

Universal Multiple-Octet Coded Character Set  
 International Organization for Standardization  
 Organisation Internationale de Normalisation  
 Международная организация по стандартизации

**Doc Type:** Working Group Document

**Title:** Proposal for encoding the Inscriptional Parthian, Inscriptional Pahlavi, and Psalter Pahlavi scripts in the SMP of the UCS

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**Status:** Individual Contribution

**Action:** For consideration by JTC1/SC2/WG2 and UTC

**Date:** 2007-07-25

**1. Introduction.** The three scripts proposed here were used to write a number of Iranian and Indo-European languages, chiefly Parthian, and Middle Persian. They are descended from the Imperial Aramaic script used in Persia during the Achaemenid period (549–330 BCE), the Seleucid period (330–210 BCE) and the early Parthian period (210 BCE–224 CE). By the second century CE the **Inscriptional Parthian** script had evolved, and was used as an official script (besides Inscriptional Pahlavi, used to write the Sasanians' own language) during the first part of the Sassanian period (224–651 CE). The main sources of Parthian are the inscriptions from Nisa (near present Ashgabat, Turkmenistan) and from Hecatompolis, as well as texts in Manichaean script, and a number of Sasanian multilingual inscriptions. In Pars, in what is now southern Iran, the Aramaic script evolved differently, into the **Inscriptional Pahlavi** script, which was used regularly as a monumental script until the fifth century CE. The **Psalter Pahlavi** script, a conservative variety of Pahlavi used by Christians in Iran, is so named because of its use in a fragmentary manuscript of the Psalms of David. The Pahlavi script(s) developed (or decayed) into the ambiguous **Book Pahlavi** script, which was replaced by the **Avestan** reformed script (exclusively used for the *Avesta*). Book Pahlavi will be the subject of a later proposal.

**2. Processing.** All three of these scripts are alphabetic scripts written right-to-left, usually with spaces between words.

**3.1. Inscriptional Parthian** makes use of seven standard ligatures. Ligation is common, but not obligatory. In fonts which implement automatic ligation, ZWNJ can be used to break the ligatures. Note that the glyph for the YODH-WAW and NUN-WAW ligatures are identical. See Figure 5. The table below is displayed in visual order:

|    |                                                                                     |                                                                                                                                                                                           |
|----|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| gw |  | = WAW  + GIMEL  ←   |
| xw |  | = WAW  + HETH  ←    |
| yw |  | = WAW  + YODH  ←    |
| nw |  | = WAW  + NUN  ←     |
| l  |  | = LAMEDH  + AYIN  ← |
| rw |  | = WAW  + RESH  ←    |
| tw |  | = WAW  + TAW  ←     |

The Inscriptional Parthian letters SADHE and NUN have swash tails which typically trail under the following letter. Two NUNS will nest  nn, and some fonts may lower the diacritic of DALETH beneath the trailing line  nd.



**4.3. Names and ordering.** The names used for the Inscriptional Pahlavi characters are based on their Imperial Aramaic analogues. The order of the characters in the code charts is their alphabetical order. The historical characters WAW, AYIN, and RESH and MEM and QOPH fell together into two characters, named here WAW-AYIN-RESH and MEM-QOPH respectively.

**5.1. Psalter Pahlavi** script has fully-developed joining behaviour. The table below shows the joining forms.

*Dual-joining Psalter Pahlavi Characters*

| Character | X <sub>n</sub> | X <sub>r</sub> | X <sub>m</sub> | X <sub>l</sub> |
|-----------|----------------|----------------|----------------|----------------|
| ALEPH     | 𐭠              | 𐭠              | 𐭠              | 𐭠              |
| GIMEL     | 𐭡              | 𐭡              | 𐭡              | 𐭡              |
| ZAYIN     | 𐭢              | 𐭢              | 𐭢              | 𐭢              |
| HETH      | 𐭣              | 𐭣              | 𐭣              | 𐭣              |
| YODH      | 𐭤              | 𐭤              | 𐭤              | 𐭤              |
| LAMEDH    | 𐭥              | 𐭥              | 𐭥              | 𐭥              |
| MEM-QOPH  | 𐭦              | 𐭦              | 𐭦              | 𐭦              |
| SAMEKH    | 𐭧              | 𐭧              | 𐭧              | 𐭧              |
| SHIN      | 𐭨              | 𐭨              | 𐭨              | 𐭨              |

*Right-joining Psalter Pahlavi Characters*

| Character     | X <sub>n</sub> | X <sub>r</sub> |
|---------------|----------------|----------------|
| BETH          | 𐭩              | 𐭩              |
| DALETH        | 𐭪              | 𐭪              |
| HE            | 𐭫              | 𐭫              |
| WAW-AYIN-RESH | 𐭬              | 𐭬              |
| KAPH          | 𐭭              | 𐭭              |
| NUN           | 𐭮              | 𐭮              |
| PE            | 𐭯              | 𐭯              |
| SADHE         | 𐭰              | 𐭰              |
| TAW           | 𐭱              | 𐭱              |

**5.2. Psalter Pahlavi numbers.** A PSALTER PAHLAVI PUNCTUATION MARK is attested, used at the beginning or end of a passage, and at various breaks within it (see Figure 10). Psalter Pahlavi has its own numbers, which have right-to-left directionality. Numbers are built up out of 1, 2, 3, 4, 10, 20, and 100; the number 1000 is not attested in Psalter Pahlavi. The following is an exhaustive list of numbers attested in Psalter Pahlavi. The third column is displayed in visual order.

|     |                       |                                        |                          |
|-----|-----------------------|----------------------------------------|--------------------------|
| 3   | 𐭠𐭡                    | 3 ←                                    | <i>Hérat Cross l. 3r</i> |
| 96  | 𐭠𐭡𐭢𐭣𐭤𐭥𐭦𐭧𐭨             | 3 + 3 + 10 + 20 + 20 + 20 + 20 ←       | <i>f.2r.13</i>           |
| 98  | 𐭠𐭡𐭢𐭣𐭤𐭥𐭦𐭧𐭨𐭩            | 4 + 4 + 10 + 20 + 20 + 20 + 20 ←       | <i>f.3r.1</i>            |
| 99  | 𐭠𐭡𐭢𐭣𐭤𐭥𐭦𐭧𐭨𐭩𐭪           | [3 + 3 + 3 + 10] + 20 + 20 + 20 + 20 ← | <i>f.3v.5</i>            |
| 122 | 𐭠𐭡𐭢𐭣𐭤𐭥𐭦𐭧𐭨𐭩𐭪𐭫𐭬         | 2 + 20 + WAW + 100 ←                   | <i>f.5r.10</i>           |
| 123 | 𐭠𐭡𐭢𐭣𐭤𐭥𐭦𐭧𐭨𐭩𐭪𐭫𐭬𐭭        | 3 + 20 + WAW + 100 ←                   | <i>f.5v.2</i>            |
| 124 | 𐭠𐭡𐭢𐭣𐭤𐭥𐭦𐭧𐭨𐭩𐭪𐭫𐭬𐭭𐭮       | 4 + 20 + WAW + 100 ←                   | <i>f.5v.18</i>           |
| 125 | 𐭠𐭡𐭢𐭣𐭤𐭥𐭦𐭧𐭨𐭩𐭪𐭫𐭬𐭭𐭮𐭯      | 2 + 3 + 20 + WAW + 100 ←               | <i>f.6r.11</i>           |
| 126 | 𐭠𐭡𐭢𐭣𐭤𐭥𐭦𐭧𐭨𐭩𐭪𐭫𐭬𐭭𐭮𐭯𐭰     | 3 + 3 + 20 + WAW + 100 ←               | <i>f.6v.6</i>            |
| 127 | 𐭠𐭡𐭢𐭣𐭤𐭥𐭦𐭧𐭨𐭩𐭪𐭫𐭬𐭭𐭮𐭯𐭰𐭱    | 3 + 4 + 20 + WAW + 100 ←               | <i>f.7r.7</i>            |
| 128 | 𐭠𐭡𐭢𐭣𐭤𐭥𐭦𐭧𐭨𐭩𐭪𐭫𐭬𐭭𐭮𐭯𐭰𐭱𐭲   | 2 + 3 + 20 + WAW + 100 ←               | <i>f.7v.4</i>            |
| 129 | 𐭠𐭡𐭢𐭣𐭤𐭥𐭦𐭧𐭨𐭩𐭪𐭫𐭬𐭭𐭮𐭯𐭰𐭱𐭲𐭳  | ALEPH + SHIN + TAW + 20 + WAW + 100 ←  | <i>f.8r.4</i>            |
| 130 | 𐭠𐭡𐭢𐭣𐭤𐭥𐭦𐭧𐭨𐭩𐭪𐭫𐭬𐭭𐭮𐭯𐭰𐭱𐭲𐭳𐭴 | 10 + 20 + WAW + 100 ←                  | <i>f.8v.2</i>            |

|     |                |                                              |                   |
|-----|----------------|----------------------------------------------|-------------------|
| 131 | وځی، ١٠٠ [١٠٠] | [1] + 10 + 20 + WAW + 100 ←                  | f.8v.12           |
| 132 | وځی، ١٠٠ [١٠٠] | [2 + 10] + 20 + WAW + 100 ←                  | f.9v.14           |
| 134 | وځی، ١٠٠ [١٠٠] | [4 + 10 + 20 + WAW] + 100 ←                  | f.10r.3           |
| 135 | وځی، ١٠٠ [١٠٠] | 3 + 4 + 10 + 20 + WAW + 100 ←                | f.11v.2           |
| 136 | وځی، ١٠٠ [١٠٠] | ALEPH + TAW + SHIN + [10 + 20 + WAW + 100] ← | f.12v.10          |
| 507 | سځی، ١٠٠ [١٠٠] | 3 + 4 + 100 + 2 + 3 ←                        | Hérat Cross l. 1v |

Note that “129” is written “100 and 20 nine” (١٠٠ W means *ud* ‘and’ ٩ TŠA means *nō* ‘nine’); “136” is written “100 and 30 six” (١٠٠ ŠTA means *šaš* ‘six’).

