Blin Typeface Design for the "Ng" Syllables

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Abstract

The Ethiopic character set was introduced into ISO 10646 on 15/10/98 as Amendment 10 and became a part of the Unicode 3.0 standard in 2000. The reference documents for the Agaw–Blin letter symbols present glyphs based on the Ethiopic typewriter. These glyphs were later refined following the typeface design of Ethiopia's National Computer and Information Center's (NCIC) "Agaw" font for the Agaw school system. This note presents further refinements to the standard typeface for the seven Agaw–Blin letters in the Basic Ethiopic range of the above-mentioned standards as well as for five additional letters now in both the Basic and Extended Ethiopic ranges of Unicode 4.1.0 and required in Agaw–Blin orthography.

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0. Introduction

Agaw (aka "Agew" a family of languages in Ethiopia including "Awngi", "Qimant" and "Xamtanga") and Blin (aka "Bilin", "Bilien") speakers reside in present day Ethiopia and Eritrea respectively with a collective population of 630,000–650,000. Both groups also have significant diaspora populations. The languages of the two groups are closely related and share the same phoneme inventory and orthographic requirements.

This note details an idealized design for the velar-nasal syllables in an Agaw-Blin typeface applying an Ethiopic font identical to the font of the Unicode code charts for Ethiopic. The syllables are first known to have been used in the writing of Blin languages in 1882 and documented in the works of Reinisch. The typeface design rules in this technical note are also in keeping with the original typeface.

1. Design of Basic Blin

The Blin syllables in ŋ (or "ng") found in the "Basic Ethiopic Range" of Unicode (U+1200 - U+137C) are derived from the classic Ge'ez syllables in "g" with the addition of the "Ethiopic macron" symbol. Our derivation of the Blin syllables necessarily begins by identifying the Ge'ez "g" syllables:
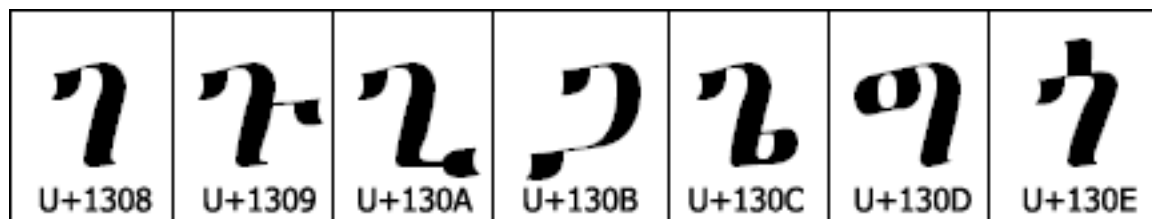
As a convenience we may borrow the macron from another member of the Ethiopic syllabary to serve as a starting point for our "ng" macron design. We find the following series available:
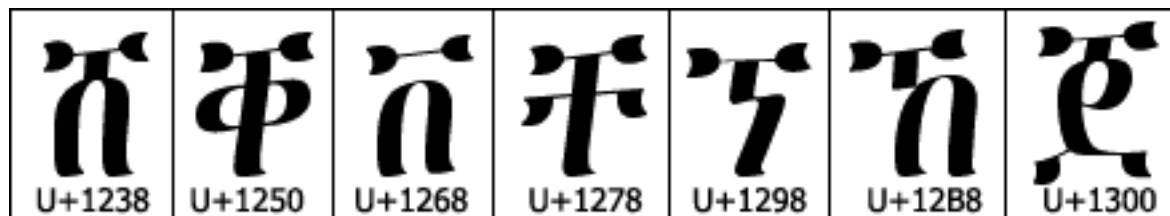

