To: Unicode Technical Committee
From: Neil Patel and Mark Jamra (JamraPatel), Craig Cornelius (Google), Ibrahima Barry, Abdoulaye Barry
Subject: Replacement of Adlam Reference Font in Codesheet to Updated Design
Date: 19 April 2019

1. Introduction

This document describes the changes that have been made to Adlam letterforms by 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.

During the 2 year period between the final proposal and the release of Unicode 9.0, an increase in literacy efforts brought new insights from the language community that exposed instances of ambiguity amongst letterforms and highlighted potential legibility concerns. These informed changes to letterfoms that the Barrys and the language community hope to incorporate into the Unicode standard.

2. Recommendation

We recommend replacing the reference font in the Adlam Codesheet with either *Ebrima* or *Kigelia* to establish the correct reference for the design of Adlam typefaces going forward. This will ensure that future fonts are produced with the correct letterform model, minimizing the propogation of the out-of-date design. At this time, *Noto* is the only Unicode-compliant Adlam font broadly available and *Ebrima* and *Kigelia* are currently available in a limited fashion. The latter two fonts will be more broadly released in the coming year. As a result, it is a good time to replace the reference typeface in Unicode. Adlam users have been exposed to all iterations of the design through a variety mobile and web apps, which means there is already a familarity with the ideal forms within the language community. Also, efforts to make form changes that have some relation to earlier historical models of Adlam create continuity amongst readers.

3. Comparison of Unicode Glyphs to Proposed Glyphs and Other Fonts

KEY		
	PULAAR – Released 2007, Non-Unicode	NOTO – *Noto Sans Adla*m, Released 2017
	UNICODE – Released 2014	PROPOSED – *Kigelia*, Released 2018

Name (Pronunciation)	Font	Capital	Small	Notes
		1E900	1E922	
ALIF (A)	PULAAR	𐤀𐤀𐤀 𐤀	𐤀𐤀𐤀 𐤀	The design in the proposed replacement font is a stylistic variation of the Unicode font.
	NOTO	𐤀𐤀𐤀 𐤀	𐤀𐤀𐤀 𐤀	
	UNICODE	𐤀𐤀𐤀 𐤀	𐤀𐤀𐤀 𐤀	
	PROPOSED	𐤀𐤀𐤀 𐤀	𐤀𐤀𐤀 𐤀	
		1E901	1E923	
DAALI (DA)	PULAAR	𐤁𐤁𐤁 𐤁	𐤁𐤁𐤁 𐤁	The proposed replacement eliminates the ascenders in the medial and final lowercase letters to prevent diacritic collision.
	NOTO	𐤁𐤁𐤁 𐤁	𐤁𐤁𐤁 𐤁	
	UNICODE	𐤁𐤁𐤁 𐤁	𐤁𐤁𐤁 𐤁	
	PROPOSED	𐤁𐤁𐤁 𐤁	𐤁𐤁𐤁 𐤁	
		1E902	1E924	
LAAM (LA)	PULAAR	𐤂𐤂𐤂 𐤂	𐤂𐤂𐤂 𐤂	The introduction of the vertical line in front of the uppercase letters of the proposed replacement helps distinguish the letterform the lowercase.
	NOTO	𐤂𐤂𐤂 𐤂	𐤂𐤂𐤂 𐤂	
	UNICODE	𐤂𐤂𐤂 𐤂	𐤂𐤂𐤂 𐤂	
	PROPOSED	𐤂𐤂𐤂 𐤂	𐤂𐤂𐤂 𐤂	
		1E903	1E925	
MIIM (MA)	PULAAR	𐤃𐤃𐤃 𐤃	𐤃𐤃𐤃 𐤃	The intregration of the additional vertical line in uppercase letter helps distinguish the letterform from the lowercase. This is conceptually similar to the additional line used in the uppercase Laam.
	NOTO	𐤃𐤃𐤃 𐤃	𐤃𐤃𐤃 𐤃	
	UNICODE	𐤃𐤃𐤃 𐤃	𐤃𐤃𐤃 𐤃	
	PROPOSED	𐤃𐤃𐤃 𐤃	𐤃𐤃𐤃 𐤃	
		1E904	1E926	
BA (BA)	PULAAR	𐤄𐤄𐤄 𐤄	𐤄𐤄𐤄 𐤄	The proposed replacement eliminates the ascenders in the medial and final lowercase letters to prevent diacritic collision.
	NOTO	𐤄𐤄𐤄 𐤄	𐤄𐤄𐤄 𐤄	
	UNICODE	𐤄𐤄𐤄 𐤄	𐤄𐤄𐤄 𐤄	
	PROPOSED	𐤄𐤄𐤄 𐤄	𐤄𐤄𐤄 𐤄	
		1E905	1E927	
SINNYIIYHE (SA)	PULAAR	𐤅𐤅𐤅 𐤅	𐤅𐤅𐤅 𐤅	The proposed replacement reduces the height of the ascenders in the across all lowercase positons to prevent diacritic collision. The connection stroke in the uppercase has been standardized to come from the right-most stroke across all positions to simplify writing.
	NOTO	𐤅𐤅𐤅 𐤅	𐤅𐤅𐤅 𐤅	
	UNICODE	𐤅𐤅𐤅 𐤅	𐤅𐤅𐤅 𐤅	
	PROPOSED	𐤅𐤅𐤅 𐤅	𐤅𐤅𐤅 𐤅	

		1E906	1E928	
PE (PA)	PULAAR	𞤮𞤮𞤮 𞤮	𞥄𞥄𞥄 𞥄	The counterspace of the lowercase letters in the proposed replacement font has been opened up to improve color and legibility.
	NOTO	𞤮𞤮𞤮 𞤮	𞥄𞥄𞥄 𞥄	
	UNICODE	𞤮𞤮𞤮 𞤮	𞥄𞥄𞥄 𞥄	
	PROPOSED	𞤮𞤮𞤮 𞤮	𞥄𞥄𞥄 𞥄	

		1E907	1E929	
BHE (BHA)	PULAAR	𞤯𞤯𞤯 𞤯	𞥅𞥅𞥅 𞥅	The initial and medial uppercase forms have been changed to be consistent across all postional forms. The revised forms flow more naturally when written. The changes to the lowercase are mostly a stylistic change that serves to open up the counterspaces for improved legibility.
	NOTO	𞤯𞤯𞤯 𞤯	𞥅𞥅𞥅 𞥅	
	UNICODE	𞤯𞤯𞤯 𞤯	𞥅𞥅𞥅 𞥅	
	PROPOSED	𞤯𞤯𞤯 𞤯	𞥅𞥅𞥅 𞥅	

