Update on Usage and Implementation Status of African Scripts Document created: July 19, 2023 Final Version: September 8, 2023 By: Oreen Yousuf, Charles Riley, Daniel Yacob, Neil Patel, & Tim Brookes

The following is a list showing the current status of the use and online implementation of African scripts, which may encourage development.

- If you have corrections or additional information about the listed scripts, or information on African scripts not mentioned, please contact Oreen Yousuf (<u>oreen.yousuf@gmail.com</u>) and Charles Riley (<u>zenodotus@gmail.com</u>), while CC-ing Debbie Anderson (<u>dwanders@berkeley.edu</u>), the Chair of the Script Ad Hoc (SAH), on the email.
- Contact Daniel Yacob (<u>dyacob@gmail.com</u>) for questions specifically on the Ethiopic script.
- Contact Neil Patel (<u>neil@jamra-patel.com</u>) for questions related to creating fonts or font rendering online, especially.
- Contact Tim Brookes (<u>tim@endangeredalphabets.com</u>) to possibly discuss and feature your language's minority script on the <u>Endangered Alphabets website</u>.

A short section at the end of this document (page 14) discusses outstanding needs for extended Latin and extended Arabic in representing African languages.

This document acts as a follow-up to Charles Riley's March 2022 update on African scripts $(\underline{L2/22-073})$.

The document is separated into encoded (page 1) and unencoded scripts (page 4). Multiple scripts used for a single language will be described under the language's name.

Encoded Scripts:

ADLaM (Language: Fula/Fulfulde | Script Type: Alphabet - written right to left):

- Encoded in Unicode (U+1E900..U+1E95F).
- A romanization standard has been developed and approved for use in library cataloging.
- A complementary transliteration tool has been implemented into the Library of Congress record editor.
- A matching CLDR transform is currently being developed by JamraPatel and Craig Cornelius. ADLAM NASALISATION MARK, U+1E94B, still does not shape properly with USE. The problem has been brought to Andrew Glass's attention.
- Common punctuation (period, hyphen, reversed comma) continue to appear on the wrong side of text runs.

- Common punctuation continues to fallback to system fonts on multiple platforms.
- Noto Sans Adlam and Noto Sans Adlam Unjoined fonts are available.
- Kigelia is available through Microsoft Office and Adobe CC.
- ADLaM Display was released this year via Microsoft Office and is also available on Google Fonts.

Amazigh/Berber Languages:

- **Tifinagh*** (Languages: Tuareg Berber Languages | Script Type: Abjad right to left (or left to right); Ancient Berber was written Bottom to Top)
- **Neo-Tifinagh*** (Languages: Standard Moroccan Berber and Northern Berber Languages | Script Type: Alphabet left to right)
 - * Encoded in Unicode (U+2D30..U+2D7F).
 - * Noto Sans Tifinagh font is available.
 - * Kigelia includes complete support for Tifinagh and Neo Tifinagh and is available in Microsoft Office and Adobe CC

* Akatab font is available which specifically supports Tamahaq, Tamashek, and Tawallammat.

* Tagmukay font is available which specifically supports Tawallammat.

Bamum (Language: Bamum | Script Type: Syllabary - written left to right):

- Encoded in Unicode as two blocks, <u>Bamum</u> (U+A6A0..U+A6FF) and <u>Bamum</u> <u>Supplement</u> (U+16800..U+16A3F).
- Gap analysis in implementation remains to be done. Windows 11 supports both ranges, but diacritics in Bamum render unevenly.
- Noto Sans Bamum font is available.
- A virtual keyboard is available <u>here</u> on <u>languagetools-153419.appspot.com</u>.

Bassa Vah (Language: Bassa | Script Type: Alphabet - written left to right):

- Encoded in Unicode (U+16AD0..U+16AFF).
- Gap analysis in implementation remains to be done.
- Noto Sans Bassa Vah font is available.
- A virtual keyboard is available here on languagetools-153419.appspot.com.

Coptic (Language: Coptic | Script Type: Alphabet - written left to right):

- Encoded in Unicode as two blocks, <u>Coptic</u> (U+2C80..U+2CFF) and <u>Greek and Coptic</u> (U+0370..U+03FF).
- Noto Sans Coptic font is available.
- Sophia Nubian font is available <u>here</u>.

