

TO: UTC
FROM: Deborah Anderson, Ken Whistler, Roozbeh Pournader, Andrew Glass,
Laurentiu Iancu, Lisa Moore, Liang Hai, Richard Ishida, Karan Misra, and Rick
McGowan
SUBJECT: Recommendations to UTC #150 January 2017 on Script Proposals
DATE: 21 January 2017

The Script Ad Hoc group met on 2 December 2016 and 17 January 2017 in order to review proposals. The following represents feedback on proposals that were posted in the Unicode document registry at the time the group met.

EUROPE

1. *Armenian*

Document: [L2/17-032](#) Armenian Phonetic Characters in Unicode - Baronian

Note: The comments below apply to the earlier version of the proposal, which the ad hoc reviewed.

Comments: We reviewed this proposal, which requests two characters that appear in an Armenian phonetic alphabet still used today by Armenian scholars. The characters also appear in a widely referenced etymological dictionary, and important dialectal materials.

The two characters appear well-justified, and their proposed location is acceptable.

Comments from the ad hoc included:

- Include glyphs for the proposed characters in §3.1. The proposed glyphs should match the style of the current Armenian code chart.
- In §3.3 Confusables, add U+0249 LATIN SMALL J WITH STROKE
- Mention whether an uppercase of either character is in existence

Recommendations: We recommend the UTC approve the characters
U+085B ARMENIAN SMALL LETTER TURNED AYB
U+085C ARMENIAN SMALL LETTER YI WITH STROKE.

AFRICA

2. *Loma*

Document: [L2/17-003](#) Further updates on encoding the Loma script in the SMP - Everson

Comments: We reviewed this document, which provides additional modern material from three sources (in figures 7-10). This document adds to the historic material of Dalby, Joffre, and Monod (figures 2-5) and Foromo Guilavogui (figure 6), which were in the earlier version of this document, L2/16-201.

Of the modern sources, two are similar to one another, specifically the materials from Justin Koivogui (figure 8) and Balla Traoire (figures 9 and 10). Document L2/17-003 includes the orthography of the modern sources typed in Latin transliteration order (see figures 6f, 7n, 8f, and 9g). The author of the

document reported orally that the orthographies vary from one another, and don't seem to easily map onto Loma phonology.

The following points were raised during discussion:

- We recommend the author continue his analysis of the orthographies, entering the glyphs and values onto a single spreadsheet (which could aid users in systematizing their orthography)
- It might be appropriate at a later point to propose the historic shapes separately, similar to what was done for Bamum (which has one block of the modern characters and a separate one for the historic characters)

Recommendations: We recommend the UTC note this document, and encourage UTC members to send feedback to the author.

SOUTH ASIA

3. *Brahmi*

a. Document: [L2/16-321](#) Request to change the glyph of 11008 BRAHMI LETTER II -- Srinidhi, Sridatta

Comments: We reviewed this document, which requested a glyph change for U+11008. The change is well-justified, and Andrew Glass, who was one of the original proposers of the script, was in favor of the change.

Recommendations: We recommend the UTC accept the glyph change for U+11008 BRAHMI LETTER II.

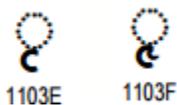
b. Document: [L2/16-343](#) Request to change the glyphs of Brahmi vowel signs Vocalic R and Vocalic RR -- Srinidhi, Sridatta

Comments: We reviewed this document, which requested a glyph change for two Brahmi vowel signs, U+1103E VOCALIC R and U+1103F VOCALIC RR, to glyphs that reflect the earliest attestations (1c CE).

As noted in the proposal, the current glyphs represent the vowel signs of the northern variety (from ca. 4c CE) that had evolved and changed direction from a curve to the left to a curve to the right. The southern variety had a leftward curve.

While the examples demonstrate that the current glyphs, which curve to the right, should be changed, it was not clear what the representative shapes should be. The glyphs appear most frequently to be downward curved shapes, but the proposed glyphs are horizontal.