Some Psalter Pahlavi numbers have joining behaviour. Note that they can join with letters as well as numbers (see 20-TAW in 129 above). The numbers 10 and 20 are dual joining, and the numbers 1, 2, 3, and 4 are right-joining, although these change their form in some combinations. The nominal forms of the numbers 2, 3, and 4 have a long final leg (μ, ρ, ρ), but in combination when used in building up other numbers they ligate with a short form in the first (μ 5, ρ 6, ρ 7, ρ 8, ρ 9). The numbers are right-joining, except when rules R1 and R2 apply.

**R1** A number 1, 2, 3, or 4 that has a right join-causing character to its right and a number 1, 2, 3, or 4 to its left will take the form of  $X_{rm}$ .

$$\mu 3 + \mu 4 + 20 \rightarrow \mu + \mu + 20 \rightarrow \mu 27$$

**R2** A number 1, 2, 3, or 4 that has no right join-causing character to its right and a number 1, 2, 3, or 4 to its left will take the form of  $X_{nm}$ .

$$\mu 3 + \mu 4 + 100 \rightarrow \mu + \mu + 100 \rightarrow \mu 107$$

#### Dual-joining Psalter Pahlavi Numbers

| Character | $X_n$ | $X_r$ | $X_m$ | $X_l$ |
|-----------|-------|-------|-------|-------|
| TEN       | ١     | ١     | ١     | ١     |
| TWENTY    | ٢     | ٢     | ٢     | ٢     |

#### Right-joining Psalter Pahlavi Numbers

| Character | $X_n$ | $X_r$ | $X_{rm}$ | $X_{nm}$ |
|-----------|-------|-------|----------|----------|
| ONE       | ٣     | ٣     | ٣        | ٣        |
| TWO       | μ     | μ     | μ        | μ        |
| THREE     | ρ     | ρ     | ρ        | ρ        |
| FOUR      | ρ     | ρ     | ρ        | ρ        |

**5.3. Psalter Pahlavi punctuation.** Four punctuation marks are used in Psalter Pahlavi to indicate semantic breaks; the exact distinctions of meaning are as yet uncertain. The FULL STOP is used, aligned with the baseline. Together with this, or separately, the PSALTER PAHLAVI COMBINING STOP BELOW or PSALTER PAHLAVI COMBINING STOP ABOVE can be used. A PSALTER PAHLAVI SECTION MARK is attested, used at the beginning or end of a passage, and at various breaks within it (see Figure 10).

**5.4. Names and ordering.** The names used for the Psalter Pahlavi characters are based on their Imperial Aramaic analogues. The order of the characters in the code charts is their alphabetical order. The historical characters WAW, AYIN, and RESH and MEM and QOPH fell together into two characters, named here WAW-AYIN-RESH and MEM-QOPH respectively.

## 6. Bibliography.

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## 7. Unicode Character Properties

```
10B40;INSCRIPTIONAL PARTHIAN LETTER ALEPH;Lo;0;R;;;N;;;;;
10B41;INSCRIPTIONAL PARTHIAN LETTER BETH;Lo;0;R;;;N;;;;;
10B42;INSCRIPTIONAL PARTHIAN LETTER GIMEL;Lo;0;R;;;N;;;;;
10B43;INSCRIPTIONAL PARTHIAN LETTER DALETH;Lo;0;R;;;N;;;;;
10B44;INSCRIPTIONAL PARTHIAN LETTER HE;Lo;0;R;;;N;;;;;
10B45;INSCRIPTIONAL PARTHIAN LETTER WAW;Lo;0;R;;;N;;;;;
10B46;INSCRIPTIONAL PARTHIAN LETTER ZAYIN;Lo;0;R;;;N;;;;;
10B47;INSCRIPTIONAL PARTHIAN LETTER HETH;Lo;0;R;;;N;;;;;
10B48;INSCRIPTIONAL PARTHIAN LETTER TETH;Lo;0;R;;;N;;;;;
10B49;INSCRIPTIONAL PARTHIAN LETTER YODH;Lo;0;R;;;N;;;;;
10B4A;INSCRIPTIONAL PARTHIAN LETTER KAPH;Lo;0;R;;;N;;;;;
10B4B;INSCRIPTIONAL PARTHIAN LETTER LAMEDH;Lo;0;R;;;N;;;;;
10B4C;INSCRIPTIONAL PARTHIAN LETTER MEM;Lo;0;R;;;N;;;;;
10B4D;INSCRIPTIONAL PARTHIAN LETTER NUN;Lo;0;R;;;N;;;;;
10B4E;INSCRIPTIONAL PARTHIAN LETTER SAMEKH;Lo;0;R;;;N;;;;;
10B4F;INSCRIPTIONAL PARTHIAN LETTER AYIN;Lo;0;R;;;N;;;;;
10B50;INSCRIPTIONAL PARTHIAN LETTER PE;Lo;0;R;;;N;;;;;
10B51;INSCRIPTIONAL PARTHIAN LETTER SADHE;Lo;0;R;;;N;;;;;
10B52;INSCRIPTIONAL PARTHIAN LETTER QOPH;Lo;0;R;;;N;;;;;
10B53;INSCRIPTIONAL PARTHIAN LETTER RESH;Lo;0;R;;;N;;;;;
10B54;INSCRIPTIONAL PARTHIAN LETTER SHIN;Lo;0;R;;;N;;;;;
10B55;INSCRIPTIONAL PARTHIAN LETTER TAW;Lo;0;R;;;N;;;;;
10B58;INSCRIPTIONAL PARTHIAN NUMBER ONE;No;0;R;;;1;N;;;;;
10B59;INSCRIPTIONAL PARTHIAN NUMBER TWO;No;0;R;;;2;N;;;;;
10B5A;INSCRIPTIONAL PARTHIAN NUMBER THREE;No;0;R;;;3;N;;;;;
10B5B;INSCRIPTIONAL PARTHIAN NUMBER FOUR;No;0;R;;;4;N;;;;;
10B5C;INSCRIPTIONAL PARTHIAN NUMBER TEN;No;0;R;;;10;N;;;;;
10B5D;INSCRIPTIONAL PARTHIAN NUMBER TWENTY;No;0;R;;;20;N;;;;;
10B5E;INSCRIPTIONAL PARTHIAN NUMBER ONE HUNDRED;No;0;R;;;100;N;;;;;
10B5F;INSCRIPTIONAL PARTHIAN NUMBER ONE THOUSAND;No;0;R;;;1000;N;;;;;
```

10B60;INSCRIPTIONAL PAHLAVI LETTER ALEPH;Lo;0;R;;;;N;;;;;  
 10B61;INSCRIPTIONAL PAHLAVI LETTER BETH;Lo;0;R;;;;N;;;;;  
 10B62;INSCRIPTIONAL PAHLAVI LETTER GIMEL;Lo;0;R;;;;N;;;;;  
 10B63;INSCRIPTIONAL PAHLAVI LETTER DALETH;Lo;0;R;;;;N;;;;;  
 10B64;INSCRIPTIONAL PAHLAVI LETTER HE;Lo;0;R;;;;N;;;;;  
 10B65;INSCRIPTIONAL PAHLAVI LETTER WAW-AYIN-RESH;Lo;0;R;;;;N;;;;;  
 10B66;INSCRIPTIONAL PAHLAVI LETTER ZAYIN;Lo;0;R;;;;N;;;;;  
 10B67;INSCRIPTIONAL PAHLAVI LETTER HETH;Lo;0;R;;;;N;;;;;  
 10B68;INSCRIPTIONAL PAHLAVI LETTER TETH;Lo;0;R;;;;N;;;;;  
 10B69;INSCRIPTIONAL PAHLAVI LETTER YODH;Lo;0;R;;;;N;;;;;  
 10B6A;INSCRIPTIONAL PAHLAVI LETTER KAPH;Lo;0;R;;;;N;;;;;  
 10B6B;INSCRIPTIONAL PAHLAVI LETTER LAMEDH;Lo;0;R;;;;N;;;;;  
 10B6C;INSCRIPTIONAL PAHLAVI LETTER MEM-QOPH;Lo;0;R;;;;N;;;;;  
 10B6D;INSCRIPTIONAL PAHLAVI LETTER NUN;Lo;0;R;;;;N;;;;;  
 10B6E;INSCRIPTIONAL PAHLAVI LETTER SAMEKH;Lo;0;R;;;;N;;;;;  
 10B6F;INSCRIPTIONAL PAHLAVI LETTER PE;Lo;0;R;;;;N;;;;;  
 10B70;INSCRIPTIONAL PAHLAVI LETTER SADHE;Lo;0;R;;;;N;;;;;  
 10B71;INSCRIPTIONAL PAHLAVI LETTER SHIN;Lo;0;R;;;;N;;;;;  
 10B72;INSCRIPTIONAL PAHLAVI LETTER TAW;Lo;0;R;;;;N;;;;;  
 10B78;INSCRIPTIONAL PAHLAVI NUMBER ONE;No;0;R;;;1;N;;;;;  
 10B79;INSCRIPTIONAL PAHLAVI NUMBER TWO;No;0;R;;;2;N;;;;;  
 10B7A;INSCRIPTIONAL PAHLAVI NUMBER THREE;No;0;R;;;3;N;;;;;  
 10B7B;INSCRIPTIONAL PAHLAVI NUMBER FOUR;No;0;R;;;4;N;;;;;  
 10B7C;INSCRIPTIONAL PAHLAVI NUMBER TEN;No;0;R;;;10;N;;;;;  
 10B7D;INSCRIPTIONAL PAHLAVI NUMBER TWENTY;No;0;R;;;20;N;;;;;  
 10B7E;INSCRIPTIONAL PAHLAVI NUMBER ONE HUNDRED;No;0;R;;;100;N;;;;;  
 10B7F;INSCRIPTIONAL PAHLAVI NUMBER ONE THOUSAND;No;0;R;;;1000;N;;;;;