		1E908	1E92A	
RA (RA)	PULAAR	𞤰𞤰𞤰 𞤰	𞥆𞥆𞥆 𞥆	The proposed replacement features small ascenders in the isolated and initial lowercase forms. This helps define the letter when written in connected fashion while the eliminatation of the ascenders in medial and final positions prevent diacritic collisions.
	NOTO	𞤰𞤰𞤰 𞤰	𞥆𞥆𞥆 𞥆	
	UNICODE	𞤰𞤰𞤰 𞤰	𞥆𞥆𞥆 𞥆	
	PROPOSED	𞤰𞤰𞤰 𞤰	𞥆𞥆𞥆 𞥆	

		1E909	1E92B	
E (E)	PULAAR	𞤱𞤱𞤱 𞤱	𞥇𞥇𞥇 𞥇	The design in the proposed replacement font is a stylistic variation of the Unicode font.
	NOTO	𞤱𞤱𞤱 𞤱	𞥇𞥇𞥇 𞥇	
	UNICODE	𞤱𞤱𞤱 𞤱	𞥇𞥇𞥇 𞥇	
	PROPOSED	𞤱𞤱𞤱 𞤱	𞥇𞥇𞥇 𞥇	

		1E90A	1E92C	
FA (FA)	PULAAR	𞤲𞤲𞤲 𞤲	𞥈𞥈𞥈 𞥈	The design in the proposed replacement font is a stylistic variation of the Unicode font.
	NOTO	𞤲𞤲𞤲 𞤲	𞥈𞥈𞥈 𞥈	
	UNICODE	𞤲𞤲𞤲 𞤲	𞥈𞥈𞥈 𞥈	
	PROPOSED	𞤲𞤲𞤲 𞤲	𞥈𞥈𞥈 𞥈	

		1E90B	1E92D	
I (I)	PULAAR	𞤳𞤳𞤳 𞤳	𞥉𞥉𞥉 𞥉	The proposed replacement features a small ascender in the medial form of the lowercase to help define the letter in running text.
	NOTO	𞤳𞤳𞤳 𞤳	𞥉𞥉𞥉 𞥉	
	UNICODE	𞤳𞤳𞤳 𞤳	𞥉𞥉𞥉 𞥉	
	PROPOSED	𞤳𞤳𞤳 𞤳	𞥉𞥉𞥉 𞥉	

		1E90C	1E92E	
O (O)	PULAAR	𞤴𞤴𞤴 𞤴	𞥊𞥊𞥊 𞥊	The lowercase forms in the proposed design use a mix of open and closed forms. The closed forms are easier to write in the medial and final positons.
	NOTO	𞤴𞤴𞤴 𞤴	𞥊𞥊𞥊 𞥊	
	UNICODE	𞤴𞤴𞤴 𞤴	𞥊𞥊𞥊 𞥊	
	PROPOSED	𞤴𞤴𞤴 𞤴	𞥊𞥊𞥊 𞥊	

		1E90D	1E92F	
DHA (DHA)	PULAAR	𞋀𞋀𞋀 𞋀	𞋀𞋀𞋀 𞋀	The addition of the left ascender in the proposed design improves the relationship to the uppercase form and is a reversion to the historical design. The short horizontal bar in the uppercase is used to distinguish between cases rather than the descender used in the Unicode font.
	NOTO	𞋀𞋀𞋀 𞋀	𞋀𞋀𞋀 𞋀	
	UNICODE	𞋀𞋀𞋀 𞋀	𞋀𞋀𞋀 𞋀	
	PROPOSED	𞋀𞋀𞋀 𞋀	𞋀𞋀𞋀 𞋀	

		1E90E	1E930	
YHE (YHA)	PULAAR	𞋁𞋁𞋁 𞋁	𞋁𞋁𞋁 𞋁	The design of the lowercase in the proposed font reduces the letter height to prevent diacritic collision.
	NOTO	𞋁𞋁𞋁 𞋁	𞋁𞋁𞋁 𞋁	
	UNICODE	𞋁𞋁𞋁 𞋁	𞋁𞋁𞋁 𞋁	
	PROPOSED	𞋁𞋁𞋁 𞋁	𞋁𞋁𞋁 𞋁	

		1E90F	1E931	
WAW (WA)	PULAAR	𞋂𞋂𞋂 𞋂	𞋂𞋂𞋂 𞋂	The design in the proposed replacement font is a stylistic variation of the Unicode font. The changes give the upper and lower cases their own distinctive structure.
	NOTO	𞋂𞋂𞋂 𞋂	𞋂𞋂𞋂 𞋂	
	UNICODE	𞋂𞋂𞋂 𞋂	𞋂𞋂𞋂 𞋂	
	PROPOSED	𞋂𞋂𞋂 𞋂	𞋂𞋂𞋂 𞋂	

		1E910	1E932	
NUN (NA)	PULAAR	𞋃𞋃𞋃 𞋃	𞋃𞋃𞋃 𞋃	The lowercase forms in the proposed font are simplified for ease of writing.
	NOTO	𞋃𞋃𞋃 𞋃	𞋃𞋃𞋃 𞋃	
	UNICODE	𞋃𞋃𞋃 𞋃	𞋃𞋃𞋃 𞋃	
	PROPOSED	𞋃𞋃𞋃 𞋃	𞋃𞋃𞋃 𞋃	

		1E911	1E933	
KAF (KA)	PULAAR	𞋄𞋄𞋄 𞋄	𞋄𞋄𞋄 𞋄	The upper and lowercase forms in the proposed font are more streamlined for writing. The ascenders in the lowercase forms were removed to prevent diacritic collision.
	NOTO	𞋄𞋄𞋄 𞋄	𞋄𞋄𞋄 𞋄	
	UNICODE	𞋄𞋄𞋄 𞋄	𞋄𞋄𞋄 𞋄	
	PROPOSED	𞋄𞋄𞋄 𞋄	𞋄𞋄𞋄 𞋄	

