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

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Title: **Proposal to encode the Mwangwego script in the UCS**
Source: **UC Berkeley Script Encoding Initiative (Universal Scripts Project)**
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0. Introduction. This proposal gives preliminary information towards the encoding of an African script known as the Mwangwego script. This script was first devised in 1979 by Nolence Moses Mwangwego of Malawi, and is designed for writing the Chewa, Lomwe, Sena, Tonga, Tumbuka, Yao, Nyakyusa, and Ngonde languages, spoken in all by 15 million people. These languages belong to the Bantu branch of the Niger-Congo languages. (Rovenchak and Glavy 2011:104). There are at least 400 users of the script at present, many of them training to be teachers of the script.

1. Structure. The Mwangwego script is typically presented to learners as a syllabary, similar to Ethiopic, but in structure is an abugida, because of the regular way in which vowel signs are added to a base character which has an inherent vowel *-a*. In addition to these vowel-signs, some spacing consonant modifiers which precede a base letter are used; these can also be used in combination with one another to extend the repertoire of consonant onsets. Some combining diacritical marks are also used, either for modification of consonants or for marking high tone to distinguish some homographs. Mwangwego is written from left-to-right.

2. Basic syllabic repertoire. The repertoire of base consonants and vowels as typically presented is as follows:

ꬷ a	ꬸ e	ꬹ i	ꬺ o	ꬻ u
ꬼ ba	ꬽ be	ꬾ bi	ꬿ bo	ꭀ bu
ꭁ cha	ꭂ che	ꭃ chi	ꭄ cho	ꭅ chu
ꭆ da	ꭇ de	ꭈ di	ꭉ do	ꭊ du
ꭋ fa	ꭌ fe	ꭍ fi	ꭎ fo	ꭏ fu
ꭐ ga	ꭑ ge	ꭒ gi	ꭓ go	ꭔ gu
ꭕ gha	ꭖ ghe	ꭗ ghi	ꭘ gho	ꭙ ghu
ꭚ ha	꭛ he	ꭜ hi	ꭝ ho	ꭞ hu
ꭟ ja	ꭠ je	ꭡ ji	ꭢ jo	ꭣ ju
ꭤ ʒa	ꭥ ʒe	ꭦ ʒi	ꭧ ʒo	ꭨ ʒu
ꭩ ka	꭪ ke	꭫ ki	꭬ ko	꭭ ku
꭮ la	꭯ le	ꭰ li	ꭱ lo	ꭲ lu
ꭳ ma	ꭴ me	ꭵ mi	ꭶ mo	ꭷ mu
ꭸ na	ꭹ ne	ꭺ ni	ꭻ no	ꭼ nu
ꭽ nya	ꭾ nye	ꭿ nyi	ꮀ nyo	ꮁ nyu
ꮂ pa	ꮃ pe	ꮄ pi	ꮅ po	ꮆ pu
ꮇ ra	ꮈ re	ꮉ ri	ꮊ ro	ꮋ ru
ꮌ sa	ꮍ se	ꮎ si	ꮏ so	ꮐ su
ꮑ sha	ꮒ she	ꮓ shi	ꮔ sho	ꮕ shu
ꮖ ta	ꮗ te	ꮘ ti	ꮙ to	ꮚ tu
ꮛ tsa	ꮜ tse	ꮝ tsi	ꮞ tso	ꮟ tsu
ꮠ psa	ꮡ pse	ꮢ psi	ꮣ pso	ꮤ psu
ꮥ va	ꮦ ve	ꮧ vi	ꮨ vo	ꮩ vu
ꮪ wa	ꮫ we	ꮬ wi	ꮭ wo	ꮮ wu
ꮯ ya	ꮰ ye	ꮱ yi	ꮲ yo	ꮳ yu
ꮴ za	ꮵ ze	ꮶ zi	ꮷ zo	ꮸ zu
ꮹ dza	ꮺ dze	ꮻ dzi	ꮼ dzo	ꮽ dzu
ꮾ dhla	ꮿ dhle	ᯀ dhli	ᯁ dhlo	ᯂ dhlu
ᯃ hla	ᯄ hle	ᯅ hli	ᯆ hlo	ᯇ hlu
ᯈ xa	ᯉ xe	ᯊ xi	ᯋ xo	ᯌ xu
ᯍ qa	ᯎ qe	ᯏ qi	ᯐ qo	ᯑ qu
ᯒ tha	ᯓ the	ᯔ thi	ᯕ tho	ᯖ thu

