
ETHIOPIAN SCIENCE & TECHNOLOGY

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Ethio Science & Technology is a column presented to the Cleo community frequently. It covers various issues in the science; in particular, those of more related to Ethiopia. Your contribution is welcomed.

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Note from the Editor

- This is the first issue of 'Ethio Science & Technology' for 1994.
- Today, the column comes with an important document written by Yitna and Daniel about the work they done in the area of representing the Ethiopian script with Latin and key entry scheme.
- Their work is extremely invaluable and should not be taken lightly. Those who are in Computer Science and in particular typography will find it creative and educational.
- The editor believes that if the reader has any questions and comments, may forward them to Cleo in order to allow the participation of wide audience. Those who would like just to talk the authors can contact Yitna and Daniel off-line.
- The editor would like to thank Yitna and Daniel for their contribution to this column. Enjoy it!

To the Reader:

The following is presented for your consideration as means of representing Ethiopic script with Latin (or ASCII) letters. The system presented has evolved extensively in the year that we have used it for our personal correspondences through email. We believe at this point the system is well developed but not in its final form. Further refinements will only come after many have had the chance to apply the system on their own. Any and all feedback will be appreciated.

Our thanks,

danEl yaqob (Daniel Yacob)
yTna frdyweq (Yitna Firdyiwek)

The Ethiopic Script in ASCII

	1	2	3	4	5	6	7	8	9	10	11	12
	gIz	kaIb	sals	rabI	hams	sads	sabI	Dikala→				
1	he	hu	hi	ha	h'	h	ho					
2	le	lu	li	la	l'	l	lo	lWa				
3	h2e	h2u	h2i	h2a	h2'	h2	h2o					
4	me	mu	mi	ma	m'	m	mo	mWa				
5	s2e	s2u	s2i	s2a	s2'	s2	s2o					
6	re	ru	ri	ra	r'	r	ro	rWa				
7	se	su	si	sa	s'	s	so	sWa				
8	xe	xu	xi	xa	x'	x	xo	xWa				
9	qe	qu	qi	qa	q'	q	qo	qWe	qWu	qWi	qWa	qWe
10	Qe	Qu	Qi	Qa	Q'	Q	Qo	QWe	QWu	QWi	QWa	QWe
11	be	bu	bi	ba	b'	b	bo	bWa		(Q is Tigrinia)		
12	ve	vu	vi	va	v'	v	vo	vWa				
13	te	tu	ti	ta	t'	t	to	tWa				
14	ce	cu	ci	ca	c'	c	co	cWa				
15	h3e	h3u	h3i	h3a	h3'	h3	h3o	hWe	hWu	hWi	hWa	hWe
16	ne	nu	ni	na	n'	n	no	nWa				
17	Ne	Nu	Ni	Na	N'	N	No	NWa				
18	a	u	i	'	e	I	o		(' as in 're!')			
19	ke	ku	ki	ka	k'	k	ko	kWe	kWu	kWi	kWa	kWe
20	He	Hu	Hi	Ha	H'	H	Ho	HWe	HWu	HWi	HWa	HWe
21	we	wu	wi	wa	w'	w	wo			(HW is Tigrinia)		
22	a2	u2	i2	'2	e2	I2	o2					
23	ze	zu	zi	za	z'	z	zo	zWa				
24	Ze	Zu	Zi	Za	Z'	Z	Zo	ZWa				
25	ye	yu	yi	ya	y'	y	yo					
26	de	du	di	da	d'	d	do	dWa				
27	De	Du	Di	Da	D'	D	Do	(D is Oromiffa)				
28	je	ju	ji	ja	j'	j	jo					
29	ge	gu	gi	ga	g'	g	go	gWe	gWu	gWi	gWa	gWe
30	Ge	Gu	Gi	Ga	G'	G	Go	(G is Chaha)				
31	Te	Tu	Ti	Ta	T'	T	To	TWa				
32	Ce	Cu	Ci	Ca	C'	C	Co	CWa				
33	Pe	Pu	Pi	Pa	P'	P	Po					
34	Se	Su	Si	Sa	S'	S	So	SWa				
35	S2e	S2u	S2i	S2a	S2'	S2	S2o					
36	fe	fu	fi	fa	f'	f	fo	fWa				
37	pe	pu	pi	pa	p'	p	po					

(Letters will be referred to both by their ASCII spelling and by their position on the above number matrix (e.g. 'he' or 1/1). The columns are also known as 'forms' (e.g., first form, second form, etc..) or by their Ethiopic names: e.g. glz, kalb, sals, . . . etc.)

