARGA;Mc;0;L;;;;;N;;;;;
AA35;MEITHEI MAYEK KILLER;Mc;0;L;;;;;N;;apun eyek;;;
AA36;MEITHEI MAYEK HEAVY TONE;Mc;0;L;;;;;N;;lum eyek;;;
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AA37;MEITHEI MAYEK LETTER K;Mc;0;L;;;;;N;;lonsum kok;;;
AA38;MEITHEI MAYEK LETTER NG;Mc;0;L;;;;;N;;lonsum ngou;;;
AA39;MEITHEI MAYEK LETTER T;Mc;0;L;;;;;N;;lonsum til;;;
AA3A;MEITHEI MAYEK LETTER N;Mc;0;L;;;;;N;;lonsum na;;;
AA3B;MEITHEI MAYEK LETTER P;Lo;0;L;;;;;N;;lonsum pa;;;
AA3C;MEITHEI MAYEK LETTER M;Lo;0;L;;;;;N;;lonsum mit;;;
AA3D;MEITHEI MAYEK LETTER L;Mn;0;NSM;;;;;N;;lonsum lai;;;
AA40;MEITHEI MAYEK DIGIT ZERO;Nd;0;L;;0;0;0;N;;;;;
AA41;MEITHEI MAYEK DIGIT ONE;Nd;0;L;;1;1;1;N;;;;;
AA42;MEITHEI MAYEK DIGIT TWO;Nd;0;L;;2;2;2;N;;;;;
AA43;MEITHEI MAYEK DIGIT THREE;Nd;0;L;;3;3;3;N;;;;;
AA44;MEITHEI MAYEK DIGIT FOUR;Nd;0;L;;4;4;4;N;;;;;
AA45;MEITHEI MAYEK DIGIT FIVE;Nd;0;L;;5;5;5;N;;;;;
AA46;MEITHEI MAYEK DIGIT SIX;Nd;0;L;;6;6;6;N;;;;;
AA47;MEITHEI MAYEK DIGIT SEVEN;Nd;0;L;;7;7;7;N;;;;;
AA48;MEITHEI MAYEK DIGIT EIGHT;Nd;0;L;;8;8;8;N;;;;;
AA49;MEITHEI MAYEK DIGIT NINE;Nd;0;L;;9;9;9;N;;;;;
AA4A;MEITHEI MAYEK ANJI;Po;0;L;;;;;N;;;;;
AA4B;MEITHEI MAYEK SYLLABLE REPETITION MARK;Po;0;L;;;;;N;;;;;
AA4C;MEITHEI MAYEK WORD REPETITION MARK;Po;0;L;;;;;N;;;;;
AA4D;MEITHEI MAYEK COMMA;Po;0;L;;;;;N;;;;;
AA4E;MEITHEI MAYEK FULL STOP;Po;0;L;;;;;N;;cheikhei;;;
AA4F;MEITHEI MAYEK QUESTION MARK;Po;0;L;;;;;N;;;;;
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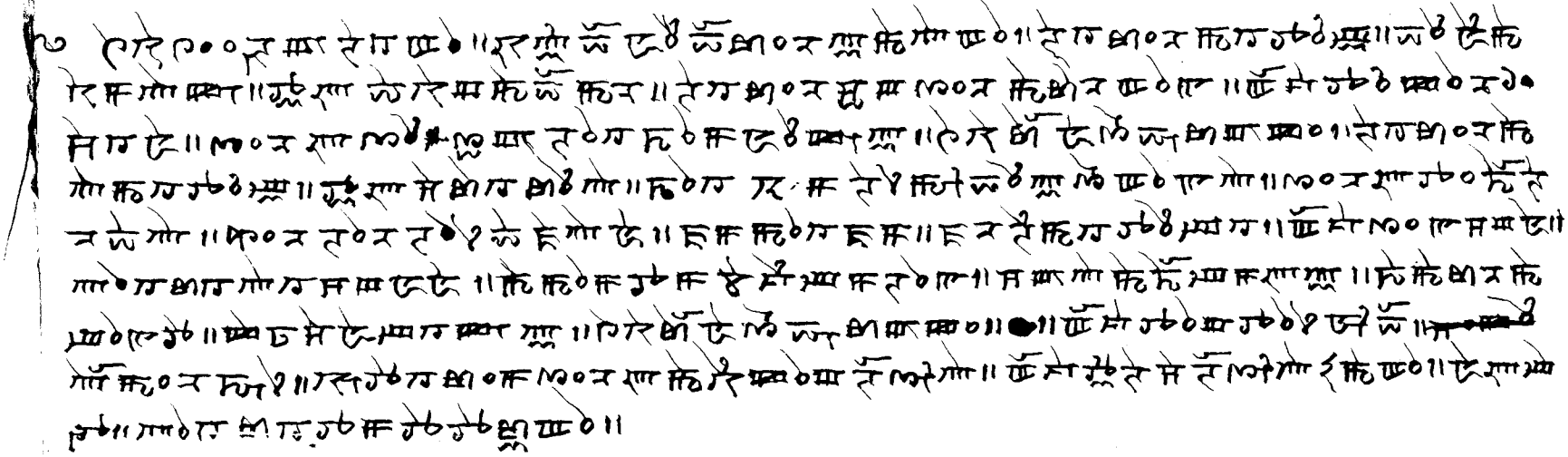
Figures

Figure 1. Sample from Damant 1877.

SPECIMEN OF MANIPURI WRITING.