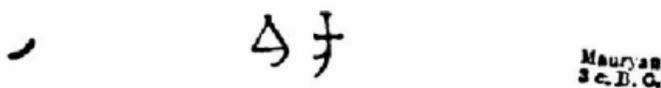
Current glyphs:

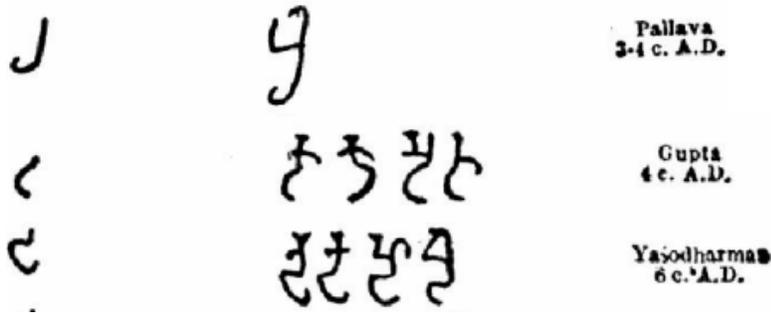


Proposed glyphs:



Sampling of shapes shown in figure 6:





We suggest the authors provide more analysis, discussing how scholars analyze figures 6 and 7, and provide more convincing examples. Also, for greater clarity, put a square around the vowel sign and identify the base letters in figures 3, 4, and 5.

Recommendations: We recommend the UTC review this document, and forward comments to the proposal author.

4. Bengali

Document: [L2/16-322](#) Proposal to encode the SANDHI MARK for Bengali -- Srinidhi, Sridatta

Comments: We reviewed this proposal for a Bengali sandhi mark. The character is justified and its proposed location is acceptable (U+09FE), but the name and properties should be based on U+A8F1 COMBINING DEVANAGARI SIGN AVAGRAHA, (hence, COMBINING BENGALI SIGN AVAGRAHA, with properties Mn; 230; NSM; ; ; ; N; ; ; ;).

Recommendations: We recommend the UTC accept the character U+09FE COMBINING BENGALI SIGN AVAGRAHA, but request the author make the name and property changes in the proposal as noted above.

5. Gurmukhi

Documents: [L2/16-380](#) Feedback on L2/16-294 (Gurmukhi Sign Yakash) - Manvir Singh
[L2/16-384](#) Feedback on L2/16-380 (Gurmukhi) - Sarabveer Singh

Background docs:

[L2/16-294](#) Changes to Gurmukhi 10 - Sarabveer Singh
[L2/16-302](#) Feedback on L2/16-294 on Gurmukhi – Sharma

Comments: We reviewed these documents, which each present an opposing view about changing the default glyph for U+0A75 GURMUKHI SIGN YAKASH:

- Document [L2/16-380](#) writes in favor of keeping the current chart glyph, since preservation of the original form of the script as found in the Sikh scriptures is deemed important. The examples in this document show handwritten versions of the text (pages 1-3), and the author explained the print examples in the original proposal, [L2/16-294](#), were based on the printing of one particular sect.
- Document [L2/16-384](#), written by the author of the original YAKASH proposal, notes that the current glyph is similar to U+0A51 GURMUKHI SIGN UDAAT, and is confusing to some

readers. He also mentions that the script has continued to evolve, and the examples in the original proposal were all related to publications of the Sikh's holy scripture.

Changing the glyph of YAKASH is clearly controversial. In our opinion, documenting the new glyph shape in the block introduction and adding an annotation in the names list would be advisable at the present time.

Recommendations: We recommend the UTC retain the current chart glyph for U+0A75 GURMUKHI SIGN YAKASH, rescinding the decision to change the glyph (as documented under D.4.1. in the [UTC #149 minutes](#)). We also recommend an annotation be added to the names list, saying that a different glyph for YAKASH is gaining usage in modern fonts. We also suggest the UTC remand to the Editorial Committee an action item for text be added to the Gurmukhi block introduction, noting that modern fonts use a different glyph for YAKASH.

6. Nandinagari

Document: [L2/16-310](#) Revised proposal to encode Nandinagari - Pandey

Note: The comments below apply to the earlier version of the proposal, which the ad hoc reviewed.

