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Universal Multiple-Octet Coded Character Set
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1. Introduction. The Mende script, also called "Kikakui" for the first three characters in the system, was devised around 1917 by Mohamed Turay, an Islamic scholar in the Sierra Leonean town of Maka, and further developed by his son-in-law and student, Kisimi Kamara, a tailor from the town of Vaama. Kamara's contribution was an additional 150 syllabic characters to Turay's original 42, and efforts to promote the script outside of the Barri chiefdom, in southern and eastern Sierra Leone, beginning in the 1920s. While the characters of the Mende script were inspired by an indigenous corpus of Mende graphic symbols, certain cryptographic characters, and the imaginations of Turay and Kamara, the syllabic blueprint for the script was unquestionably influenced from the neighboring Vai, who possessed a similarly organized script by 1832 or 1833. The Mende and the Vai speak related Mande languages and are neighbors in Sierra Leone and Liberia.

The Mende script was employed by missionaries in some early gospel translations dating from the 1920s, and Konrad Tuchscherer estimates that writers in the script today continue to number in the hundreds. Today Mende uses a Latin orthography based on the "Africa" alphabet of Diedrich Westermann. As of 1991, the total population of Mende speakers was estimated at just under 1.5 million in Sierra Leone and Liberia (SIL Ethnologue). The script was used for record-keeping and correspondence, and some chiefdom clerks adopted it for official use. In the 1940s, however, the British established the Protectorate Literacy Bureau in Bo, and a Latin orthography for Mende was taught. This contributed to the gradual disuse of the Mende script. The primary sources for the repertoire proposed here are the chart in Figure 3 and David Dalby's chart in Figure 4, but the authoritative chart is that from Tuchscherer 1996 (Figures 1a-1c).

Figure 3 represents the last version of the script from Kisimi Kamara (with glosses added by S. Milburn). According to Tuchscherer 1996:237, it serves as the basis of the syllabary that appears in the current guide for Mende language teachers. David Dalby's chart in Figure 4 was published in 1967. Figures 1a-1c come from Tuchscherer's dissertation, based on research conducted in the field from 1990–1994, from interviews with over 100 script literates. A few annotations in the nameslist refer to the syllabary of Amara Mansaray, who was a prominent practitioner of the Mende script. Samples of these syllabaries and others are contained in Tuchscherer 1996, which provides the best and most complete overview and synthesis of all other materials.

2. Structure. Mende is a syllabary, written from right to left.

3. Ordering. The only traditional order which exists for the syllabary is given in the first part, the 42 characters devised by Mohamed Turay. In Figure 3 below, it can be seen that the first 42 characters are ordered "sensibly" according to sound and shape, but the remaining 150 characters created by Kisimi Kamara are more or less randomly ordered. (There are reports that at least some of the sequences correspond to words of phrases in Mende.) It seems unlikely that such an ordering would be "useful" in practical terms, such as dictionary look-up. The ordering here has been based on Turay's original scheme, but filling out the pattern with complete runs of syllables based on their initial sound. The assignments have been made thus:

Traditional	k-			w-	wv-	m-	b-		Ø-	s-	l-	d-	t-	j-	y-	f-	n-	h-
Supplement	ŋg-	g-	ŋ-	p-		mb-	kp-	gb-			r-	nd-		nj-		v-	ɲ-	

Thus the whole range is:

k-, w-, wv-, m-, b-, Ø-, s-, l-, d-, t-, j-, y-, f-, n-, h-, ŋg-, g-, ŋ-, p-, mb-, kp-, gb-, r-, nd-, nj-, v- ɲ-

The traditional order is given in a run from *k-* to *h-*; the supplementary initials have been ordered in a secondary run according to the same place of articulation (3 velars, 4 labials, a liquid, a pre-nasalized dental and palatal, a labiodental, a nasal). This provides a certain mnemonicity which is, in fact, present in the structure of the script: compare the shapes of DI, DA, DU with NDU, NDEE and the shapes of FI, FA, FU, FEE, with VI, VA, VU, VEE. This is the order used in the code chart, and the order recommended for collation.

In Figure 4, Dalby's chart gives numbers which indicate the order Dalby found in the materials he was analysing (numbers 196 and 197 were not in Dalby's sources); these are given in the table below. Of interest are the first 42 characters, which form the basis for the ordering proposed here. Although the vowels in *he ha ho* depart from the *ki ka ku* pattern, these are still taken as the last of the "orderly" order, though *hi ha hu* has been used for the whole series. Note that the relative order of the *d-*, *s-*, and *l-* series matches that found in Tuchscherer (Figure 1a), but differs from Kamara's order given in Figure 3, which has *s-, l-, d-*, and Dalby (Figure 4), which has *l-, d-, s-*. This is a normal variation as both orders are found in various sources. The order proposed for encoding has been settled on in consultation with Konrad Tuchscherer for standardization, and follows Kamara's order (*s-, l-, d-*).

001 ki	023 ta	045 wɔ	067 ndo	089 de	111 ga	133 fo	155 gi	177 ŋgũa
002 ka	024 tu	046 hũa	068 pi	090 ŋgi	112 kpo	134 njo	156 ŋgo	178 ɛ̃
003 ku	025 li	047 mbe	069 tɔ	091 te	113 jɛ	135 ĩ	157 je	179 kua
004 wi	026 la	048 kɔ	070 gbɔ	092 kpa	114 wo	136 so	158 kpɔ	180 do
005 wa	027 lu	049 wva	071 gbo	093 gbe	115 ŋge	137 ɛi	159 ŋgaa	181 dɔ
006 wu	028 ji	050 pu	072 mbɛ	094 mɔ̃	116 sɛ	138 bɔ	160 jo	182 vi
007 mĩ	029 ja	051 pɛ	073 lɛ	095 kɛ	117 nɛ̃	139 wvɛ	161 mbɛɛ	183 ŋgɔɔ
008 mã	030 ju	052 hɛ̃	074 kpu	096 hɛ	118 wɛ	140 hɔ	162 se	184 ŋɛ̃
009 mũ	031 yi	053 hĩ	075 fɛ	097 bɛ	119 ndɛ	141 yo	163 e	185 va
010 bi	032 ya	054 lo	076 ko	098 nyɛ̃	120 ŋgɔ	142 mbɔɔ	164 nyĩ	186 hu
011 ba	033 yu	055 tɛ	077 vɔ	099 pa	121 yɔ	143 wɛi	165 o	187 mbuu
012 bu	034 fi	056 gba	078 fe	100 ɛ	122 mbu	144 vo	166 guɛi	188 mbe
013 i	035 fa	057 ŋɔ̃	079 sɔ	101 fã	123 ndi	145 mbi	167 gũa	189 mũɛ
014 a	036 fu	058 nyã	080 yɛ	102 po	124 gbi	146 ŋgɛ	168 gu	190 ge
015 u	037 nĩ	059 mɛ̃	081 pe	103 bo	125 ndu	147 ɔ	169 nɔ̃	191 nde
016 di	038 nã	060 nyɔ̃	082 ŋgu	104 to	126 we	148 gbu	170 nyũ	192 nju
017 da	039 nũ	061 wvi	083 hei	105 mboo	127 ŋgua	149 nje	171 ra	193 hɔn
018 du	040 he	062 mba	084 le	106 ŋgoo	128 hou	150 be	172 mbo	194 wui
019 si	041 ha	063 jɔ	085 vɛ	107 gbɛ	129 nda	151 vu	173 ve	195 ã
020 sa	042 ho	064 ndɔ	086 ŋgɛɛ	108 kpɛ	130 hã	152 nja	174 mbɔ	196 sia
021 su	043 ŋgã	065 ke	087 hũ	109 ye	131 ĩ	153 lɔ	175 jɔɔ	197 fua
022 ti	044 kpe	066 pɔ	088 fɔ	110 lɛɛ	132 kpi	154 mũa	176 hi	

4. Glyph variants. Dalby's chart in Figure 4 shows a number of glyph variants in parentheses. These should be treated as Vai and Bamum glyph variants have been: that if they are required, either a dedicated font for them should be used, or OpenType tables to invoke alternate forms. The forms used in the chart tend to be similar to the primary ones given in Dalby, though Tuchscherer's chart has in some cases taken precedence. Dalby's chart includes two characters not reflected in the repertoire here: his 193 *ŋge* and 195 *hɔ̃* are not included for want of attestation elsewhere.

5. Character names. The names reflect those given in Tuchscherer 1996, but with the usual UCS conventions, with E representing *ɛ,* EE representing *e,* O representing *ɔ*, and OO representing *o,* and NG representing *ŋ*. The standard catalogue number is given alongside the phonetic name of the character because the phonetic name may differ from source to source while there is general agreement on the number assignment. There are two characters with the name MBEE, U+1E896 and U+1E897, and two with the name IN, U+1E82A and U+1E82B. These are distinguished in their names by the unique catalogue number (𞢖 MENDE SYLLABLE M047 MBEE, 𞢗 MENDE SYLLABLE M188 MBEE, 𞠪 MENDE SYLLABLE M131 IN, and 𞠫 MENDE SYLLABLE M135 IN). According to Tuchscherer (1996:59), it is conceivable that the two MBEE characters originally referred to different sounds, but the distinction has since been lost; the other pair is distinguished functionally, where the second is used for a negative particle.

