

Universal Multiple-Octet Coded Character Set  
 International Organization for Standardization  
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 Международная организация по стандартизации

**Doc Type: Working Group Document****Title: Revised proposal to encode the Avestan script in the SMP of the UCS****Source: UC Berkeley Script Encoding Initiative (Universal Scripts Project)****Authors: Michael Everson and Roozbeh Pournader****Status: Liaison Contribution****Action: For consideration by JTC1/SC2/WG2 and UTC****Replaces: N3178, N2566, N1684****Date: 2007-03-22**

**1. Introduction.** The Avestan script was used to write two kinds of text: religious texts from the *Avesta*, written in the Avestan language (in two variants, Old Avestan and Young Avestan), and texts in Pāzand (that is, Middle Persian written in the Avestan script). The script was derived in the fifth or sixth century CE (some writers say as early as the fourth century CE) as a rationalization and improvement on the original (Book) Pahlavi script, which itself was derived from a variety of Aramaic. The Zoroastrians used modified letterforms to distinguish between signs which in Pahlavi had fallen together. Although Pahlavi script is used alongside Avestan in text, it behaves differently and the two cannot be unified. Pahlavi has cursive joining behaviour; Avestan does not. In Avestan, sometimes letters touch in kerning, but more often they do not. There are a few ligatures in Avestan, discussed below. Pahlavi is not further considered in this proposal.

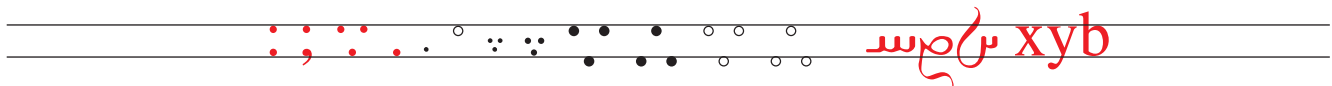
**2. Structure.** Avestan is a simple alphabetic script written from right to left. Avestan letters are written separately, or touch in close kerning. Four ligatures are commonly used in manuscripts of the *Avesta*: 𐬀𐬀 SHE + 𐬀 A = 𐬀𐬀 ša (unligated 𐬀𐬀); 𐬀 SHE + 𐬀 CE = 𐬀𐬀 šc (unligated 𐬀𐬀); 𐬀 SHE + 𐬀 TE = 𐬀𐬀 št (unligated 𐬀𐬀); 𐬀 A + 𐬀 HE = 𐬀𐬀 ah (unligated 𐬀𐬀). Fonts which implement ligatures will typically treat these combinations as default ligatures, which can be broken with ZWNJ. The choice of representation of these ligatures in printed texts is a matter for the editor.

**3. Character set.** The Avestan alphabet is well-attested, and is extended here by only one character. The letter 𐬀 RE is modified to 𐬀 LE (or 𐬀 as in Figure 3) for use in Pāzand to represent [l] (see Figures 6 and 11). Some writers consider the digraphs 𐬀 ii and 𐬀 uu as letters and transliterate them as y and v, but they are properly encoded as two-character strings.

**4. Punctuation.** Avestan punctuation displays the usual inconsistency of any early writing system. The punctuation proposed here for encoding is based on the system Geldner established in his 1880 edition of the *Avesta*. The 𐬀 TINY TWO DOTS OVER ONE DOT PUNCTUATION serves as an *Avestan colon*, 𐬀 SMALL TWO DOTS OVER ONE DOT PUNCTUATION as an *Avestan semicolon*, and 𐬀 LARGE TWO DOTS OVER ONE DOT PUNCTUATION as an *Avestan end of sentence* mark; these indicate breaks of increasing finality, followed by 𐬀 LARGE TWO RINGS OVER ONE RING PUNCTUATION which serves as an *Avestan end of section* which itself may be doubled 𐬀 (sometimes with a space between 𐬀 𐬀) for extra finality (see Figures 16 and 17). The 𐬀 LARGE ONE DOT OVER TWO DOTS PUNCTUATION or *Avestan turned end of sentence* and 𐬀 LARGE ONE RING OVER TWO RINGS PUNCTUATION or *Avestan turned end of section* are also attested, but were not used by Geldner. Sometimes the AVESTAN SEPARATION POINT may precede, or follow, other punctuation.