TRANSLITERATION.

hàyàhee lìklàea o || ipurigathau nongthaurel pumàbàa o || laerel maetengnu || thongnàng màyàmpàki || tubi thàyàng màthaumal || laerel chungsel màràtaol || auwatengkol 10 chàenà || selbi songsuk loekhom nongkipu || hayarauna saithirakke || làerel màpà moetengnu || tubi chàràerongpa || khoemyin làeming thongpu saiaolpa || selbi tekhau lànthàbà || hwiel lolloithà phàbànà || phammoe pham || phallàng maetongae || auwá selchangnà || poerae pàechangnanà || màmom tampà wàngnam lol || chakpà màkhou gnampipu || khàmàral mangolda || kouchà nàngaikipu || hàyàrauna saithirakke || 10 || auwatengtoi ningthau # paumelkhiye || itàerem selbi màyàngkong lausingpa || awà tunglàchâ lausingpa animà a o || nàpingàtu || poerai tamtà tàrua o ||

Figure 2. Sample from Damant 1877.

wú　wù　wo

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，18～19世紀以降，サンスクリット語，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受容することになった．インド・アーリア系の言語に親しんだ階層のメイテイ語には，有声有気の頭子音音素/bh, dh, gh/など，外来の音韻が加わることにもなった．しかし，もともと異音としてメイテイ語にあった/b, d, g, z/以外は，新しい音韻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，綴り発音として用いられたにすぎない．

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（頭子音字）が作られた．

k　kh　g　gh　ṅ
c　ch　j　jh　ñ
ṭ　ṭh　ḍ　ḍh　ṇ
t　th　d　dh　n
p　ph　b　bh　m
a　y　r　l　w
ś　ṣ　s　h　ks

本来のメイテイ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, ṅk, kṛ, sn, tm〉なども考案された．

尾子音字は，次の通りである．

-k　-ṅ´　-`ṅ
-t　-n　-l
-p　-m
-y　-w

母音符号は，次の通りである（〈k-〉についた場合）．

ka　kâ　kí　kì
kú　kù　ke　ko

二重母音表記は，次の通りである（〈'-〉についた場合）．

'ay　'ai
'ây　'âi
'oy
'úy　'ùy
'âu　'âw
'au

〈-oy, -au〉を除いて，声調の書き分けをする．前者が 'light tone'，後者が 'heavy tone' である．

なお，頭子音字にも尾子音字にも異字体がいくつか認められる．たとえば，

k-，ṅ-，
th-，n-，
ph-，m-，w-，

などである．

〈表〉1980年認可の旧マニプール文字

《子母（頭子音字）》(27字)

k　s　l
m　p　n
c　t　kh
ṅ　th　r
y　h　w
y　ph　'
g　jh　r
b　j　d
gh　dh　bh

《尾子音字》(8字)

-k　-l　-m　-p
-n　-t　-ṅ　-y

《母音符号》(8個)

-o　-i　-â　-e　-u
-au　-ai　-aṁ

また，インド系文字に一般的な省略表記も見られる．papú，keke (p, k はそれぞれ再読文字)．

1980年4月，マニプール州知事により認可された「メイテイ・マイェック」(メイテイ文字=旧マニプール文字）の字母表を掲げる（〈表〉）．これは，この伝統的な民族文字復興をめざしてメイテイ文字専門委員会が知事に提出した報告書に示されたものである(母音符号の書き分けによる声調表記は廃している)．

句読点は，句点を|，読点を||で表わす．

数字（1～10）は，次の通りである．

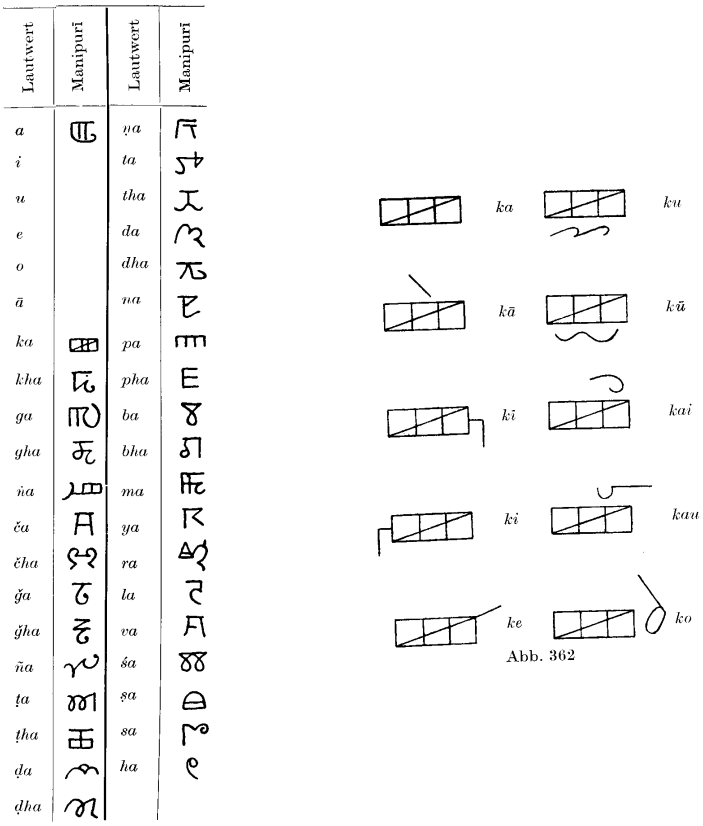
1　2　3　4　5
6　7　8　9　10

このメイテイ文字の改良版をメイテイ語の話し手の間に普及させようという運動があり，州都インパールの町にはメイテイ文字による看板なども見かけられるようになった．しかし，現地でも，メイテイ語の文字体系をベンガル文字による現行の新マニプール文字から旧マニプール文字（メイテイ文字）に替えることは難しいであろうと見る人が少なくない．現行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，憲法を改正しマニプール州の希望に沿ってマニプール語（メイテイ語）を連邦公用語に指定した．このマニプール語は，ベンガル文字による現行の新マニプール文字によるものを想定している．

17世紀にベンガル文字がマニプールに伝わった時，

Figure 3. Sample from The Sanseido Encyclopaedia, showing old and new orthographies for Meithei.