10B80;PSALTER PAHLAVI LETTER ALEPH;Lo;0;R;;;;N;;;;;  
 10B81;PSALTER PAHLAVI LETTER BETH;Lo;0;R;;;;N;;;;;  
 10B82;PSALTER PAHLAVI LETTER GIMEL;Lo;0;R;;;;N;;;;;  
 10B83;PSALTER PAHLAVI LETTER DALETH;Lo;0;R;;;;N;;;;;  
 10B84;PSALTER PAHLAVI LETTER HE;Lo;0;R;;;;N;;;;;  
 10B85;PSALTER PAHLAVI LETTER WAW-AYIN-RESH;Lo;0;R;;;;N;;;;;  
 10B86;PSALTER PAHLAVI LETTER ZAYIN;Lo;0;R;;;;N;;;;;  
 10B87;PSALTER PAHLAVI LETTER HETH;Lo;0;R;;;;N;;;;;  
 10B88;PSALTER PAHLAVI LETTER YODH;Lo;0;R;;;;N;;;;;  
 10B89;PSALTER PAHLAVI LETTER KAPH;Lo;0;R;;;;N;;;;;  
 10B8A;PSALTER PAHLAVI LETTER LAMEDH;Lo;0;R;;;;N;;;;;  
 10B8B;PSALTER PAHLAVI LETTER MEM-QOPH;Lo;0;R;;;;N;;;;;  
 10B8C;PSALTER PAHLAVI LETTER NUN;Lo;0;R;;;;N;;;;;  
 10B8D;PSALTER PAHLAVI LETTER SAMEKH;Lo;0;R;;;;N;;;;;  
 10B8E;PSALTER PAHLAVI LETTER PE;Lo;0;R;;;;N;;;;;  
 10B8F;PSALTER PAHLAVI LETTER SADHE;Lo;0;R;;;;N;;;;;  
 10B90;PSALTER PAHLAVI LETTER SHIN;Lo;0;R;;;;N;;;;;  
 10B91;PSALTER PAHLAVI LETTER TAW;Lo;0;R;;;;N;;;;;  
 10B92;PSALTER PAHLAVI KASHIDA;Lm;0;AL;;;;N;;;;;  
 10B96;PSALTER PAHLAVI COMBINING STOP BELOW;Mn;220;NSM;;;;N;;;;;  
 10B97;PSALTER PAHLAVI COMBINING STOP ABOVE;Mn;230;NSM;;;;N;;;;;  
 10B98;PSALTER PAHLAVI SECTION MARK;Po;0;AL;;;;N;;;;;  
 10B99;PSALTER PAHLAVI NUMBER ONE;No;0;R;;;1;N;;;;;  
 10B9A;PSALTER PAHLAVI NUMBER TWO;No;0;R;;;2;N;;;;;  
 10B9B;PSALTER PAHLAVI NUMBER THREE;No;0;R;;;3;N;;;;;  
 10B9C;PSALTER PAHLAVI NUMBER FOUR;No;0;R;;;4;N;;;;;  
 10B9D;PSALTER PAHLAVI NUMBER TEN;No;0;R;;;10;N;;;;;  
 10B9E;PSALTER PAHLAVI NUMBER TWENTY;No;0;R;;;20;N;;;;;  
 10B9F;PSALTER PAHLAVI NUMBER ONE HUNDRED;No;0;R;;;100;N;;;;;

## 8. Additions for the file ArabicShaping.txt

# Psalter Pahlavi

10B80; ALEPH; D; No\_Joining\_Group  
 10B81; BETH; R; No\_Joining\_Group  
 10B82; GIMEL; D; No\_Joining\_Group  
 10B83; DALETH; R; No\_Joining\_Group  
 10B84; HE; R; No\_Joining\_Group  
 10B85; WAW-AYIN-RESH; R; No\_Joining\_Group  
 10B86; ZAYIN; D; No\_Joining\_Group  
 10B87; HETH; D; No\_Joining\_Group  
 10B88; YODH; D; No\_Joining\_Group  
 10B89; KAPH; R; No\_Joining\_Group  
 10B8A; LAMEDH; D; No\_Joining\_Group  
 10B8B; MEM-QOPH; D; No\_Joining\_Group  
 10B8C; NUN; R; No\_Joining\_Group  
 10B8D; SAMEKH; D; No\_Joining\_Group  
 10B8E; PE; R; No\_Joining\_Group  
 10B8F; SADHE; R; No\_Joining\_Group



10B90; SHIN; D; No\_Joining\_Group  
10B91; TAW; R; No\_Joining\_Group  
10B92; KASHIDA; C; No\_Joining\_Group  
10B98; PUNCTUATION MARK; U; No\_Joining\_Group  
10B99; ONE; R; No\_Joining\_Group  
10B9A; TWO; R; No\_Joining\_Group  
10B9B; THREE; R; No\_Joining\_Group  
10B9C; FOUR; R; No\_Joining\_Group  
10B9D; TEN; D; No\_Joining\_Group  
10B9E; TWENTY; D; No\_Joining\_Group  
10B9F; HUNDRED; U; No\_Joining\_Group

## **9. Acknowledgements**

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## Figures

THE IRANIAN ALPHABETS.