3. Vowel composition. The vowels *e*, *-i*, *-o*, and *-u* combine by fusing to the bottom right of their base consonants. In the Unicode Character Properties it has been proposed to place these in the "204" CCC class, "attached bottom right" because that is how they behave. That class has hitherto been unpopulated.

ba	+	◌ e	=	be
ba	+	◌ i	=	bi
ba	+	◌ o	=	bo
ba	+	◌ u	=	bu

4. Spacing consonant modifiers. The value of a consonant can be changed into a different value by the addition of a prefixed spacing character or a combining diacritical mark; such a mark is called *mutuyo*. These in turn can sometimes be combined together to produce more complex spacing characters; these "multiple" characters are called *mituyo* (the plural of *mutuyo*). There are two approaches to encoding such complex spacing characters: typographic ligation in the font (which would have to be rendered correctly in all applications) or to encode the combinations as unitary characters. Relying on typographic ligation is problematic, as it very often does not work in software. Also, since this script is otherwise very simple, there's no need for that level of complexity when just a few pre-posed spacing characters is all that is needed. The set of combinations is finite, as the order in which combinations are combined. It is never correct (i.e, legible) to string them horizontally, and making them "ligatures" may easily fail in many rendering environments, which is unnecessary and undesirable. Readers do not parse the stacks per se, but read the whole cluster as a whole. The most complex "stack" in the script can be seen in the syllable *mnkhwa*; it would be completely illegible for this to be rendered as . There appear also to be some limitations on which marks are used with which consonants, and in which combinations with one another. More research is needed. In any case, here is a description of how these marks work, as far as is understood at present.

4.1 Mutuyo mi. The mark MI seems to pre-nasalize labial consonants. It is described as "used when both lips meet heavily".

mi	+	ba	=	mba
mi	+	pa	=	mpa

4.2 Mutuyo myu. The mark MYU seems to pre-nasalize non-labial consonants. It is described as "used when pronouncing a word which involves a slight meeting of both lips".

myu	+	cha	=	mcha
myu	+	ka	=	mka
myu	+	ma	=	m'ma
myu	+	ta	=	mta
myu	+	dza	=	mdza

4.3 Mutuyo sisa. The mark SISA prefixes s- to consonants.

sisa	+	ka	=	ska
sisa	+	ma	=	sma
sisa	+	ta	=	sta

4.4 MUTUYO NI. The mark ◌" NI seems to be used primarily for homorganic palatalization (which may not be reflected in the transcription).

◌" ni + 𞄃 da = 𞄃" nda – tip of the tongue touches the front part of the palate
◌" ni + 𞄄 ta = 𞄄" nta
◌" ni + 𞄅 tsa = 𞄅" ntsa
◌" ni + 𞄆 dza = 𞄆" ndza
◌" ni + 𞄇 a = 𞄇" ng'a – rear of the tongue touches the palate
◌" ni + 𞄈 ga = 𞄈" nga
◌" ni + 𞄉 cha = 𞄉" ncha – middle of the tongue touches the palate
◌" ni + 𞄊 ja = 𞄊" nja
◌" ni + 𞄋 sa = 𞄋" nsa – tongue slightly touches the palate
◌" ni + 𞄌 sha = 𞄌" nsha
◌" ni + 𞄍 fa = 𞄍" mfa – labiodentalization
◌" ni + 𞄎 va = 𞄎" mva

4.5 MUTUYO TUMBU. The mark ◌' TUMBU seems to cause some sort of prenasalization.

◌' tumbu + 𞄃 da = 𞄃' n'da
◌' tumbu + 𞄏 nya = 𞄏' n'nya
◌' tumbu + 𞄐 wa = 𞄐' n'wa
◌' tumbu + 𞄑 ya = 𞄑' n'ya