		1E912	1E934	
YA (YA)	PULAAR	𞋅𞋅𞋅 𞋅	𞋅𞋅𞋅 𞋅	The forms in the proposed font make more consistent use the additional vertical stroke across all positons. The uppercase features the extra vertical stroke in the same fashion as the Laam, while the stroke has been removed from the lowercase.
	NOTO	𞋅𞋅𞋅 𞋅	𞋅𞋅𞋅 𞋅	
	UNICODE	𞋅𞋅𞋅 𞋅	𞋅𞋅𞋅 𞋅	
	PROPOSED	𞋅𞋅𞋅 𞋅	𞋅𞋅𞋅 𞋅	

		1E913	1E935	
U (U)	PULAAR	𞋆𞋆𞋆 𞋆	𞋆𞋆𞋆 𞋆	The changes in the proposed font are largely a stylistic variation of the Unicode font. The changes help open up the counterspaces to make them more legible. The addition of the short horizontal stroke in the uppercase helps distinguish it from the lowercase.
	NOTO	𞋆𞋆𞋆 𞋆	𞋆𞋆𞋆 𞋆	
	UNICODE	𞋆𞋆𞋆 𞋆	𞋆𞋆𞋆 𞋆	
	PROPOSED	𞋆𞋆𞋆 𞋆	𞋆𞋆𞋆 𞋆	

		1E914	1E936	
JIIM (JA)	PULAAR	𐤊𐤊𐤋 𐤋	𐤊𐤊𐤋 𐤋	The proposed font shifts the exiting connnecting stroke to the center of the letter. The loops are staggered to help disambiguate it from the letter Tu. The connecting strokes of the lowercase letters have been moved to the outer strokes to better define the letter in running text.
	NOTO	𐤊𐤊𐤊 𐤊	𐤊𐤊𐤊 𐤊	
	UNICODE	𐤊𐤊𐤊 𐤊	𐤊𐤊𐤊 𐤊	
	PROPOSED	𐤊𐤊𐤊 𐤊	𐤊𐤊𐤊 𐤊	

		1E915	1E937	
CHI (CHA)	PULAAR	𐤌𐤌𐤍 𐤍	𐤌𐤌𐤍 𐤍	The changes in the proposed font are a stylistic variation of the Unicode font.
	NOTO	𐤌𐤌𐤌 𐤌	𐤍𐤍𐤍 𐤍	
	UNICODE	𐤌𐤌𐤌 𐤌	𐤍𐤍𐤍 𐤍	
	PROPOSED	𐤌𐤌𐤌 𐤌	𐤍𐤍𐤍 𐤍	

		1E916	1E938	
HA (HA)	PULAAR	𐤎𐤎𐤏 𐤏	𐤎𐤎𐤏 𐤏	The changes in the proposed fonts are largely a stylistic variation of the Unicode font. The vertical stroke of of the uppercase letters is exaggerated and more vertically oriented to help distinguish it from the lowercase.
	NOTO	𐤎𐤎𐤎 𐤎	𐤎𐤎𐤎 𐤎	
	UNICODE	𐤎𐤎𐤎 𐤎	𐤎𐤎𐤎 𐤎	
	PROPOSED	𐤎𐤎𐤎 𐤎	𐤎𐤎𐤎 𐤎	

		1E917	1E939	
QAAF (QA)	PULAAR	𐤒𐤒𐤒 𐤒	𐤒𐤒𐤒 𐤒	The proposed font standardizes the use of the additonal vertical stroke in the uppercase to be consistent with other uppercase letters like the Laam. The ascenders in the medial and final lowercase positions are eliminated to prevent diacritic collision.
	NOTO	𐤒𐤒𐤒 𐤒	𐤒𐤒𐤒 𐤒	
	UNICODE	𐤒𐤒𐤒 𐤒	𐤒𐤒𐤒 𐤒	
	PROPOSED	𐤒𐤒𐤒 𐤒	𐤒𐤒𐤒 𐤒	

		1E918	1E93A	
GA (GA)	PULAAR	𐤓𐤓𐤓 𐤓	𐤓𐤓𐤓 𐤓	The changes in the proposed fonts are largely a stylistic variation of the Unicode font. The addition of the the ascender in the lowercase helps define the letter in running text.
	NOTO	𐤓𐤓𐤓 𐤓	𐤓𐤓𐤓 𐤓	
	UNICODE	𐤓𐤓𐤓 𐤓	𐤓𐤓𐤓 𐤓	
	PROPOSED	𐤓𐤓𐤓 𐤓	𐤓𐤓𐤓 𐤓	

		1E919	1E93B	
NYA (NYA)	PULAAR	𐤔𐤔𐤔 𐤔	𐤔𐤔𐤔 𐤔	The changes in the proposed fonts are largely a stylistic variation of the Unicode font.
	NOTO	𐤔𐤔𐤔 𐤔	𐤔𐤔𐤔 𐤔	
	UNICODE	𐤔𐤔𐤔 𐤔	𐤔𐤔𐤔 𐤔	
	PROPOSED	𐤔𐤔𐤔 𐤔	𐤔𐤔𐤔 𐤔	

		1E91A	1E93C	
TU (TA)	PULAAR	𐤕𐤕𐤕 𐤕	𐤕𐤕𐤕 𐤕	The changes in the proposed fonts are largely a stylistic variation of the Unicode font. The loops on the right have been opened up for improved color and legibility.
	NOTO	𐤕𐤕𐤕 𐤕	𐤕𐤕𐤕 𐤕	
	UNICODE	𐤕𐤕𐤕 𐤕	𐤕𐤕𐤕 𐤕	
	PROPOSED	𐤕𐤕𐤕 𐤕	𐤕𐤕𐤕 𐤕	

		1E91B	1E93D	
NHA (NHA)	PULAAR	𐤀𐤀𐤀 𐤀	𐤀𐤀𐤀 𐤀	The changes in the proposed fonts are largely a stylistic variation of the Unicode font. The additonal vertical stroke in the uppercase helps distinguish it from the lowercase. This short stroke can be removed in heavier weights. This letter is a supplementary letter which is not part of the standard Pular orthography.
	NOTO	𐤀𐤀𐤀 𐤀	𐤀𐤀𐤀 𐤀	
	UNICODE	𐤀𐤀𐤀 𐤀	𐤀𐤀𐤀 𐤀	
	PROPOSED	𐤀𐤀𐤀 𐤀	𐤀𐤀𐤀 𐤀	