|   | ARAMEAN.         |          | PEHLEVI.             |               |                    |                |                | INDO-BACTRIAN.       | ARMENIAN.<br>(Reversed.) | GEORGIAN.<br>(Reversed.) |               |              |    |    |
|---|------------------|----------|----------------------|---------------|--------------------|----------------|----------------|----------------------|--------------------------|--------------------------|---------------|--------------|----|----|
|   | SABEANS & EGYPT. | PALMYRA. | ARSACIDAN.           |               | SASSANIAN.         |                | PARSI.         |                      |                          |                          |               |              |    |    |
|   |                  |          | Coins & Gems.        | Haji-abad B.  | Haji-abad A.       | Coins.         | MS.            | KAPUR-DI-GIRI.       | Oldest MSS.              | Oldest MSS.              |               |              |    |    |
|   |                  |          | Sec. iv. & iii. B.C. | Sec. ii. A.D. | Sec. i. & ii. A.D. | Sec. iii. A.D. | Sec. iii. A.D. | Sec. iv. to vi. A.D. | Modern                   | Sec. iii. B.C.           | Sec. ix. A.D. | Sec. x. A.D. |    |    |
| א | 𐤀                | 𐤁        | 𐭀𐭁                   | 𐭀𐭂            | 𐭀𐭃                 | 𐭀𐭄             | 𐭀𐭅             | 𐭀𐭆                   | 𐭀𐭇                       | 𐭀𐭈                       | 𐭀𐭉            | 𐭀𐭊           | 𐭀𐭋 | 𐭀𐭌 |
| ב | 𐤁                | 𐤂        | 𐭀𐭅                   | 𐭀𐭆            | 𐭀𐭇                 | 𐭀𐭈             | 𐭀𐭉             | 𐭀𐭊                   | 𐭀𐭋                       | 𐭀𐭌                       | 𐭀𐭍            | 𐭀𐭎           | 𐭀𐭏 | 𐭀𐭐 |
| ג | 𐤂                | 𐤃        | 𐭀𐭉                   | 𐭀𐭊            | 𐭀𐭋                 | 𐭀𐭌             | 𐭀𐭍             | 𐭀𐭎                   | 𐭀𐭏                       | 𐭀𐭐                       | 𐭀𐭑            | 𐭀𐭒           | 𐭀𐭓 | 𐭀𐭔 |
| ד | 𐤃                | 𐤄        | 𐭀𐭋                   | 𐭀𐭌            | 𐭀𐭍                 | 𐭀𐭎             | 𐭀𐭏             | 𐭀𐭐                   | 𐭀𐭑                       | 𐭀𐭒                       | 𐭀𐭓            | 𐭀𐭔           | 𐭀𐭕 | 𐭀𐭖 |
| ה | 𐤄                | 𐤅        | 𐭀𐭍                   | 𐭀𐭎            | 𐭀𐭏                 | 𐭀𐭐             | 𐭀𐭑             | 𐭀𐭒                   | 𐭀𐭓                       | 𐭀𐭔                       | 𐭀𐭕            | 𐭀𐭖           | 𐭀𐭗 | 𐭀𐭘 |
| ו | 𐤅                | 𐤆        | 𐭀𐭏                   | 𐭀𐭐            | 𐭀𐭑                 | 𐭀𐭒             | 𐭀𐭓             | 𐭀𐭔                   | 𐭀𐭕                       | 𐭀𐭖                       | 𐭀𐭗            | 𐭀𐭘           | 𐭀𐭙 | 𐭀𐭚 |
| ז | 𐤆                | 𐤇        | 𐭀𐭑                   | 𐭀𐭒            | 𐭀𐭓                 | 𐭀𐭔             | 𐭀𐭕             | 𐭀𐭖                   | 𐭀𐭗                       | 𐭀𐭘                       | 𐭀𐭙            | 𐭀𐭚           | 𐭀𐭛 | 𐭀𐭜 |
| ח | 𐤇                | 𐤈        | 𐭀𐭓                   | 𐭀𐭔            | 𐭀𐭕                 | 𐭀𐭖             | 𐭀𐭗             | 𐭀𐭘                   | 𐭀𐭙                       | 𐭀𐭚                       | 𐭀𐭛            | 𐭀𐭜           | 𐭀𐭝 | 𐭀𐭞 |
| ט | 𐤈                | 𐤉        | 𐭀𐭕                   | 𐭀𐭖            | 𐭀𐭗                 | 𐭀𐭘             | 𐭀𐭙             | 𐭀𐭚                   | 𐭀𐭛                       | 𐭀𐭜                       | 𐭀𐭝            | 𐭀𐭞           | 𐭀𐭟 | 𐭀𐭠 |
| י | 𐤉                | 𐤊        | 𐭀𐭗                   | 𐭀𐭘            | 𐭀𐭙                 | 𐭀𐭚             | 𐭀𐭛             | 𐭀𐭜                   | 𐭀𐭝                       | 𐭀𐭞                       | 𐭀𐭟            | 𐭀𐭠           | 𐭀𐭡 | 𐭀𐭢 |
| כ | 𐤊                | 𐤋        | 𐭀𐭙                   | 𐭀𐭚            | 𐭀𐭛                 | 𐭀𐭜             | 𐭀𐭝             | 𐭀𐭞                   | 𐭀𐭟                       | 𐭀𐭠                       | 𐭀𐭡            | 𐭀𐭢           | 𐭀𐭣 | 𐭀𐭤 |
| ל | 𐤋                | 𐤌        | 𐭀𐭛                   | 𐭀𐭜            | 𐭀𐭝                 | 𐭀𐭞             | 𐭀𐭟             | 𐭀𐭠                   | 𐭀𐭡                       | 𐭀𐭢                       | 𐭀𐭣            | 𐭀𐭤           | 𐭀𐭥 | 𐭀𐭦 |
| מ | 𐤌                | 𐤍        | 𐭀𐭝                   | 𐭀𐭞            | 𐭀𐭟                 | 𐭀𐭠             | 𐭀𐭡             | 𐭀𐭢                   | 𐭀𐭣                       | 𐭀𐭤                       | 𐭀𐭥            | 𐭀𐭦           | 𐭀𐭧 | 𐭀𐭨 |
| נ | 𐤍                | 𐤎        | 𐭀𐭟                   | 𐭀𐭠            | 𐭀𐭡                 | 𐭀𐭣             | 𐭀𐭤             | 𐭀𐭥                   | 𐭀𐭦                       | 𐭀𐭧                       | 𐭀𐭨            | 𐭀𐭩           | 𐭀𐭪 | 𐭀𐭫 |
| ס | 𐤎                | 𐤏        | 𐭀𐭡                   | 𐭀𐭢            | 𐭀𐭣                 | 𐭀𐭤             | 𐭀𐭥             | 𐭀𐭦                   | 𐭀𐭧                       | 𐭀𐭨                       | 𐭀𐭩            | 𐭀𐭪           | 𐭀𐭫 | 𐭀𐭬 |
| ע | 𐤏                | 𐤐        | 𐭀𐭣                   | 𐭀𐭤            | 𐭀𐭦                 | 𐭀𐭧             | 𐭀𐭨             | 𐭀𐭩                   | 𐭀𐭪                       | 𐭀𐭫                       | 𐭀𐭬            | 𐭀𐭭           | 𐭀𐭮 | 𐭀𐭯 |
| פ | 𐤐                | 𐤑        | 𐭀𐭦                   | 𐭀𐭧            | 𐭀𐭨                 | 𐭀𐭩             | 𐭀𐭪             | 𐭀𐭫                   | 𐭀𐭬                       | 𐭀𐭭                       | 𐭀𐭮            | 𐭀𐭯           | 𐭀𐭰 | 𐭀𐭱 |
| צ | 𐤑                | 𐤒        | 𐭀𐭨                   | 𐭀𐭩            | 𐭀𐭪                 | 𐭀𐭫             | 𐭀𐭬             | 𐭀𐭭                   | 𐭀𐭮                       | 𐭀𐭯                       | 𐭀𐭰            | 𐭀𐭱           | 𐭀𐭲 | 𐭀𐭳 |
| ק | 𐤒                | 𐤓        | 𐭀𐭪                   | 𐭀𐭫            | 𐭀𐭬                 | 𐭀𐭭             | 𐭀𐭮             | 𐭀𐭯                   | 𐭀𐭰                       | 𐭀𐭱                       | 𐭀𐭲            | 𐭀𐭳           | 𐭀𐭴 | 𐭀𐭵 |
| ר | 𐤓                | 𐤔        | 𐭀𐭬                   | 𐭀𐭭            | 𐭀𐭮                 | 𐭀𐭯             | 𐭀𐭰             | 𐭀𐭱                   | 𐭀𐭲                       | 𐭀𐭳                       | 𐭀𐭴            | 𐭀𐭵           | 𐭀𐭶 | 𐭀𐭷 |
| ש | 𐤔                | 𐤕        | 𐭀𐭮                   | 𐭀𐭯            | 𐭀𐭰                 | 𐭀𐭱             | 𐭀𐭲             | 𐭀𐭳                   | 𐭀𐭴                       | 𐭀𐭵                       | 𐭀𐭶            | 𐭀𐭷           | 𐭀𐭸 | 𐭀𐭹 |
| ת | 𐤕                | 𐤖        | 𐭀𐭰                   | 𐭀𐭱            | 𐭀𐭲                 | 𐭀𐭳             | 𐭀𐭴             | 𐭀𐭵                   | 𐭀𐭶                       | 𐭀𐭷                       | 𐭀𐭸            | 𐭀𐭹           | 𐭀𐭺 | 𐭀𐭻 |
|   | I.               | II.      | III.                 | IV.           | V.                 | VI.            | VII.           | VIII.                | IX.                      | X.                       |               |              |    |    |

(236)

**Figure 1.** Table of Iranian alphabets, from Taylor 1883. The Arsacidan columns (III, IV) show Parthian script, and the Sassanian columns (V, VI) show Inscriptional Pahlavi script. The Parsi column (VII) shows Book Pahlavi. Column I shows Imperial Aramaic; column II shows Palmyrene; column VIII shows Brahmi; column IX shows Armenian; and column X shows Georgian.

This table is given for historical interest. It stems from a period when the inscriptions were known but could not yet be properly read—and that did not happen until the 1920s. Taylor's table is therefore inaccurate: under Parthian DALETH he has the letter TETH, the form of LAMEDH is wrong, and he gives no SADHE. Under Middle Persian, TETH is missing and TAW has the wrong shape.