The macron above U+1298 is chosen in part because the letter is phonemically related to "ng" but more so because the glyph is relatively horizontal which is a desirable trait. Applying the U+1298 macron it to U+1308 it is immediately evident that its width is excessive. We shorten the width, carefully maintaining the angle of the glyph from the horizontal, until the width of the macron is 1.42 the width of the U+1308.
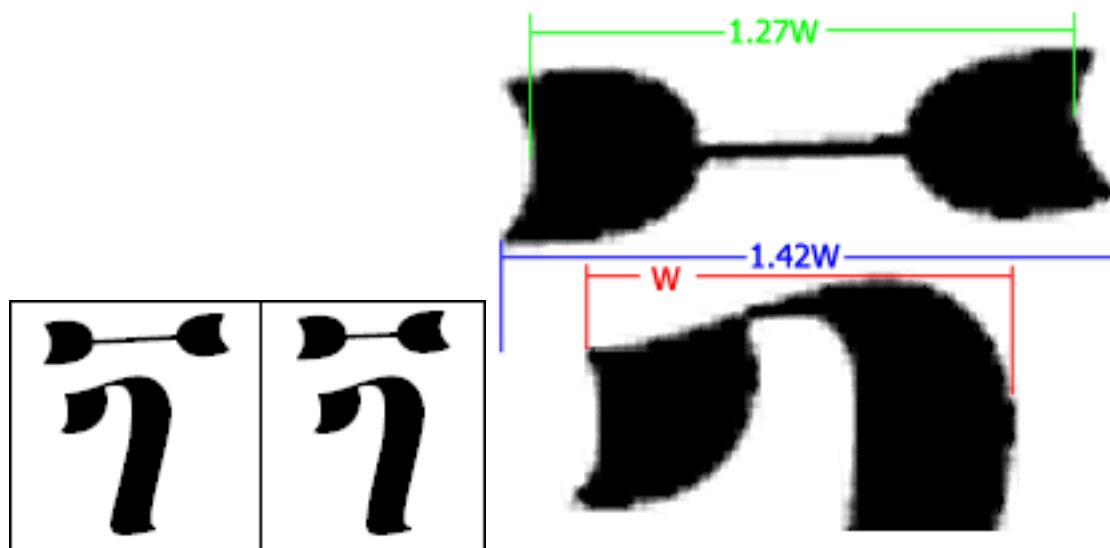
Next, we shorten the left and right side "flares" (aka "buttercups", "butterfly wings") at the end of the macron. The height of the flares is scaled to 80% of the original where the flares appear more natural for "ng". The aspect ratio of the flares, 1.40, is greater than the norm for macrons in the Ethiopic set but is in keeping with style in use since 1882 (Reinsch).
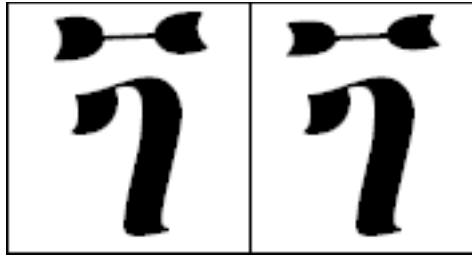
The position of the macron above U+1308 is adjusted to the aesthetically correct position of 17.62% the height of U+1308 measured at the middle of the neck.
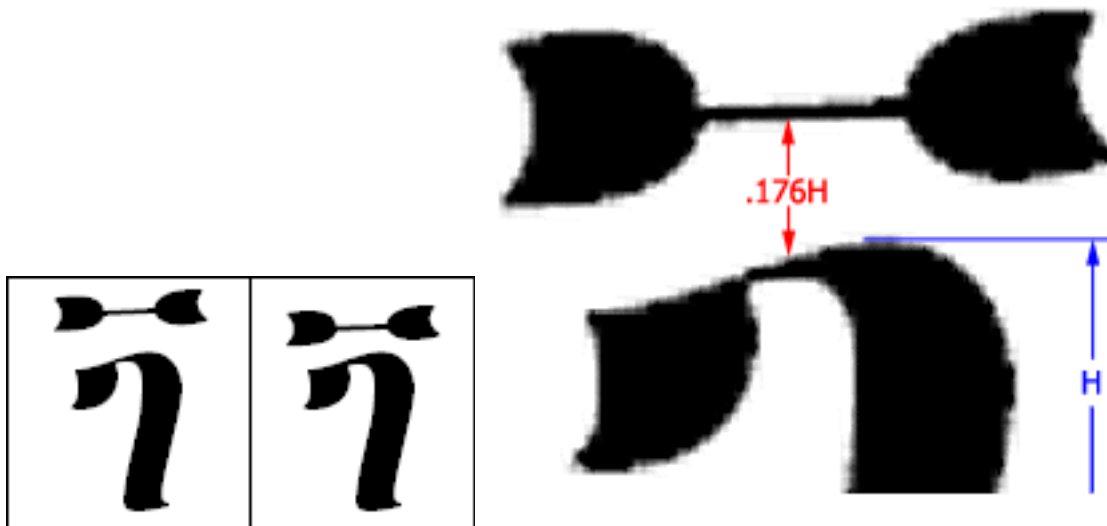

It is essential that the macron be joined to the body of U+1308 base. The early Unicode charts for Ethiopic presented the "ng" family with floating macrons. This style of rendering is considered acceptable only from the Ethiopic typewriter which must use a separate key for the macron. Hand written practices of both the Agaw and Blin will join the macron to the head of the "g" syllable it modifies. Computer typography should present this expected form of the glyph.