Egyptian Hieroglyphs (Language: Ancient Egyptian | Script Type: Logography - written right to left, and left to right):

Encoded in Unicode as two blocks, *Egyptian Hieroglyphs* (U+13000..U+1342F) and *Egyptian Hieroglyphs Format Controls* (U+13430..U+1345F). A large new block,

Egyptian Hieroglyphs Extended-A, has been assigned provisional code points (U+13440..U+143FF) and is planned for Unicode 16.0 (see document <u>L2/23-181</u>).

- Noto Sans Egyptian Hieroglyphs font is available.

Ethiopic (Languages: several in Ethiopia & Eritrea | Script Type: Abugida - written left to right):

- Encoded in Unicode as several blocks; <u>Ethiopic</u> (U+1200..U+137F), <u>Ethiopic</u>
 <u>Supplement</u> (U+1380..U+139F), <u>Ethiopic Extended</u> (U+2D80..U+2DDF), <u>Ethiopic</u>
 <u>Extended-A</u> (U+AB00..U+AB2F), and <u>Ethiopic Extended-B</u> (U+1E7E0..U+1E7FF).
- Microsoft is expected to be the first major operating system to support the Unicode 14 additions for the Gurage language when an update to the Kigelia font arrives to Office products.
- The Microsoft Windows flagship Ethiopic typefaces, Nyala and Ebrima, received Unicode 14 updates in 2022 but have not yet appeared in an update to Windows.
- While the Noto fonts for Ethiopic script have been fully updated for Unicode 14, they will not appear in an Android release until a version after 14.0.
- Apple is in the early stages of enhancing the Kefa typeface for Gurage and updates are anticipated in the near term. The Gurage community can thus anticipate a very mixed quality of experiences in the ability to read and write their language across platforms through 2024.
- Planned proposals to encode additional written elements from Ge²ez manuscripts are paused while a strategy for handling the rich inventory of glyph variants is under review.
- Noto Sans Ethiopic and Noto Serif Ethiopic fonts are available with Gurage support.
- Kigelia is also available on Adobe CC.
- Abyssinica SIL is available and has been updated to support Unicode 14.

Garay (Language: Wolof | Script Type: Alphabet - written right to left):

- Garay script has been accepted for Unicode 16.0. The script has a tentative allocation at U+10D40..U+10D8F in the Roadmap to the SMP for the Unicode Standard.

Medefaidrin (Language: Oberi Okaime | Script Type: Alphabet - written left to right):

- Encoded in Unicode (U+16E40..U+16E9F).
- Gap analysis on implementation remains to be done.

Mende Kikakui (Language: Mende | Script Type: Syllabary - written right to left):

- Encoded in Unicode (U+16E40..U+16E9F).
- Gap analysis on implementation remains to be done.
- A project involving the analysis of 300 notebook pages has begun at Yale and preliminary results are starting to come in of a possible translation of some of the pages.
- Noto Sans font is available here
- A keyboard is available <u>here</u>..

Meroitic (Languages: Meroitic; possibly Old Nubian | Script Type: mixed alphasyllabary abugida-syllabary - written right to left (monumental form was written vertically in columns):

 Encoded in Unicode as two blocks, <u>Meroitic Hieroglyphs</u> (U+10980..U+1099F) and <u>Meroitic Cursive</u> (U+109A0..U+109FF).

N'Ko (Language: all Manding languages | Script Type: Alphabet - written right to left):

- <u>Encoded</u> in Unicode (U+07C0..U+07FF).
- The CLDR status has been upgraded from seed status with Basic Coverage having been achieved.
- Common punctuation (period, hyphen) continues to appear on the wrong side of text runs.
- Common punctuation continues to fall back to system fonts on multiple platforms.
- Noto Sans N'Ko font is available.
- Noto Sans N'ko Unconnected was released this year.
- Kigelia supports N'ko and is available in Microsoft Office and Adobe CC.