4.6 MUTUYO HI. The mark ◌¨ HI seems to aspirate consonants. Its use may be limited to only a few consonants.

◌¨ hi + 𞄉 cha = 𞄉¨ tcha
◌¨ hi + 𞄒 ka = 𞄒¨ kha
◌¨ hi + 𞄓 pa = 𞄓¨ pha
◌¨ hi + 𞄄 ta = 𞄄¨ tha
◌¨ hi + 𞄅 tsa = 𞄅¨ tsha

4.7 MUTUYO WAYA. The mark ◌ WAYA seems to labialize consonants.

◌ waya + 𞄔 ba = ◌𞄔 bwa
◌ waya + 𞄕 ma = ◌𞄕 mwa

5. Non-spacing modifiers. A variety of changes are also made with the use of non-spacing diacritical marks.

5.1 MUTUYO WAYA BELOW. The mark ◌𞄽 WAYA BELOW adds a following y-glide to consonants.

◌𞄽 waya + 𞄃 da = 𞄃𞄽 dya
◌𞄽 waya + 𞄕 ma = 𞄕𞄽 mya

5.2 MUTUYO MURA. The mark ◌𞄾 MURA adds a following r-glide to consonants.

◌𞄾 mura + 𞄔 ba = 𞄔𞄾 bra
◌𞄾 mura + 𞄒 ka = 𞄒𞄾 kra
◌𞄾 mura + 𞄄 ta = 𞄄𞄾 tra

5.3 Mutuyo mula. The mark ◌̀ mula adds a following l-glide to consonants.

◌̀ mula + ba = bla
◌̀ mula + ka = kla
◌̀ mula + ta = tla

5.4 Mutuyo pewa. The mark ◌̂ pewa seems to serve a variety of purposes, indicating affrication and other consonant modifications.

◌̂ pewa + ba = ŵa
◌̂ pewa + fa = pfa
◌̂ pewa + va = bva
◌̂ pewa + za = bza
◌̂ pewa + ða = θa

5.5 Mutuyo kwanthu. The mark ◌́ kwanthu serves to mark the high tone, at least on words which might otherwise be mis-read.

ta + ◌ e + ◌́ kwanthu = mténgo ‘tree’
ta + ◌ e = mtengo ‘price’

6. Combinations of modifiers. The following combinations of modifiers have been observed. The order in which these appear is the expected sorting order

6.1 Mituyo mi-hi.

mi-hi + pa = mpha

6.2 Mituyo mi-hi-waya.

mi-hi-waya + pa = mphwa

6.3 Mituyo mi-waya.

mi-waya + ba = mbwa
mi-waya + pa = mpwa

6.4 Mituyo myu-ni.

myu-ni + ka = mnka

6.5 Mituyo myu-ni-hi.

myu-ni-hi + ka = mnkha (*not yet attested*)

6.6 Mituyo myu-ni-hi-waya.

myu-ni-hi-waya + ka = mnkhwa

6.7 Mituyo myu-hi.

myu-hi + ka = mkha

6.8 Mityuo myu-waya.

myu-waya + ka = mkwa

6.9 Mityuo sisa-ni.

sisa-ni + ka = snka (*not yet attested*)

6.10 Mityuo sisa-ni-hi.

sisa-ni-hi + ka = snkha

6.11 Mityuo ni-hi.

ni-hi + ka = nkha

6.12 Mityuo ni-hi-waya.

ni-hi-waya + ka = nkhwa

6.13 Mityuo ni-waya.

ni-waya + ka = nkwa

6.14 Mityuo hi-waya.

hi-waya + ka = khwa
hi-waya + pa = phwa

7. Punctuation and numbers. European digits and punctuation are used and no script-specific marks are known. The characters observed in text so far are:

0028 LEFT PARENTHESIS
0029 RIGHT PARENTHESIS
002C COMMA
002D HYPHEN-MINUS (used in dates, at least)
002E FULL STOP
003A COLON
003F QUESTION MARK
27EA MATHEMATICAL LEFT DOUBLE ANGLE BRACKET (used as quotation mark)
27EB MATHEMATICAL RIGHT DOUBLE ANGLE BRACKET (used as quotation mark)