		1E91C	1E93E	
VA (VA)	PULAAR	NA	NA	The design in the proposed replacement font is a stylistic variation of the original Unicode font. The changes give the upper and lower cases their own distinctive structure. This letter is a supplementary letter which is not part of the standard Pular orthography.
	NOTO	𐤁𐤁𐤁 𐤁	𐤁𐤁𐤁 𐤁	
	UNICODE	𐤁𐤁𐤁 𐤁	𐤁𐤁𐤁 𐤁	
	PROPOSED	𐤁𐤁𐤁 𐤁	𐤁𐤁𐤁 𐤁	

		1E91D	1E93F	
KHA (KHA)	PULAAR	NA	NA	The changes in the proposed font are quite dramatic. This new form gives the letter more of a relationship to the letter Kaf. This letter is a supplementary letter which is not part of the standard Pular orthography.
	NOTO	𐤂𐤂𐤂 𐤂	𐤂𐤂𐤂 𐤂	
	UNICODE	𐤂𐤂𐤂 𐤂	𐤂𐤂𐤂 𐤂	
	PROPOSED	𐤂𐤂𐤂 𐤂	𐤂𐤂𐤂 𐤂	

		1E91E	1E940	
GBE (GBA)	PULAAR	NA	NA	The changes in the proposed font are quite dramatic. This new form gives the letter more of a relationship to the letter Bhe. This letter is a supplementary letter which is not part of the standard Pular orthography.
	NOTO	𐤃𐤃𐤃 𐤃	𐤃𐤃𐤃 𐤃	
	UNICODE	𐤃𐤃𐤃 𐤃	𐤃𐤃𐤃 𐤃	
	PROPOSED	𐤃𐤃𐤃 𐤃	𐤃𐤃𐤃 𐤃	

		1E91F	1E941	
ZAL (ZA)	PULAAR	NA	NA	The changes in the proposed font are quite dramatic. This new form make the letter more distinctive. This letter is a supplementary letter which is not part of the standard Pular orthography.
	NOTO	𐤄𐤄𐤄 𐤄	𐤄𐤄𐤄 𐤄	
	UNICODE	𐤄𐤄𐤄 𐤄	𐤄𐤄𐤄 𐤄	
	PROPOSED	𐤄𐤄𐤄 𐤄	𐤄𐤄𐤄 𐤄	

		1E920	1E942	
KPO (KPA)	PULAAR	NA	NA	The changes in the proposed font are quite dramatic. This new form simplifies the letter making it less dense and easier to read while maintaining some relationship to what is in the Unicode font. This letter is a supplementary letter which is not part of the standard Pular orthography.
	NOTO	𐤅𐤅𐤅 𐤅	𐤅𐤅𐤅 𐤅	
	UNICODE	𐤅𐤅𐤅 𐤅	𐤅𐤅𐤅 𐤅	
	PROPOSED	𐤅𐤅𐤅 𐤅	𐤅𐤅𐤅 𐤅	

		1E921	1E943	
SHA (SHA)	PULAAR	NA	NA	The changes in the proposed font are quite dramatic. This new form simplifies the letter making it less dense and easier to read. This letter is a supplementary letter which is not part of the standard Pular orthography.
	NOTO	𐤆𐤆𐤆 𐤆	𐤆𐤆𐤆 𐤆	
	UNICODE	𐤆𐤆𐤆 𐤆	𐤆𐤆𐤆 𐤆	
	PROPOSED	𐤆𐤆𐤆 𐤆	𐤆𐤆𐤆 𐤆	

		1E944	
ALIF LENGTHENER	PULAAR		The proposed font shows upper and lower case variants for better fitting with the Alif. These are stylistic variations of one another.
	NOTO		
	UNICODE		
	PROPOSED		

		1E945	
VOWEL LENGTHENER	PULAAR		The proposed font shows upper and lower case variants for better fitting with the Alif. These are stylistic variations that are discussed in the Unicode Proposal but not part of the Unicode Font.
	NOTO		
	UNICODE		
	PROPOSED		

		1E946	
GEMINATION MARK	PULAAR		The proposed font shows upper and lower case variants. The uppercase form is wider to provide better balance to the larger letterforms. These are stylistic variations of one another.
	NOTO		
	UNICODE		
	PROPOSED		

		1E947	
HAMZA	PULAAR		
	NOTO		
	UNICODE		
	PROPOSED		

		1E948	
CONSONANT MODIFIER	PULAAR		
	NOTO		
	UNICODE		
	PROPOSED		

		1E949	
GEMINATE CONSONANT MODIFIER	PULAAR	NA	
	NOTO		
	UNICODE		
	PROPOSED		

		1E94A	
NUKTA	PULAAR		
	NOTO		
	UNICODE		
	PROPOSED		

		1E950	
0	PULAAR	𞥐	The proposed font uses an open form for the zero. This helps distinguish it from the zero in the Latin script. This is a reversion to a historical form.
	NOTO	𞥐	
	UNICODE	𞥐	
	PROPOSED	𞥏	

		1E951	
1	PULAAR	𞥑	
	NOTO	𞥑	
	UNICODE	𞥑	
	PROPOSED	𞥑	

		1E952	
2	PULAAR	𞥒	
	NOTO	𞥒	
	UNICODE	𞥒	
	PROPOSED	𞥒	

		1E953	
3	PULAAR	𞥓	The design in the proposed replacement font is a stylistic variation of what is in the original Unicode Code Chart.
	NOTO	𞥓	
	UNICODE	𞥓	
	PROPOSED	𞥓	

		1E954	
4	PULAAR	𞥔	
	NOTO	𞥔	
	UNICODE	𞥔	
	PROPOSED	𞥔	

		1E955	
5	PULAAR	𞥕	
	NOTO	𞥕	
	UNICODE	𞥕	
	PROPOSED	𞥕	

		1E956	
6	PULAAR	𞥖	Users were finding the number six used in the Unicode charts confusable with the letter Ha. The change in the proposed font makes the six more distinctive.
	NOTO	𞥖	
	UNICODE	𞥖	
	PROPOSED	𞥖	