6. Linebreaking. Syllables and digits behave as do the syllables and numbers and in Vai and Bamum and should have the same properties. Evidently this is AL for the syllables and NU for the numbers.

7. Punctuation. To date, no script-specific punctuation has been seen. In Tuchscherer 1996. Mende is shown to have three separate traditions of writing numbers: European digits, Arabic digits, and the autochthonous Mende system, described here. Mention is made of "a single dot used for punctuation"; examples available at present do not show such a dot, but it must be either U+002E FULL STOP or U+2E31 WORD SEPARATOR MIDDLE DOT.

8. Digits. Digits and numbers exist, and have been described in Tuchscherer 2007 on the basis of his own work and analysis of the work of Eberl-Elber (1936, 1937), Klingenheben (1934), and Dalby (1967). Some of these may have been originally derived from the syllables used to represent the names of the numbers:

𞣇 1 *itaa*	may be related to the syllable	*i*
𞣊 4 *naani*	may be related to the syllable	*nan*
𞣌 6 *weita*	may be related to the syllable	*wei*
𞣍 7 *wɔfela*	may be related to the syllable	*wo*
𞣎 8 *wayakpa*	may be related to the syllable	*wa*
𞣏 9 *taalu*	may be related to the syllable	*ta*
10 *puu*	may be related to the syllable	*pu.*

There would be no benefit in trying to unify these with the base letters, however, and other numbers (𞣈 2 *fele*, 𞣉 3 *sawa*, 𞣋 5 *lɔɔlu*) have no obvious analogue in the syllabary.

At present no digit zero exists, so decimal calculation appears not to be made in Mende. The Mende number system makes use of a variety of base characters and some modifier digits which are used to build larger numbers. The basic units are:

𞣇 1, 𞣈 2, 𞣉 3, 𞣊 4, 𞣋 5, 𞣌 6, 𞣍 7, 𞣎 8, 𞣏 9, 10

The teens are expressed as a combinination of a digit over top of a base that indicates the teens:

𞄀 11, 𞄁 12, 𞄂 13, 𞄃 14, 𞄄 15, 𞄅 16, 𞄆 17, 𞄇 18, 𞄈 19

The tens are expressed as a combinination of a digit over top of a base that indicates the tens:

𞄉 20, 𞄊 30, 𞄋 40, 𞄌 50, 𞄍 60, 𞄎 70, 𞄏 80, 𞄐 90

The hundreds are expressed as a combinination of a digit over top of a base that indicates the hundreds:

𞄀𞄑 100, 𞄁𞄑 200, 𞄂𞄑 300, 𞄃𞄑 400, 𞄄𞄑 500, 𞄅𞄑 600, 𞄆𞄑 700, 𞄇𞄑 800, 𞄈𞄑 900

The thousands are expressed as a combinination of a digit over top of a base that indicates the thousands:

𞄀𞄒 1,000, 𞄁𞄒 2,000, 𞄂𞄒 3,000, 𞄃𞄒 4,000, 𞄄𞄒 5,000, 𞄅𞄒 6,000, 𞄆𞄒 7,000, 𞄇𞄒 8,000, 𞄈𞄒 9,000

The ten thousands are expressed as a combinination of a digit over top of a base that indicates the ten thousands:

𞄀𞄓 10,000, 𞄁𞄓 20,000, 𞄂𞄓 30,000, 𞄃𞄓 40,000, 𞄄𞄓 50,000, 𞄅𞄓 60,000, 𞄆𞄓 70,000, 𞄇𞄓 80,000, 𞄈𞄓 90,000

The hundred thousands are expressed as a combinination of a digit over top of a base that indicates the hundred thousands:

𞄀𞄔 100,000, 𞄁𞄔 200,000, 𞄂𞄔 300,000, 𞄃𞄔 400,000, 𞄄𞄔 500,000,
𞄅𞄔 600,000, 𞄆𞄔 700,000, 𞄇𞄔 800,000, 𞄈𞄔 900,000

The millions are expressed as a combinination of a digit over top of a base that indicates the millions:

𞄀𞄕 1,000,000, 𞄁𞄕 2,000,000, 𞄂𞄕 3,000,00, 𞄃𞄕 4,000,000, 𞄄𞄕 5,000,000,
𞄅𞄕 6,000,000, 𞄆𞄕 7,000,000, 𞄇𞄕 8,000,000, 𞄈𞄕 9,000,000

Consideration was given to attempting to “decompose” these numbers with a combining element above or below. The three options are outlined here:

8.1 Atomic encoding. This is the preferred method for encoding Mende numbers. The script is otherwise simple and requires no special ligation or OpenType behaviour. Encoded atomically, Mende numbers’ character properties can have the correct values and, again, rendering will be as simple for the numbers as it is for the main syllabary.

8.2 Combining character encoding. It could be possible to encode a set of combining superscript units, as 𞄀 𞄁 𞄂 𞄃 𞄄 𞄅 𞄆 𞄇 𞄈 and use them with a number of base characters, but this is problematic for several reasons. First, it requires expert diacritic positioning in fonts, particularly over very wide bases like those of the hundreds and above. Such support may not be available in, for example, fonts used for display of filenames at an OS level. Second, it complicates the encoding and/or representation of the tens and twenties because 𞄋 10 has an inherent dot (or is it a second superscript unit? *𞄋𞄀 does not occur and neither does *𞄋); ／ *teen* has no independent existence, and the numbers 𞄉 20 and above have no dot.

8.3 Ligature encoding. It has been suggested to encode numbers as typographic ligatures, but this encoding model would be without precedent for numbers of this kind. In the first place, typographic ligatures are essentially optional, and it can be stipulated that legibility must not be compromised if the ligatures are broken. But the Mende number 9,999,999 is correctly written 𞣏𞣖𞣏𞣕𞣏𞣔𞣏𞣓𞣏𞣒𞣏𞣑𞣏, and never *𞣏 𞣏 𞣒 𞣏 𞣓 𞣏 𞣔 𞣏 𞣕 𞣏 𞣖, which is simply incorrect and unrecognizable to readers of Mende. Whether "optional" ligatures or "required" ligatures are considered is irrelevant; as noted above, both ligature encoding and combining character encoding force complex rendering requirements on Mende, which otherwise does not need it.

8.4 Precedent. "Pre-composed" complex numbers have already been encoded for Cuneiform, Egyptian hieroglyphs, and the Aegean scripts, and many of these could, in principle, be "composed". No advantage to users or implementors of Mende would obtain from composition; it would simply make the script harder to work with. Accordingly, we reiterate our strong preference for atomic encoding.

8.5 Directionality of numbers. Numbers, like syllables, have right-to-left directionality, and because the system is positional, the numbers are combined with the larger unit first with the smaller units following:

𞣈𞣑𞣍	27	𞣇𞣒𞣇	101
𞣉𞣑𞣋	35	𞣈𞣒𞣌	206
𞣊𞣑𞣎	48	𞣊𞣒𞣍𞣐	417
𞣋𞣑𞣇	51	𞣋𞣒𞣏𞣑𞣊	594
𞣌𞣑𞣉	63	𞣌𞣒𞣈𞣑	620
𞣍𞣑𞣈	72	𞣍𞣒𞣎𞣑𞣍	787
𞣎𞣑𞣌	86	𞣎𞣒𞣉𞣑𞣉	833
𞣏𞣑𞣊	94	𞣏𞣒𞣏𞣑𞣏	999