Lautwert	Manipuri	Lautwert	Manipuri
a		*ṇa*	
i		*ta*	
u		*tha*	
e		*da*	
o		*dha*	
ā		*na*	
ka		*pa*	
kha		*pha*	
ga		*ba*	
gha		*bha*	
ṅa		*ma*	
ča		*ya*	
čha		*ra*	
ǰa		*la*	
ǰha		*va*	
ña		*śa*	
ṭa		*ṣa*	
ṭha		*sa*	
ḍa		*ha*	
ḍha			

Abb. 362

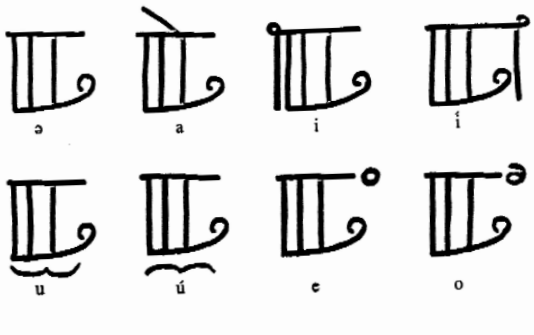
Figure 4. Samples from Jensen, following Greerson's report in the *Linguistic Survey of India*.

Appendix III
Meithei writing systems

Meithei is written in either the Meithei Mayek or Bengali script. The accepted date for the earliest use of Meithei Mayek is between the 11th and 12th centuries (Ch. Manihar Singh 1984: 23). In the classification of scripts provided by K. S. Singh and Manoharan (1993: 26–29), Meithei Mayek is part of the Tibetan group of scripts, which originated from the Gupta Brahmi script. The original Brahmi script was modified to accommodate the phonemic distinctions of Meithei.

Like other Brahmi scripts, Meithei Mayek is syllabic. Each vowel has two representations: an independent grapheme at the beginning of a word and a diacritic off of the consonant it combines with to form a syllable when it occurs elsewhere. See Tables 1 and 2.

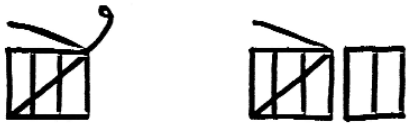
Table 1. Vowel graphemes in Meithei Mayek



When tone is taken into consideration, there are twelve contrastive vowel sounds in Meithei. As seen in Table 1, it is possible to represent the differences between high and low tone *i* and *u* but no way of indicating distinctions between *a* and *á*, *ə* and *ə́*, *e* and *é* and *o* and *ó*.

In contemporary versions of Meithei Mayek, tone distinctions are often indicated with conventions currently in use in writing Meithei in the Bengali script. For example, the distinction between high and low tone *a*, *e*, *ə*, *o* can be indicated before *ŋ* by using a distinct syllable final grapheme for *ŋ* before the high tone vowel. This is illustrated in (1).

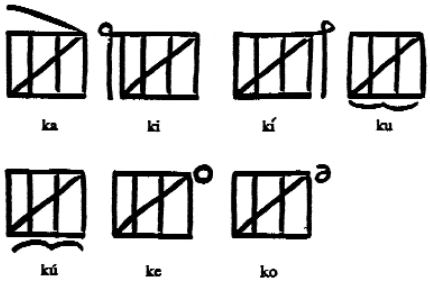
(1)



kaŋ 'chariot' káŋ 'mosquito'

It is not clear how, or if, tone distinctions in other environments are signalled. In examples provided to me by Th. Harimohon Singh, minimal tone pairs such as *ta-* 'fall' and *tá-* 'hear' cannot be distinguished in writing.

Table 2. Non-syllable initial vowels in Meithei Mayek with the shape *kV*



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 diacri-

Figure 5a. Discussion in Chelliah 1997 describing traditional Meithei orthography.

tics used with consonants are illustrated in Table 3 and 4 respectively.

Table 3. Syllable initial diphthongs in Meitei Mayek

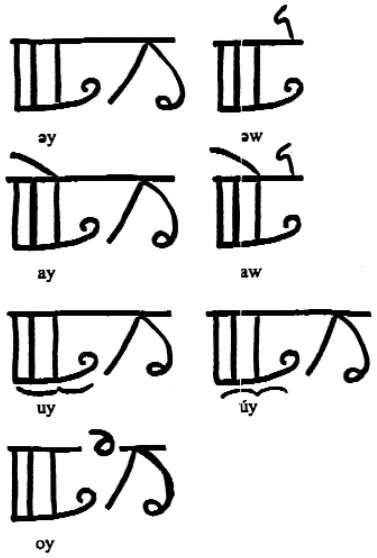


Table 4. Non-syllable initial diphthongs in Meithei Mayek illustrated with [k]