Osmanya (Language: Somali | Script Type: Alphabet - written left to right):

- <u>Encoded</u> in Unicode (U+10480..U+104AF).
- Noto Sans Osmanya font is available
- Kigelia supports Osmanya and is available on Microsoft Office and Adobe CC.

Vai (Language: Vai | Script Type: Syllabary; historically partially Logography - written left to right):

- Encoded in Unicode (U+A500..U+A63F).
- Noto Sans Vai font is available.
- Kigelia supports Vai and ins available in Microsoft Office and Adobe CC
- SIL Vai font is available.

Unencoded Scripts:

Adinkra Alphabet (Languages: Akan, Ghana Ewe, Ga, Dagbani | Script Type: Alphabet - written left to right):

- Latest full proposal: <u>L2/21-020</u>; more information in: <u>L2/21-237</u>; latest SAH feedback: <u>L2/22-023</u>.
- More evidence of actual usage through time is needed before the proposal can progress.
- The most popular online Akan dictionary uses this Adinkra Alphabet: <u>https://www.akandictionary.com/</u>
- A font and keyboard layout are available <u>here</u> on <u>adinkraalphabet.com</u>.
- **Adinkra Symbols** (These are the traditional symbols that inspired the Adinkra Alphabet above): No Unicode encoding proposal has yet been put forth.

Ancient Egyptian Language:

- Egyptian Demotic (Script Type: Logography mixed direction of writing):
 - No Unicode encoding proposal has yet been put forth.

- **Egyptian Hieratic** (Script Type: Logoconsonantal written right to left):
 - No Unicode encoding proposal has yet been put forth.
 - The Unicode Standard considers Egyptian Hieratic as a font variant of Egyptian Hieroglyphs (U+13000..U+1342F); the two scripts have been unified.

Beria Giray Erfe/Zaghawa (Language: Beria/Zaghawa | Script Type: Alphabet - written left to right):

- First and only proposal so far: <u>L2/08-265</u>.
- Another Unicode proposal is currently being worked on by Alsadik Sadik, Andrew Wolfe, Dr. Andrij Rovenchak, Adam Ahmed, and Lorna Evans.
- Contact with the user community is ongoing between users, Andrew Wolfe, Andrij Rovenchak, and Oreen.
- SIL's Zaghawa Beria Font is available <u>here</u>.
- A virtual keyboard is available here on languagetools-153419.appspot.com.

Bété (Language: Bété | Script Type: Syllabary - written left to right):

- Introductory documents: <u>L2/17-323</u> and <u>L2/19-044</u>; latest SAH feedback: <u>L2/19-047</u>.
- This script is currently awaiting evidence of the need for text interchange. Adam Yeo and Jesus Maclean are expected to do some field work in late-2023 to 2024 to gather supporting evidence.
- A virtual keyboard is available <u>here</u> on <u>languagetools-153419.appspot.com</u>.

Bozo ideograms:

- No Unicode encoding proposal has yet been put forth.
- Oreen is in contact with the Secretary General of the Malian Academy of Languages. There is a possibility that the Academy would support future encoding of the Bozo ideograms.

Dazaga/Dazaga-Gorane (Language: Dazaga/Daza | Script Type: Alphabet - written left to right(?)):

- No Unicode encoding proposal has yet been put forth.
- The script was created in 2012. A 2018 German paper by Nikolaos Tsokanos from Humboldt University of Berlin titled "Dazaga in Berlin-Brandenburg" shows the script.
- The Dazaga-Gorane diaspora in Berlin-Brandenburg further developed the script for some time with the support of Berlin script designer Susanne Zippel, who worked on making the existing letters easily to be written by hand in 2019/2020. But, for the Berlin diaspora, the script was too difficult to learn so the speakers decided to go on with a new Latin-based orthography. Julian Rott and Zacharias van Stek, members of Elisabeth Verhoeven's group at Humboldt University of Berlin, are working on the new Latin-based orthography with the Berlin-based Dazaga-Gorane speakers. However, the Humboldt group mainly receives information from the Berlin-based Dazaga diaspora, so they are not sure if the Dazaga in Chad have given up the unique script or continue to use it.