9. Unicode Character Properties.

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1E800;MENDE SYLLABLE M001 KI;Lo;0;R;;;;;N;;;;;
1E801;MENDE SYLLABLE M002 KA;Lo;0;R;;;;;N;;;;;
1E802;MENDE SYLLABLE M003 KU;Lo;0;R;;;;;N;;;;;
1E803;MENDE SYLLABLE M065 KEE;Lo;0;R;;;;;N;;;;;
1E804;MENDE SYLLABLE M095 KE;Lo;0;R;;;;;N;;;;;
1E805;MENDE SYLLABLE M076 KOO;Lo;0;R;;;;;N;;;;;
1E806;MENDE SYLLABLE M048 KO;Lo;0;R;;;;;N;;;;;
1E807;MENDE SYLLABLE M179 KUA;Lo;0;R;;;;;N;;;;;
..
1E8C0;MENDE SYLLABLE M164 NYIN;Lo;0;R;;;;;N;;;;;
1E8C1;MENDE SYLLABLE M058 NYAN;Lo;0;R;;;;;N;;;;;
1E8C2;MENDE SYLLABLE M170 NYUN;Lo;0;R;;;;;N;;;;;
1E8C3;MENDE SYLLABLE M098 NYEN;Lo;0;R;;;;;N;;;;;
1E8C4;MENDE SYLLABLE M060 NYON;Lo;0;R;;;;;N;;;;;
1E8D1;MENDE DIGIT ONE;No;0;R;;;;1;N;;;;;
1E8D2;MENDE DIGIT TWO;No;0;R;;;;2;N;;;;;
1E8D3;MENDE DIGIT THREE;No;0;R;;;;3;N;;;;;
1E8D4;MENDE DIGIT FOUR;No;0;R;;;;4;N;;;;;
1E8D5;MENDE DIGIT FIVE;No;0;R;;;;5;N;;;;;
1E8D6;MENDE DIGIT SIX;No;0;R;;;;6;N;;;;;
1E8D7;MENDE DIGIT SEVEN;No;0;R;;;;7;N;;;;;
1E8D8;MENDE DIGIT EIGHT;No;0;R;;;;8;N;;;;;
1E8D9;MENDE DIGIT NINE;No;0;R;;;;9;N;;;;;
1E8DA;MENDE NUMBER TEN;No;0;R;;;;10;N;;;;;
1E8DB;MENDE NUMBER ELEVEN;No;0;R;;;;11;N;;;;;
1E8DC;MENDE NUMBER TWELVE;No;0;R;;;;12;N;;;;;
1E8DD;MENDE NUMBER THIRTEEN;No;0;R;;;;13;N;;;;;
1E8DE;MENDE NUMBER FOURTEEN;No;0;R;;;;14;N;;;;;
1E8DF;MENDE NUMBER FIFTEEN;No;0;R;;;;15;N;;;;;
1E8E0;MENDE NUMBER SIXTEEN;No;0;R;;;;16;N;;;;;
1E8E1;MENDE NUMBER SEVENTEEN;No;0;R;;;;17;N;;;;;
1E8E2;MENDE NUMBER EIGHTEEN;No;0;R;;;;18;N;;;;;
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1E8E3;MENDE NUMBER NINETEEN;No;0;R;;;;19;N;;;;;
1E8E4;MENDE NUMBER TWENTY;No;0;R;;;;20;N;;;;;
1E8E5;MENDE NUMBER THIRTY;No;0;R;;;;30;N;;;;;
1E8E6;MENDE NUMBER FORTY;No;0;R;;;;40;N;;;;;
1E8E7;MENDE NUMBER FIFTY;No;0;R;;;;50;N;;;;;
1E8E8;MENDE NUMBER SIXTY;No;0;R;;;;60;N;;;;;
1E8E9;MENDE NUMBER SEVENTY;No;0;R;;;;70;N;;;;;
1E8EA;MENDE NUMBER EIGHTY;No;0;R;;;;80;N;;;;;
1E8EB;MENDE NUMBER NINETY;No;0;R;;;;90;N;;;;;
1E8EC;MENDE NUMBER ONE HUNDRED;No;0;R;;;;100;N;;;;;
1E8ED;MENDE NUMBER TWO HUNDRED;No;0;R;;;;200;N;;;;;
1E8EE;MENDE NUMBER THREE HUNDRED;No;0;R;;;;300;N;;;;;
1E8EF;MENDE NUMBER FOUR HUNDRED;No;0;R;;;;400;N;;;;;
1E8F0;MENDE NUMBER FIVE HUNDRED;No;0;R;;;;500;N;;;;;
1E8F1;MENDE NUMBER SIX HUNDRED;No;0;R;;;;600;N;;;;;
1E8F2;MENDE NUMBER SEVEN HUNDRED;No;0;R;;;;700;N;;;;;
1E8F3;MENDE NUMBER EIGHT HUNDRED;No;0;R;;;;800;N;;;;;
1E8F4;MENDE NUMBER NINE HUNDRED;No;0;R;;;;900;N;;;;;
1E8F5;MENDE NUMBER ONE THOUSAND;No;0;R;;;;1000;N;;;;;
1E8F6;MENDE NUMBER TWO THOUSAND;No;0;R;;;;2000;N;;;;;
1E8F7;MENDE NUMBER THREE THOUSAND;No;0;R;;;;3000;N;;;;;
1E8F8;MENDE NUMBER FOUR THOUSAND;No;0;R;;;;4000;N;;;;;
1E8F9;MENDE NUMBER FIVE THOUSAND;No;0;R;;;;5000;N;;;;;
1E8FA;MENDE NUMBER SIX THOUSAND;No;0;R;;;;6000;N;;;;;
1E8FB;MENDE NUMBER SEVEN THOUSAND;No;0;R;;;;7000;N;;;;;
1E8FC;MENDE NUMBER EIGHT THOUSAND;No;0;R;;;;8000;N;;;;;
1E8FD;MENDE NUMBER NINE THOUSAND;No;0;R;;;;9000;N;;;;;
1E8FE;MENDE NUMBER TEN THOUSAND;No;0;R;;;;10000;N;;;;;
1E8FF;MENDE NUMBER TWENTY THOUSAND;No;0;R;;;;20000;N;;;;;
1E900;MENDE NUMBER THIRTY THOUSAND;No;0;R;;;;30000;N;;;;;
1E901;MENDE NUMBER FORTY THOUSAND;No;0;R;;;;40000;N;;;;;
1E902;MENDE NUMBER FIFTY THOUSAND;No;0;R;;;;50000;N;;;;;
1E903;MENDE NUMBER SIXTY THOUSAND;No;0;R;;;;60000;N;;;;;
1E904;MENDE NUMBER SEVENTY THOUSAND;No;0;R;;;;70000;N;;;;;
1E905;MENDE NUMBER EIGHTY THOUSAND;No;0;R;;;;80000;N;;;;;
1E906;MENDE NUMBER NINETY THOUSAND;No;0;R;;;;90000;N;;;;;
1E907;MENDE NUMBER ONE HUNDRED THOUSAND;No;0;R;;;;100000;N;;;;;
1E908;MENDE NUMBER TWO HUNDRED THOUSAND;No;0;R;;;;200000;N;;;;;
1E909;MENDE NUMBER THREE HUNDRED THOUSAND;No;0;R;;;;300000;N;;;;;
1E90A;MENDE NUMBER FOUR HUNDRED THOUSAND;No;0;R;;;;400000;N;;;;;
1E90B;MENDE NUMBER FIVE HUNDRED THOUSAND;No;0;R;;;;500000;N;;;;;
1E90C;MENDE NUMBER SIX HUNDRED THOUSAND;No;0;R;;;;600000;N;;;;;
1E90D;MENDE NUMBER SEVEN HUNDRED THOUSAND;No;0;R;;;;700000;N;;;;;
1E90E;MENDE NUMBER EIGHT HUNDRED THOUSAND;No;0;R;;;;800000;N;;;;;
1E90F;MENDE NUMBER NINE HUNDRED THOUSAND;No;0;R;;;;900000;N;;;;;
1E910;MENDE NUMBER ONE MILLION;No;0;R;;;;1000000;N;;;;;
1E911;MENDE NUMBER TWO MILLION;No;0;R;;;;2000000;N;;;;;
1E912;MENDE NUMBER THREE MILLION;No;0;R;;;;3000000;N;;;;;
1E913;MENDE NUMBER FOUR MILLION;No;0;R;;;;4000000;N;;;;;
1E914;MENDE NUMBER FIVE MILLION;No;0;R;;;;5000000;N;;;;;
1E915;MENDE NUMBER SIX MILLION;No;0;R;;;;6000000;N;;;;;
1E916;MENDE NUMBER SEVEN MILLION;No;0;R;;;;7000000;N;;;;;
1E917;MENDE NUMBER EIGHT MILLION;No;0;R;;;;8000000;N;;;;;
1E918;MENDE NUMBER NINE MILLION;No;0;R;;;;9000000;N;;;;;
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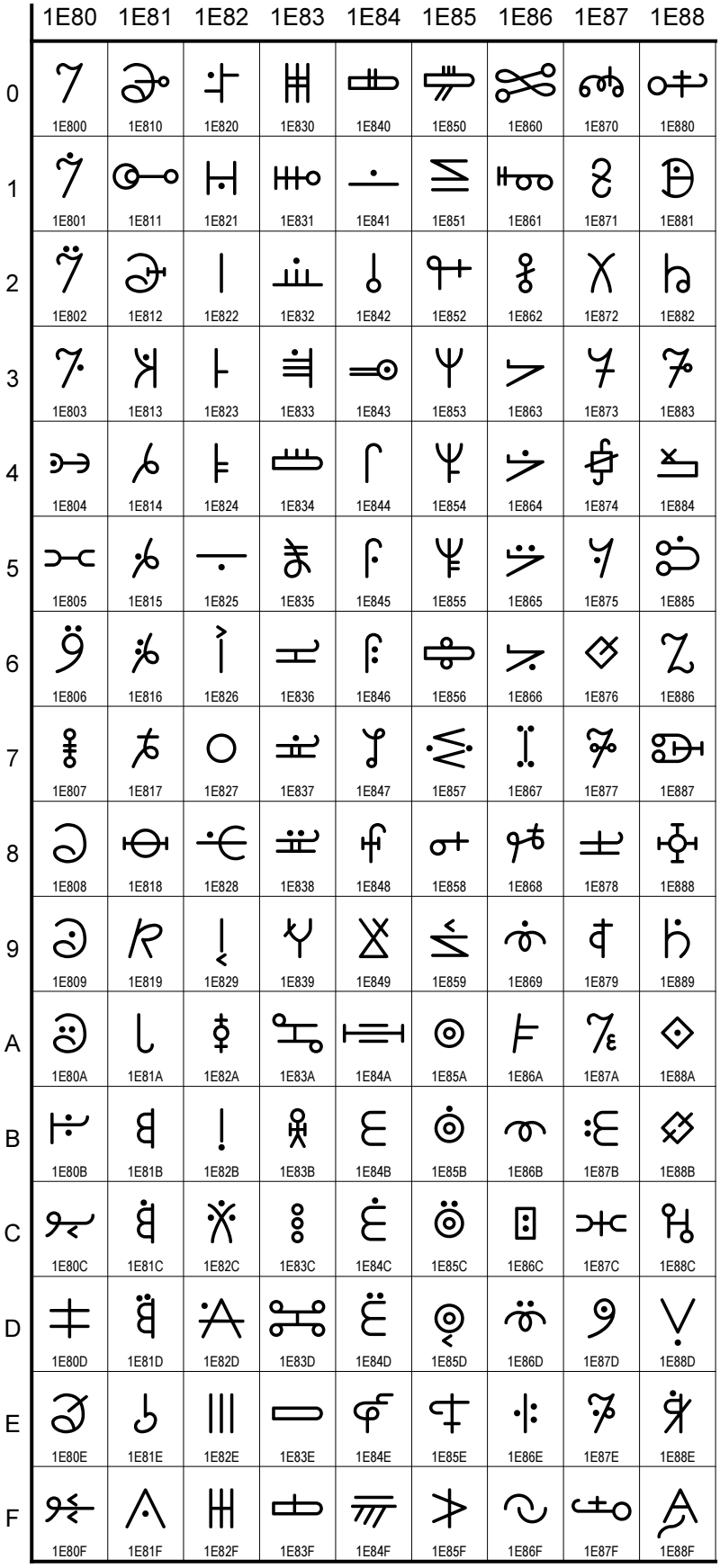
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3 1E803 1E813 1E823 1E833 1E843 1E853 1E863 1E873 1E883
4 1E804 1E814 1E824 1E834 1E844 1E854 1E864 1E874 1E884
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6 1E806 1E816 1E826 1E836 1E846 1E856 1E866 1E876 1E886
7 1E807 1E817 1E827 1E837 1E847 1E857 1E867 1E877 1E887
8 1E808 1E818 1E828 1E838 1E848 1E858 1E868 1E878 1E888
9 1E809 1E819 1E829 1E839 1E849 1E859 1E869 1E879 1E889
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B 1E80B 1E81B 1E82B 1E83B 1E84B 1E85B 1E86B 1E87B 1E88B
C 1E80C 1E81C 1E82C 1E83C 1E84C 1E85C 1E86C 1E87C 1E88C
D 1E80D 1E81D 1E82D 1E83D 1E84D 1E85D 1E86D 1E87D 1E88D
E 1E80E 1E81E 1E82E 1E83E 1E84E 1E85E 1E86E 1E87E 1E88E
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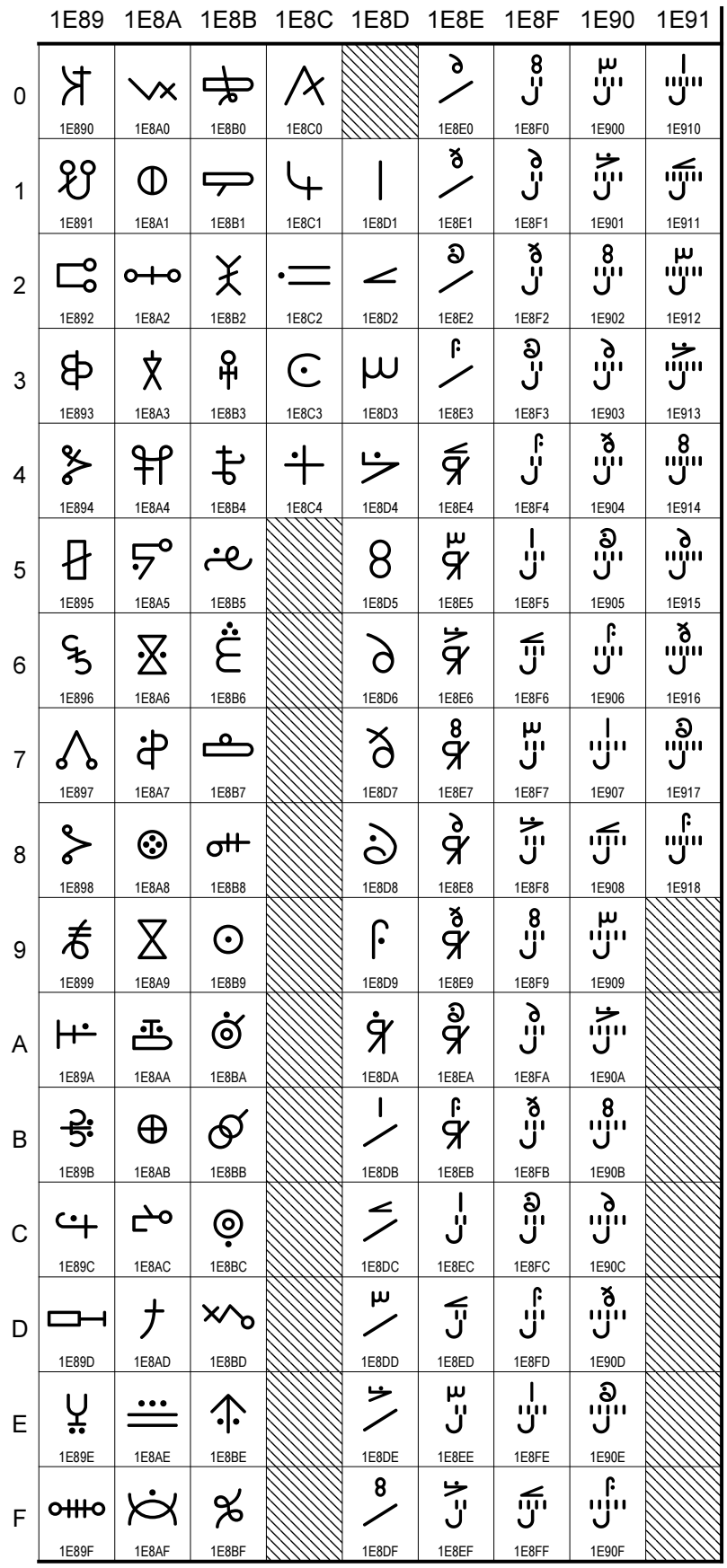
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1 1E891 1E8A1 1E8B1 1E8C1 1E8D1 1E8E1 1E8F1 1E901 1E911
2 1E892 1E8A2 1E8B2 1E8C2 1E8D2 1E8E2 1E8F2 1E902 1E912
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7 1E897 1E8A7 1E8B7 1E8D7 1E8E7 1E8F7 1E907 1E917
8 1E898 1E8A8 1E8B8 1E8D8 1E8E8 1E8F8 1E908 1E918
9 1E899 1E8A9 1E8B9 1E8D9 1E8E9 1E8F9 1E909
A 1E89A 1E8AA 1E8BA 1E8DA 1E8EA 1E8FA 1E90A
B 1E89B 1E8AB 1E8BB 1E8DB 1E8EB 1E8FB 1E90B
C 1E89C 1E8AC 1E8BC 1E8DC 1E8EC 1E8FC 1E90C
D 1E89D 1E8AD 1E8BD 1E8DD 1E8ED 1E8FD 1E90D
E 1E89E 1E8AE 1E8BE 1E8DE 1E8EE 1E8FE 1E90E
F 1E89F 1E8AF 1E8BF 1E8DF 1E8EF 1E8FF 1E90F