8. Unicode Character Properties

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16E00;MWANGWEGO LETTER A;Lo;0;L;;;;;N;;;;;
16E01;MWANGWEGO LETTER BA;Lo;0;L;;;;;N;;;;;
16E02;MWANGWEGO LETTER CHA;Lo;0;L;;;;;N;;;;;
16E03;MWANGWEGO LETTER DA;Lo;0;L;;;;;N;;;;;
16E04;MWANGWEGO LETTER FA;Lo;0;L;;;;;N;;;;;
16E05;MWANGWEGO LETTER GA;Lo;0;L;;;;;N;;;;;
16E06;MWANGWEGO LETTER GHA;Lo;0;L;;;;;N;;;;;
16E07;MWANGWEGO LETTER HA;Lo;0;L;;;;;N;;;;;
16E08;MWANGWEGO LETTER JA;Lo;0;L;;;;;N;;;;;
16E09;MWANGWEGO LETTER ZHA;Lo;0;L;;;;;N;;;;;
16E0A;MWANGWEGO LETTER KA;Lo;0;L;;;;;N;;;;;
16E0B;MWANGWEGO LETTER LA;Lo;0;L;;;;;N;;;;;
16E0C;MWANGWEGO LETTER MA;Lo;0;L;;;;;N;;;;;
16E0D;MWANGWEGO LETTER NA;Lo;0;L;;;;;N;;;;;
16E0E;MWANGWEGO LETTER NYA;Lo;0;L;;;;;N;;;;;
16E0F;MWANGWEGO LETTER PA;Lo;0;L;;;;;N;;;;;
16E10;MWANGWEGO LETTER RA;Lo;0;L;;;;;N;;;;;
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16E11;MWANGWEGO LETTER SA;Lo;0;L;;;;;N;;;;;
16E12;MWANGWEGO LETTER SHA;Lo;0;L;;;;;N;;;;;
16E13;MWANGWEGO LETTER TA;Lo;0;L;;;;;N;;;;;
16E14;MWANGWEGO LETTER TSA;Lo;0;L;;;;;N;;;;;
16E15;MWANGWEGO LETTER PSA;Lo;0;L;;;;;N;;;;;
16E16;MWANGWEGO LETTER VA;Lo;0;L;;;;;N;;;;;
16E17;MWANGWEGO LETTER WA;Lo;0;L;;;;;N;;;;;
16E18;MWANGWEGO LETTER YA;Lo;0;L;;;;;N;;;;;
16E19;MWANGWEGO LETTER ZA;Lo;0;L;;;;;N;;;;;
16E1A;MWANGWEGO LETTER DZA;Lo;0;L;;;;;N;;;;;
16E1B;MWANGWEGO LETTER DHLA;Lo;0;L;;;;;N;;;;;
16E1C;MWANGWEGO LETTER HLA;Lo;0;L;;;;;N;;;;;
16E1D;MWANGWEGO LETTER XA;Lo;0;L;;;;;N;;;;;
16E1E;MWANGWEGO LETTER QA;Lo;0;L;;;;;N;;;;;
16E1F;MWANGWEGO LETTER THA;Lo;0;L;;;;;N;;;;;
16E20;MWANGWEGO VOWEL SIGN E;Mc;204;L;;;;;N;;;;;
16E21;MWANGWEGO VOWEL SIGN I;Mc;204;L;;;;;N;;;;;