Comments: The script ad hoc discussed the encoding model for Nandinagari, and the recommendation was to use the same model as Sinhala for “touching forms” (as described in <https://www.microsoft.com/typography/OpenTypeDev/sinhala/intro.htm>), which uses the sequence <Consonant, ZWJ, VIRAMA, Consonant>. However, subsequent input has raised questions about the appropriateness of the Sinhala model for Nandinagari, so we recommend experts review the model again.

The following comments were also mentioned:

§4.6 Vowel modifiers

Add a note about the stylistic placement of ANUSVARA (i.e., it can be put on top or the top-right, depending upon space limitations, cf. figures 13 and 15).

§5.2 (p. 9) The *du* ligature is not a typical ligature, and it could be confusing to list it here. Instead, document those instances where the consonant + vowel shape changes markedly.

§5.6 (p. 15)

- Remove DOUBLE ANUSVARA ANTARGOMUKHA from Nandinagari, and propose it for the Vedic Extensions block.
- Change the name of NANDINAGARI DOUBLE VEDIC ANUSVARA to NANDINAGARI VEDIC DOUBLE ANUSVARA.
- Provide more examples of how ARDHAVISARGA is used. If it appears after a consonant, should it be unified with VEDIC SIGN ARDHAVISARGA? Figure 9 has two examples, but no strong reasons why the Vedic character couldn't be used. (If additional strong evidence for a script-specific ARDHAVISARGA is presented later, then it could be added. For example, if the Nandinagari ARDHAVISARGA can take a subjoined consonant or a dependent vowel as in Kannada [TUS §12.8, p 498], then disunification would be justified.) Why is it Lo, and not Mc?
- Provide an example of NANDINAGARI VEDIC DOUBLE ANUSVARA.

Recommendations: We recommend the UTC review this proposal, and send comments to the author.

7. *Hanifi Rohingya*

Document: [L2/16-311](#) Revised proposal to encode Hanifi Rohingya - Pandey

Note: The comments below apply to the revised version of the proposal, which the ad hoc saw.

Comments: We reviewed this revised proposal.

The following comments were made:

- §4.3 SAKIN:
 - The question whether this is dual or right-joining needs to be answered. Are there any examples of it in medial position?
 - The proposal needs to have an initial form provided if and only if it needs a medial; if an explanation is needed, add information in the main body of the proposal or a footnote.
- §4.2 Add initial forms for the vowel signs in the chart on the top of page 5 and the nasalization mark in §4.4.
- §6.3 ArabicShaping.txt
 - change 10D09; HANIFI ROHINGYA FA; D; HANIFI ROHINGYA FA to: 10D09; HANIFI ROHINGYA PA WITH DOT ABOVE; D; HANIFI ROHINGYA PA
 - For KINNA YA, the nasalization mark, and the vowels I and E, base them on the SAKIN.
- It would be useful to add a table with Rohingya and Arabic equivalents. (Lorna Evans may be able to provide additional information on the Arabic characters.)

Recommendations: With the above changes, we recommend the UTC accept this proposal.

8. *Kharoshthi*

Document: [L2/17-012](#) Additional Characters for Kharoṣṭhī Script – Glass and Baums

Comments: We reviewed this document, which requested the addition of three Kharoshthi characters, based on the recent discovery of new finds and greater understanding of the texts.

The evidence for the new characters is clearly provided. The proposal also includes the required properties and collation information.

In addition to the new characters, [L2/17-012](#) also proposes the sequence <LA, ZWJ, VIRAMA, YA> in order invoke the explicit medial *ya*.

Recommendations: We recommend the UTC accept the following three characters:

U+10A34 KHAROSHTHI LETTER TTTA

U+10A35 KHAROSHTHI LETTER VHA

U+10A48 KHAROSHTHI FRACTION ONE HALF.

We also recommend the UTC remand to the Editorial Committee updates to the Kharoshthi block introduction on the sequence used to invoke medial *ya*.

9. Newa

Document: [L2/16-383](#) Proposal to encode the SANDHI MARK for Newa - Srinidhi A, Sridatta A.

Comments: We reviewed this document, which requests a sandhi character for Newa. The evidence for the character appears to be solid.