Part I. INTRODUCTION

A. Why does Ethiopic need ASCII?

The purpose of our proposal is to help in the creation of a standard that will allow for the use of Ethiopic languages in networked communications such as this one on Cleo. Even though some attempts are made now and then to write in Amharic using ASCII, the results (mostly salutations or short sayings) are not always clear, consistent, or extended. We believe that a standard might help encourage more online use of languages such as Amharic, instead of being limited to English, even though the text will be in ASCII form. In addition, two other areas of development would be possible:

- 1) Word processor translation of e-mail: With such a standard in place, word processors can be developed that can read e-mail messages written using the ASCII/Ethiopic standard and translate them into Ethiopic script. In reverse, the word processors can translate text written in Ethiopic script into Ethiopic/ASCII for uploading as an e-mail message.
- 2) Direct connection (e.g. X-windows): Developments in creating Ethiopic fonts for client/server software could take advantage of this standard and make direct synchronous communication using Ethiopic script possible.

Software development in these areas have already been tried out.

B. Considerations in Developing the Standard

We have taken the following two considerations in coming up with our proposed standard:

- 1) The system must be easy to type on a 101 keyboard. This
 - finding the closest match between the Latin and Ethiopic phonetic system (while being as systematic as possible with the inevitable exceptions),
 - limiting the number of keystrokes necessary for each Ethiopic character to a minimum, and
 - placing the most frequently used keys as close as possible to the “home keys” row of the 101 keyboard.
- 2) The system must also be easy for machine translation. In this case, the systematicity of the mapping of Ethiopic to ASCII is exploited to make the machine translation between ASCII and Ethiopic script (in word processors, for example) as fast as possible.

C. Terminology:

- 1) Alphabet vs Syllabary: Though the concepts behind these two forms of writing are rather simple, they carry a history of controversy regarding which is “better”, “simpler”, “more useful”, etc. [1] Without getting into justifications for preferring one over the other, we would only point out for our own purposes that “alphabet” refers to the Latin or ASCII set in which consonants and vowels are independently manipulated, and “syllabary” refers to the Ethiopic script in which each character is defined by a consonant + vowel combination. (We use Latin and ASCII interchangeably.)
- 2) Consonants and Vowels in the Ethiopic Syllabary: The Ethiopic syllabary contains 37 rows by 12 columns [2]. Thirty-five of the 37 rows contain a consonant (sometimes called a “radical”) which is transformed in a fairly consistent manner as it is combined with the 7 standard vowel forms plus the 5 labialized (W) forms. This constitutes the 12 columns.

The only exceptions in this “consonant + vowel” structure are row 18 (a) and row 22 (a2). In these two rows, the Ethiopic syllabary contains “independent” or “pure vowels” that can stand without a consonant. (This is important to note because of the complications it creates when Ethiopic interacts with the Latin alphabet.)

Part II. DEVELOPMENT OF THE SYSTEM

It may first occur to one when attempting to write Ethiopic script with Latin letters, to represent the 7 forms with numbers as so:

Consonants:

h1 h2 h3 h4 h5 h6 h7

Independent Vowels:

a1 a2 a3 a4 a5 a6 a7

It is soon found in practice, however, that while this is a very simple system for representing the Ethiopic characters, it is not so simple to read or write in it (e.g., “T5n1y6s6T6l6N6”, “a1d5s6 a1b1b4”). This is true largely because our minds are not trained to associate the Latin script with Arabic numbers to form words. One will soon wonder why not use the Latin vowel letters to denote the 7 forms of the Ethiopic characters. This is where the trouble begins: How do you represent the standard 7 Ethiopic forms (plus the ‘W’ forms) with only 5 Latin vowels?

The first step we took was to assign a punctuation mark (the apostrophe ') and 'I' for the two extra Ethiopic vowels (plus 'W' for forms 8-12). So, following phonetic guide lines we came up with the following system:

Consonants:

h' hu hi ha he hI ho

Independent Vowels:

a' au ai aa ae aI ao

Again, after some trial use (e.g., “Ten'yIsITIINI”, “a'disl a'b'ba”) we found that the writing can be made more readable if we used only one character for the pure vowel form. Then the system reduces to:

Consonants:

l' lu li la le lI lo

Independent Vowels:

' u i a e I o

and our sample text would look like: “TenayIsITIINI”, “'disl 'b'ba” which becomes a little easier to read and to type.