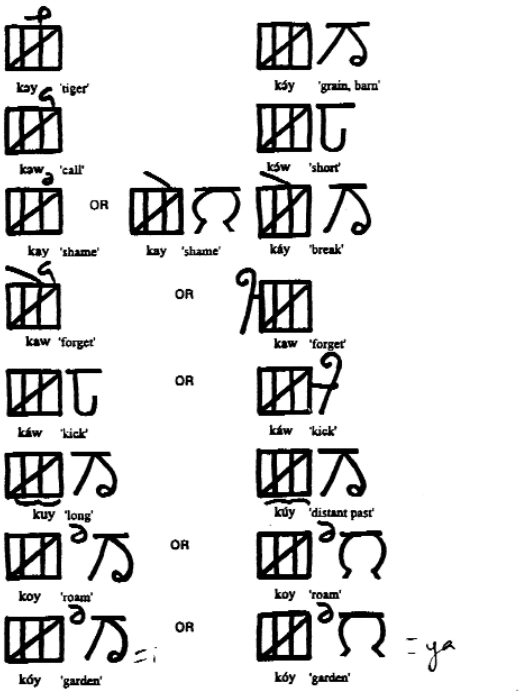


Figure 5b. Discussion in Chelliah 1997 describing traditional Meithei orthography.

Table 5. Consonant graphemes in Meithei Mayek

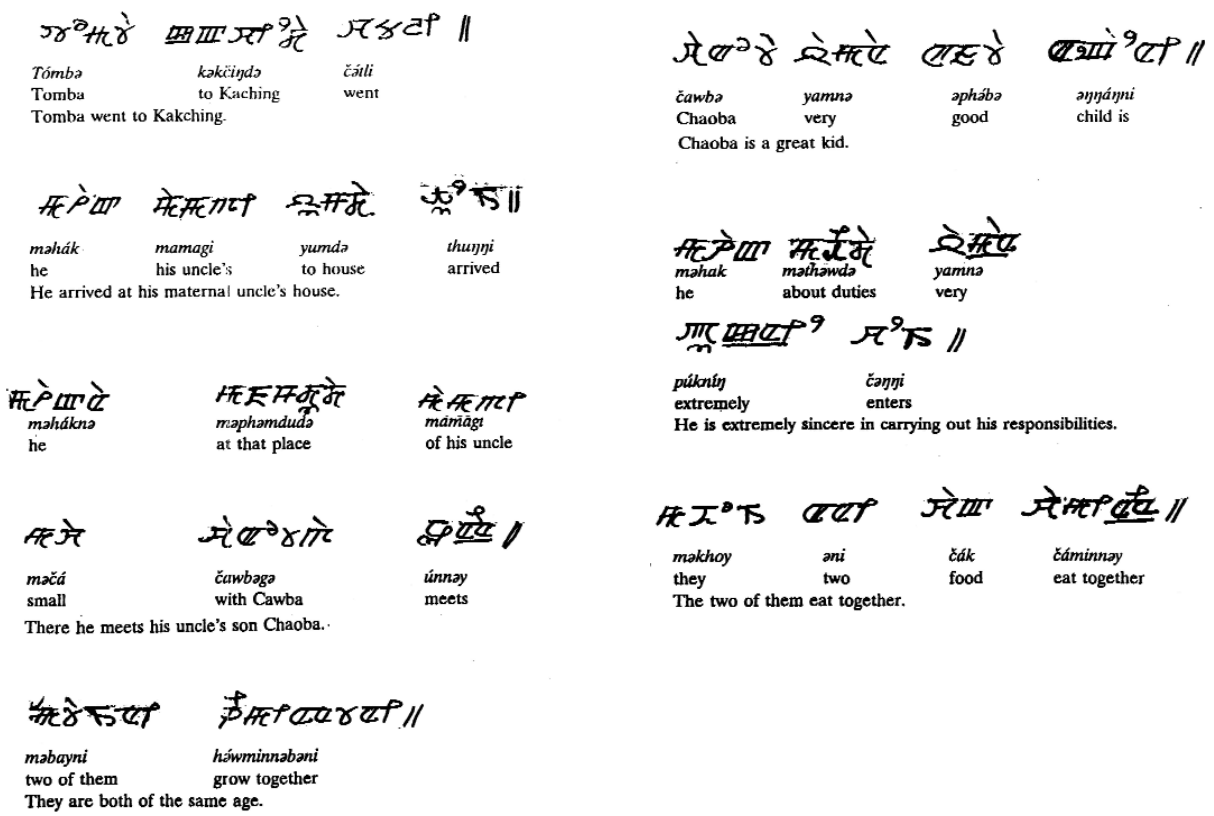
Consonants have two representations, a grapheme for syllable initial position and a grapheme for non-initial position. Syllable initial consonant graphemes are given in Table 5. Note that the consonant is read as a combination of the consonant and a schwa. Syllable final consonant graphemes are given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

Table 6. Syllable final consonant graphemes in Meithei Mayek

I provide a sample of handwritten Meithei Mayek in (2) which illustrates a marginally different style of the script (note the graphemes for [y] and [n]). Explanation of different styles of Meithei Mayek is given in Tensuba (1993). A longer example of the Meithei Mayek, with interlinear and free translation in English, can be found in Grierson (1903–1928: 32–39).

Figure 5c. Discussion in Chelliah 1997 describing traditional Meithei orthography.

(2) Sample of Meithei in Meithei Mayek from a personal narrative by Th. Harimohon Singh. The script sample and transliteration were provided by the narrator.



