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On the Extended Ethiopic Alphabet

Accompanying pages illustrate portions of the extended Ethiopic alphabet.

Comments which follow are based on information received most recently from Prof. Gene Gragg, Oriental Institute of the University of Chicago, who is a specialist in dictionaries, "expressive" vocabulary, and the various languages of Ethiopia, especially the Omotic languages.

The information is currently being sent out to a number of Ethiopians for checking, and feedback will be made available to the relevant code standards committees.

There are three points of special importance to coding Ethiopic, and one more general point.

A. The independently functioning units of the Ethiopic script are consonant letters and vowel marks. Any phonetically reasonable combination of these can in fact be used, even if many are rare and some are irregularly rendered. Many rare but actually occurring forms are omitted from listings, in part because they are formed at will from independent consonants and independent vowels. No one thinks to list the combinations as if they were primary units.

B. An Ethiopic syllabary ordering is dependent on the alphabetic values of the consonants and vowels taken separately. The collating order of one newer added consonant / v / (column B) is not certain from dictionary materials at my disposal, but Tigrinya / q̄ / is ordered as identical to /q /, and Oromo retroflex / ḍ / (columns 1A and 1B) follows ordinary / d /. The order of the fourteen vowels is not in question. None of the vowels are new additions for foreign vocabulary.

C. Even in the most basic, artificially limited Amharic-only form of the alphabet, the forms for the following syllables containing / ˮ / are included in the normal ordering immediately following the seven vowel series without the / ˮ / built on each consonant, not all at the end.

```
qä quu qii qaa qee qə qoo    qˮä qˮii qˮaa qˮee qˮə
kä kuu kii kaa kee kə koo    kˮä kˮii kˮaa kˮee kˮə
xä xuu xii xaa xee xə xoo    xˮä xˮii xˮaa xˮee xˮə
gä guu gii gaa gee gə goo    gˮä gˮii gˮaa gˮee gˮə
```

D. The alternate forms of the / waa / series are simply that, graphic variants. The problem of graphic variants which are equivalent in terms of information value is one which demands general discussion. It arises also in the case of the Indic alphabets where the lack of a vowel after a given consonant can be indicated in at least four different ways, by a special mark, by the "half" form of a consonant letter, by a subscript consonant form, or by a special "conjunct" combination of two or more consonant letters. Excluding these from basic codings is good. But to pose the problem:

a) There is no question that most rendering forms should be handled automatically inside a computer, as the human users do not want to be burdened with non-distinctive non-information-bearing choices.

b) But occasionally the human user does want to make the choice of surface form.

c) These choices can sometimes be made by choosing different fonts for the same alphabet. In such cases they are not choices of different codes, but of different formats in a sense. The two different forms of retroflex / ḍ / (columns 1A and 1B) are probably just a font difference.

d) But very rarely, the different surface renderings are distinctive.

e) Special rendering-control codes can effect such distinctions ("non-interacting", "force-conjunct", etc.). Their status in the coding and in the software should be that of format effectors?

In the full charts in Ethiopic syllabary order (= alphabetical order), forms shown in rows 7-8-9 and C-D-E are not often given for most consonants. They are however used in some contexts.

1) They appear on the amulets written by Dabtaras (the traditional market scribes) etc.

2) They are used primarily in "expressive" words (a category much larger than so-called sound symbolism), which are not usually listed in dictionaries. More on this below.

3) Columns which are relatively more frequent include the / fʷ žʷ mʷ / as well as the better-known / qʷ kʷ xʷ gʷ /.