The following comments arose during discussion:

- Two related proposals for sandhi mark characters should be mentioned in the proposal: [L2/16-322](#) Proposal to encode the SANDHI MARK for Bengali (by the same authors) and [L2/12-322](#) Proposal to encode the SANDHI MARK for Sharada (by Pandey).
- As recommended for the Bengali sandhi character (see #4 above), the name should be changed to COMBINING NEWA SIGN AVAGRAHA, with properties Mn;230;NSM;;;;;N;;;;;
- Mention should also be made of the relation between the proposed character and U+11447 NEWA SIGN AVAGRAHA.
- The description of the location of the mark should be modified from “It is an above-headstroke mark that is written after the syllable where the sandhi occurs” to “...written above the syllable where the sandhi occurs.” (The sign often appears more to the right side, because the preceding above-base mark takes space.)

Recommendations: We recommend the UTC accept the character U+ 1145E COMBINING NEWA SIGN AVAGRAHA but the proposal should be modified, as described above.

SOUTHEAST ASIA (/AMERICA)

10. Hniakeng Puachue Hmong

Document: [L2/17-002](#) Proposal to encode the Hniakeng Puachue Hmong script – Everson

Note: The comments below apply to the earlier version of the proposal, which the ad hoc reviewed.

Comments: We reviewed this proposal, which proposes the encoding of an alphabet devised for White and Green Hmong, and used today in the U.S., Laos, Thailand, Vietnam, France and Australia.

The following are comments from the ad hoc:

- Provide examples for all the characters, especially for the more unusual characters, such as CIRCLED CA and the NYAJ SIGN. Such examples can help in determining the line-break properties.
- The XW XW character appears to be a clone from Thai and Lao, so mention should be made of these characters (U+0EC6 LAO KO LA and U+0E46 THAI CHARACTER MAIYAMOK)
- The tone marks should have names that are understandable to implementers who are not familiar with the language (such as TONE MARK-1).
- The determinatives should also have names that are understandable.
- The script name Nyiakengpuachue Hmong is very long and hard to pronounce; can a simpler, more understandable name be proposed? [Note: The author has revised the proposal and now proposes “Hniakeng Puachue”.]

Recommendations: We recommend the UTC review this document, taking into consideration the comments above.

INDONESIA and OCEANA

11. *Javanese*

Document: Error report from Norbert Lindenberg (from <http://www.unicode.org/L2/L2016/16327-pubrev.html>)

Comments: The script ad hoc reviewed the error report, which requested a change in the Indic positional category for U+A9BF JAVANESE CONSONANT SIGN CAKRA (glyph below) from Right to Bottom.



A9BF

According to the report, the character may appear below its base consonant or, less often, to the left. The Indic positional category Right also poses problems for handling by the Universal Shaping Engine (USE), since *cakra* is reported to commonly occur beside another medial consonant, U+A9BE JAVANESE CONSONANT SIGN PENGKAL, which also has the positional category Right. However, the USE only allows one medial consonant of each positional category per cluster, causing problems for rendering the combination CAKRA + PENGKAL.

In our opinion, the request to change the Indic positional category appears justified, but examples are needed to make a definitive recommendation.

Recommendations: We recommend the UTC ask the submitter to provide examples in a separate document, circling the *cakra*.

CENTRAL ASIA

12. *Mongolian*

a. Document: [L2/17-036](#) Proposal to Encode Mongolian Suffix Connector (U+180F) To Replace Narrow Non-Breaking Space (U+202F) – Eck, et al.

Background document:

[L2/16-259](#) WG2 #65 Discussion Points (N4753)

[L2/16-297](#) Mongolian Ad Hoc Report

Comments: This document was prepared in response to the Mongolian ad hoc report from WG2 ([L2/16-297](#)), which had recommended Greg Eck (and others) create a document that identifies the issues with NNBS, with relevant data. The proposal [L2/17-036](#) describes the problem with NNBS as a Mongolian suffix connector: its use leads to incorrect shaping and breaking behavior, and problems with the font fallback system in OSes and software.