It is at this point that we began to notice two problems:

- 1) the 6th (or “sadis”) form of the Ethiopic characters occurs more often than any other form (about twice as often), and
- 2) the use of punctuation makes the 'look' of some familiar words peculiar.

The quick solution:

- 1) stop using ‘l’ for the sadis (sixth form) consonants, letting the consonants stand by themselves, and
- 2) switch the ASCII letters for the 1st and 4th forms of the independent vowels.

Consonants:

l' lu li la le l lo

Independent Vowels:

a u i ' e I o

Examples:

Tena ysTlN
adis ab'ba
Ind'mn k'rmachWal
zare T'wat suq heje n'b'r
man'w smh? man'w smx?

Ambiguity Problem with The Independent Vowel

This system is easier to read and type, but there is still a problem. If you have never before seen the word “Tena” how will you know if you are reading 2 Ethiopic characters or 4 – “Te-na” or “T-e-n-a”? This problem of ambiguity usually occurs because it is not clear whether a consonant letter is a sadis (6th) form followed by an independent vowel form, or a syllable made up of the consonant and following vowel form. Of course, this is a problem only if the reader does not know the language. An Amharic speaker would not make such a mistake.

In another scenario, the name “Gabriel” can be read “g'-b-r-el” (correctly), or “g'-b-re-l” (not quite correct, but okay when speaking fast). Though the ambiguity is there, whether you interpret the Latin as showing 5 (g'-b-r-e-l) characters or 4 (g'-b-re-l) makes almost no difference.

These conditions may not always be true, however, and the difference does become a big problem for word processors and computer software for translation. It is better then to insure that the characters are unmistakably represented. To accomplish this, our decision was to use capital (uppercase) letters for independent vowels that appear after a sadis (sixth form) consonant. Thus, we can rewrite Gabriel as “gabrEI” and modify our system, which now includes a third category, accordingly:

Consonants:

l' lu li la le l lo

Independent Vowels:

a u i ' e I o

Independent Vowels Following a 6th Form Consonant:

lA lU l|i l' lE lI lO

We believe, however, that this third form will not be used very much since most of the words in which a sadis precedes an independent vowel allow (sometimes even require) a glide to occur in which the sadis changes to whatever the independent vowel dictates. Again, the concern here is for possible problems with machine translation and not for ambiguity in the way people would use the system.

(You will note that the pipe, '|', symbol is used to separate 'l' after the sadis consonant. This is necessary because we have already chosen the capital 'I' to represent the sadis vowel. We anticipate the need to use '|' will be extremely uncommon. As a footnote, however, the 2-character representation of the sadis consonant can be 'l|'. See Commonly Asked Questions #3 below.)

III. FINAL TOUCHES AND CONCLUSION

This last system seen above developed through applied use over the past year and has been successfully adapted to an experimental version of a marketed Ethiopic word processor. However, at the last minute, it was found that though easy to write, reading the text remained visually challenging because of the frequent occurrence of the punctuation mark used to represent the first form consonants. We experimented with the system in various ways to reduce the occurrences of punctuation without straying too far from the phonetic norms we had already established and came up with five experimental alternatives.

System 1:

l' lu li la le l lo
a u i ' e I o
lA lU l|i l' lE lI lO

System 2:

la lu li l' le l lo
a u i ' e I o
lA lU l|i l' lE lI lO

System 3:

la lu li la' le l lo
a u i a' e I o
lA lU l|i lA' lE lI lO

System 4:

```

le lu li la l' l lo
a u i e ' I o
lA lU l|i lE l' lI lO

```

System 5:

```

le lu li la l' l lo
a u i ' e I o
lA lU l|i l' lE lI lO

```

Using the five systems we produced a few paragraphs of Amharic text and asked readers at soc.culture.africa to vote on which system they found most readable. (See Appendix A for the questionnaire and sample text we sent out.) The system most favored was number five which we now represent in this proposal:

Consonants:

```

le lu li la l' l lo

```

Independent Vowels:

```

a u i ' e I o

```

Independent Vowel Following a 6th Form Consonant:

```

lA lU l|i l' lE lI lO

```

Our effort at representing the Ethiopic script with Latin/ASCII has been a fairly straight forward matter. The reader is now encouraged to review our proposal.