Ditema tsa Dinoko (Languages: Southern Bantu languages | Script Type: Featural Syllabary - written left to right):

- No Unicode encoding proposal has yet been put forth.
- However, the script is being taught at the university level at 3 universities in South Africa: at 1) University of South Africa in the Linguistics Department, at 2) University of Mpumalanga in the Heritage Department, and at 3) the University of Johannesburg in the Jewelry Design Department (for 2 years).
- A designer of the script, Pule kaJanolintshi, has voiced support to whomever begins the encoding proposal.
- Significant data for the proposal & encoding process, titled "*Introducing orthography and writing systems*", has recently become <u>available here</u> in the form of an Open Educational Resource (OER) by Pule kaJanolintshi, and Napjadi Letsoalo the Chair of the Department of Linguistics and Modern Languages at the University of South Africa.
- A virtual keyboard demo is available here.

Dogon pictographs:

- No Unicode encoding proposal has yet been put forth.
- Oreen is in contact with the Secretary General of the Malian Academy of Languages. There is a possibility that the Academy would support future encoding of the ancient Dogon pictographs.

Eghap/Bagam (Language: Mengaka | Script Type: Logosyllabary - written left to right):

- Latest proposal: <u>L2/12-229</u>.
- More materials are needed as well as experts working with the script.

Fula/Fulani/Fulfulde/Pulaar Language:

- **Ba*** (Script Type: Alphabet written left to right):
 - No Unicode encoding proposal has yet been put forth.
- **Dita*** (Script Type: Alphabet):
 - No Unicode encoding proposal has yet been put forth.
- Moodibbo Bello Aamadu Mohammadu's Script (Script Type: Alphabet):
 - No Unicode encoding proposal has yet been put forth.
 - Mohammadu is a Muslim scholar based in northern Cameroon who has invented an original alphabet for the writing of Fula/Fulfulde. Moodibbo Bello's Fulfulde alphabet has not been in use beyond a restricted circle of his students.
 - The script is presented in "*Moodibbo Bello Aamadu Mohammadu and the Daada Maaje, a Handbook in an Indigenous Fulfulde Script*" by Mohamadou Halirou.

*Preliminary research for more information on these scripts has been ongoing.

Gbékoun (Language: Fon | Script Type: Alphabet - written left to right):

Script details are being collected to prepare a Unicode proposal by JamraPatel.

- JamraPatel is working with the user community. Draft PUA fonts and keyboards have been sent to their contact in the user community for review and revisions. Final versions of both are expected to be completed in August.
- The Gbékoun user community occasionally posts images to Facebook though there doesn't appear to be a community page at the moment. <u>Top Media Benin</u> has a few articles regarding the script. There appears to be some evidence that in person classes are being taught based on videos on YouTube.
- Known Details: The script was invented in 1994 by Togbedji Adigbe who passed away in 2006. There are approximately 300 people familiar with the script and with regular in-person classes held every Sunday in Cotonou. There are YouTube/WhatsApp classes for remote learners. Currently there are 3 known books written in Gbékoun all of which are learning manuals.

Gola (Language: Gola | Script Type: Alphabet):

- No Unicode encoding proposal has yet been put forth.
- Oreen is in contact with the Executive Director of the Liberia Translation and Literacy Organization (LIBTRALO) for preliminary research into the script.

Gur Languages/Mooré:

- **Goulsse*** (Script Type: Alphabet written left to right):
 - No Unicode encoding proposal has yet been put forth.
 - However, the script is supported by the Kassena Language Council in Burkina Faso. It is also in the process of being considered a "discovery" by the Ministry of Education of Burkina Faso.
 - Additionally, the script is being taught to "thousands of highschool and university level students" in Po, Burkina Faso.
 - One of the creators, Wenitte Apiou, says the script's creation began "specifically only [for the] <u>Mooré and Kassem</u> [languages]", but "the script is meant as a starting point of inspiration to be adapted by other <u>Gur languages</u> if the communities choose to do so."
 - A font is available on Wenitte's Github <u>here</u>.
- Minim* (Script Type: Alphabet written left to right):
 - No Unicode encoding proposal has yet been put forth.
 - This script was created by Mahamadi Ouédraogo of Burkina Faso in the early 2010s to transcribe the *Mooré* language.
 - There has not yet been any publication of this script outside of Burkina Faso. However, Jannis Kostelnik, at the Centre for the Study of Manuscript Cultures at University of Hamburg, Germany, worked on location with Ouédraogo in 2022 and wrote his thesis on the script. Kostelnik says that "a chapter from [his] thesis is now handed in for publication and [he] will also try to publish more chapters in the future. However, the script is not known outside the inventor's circle of adherents."