		1E957	
7	PULAAR	𞥗	
	NOTO	𞤗	
	UNICODE	𞥗	
	PROPOSED	𞥗	

		1E958	
8	PULAAR	𞥘	
	NOTO	𞤘	
	UNICODE	𞥘	
	PROPOSED	𞥘	

		1E959	
9	PULAAR	𞥙	
	NOTO	𞤙	
	UNICODE	𞥙	
	PROPOSED	𞥙	

		1E95E	
EXCLAMATION MARK	PULAAR	NA	The Adlam exclamation mark is used at the beginning of a sentence. The form was changed in the proposed font to be more aesthetically appealing to readers.
	NOTO	𞤮	
	UNICODE	𞥞	
	PROPOSED	𞥞	

		1E95F	
QUESTION MARK	PULAAR	NA	The Adlam question mark is used at the beginning of a sentence. The form was changed in the proposed font to be more aesthetically appealing to readers.
	NOTO	𞤯	
	UNICODE	𞥟	
	PROPOSED	𞥟	

4. Usage of Supplementary Chararacters

The supplementary characters in Adlam are used for loan words and for proper nouns that come from neighboring ethnic groups. While these words are common, their use varies by region. Because the loan sounds are unique to these words and names the changes in the letterforms are not intinsically confusing because readers can identify the words by their context.

The 𞤧 or 𞤨(sha) is used in *Aisha* 𞤀𞤧𞤊𞤖. It is a very popular name but also in words borrowed mostly from Arabic: 𞤂𞤬𞤢𞤧𞤊𞤀𞤨 (*cheick).*

The 𞤦 or 𞤧(kpo) as in 𞤪𞤢𞤪𞤧 (*Kpelle*) name of an ethnic group in the south of Guinea and Liberia. 𞤢𞤖𞤧 (*a local bar*).

The 𞤵 or 𞤶(zal) as in 𞤪𞤦𞤓𞤢𞤪𞤦𞤶 (*Nzerekore, town where the Barrys were born*), 𞤢𞤔𞤵 (*zakat*) 𞤖𞤓𞤵 (*Zina*).

The 𞤺 or 𞤻(gbe) as in 𞤢𞤭𞤬𞤓𞤵 (*hometown of a former president*) and there are many other names and words in the coastal and Savannah regions with this sound. 𞤧𞤦𞤓𞤢𞤪𞤦𞤻 ،𞤧𞤦𞤻.

The 𞤸 or 𞤹(va) as in 𞤃𞤢𞤪𞤹 (*velo or bicycle*), 𞤓𞤢𞤨𞤵 (*avion*), 𞤎𞤵𞤖𞤹 (*Vassy*).

The 𞤷 or 𞤸(kha) as in 𞤦𞤦𞤵𞤖𞤷𞤭 (*laakhara or hereafter*) and used a lot in names and words in the coastal regions. 𞤪𞤷𞤎𞤸 ،𞤃𞤦𞤓𞤸.

5. Supporting Images

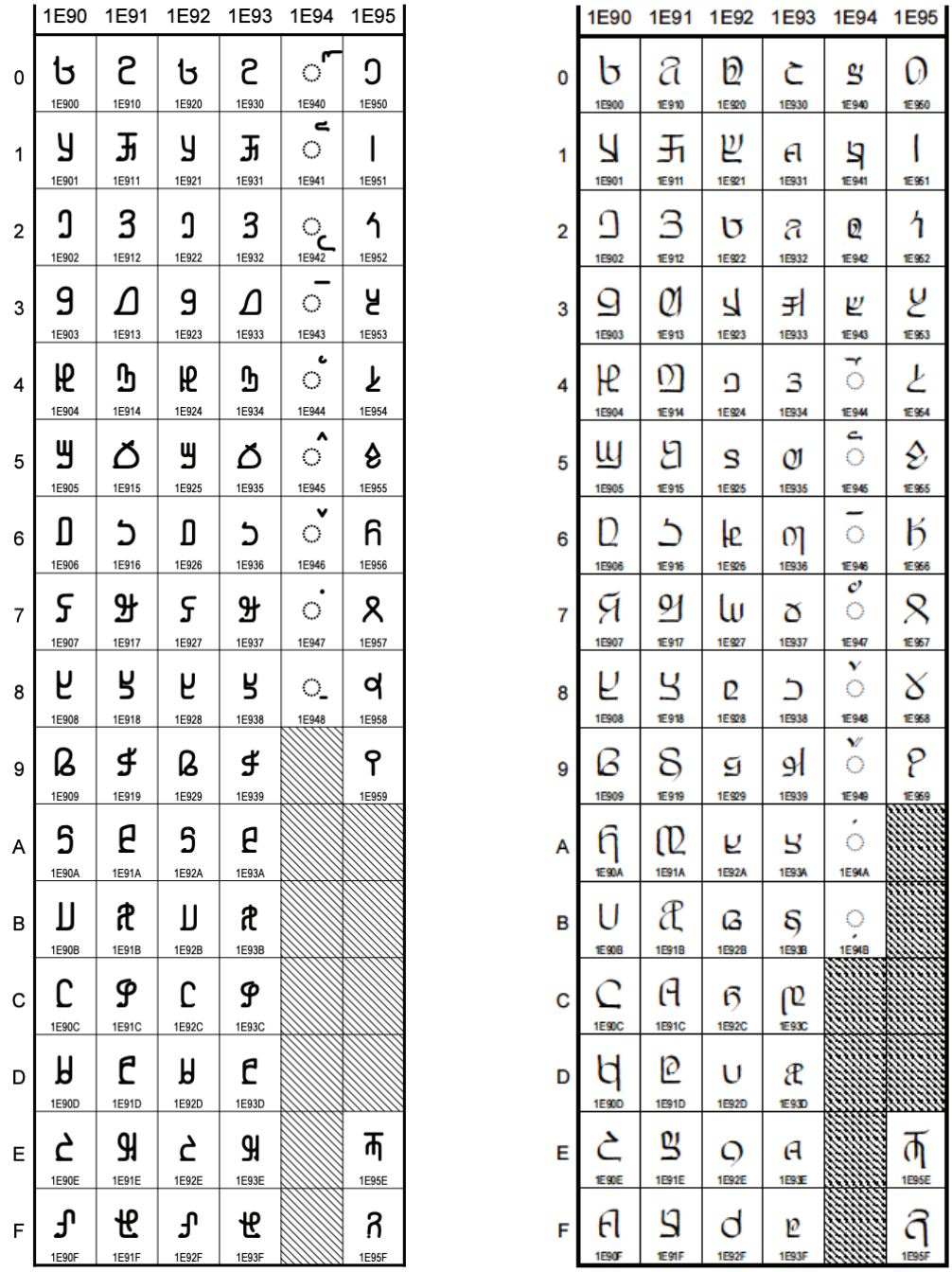

Figure 1 *– Comparison of Codesheets from the 2013 Adlam Unicode Proposal (left) and the 2014 Adlam Unicode Proposal (right)*