16E22;MWANGWEGO VOWEL SIGN O;Mc;204;L;;;;;N;;;;;
16E23;MWANGWEGO VOWEL SIGN U;Mc;204;L;;;;;N;;;;;
16E24;MWANGWEGO MODIFIER LETTER MI;Lo;0;L;;;;;N;;;;;
16E25;MWANGWEGO MODIFIER LETTER MI-HI;Lo;0;L;;;;;N;;;;;
16E26;MWANGWEGO MODIFIER LETTER MI-HI-WAYA;Lo;0;L;;;;;N;;;;;
16E27;MWANGWEGO MODIFIER LETTER MI-WAYA;Lo;0;L;;;;;N;;;;;
16E28;MWANGWEGO MODIFIER LETTER MYU;Lo;0;L;;;;;N;;;;;
16E29;MWANGWEGO MODIFIER LETTER MYU-NI;Lo;0;L;;;;;N;;;;;
16E2A;MWANGWEGO MODIFIER LETTER MYU-NI-HI;Lo;0;L;;;;;N;;;;;
16E2B;MWANGWEGO MODIFIER LETTER MYU-NI-HI-WAYA;Lo;0;L;;;;;N;;;;;
16E2C;MWANGWEGO MODIFIER LETTER MYU-HI;Lo;0;L;;;;;N;;;;;
16E2D;MWANGWEGO MODIFIER LETTER MYU-WAYA;Lo;0;L;;;;;N;;;;;
16E2E;MWANGWEGO MODIFIER LETTER SISA;Lo;0;L;;;;;N;;;;;
16E2F;MWANGWEGO MODIFIER LETTER SISA-NI;Lo;0;L;;;;;N;;;;;
16E30;MWANGWEGO MODIFIER LETTER SISA-NI-HI;Lo;0;L;;;;;N;;;;;
16E31;MWANGWEGO MODIFIER LETTER NI;Lo;0;L;;;;;N;;;;;
16E32;MWANGWEGO MODIFIER LETTER NI-HI;Lo;0;L;;;;;N;;;;;
16E33;MWANGWEGO MODIFIER LETTER NI-HI-WAYA;Lo;0;L;;;;;N;;;;;
16E34;MWANGWEGO MODIFIER LETTER NI-WAYA;Lo;0;L;;;;;N;;;;;
16E35;MWANGWEGO MODIFIER LETTER TUMBU;Lo;0;L;;;;;N;;;;;
16E36;MWANGWEGO MODIFIER LETTER HI;Lo;0;L;;;;;N;;;;;
16E37;MWANGWEGO MODIFIER LETTER HI-WAYA;Lo;0;L;;;;;N;;;;;
16E38;MWANGWEGO MODIFIER LETTER WAYA;Lo;0;L;;;;;N;;;;;
16E39;MWANGWEGO COMBINING MARK WAYA BELOW;Mn;220;NSM;;;;;N;;;;;
16E3A;MWANGWEGO COMBINING MARK MURA;Lo;0;L;;;;;N;;;;;
16E3B;MWANGWEGO COMBINING MARK MULA;Lo;0;L;;;;;N;;;;;
16E3C;MWANGWEGO COMBINING MARK PEWA;Lo;0;L;;;;;N;;;;;
16E3D;MWANGWEGO COMBINING MARK KWANTHU;Lo;0;L;;;;;N;;;;;
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9. Bibliography.