Geldner says that the ° AVESTAN ABBREVIATION MARK “is employed for a sign of abbreviation and repetition” and indeed he uses it extensively in his footnotes “for the sake of economizing space”.

Apart from AVESTAN SEPARATION POINT and ° AVESTAN ABBREVIATION MARK, the other punctuation marks may be used in other Iranianist scripts, certainly in Pahlavi which is used alongside Avestan, and potentially in other scripts such as Manichaean, Mandaeen, Sogdian, and some of the late Persian Aramaic material. In order to make the generalized usage of the punctuation more obvious, generic descriptive names have been used, though we would recommend retention of the Avestan names (as italicized in the previous paragraph) in the Unicode names list. See N3193 for a complete discussion.



The AVESTAN SEPARATION POINT is a small dot which typically follows more closely to the end of the word which it separates from another. Geldner distinguishes it from the FULL STOP and draws it smaller and low, like the bottom dot in the SMALL TWO DOTS OVER ONE DOT PUNCTUATION. Other fonts may draw it in other sizes and positions, as can be seen in Figure 5. This variation is unknown in other single-dot punctuation encoded in the standard (all of which punctuation has other uses anyway), and we do not believe that the AVESTAN SEPARATION POINT can be unified with characters already in the standard.

**5. Linebreaking.** Geldner 1880 shows no hyphenation. In the manuscripts words may be broken arbitrarily, but it is unlikely that modern users will prefer this behaviour. A space normally follows most Avestan punctuation, and one may certainly expect a linebreak in such a position.

**6. Ordering.** No ordering is attested in antiquity, but the codepoint order of the Avestan letters reflects the most common current Iranianist practice (see Figure 2), which may have been established by the Parsee community itself. This suffices for all of the letters except ʃ LE, which should order on the second level with ʃ RE.

