

To: Unicode Technical Committee
From: Neil Patel and Mark Jamra, JamraPatel
Subject: Replacement of Adlam Reference Font in Codesheet to Updated Design
Date: 11 February 2019

1. Introduction

This document describes the changes that have been made to Adlam letterforms by the Abdoulaye and Ibrahima Barry since Adlam was proposed ([L2/13-191](#), [L2/14-219](#)) and included in Unicode 9.0. The changes are substantial enough to consider replacing the Unicode reference typeface.

2. Brief History

Adlam has been slowly evolving since it was conceived. When Michael Everson drafted the initial Adlam Unicode proposal in 2013 ([L2/13-191](#)), he used one of typefaces that the Barrys had commissioned in 2008 for the reference characters. Because these fonts were made using Arabic codepoints the typeface was not bicameral. To create a placeholder visual for the uppercase letterforms in the proposal, the lowercase letters were scaled up. When the proposal was updated in 2014 ([L2/14-219](#)), Everson used a new typeface that was made from an autotrace of Ibrahima's calligraphy. This updated design featured unique shapes for the uppercase and lowercase letters and a complete redesign of many letters. However, this new design was untested at the time. An increase in literacy efforts, which occurred between 2014 and the release of Unicode 9.0 in 2016, brought the updated design to a larger audience and generated feedback that identified instances of ambiguity amongst glyphs and legibility issues. These insights were used to inform an assortment of refinements to the character design.

When Monotype began development of *Noto Adlam*, the Barrys informed them that they would like to make improvements. However, Monotype did not follow up on the conversation and as a result, Noto was designed closely to the Unicode model. When we (JamraPatel) approached the Barrys for the design of *Kigelia* in spring of 2017, we spent many months revising the letterforms. After half a dozen or so iterations, we concluded that we needed to meet in person to finalize the forms. During a two day session in April 2018, we worked through all of the glyphs and their positional forms to resolve all of the concerns. These improvements were incorporated into *Kigelia* and Microsoft's *Ebrima*. Monotype has since made changes to *Noto* to fix some of the more severe legibility issues, but they have not yet incorporated all of the form updates.

3. Overall Comparison of Unicode Glyphs to Revised Glyphs

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
1E90	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font
	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima
1E91	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font
	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima
1E92	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font
	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima
1E93	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font
	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima
1E94	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font
	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima
1E95	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font	Unicode Reference Font
	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima	Microsoft's Ebrima

4. Notes on Select Letterforms

The revisions made to the letterforms are quite extensive. Some changes were made for aesthetic reasons but many were made for technical or legibility reasons. Below are a few examples of some of the modified letterforms and their original counterparts to demonstrate the reasoning behind the changes.



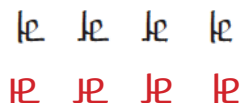
Comparison of letterforms 31 and 91. The top row shows the Unicode Reference Font (blue) and the JamraPatel Kigelia font (red). The bottom row shows the modified letterforms (red) which are more consistent in design across positional forms.

Consistency between design across positional forms was improved to reduce confusion for new readers.




Comparison of letterforms 0 and 2. The top row shows the Unicode Reference Font (blue) and the JamraPatel Kigelia font (red). The bottom row shows the modified letterforms (red) which are simplified by removing extra strokes.

Complex characters were simplified by removing extra strokes. This better accommodates heavier weights.



Comparison of lowercase letters 1e and 1f. The top row shows the Unicode Reference Font (blue) and the JamraPatel Kigelia font (red). The bottom row shows the modified letterforms (red) which are increased in height to achieve the desired proportion and open up complex counters.

Lowercase letters were increased in height to achieve the desired proportion and open up complex counters. Ascenders were reduced in height to eliminate collisions when diacritics are attached.



Comparison of letterforms 19 and 1a. The top row shows the Unicode Reference Font (blue) and the JamraPatel Kigelia font (red). The bottom row shows the modified letterforms (red) which are simplified to make script connections more intuitive.

Letterforms were simplified to make script connections more intuitive.



Comparison of letterforms 01 and 02. The top row shows the Unicode Reference Font (blue) and the JamraPatel Kigelia font (red). The bottom row shows the modified letterforms (red) which are altered to reduce ambiguity.

Alterations were made to some letters to reduce ambiguity that was confusing readers.