Mwangwego, Nolence. 2011. [illegible] (*A Malawi tili pati? Wolemba ndi Nolensi Mose Mwangwegho*). Blantyre: [self-published; printed by Blantyre Print and Packaging].

Rovenchak, Andrij & Jason Glavy. 2011. "Mwangwego script", in *African Writing Systems of the Modern Age: The Sub-Saharan Region*. New Haven, Buena Park, New Rochelle, London, Lviv, Abidjan: Athinkra. ISBN 978-0-9818294-1-8

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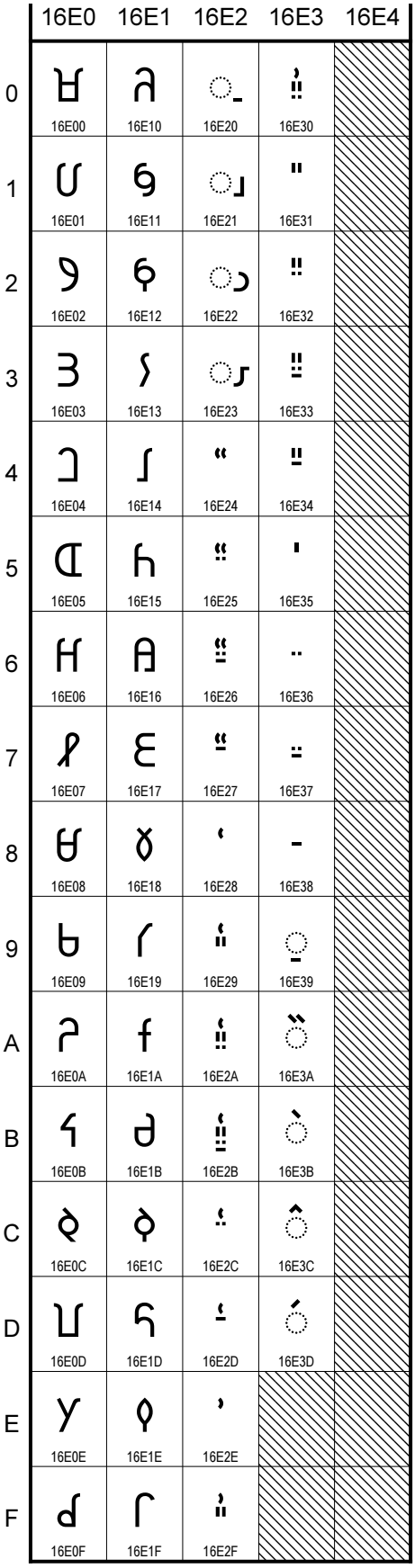

	16E0	16E1	16E2	16E3	16E4
0	16E00	16E10	16E20	16E30	
1	16E01	16E11	16E21	16E31	
2	16E02	16E12	16E22	16E32	
3	16E03	16E13	16E23	16E33	
4	16E04	16E14	16E24	16E34	
5	16E05	16E15	16E25	16E35	
6	16E06	16E16	16E26	16E36	
7	16E07	16E17	16E27	16E37	
8	16E08	16E18	16E28	16E38	
9	16E09	16E19	16E29	16E39	
A	16E0A	16E1A	16E2A	16E3A	
B	16E0B	16E1B	16E2B	16E3B	
C	16E0C	16E1C	16E2C	16E3C	
D	16E0D	16E1D	16E2D	16E3D	
E	16E0E	16E1E	16E2E		
F	16E0F	16E1F	16E2F		

Letters

16E00 𖹀 MWANGWEGO LETTER A
16E01 𖹁 MWANGWEGO LETTER BA
16E02 𖹂 MWANGWEGO LETTER CHA
16E03 𖹃 MWANGWEGO LETTER DA
16E04 𖹄 MWANGWEGO LETTER FA
16E05 𖹅 MWANGWEGO LETTER GA
16E06 𖹆 MWANGWEGO LETTER GHA
16E07 𖹇 MWANGWEGO LETTER HA
16E08 𖹈 MWANGWEGO LETTER JA
16E09 𖹉 MWANGWEGO LETTER ZHA
16E0A 𖹊 MWANGWEGO LETTER KA
16E0B 𖹋 MWANGWEGO LETTER LA
16E0C 𖹌 MWANGWEGO LETTER MA
16E0D 𖹍 MWANGWEGO LETTER NA
16E0E 𖹎 MWANGWEGO LETTER NYA
16E0F 𖹏 MWANGWEGO LETTER PA
16E10 𖹐 MWANGWEGO LETTER RA
16E11 𖹑 MWANGWEGO LETTER SA
16E12 𖹒 MWANGWEGO LETTER SHA
16E13 𖹓 MWANGWEGO LETTER TA
16E14 𖹔 MWANGWEGO LETTER TSA
16E15 𖹕 MWANGWEGO LETTER PSA
16E16 𖹖 MWANGWEGO LETTER VA
16E17 𖹗 MWANGWEGO LETTER WA
16E18 𖹘 MWANGWEGO LETTER YA
16E19 𖹙 MWANGWEGO LETTER ZA
16E1A 𖹚 MWANGWEGO LETTER DZA
16E1B 𖹛 MWANGWEGO LETTER DHLA
16E1C 𖹜 MWANGWEGO LETTER HLA
16E1D 𖹝 MWANGWEGO LETTER XA
16E1E 𖹞 MWANGWEGO LETTER QA
16E1F 𖹟 MWANGWEGO LETTER THA