The "neck" that joins the macron to the head of the base glyph should have the same thickness as either U+1238 and U+1300 (which are generally identical) and borrow the angular properties of U+1238. In this demonstration the neck of U+1238 has been simply grafted onto the top of U+1308 with the height adjusted to meet the base of the macron. Note that left side of the neck joins the head of U+1308 where the left flare ends and the right side joined the head at the apex of the top curve (coincidental). The neck then spans over the inner arch of the U+1308 body, an effect that is considered desirable.
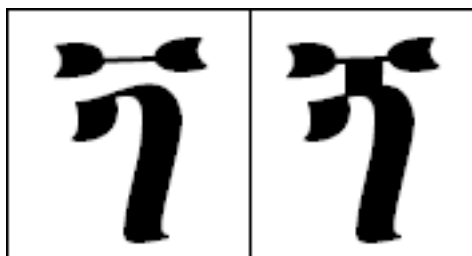
The macron of U+1318 may now be grafted onto U+1309 - U+130C to form our glyphs for U+1319 - U+131C:

U+1318	U+1319	U+131A	U+13B	U+131C
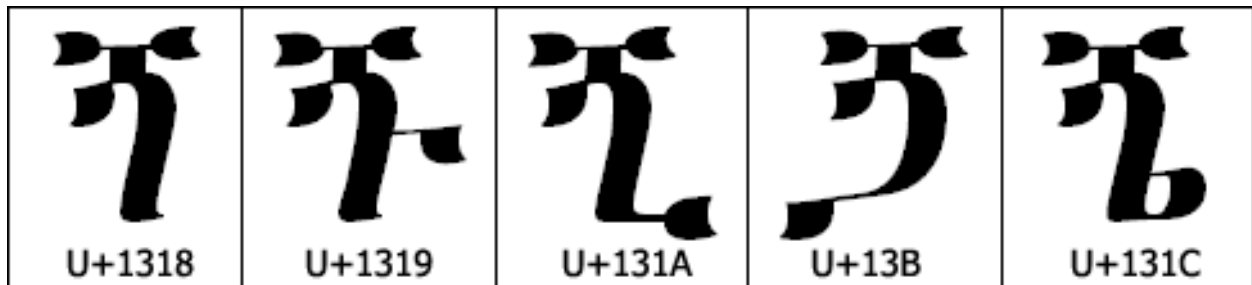
1.1 Design of the Sixth Form (U+131D)

The rules given for grafting the neck onto the "g" series base must be adjusted for U+130D and U+130D which present special cases. In the first, U+130D, the left most side ends not with the expected flare but with a loop. In hand written practices the loop is written with a counter clockwise stroke. This stroke will continue upward, thru the top of the body, to form the macron (Reinsch). It remains desirable in modern typography that right side of the loop and the joining neck appear as a single continuous smooth stroke:
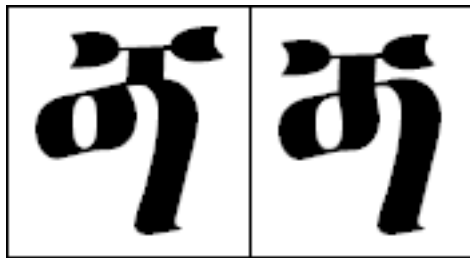
1.2 Design of the Seventh Form (U+131E)

The seventh form of the "ng" family is again a special case where the issue of the neck needs special consideration. The reference font found in the Unicode 4.0 tables presents U+131E (or "ngo") as shown in the first frame in the table below. The vertical lines and almost box like area presents an exception to the norms of typeface style in the font and to Ethiopic calligraphic styles in general.
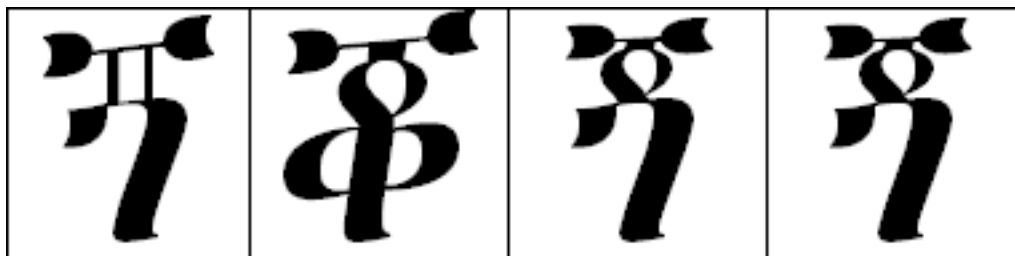
The Blin preference is to use a more natural loop in place of the box like hollowed neck. `U+1256` (in the 2nd frame above) offers the best starting point for an acceptable loop to apply to the "ngo" form. Grafting the loop portion of `U+1256` onto the `U+130E` base we first scale the loop uniformly by 80%. The uniform scaling is important to preserve the shape of the strokes and inner white area of the loop.

In the third frame of our table, we see the scaled loop grafted onto U+1256 with the standard "ng" macron grafted on top. As a consequence of the scaling the right side of the loop now appears too thin. The last frame shows the loop with the outer most ride side loop displaced slightly to enhance the thickness.