Tómbə *kəkčiŋdə* *čátli*
Tomba to Kaching went
Tomba went to Kakching.

məhák *mamagi* *yumdə* *thuŋŋi*
he his uncle's to house arrived
He arrived at his maternal uncle's house.

məhákna *məphəmdudə* *mámágı*
he at that place of his uncle

məčá *čawbəgə* *únnəy*
small with Cawba meets
There he meets his uncle's son Chaoba.

məbayni *háwminnəbəni*
two of them grow together
They are both of the same age.

ojanə *məkhoybu* *layrik* *takpi*
teacher them book teaches
The teacher conducts their lessons.

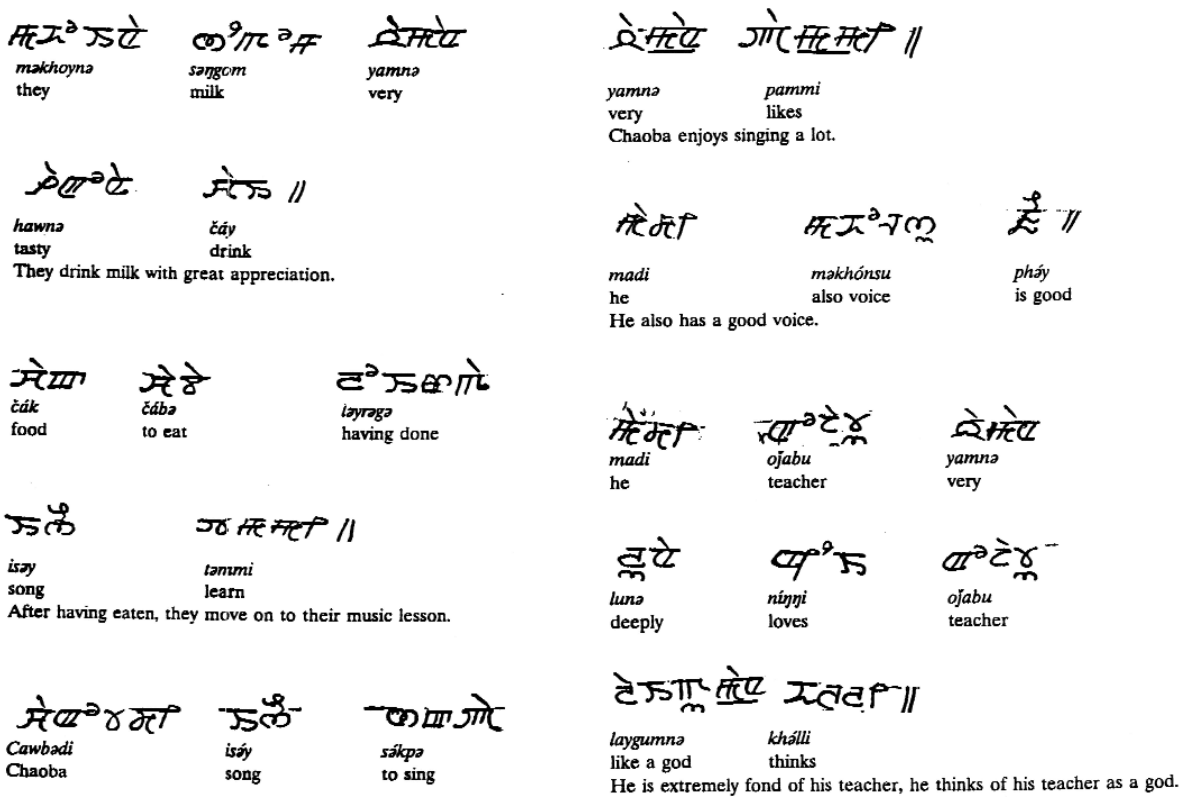
čawbə *yamnə* *əphábə* *əŋŋáŋni*
Chaoba very good child is
Chaoba is a great kid.

məhak *məthəwdə* *yamnə*
he about duties very

púknıŋ *čəŋŋi*
extremely enters
He is extremely sincere in carrying out his responsibilities.

məkhoy *əni* *čák* *čáminnəy*
they two food eat together
The two of them eat together.

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



məkhoynə *səŋgom* *yamnə*
they milk very

hawnə *čáy*
tasty drink
They drink milk with great appreciation.

čák *čábə* *ləyrəgə*
food to eat having done

isəy *təmmi*
song learn
After having eaten, they move on to their music lesson.

Cawbədi *isáy* *sákpə*
Chaoba song to sing

yamnə *pammi*
very likes
Chaoba enjoys singing a lot.

madi *məkhónsu* *pháy*
he also voice is good
He also has a good voice.

madi *oǰabu* *yamnə*
he teacher very

lunə *níŋŋi* *oǰabu*
deeply loves teacher

laygumnə *kháłli*
like a god thinks
He is extremely fond of his teacher, he thinks of his teacher as a god.

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

(2) Sample of Meithei in Meithei Mayek from a personal narrative by Th. Harimohon Singh. The script sample and transliteration were provided by the narrator.