*Oreen has connected the Goulsse Alphabet creators with Jannis Kostelnik in the hopes that they will discuss with the Minim creator as both parties share a similar goal..

Harari "Secret Scripts"* (Script Type: Unknown; possibly Abjad):

- The Harari people of Ethiopia have a tradition of writing in coded "secret scripts" that appear to share lineage with the Abrahamic sigil scripts. The number of these scripts, the extent of their past use, and their continuation in the community is under investigation for inclusion consideration in a future standard. The broader picture of encoding sigil scripts in the Unicode standard also needs to be understood to approach the Harari and other sigil-based systems of writing.
- A paper conducting computational analysis on similar glyphs/sigils has been carried out: "Visual Programming-Based Interactive Analysis of Ancient Documents: The Case of Magical Signs in Jewish Manuscripts" by Pandey, et. al, 2021.
- The script is similar to what is called "Prophet Abraham/Ibrahim's Alphabet", or called "Brillenbuchstaben" in German; or to the "Celestial Alphabet" created by Heinrich Cornelius Agrippa.
- The script is on display at the Sherif Harar City Museum in Harar, Ethiopia.
- The script is also attested in the 1949 work "*Berget och Solen*" by the Swedish Count Björn von Rosen

*If you have information regarding this script, please specifically contact Oreen and Daniel.

Hausa Language:

• Raina Kama* (Script Type: Alphabet):

A code chart and names list has been created: Link

- Salifou/Gobiri* (Script Type: Alphabet written left to right):
 - A code chart and names list has been created: Link
- **Tafi** (Script Type: Alphabet written left to right):
 - No Unicode encoding proposal has yet been put forth.
 - Oreen has been in contact with the creator of the script, Musa D. Abdullahi. He and his son are fluent in the script and have established a school, Fahimta Advancement Academy, in Katsina, northern Nigeria, for teaching the Tafi script.
 - Communication with the creator will be maintained to monitor the growth of the script.
 - A font can be found <u>here</u> from the creator's website: <u>tafiwriting.com</u>.

*Preliminary research for more information on these scripts has been ongoing.

Igbo Language:

- Ndebe (Script Type: semi-featural syllabary / abugida written left to right):
 - No Unicode encoding proposal has yet been put forth.
 - The script's creator announced in February 2023 that letterforms have undergone some changes based on user feedback.

- A keyboard is available on ndebe.org.
- Nsibidi (Ancient) (Script Type: Pictography; possibly Logography and/or Syllabary):
 - No Unicode encoding proposal has yet been put forth.
- Nsibidi (New) (Script Type: mixed Logography and Alphabet ('Akagu') written left to right):
 - An encoding proposal has recently been submitted for review.
 - The script is taught and implemented on the popular Igbo learning website "Nkowa okwu".
 - A virtual keyboard can be found here on languagetools-153419.appspot.com.
- **Nwagu Aneke** (Script Type: Syllabary; some Logographic symbols written left to right):
 - No Unicode encoding proposal has yet been put forth.
 - This syllabary for the Umuleri dialect of Igbo was created in the late 1950s by Ogbuevi Nwagu Aneke of Umuleri, Anambra State, Nigeria.
 - More than 100 books were produced in this script.

Kore Sebeli (Language: Soso/Susu | Script Type: Alphabet - written left to right):

- Latest *posted* proposal: <u>L2/22-222</u> (with more information in <u>L2/22-248</u>).
- The script was created in 2009 and has been continuously taught and learned since.
- The number of students is well into the hundreds.

Kpelle (Language: Kpelle | Script Type: Syllabary - written left to right):

- Latest proposal: <u>L2/10-063</u>.
- 1975 field recordings have been sent to Indiana University, from which they were originally sourced, for uploading into the MCO online platform.
- A virtual keyboard can be found here on languagetools-153419.appspot.com.