Syllables in k-

1E800 MENDE SYLLABLE M001 KI
1E801 MENDE SYLLABLE M002 KA
1E802 MENDE SYLLABLE M003 KU
1E803 MENDE SYLLABLE M065 KEE
1E804 MENDE SYLLABLE M095 KE
1E805 MENDE SYLLABLE M076 KOO
1E806 MENDE SYLLABLE M048 KO
1E807 MENDE SYLLABLE M179 KUA
= Dalby M177

Syllables in w-

1E808 MENDE SYLLABLE M004 WI
1E809 MENDE SYLLABLE M005 WA
1E80A MENDE SYLLABLE M006 WU
1E80B MENDE SYLLABLE M126 WEE
1E80C MENDE SYLLABLE M118 WE
1E80D MENDE SYLLABLE M114 WOO
1E80E MENDE SYLLABLE M045 WO
1E80F MENDE SYLLABLE M194 WUI
1E810 MENDE SYLLABLE M143 WEI

Syllables in wv-

1E811 MENDE SYLLABLE M061 WVI
1E812 MENDE SYLLABLE M049 WVA
1E813 MENDE SYLLABLE M139 WVE

Syllables in m-

1E814 MENDE SYLLABLE M007 MIN
1E815 MENDE SYLLABLE M008 MAN
1E816 MENDE SYLLABLE M009 MUN
1E817 MENDE SYLLABLE M059 MEN
1E818 MENDE SYLLABLE M094 MON
1E819 MENDE SYLLABLE M154 MUAN
1E81A MENDE SYLLABLE M189 MUEN

Syllables in b-

1E81B MENDE SYLLABLE M010 BI
1E81C MENDE SYLLABLE M011 BA
1E81D MENDE SYLLABLE M012 BU
1E81E MENDE SYLLABLE M150 BEE
1E81F MENDE SYLLABLE M097 BE
1E820 MENDE SYLLABLE M103 BOO
1E821 MENDE SYLLABLE M138 BO