Figure 2 *– Adlam Appspot utility by Google allows users to type Adlam text with an on-screen keyboard and convert text from pre-Unicode fonts. This utility uses the Noto Sans Adlam and the three pre-Unicode fonts, Pulaar, Aissata and Fuuta. Dec. 2016*

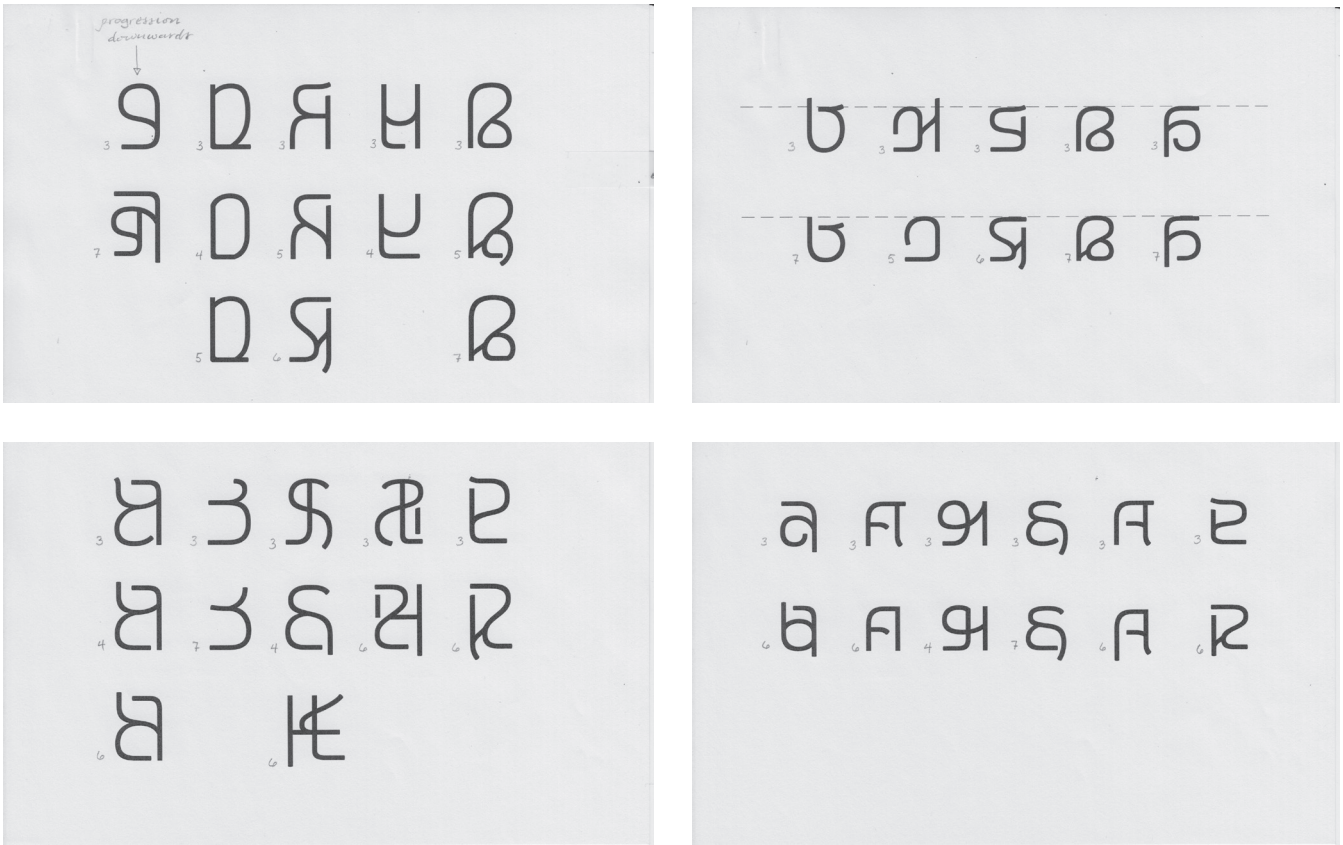

Figure 3 *– Example of design iterations between 2017–2018. Variations are chronologically arranged top to bottom in each example.*

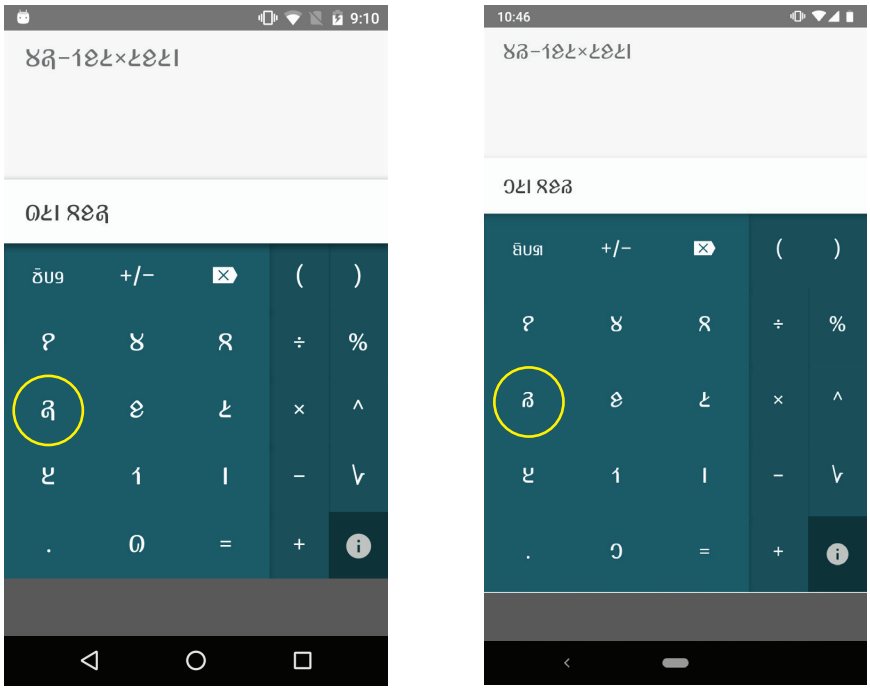

Figure 4 *– Adlam Kiimirgal, calculator app. Early version (left) and newer version (right) showing updated numerals. Note: The reversal of the lower part of number six (circled) was an error that was fixed in Kigelia and is slated to be updated in Ebrima. June 2017*

