**Principles for an Ethiopic Text Editor**

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Recently, when consulting on an editor for Ethiopic script, to be usedfrom the standard Latin keyboards, it became of utility to write downand prioritize the features and principles we wished to implement. The document here was originally produced to aid GNU workers in theirimplementation of Ethiopic into the Multilingual version of Emacs. It isrepresented here as an itemized list of the features and concepts we thought valuable with only brief description of the numbered items.A discussion and defense of the list items would be the subject ofanother paper. Elements of the document are strongly biased towardsSERA which was the Latin I/O system we were working with for IM at thetime.

**Notes:**

*The ASCII representation of Ethiopic characters in this document adhere to the SERA standards as defined in the papers of Yacob and Firdyiwek. SERA specific characters within quotes mean the actual Latin string whereas those within parentheses are the actual Ethiopic characters corresponding to the Latin string.*

*Items marked with* ***\**** *may be considered advanced features and as such* *are nonessential.*

## **Input Method**

### 1) Key Mapping

Key mappings of Ethiopic characters onto Latin or other keyboards be done in a logical and consistentmanner in agreement with thecommon sounds that the user will have learned for both charactersets.

### 2) Syllabic Entry

A minimal number of keystrokes be required to enter any character.The Latin characters “e”, “u”, “i”, ”a”, “E”, “o” and “W” arerecommended for changing the syllabic form of some base consonant.

### 3) Dynamical Character Composition

The character being entered is updated at each phase ofentry (at each new keystroke).

**Example:**

“h” is struckand ህ appears, “2” or “W” is struck and ኅ or ኋappears, “E” is struck and finally ኄ or ኌ appears.Dynamic updating also applies for numbers.

### 4) Default Word Separator is Latin-Blank

The blank space, “ ”, is the default word separator for entry.The Ethiopic separator, “”, may be chosen with an arbitrarytoggle key.

### 5) Default Punctuation is Ethiopic

Statistically, Ethiopic punctuation is in greater use thanEnglish punctuation in modern writing. A toggle key is usedto enter English punctuation.

### 6) Default Numeral System is Arabic

Statistically, Arabic (0-9) numbers are in more regular usethan Ethiopic. A toggle key is used to enter the Ethiopicnumerals.

### 7) Quotation Entry

Ethiopic quotation marks be associated by glyph similarity to the math symbols < and > . The quotes may be entered with either single or double keystrokes. The math symbols should remain available with either single or double strike, in compliment with the quotation entry.

### 8) Availability of Native Punctuation

All punctuation provided on the keyboard of entry should beavailable while in an Ethiopic input mode. This may usuallybe accomplished by a double strike method whereby the mappedEthiopic punctuation is exchanged for the native at the 2ndstrike. Example : “;” is keyed and ፤ appears, and when “;” isstruck a 2nd time “;” replaces ፤ and the entry terminates.

### 9)\* Syllabic Form Editing (Diacritical Mark Edit Only)

A character entered previously may have its syllabic formupdated with a single keystroke of the vowel for the desirednew syllabic state. Example : ቸ has been entered previously,the character ቸ is selected [by highlighting or by “operateleft” principle] and the key “o” is struck, the ቸ glyphbecomes ቾ, ቾ remains chosen for additional changes.

### 10)\* Syllabic Form Backspace (UnEnter Diacritical Mark)

A character just entered remains at the top of the edit queueuntil some new character is keyed. A “backspace” or “delete”key would have the effect of undoing the last vowel entry andreturns the glyph to its previous form. Item (6) and (7) maybe combined. Example : ሀ has just been keyed in, “backspace” is hit and ሀ → ህ. An “a” is now keyed and ህ → ሃ,the edit is complete.

### 11)\* Selective Word Separator On/Off Toggle

The need may arise for the user to exchange the Latin wordseparator, “ ”, with the Ethiopic, “፡” or the Ethiopic forLatin. A toggle key or menu option may provide this to asection of selected (“highlighted”) text, where all wordseparators are exchanged within the bounds of the selection.

### 12)\* Julian Date Stamp

A menu item that offers conversion between the Ethio- Julian and Gregorian calendar systems will be an asset of high valueto the user.

### 13)\* Old Style Typewriter Entry

Support for the Italian devised system for keyed entry isdesirable as the input method remains in popular use.

## **File I/O**

### 1) Software Native I/O

Considered arbitrary.

### 2) Latin Transliteration.

Transliteration into a common 7-bit system of mixed Ethiopicand a foreign script is desirable for simple import/exportationbetween the software of different vendors. Transliteration is also required for encoded file transfer on 7-bit data networks.

**a)** The system of transliteration be along logical and phoneticguidelines such that the transliterated document may be readreadily in encoded form.

**b)** The transliteration system permits output for the phoneticallogics of other Ethiopian languages like Tigrigna, Amharicetc. without causing conflict for input.