Vowels

1E822 MENDE SYLLABLE M013 I
1E823 MENDE SYLLABLE M014 A
1E824 MENDE SYLLABLE M015 U
1E825 MENDE SYLLABLE M163 EE
1E826 MENDE SYLLABLE M100 E
1E827 MENDE SYLLABLE M165 OO
1E828 MENDE SYLLABLE M147 O
1E829 MENDE SYLLABLE M137 EI
1E82A MENDE SYLLABLE M131 IN
1E82B MENDE SYLLABLE M135 IN
• used for the negative particle
1E82C MENDE SYLLABLE M195 AN
• Dalby's M195 HO has different shape and value
1E82D MENDE SYLLABLE M178 EN
= Dalby M182

Syllables in s-

1E82E MENDE SYLLABLE M019 SI
1E82F MENDE SYLLABLE M020 SA
1E830 MENDE SYLLABLE M021 SU
1E831 MENDE SYLLABLE M162 SEE
1E832 MENDE SYLLABLE M116 SE
1E833 MENDE SYLLABLE M136 SOO
1E834 MENDE SYLLABLE M079 SO
1E835 MENDE SYLLABLE M196 SIA
• not in Dalby or in Mansaray

Syllables in l-

1E836 MENDE SYLLABLE M025 LI
= Dalby and Mansaray M022
1E837 MENDE SYLLABLE M026 LA
= Dalby and Mansaray M023
1E838 MENDE SYLLABLE M027 LU
= Dalby and Mansaray M024
1E839 MENDE SYLLABLE M084 LEE
1E83A MENDE SYLLABLE M073 LE
1E83B MENDE SYLLABLE M054 LOO
1E83C MENDE SYLLABLE M153 LO
1E83D MENDE SYLLABLE M110 LONG LE

Syllables in d-

1E83E MENDE SYLLABLE M016 DI
1E83F MENDE SYLLABLE M017 DA
1E840 MENDE SYLLABLE M018 DU
1E841 MENDE SYLLABLE M089 DEE
1E842 MENDE SYLLABLE M180 DOO
= Dalby M178
1E843 MENDE SYLLABLE M181 DO
= Dalby M179

Syllables in t-

1E844 MENDE SYLLABLE M022 TI
= Dalby and Mansaray M025
1E845 MENDE SYLLABLE M023 TA
= Dalby and Mansaray M026
1E846 MENDE SYLLABLE M024 TU
= Dalby and Mansaray M027
1E847 MENDE SYLLABLE M091 TEE
1E848 MENDE SYLLABLE M055 TE
1E849 MENDE SYLLABLE M104 TOO
1E84A MENDE SYLLABLE M069 TO

Syllables in j-

1E84B MENDE SYLLABLE M028 JI
= Mansaray M034
1E84C MENDE SYLLABLE M029 JA
= Mansaray M035
1E84D MENDE SYLLABLE M030 JU
= Mansaray M036
1E84E MENDE SYLLABLE M157 JEE
1E84F MENDE SYLLABLE M113 JE
1E850 MENDE SYLLABLE M160 JOO
1E851 MENDE SYLLABLE M063 JO
1E852 MENDE SYLLABLE M175 LONG JO

Syllables in y-

1E853 MENDE SYLLABLE M031 YI
1E854 MENDE SYLLABLE M032 YA
1E855 MENDE SYLLABLE M033 YU
1E856 MENDE SYLLABLE M109 YEE
1E857 MENDE SYLLABLE M080 YE
1E858 MENDE SYLLABLE M141 YOO
1E859 MENDE SYLLABLE M121 YO

Syllables in f-

1E85A MENDE SYLLABLE M034 FI
= Mansaray M028
1E85B MENDE SYLLABLE M035 FA
= Mansaray M029
1E85C MENDE SYLLABLE M036 FU
= Mansaray M030
1E85D MENDE SYLLABLE M078 FEE
1E85E MENDE SYLLABLE M075 FE
1E85F MENDE SYLLABLE M133 FOO
1E860 MENDE SYLLABLE M088 FO
1E861 MENDE SYLLABLE M197 FUA
• not in Dalby or in Mansaray
1E862 MENDE SYLLABLE M101 FAN

Syllables in n-

1E863 MENDE SYLLABLE M037 NIN
1E864 MENDE SYLLABLE M038 NAN
1E865 MENDE SYLLABLE M039 NUN
1E866 MENDE SYLLABLE M117 NEN
1E867 MENDE SYLLABLE M169 NON

Syllables in h-

1E868 MENDE SYLLABLE M176 HI
1E869 MENDE SYLLABLE M041 HA
1E86A MENDE SYLLABLE M186 HU
1E86B MENDE SYLLABLE M040 HEE
1E86C MENDE SYLLABLE M096 HE
1E86D MENDE SYLLABLE M042 HOO
1E86E MENDE SYLLABLE M140 HO
1E86F MENDE SYLLABLE M083 HEEI
1E870 MENDE SYLLABLE M128 HOOU
1E871 MENDE SYLLABLE M053 HIN
1E872 MENDE SYLLABLE M130 HAN
1E873 MENDE SYLLABLE M087 HUN
1E874 MENDE SYLLABLE M052 HEN
1E875 MENDE SYLLABLE M193 HON
• Dalby's M193 NGGEE has different shape and value
1E876 MENDE SYLLABLE M046 HUAN

Syllables in ngg-

1E877 MENDE SYLLABLE M090 NGGI
1E878 MENDE SYLLABLE M043 NGGA
1E879 MENDE SYLLABLE M082 NGGU
1E87A MENDE SYLLABLE M115 NGGEE
1E87B MENDE SYLLABLE M146 NGGE
1E87C MENDE SYLLABLE M156 NGGOO
1E87D MENDE SYLLABLE M120 NGGO
1E87E MENDE SYLLABLE M159 NGGAA
1E87F MENDE SYLLABLE M127 NGGUA
1E880 MENDE SYLLABLE M086 LONG NGGE
1E881 MENDE SYLLABLE M106 LONG NGGOO
1E882 MENDE SYLLABLE M183 LONG NGGO

Syllables in g-

1E883 MENDE SYLLABLE M155 GI
1E884 MENDE SYLLABLE M111 GA
1E885 MENDE SYLLABLE M168 GU
1E886 MENDE SYLLABLE M190 GEE
1E887 MENDE SYLLABLE M166 GUEI
1E888 MENDE SYLLABLE M167 GUAN

Syllables in ng-

1E889 MENDE SYLLABLE M184 NGEN
1E88A MENDE SYLLABLE M057 NGON
1E88B MENDE SYLLABLE M177 NGUAN
= Dalby M181

Syllables in p-

1E88C MENDE SYLLABLE M068 PI
1E88D MENDE SYLLABLE M099 PA
1E88E MENDE SYLLABLE M050 PU
1E88F MENDE SYLLABLE M081 PEE
1E890 MENDE SYLLABLE M051 PE
1E891 MENDE SYLLABLE M102 POO
1E892 MENDE SYLLABLE M066 PO

Syllables in mb-

1E893 MENDE SYLLABLE M145 MBI
1E894 MENDE SYLLABLE M062 MBA
1E895 MENDE SYLLABLE M122 MBU
1E896 MENDE SYLLABLE M047 MBEE
1E897 MENDE SYLLABLE M188 MBEE
1E898 MENDE SYLLABLE M072 MBE
1E899 MENDE SYLLABLE M172 MBOO
1E89A MENDE SYLLABLE M174 MBO
1E89B MENDE SYLLABLE M187 MBUU
1E89C MENDE SYLLABLE M161 LONG MBE
1E89D MENDE SYLLABLE M105 LONG MBOO
1E89E MENDE SYLLABLE M142 LONG MBO

Syllables in kp-

1E89F MENDE SYLLABLE M132 KPI
1E8A0 MENDE SYLLABLE M092 KPA
1E8A1 MENDE SYLLABLE M074 KPU
1E8A2 MENDE SYLLABLE M044 KPEE
1E8A3 MENDE SYLLABLE M108 KPE
1E8A4 MENDE SYLLABLE M112 KPOO
1E8A5 MENDE SYLLABLE M158 KPO
→ 1313D egyptian hieroglyph f052
→ 1F4A9 pile of poo

Syllables in gb-

1E8A6 MENDE SYLLABLE M124 GBI
1E8A7 MENDE SYLLABLE M056 GBA
1E8A8 MENDE SYLLABLE M148 GBU
1E8A9 MENDE SYLLABLE M093 GBEE
1E8AA MENDE SYLLABLE M107 GBE
1E8AB MENDE SYLLABLE M071 GBOO
1E8AC MENDE SYLLABLE M070 GBO

Syllable in r-

1E8AD MENDE SYLLABLE M171 RA

Syllables in nd-

1E8AE MENDE SYLLABLE M123 NDI
1E8AF MENDE SYLLABLE M129 NDA
1E8B0 MENDE SYLLABLE M125 NDU
1E8B1 MENDE SYLLABLE M191 NDEE
1E8B2 MENDE SYLLABLE M119 NDE
1E8B3 MENDE SYLLABLE M067 NDOO
1E8B4 MENDE SYLLABLE M064 NDO

Syllables in nj-

1E8B5 MENDE SYLLABLE M152 NJA
1E8B6 MENDE SYLLABLE M192 NJU
1E8B7 MENDE SYLLABLE M149 NJEE
1E8B8 MENDE SYLLABLE M134 NJOO