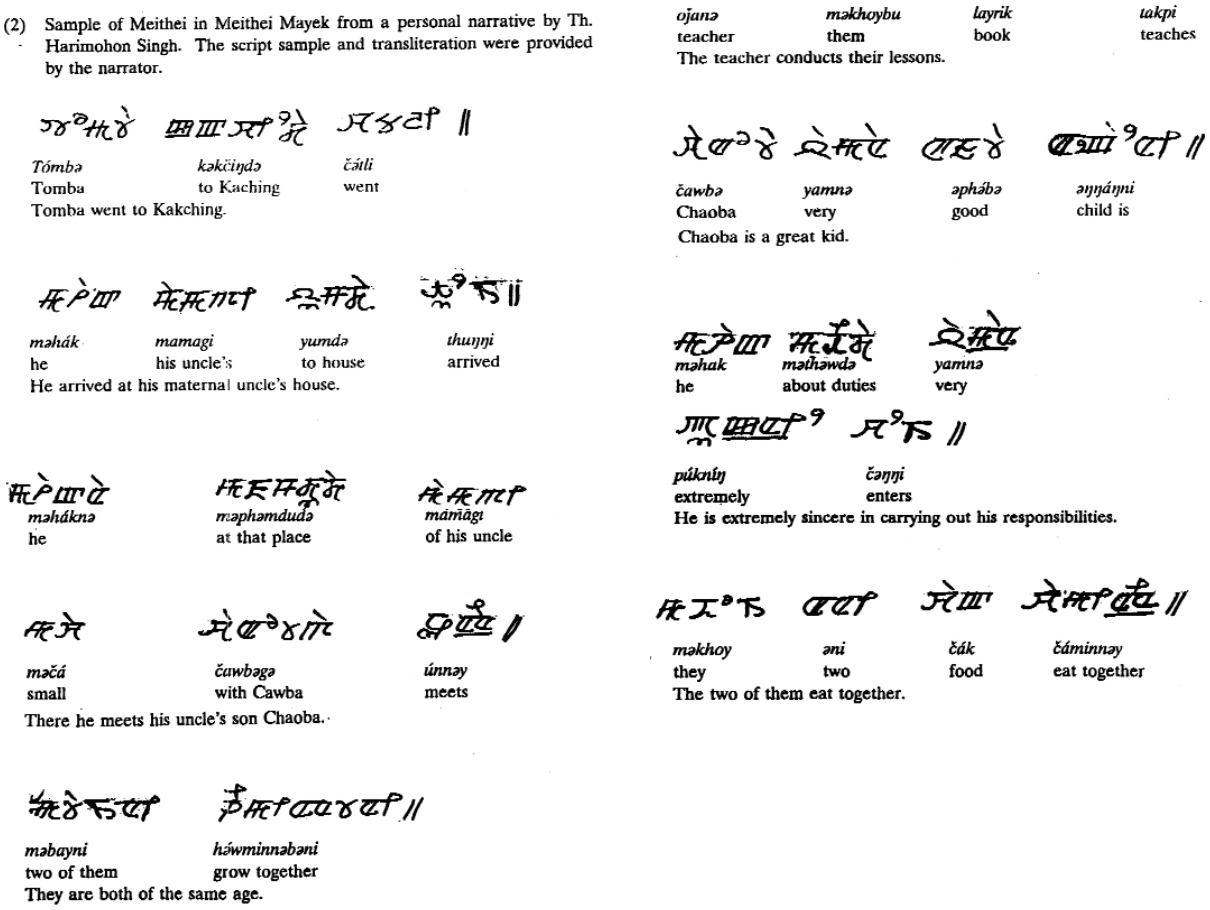


Figure 6c. Sample text in Chelliah 1997 written in modern Meithei orthography.

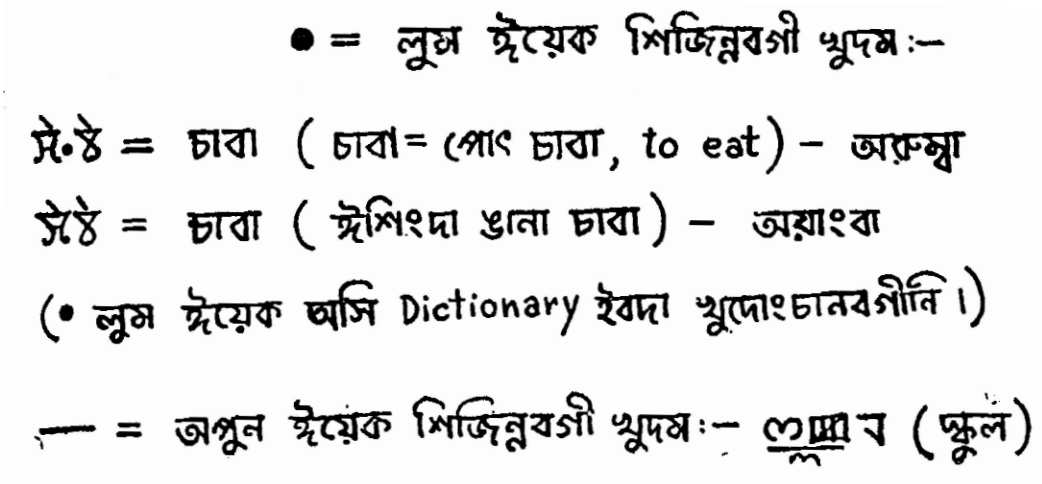


Figure 7. Text from the *Manipuri Gazette* 1980 discussing Meithei punctuation.