Loma (Language: Loma | Script Type: Syllabary - written left to right):

- Last full proposal: <u>L2/10-005</u> (with more information in <u>L2/17-003</u>, <u>L2/17-059</u>, and <u>L2/17-233</u>).
- A class at Yale undertook the study of Loma in field research methods. A microfilm of 132 publications from the Wozi Literacy Center was digitized, at first for classroom use only, but permissions were sought and received for hosting the materials online in Yale's DCS platform.
- A comprehensive character repertoire still needs to be finalized.
- A virtual keyboard can be found here on languagetools-153419.appspot.com.

Luo Lakeside (Language: Luo/Dholuo | Script Type: Alphabet - written left to right):

- Latest, and only, proposal: <u>L2/19-268</u>; latest SAH feedback: <u>L2/19-286</u>.

Manding language(s):

- Masaba (Language: Bambara | Script Type: Syllabary written left to right):
 - An encoding proposal and font are forthcoming by Oreen.
 - The script has been in continuous use for a century in and near Assatiemala, Kayes Region, Mali.

- Oreen is in contact with the user community and the Malian Academy of Languages.
- Miriden (Language: Maninka | Script Type: Alphabet written left to right):
 - No Unicode encoding proposal has yet been put forth.
 - This script was created in 2011 by Yacouba Diakité in the town of Siguiri in northeast Guinea.
 - The script is described in a Russian paper from 2013 titled, "*Мириден и адлам* — два новых алфавитных письма для языков манинка и фула в Гвинее", by А. В. Давыдов (Artem Davydov).
 - Artem has said he hasn't had contact with Yacouba since February 2012 in Siguiri, Guinea. Yacouba had the Miriden alphabet written on a blackboard on the back of his motorbike.

Mandombe (Languages: Kikongo, Kikongo ya leta, Lingala, Tshiluba, Swahili | Script Type: Featural Alphabet - written left to right):

- Last full proposal: <u>L2/16-077R</u>; latest SAH feedback: <u>L2/16-216</u>.
- JamraPatel is working with the user community. They've sent PUA fonts and keyboards off to their contact in the community. Digital documents are being produced and a proposal is being worked on.
- An updated proposal has been developed but currently everything is on hold pending a decision on how to move forward given that there are IP protections in place for the writing system. The community contacts are interested in encoding but currently there is no system in place to do this without asking them to release all the IP and patents.

Mwangwego (Languages: Malawian languages | Script Type: Abugida - written left to right):

- Last proposal: <u>L2/12-311</u>; latest SAH feedback: <u>L2/13-028</u>.
- The script is stable and has been continuously taught to students to this day in informal individual and group sessions since its public launch in 2003.
- Oreen is in contact with the creator, Nolence Mwangwego, and independent Malawian scholars.
- In 2013, the SAH believed the script probably deserved encoding. An outstanding question was on the appropriate encoding model. An independent secondary confirmation on the script's usage is also needed.

Nilerian (Languages: indigenous languages of Nile Valley/Sudan & South Sudan | Script Type: Alphabet - written left to right):

- No Unicode encoding proposal has yet been put forth.
- The creator is South Sudanese engineer/researcher Aleu Majok. More information at https://nilerian.wordpress.com/

N'ti (Language: Soninke | Script Type: Alphabet - written left to right):

- An encoding proposal will be worked on by Oreen.
- The script was created by Dama Konte of Mali in 1985.

- There are videos on TikTok ('@elhadjisoukouna'), Facebook ('Soninkara'; 'N'ti Xanne Dagakanne Officiel') and YouTube ('IBRAHIM DRAMÉ SAAMA YARA GILLE') that showcase the script and show children learning it in notable numbers.
- A font for the script has been in use since at least February 2018.
- Book(s) have been published in the script.
- Oreen is in early contact with the user community.