**7. Character names.** Names here are based on the transliteration values and are intended to be mnemonic.

**8. Unicode Character Properties.** Character properties are proposed here.

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10B00;AVESTAN LETTER A;Lo;0;R;;;;N;;;;;
10B01;AVESTAN LETTER AA;Lo;0;R;;;;N;;;;;
10B02;AVESTAN LETTER AO;Lo;0;R;;;;N;;;;;
10B03;AVESTAN LETTER AAO;Lo;0;R;;;;N;;;;;
10B04;AVESTAN LETTER AN;Lo;0;R;;;;N;;;;;
10B05;AVESTAN LETTER AAN;Lo;0;R;;;;N;;;;;
10B06;AVESTAN LETTER AE;Lo;0;R;;;;N;;;;;
10B07;AVESTAN LETTER AEE;Lo;0;R;;;;N;;;;;
10B08;AVESTAN LETTER E;Lo;0;R;;;;N;;;;;
10B09;AVESTAN LETTER EE;Lo;0;R;;;;N;;;;;
10B0A;AVESTAN LETTER O;Lo;0;R;;;;N;;;;;
10B0B;AVESTAN LETTER OO;Lo;0;R;;;;N;;;;;
10B0C;AVESTAN LETTER I;Lo;0;R;;;;N;;;;;
10B0D;AVESTAN LETTER II;Lo;0;R;;;;N;;;;;
10B0E;AVESTAN LETTER U;Lo;0;R;;;;N;;;;;
10B0F;AVESTAN LETTER UU;Lo;0;R;;;;N;;;;;
10B10;AVESTAN LETTER KE;Lo;0;R;;;;N;;;;;
10B11;AVESTAN LETTER XE;Lo;0;R;;;;N;;;;;
10B12;AVESTAN LETTER XYE;Lo;0;R;;;;N;;;;;
10B13;AVESTAN LETTER XVE;Lo;0;R;;;;N;;;;;
10B14;AVESTAN LETTER GE;Lo;0;R;;;;N;;;;;
10B15;AVESTAN LETTER GGE;Lo;0;R;;;;N;;;;;
10B16;AVESTAN LETTER GHE;Lo;0;R;;;;N;;;;;
10B17;AVESTAN LETTER CE;Lo;0;R;;;;N;;;;;
10B18;AVESTAN LETTER JE;Lo;0;R;;;;N;;;;;
10B19;AVESTAN LETTER TE;Lo;0;R;;;;N;;;;;
10B1A;AVESTAN LETTER THE;Lo;0;R;;;;N;;;;;
10B1B;AVESTAN LETTER DE;Lo;0;R;;;;N;;;;;
10B1C;AVESTAN LETTER DHE;Lo;0;R;;;;N;;;;;
10B1D;AVESTAN LETTER TTE;Lo;0;R;;;;N;;;;;
10B1E;AVESTAN LETTER PE;Lo;0;R;;;;N;;;;;
10B1F;AVESTAN LETTER FE;Lo;0;R;;;;N;;;;;
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10B20;AVESTAN LETTER BE;Lo;0;R;;;;N;;;;;  
 10B21;AVESTAN LETTER BHE;Lo;0;R;;;;N;;;;;  
 10B22;AVESTAN LETTER NGE;Lo;0;R;;;;N;;;;;  
 10B23;AVESTAN LETTER NGYE;Lo;0;R;;;;N;;;;;  
 10B24;AVESTAN LETTER NGVE;Lo;0;R;;;;N;;;;;  
 10B25;AVESTAN LETTER NE;Lo;0;R;;;;N;;;;;  
 10B26;AVESTAN LETTER NYE;Lo;0;R;;;;N;;;;;  
 10B27;AVESTAN LETTER NNE;Lo;0;R;;;;N;;;;;  
 10B28;AVESTAN LETTER ME;Lo;0;R;;;;N;;;;;  
 10B29;AVESTAN LETTER HME;Lo;0;R;;;;N;;;;;  
 10B2A;AVESTAN LETTER YYE;Lo;0;R;;;;N;;;;;  
 10B2B;AVESTAN LETTER YE;Lo;0;R;;;;N;;;;;  
 10B2C;AVESTAN LETTER VE;Lo;0;R;;;;N;;;;;  
 10B2D;AVESTAN LETTER RE;Lo;0;R;;;;N;;;;;  
 10B2E;AVESTAN LETTER LE;Lo;0;R;;;;N;;;;;  
 10B2F;AVESTAN LETTER SE;Lo;0;R;;;;N;;;;;  
 10B30;AVESTAN LETTER ZE;Lo;0;R;;;;N;;;;;  
 10B31;AVESTAN LETTER SHE;Lo;0;R;;;;N;;;;;  
 10B32;AVESTAN LETTER ZHE;Lo;0;R;;;;N;;;;;  
 10B33;AVESTAN LETTER SHYE;Lo;0;R;;;;N;;;;;  
 10B34;AVESTAN LETTER SSHE;Lo;0;R;;;;N;;;;;  
 10B35;AVESTAN LETTER HE;Lo;0;R;;;;N;;;;;  
 10B38;AVESTAN SEPARATION POINT;Po;0;ON;;;;N;;;;;  
 10B39;AVESTAN ABBREVIATION MARK;Po;0;ON;;;;N;;;;;  
 10B3A;TINY TWO DOTS OVER ONE DOT PUNCTUATION;Po;0;ON;;;;N;;;;;  
 10B3B;SMALL TWO DOTS OVER ONE DOT PUNCTUATION;Po;0;ON;;;;N;;;;;  
 10B3C;LARGE TWO DOTS OVER ONE DOT PUNCTUATION;Po;0;ON;;;;N;;;;;  
 10B3D;LARGE ONE DOT OVER TWO DOTS PUNCTUATION;Po;0;ON;;;;N;;;;;  
 10B3E;LARGE TWO RINGS OVER ONE RING PUNCTUATION;Po;0;ON;;;;N;;;;;  
 10B3F;LARGE ONE RING OVER TWO RINGS PUNCTUATION;Po;0;ON;;;;N;;;;;