Notes:

[1] Syllabaries in general do not distinguish between vowels and consonants. They do not have a regularity, symmetry, or any kind of matrix. The ancient Cypriot syllabary, the newly invented (1821?) Cherokee syllabary, and even the modern Japanese Katakana system have very little regularity. The syllables are arbitrary marks that contain the consonant and vowel in one symbol that does not allow any disassembly into constituent phonetic parts. This aspect of syllabaries is sometimes used to show that they are a less developed form of writing system.

Fidel, the Ethiopic syllabary, on the other hand, is highly regular and has a quite clearly defined set of vowel markings which were *added* to a base consonant/radical. In fact, just looking at the Fidel one can see a clearly outlined alphabetic underpinning. It seems that what we have in the Ethiopic system is not a sort of pre-alphabetic syllabary, but an outright further development of an alphabet--the Sabeian alphabet which, like Hebrew and Arabic had no vowel representation. It is more plausible to see in Ethiopic a move from the Sabeian alphabet back into a syllabic form, but with a standardization based on awareness of the explicit relationship between consonants and vowels. To dismiss Ethiopic as an undeveloped writing system is to overlook an example (perhaps the only one) of post-alphabetic development in writing systems.

[2] The traditional matrix of the Ethiopic script is in rows of seven columns with the base 'W' form (here column 8), and the other 'W' forms (here column 9-12) presented separately at end of the list as extensions to the core set. We felt a 37 x 12 matrix would be a more natural arrangement both because of the similarity of the characters as well as the efficiency it provides for machine access and manipulation of the characters.

Some Commonly Asked Questions not addressed above:

1. Why not use uppercase vowels at all times?

This could be done. It would require that a different character be chosen for either the 3rd or 6th form vowel to maintain the single character representation. The primary reason not to use capitals at all times for the vowels is that it requires of the typist an extra keystroke (the 'shift' key). It is preferable to type with as little effort as possible.

2. What if I wish to show more sound for a sadis consonant?

It is not always accurate to say that the vowel component of the sadis consonant is not spoken. For many words the vowel in the 6th form consonant is clearly enounced. If you wish to write in a more phonetic manner without loss of clarity; this may be accomplished by writing the 2-character representation form of the sadis consonant when it is needed. As you will recall we have redefined the 2-character form of the 6th consonant as 'l|'. We can mix the two character and one-character forms together in the same word to show when the vowel portion is voiced:

```
ysTlN = y|sT|l|N
tgrNa = tg|r|Na
alf'lgm = alf'l|g|m
Tre = T|re
```

Writing with both the one- and two-character representations of the 6th form consonant together may be more laborious to the typist but has the advantage of giving the reader a better demonstration of the word's sound when spoken. The mixed representation is not ambiguous and does not pose any problem for machine translation when going from Latin to Ethiopic. If it would become a common practice to mix the two systems, we may wish to try alternate characters in place of the pipe ('|').

3. Why Are Numbers Used With Letters?

A problem that occurs when trying to represent Ethiopic script phonetically in Latin is the presence of Ethiopic letters that are phonetic equivalents. These cases are encountered with the two Ethiopic characters for 's' and 'S' and the 4 characters for 'h'. Representing one of the 2nd forms with an unused Latin character, say F, R, or V, would be a digression from phonetic norms and adds a level of complication to the reading. In the case of what would be h4 the uppercase 'H' is chosen for representation. This choice models the husky 'kh' sound that the character has in Tigrinia and other languages.

For the more common type of email exchanges omitting the number 2 or 3 does not result in a loss of interpretation. The use of the ordinals becomes more important later if the text is to be read and translated into Ethiopic script by computer.

4. Why Does 's2' Come Before 's' ?

The '2' is only needed to distinguish the difference between the two 's's in Ethiopic script. In modern writing it is the newer 's' (the 2nd 's' appearing in the Fidel) that finds the most frequent use in the spelling of words. The first 's' is represented as 's2' because it occurs less frequently in writing. Were the 2nd 's' labeled as 's2' it would give the typist more considerably finger more work to perform.

5. Why is The Capital 'W' Used For Dikala Forms?

The uppercase 'W' is used to remain phonetically consistent with the sound of the dikala forms (forms 8 - 12). The lower case 'w' is reserved exclusively for consonant 21 with the 'w' sound. Thus confusion and ambiguity is avoided with use of the uppercase 'W'.