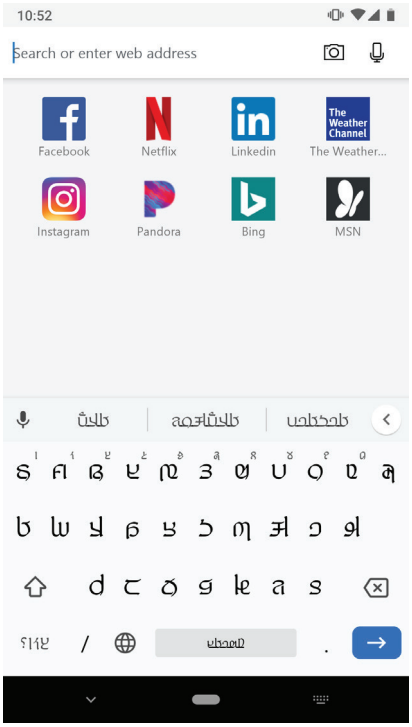

Figure 5 *– Google Gboard for Adlam using Noto Sans Adlam. Dec 2017*

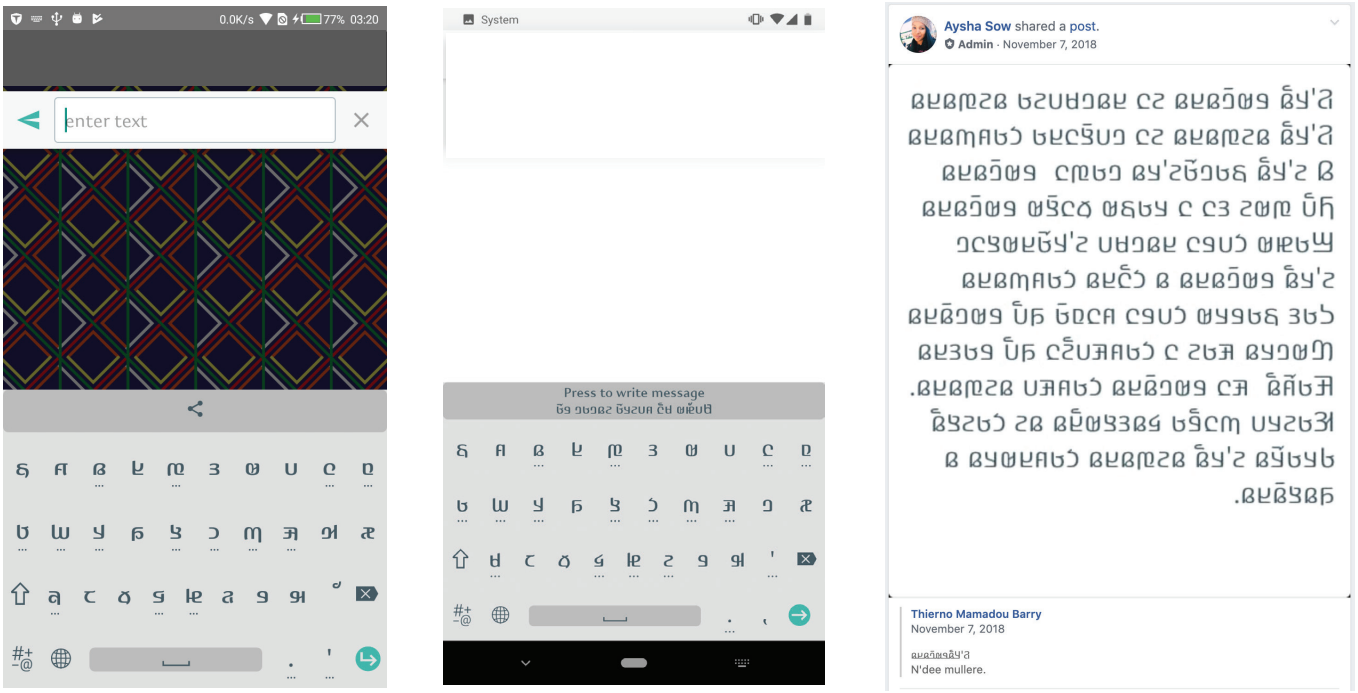

Figure 6 *– Tappirgal Adlam, keyboard app. Early version (left) and newer version (center) showing letterforms that were updated while developing Kigelia. The image on the right shows Kigelia being used on Facebook using the text-to-image feature of Tappirgal. March 2018*