4) Rows which are rarest include those with /ʷuu/ and /ʷoo/ vowels, labeled rows 8 and E in the charts, for the same reasons that these combinations do not normally occur in English. The labial / w / sound often disappears before / u / or / o / but is kept before other vowels / a e i /, as in English

who		but	what	when	which
/ huu / not / hʷuu /			/ ʰwʌt /	/ ʰwɛn /	/ ʰwɪč /

But in "expressive" vocabulary, the disfavored sequence can in fact occur, as in English

whew! (expression of relief after great effort completed or after tension relaxed)
/ hʷuu /

5) They appear as very elegant alternatives, where writers are proving what very great skill they have with the writing system. Even the generally recognized "wa" forms can have this flavor, since

ከ ዋ   can be written instead of   ኳ

kwaa = kəwaa   kʷaa

The usual context for finding the sounds [ʷo] in Ethiopic vocabulary (other than expressives) is in Geʻez verbs with a third-person polite form / -o / added to a form ending in / -u /, as in näggär-ku-wo meaning "I spoke to him". This is however normally written in the first not the second way.

ነገርኩዎ   kwoo = kəwoo

6) The "expressive" vocabulary refers to sounds, movements (flip-flop), and the like, and is common in phrases like

fʷiifʷii ala   literally "to say fʷiifʷii "
                   usually conveyed in English as "to go fʷiifʷii "
                                          or "to make the sound fʷiifʷii "

Ethiopic alphabet syllabary table (rotated layout)

column #																				
column #	2	3	4	5	6	7	A	B	C	9	D	B	C	D	E	F	12	13	ñ 10	? 11	k 12	x 13	w 14

Row labels (vowels): a 0, ü 1, ì 2, ã 3, ē 4, ə 5, o 6, "a 7, ("u) 8, "ä A 9, "ā B, ("ä) B, "e C, "ə D, ("o) E, F

Column labels (consonants): h 0, l 1, ḥ>h 2, m 3, š>s 4, r 5, s 6, š 7, q 8, q̄ 9, b A, v B, t C, č D, ḫ>h E, n F, ñ 10, ? 11, k 12, x 13, w 1A/14

Ethiopic alphabet treated as a syllabary, in proper alphabetical order. Blank cells in rows 7, 9, B, C, D are sometimes used for special words.
Boxed columns are used for special languages; shaded rows are rare, mostly sound-symbolic words, as ž"u ž"o etc

1B	15	ʕ>ʔ
1C	16	z
1D	17	ž
1E	18	y
1F	19	d
1A		ḍ
1B		ḍ
1C	22	ǧ
1D	23	g
1E	24	ṭ
1F	25	č
20	26	p̣
21	27	ṣ
22	2A	ḍ>ṣ
23	2B	f
24	2C	p

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	ä	u	i	a	e	ə	o	˚a	("u)	˚i	˚ä	("ä)	˚e	˚ə	(˚o) etc. can be placed here	

Some additional punctuation

	2D	2E	2F
	25	26	27

Coding not using C0C1 space, only basic letters	Coding using also C0C1 space, including suplementary letters in their proper order

(Two side-by-side tables of Ge'ez / Ethiopic syllabary forms, with column vowel labels ä, e, a, ... The left table shows only basic letters; the right table includes supplementary letters in their proper order.)

Ethiopic can be coded either as a syllabary or as an alphabet. Here we show the traditional alphabetical ord[er]

Native users prefer to think of it as an alphabet with numerous ligature and irregular forms.

If coded as an alphabet, the four columns just preceding this text are sufficient.

Irregular forms are then handled by display devices as rendering glyphs not basic character codes.

The basic codes then serve as an index into the larger tables of renderings which follow,

using all columns (column labels in the second row from the top).

If C0 and C1 space are to be avoided, the more restricted base letter set can be used as in the first four columns on this page, omitting also two vowels, and index into the larger tables which follow,

using only those columns which have labels in the top row, readjusting for omitted vowels.

The larger tables can be placed anywhere in code space, and the consonant+vowel form position is comput[ed]

as a constant plus (multiplier x (consonant code minus constant)) plus (vowel code minus constant)

NOTE THAT ALL CONSONANTS CAN HAVE ALL 12 or 14 VOWELS EVEN THOUGH SOME

OCCUR ONLY IN RARE OR SPECIALIZED VOCABULARY (here shown as blank cells)

Ethiopic can also be coded as a syllabary, with all forms in proper alphabetical order.