This document led to a lengthy discussion that included the following points:

- For some ad hoc participants, the best solution would be to fix current implementations, as the problem won't go away with the encoding of a new Mongolian-specific character, since implementations will need to support both NNBS (used in old software and fonts) and the new character.
- It was noted that NNBS has the correct Word_Break and Line_Break properties, so segmentation should be correct, as long as implementations follow the standard.
- The key question for the UTC is whether a Mongolian-specific format character will work better than fixing implementations of NNBS (which has Script=Common).

In our opinion, a practical way forward would be work out a complete specification with all the properties for the new character, alongside those for NNBS and similar characters, so the UTC can come to a decision.

The following chart by Ken Whistler, building off a chart in the documentation for [PRI 308](#), is a good model to use, but the properties for the new character, “MSC”, need to be filled in:

Code	Abbr	gc	lb	WB	SB	Wspace	Advance?	bc	Script	JT	XIDC	DICP	IDNA
00A0	NBS	Zs	GL	XX	Sp	Y	Y	CS	Common	Non-Joining	N	N	disallowed_STD3_mapped
202F	NNBS	Zs	GL	EX	Sp	Y	Y	CS	Common	Non-Joining	N	N	disallowed_STD3_mapped
2040	TIE	Pc	AL	EX	XX	N	Y	ON	Common	Non-Joining	N	N	valid
180F*	MSC*	Cf	GL	??	??	??	Y	BN	Mongolian	Non-Joining	N	??	??
180E	MVS	Cf	GL	Format	Format	N	N	BN	Mongolian	Non-Joining	N	Y	disallowed
2060	WJ	Cf	WJ	Format	Format	N	N	BN	Common	Transparent	N	Y	ignored
FEFF	ZWNBS	Cf	WJ	Format	Format	N	N	BN	Common	Transparent	N	Y	ignored

Recommendations: We recommend the UTC discuss this document, and send feedback to the author, along with the comments above.

b. Document: [L2/17-035](#) Modify StandardizedVariants.txt file in the Mongolian Block U+1800 – U+18AA – Eck et al.

Comments: We reviewed this document, which is the first part of a three-part series of fixes and additions to Mongolian that will be submitted by Greg Eck and other Mongolian experts. (Part two will request 49 more standardized variants. Part three concerns archaic variation sequences.)

This document requests changing the labels of 10 existing standard variants in StandardizedVariants.txt. No glyph changes, or additions or deletions to StandardizedVariants.txt are requested. The changes encompass:

- moving the supplementary information “feminine” from the start of the label to the end (i.e., change “...feminine second form” to “...second form feminine”)
- removing “alternative form” and “separate form”, terms that were confusing to users.

The changes seem reasonable, and will involve no re-tooling for chart production.

Recommendations: We recommend the UTC accept these changes to StandardizedVariants.txt.

c. Document: [L2/16-377](#) Preliminary comments on L2/16-309 (Mongolian) – Weizhe Zheng

Comments: We reviewed this document, which commented on Manchu, Todo, and Sibe characters in [L2/16-309](#) “Proposed Additions for Mongolian in 5th edition of UCS”. It was noted, however, that [L2/16-309](#) was already discussed by the UTC and was not considered actionable.

Recommendations: We recommend the UTC note this document, and forward it to the group working on Mongolian to ensure the comments don’t conflict with the changes being proposed for Mongolian. We also suggest the comments be circulated to Manchu, Sibe, and Todo experts for their critical review.

(Note: [L2/16-331](#) Preliminary proposal to encode four letters in Todo and Manchu Ali Gali by the same author as [L2/16-377](#), has not been discussed by the script ad hoc, but would also benefit from review by experts.)

13. Old Sogdian

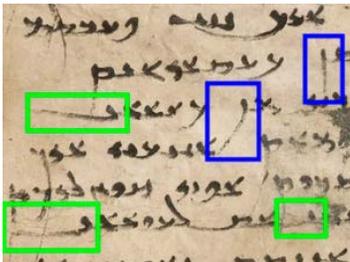
Document: [L2/16-312](#) Proposal to encode the Old Sogdian script - Pandey

Note: The comments below apply to the earlier version of the proposal, which the ad hoc reviewed.