## 9. Bibliography.

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TABLE XXX - Row 10B: AVESTAN

|   | 10B0 | 10B1 | 10B2 | 10B3     |
|---|------|------|------|----------|
| 0 | 𐬀    | 𐬁    | 𐬂    | 𐬃        |
| 1 | 𐬄    | 𐬅    | 𐬆    | 𐬇        |
| 2 | 𐬈    | 𐬉    | 𐬊    | 𐬋        |
| 3 | 𐬌    | 𐬍    | 𐬎    | 𐬏        |
| 4 | 𐬐    | 𐬑    | 𐬒    | 𐬓        |
| 5 | 𐬔    | 𐬕    | 𐬖    | 𐬗        |
| 6 | 𐬘    | 𐬙    | 𐬚    |          |
| 7 | 𐬛    | 𐬜    | 𐬝    |          |
| 8 | 𐬞    | 𐬟    | 𐬠    | ·        |
| 9 | 𐬡    | 𐬢    | 𐬣    | ◦        |
| A | 𐬤    | 𐬥    | 𐬦    | ∴        |
| B | 𐬧    | 𐬨    | 𐬩    | ∴        |
| C | 𐬪    | 𐬫    | 𐬬    | ∴        |
| D | 𐬭    | 𐬮    | 𐬯    | ∴        |
| E | 𐬰    | 𐬱    | 𐬲    | ◦◦<br>◦◦ |
| F | 𐬳    | 𐬴    | 𐬵    | ◦◦<br>◦◦ |