## Alphabets.

| Hebrew | Kaša' | Aramaic<br>papyri | Palmyr.<br>inscrip-<br>tions | Nabat.<br>inscrip-<br>tions,<br>Sinai | Parthian<br>inscrip-<br>tions | Persian<br>inscrip-<br>tions | Psalter | Book Pahlavi | Trans-<br>liter-<br>ation |
|--------|-------|-------------------|------------------------------|---------------------------------------|-------------------------------|------------------------------|---------|--------------|---------------------------|
| א      | 𐭠     | 𐤀                 | 𐤀                            | 𐤀                                     | 𐭠                             | 𐭠                            | 𐭠       | 𐭠            | '                         |
| ב      | 𐭡     | 𐤁                 | 𐤁                            | 𐤁, 𐤂, 𐤃                               | 𐭡                             | 𐭡                            | 𐭡       | 𐭡            | b                         |
| ג      | 𐭢     | 𐤂                 | 𐤂                            | 𐤂, 𐤃                                  | 𐭢                             | 𐭢                            | 𐭢       | 𐭢 (𐭣)        | g                         |
| ד      | 𐭣     | 𐤃                 | 𐤃                            | 𐤃, 𐤄                                  | 𐭣                             | 𐭣                            | 𐭣       | 𐭣 (𐭤) (𐭥-𐭦)  | d                         |
| ה      | 𐭤     | 𐤄                 | 𐤄                            | 𐤄, 𐤅                                  | 𐭤                             | 𐭤                            | 𐭤       | 𐭤 (𐭥𐭦)       | -h                        |
| ו      | 𐭥     | 𐤅                 | 𐤅                            | 𐤅, 𐤆                                  | 𐭥                             | 𐭥                            | 𐭥       | 𐭥            | w                         |
| ז      | 𐭦     | 𐤆                 | 𐤆                            | 𐤆                                     | 𐭦                             | 𐭦                            | 𐭦       | 𐭦            | z                         |
| ח      | 𐭧     | 𐤇                 | 𐤇                            | 𐤇, 𐤈                                  | 𐭧                             | 𐭧                            | 𐭧       | 𐭧            | h, ḥ                      |
| ט      | 𐭨     | 𐤈                 | 𐤈                            | 𐤈, 𐤉                                  | 𐭨                             | 𐭨                            | 𐭨       | 𐭨            | ṭ                         |
| י      | 𐭩     | 𐤉                 | 𐤉                            | 𐤉, 𐤊                                  | 𐭩                             | 𐭩                            | 𐭩       | 𐭩 (𐭪, 𐭫)     | y (j-)                    |
| כ. 𐤀   | 𐭪     | 𐤁                 | 𐤁                            | 𐤁, 𐤂                                  | 𐭪                             | 𐭪                            | 𐭪       | 𐭪            | k                         |
| ל      | 𐭫     | 𐤂                 | 𐤂                            | 𐤂, 𐤃                                  | 𐭫                             | 𐭫                            | 𐭫       | 𐭫 (𐭬)        | l                         |
| מ, 𐤁   | 𐭬     | 𐤃                 | 𐤃                            | 𐤃, 𐤄, 𐤅                               | 𐭬                             | 𐭬                            | 𐭬       | 𐭬            | m                         |
| נ. 𐤂   | 𐭭     | 𐤄                 | 𐤄                            | 𐤄, 𐤅                                  | 𐭭                             | 𐭭                            | 𐭭       | 𐭭            | n                         |
| ס      | 𐭮     | 𐤅                 | 𐤅                            | 𐤅                                     | 𐭮                             | 𐭮                            | 𐭮       | 𐭮, 𐭯         | s                         |
| ע      | 𐭯     | 𐤆                 | 𐤆                            | 𐤆, 𐤇                                  | 𐭯                             | 𐭯                            | 𐭯       | 𐭯            | c                         |
| פ, 𐤃   | 𐭰     | 𐤇                 | 𐤇                            | 𐤇, 𐤈                                  | 𐭰                             | 𐭰                            | 𐭰       | 𐭰            | p                         |
| צ, 𐤄   | 𐭱     | 𐤈                 | 𐤈                            | 𐤈, 𐤉                                  | 𐭱                             | 𐭱                            | 𐭱       | 𐭱            | c, ṣ                      |
| ק      | 𐭲     | 𐤉                 | 𐤉                            | 𐤉, 𐤊                                  | 𐭲                             | 𐭲                            | 𐭲       | 𐭲            | q                         |
| ר      | 𐭳     | 𐤊                 | 𐤊                            | 𐤊, 𐤋, 𐤌                               | 𐭳                             | 𐭳                            | 𐭳       | 𐭳            | r                         |
| ש      | 𐭴     | 𐤋                 | 𐤋                            | 𐤋, 𐤌, 𐤍                               | 𐭴                             | 𐭴                            | 𐭴       | 𐭴            | š                         |
| ת      | 𐭵     | 𐤌                 | 𐤌                            | 𐤌, 𐤍                                  | 𐭵                             | 𐭵                            | 𐭵, 𐭶    | 𐭵            | t                         |

**Figure 2.** Table of Iranian alphabets, from from Nyberg 1964.

The Parthian inscriptions column refers to Parthian, the Persian inscriptions column refers to Inscriptional Pahlavi. Psalter Pahlavi and Book Pahlavi are also shown. Nyberg's table is slightly idiosyncratic and the shape of Parthian ALEPH is wrong.

TABLE 48.1: *Main West Iranian Scripts Developed from Aramaic*

| <i>Aramaic</i> | <i>Early Parthian (Nisa)</i> | <i>Parthian inscr's</i> | <i>Principal Phonetic Values (Parthian)</i> | <i>Middle Persian inscr's</i> | <i>Psalter</i> | <i>Early Cursive Pahlavi</i> | <i>Book Pahlavi</i> | <i>Principal Phonetic Values (MPers.)</i> |
|----------------|------------------------------|-------------------------|---------------------------------------------|-------------------------------|----------------|------------------------------|---------------------|-------------------------------------------|
| ʾ              | 𐭡                            | 𐭢                       | a, ā                                        | 𐭣                             | 𐭤              | 𐭥                            | 𐭦                   | a, ā                                      |
| b              | 𐭧                            | 𐭨                       | b, w                                        | 𐭩                             | 𐭪              | 𐭫                            | 𐭬                   | b, w                                      |
| g              | 𐭮                            | 𐭯                       | g, γ                                        | 𐭰                             | 𐭱              |                              | 𐭲 𐭳                 | g, y                                      |
| d              | 𐭣 = ʿ, r                     | 𐭤                       | d, δ                                        | 𐭥                             | 𐭦              | 𐭧                            | 𐭨 𐭩                 | d, y                                      |
| h (h)          | 𐭮                            | 𐭯                       |                                             | 𐭰                             | 𐭱              |                              | 𐭲                   |                                           |
| w              | 𐭣                            | 𐭤                       | w, ō, ū                                     | 2 = ʿ, r                      | 1 = ʿ, r       | 1                            | 1                   | w, ō, ū                                   |
| z              | 𐭮                            | 𐭯                       | z, ž                                        | 𐭰                             | 𐭱              |                              | 𐭲                   | z                                         |
| h (h)          | 𐭮                            | 𐭯                       | h, x                                        | 𐭰                             | 𐭱              | 𐭲                            | 𐭳                   | h, x                                      |
| t              | 𐭮                            | 𐭯                       |                                             | 𐭰                             | 𐭱              |                              |                     |                                           |
| y              | 𐭮                            | 𐭯                       | y, ē, ī                                     | 𐭰                             | 𐭱              | 𐭲                            | 𐭳                   | y, ē, ī, j                                |
| k              | 𐭮                            | 𐭯                       | k, g                                        | 𐭰                             | 𐭱              | 𐭲                            | 𐭳                   | k, g                                      |
| l (δ)          | 𐭮                            | 𐭯                       | l                                           | 𐭰                             | 𐭱              | 𐭲                            | 𐭳                   | l, r                                      |
| m              | 𐭮                            | 𐭯                       | m                                           | 𐭰                             | 𐭱              | 𐭲                            | 𐭳                   | m                                         |
| n              | 𐭮                            | 𐭯                       | n                                           | 𐭰                             | 𐭱              | 𐭲                            | 𐭳                   | n                                         |
| s              | 𐭮                            | 𐭯                       | s                                           | 𐭰                             | 𐭱              | 𐭲                            | 𐭳                   | s, h                                      |
| ʿ              | 𐭣 = d, r                     | 𐭤 = r                   |                                             | 2 = w, r                      | 1 = w, r       | 1                            | 1                   | Ø                                         |
| p              | 𐭮                            | 𐭯                       | p, b                                        | 𐭰                             | 𐭱              | 𐭲                            | 𐭳                   | p, b, f                                   |
| š (c)          |                              | 𐭯                       | š                                           | 𐭰                             | 𐭱              | 𐭲                            | 𐭳                   | š, j, z                                   |
| q              | 𐭮                            | 𐭯                       |                                             | 𐭰                             | 𐭱              | 𐭲                            | 𐭳                   |                                           |
| r              | 𐭣 = d, ʿ                     | 𐭤 = ʿ                   | r                                           | 2 = w, ʿ                      | 1 = w, ʿ       | 1                            | 1                   | r                                         |
| š              | 𐭮                            | 𐭯                       | š, ž                                        | 𐭰                             | 𐭱              | 𐭲                            | 𐭳                   | š                                         |
| t              | 𐭮                            | 𐭯                       | t, d                                        | 𐭰                             | 𐭱              | 𐭲                            | 𐭳                   | t, d                                      |

Figure 3. Table of Iranian alphabets, from from Skjærvø 1996.