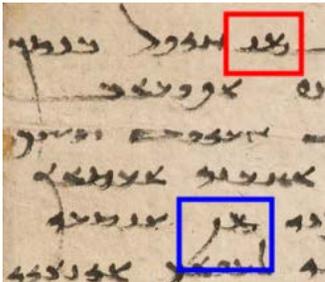
Comments: We reviewed this revised, very well-documented proposal.

The following comments were made:

- In the figures, the use of final forms vs. final forms with swashes appears to be based on the character’s placement on the page or due to scribal idiosyncrasies. Can evidence be provided that shows the usage has a semantic basis, and is not just stylistic? Compare the FINAL NUN (green) and FINAL NUN WITH VERTICAL SWASH (blue) in figure 8:



In figure 14, the same word appears in one place with FINAL NUN and the other with VERTICAL SWASH. Do they mean different things, or is the difference stylistic?



Based on these examples, we recommend the author remove the final forms with swashes (TAW, SADHE, and NUN), and close the gap in the code chart.

- In the code chart, start the numbers at U+10F20.
- In the following, end the sentence after “atomically” and remove rest of sentence: “The numbers xxx .. xxx are encoded atomically for facilitating the expression of primary units using groups composed of...”

Recommendations: We recommend the UTC review this document. With the changes made above, we would recommend the UTC approve the encoding of Old Sogdian.

14. Sogdian

Document: [L2/16-371](#) Revised Proposal to encode the Sogdian script - Pandey

Note: The comments below apply to the earlier version of the proposal, which the ad hoc reviewed.

Comments: We reviewed this document, which was a carefully researched proposal. The following comments were made during discussion:

- On the chart on pp. 3-4, rationalize the far left column and add a column for ISOLATED (with glyph shapes)
- How is a *daleth* written? Is it the same as *resh*?
- Remove LINE FILLER.
- Change the name for SUBSCRIPT RESH to RESH BELOW
- §4.2 Change the wording from “unligated” to “break cursive joining” (as it is not ligation), and change “unligated” elsewhere if used in similar manner
- Change the name of ISOLATED SHIN to one that reflects its function (i.e., for transcribing Chinese)

Recommendations: We recommend the UTC review the proposal and, if the changes are made as described above, approve Sogdian.

15. Khitan Small Script

Document: [L2/16-376](#) Layman’s comments on the encoding proposal Khitan small script [Snow Listener]

Comments: The script ad hoc reviewed this document, and had the following comments:

- Section 1 “Shape Adjustment” relates to the stacking presentation of characters in fonts, and Section 2 “Inter-character Spacing” discusses spacing, drawing on examples from Chinese calligraphy and carvings. Both sections 1 and 2 do not affect the encoding of the script.
- Section 3, “Comments on variants” lists variants that were included in the script proposal [L2/16-113r](#). If these characters were indeed included in error, then it would be prudent to remove them. However, a note on the bottom of page 110 of the Khitan Small Script proposal gives the following rationale:

as these characters have been included in catalogues of KSS characters and works of Khitan scholarship for forty years, it is necessary to encode them for compatibility with data that uses the Menksoft khitan font.

At the two meetings of Khitan Small Script experts in August 2016 (as documented in [L2/16-243](#) and [L2/16-244](#)), the following point was agreed to by the participants:

The characters listed in section 6.6 Allographs, Variants and Erroneous Forms (p. 110) will be separately encoded.

Subsequent review of the proposal raised no objections from experts, with one exception: U+18B94 (#149), which one expert identified as a character that should be deleted. The proposal authors, however, stated in their response ([L2/16-277](#)) that this character appears in modern works of scholarship, and hence should be encoded. Since the script is now in PDAM ballot, expert input would be expected to find any other errors.

Recommendations: We recommend the UTC note this document.

MIDDLE EAST

16. Hebrew

Document: [L2/16-305](#) Proposal to add HEBREW YOD TRIANGLE [Shoulson]

Comments: We reviewed this proposal, which drew on earlier proposals for the representation of *Tetragrammaton*, the four-letter name of God. N1740 from 1998 proposed one *Tetragrammaton* character, which would be treated as a unique Hebrew ligature, with the glyph representations left to the font. However, this approach was rejected by the UTC. Document [L2/15-092](#) provided examples of several different graphical ways of representing *Tetragrammaton*. The 2015 script ad hoc recommendations ([L2/15-204](#)) identified characters in L2/15-092 that would make it possible to represent many of the examples. One such character is HEBREW YOD TRIANGLE, which is proposed here.