■ Unicode Reference Font
■ JamraPatel Kigelia

5. Recommendation

We recommend replacing the reference font in the Adlam Codesheet with *Ebrima* or *Kigelia* to establish the correct reference for the design of Adlam typefaces. This will ensure that future fonts are produced with the correct letterform model minimizing the propagation of the out-of-date design. At this time, *Noto* is the only Unicode-compliant Adlam font available publicly with *Ebrima* and *Kigelia* slated to be available in the coming year. As a result, it is a good time to replace the reference typeface in Unicode.

6. Supporting Images

	1E90	1E91	1E92	1E93	1E94	1E95
0	Რ	Ს	Ტ	Უ	Ფ	Ქ
1	Ღ	Ყ	Შ	Ჩ	Ც	Ძ
2	Წ	Ჭ	Ხ	Ჯ	Ჰ	Ჱ
3	Ჲ	Ჳ	Ჴ	Ჵ	Ჶ	Ჷ
4	Ჹ	Ჺ	᲻	᲼	Ჽ	Ჾ
5	Ჿ	᳀	᳁	᳂	᳃	᳄
6	᳅	᳆	᳇	᳈	᳉	᳊
7	᳋	᳌	᳍	᳎	᳏	᳐
8	᳑	᳒	᳓	᳔	᳕	᳖
9	᳗	᳘	᳙	᳚	᳛	᳜
A	᳝	᳞	᳟	᳠	᳡	᳢
B	᳣	᳤	᳥	᳦	᳧	᳨
C	ᳩ	ᳪ	ᳫ	ᳬ	᳭	ᳮ
D	ᳯ	ᳰ	ᳱ	ᳲ	ᳳ	᳴
E	ᳵ	ᳶ	᳷	᳸	᳹	ᳺ
F	᳻	᳼	᳽	᳾	᳿	᳠

	1E90	1E91	1E92	1E93	1E94	1E95
0	Რ	Ს	Ტ	Უ	Ფ	Ქ
1	Ღ	Ყ	Შ	Ჩ	Ც	Ძ
2	Წ	Ჭ	Ხ	Ჯ	Ჰ	Ჱ
3	Ჲ	Ჳ	Ჴ	Ჵ	Ჶ	Ჷ
4	Ჹ	Ჺ	᲻	᲼	Ჽ	Ჾ
5	Ჿ	᳀	᳁	᳂	᳃	᳄
6	᳅	᳆	᳇	᳈	᳉	᳊
7	᳋	᳌	᳍	᳎	᳏	᳐
8	᳑	᳒	᳓	᳔	᳕	᳖
9	᳗	᳘	᳙	᳚	᳛	᳜
A	᳝	᳞	᳟	᳠	᳡	᳢
B	᳣	᳤	᳥	᳦	᳧	᳨
C	ᳩ	ᳪ	ᳫ	ᳬ	᳭	ᳮ
D	ᳯ	ᳰ	ᳱ	ᳲ	ᳳ	᳴
E	ᳵ	ᳶ	᳷	᳸	᳹	ᳺ
F	᳻	᳼	᳽	᳾	᳿	᳠

Figure 1. Comparison of Codesheets from the 2013 Adlam Unicode Proposal (left) and the 2014 Adlam Unicode Proposal (right)