Syllables in v-

1E8B9 MENDE SYLLABLE M182 VI = Dalby M180
1E8BA MENDE SYLLABLE M185 VA
1E8BB MENDE SYLLABLE M151 VU
1E8BC MENDE SYLLABLE M173 VEE
1E8BD MENDE SYLLABLE M085 VE
1E8BE MENDE SYLLABLE M144 VOO
1E8BF MENDE SYLLABLE M077 VO

Syllables in ny-

1E8C0 MENDE SYLLABLE M164 NYIN
1E8C1 MENDE SYLLABLE M058 NYAN
1E8C2 MENDE SYLLABLE M170 NYUN
1E8C3 MENDE SYLLABLE M098 NYEN
1E8C4 MENDE SYLLABLE M060 NYON

Digits

1E8D1 MENDE DIGIT ONE
1E8D2 MENDE DIGIT TWO
1E8D3 MENDE DIGIT THREE
1E8D4 MENDE DIGIT FOUR
1E8D5 MENDE DIGIT FIVE
1E8D6 MENDE DIGIT SIX
1E8D7 MENDE DIGIT SEVEN
1E8D8 MENDE DIGIT EIGHT
1E8D9 MENDE DIGIT NINE

Teens

1E8DA MENDE NUMBER TEN
1E8DB MENDE NUMBER ELEVEN
1E8DC MENDE NUMBER TWELVE
1E8DD MENDE NUMBER THIRTEEN
1E8DE MENDE NUMBER FOURTEEN
1E8DF MENDE NUMBER FIFTEEN
1E8E0 MENDE NUMBER SIXTEEN
1E8E1 MENDE NUMBER SEVENTEEN
1E8E2 MENDE NUMBER EIGHTEEN
1E8E3 MENDE NUMBER NINETEEN

Tens

1E8E4 MENDE NUMBER TWENTY
1E8E5 MENDE NUMBER THIRTY
1E8E6 MENDE NUMBER FORTY
1E8E7 MENDE NUMBER FIFTY
1E8E8 MENDE NUMBER SIXTY
1E8E9 MENDE NUMBER SEVENTY
1E8EA MENDE NUMBER EIGHTY
1E8EB MENDE NUMBER NINETY

Hundreds

1E8EC MENDE NUMBER ONE HUNDRED
1E8ED MENDE NUMBER TWO HUNDRED
1E8EE MENDE NUMBER THREE HUNDRED
1E8EF MENDE NUMBER FOUR HUNDRED
1E8F0 MENDE NUMBER FIVE HUNDRED
1E8F1 MENDE NUMBER SIX HUNDRED
1E8F2 MENDE NUMBER SEVEN HUNDRED
1E8F3 MENDE NUMBER EIGHT HUNDRED
1E8F4 MENDE NUMBER NINE HUNDRED

Thousands

1E8F5 MENDE NUMBER ONE THOUSAND
1E8F6 MENDE NUMBER TWO THOUSAND
1E8F7 MENDE NUMBER THREE THOUSAND
1E8F8 MENDE NUMBER FOUR THOUSAND
1E8F9 MENDE NUMBER FIVE THOUSAND
1E8FA MENDE NUMBER SIX THOUSAND
1E8FB MENDE NUMBER SEVEN THOUSAND
1E8FC MENDE NUMBER EIGHT THOUSAND
1E8FD MENDE NUMBER NINE THOUSAND

Ten thousands

1E8FE MENDE NUMBER TEN THOUSAND
1E8FF MENDE NUMBER TWENTY THOUSAND
1E900 MENDE NUMBER THIRTY THOUSAND
1E901 MENDE NUMBER FORTY THOUSAND
1E902 MENDE NUMBER FIFTY THOUSAND
1E903 MENDE NUMBER SIXTY THOUSAND
1E904 MENDE NUMBER SEVENTY THOUSAND
1E905 MENDE NUMBER EIGHTY THOUSAND
1E906 MENDE NUMBER NINETY THOUSAND

Hundred thousands

1E907 MENDE NUMBER ONE HUNDRED THOUSAND
1E908 MENDE NUMBER TWO HUNDRED THOUSAND
1E909 MENDE NUMBER THREE HUNDRED THOUSAND
1E90A MENDE NUMBER FOUR HUNDRED THOUSAND
1E90B MENDE NUMBER FIVE HUNDRED THOUSAND
1E90C MENDE NUMBER SIX HUNDRED THOUSAND
1E90D MENDE NUMBER SEVEN HUNDRED THOUSAND
1E90E MENDE NUMBER EIGHT HUNDRED THOUSAND
1E90F MENDE NUMBER NINE HUNDRED THOUSAND

Millions

1E910 MENDE NUMBER ONE MILLION
1E911 MENDE NUMBER TWO MILLION
1E912 MENDE NUMBER THREE MILLION
1E913 MENDE NUMBER FOUR MILLION
1E914 MENDE NUMBER FIVE MILLION
1E915 MENDE NUMBER SIX MILLION
1E916 MENDE NUMBER SEVEN MILLION
1E917 MENDE NUMBER EIGHT MILLION
1E918 MENDE NUMBER NINE MILLION

10. Figures.

Table 5: Phonetic identifications of characters in the *Kikakui* Mende Syllabary

non-nasal syllables	i	a	u	e	ɛ	ɔ	o	vowel diphthongs	long vowels
p	68	99	50	81	51	66	102		
b	10	11	12	150	97	138	103		
mb	145	62	122	47 188	72	172	174		187 mbuu 161 mbɛɛ 142 mbɔɔ 105 mboo
f	34	35	36	78	75	88	133	197 fua	
v	182	185	151	173	85	77	144		
t	22	23	24	91	55	69	104		
d	16	17	18	89		181	180		
nd	123	129	125	191	119	64	67		
s	19	20	21	162	116	79	136	196 sia	
l	25	26 171 ra	27	84	73	153	54		110 lee
nj		152	192	149			134		

Figure 1a. Table of Mende syllables from Tuchscherer 1996.

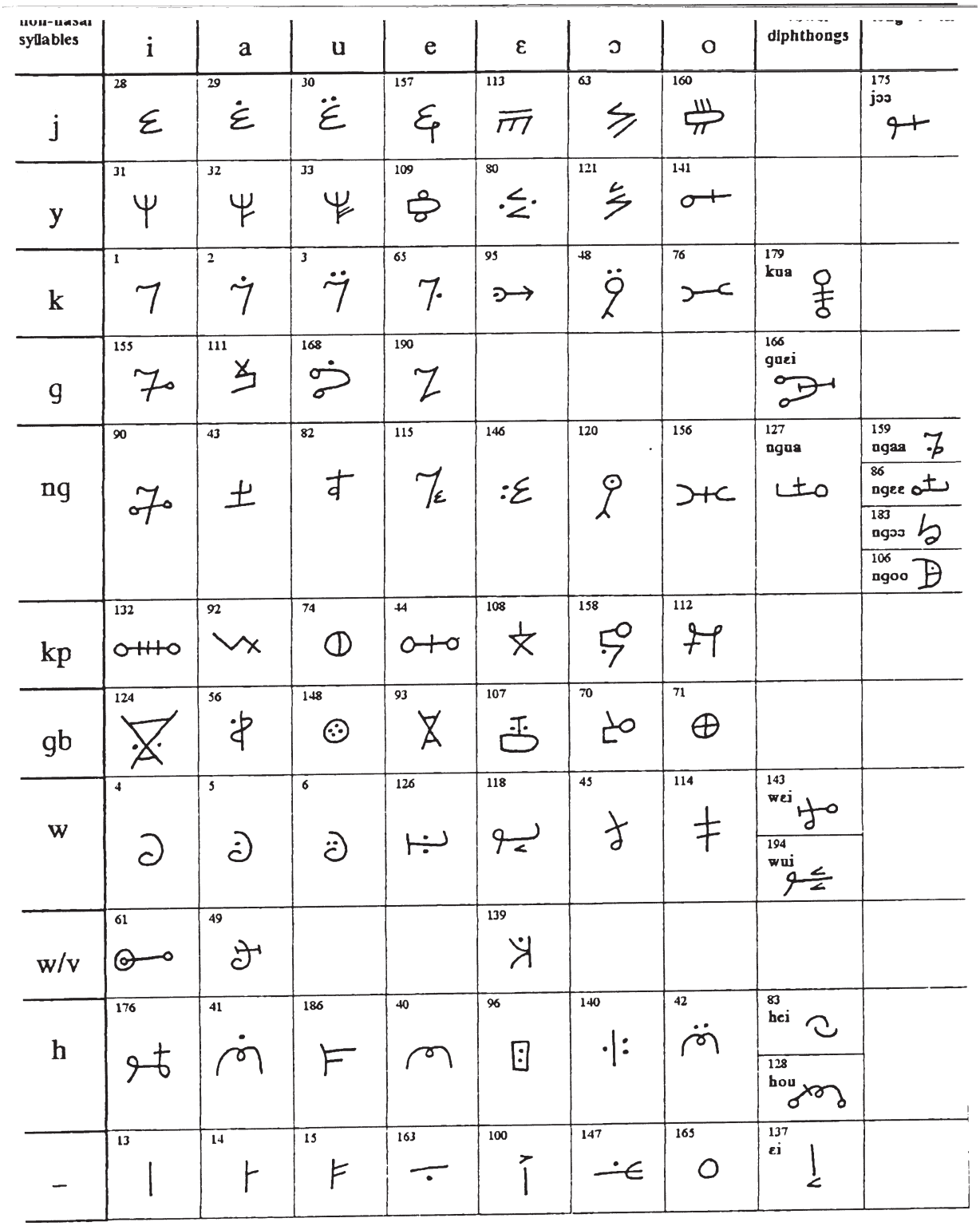

Figure 1b. Table of Mende syllables from Tuchscherer 1996.