6. Why is 'hWa' used in place of 'h3Wa'?

This is a break in consistency from how forms 1 through 7 of 'h3' were represented. However, as 'h' and 'h2' do not have forms after the sabl (the 7th form) there is no opportunity for confusion to arise from the omitted '3' of 'h3W'. Hence 'hW' will be uniquely identifiable as representing dikala forms of the h3 consonant. The advantage of dropping the '3' in the dikala range, will be the keystroke saved for typists.

APPENDIX A: Questionnaire and Sample Text

Greetings to Ethiopic Script Readers,

Following you will find a sample Amharic text (an article fragment from Ethiopian Examiner) written in 5 systems of representation. It is not the purpose of this document to discuss the development of the systems or to debate the merits and faults of each. I solicit your opinion with respect to where you find the most comfort and ease of reading. Please return to me a ranking of the various systems in your order of preference (e.g. 3,5,1,4,2; 3 is best, 2 worst). Any additional comments are welcomed. Please pass this letter on to your friends and colleagues.

Results of the survey will be posted when available. A discussion of the Latin representation system, along with an ASCII Fidel, will be presented at that time. Note that the difference between some systems is subtle, you may wish to print this article to aid your evaluation. Your help is much appreciated.

Thank You,

danEl yalqob (System 1,5)

d'nEl y'lqob (System 2)

da'nEl ya'lqob (System 3)

dan"l yalqob (System 4)

yacob@apollo.aoe.vt.edu

System 1:**Consonants:**

l' lu li la le l lo

Independent Vowels:

a u i ' e I o

Independent Vowel Following a 6th Form Consonant:

lA lU l|i l' lE lI lO

Sample:

b'k'ft'Na gugut siT'b'q y'n'b'r'w y's'lamna y'Irq gubae,
k'tahsas 9-13 1986 'm. b'adis ab'ba k't'ma bad'r'g'w y'amst q'n
sbs'ba, b'ihAdeg y'mim'raw gizeyawi m'ngst slTanun Indiyasr'kb
T'y'q'.

q'd'm blo paris lay sbs'baw Indid'r'g k'T'y'qut s'bat t'qawami
budnoc wsT, y'sastun abalat w'd' ag'rac'w sig'bu awroplan Tabiya
lay b'polis b'masyazna bmas'r m'ngst bzihu sbs'ba lay Indaysat'fa
adr'gWac'wal. y'tasrut abalat, ato abra y'man'ab, w'/rit g'n't
grma, ato m'sfn t'f'ra, ato almy'hu deresana ato g'n'n'w as'fa
(k'idehaq): ato s'yum z'n'b' (k'mdhn) Ina ato ibsa gut'ma
(k'on'g) nac'w.

System 2:

la lu li l' le l lo

a u i ' e I o

lA lU l|i l' lE lI lO

bakaftaN' gugut siTabaq yanabaraw yasal'mn' yaIrq gub'e,
kat'hs's 9-13 1986 'm. baadis abab' katam' b'daragaw yaamst qan
sbsab', baihAdeg yamimar'w gizey'wi mangst slT'nun Indiy'srakb
Tayaqa.

qadam blo p'ris l'y sbsab'w Indidarag kaTayaqut sab't taq'w'mi
budnoc wsT, yas'stun ab'l't wada agar'caw sigabu awropl'n T'biy'
l'y bapolis bam'sy'zn' bm'sar mangst bzihu sbsab' l'y Ind'ys'taf'
adragWacaw'l. yat'srut ab'l't, ato abr' yam'naab, wa/rit ganat
grm', ato masfn tafar', ato almyahu deres'n' ato gananaw asaf'
(kaideh'q): ato sayum zanaba (kamdhn) In' ato ibs' gutam'
(kaonag) n'caw.

System 3:

la lu li la' le l lo

a u i a' e I o

lA lU l|i lA' lE lI lO

bakaftaNa' gugut siTabaq yanabaraw yasala'mna' yaIrq guba'e,
kata'hsa's 9-13 1986 a'.m. baadis ababa' katama' ba'daragaw
yaamst qan sbsaba', baihAdeg yamimara'w gizeya'wi mangst slTa'nun
Indiy'srakb Tayaqa.

qadam blo pa'ris la'y sbsaba'w Indidarag kaTayaqut saba't
taqa'wa'mi budnoc wsT, yasa'stun aba'la't wada agara'caw sigabu
awropla'n Ta'biya' la'y bapolis bama'sya'zna' bma'sar mangst
bzihu sbsaba' la'y Inda'ysa'tafa' adragWacawa'l. yata'srut
aba'la't, ato abra' yama'naab, wa/rit ganat grma', ato masfn
tafara', ato almyahu deresa'na' ato ganaw asafa' (kaideha'q):
ato sayum zanaba (kamdhn) Ina' ato ibsa' gutama' (kaonag) na'caw.