TABLE XX - Row 1C: MEITHEI MAYEK

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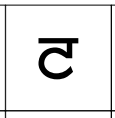
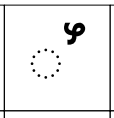
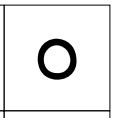
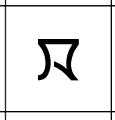
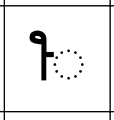
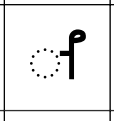
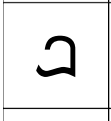
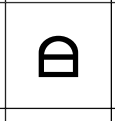
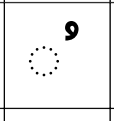
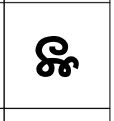
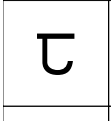
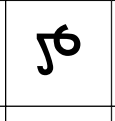
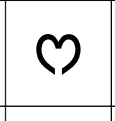
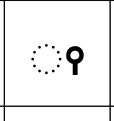
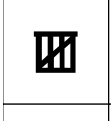
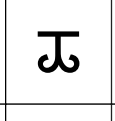
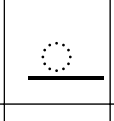
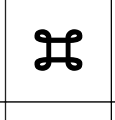
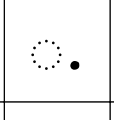
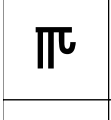
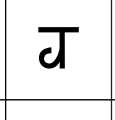
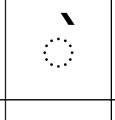
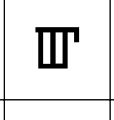
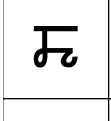
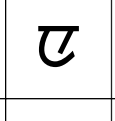
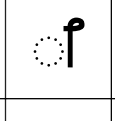
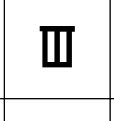
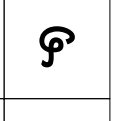
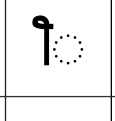
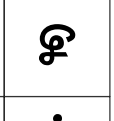
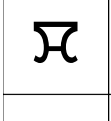
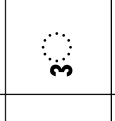
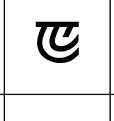
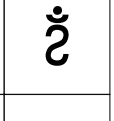
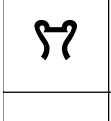
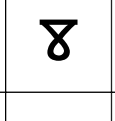
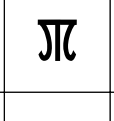
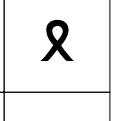
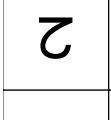
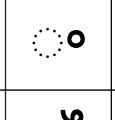
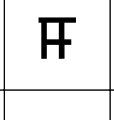
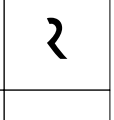
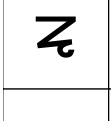
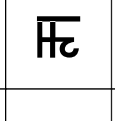
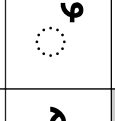
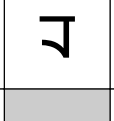
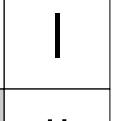
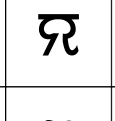
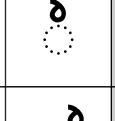
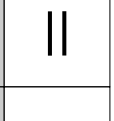
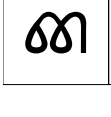
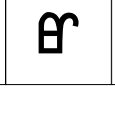
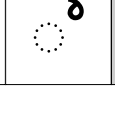
0					
1					
2					
3					
4					
5					
6					
7					
8					
9					
A					
B					
C					
D					
E					
F					