If C0 and C1 space can be used, see the two following sheets. Otherwise spread out in three rows.

Some modern dictionaries alphabetize obsolete letters as their modern equivalents (column 0 and E as 2, column 4 as 6, column15 as 11). But they never interleave in the manner 01 21 02 22 03 23 or etc.

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Specializing in intuitive designs to fit the patterns of human language and thought, whether typed on a keyboard, presented as visual diagrams, or signed on the hands.

27 February, 1991

Dear friends:

We are participating in international committees which are developing computer code standards to include all alphabets of the world.

We would like to be certain that all of the needs are satisfied for users of Ethiopic script like yourselves. We believe that some of the more rare and "expressive" forms of the Ethiopic alphabets are not yet accomodated.

We have been told that these forms occur especially in words with an expressive flavor, Ethiopic words which are similar to English "flip-flop", "zig-zag", "zoom-zoom", "whoosh", "whew", referring to movements or sounds, and in Amharic used often with the verb **ala** "to say". There would be similar expressions in other languages of Ethiopia.

Can you give us examples of words using these rarer letter forms?

The letters which we are most interested in are the ones on the next two pages.

Please type them out if you can on your computer, or draw carefully those letters which you cannot type, and send them to us, with some indication of the meaning if that is possible and if possible also the pronunciation written in Roman letters (English letters with diacritics etc.).

The fuller display of the Ethiopic alphabet is on the last three pages, as part of a paper which we are sending to the appropriate code standard committees. We have included all forms which specialists in the various Ethiopic languages tell us do exist or are usable.

If you wish to also read that paper and comment to us, we would of course be happy to send your comments on to the committees.

We do have some questions about proper alphabetical order. We know that the different old letters for / h / are now ordered together, and the letters for / s / together. What about the letter for / v /? Where would you expect to find it in dictionaries including foreign loan words? Do you have any other comments on alphabetical order for dictionaries? Have we ordered the letters correctly?

We will do our best to insure that all forms of your Ethiopic script are included in the international standards. You can obviously help us to do this much better than we could do it without you.

Sincerely yours,

Lloyd B. Anderson

P.S. Your speedy reply will be much appreciated.

Ethiopic alphabet treated as a syllabary, in traditional alphabetical order. Letters in rows 7, 9, B, C, D are sometimes used for special words.

Primarily "Expressive" forms shown here. Boxed forms are rare; shaded rows are very rare, mostly found in sound-symbolic words like *žu *žo etc. Examples???

column #	2	3	4	5	6	7	A	B	C	9	A	B	C	E	F	12	13	14	15	16	17	1A
column #	0	1	2	3	4	5	6	7	8	9	A	b	v	t	č	h>h	n	ñ	?	k	x	w
	h	0	1	h>h	m	š>s	r	s	š	q	q̇	b	v	t	č	h>h	n	ñ	?	k	x	w

Row labels (leftmost column):

- ă 0
- ū 1
- ī 2
- ā 3
- ē 4
- ə 5
- ō 6
- ̈a 7
- (*ü) 8
- ̈a 7 9
- ̈a A
- (̈ā) B
- ̈e C
- ̈ə D
- (*ö) E
- F

Where two forms are shown in rows A and B, is there any difference? Which do you prefer? Always?

			0 ä	1 ū	2 ī	3 ā	4 ē	5 ə	6 ō	7 ʷä	8 (ʷū)	9 ʷ	A ʷā	B (ʷā)	C ʷe	D ʷə	E (ʷö)	F
1B	15	ʕ > ʔ																
1C	16	z																
1D	17	ž																
1E	18	y																
1F	19	d																
1A	1A	ḍ																
1B	1B	ḏ																
1C	22	ǧ																
1D	23	g																
1E	24	ṭ																
1F	25	č̣																
20	26	p̣																
21	27	ṣ																
2A	22	ḍ > ṣ																
2B	23	f																
2C	24	p																
2D	25																	
2E	26																	
2F	27																	