Vowel signs

16E20 ◌𖹠 MWANGWEGO VOWEL SIGN E
16E21 ◌𖹡 MWANGWEGO VOWEL SIGN I
16E22 ◌𖹢 MWANGWEGO VOWEL SIGN O
16E23 ◌𖹣 MWANGWEGO VOWEL SIGN U

Consonant modifier letters

16E24 𖹤 MWANGWEGO MODIFIER LETTER MI
16E25 𖹥 MWANGWEGO MODIFIER LETTER MI-HI
16E26 𖹦 MWANGWEGO MODIFIER LETTER MI-HI-WAYA
16E27 𖹧 MWANGWEGO MODIFIER LETTER MI-WAYA
16E28 𖹨 MWANGWEGO MODIFIER LETTER MYU
16E29 𖹩 MWANGWEGO MODIFIER LETTER MYU-NI
16E2A 𖹪 MWANGWEGO MODIFIER LETTER MYU-NI-HI
16E2B 𖹫 MWANGWEGO MODIFIER LETTER MYU-NI-HI-WAYA
16E2C 𖹬 MWANGWEGO MODIFIER LETTER MYU-HI
16E2D 𖹭 MWANGWEGO MODIFIER LETTER MYU-WAYA
16E2E 𖹮 MWANGWEGO MODIFIER LETTER SISA
16E2F 𖹯 MWANGWEGO MODIFIER LETTER SISA-NI
16E30 𖹰 MWANGWEGO MODIFIER LETTER SISA-NI-HI
16E31 𖹱 MWANGWEGO MODIFIER LETTER NI
16E32 𖹲 MWANGWEGO MODIFIER LETTER NI-HI
16E33 𖹳 MWANGWEGO MODIFIER LETTER NI-HI-WAYA
16E34 𖹴 MWANGWEGO MODIFIER LETTER NI-WAYA
16E35 𖹵 MWANGWEGO MODIFIER LETTER TUMBU
16E36 𖹶 MWANGWEGO MODIFIER LETTER HI
16E37 𖹷 MWANGWEGO MODIFIER LETTER HI-WAYA
16E38 𖹸 MWANGWEGO MODIFIER LETTER WAYA
16E39 ◌𖹹 MWANGWEGO COMBINING MARK WAYA BELOW
16E3A ◌𖹺 MWANGWEGO COMBINING MARK MURA
16E3B ◌𖹻 MWANGWEGO COMBINING MARK MULA
16E3C ◌𖹼 MWANGWEGO COMBINING MARK PEWA
16E3D ◌𖹽 MWANGWEGO COMBINING MARK KWANTHU