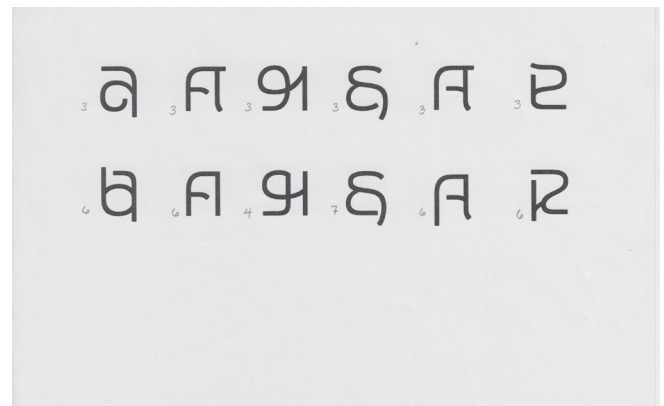
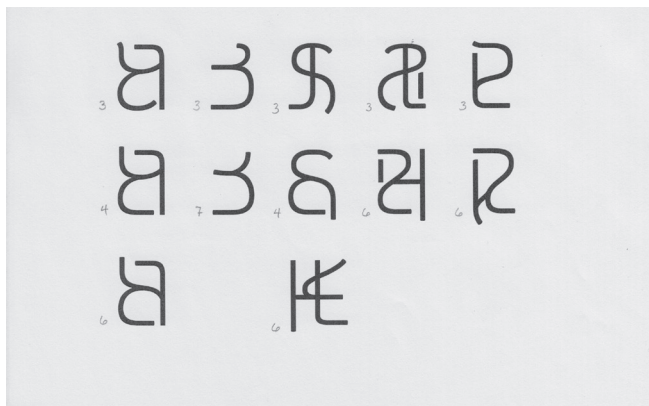
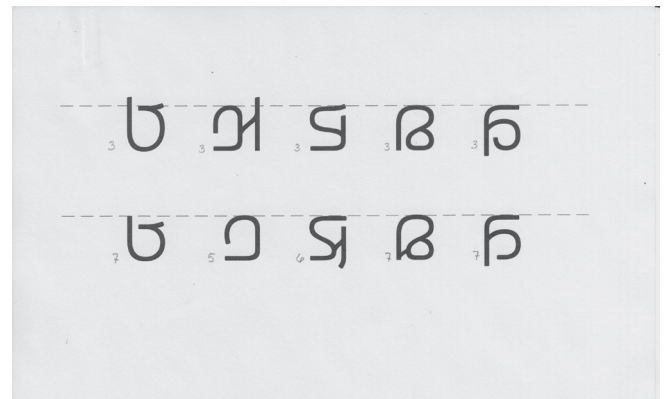
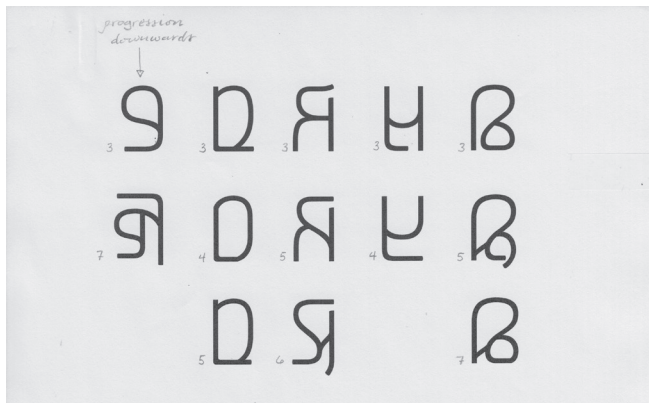


Figure 2. Example of design iterations between 2017–2018. Variations are chronologically arranged top to bottom in each example.

- Ra - center top.
 E. B - rounder top part
 remodel bottom
 ↳ kicks up from bottom
 vertical
 - rest corner based on medi
 Fa - make connected to like isol ^{"hump"}
 O - see drawing.
 Dha - tighten top right corner.
 Yhe - fine same treatment as O.
 - Waa - ad like isol.
 - K - tighten right corner.
 Ya - take head treatment to rest
 also the bottom.
 I - make bottom like W
 Jim make optically even.
 lower ~~left~~ side
 right
 Chi - copy isol changes. <sup>Do all designs
(Nm o11)</sup>
 Ha - redesign refine ~~as~~ vertical to
 curve. look @ init.
 Roet - tighten vertical. - like others.
~~hadi~~
 Ga - took proportions all the
 top line - important to distinguish
 but has the correct branding.
 Ga needs new connection.
 Nga revert to old (perfect)
 Nga because connection.
 To copy isol for fine strokes connection
 fine.
 - Nha - revert to old.
 - Vla - copy waa.
 Kta ~~at some~~ as Kafi Vla all same ^{conn}.

Gbe change to Nha + conn.
 - Zed redesign ~~with~~ optically balanced.
 - hump like Se.
 Kpe kill stroke 2 connected
 Sha redesign new connection
 medium.
 + Lowercase. overall the lowercase
 looks squished. lot. should have
 the proportion of uppercase.
 hard to read & feels off.
 lower alt. initial. has ~~as~~ and isol has
 ascender rest low.
 da - initial isol tall rest low.
 ↳ alt etc will have different
 - medial forms. even for unconnected.
 la - bottom right corner very important.
 - ~~form~~ ~~or~~ style connection
 like upper case
 Nam - flatten inner curve ^{contrast}
 ta - ascender isol. initial. ^{conn/uncon}
 rest same height.
 ↳ same curve.
 ra - same ascender treatment.
 - slope of P like upside down Fa
 e - match capital.
 fa - ^B round top. aim same
 optical width.
 ↳ rising curve.
 o - make capital. ^{init & isol}
 tail on final form nudge in.
 dho medial slightly higher ascender but no
 callition with mark.
 - unconnected type same.
 yhe. minor optical
 connection good.
 ewas - minor tweak for connected. see medi
 on all even isol.

Figure 3. Sample pages of notes taken during the Spring 2018 session to finalize all letterforms.