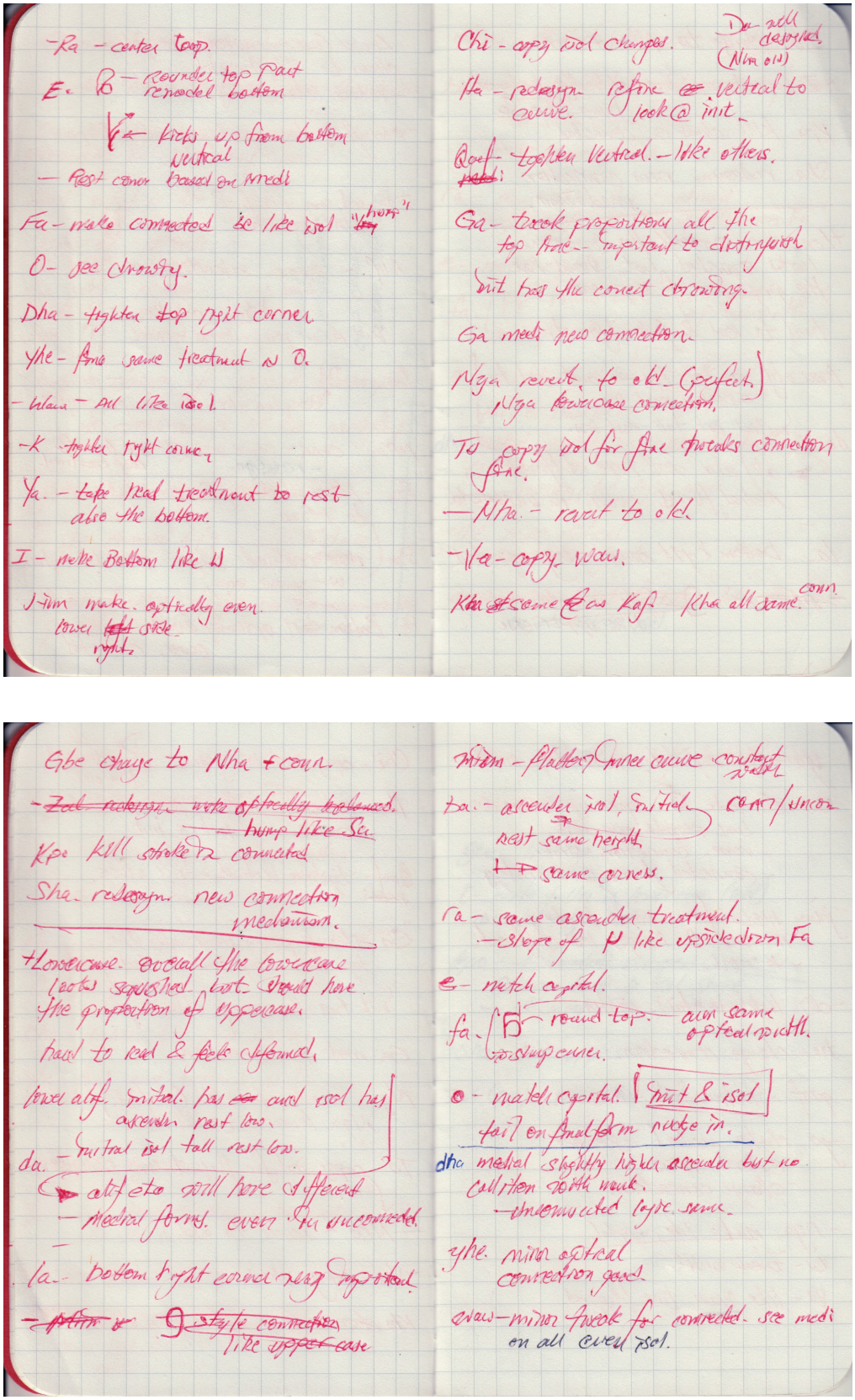

Figure 7 *– Sample pages of notes taken taken during the Spring 2018 session to finalize all letterforms.*

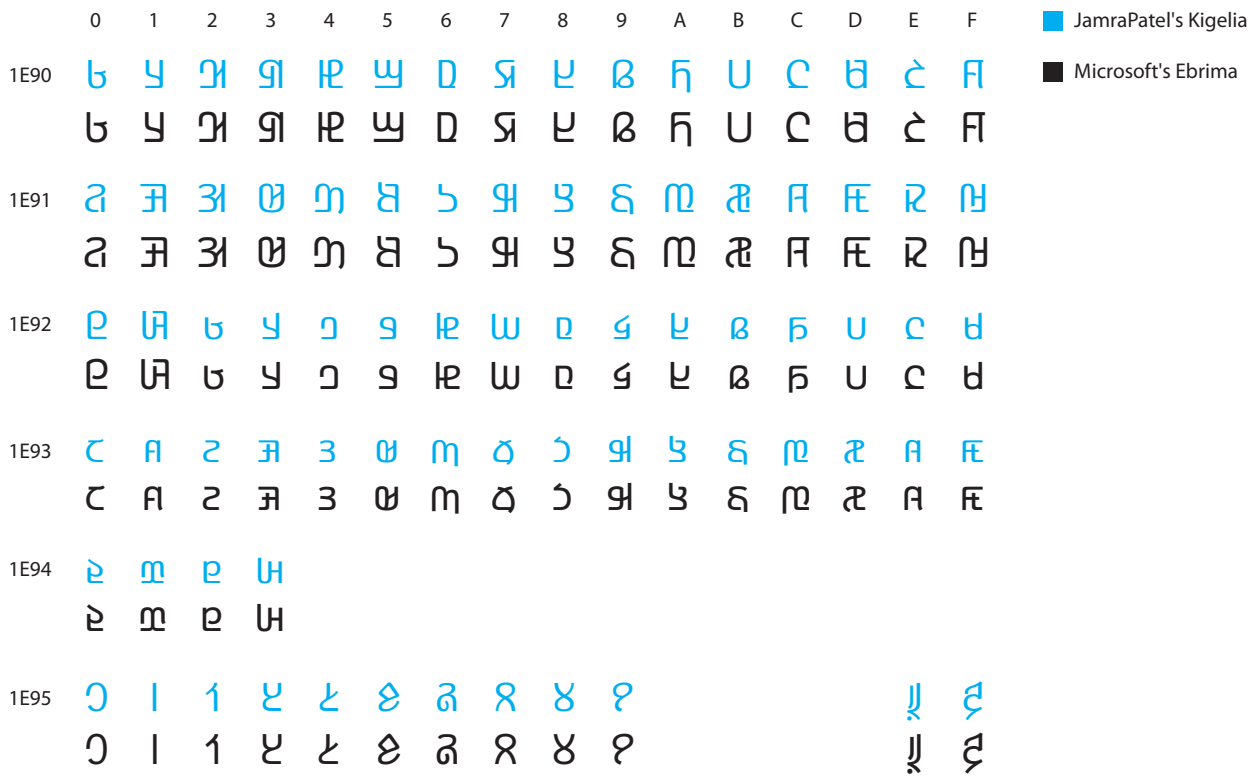

***Figure 8** – Comparison of Ebrima to Kigelia. Ebrima and Kigelia are designed using the same letterform models. Being a system font, Ebrima only includes the unconnected variant of the letters. Note: Corrected form of number six (1E956) is shown in both fonts. Ebrima will be updated in Windows soon. May 2018*

ADLaM and Osage keyboard support

Building on the font support we announced recently, today we're introducing keyboard support for ADLaM and Osage. ADLaM script is used to write Pular/Fulfulde, the language of the Fulani people of West Africa. Osage script is used to write the Osage language spoken by the Osage Nation in Oklahoma.

Here is an example what you'd see on the touch keyboard when using ADLaM:

***Figure 9** – Screenshot of the Windows Insider blog announcing Adlam support with Ebrima and accompanying keyboard. Feb 2019*