| TABLE I             |              |         |         |      |  |
|---------------------|--------------|---------|---------|------|--|
| Imperial<br>Aramaic | Inscriptions |         | Pahlavi |      |  |
|                     | Parthian     | Persian | Psalter | Book |  |
| ' ('ālcāp)•         | Ⲁ            | Ⲁ       | Ⲁ       | Ⲁ    |  |
| h (bēṭ)             | ⲁ            | ⲁ       | ⲁ       | ⲁ    |  |
| g (gīnel)           | Ⲃ            | Ⲃ       | Ⲃ       | Ⲃ    |  |
| d (dāleṭ)           | ⲃ            | ⲃ       | ⲃ       | ⲃ    |  |
| h (hē)              | Ⲅ            | Ⲅ       | Ⲅ       | Ⲅ    |  |
| w (wāw)             | ⲅ            | ⲅ       | ⲅ       | ⲅ    |  |
| z (zayīn)           | Ⲇ            | Ⲇ       | Ⲇ       | Ⲇ    |  |
| h (hēṭ)             | ⲇ            | ⲇ       | ⲇ       | ⲇ    |  |
| t (tēṭ)             | Ⲉ            | Ⲉ       | Ⲉ       | Ⲉ    |  |
| y (yōḏ)             | ⲉ            | ⲉ       | ⲉ       | ⲉ    |  |
| k (kāp)             | Ⲋ            | Ⲋ       | Ⲋ       | Ⲋ    |  |
| l (lāmēḏ)           | ⲋ            | ⲋ       | ⲋ       | ⲋ    |  |
| m (mēm)             | Ⲍ            | Ⲍ       | Ⲍ       | Ⲍ    |  |
| n (nūn)             | ⲍ            | ⲍ       | ⲍ       | ⲍ    |  |
| s (sāmēḏ)           | Ⲏ            | Ⲏ       | Ⲏ       | Ⲏ    |  |
| ' ('ayīn)           | ⲏ            | ⲏ       | ⲏ       | ⲏ    |  |
| p (pē)              | Ⲑ            | Ⲑ       | Ⲑ       | Ⲑ    |  |
| š (šāḏḏē)           | ⲑ            | ⲑ       | ⲑ       | ⲑ    |  |
| q (qōṭ)             | Ⲓ            | Ⲓ       | Ⲓ       | Ⲓ    |  |
| r (rēš)             | ⲓ            | ⲓ       | ⲓ       | ⲓ    |  |
| š'š (š/šīn)         | Ⲕ            | Ⲕ       | Ⲕ       | Ⲕ    |  |
| t (tāw)             | ⲕ            | ⲕ       | ⲕ       | ⲕ    |  |

• The under- and over-lining of letters in Semitic transcription indicates a fricative pronunciation, *āleph*, *bēth*, etc.

**Figure 4.** Table showing Imperial Aramaic, Inscriptional Parthian, Inscriptional Pahlavi, and Book Pahlavi, from MacKenzie 1971.

|               |   |   |     |   |
|---------------|---|---|-----|---|
|               | z | s | A/ᵃ | Ⲁ |
|               | y | ᵃ | H/h | ⲁ |
| Ⲁ + ⲁ = Ⲃ     | p | Ⲃ | š   | ⲃ |
| Ⲁ + ⲁ / 1 = ⲃ | s | ⲃ | n   | Ⲅ |
| Ⲁ + Ⲃ = ⲃ     | d | Ⲅ | m   | ⲅ |
| Ⲁ + ⲃ = ⲃ     | O | ⲅ | H   | Ⲇ |
| Ⲁ + Ⲅ = ⲃ     | b | Ⲇ | Q   | ⲇ |
| Ⲁ + ⲅ = ⲃ     | g | ⲇ | t   | Ⲉ |
| Ⲁ + Ⲇ = ⲃ     | r | Ⲉ | l   | ⲉ |
| ⲁ + Ⲁ = ⲃ     | k | ⲉ | š   | Ⲋ |
|               | T | Ⲋ | w   | ⲋ |

**Figure 5.** Table of Inscriptional Parthian letters from Akbarzadeh 2002, showing the Inscriptional Parthian letters and their standard ligatures Ⲃ *tw*, ⲃ *yw/nw*, ⲃ *xw*, ⲃ *gw*, ⲃ *rw*, and ⲃ 'l in non-alphabetical but graphical sequence.



# Inscription of Hajjiābād.

## I.

### The Pahlavik Text.

- ① כחברוֹ נגה לוֹ דוקוֹן וְלִמָּה אִמֹּתֶמָּה
- ② חֲלֵיוֹ חֲלֵה עֲדֹהֶּהּ וְעֲבֹדֶהּ חֲלֵה אִמָּה חֲלֵה
- ③ וְעִמָּה בְּדֹ דִּקְוֹן וְלִמָּה עֲבֹתֶמָּה חֲלֵיוֹ חֲלֵה
- ④ עֲדֹהֶּהּ חֲלֵה אִמָּה חֲלֵה וְעִמָּה עֲבֹתֶמָּה כֹּךְ תַּעֲבֹד
- ⑤ חֲלֵה כֹּךְ עֲדֹהֶּהּ לֹךְ נִגְה מִלֹּהֶם אִמָּה חֲלֵיוֹ חֲלֵה
- ⑥ כִּכְוֹמֶהּ כֹּכֶהֶּהּ וְעִמָּה אִמָּה חֲלֵיוֹ חֲלֵה עֲבֹתֶמָּה
- ⑦ מִלֹּהֶם חֲלֵה מִלֹּהֶם חֲלֵה לֹךְ אִמָּה חֲלֵיוֹ חֲלֵה כֹּכֶהֶּהּ
- ⑧ מִלֹּהֶם חֲלֵה מִלֹּהֶם חֲלֵה לֹךְ אִמָּה חֲלֵיוֹ חֲלֵה
- ⑨ עֲבֹתֶמָּה חֲלֵה מִלֹּהֶם חֲלֵה לֹךְ אִמָּה חֲלֵיוֹ חֲלֵה
- ⑩ מִלֹּהֶם חֲלֵה מִלֹּהֶם חֲלֵה לֹךְ אִמָּה חֲלֵיוֹ חֲלֵה
- ⑪ כֹּכֶהֶּהּ עֲבֹתֶמָּה חֲלֵה מִלֹּהֶם חֲלֵה חֲלֵיוֹ חֲלֵה
- ⑫ נִגְה כֹּךְ מִלֹּהֶם חֲלֵה מִלֹּהֶם חֲלֵה
- ⑬ אִמָּה חֲלֵה חֲלֵה מִלֹּהֶם חֲלֵה חֲלֵיוֹ חֲלֵה
- ⑭ עֲבֹתֶמָּה חֲלֵה חֲלֵה חֲלֵה חֲלֵיוֹ חֲלֵה

**Figure 8.** Inscription from Hajjibad in Parthian script, from Nyberg 1964. The dots under WAW-AYIN-RESH and YODH in line 14 are editorial, showing a conjectural reading, and would be represented by U+0323 COMBINING DOT BELOW. The text is as written by Nyberg.

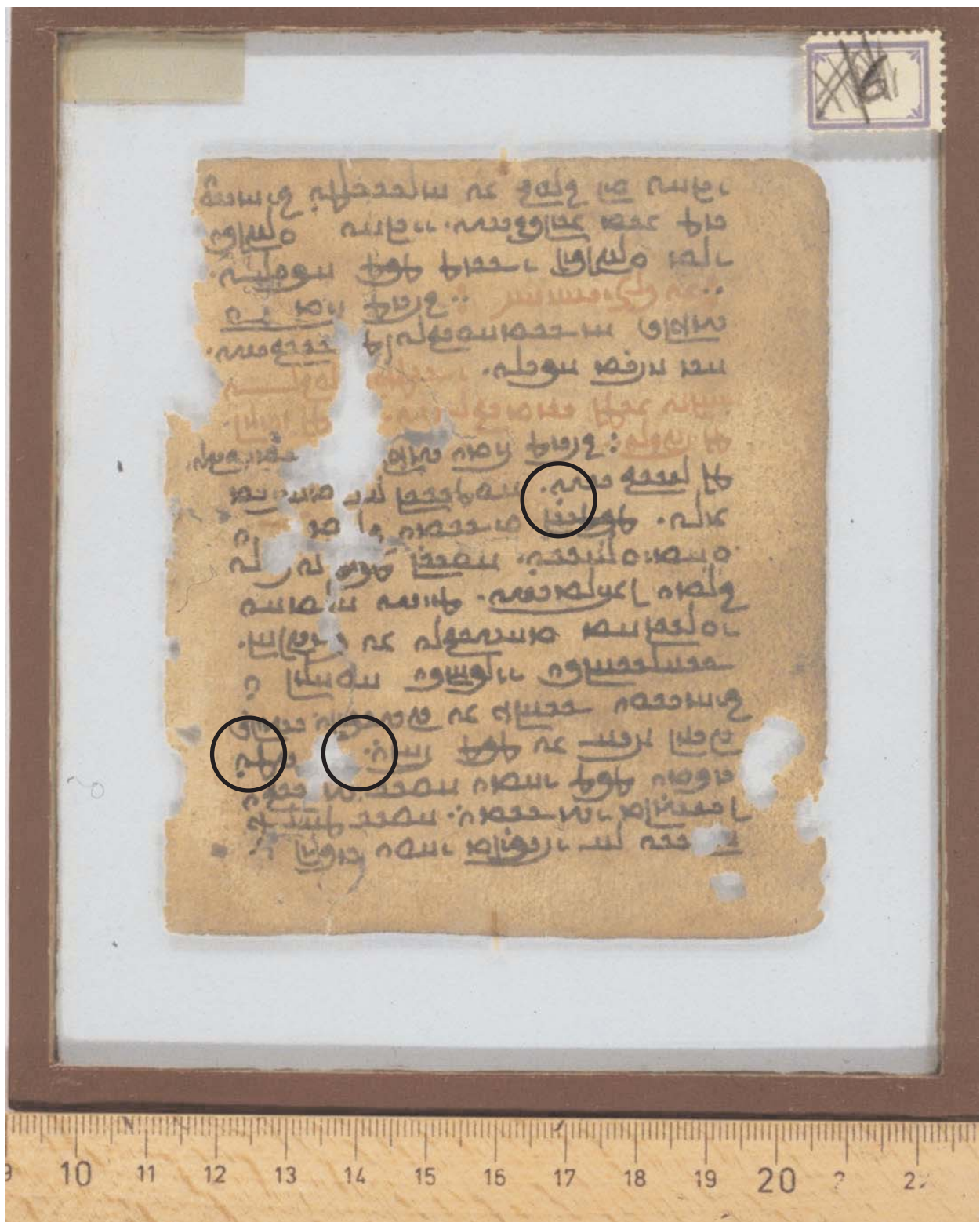


Psalm CXXVIII.