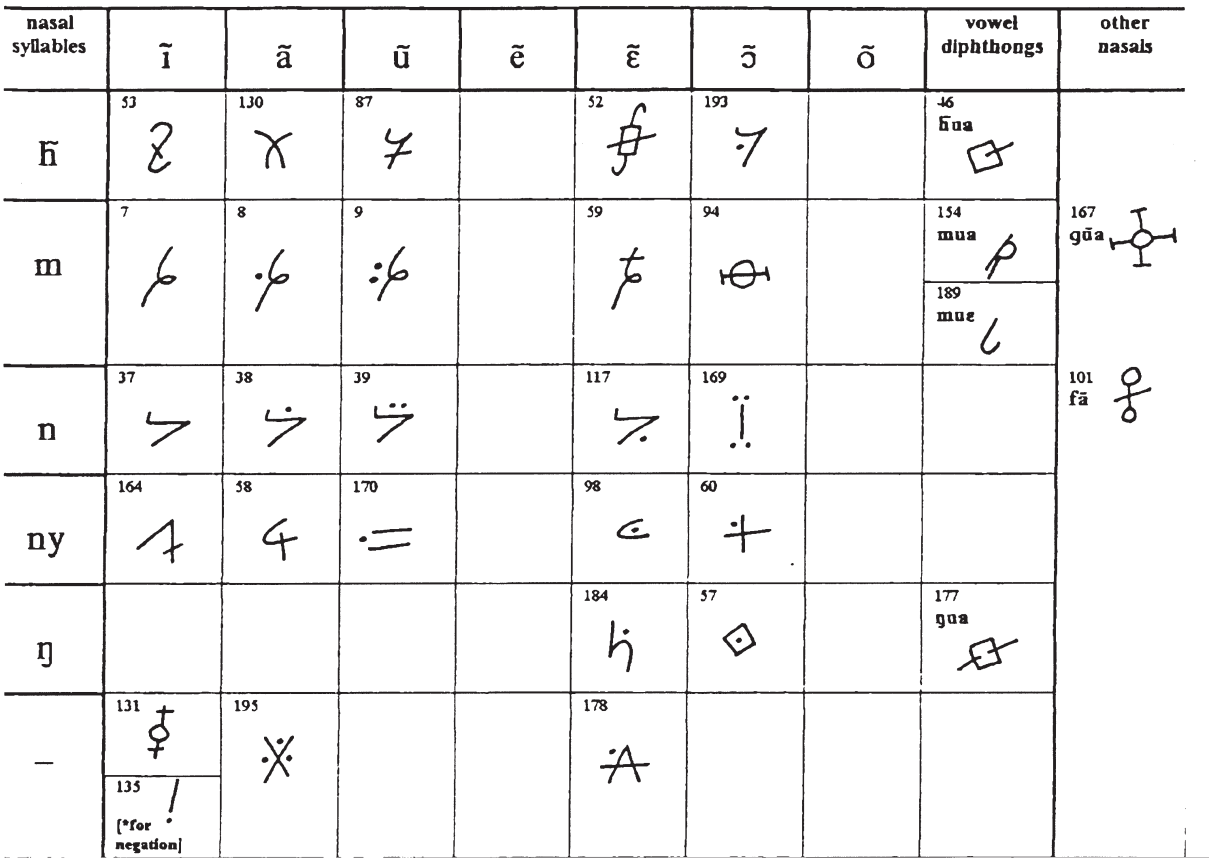

Figure 1c. Table of Mende syllables from Tuchscherer 1996.

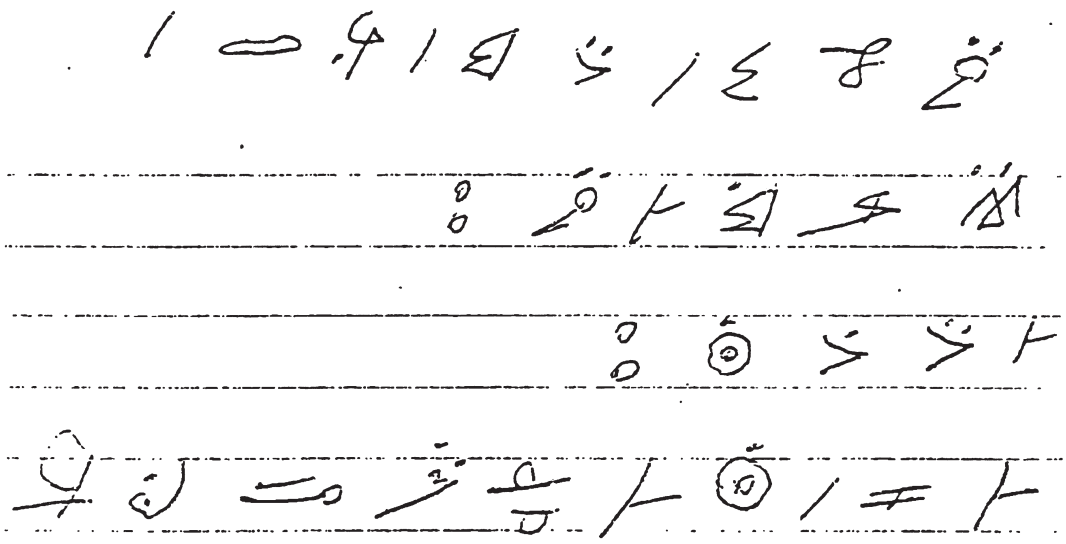

Figure 2. Letter of introduction in Kikakui (Mende) written by Alpha Yewa (Tuchscherer 1996).

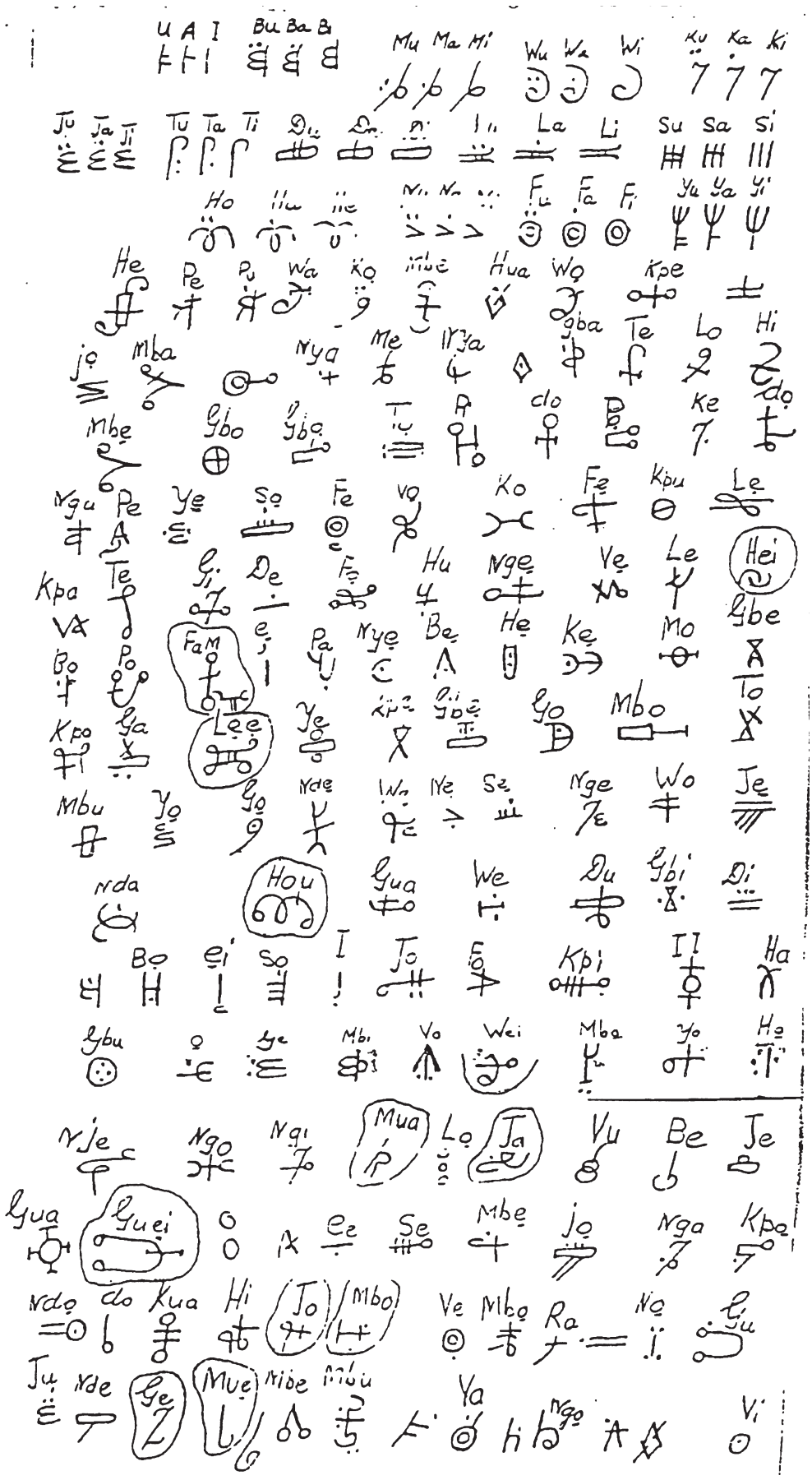

Figure 3. Syllabary key of Kisimi Kamara, collected by S. Milburn in 1942 or 1943 (Tuchscherer 1996:248). The chart reads from right to left. The first forty-two characters, from KI KA KU to HE HA HO are the ones first devised by Mohamed Turay.