G = 00  
P = 01

**TABLE XXX - Row 10B: AVESTAN**

| hex | Name                                      |
|-----|---|
| 00  | AVESTAN LETTER A                          |
| 01  | AVESTAN LETTER AA                         |
| 02  | AVESTAN LETTER AO                         |
| 03  | AVESTAN LETTER AAO                        |
| 04  | AVESTAN LETTER AN                         |
| 05  | AVESTAN LETTER AAN                        |
| 06  | AVESTAN LETTER AE                         |
| 07  | AVESTAN LETTER AEE                        |
| 08  | AVESTAN LETTER E                          |
| 09  | AVESTAN LETTER EE                         |
| 0A  | AVESTAN LETTER O                          |
| 0B  | AVESTAN LETTER OO                         |
| 0C  | AVESTAN LETTER I                          |
| 0D  | AVESTAN LETTER II                         |
| 0E  | AVESTAN LETTER U                          |
| 0F  | AVESTAN LETTER UU                         |
| 10  | AVESTAN LETTER KE                         |
| 11  | AVESTAN LETTER XE                         |
| 12  | AVESTAN LETTER XYE                        |
| 13  | AVESTAN LETTER XVE                        |
| 14  | AVESTAN LETTER GE                         |
| 15  | AVESTAN LETTER GGE                        |
| 16  | AVESTAN LETTER GHE                        |
| 17  | AVESTAN LETTER CE                         |
| 18  | AVESTAN LETTER JE                         |
| 19  | AVESTAN LETTER TE                         |
| 1A  | AVESTAN LETTER THE                        |
| 1B  | AVESTAN LETTER DE                         |
| 1C  | AVESTAN LETTER DHE                        |
| 1D  | AVESTAN LETTER TTE                        |
| 1E  | AVESTAN LETTER PE                         |
| 1F  | AVESTAN LETTER FE                         |
| 20  | AVESTAN LETTER BE                         |
| 21  | AVESTAN LETTER BHE                        |
| 22  | AVESTAN LETTER NGE                        |
| 23  | AVESTAN LETTER NGYE                       |
| 24  | AVESTAN LETTER NGVE                       |
| 25  | AVESTAN LETTER NE                         |
| 26  | AVESTAN LETTER NYE                        |
| 27  | AVESTAN LETTER NNE                        |
| 28  | AVESTAN LETTER ME                         |
| 29  | AVESTAN LETTER HME                        |
| 2A  | AVESTAN LETTER YYE                        |
| 2B  | AVESTAN LETTER YE                         |
| 2C  | AVESTAN LETTER VE                         |
| 2D  | AVESTAN LETTER RE                         |
| 2E  | AVESTAN LETTER LE                         |
| 2F  | AVESTAN LETTER SE                         |
| 30  | AVESTAN LETTER ZE                         |
| 31  | AVESTAN LETTER SHE                        |
| 32  | AVESTAN LETTER ZHE                        |
| 33  | AVESTAN LETTER SHYE                       |
| 34  | AVESTAN LETTER SSHE                       |
| 35  | AVESTAN LETTER HE                         |
| 36  | (This position shall not be used)         |
| 37  | (This position shall not be used)         |
| 38  | AVESTAN SEPARATION POINT                  |
| 39  | AVESTAN ABBREVIATION MARK                 |
| 3A  | TINY TWO DOTS OVER ONE DOT PUNCTUATION    |
| 3B  | SMALL TWO DOTS OVER ONE DOT PUNCTUATION   |
| 3C  | LARGE TWO DOTS OVER ONE DOT PUNCTUATION   |
| 3D  | LARGE ONE DOT OVER TWO DOTS PUNCTUATION   |
| 3E  | LARGE TWO RINGS OVER ONE RING PUNCTUATION |
| 3F  | LARGE ONE RING OVER TWO RINGS PUNCTUATION |

| hex | Name |
|-----|------|
|     |      |

# Figures

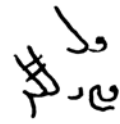
|    |     |    |    |     |                |    |      |                |
|----|-----|----|----|-----|----------------|----|------|----------------|
| 1  | 𐬀   | a  | 17 | 𐬁   | k              | 35 | 𐬓    | 𐬎              |
| 2  | 𐬁   | ā  | 18 | 𐬂   | x              | 36 | 𐬔    | 𐬎              |
| 3  | 𐬂   | ā̇ | 19 | 𐬃   | č              | 37 | 𐬕    | 𐬎 <sup>v</sup> |
| 4  | 𐬃   | ā̈ | 20 | 𐬄   | x <sup>v</sup> | 38 | 𐬖    | n              |
| 5  | 𐬄   | q  | 21 | 𐬅   | g              | 39 | 𐬗/𐬘  | 𐬎              |
| 6  | 𐬅/𐬆 | q̇ | 22 | 𐬆   | ġ             | 40 | 𐬙    | 𐬎              |
| 7  | 𐬆   | ə  | 23 | 𐬇   | ɾ              | 41 | 𐬚    | m              |
| 8  | 𐬇   | ē  | 24 | 𐬈   | c              | 42 | 𐬛    | 𐬎              |
| 9  | 𐬈   | e  | 25 | 𐬉   | j              | 43 | 𐬜    | y              |
| 10 | 𐬉   | ē  | 26 | 𐬊   | t              | 44 | 𐬝    | v              |
| 11 | 𐬊   | o  | 27 | 𐬋   | θ              | 45 | 𐬞    | r              |
| 12 | 𐬋   | ō  | 28 | 𐬌   | d              | 46 | 𐬟    | š              |
| 13 | 𐬌   | i  | 29 | 𐬍/𐬎 | ð              | 47 | 𐬐    | s              |
| 14 | 𐬍   | ī  | 30 | 𐬏/𐬐 | t̄             | 48 | 𐬑    | z              |
| 15 | 𐬎   | u  | 31 | 𐬒   | p              | 49 | 𐬓    | š              |
| 16 | 𐬏   | ū  | 32 | 𐬔   | f              | 50 | 𐬕    | ž              |
|    |     |    | 33 | 𐬕   | b              | 51 | 𐬖    | š              |
|    |     |    | 34 | 𐬗   | β              | 52 | 𐬘    | y              |
|    |     |    |    |     |                | 53 | 𐬙(𐬚) | h              |