[illegible]

**Figure 10.** Psalm 128 of David in Psalter Pahlavi script, from Nyberg 1964. In line 8 (= *f.* 7v *l.* 11) YODH can be seen with a PSALTER PAHLAVI COMBINING STOP BELOW and a FULL STOP following. In line 13 (= *f.* 7v *l.* 16) YODH can be seen with a PSALTER PAHLAVI COMBINING STOP ABOVE and a FULL STOP following and also with a PSALTER PAHLAVI COMBINING STOP BELOW. In line 19 (= *f.* 8r *l.* 3) HE can be seen with a PSALTER PAHLAVI COMBINING STOP BELOW. There are several examples of the PSALTER PAHLAVI SECTION MARK. The text is as written by Nyberg.





**Figure 11.** Psalm 128 of David in Psalter Pahlavi script. In line 8 (= f. 7v l. 11) YODH can be seen with a dot below and a FULL STOP following. In line 13 (= f. 7v l. 16) YODH can be seen with a dot above and a FULL STOP following and also with a dot below. (The folio is from the Depositum der Berlin-Brandenburgischen Akademie der Wissenschaften in der Staatsbibliothek zu Berlin – Preussischer Kulturbesitz Orientabteilung.)



## Row 10B: INSCRIPTIONAL PARTHIAN

|   |  | 10B4                                                                                | 10B5                                                                                | hex | Name                                       |
|---|--|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----|--------------------------------------------|
| 0 |  |    |    | 40  | INSCRIPTIONAL PARTHIAN LETTER ALEPH        |
|   |  |                                                                                     |                                                                                     | 51  | INSCRIPTIONAL PARTHIAN LETTER BETH         |
| 1 |  |    |    | 52  | INSCRIPTIONAL PARTHIAN LETTER GIMEL        |
|   |  |                                                                                     |                                                                                     | 53  | INSCRIPTIONAL PARTHIAN LETTER DALETH       |
| 2 |  |    |    | 54  | INSCRIPTIONAL PARTHIAN LETTER HE           |
|   |  |                                                                                     |                                                                                     | 55  | INSCRIPTIONAL PARTHIAN LETTER WAW          |
| 3 |  |    |    | 56  | INSCRIPTIONAL PARTHIAN LETTER ZAYIN        |
|   |  |                                                                                     |                                                                                     | 57  | INSCRIPTIONAL PARTHIAN LETTER HETH         |
| 4 |  |    |    | 58  | INSCRIPTIONAL PARTHIAN LETTER TETH         |
|   |  |                                                                                     |                                                                                     | 59  | INSCRIPTIONAL PARTHIAN LETTER YODH         |
| 5 |  |    |    | 5A  | INSCRIPTIONAL PARTHIAN LETTER KAPH         |
|   |  |                                                                                     |                                                                                     | 5B  | INSCRIPTIONAL PARTHIAN LETTER LAMEDH       |
| 6 |  |  |  | 5C  | INSCRIPTIONAL PARTHIAN LETTER MEM          |
|   |  |                                                                                     |                                                                                     | 5D  | INSCRIPTIONAL PARTHIAN LETTER NUN          |
| 7 |  |  |  | 5E  | INSCRIPTIONAL PARTHIAN LETTER SAMEKH       |
|   |  |                                                                                     |                                                                                     | 5F  | INSCRIPTIONAL PARTHIAN LETTER AYIN         |
| 8 |  |  |  | 60  | INSCRIPTIONAL PARTHIAN LETTER PE           |
|   |  |                                                                                     |                                                                                     | 61  | INSCRIPTIONAL PARTHIAN LETTER SADHE        |
| 9 |  |  |  | 62  | INSCRIPTIONAL PARTHIAN LETTER QOPH         |
|   |  |                                                                                     |                                                                                     | 63  | INSCRIPTIONAL PARTHIAN LETTER RESH         |
| A |  |  |  | 64  | INSCRIPTIONAL PARTHIAN LETTER SHIN         |
|   |  |                                                                                     |                                                                                     | 65  | INSCRIPTIONAL PARTHIAN LETTER TAW          |
| B |  |  |  | 66  | (This position shall not be used)          |
|   |  |                                                                                     |                                                                                     | 67  | (This position shall not be used)          |
| C |  |  |  | 68  | INSCRIPTIONAL PARTHIAN NUMBER ONE          |
|   |  |                                                                                     |                                                                                     | 69  | INSCRIPTIONAL PARTHIAN NUMBER TWO          |
| D |  |  |  | 6A  | INSCRIPTIONAL PARTHIAN NUMBER THREE        |
|   |  |                                                                                     |                                                                                     | 6B  | INSCRIPTIONAL PARTHIAN NUMBER FOUR         |
| E |  |  |  | 6C  | INSCRIPTIONAL PARTHIAN NUMBER TEN          |
|   |  |                                                                                     |                                                                                     | 6D  | INSCRIPTIONAL PARTHIAN NUMBER TWENTY       |
| F |  |  |  | 6E  | INSCRIPTIONAL PARTHIAN NUMBER ONE HUNDRED  |
|   |  |                                                                                     |                                                                                     | 6F  | INSCRIPTIONAL PARTHIAN NUMBER ONE THOUSAND |

## Row 10B: INSCRIPTIONAL PAHLAVI

|   | 10B6 | 10B7 | hex | Name                                       |
|---|------|------|-----|--------------------------------------------|
| 0 | 𐭠    | 𐭡    | 60  | INSCRIPTIONAL PAHLAVI LETTER ALEPH         |
|   |      |      | 61  | INSCRIPTIONAL PAHLAVI LETTER BETH          |
|   |      |      | 62  | INSCRIPTIONAL PAHLAVI LETTER GIMEL         |
|   |      |      | 63  | INSCRIPTIONAL PAHLAVI LETTER DALETH        |
|   |      |      | 64  | INSCRIPTIONAL PAHLAVI LETTER HE            |
|   |      |      | 65  | INSCRIPTIONAL PAHLAVI LETTER WAW-AYIN-RESH |
|   |      |      | 66  | INSCRIPTIONAL PAHLAVI LETTER ZAYIN         |
|   |      |      | 67  | INSCRIPTIONAL PAHLAVI LETTER HETH          |
| 1 | 𐭢    | 𐭣    | 68  | INSCRIPTIONAL PAHLAVI LETTER TETH          |
|   |      |      | 69  | INSCRIPTIONAL PAHLAVI LETTER YODH          |
|   |      |      | 6A  | INSCRIPTIONAL PAHLAVI LETTER KAPH          |
|   |      |      | 6B  | INSCRIPTIONAL PAHLAVI LETTER LAMEDH        |
|   |      |      | 6C  | INSCRIPTIONAL PAHLAVI LETTER MEM-QOPH      |
|   |      |      | 6D  | INSCRIPTIONAL PAHLAVI LETTER NUN           |
| 2 | 𐭤    | 𐭥    | 6E  | INSCRIPTIONAL PAHLAVI LETTER SAMEKH        |
|   |      |      | 6F  | INSCRIPTIONAL PAHLAVI LETTER PE            |
|   |      |      | 70  | INSCRIPTIONAL PAHLAVI LETTER SADHE         |
|   |      |      | 71  | INSCRIPTIONAL PAHLAVI LETTER SHIN          |
|   |      |      | 72  | INSCRIPTIONAL PAHLAVI LETTER TAW           |
| 3 | 𐭦    |      | 73  | (This position shall not be used)          |
|   |      |      | 74  | (This position shall not be used)          |
|   |      |      | 75  | (This position shall not be used)          |
|   |      |      | 76  | (This position shall not be used)          |
|   |      |      | 77  | (This position shall not be used)          |
| 4 | 𐭧    |      | 78  | INSCRIPTIONAL PAHLAVI NUMBER ONE           |
|   |      |      | 79  | INSCRIPTIONAL PAHLAVI NUMBER TWO           |
|   |      |      | 7A  | INSCRIPTIONAL PAHLAVI NUMBER THREE         |
|   |      |      | 7B  | INSCRIPTIONAL PAHLAVI NUMBER FOUR          |
|   |      |      | 7C  | INSCRIPTIONAL PAHLAVI NUMBER TEN           |
|   |      |      | 7D  | INSCRIPTIONAL PAHLAVI NUMBER TWENTY        |
| 5 | 𐭨    |      | 7E  | INSCRIPTIONAL PAHLAVI NUMBER ONE HUNDRED   |
|   |      |      | 7F  | INSCRIPTIONAL PAHLAVI NUMBER ONE THOUSAND  |
| 6 | 𐭩    |      |     |                                            |
| 7 | 𐭪    |      |     |                                            |
| 8 | 𐭫    | 𐭬    |     |                                            |
| 9 | 𐭭    | 𐭮    |     |                                            |
| A | 𐭯    | 𐭰    |     |                                            |
| B | 𐭱    | 𐭲    |     |                                            |
| C | 𐭳    | 𐭴    |     |                                            |
| D | 𐭵    | 𐭶    |     |                                            |
| E | 𐭷    | 𐭸    |     |                                            |
| F | 𐭹    | 𐭺    |     |                                            |