2. Design of Extended Blin

Both Agaw and Blin orthography rely on five labiovelar forms of the "ng" syllables (ŋʷə, ŋʷi, ŋʷa, ŋʷe and ŋʷ). These five labialised forms have not yet been introduced into ISO-10646 / Unicode but are included in proposals for an "Extended Ethiopic" range. Repeating the process for the design of the basic Blin syllables we start by identifying the labialised forms in "ge" (U+1310 − U+1315) that we will build upon:

U+1310	U+1312	U+1313	U+1314	U+1315
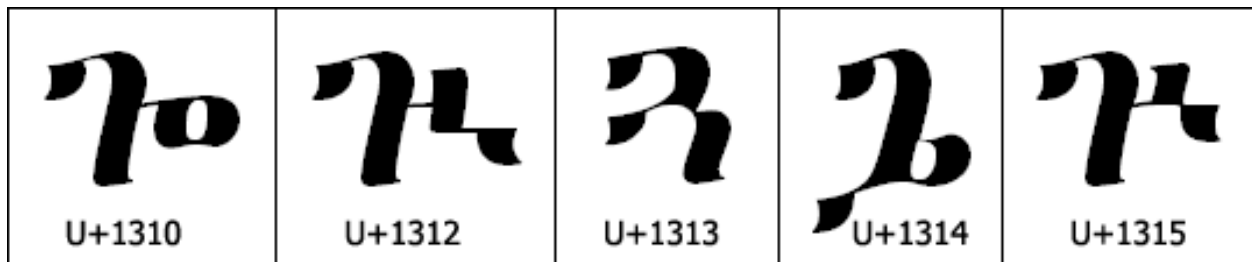
Again, we may simply graft on the macron that we've designed for the basic Blin syllables:

U+2D93	U+2D94	U+131F	U+2D95	U+2D96
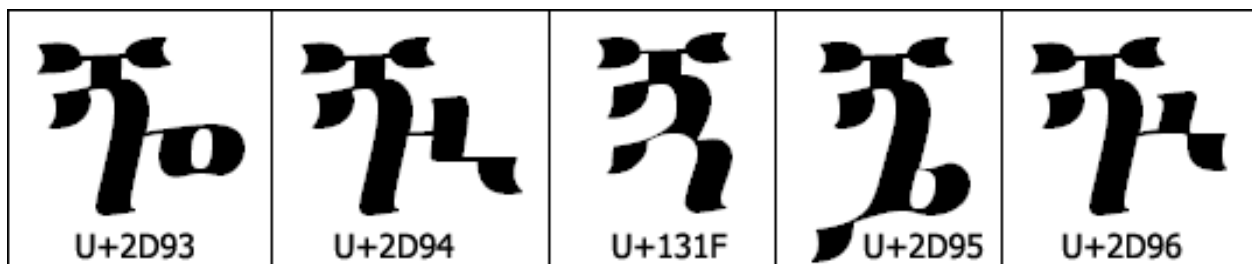
This approach is satisfactory for all but the third labialized form, "ngwa". During the design of the Ethiopian NCIC "Agaw" font the Agaw representatives were very specific in their request that the "ngwa" glyph follow the stylized norms of other "straight legged" labializations. The Blin preference regarding "ngwa" concurs with the Agaw. Comparison to U+123F is shown below as an example:

U+123F	U+131F
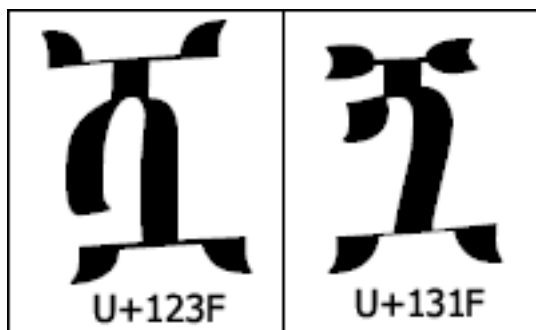
Note however that change in macron style (the bottom side is flat and "wingless") that occurs in many labializations and demonstrated with U+123F should not be applied to labialised forms of "ng".

3. Recommendation

The original adaptation of the Agaw-Blin syllables to the typewriter suffered aesthetically from the limitation of the technology. These typewriter typefaces would later become the basis for computer fonts and thus the visual deficiencies of the older technology were carried over into the new. The Agaw and Blin communities however have expressed their desire that the original hand written forms be the basis for modern typefaces.

It is the recommendation of this paper that the style guidelines presented herein be applied in the design of any new computer typefaces and that older typefaces for Ethiopic be updated accordingly.

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'*' indicates a Blin speaking author.

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