G = 00
P = 00

TABLE XXX - Row 1C: MEITHEI MAYEK

hex	Name
80	MEITHEI MAYEK LETTER A (atiya)
81	MEITHEI MAYEK LETTER I (ee)
82	MEITHEI MAYEK LETTER U (un)
83	MEITHEI MAYEK LETTER E
84	MEITHEI MAYEK LETTER O
85	MEITHEI MAYEK LETTER KA (kok)
86	MEITHEI MAYEK LETTER KHA (khou)
87	MEITHEI MAYEK LETTER GA (gok)
88	MEITHEI MAYEK LETTER GHA (ghou)
89	MEITHEI MAYEK LETTER NGA (ngou)
8A	MEITHEI MAYEK LETTER CA (chil)
8B	MEITHEI MAYEK LETTER CHA
8C	MEITHEI MAYEK LETTER JA (jil)
8D	MEITHEI MAYEK LETTER JHA (jham)
8E	MEITHEI MAYEK LETTER NYA
8F	MEITHEI MAYEK LETTER TTA
90	MEITHEI MAYEK LETTER TTHA
91	MEITHEI MAYEK LETTER DDA
92	MEITHEI MAYEK LETTER DDHA
93	MEITHEI MAYEK LETTER NNA
94	MEITHEI MAYEK LETTER TA (til)
95	MEITHEI MAYEK LETTER THA (thou)
96	MEITHEI MAYEK LETTER DA (dil)
97	MEITHEI MAYEK LETTER DHA (dhou)
98	MEITHEI MAYEK LETTER NA
99	MEITHEI MAYEK LETTER PA
9A	MEITHEI MAYEK LETTER PHA (pham)
9B	MEITHEI MAYEK LETTER BA
9C	MEITHEI MAYEK LETTER BHA (bham)
9D	MEITHEI MAYEK LETTER MA (mit)
9E	MEITHEI MAYEK LETTER YA (yang)
9F	MEITHEI MAYEK LETTER RA (rai)
A0	MEITHEI MAYEK LETTER LA (lai)
A1	MEITHEI MAYEK LETTER WA (wai)
A2	MEITHEI MAYEK LETTER SHA
A3	MEITHEI MAYEK LETTER SSA
A4	MEITHEI MAYEK LETTER SA (sam)
A5	MEITHEI MAYEK LETTER HA (huk)
A6	MEITHEI MAYEK LETTER KSSA
A7	MEITHEI MAYEK VOWEL SIGN AA (atap)
A8	MEITHEI MAYEK VOWEL SIGN I (inap)
A9	MEITHEI MAYEK VOWEL SIGN II
AA	MEITHEI MAYEK VOWEL SIGN U (unap)
AB	MEITHEI MAYEK VOWEL SIGN UU
AC	MEITHEI MAYEK VOWEL SIGN E (yetnap)
AD	MEITHEI MAYEK VOWEL SIGN EI (cheinap)
AE	MEITHEI MAYEK VOWEL SIGN AAI
AF	MEITHEI MAYEK VOWEL SIGN O (otnap)
B0	MEITHEI MAYEK VOWEL SIGN OU (sounap)
B1	MEITHEI MAYEK VOWEL SIGN AU
B2	MEITHEI MAYEK VOWEL SIGN AAU
B3	MEITHEI MAYEK VOWEL SIGN ANUSVARA (nung)
B4	MEITHEI MAYEK VOWEL SIGN VISARGA
B5	MEITHEI MAYEK KILLER (apun eyek)
B6	MEITHEI MAYEK HEAVY TONE (lum eyek)
B7	MEITHEI MAYEK LETTER K (lonsum kok)
B8	MEITHEI MAYEK LETTER NG (lonsum ngou)
B9	MEITHEI MAYEK LETTER T (lonsum til)
BA	MEITHEI MAYEK LETTER N (lonsum na)
BB	MEITHEI MAYEK LETTER P (lonsum pa)
BC	MEITHEI MAYEK LETTER M (lonsum mit)
BD	MEITHEI MAYEK LETTER L (lonsum lai)
BE	(This position shall not be used)
BF	(This position shall not be used)
C0	MEITHEI MAYEK DIGIT ZERO
C1	MEITHEI MAYEK DIGIT ONE
C2	MEITHEI MAYEK DIGIT TWO
C3	MEITHEI MAYEK DIGIT THREE
C4	MEITHEI MAYEK DIGIT FOUR
C5	MEITHEI MAYEK DIGIT FIVE
C6	MEITHEI MAYEK DIGIT SIX
C7	MEITHEI MAYEK DIGIT SEVEN
C8	MEITHEI MAYEK DIGIT EIGHT
C9	MEITHEI MAYEK DIGIT NINE
CA	MEITHEI MAYEK ANJI
CB	MEITHEI MAYEK SYLLABLE REPETITION MARK
CC	MEITHEI MAYEK WORD REPETITION MARK
CD	MEITHEI MAYEK COMMA
CE	MEITHEI MAYEK FULL STOP (cheikhei)
CF	MEITHEI MAYEK QUESTION MARK

hex	Name

A. Administrative

1. Title

Preliminary proposal for encoding the Meithei Mayek script in the BMP of the UCS.

2. Requester's name

Michael Everson

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

Individual contribution.

4. Submission date

2006-09-20

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

Cham.

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

74.

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. Proposed Level of Implementation (1, 2 or 3)

Level 2

4b. Is a rationale provided for the choice?

Yes.

4c. If YES, reference

Cham requires Level 2 implementation as other Brahmic scripts do.

5a. Is a repertoire including character names provided?

Yes.

5b. If YES, are the names in accordance with the "character naming guidelines" in Annex L of P&P document?

Yes.

5c. Are the character shapes attached in a legible form suitable for review?

Yes.

6a. Who will provide the appropriate computerized font (ordered preference: True Type, or PostScript format) for publishing the standard?

Michael Everson.

6b. If available now, identify source(s) for the font (include address, e-mail, ftp-site, etc.) and indicate the tools used:

Michael Everson, Fontographer.

7a. Are references (to other character sets, dictionaries, descriptive texts etc.) provided?

Yes.

7b. Are published examples of use (such as samples from newspapers, magazines, or other sources) of proposed characters attached?

Yes.

8. 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. See above.

9. 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.

Yes. See above.

C. Technical – Justification

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

Yes. See N1578, N1599, N1960.

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?
Bùi Khánh Thế
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?
Yes. See above.
4a. The context of use for the proposed characters (type of use; common or rare)
Common. Used to write the Cham language.
4b. Reference
5a. Are the proposed characters in current use by the user community?
Yes.
5b. If YES, where?
Vietnam.
6a. After giving due considerations to the principles in the P&P document must the proposed characters be entirely in the BMP?
Yes. Positions AA00-AA5F are proposed.
6b. If YES, is a rationale provided?
Yes.
6c. If YES, reference
Contemporary use and accordance with the Roadmap.
7. Should the proposed characters be kept together in a contiguous range (rather than being scattered)?
Yes.
8a. Can any of the proposed characters be considered a presentation form of an existing character or character sequence?
No.
8b. If YES, is a rationale for its inclusion provided?
8c. If YES, reference
9a. Can any of the proposed characters be encoded using a composed character sequence of either existing characters or other proposed characters?
No.
9b. If YES, is a rationale for its inclusion provided?
9c. If YES, reference
10a. Can any of the proposed character(s) be considered to be similar (in appearance or function) to an existing character?
No.
10b. If YES, is a rationale for its inclusion provided?
10c. If YES, reference
11a. Does the proposal include use of combining characters and/or use of composite sequences?
Yes.
11b. If YES, is a rationale for such use provided?
Yes.
11c. If YES, reference
Brahmic vowel 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?