Odùduwà (Language: Yoruba | Script Type: Alphabet - written right to left):

- No Unicode encoding proposal has yet been put forth.
- Adéşinà Ayeni (also known as Omo Yoòbá) has helped the user community, including Chief Tolúlàşe Ògúntósìn (the script inventor), with an encoding proposal.
- Over 5,000 students have learned the script or are learning it currently. It is taught on the web (Facebook, WhatsApp, and YouTube) by volunteer teachers across Nigerian states and also in the Republic of Benin where there is a small school for children to learn in person.
- Last year, there was an arrangement with the Obafemi Awolowo University, Ile-Ife, Osun state where a trial was carried out, and over 200 students were taught to use the script and they all received certificates.
- In addition, Chief Ògúntósìn has been given approval to start elementary and secondary schools in Nigeria and the Republic of Benin.
- There aren't any publications other than those by Chief Ògúntósìn.
- A virtual keyboard can be found <u>here</u> on <u>worldscriptsexplorer.page</u>. * I (Oreen) am not sure if this keyboard is sanctioned by the creator of the script, Chief Ògúntósìn.

Old Nubian (Languages: Old Nubian and Nobiin | Script Type: Alphabet - written left to right):

- Encoded in Unicode *as two blocks, <u>Coptic</u>* and <u>Greek and Coptic</u>; see Coptic above.

Oromo Language:

- Bakri Sapalo (Script Type: Abugida written left to right):
 - A Unicode encoding proposal is currently being worked on by Oreen and Daniel.
 - The script was created by the Oromo scholar Sheikh Bakri Sapalo in 1956.
 - There is immense scholarly endorsement for the script to be encoded.
 - Prominent Oromo scholar, Dr. Mohammed Hassen Ali, has stated that the script is "still used in eastern Oromia, among Oromo nationals and Muslim scholars, and others who still use it for secret communications among themselves and with their students" even until 2019.
 - Oreen and Daniel are in contact with Dr. Ali and other Oromo scholars for future encoding of the script.
- Walābū (Script Type: Alphabet (some abugida and abjad aspects) written right to left):
 - No Unicode encoding proposal has yet been put forth.
 - Nuraddin Aman at the Institute of Ethiopian Studies at Addis Ababa University wrote the first scholarly work describing the script in the Journal of Ethiopian Studies (JES) Vol. 55, No. 1 (June 2022). The script had never received scholarly attention or been presented to any academic outlet previously.

- The script was created by the Oromo inventor and religious teacher Sheikh Kemal Adem in 1963 Gregorian Calendar (GC).
- The script was largely kept secret from 1963-1991 (GC), during the Derg era of Ethiopia.
- 4 manuscripts on secular and religious topics were written in the script.
- Eight university students are proficient in the script.
- Oreen and Daniel have reached out to Nuraddin Aman for future encoding of the script.

Somali Language:

- Borama (Gadabuursi)* (Script Type: Alphabet written left to right):
 - No Unicode encoding proposal has yet been put forth.
 - A font, for purchase it seems, is available <u>here</u>.
- Kaddare* (Script Type: Alphabet written left to right):
 - No Unicode encoding proposal has yet been put forth.
 - A font, for purchase it seems, is available <u>here</u>.

*Oreen is in contact with the Somali Academy for Science, Culture and Arts, and the Somali Language Commission for preliminary research into encoding the Borama and Kaddare scripts.

Umwero (Language: Kinyarwanda | Script Type: Alphabet - written left to right):

- No Unicode encoding proposal has yet been put forth.
- Created by Mugisha Kwizera for the Kinyarwanda language of Rwanda in 2022. The script has not yet spread far, but the letterforms are stable and there are 34 students as reported by the creator.
- A virtual keyboard is available <u>here</u>.

Wolof Saaliw Wi (Language: Wolof | Script Type: Alphabet - written left to right):

- No Unicode encoding proposal has yet been put forth.
- Created by the scholar Saliou Mbaye in 2002, the script is described in a 2010 post (in German) titled "*EINE NEUE SCHRIFT FÜR DIE WOLOF-SPRACHE*".
- Mbaye translated German philosopher Immanuel Kant's essay "*Answering the Question: What Is Enlightenment?*" into Wolof written in this script.