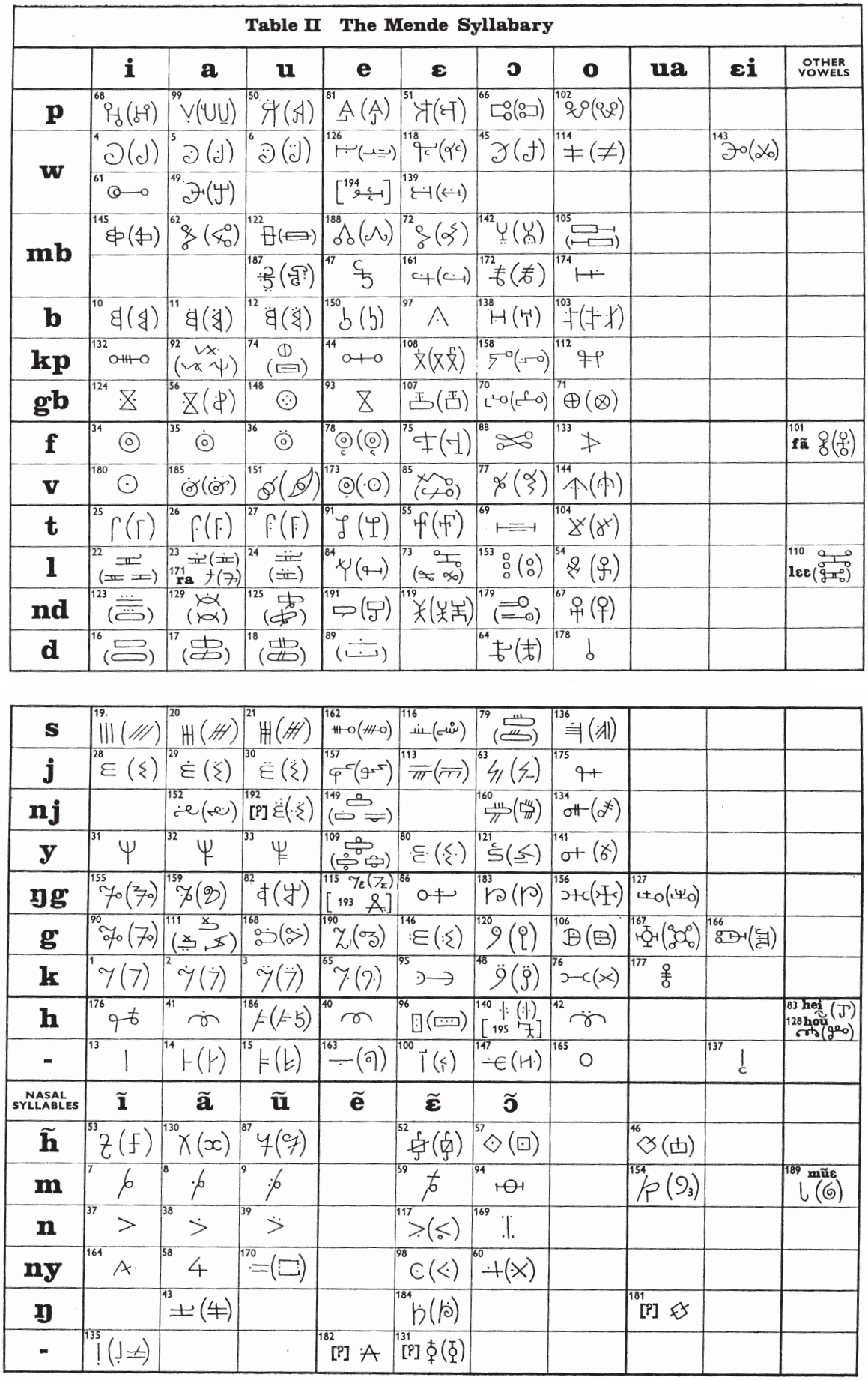

Figure 4. Table of Mende syllables from Dalby .

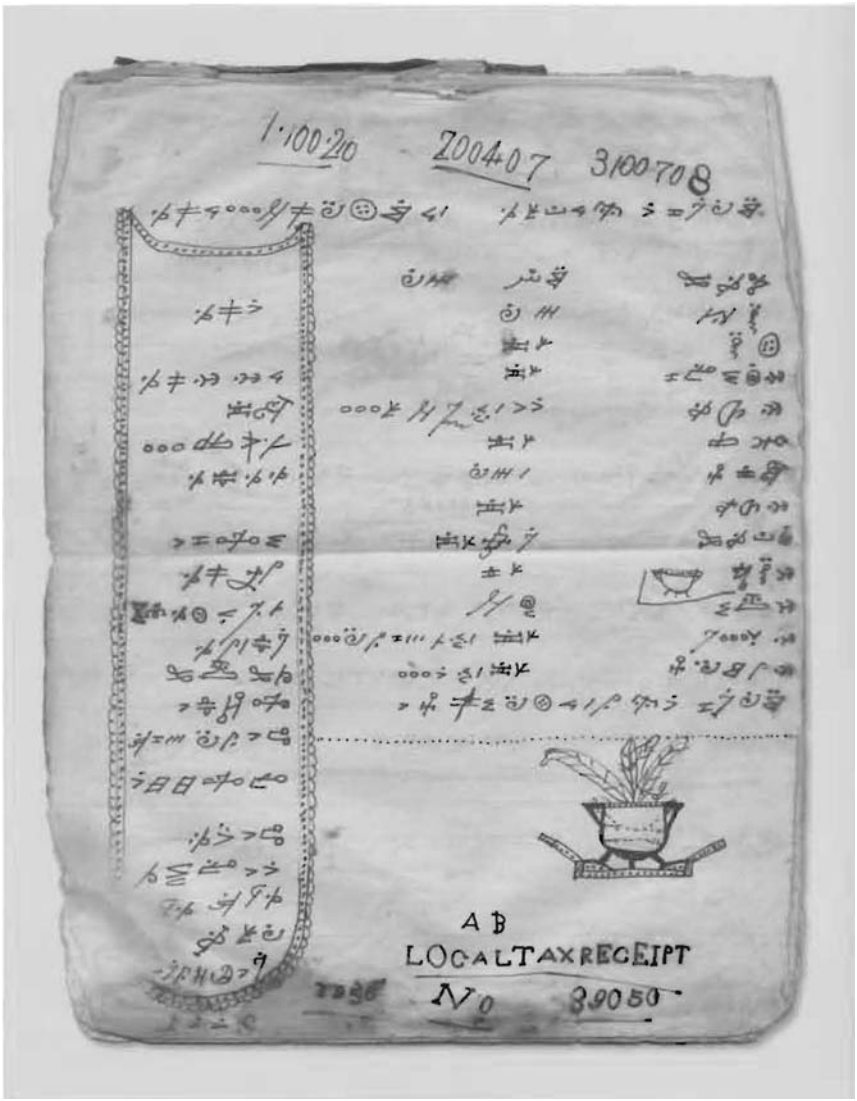

Figure 5. Tax receipt from Sierra Leone in Mende script, from Tuchscherer 2007.

Figure 6. An example of a Mende sign, made in 1993, intended to be put up in Potoru, headquarters of Barri Chiefdom. The text reads *kpotolu bali*.

Figure 7. Text from Bokari Kanneh's Kikakui (Mende) notebooks (Tuchscherer 1996).

A. Administrative

1. Title

Proposal for encoding the Mende script in the SMP 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

2012-01-24

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.

Proposed name of script

Mende.

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

No.

Name of the existing block

2. Number of characters in proposal

269.

3. Proposed category (select one from below – see section 2.2 of P&P document): (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. Font related: Who will provide the appropriate computerized font to the Project Editor of 10646 for publishing the standard?

Jason Glavy and Michael Everson.

5b. Identify the party granting a license for use of the font by the editors (include address, e-mail, ftp-site, etc.)

Michael Everson

6a. References. 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. Special encoding issues. Does the proposal address other aspects of character data processing (if applicable) such as input, presentation, sorting, searching, indexing, transliteration etc. (if yes please enclose information)?

Yes.

8. 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/reports/tr44/) 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. N3863 (L2/10-252), N3757 (L2/10-006)

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?

Konrad Tuchscherer (co-author).

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?

See above.

4a. The context of use for the proposed characters (type of use; common or rare)
Relatively rare, but with potential for revival.
4b. Reference
5a. Are the proposed characters in current use by the user community?
Yes.
5b. If YES, where?
Scholars and some local use in Sierra Leone.
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 (see clauses 4.12 and 4.14 in ISO/IEC 10646-1: 2000)?
No.
11b. If YES, is a rationale for such use provided?
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?