System 4:

le lu li la l' l lo
a u i e ' I o
lA lU l|i lE l' lI lo

bekefteNa gugut siTebeq yeneberew yeselamna yeIrq guba',
ketahsas 9-13 1986 e.m. beadis abeba ketema baderegew yeamst qen
sbseba, beihAd'g yemimeraw giz'yawi mengst slTanun Indiyasrekb
Teyeqe.

qedem blo paris lay sbsebaw Indidereg keTeyequt sebat teqawami
budnoc wsT, yesastun abalat wede ageracew sigebu awroplan Tabiya
lay bepolis bemasyazna bmaser mengst bzihu sbseba lay Indaysatefa
adregWacewal. yetasrut abalat, ato abra yemaneab, we/rit genet
grma, ato mesfn tefera, ato almyehu d'r'sana ato genenew asefa
(keid'haq): ato seyum zenebe (kemdhn) Ina ato ibsa gutema
(keoneg) nacew.

System 5:

le lu li la l' l lo
a u i ' e I o
lA lU l|i l' lE lI lo

bekefteNa gugut siTebeq yeneberew yeselamna yeIrq gubae,
ketahsas 9-13 1986 '.m. beadis abeba ketema baderegew yeamst qen
sbseba, beihAd'g yemimeraw giz'yawi mengst slTanun Indiyasrekb
Teyeqe.

qedem blo paris lay sbsebaw Indidereg keTeyequt sebat teqawami
budnoc wsT, yesastun abalat wede ageracew sigebu awroplan Tabiya
lay bepolis bemasyazna bmaser mengst bzihu sbseba lay Indaysatefa
adregWacewal. yetasrut abalat, ato abra yemaneab, we/rit genet
grma, ato mesfn tefera, ato almyehu d'r'sana ato genenew asefa
(keid'haq): ato seyum zenebe (kemdhn) Ina ato ibsa gutema
(keoneg) nacew.

APPENDIX B : Full Sample Text in System 5 With Statistics**WORD COUNT : 170****CONSONANT COUNT**

Form 1: 158	Form 2: 20	Form 3: 35	Form 4: 105
Form 5: 13	Form 6: 223	Form 7: 24	Form 8: 3

VOWEL COUNT

Form 1: 25	Form 2: 0	Form 3: 5	Form 4: 2
Form 5: 1	Form 6: 13	Form 7: 1	

From the Ethiopian Examiner January 1994

yeslamna yeIrq konferens giz'yawiw mengst keslTan Indiwerd
Teyeke

bekefateNa gugut siTebeq yeneberew yeslamna yeI2rq gubae,
ketahsas 9-13 1986 '2.m. beadis abeba ketema baderegew yeamst qen
sbseba, beih2Ad'g yemimeraw giz'yawi mengst slTanun Indiyasrekb
Teyeqe.

qedem blo paris lay sbsebaw Indidereg keTeyequt sebat tegawami
budnoc wst, yesastun abalat wede ageracew sige bu awroplan Tabiya
lay bepolis bemasyazna bmaser mengst bzihu sbseba lay Indaysatefa
adregWacewal. yetasrut abalat, ato abra yemaneab, we/rit genet
grma, ato mesfn tefera, ato almyehu d'r'sana ato genenew asefa
(keid'h3aq): ato seyum zenebe (kemdh3n) Ina ato ibsa gutema
(keoneg) nacew.

mengst Inezihu sewoc lay yewesedew yeIsrat Irmja sewocn
beselamawi menged beageracew yepoletika hidet west Indaysatefa
slemiyaderg bzu sewocn asegoTtWal. beadis abeba yemigeNu
diplomato cm yH'w yemengst Irmja yesbsebawn tesatafiwoc farhat lay
bmeTal sbsebaw mnm bego wT't IndayameTa yaderg yhonal bemalet
hesabacewn gels2ewal.

yeityoPya giz'yawi mengst (ih2Ad'g) besbsebaw lay saysatef
qertWal. lezihum begiz'yawi pr'zid'ntu beato meles z'nawi
yeteseTew mknyt sbsebaw lepropaganda '2lama bca yemidereg kentu
sbseba nw yemil nw.