The following are scripts we know very little about. Please email us if you have more information on these scripts:

Script	Alternate Name(s) / Description	Language(s)	System	Place of Origin	Creator	Created
Aka Umagbara	Aka Uli	lgbo	Part ideographic, part phonetic;	Nigeria	Ogonna Anaagudo -Agu	1980s

			1			
			based on traditional Uli symbols			
Aladura Holy Alphabet	Yoruba Holy Writing; Ifa Holy Writing	Artificial Language; undeciphered	Alphabet (right to left)	west Nigeria	Josiah Olunowo Oshitelu - founder of the Church of the Lord (Aladura)	1927
Asawansiguiru		Soninke, Bambara		Mali	Bah Seega Xooren Magassa	1955
Bambara Ideograms			Ideographic	Mali		Ancient
Caytu Wolof		Wolof		Senegal	Cheikh Talibouya Seck	2021
Edo	Edo script; Esan Oracle Rainbow syllabaries; Esan (Edo) Oracle Rainbow (syllabaries)	Edo - colloquially called <i>Bini</i> (Benin)	Syllabary	Nigeria	Aba Ota	1999 - 2000
FaYe	Yoruba FaYe; Yoruba script FaYe	Yoruba	Alphabet (left to right; unicase)		Remi-Niyi Alaran	2007
Ga Samai	Ga Symbols		Ideograms	Ghana	Gã-Dangme/ Ga-Adangbe people	Ancient
Gicandi	Gĩcandĩ; Gicandi heliograhics	Kikuyu	Mnemonic - pictorial system	Kenya	Kikuyu / Gĩkũyũ people in Kenya	Ancient
Kenzi	Nubian Kenzi	Nubian (Kenzi / Kunuz / Matokki)	Alphabet (right to left)	Egypt, Sudan	Omar Hassan Al-Daboodi	1993
Kii	Ngamga's Kii script	Bantu; semi-Bantu languages	Alphasyllabary (left to right)	Outside of Africa	Romuald Franklin Ngamga & Hye Yeon Nam	December 2006
Kongo cosmograms	yowa cross; dikenga cross; dikenga dia Kongo; tendwa kia		Cosmogram	Kongo / Congo	Kongo people (Bisi Kongo; Esi Kongo; Bakongo;	Ancient

	nza-n' Kongo				Besi Kongo)	
Kru	Kru Alphabet	Siamou, Azi, Kuwaa	Alphabet(?)			1972(?)
Menelik	Cursive Script of Emperor Menelik II	Amharic	Cursive style of the Ethiopic abugida	Ethiopia	Emperor Menelik II	<1913
New Nubian	New Nubian alphabet of El Tayeb Saeed	Nubian languages (possibly Nobiin?)	Alphabet (left to right)	Sudan	El Tayeb Saeed	Mid 2005
Oromo (undeciphered)		Oromo	Unknown; possibly Abugida / Syllabary	Ethiopia	Unknown. Possibly used by Sanna Ibsa (horsename: Abba Ragou), the son of Ibsa Bofo (horsename: Abba Bagibo) - a ruler of the Kingdom of Limmu - Ennarea	≤1830s
Sona	Singular: Lusona		Ideographic	East Angola, Northwest Zambia, DRC	Chockwe people	Ancient; ~6th Century BCE
Soni		Soninke	Alphabet	Gambia	Kaa Bully Nimaga	2001
Tusona	Singular: Kasona		Ideographic	Angola, Zambia	Luchazi people	Ancient

Needs for extended Latin and 'Ajami (extended Arabic): - There is a need for input methods on all platforms for African 'Ajami. Currently there is only a Wolof keyboard developed by JamraPatel, and a Pan-African 'Ajami character app developed by Richard Ishida. Currently, not all 'Ajami characters (Known issues: U+08B3, U+08C5, U+08C6,) shape properly with Uniscribe. Kigelia supports all encoded African 'Ajami codepoints and is bundled in Microsoft Office and available on Adobe Fonts. SIL has three fonts, Harmattan, Alkalami, Scheherezade all of which are downloadable from their site. Harmattan is also available on Google Fonts. Alkalami is designed specifically in a style used by the Hausa community. Harmattan is designed in a broad West African style. Scheherezade is a Naskh design with extensive code point coverage.