11. Figures.

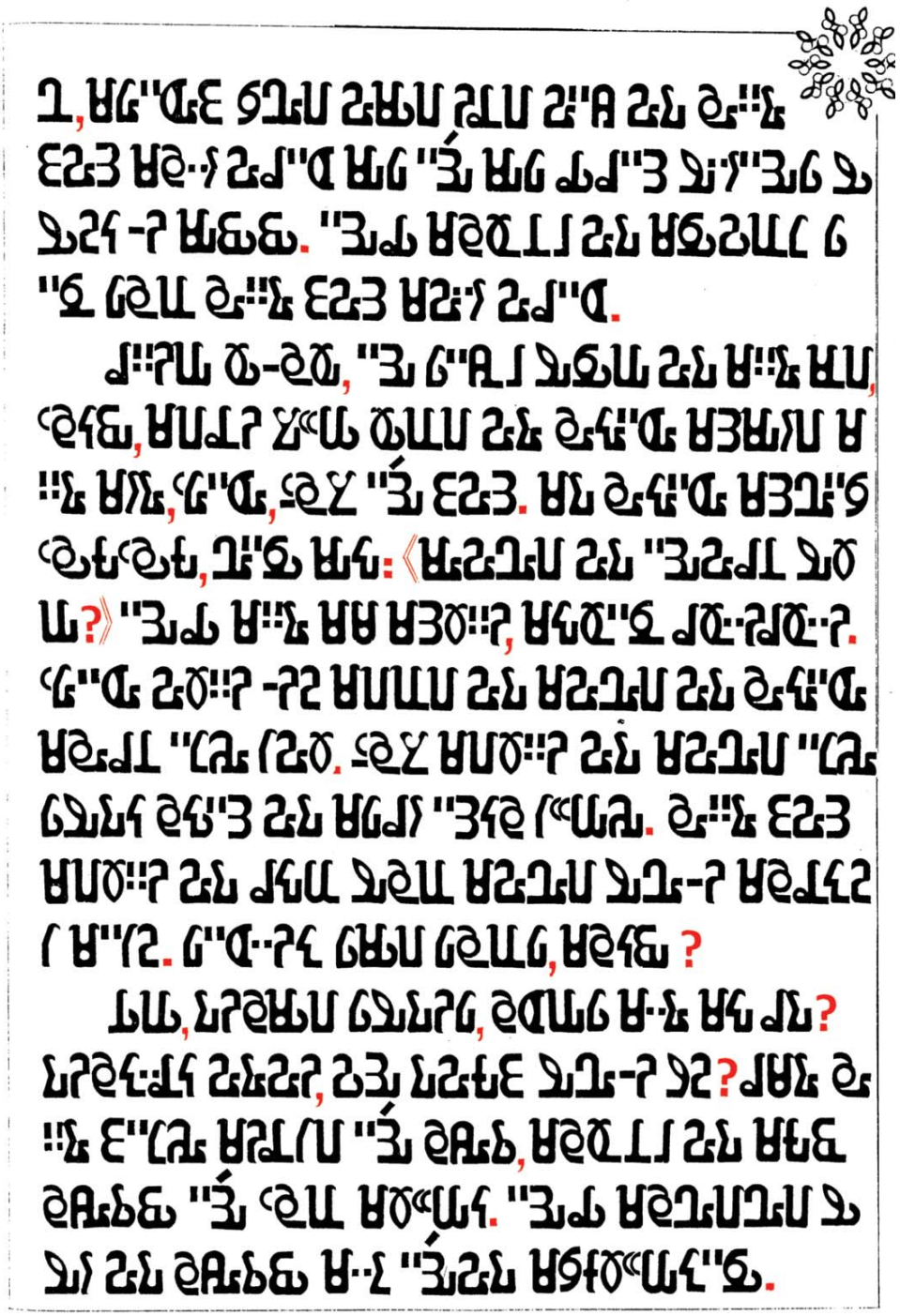

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Figure 1. Sampe of Mwangwego text with punctuation marked in red. Shown here are COMMA, FULL STOP, COLON, MATHEMATICAL LEFT DOUBLE ANGLE BRACKET, QUESTION MARK, and MATHEMATICAL RIGHT DOUBLE ANGLE BRACKET.

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Figure 2. Sampe of Mwangwego text with punctuation marked in red.
Shown here are FULL STOP, MATHEMATICAL RIGHT DOUBLE ANGLE BRACKET, HYPHEN-MINUS, MATHEMATICAL LEFT DOUBLE ANGLE BRACKET, and COLON.

A. Administrative

1. Title

Preliminary proposal to encode the Mwangwego script 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

2012-09-25

5. Requester's reference (if applicable)

6. Choose one of the following:

6a. This is a complete proposal

No.

6b. More information will be provided later

Yes.

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

Mwangwego.

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

62.

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?

Jana Reddemann and Jenna Leich, via 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?

No.

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)?

No.

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.

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?

Nolence Mwangwego.

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?
Africanists and Bantuists.
4a. The context of use for the proposed characters (type of use; common or rare)
Used for living languages.
4b. Reference
5a. Are the proposed characters in current use by the user community?
Yes.
5b. If YES, where?
In Malawi.
6a. After giving due considerations to the principles in the P&P document must the proposed characters be entirely in the BMP?
No.
6b. If YES, is a rationale provided?
6c. If YES, reference
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?
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)
13a. Does the proposal contain any Ideographic compatibility character(s)?
No.
13b. If YES, is the equivalent corresponding unified ideographic character(s) identified?