## Row 10B: PSALTER PAHLAVI

|   | 10B8 | 10B9 | hex | Name                                 |
|---|------|------|-----|--------------------------------------|
| 0 | 𐭠    | 𐭡    | 80  | PSALTER PAHLAVI LETTER ALEPH         |
|   |      |      | 81  | PSALTER PAHLAVI LETTER BETH          |
|   |      |      | 82  | PSALTER PAHLAVI LETTER GIMEL         |
|   |      |      | 83  | PSALTER PAHLAVI LETTER DALETH        |
|   |      |      | 84  | PSALTER PAHLAVI LETTER HE            |
|   |      |      | 85  | PSALTER PAHLAVI LETTER WAW-AYIN-RESH |
|   |      |      | 86  | PSALTER PAHLAVI LETTER ZAYIN         |
|   |      |      | 87  | PSALTER PAHLAVI LETTER HETH          |
| 1 | 𐭢    | 𐭣    | 88  | PSALTER PAHLAVI LETTER YODH          |
|   |      |      | 89  | PSALTER PAHLAVI LETTER KAPH          |
|   |      |      | 8A  | PSALTER PAHLAVI LETTER LAMEDH        |
|   |      |      | 8B  | PSALTER PAHLAVI LETTER MEM-QOPH      |
|   |      |      | 8C  | PSALTER PAHLAVI LETTER NUN           |
|   |      |      | 8D  | PSALTER PAHLAVI LETTER SAMEKH        |
| 2 | 𐭥    | 𐭦    | 8E  | PSALTER PAHLAVI LETTER PE            |
|   |      |      | 8F  | PSALTER PAHLAVI LETTER SADHE         |
|   |      |      | 90  | PSALTER PAHLAVI LETTER SHIN          |
|   |      |      | 91  | PSALTER PAHLAVI LETTER TAW           |
|   |      |      | 92  | PSALTER PAHLAVI KASHIDA              |
| 3 | 𐭨    |      | 93  | (This position shall not be used)    |
|   |      |      | 94  | (This position shall not be used)    |
|   |      |      | 95  | (This position shall not be used)    |
|   |      |      | 96  | PSALTER PAHLAVI COMBINING STOP BELOW |
|   |      |      | 97  | PSALTER PAHLAVI COMBINING STOP ABOVE |
| 4 | 𐭩    |      | 98  | PSALTER PAHLAVI SECTION MARK         |
|   |      |      | 99  | PSALTER PAHLAVI NUMBER ONE           |
|   |      |      | 9A  | PSALTER PAHLAVI NUMBER TWO           |
|   |      |      | 9B  | PSALTER PAHLAVI NUMBER THREE         |
|   |      |      | 9C  | PSALTER PAHLAVI NUMBER FOUR          |
|   |      |      | 9D  | PSALTER PAHLAVI NUMBER TEN           |
| 5 | 𐭬    |      | 9E  | PSALTER PAHLAVI NUMBER TWENTY        |
|   |      |      | 9F  | PSALTER PAHLAVI NUMBER ONE HUNDRED   |
| 6 | 𐭭    | 𐭮    |     |                                      |
| 7 | 𐭯    | 𐭰    |     |                                      |
| 8 | 𐭱    | 𐭲    |     |                                      |
| 9 | 𐭳    | 𐭴    |     |                                      |
| A | 𐭵    | 𐭶    |     |                                      |
| B | 𐭷    | 𐭸    |     |                                      |
| C | 𐭹    | 𐭺    |     |                                      |
| D | 𐭻    | 𐭼    |     |                                      |
| E | 𐭽    | 𐭾    |     |                                      |
| F | 𐭿    | 𐭿𐭾𐭿  |     |                                      |

## A. Administrative

1. Title

**Proposal for encoding the Inscriptional Parthian, Inscriptional Pahlavi, and Psalter Pahlavi scripts in the SMP of the UCS**

2. Requester's name

**Michael Everson and Roozbeh Pournader**

3. Requester type (Member body/Liaison/Individual contribution)

**Individual contribution.**

4. Submission date

**2007-07-25**

5. Requester's reference (if applicable)

6. Choose one of the following:

6a. This is a complete proposal

**No.**

6b. More information will be provided later

**Yes.**

## B. Technical – General

1. Choose one of the following:

1a. This proposal is for a new script (set of characters)

**Yes.**

1b. Proposed name of script

**Parthian, Inscriptional Pahlavi, and Psalter Pahlavi.**

1c. The proposal is for addition of character(s) to an existing block

**No.**

1d. Name of the existing block

2. Number of characters in proposal

**86 (30, 27, 29).**

3. Proposed category (A-Contemporary; B.1-Specialized (small collection); B.2-Specialized (large collection); C-Major extinct; D-Attested extinct; E-Minor extinct; F-Archaic Hieroglyphic or Ideographic; G-Obscure or questionable usage symbols)

**Category C.**

4a. Is a repertoire including character names provided?

**Yes.**

4b. If YES, are the names in accordance with the “character naming guidelines” in Annex L of P&P document?

**Yes.**

4c. Are the character shapes attached in a legible form suitable for review?

**Yes.**

5a. Who will provide the appropriate computerized font (ordered preference: True Type, or PostScript format) for publishing the standard?

**Michael Everson.**

5b. If available now, identify source(s) for the font (include address, e-mail, ftp-site, etc.) and indicate the tools used:

**Michael Everson, Fontographer.**

6a. Are references (to other character sets, dictionaries, descriptive texts etc.) provided?

**Yes.**

6b. Are published examples of use (such as samples from newspapers, magazines, or other sources) of proposed characters attached?

**Yes.**

7. Does the proposal address other aspects of character data processing (if applicable) such as input, presentation, sorting, searching, indexing, transliteration etc. (if yes please enclose information)?

**Yes.**

8. Submitters are invited to provide any additional information about Properties of the proposed Character(s) or Script that will assist in correct understanding of and correct linguistic processing of the proposed character(s) or script. Examples of such properties are: Casing information, Numeric information, Currency information, Display behaviour information such as line breaks, widths etc., Combining behaviour, Spacing behaviour, Directional behaviour, Default Collation behaviour, relevance in Mark Up contexts, Compatibility equivalence and other Unicode normalization related information. See the Unicode standard at <http://www.unicode.org> for such information on other scripts. Also see Unicode Character Database <http://www.unicode.org/Public/UNIDATA/UnicodeCharacterDatabase.html> and associated Unicode Technical Reports for information needed for consideration by the Unicode Technical Committee for inclusion in the Unicode Standard.

**See above.**

## C. Technical – Justification

1. Has this proposal for addition of character(s) been submitted before? If YES, explain.

**No.**

2a. Has contact been made to members of the user community (for example: National Body, user groups of the script or characters, other experts, etc.)?

**Yes.**

2b. If YES, with whom?

**Desmond Durkin-Meisterernst, Jost Gippert, Chris Hopkins, Agnes Korn**

2c. If YES, available relevant documents

3. Information on the user community for the proposed characters (for example: size, demographics, information technology use, or publishing use) is included?

**Iranianists and other scholars.**

4a. The context of use for the proposed characters (type of use; common or rare)

**Rare; historical use.**

4b. Reference

5a. Are the proposed characters in current use by the user community?

**Yes.**

5b. If YES, where?

**Scholarly and popular publications.**

6a. After giving due considerations to the principles in the P&P document must the proposed characters be entirely in the BMP?

**No.**

6b. If YES, is a rationale provided?

6c. If YES, reference

7. Should the proposed characters be kept together in a contiguous range (rather than being scattered)?

**Yes.**

8a. Can any of the proposed characters be considered a presentation form of an existing character or character sequence?

**No.**

8b. If YES, is a rationale for its inclusion provided?

8c. If YES, reference

9a. Can any of the proposed characters be encoded using a composed character sequence of either existing characters or other proposed characters?

**No.**

9b. If YES, is a rationale for its inclusion provided?

9c. If YES, reference

10a. Can any of the proposed character(s) be considered to be similar (in appearance or function) to an existing character?

**No.**

10b. If YES, is a rationale for its inclusion provided?

10c. If YES, reference

11a. Does the proposal include use of combining characters and/or use of composite sequences (see clauses 4.12 and 4.14 in ISO/IEC 10646-1: 2000)?

**No.**

11b. If YES, is a rationale for such use provided?

11c. If YES, reference

11d. Is a list of composite sequences and their corresponding glyph images (graphic symbols) provided?

**No.**

11e. If YES, reference

12a. Does the proposal contain characters with any special properties such as control function or similar semantics?

**No.**

12b. If YES, describe in detail (include attachment if necessary)

13a. Does the proposal contain any Ideographic compatibility character(s)?

**No.**

13b. If YES, is the equivalent corresponding unified ideographic character(s) identified?