The evidence for HEBREW YOD TRIANGLE looks to be solid, and the code point and properties acceptable, except we do not recommend a compatibility decomposition.

Recommendations: We recommend the UTC accept the character U+05EF HEBREW YOD TRIANGLE, but without any compatibility decomposition.

Arabic

17. Al-Dani Quranic Marks

Document: [L2/17-004](#) Explanations about Al-dani Quranic Marks -- Abudena

Background documents:

[L2/16-268](#) Suggestions on some Al-Dani Quranic Marks proposition – Lazrek

[L2/16-156](#) Recommendations to UTC #147 May 2016 on Script Proposals – Anderson et al.

[L2/16-102](#) Consolidated Comments by Mansour, Evans, and Abudena on Al-Dani Quranic Marks – Anderson

[L2/16-100](#) Comments on L2/16-056 Proposal to encode AlDani Quranic Marks – Abudena

[L2/16-056](#) Proposal to encode Al-Dani Quranic marks used in Quran published in Libya – Lateef Sagar Shaikh

[L2/16-044](#) Proposal to encode Quranic marks used in Quran published in Libya with Commentary – Abudena

Comments: The script ad hoc reviewed this document, which commented on the script ad hoc recommendations from November 2016 ([L2/16-342](#)) and Azzeddine Lazrek's "Suggestions" document [L2/16-268](#).

The following comments were made during discussion:

- Name for character  (page 1)
The proposed names by Abudena, ALDANI ARABIC SIGN OF WAQF or ALDANI QURANIC SIGN OF WAQF, should conform to rules for naming of other characters in Unicode. The recommendation of Roozbeh Pournader is the name ARABIC HIGH HEAD OF SAD.

- "New marks suggested to be encoded" (pages 2-7)
The November 2016 ad hoc report recommendations were:
Does the character always take a FATHA above it? Interested parties need to provide examples (with and without a FATHA). Useful evidence might come from a guide to Al-Dani texts or a comparison between the orthography of various Quranic texts"

Abudena includes good attestation for the character , with comparative evidence from the orthographies of various Quranic texts (figures 1-4). The character is identified by Abudena as a YEH, not an ALEF MAKSURA, hence it is a variant of U+06E7 ARABIC SMALL HIGH YEH. The author also answered the question whether the character always takes a FATHA above it (yes [page 3]).

We recommend the character be encoded, but with the name ARABIC SMALL HIGH DOTLESS YEH, with the same properties as U+06E7 (hence: Mn;230;NSM;;;;;N;;;;;).

- Table 4 "Alternative calligraphic marks choice" (pages 7-9)
The ad hoc report stated:

Of the characters in Table 4, the first character, , is probably needed. More information is required.

The document identifies the character as ALEF MOKHASES, which is one of four ALEFs in the Al-dani orthography. This raised the question: What is the difference between ALEF KHINGARIH (#2) and ALEF MOKHASES (#3)? Do they indicate different sounds? When is #2 used, and when is #3?

The fourth ALEF, , ALEF MOTHAFAR WITH LAM (meaning joined with LAM), could be represented as a ligature of U+1644 LAM and U+0670 SUPERSCRIPT ALEF, unless it can be shown to be ALEF MOKHASES (#3) over LAM.

- On the dots (pages 10-17)
Based on the discussion and evidence in the document, the following changes are needed to be able to represent the characters in Table 1 (page 14) for the Al-Dani orthography:

New annotations should be added to the names list in order to represent the three combining dots:

- To U+065C ARABIC VOWEL SIGN DOT BELOW, add an annotation "used in Koranic text in the Al-Dani orthography"

- To U+06EC ARABIC ROUNDED HIGH STOP WITH FILLED CENTRE, add an annotation “used in Koranic text in the Al-Dani orthography”

Characters eligible for encoding:

- ARABIC ROUNDED STOP WITH FILLED CENTRE, a non-combining punctuation mark (which will appear to the left of the stem of an ALEF)
 - ALEF WITH ATTACHED FATHA (whose glyph has a stroke at the top)
 - ALEF WITH ATTACHED KASRA (whose glyph has a stroke on the bottom)
 - ALEF WITH ATTACHED MIDDLE STROKE (and an annotation that this indicates a damma)
- Response to Azzeddine Lazrek’s table 3 (from [L2/16-268](#)) (pages 17-18)
The “characters” in the right-most column in Table 1 (page 17), which are found in the Al-Dani orthography, are glyph variants of encoded characters (or sequences of encoded characters), and a font should be used to represent them. If, however, shapes from the different traditions were to appear in one source document – such as if a Q4 and Q5 “ALDANI ARABIC DAMMA” both appeared in the same document -- and they needed to be differentiated, then they may be eligible for separate encoding.
 - Regarding Azzeddine Lazrek’s table 3 (from [L2/16-268](#)) (page 19)
We agree with Lazrek’s assessment that the four “characters” should be handled as sequences of characters. The fact that some combinations cannot be created today on a keyboard signifies that the providers of keyboards and fonts should be alerted that these combinations need to be supported for the Al-Dani orthography. A good way to alert them is to document the required characters and combinations in a Unicode Technical Note, which can easily be updated. (For information on a Unicode Technical Note, see [http://www.unicode.org/notes/.](http://www.unicode.org/notes/))
 - Response to Azzeddine Lazrek’s table 4 (from [L2/16-268](#)) (page 20, top)
We agree with Lazrek that the proposed character is an alternate shape of ARABIC SMALL HIGH NOON. Since it apparently not supported in fonts and accessible on the keyboard, we recommend the author document the shape and add it to documentation on the Al-Dani orthography, preferably in a Unicode Technical Note or other publicly accessible location.
 - SAD and DAD (Azzeddine Lazrek’s table 4 (from [L2/16-268](#)) (page 20, middle of page)
Alternate SAD and DAD are, in our opinion, font alternates, and don’t appear to reflect semantic differentiation from U+0635 SAD and U+0636 DAD. As above, we recommend the author documents the shapes and post the documentation publicly.

Recommendations: We recommend the UTC review this document and forward the comments above to the author.

SYMBOLS

18. Astrological symbols

Document: [L2/17-020](#) Feedback on Extra Aspect Symbols for Astrology – Suignard

Comments: We reviewed this document, which recommends new names, code points, and order for the six extra aspect characters approved at the November 2016 meeting. These characters do not appear in

the Amendment 1.2 PDAM ballot for the fifth edition of ISO/IEC 10646, but the PDAM ballot shows characters shifted around -- assigning characters to the positions U+2BF0..U+2BF2 -- which will require a change in code points for the six aspect characters in the current Pipeline.

The proposed changes in [L2/17-020](#) include:

- adding “VARIANT” to the current names (i.e., current QUINTILE > QUINTILE VARIANT FORM), with annotations identifying the more common glyph shape.
- modifying the order, so the characters go from a smaller aspect value to larger

In our opinion, the proposed name changes which add “VARIANT FORM” are not advisable, since the forms aren’t variant forms. While we understand the rationale for the change, we recommend other wording in the names (such as RUSSIAN ASTROLOGICAL SYMBOL...). The change of code points and order seem reasonable.

Recommendations: We recommend the UTC approve the proposed code point changes and order, but discuss the name changes.

Proposals Not Discussed

The script ad hoc did not review the following proposals, which came in after the ad hoc met:

- L2/17-007 Proposal to encode one historical Mongolian letter for Buryat Mongolian - West
- L2/17-008 Proposal to encode one Manchu format character – Xudong Ma, et al.
- L2/17-009 Proposal to encode one Manchu letter – Xudong Ma, et al.
- L2/17-010 Preliminary proposal to encode Devanagari letter numerals – Srinidhi and Sridatta
- L2/17-013 Proposal to encode three uppercase Latin letters used in early Pinyin – West, et al.
- L2/17-014 Notes on HENTAIGANA and the ARCHAIC HIRAGANA YE – Japan NB