Figure 1. Avestan alphabet from Geldner's 1880 edition of the *Avesta*.

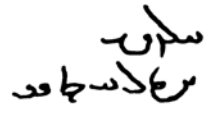
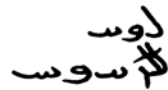
### Schrifttafel der Avesta-Schrift

|          |           |                      |                      |           |           |          |           |          |          |
|----------|-----------|----------------------|----------------------|-----------|-----------|----------|-----------|----------|----------|
| 1        | 2         | 3                    | 4                    | 5         | 6         | 7        | 8         |          |          |
| 𐬀        | 𐬁         | 𐬂                    | 𐬃                    | 𐬄         | 𐬅 𐬆       | 𐬇        | 𐬈         |          |          |
| <i>a</i> | <i>ā</i>  | <i>ā̇</i>            | <i>ā̈</i>            | <i>a</i>  | <i>ā̇</i> | <i>a</i> | <i>ā̈</i> |          |          |
|          |           | 9                    | 10                   | 11        | 12        | 13       | 14        | 15       | 16       |
|          |           | 𐬉                    | 𐬊                    | 𐬋         | 𐬌         | 𐬍        | 𐬎         | 𐬏        | 𐬐        |
|          |           | <i>e</i>             | <i>ē</i>             | <i>o</i>  | <i>ō</i>  | <i>i</i> | <i>ī</i>  | <i>u</i> | <i>ū</i> |
| 17       | 18        | 19                   | 20                   | 21        | 22        | 23       |           |          |          |
| 𐬑        | 𐬒         | 𐬓                    | 𐬔                    | 𐬕         | 𐬖         | 𐬗        |           |          |          |
| <i>k</i> | <i>x</i>  | <i>ẋ</i>            | <i>x<sup>v</sup></i> | <i>g</i>  | <i>ġ</i> | <i>γ</i> |           |          |          |
| 24       | 25        |                      |                      |           |           |          |           |          |          |
| 𐬘        | 𐬙         |                      |                      |           |           |          |           |          |          |
| <i>c</i> | <i>j</i>  |                      |                      |           |           |          |           |          |          |
| 26       | 27        | 28                   | 29                   | 30        |           |          |           |          |          |
| 𐬚        | 𐬛         | 𐬜                    | 𐬝 𐬞                  | 𐬟 𐬠       |           |          |           |          |          |
| <i>t</i> | <i>θ</i>  | <i>d</i>             | <i>δ</i>             | <i>t</i>  |           |          |           |          |          |
| 31       | 32        | 33                   | 34                   |           |           |          |           |          |          |
| 𐬡        | 𐬢         | 𐬣                    | 𐬤                    |           |           |          |           |          |          |
| <i>p</i> | <i>f</i>  | <i>b</i>             | <i>β</i>             |           |           |          |           |          |          |
| 35       | 36        | 37                   | 38                   | 39        | 40        | 41       | 42        |          |          |
| 𐬧        | 𐬨         | 𐬩                    | 𐬪                    | 𐬫 𐬬       | 𐬭         | 𐬮        | 𐬯         |          |          |
| <i>ŋ</i> | <i>ŋ̇</i> | <i>ŋ<sup>v</sup></i> | <i>n</i>             | <i>ṅ</i> | <i>n</i>  | <i>m</i> | <i>ṁ</i> |          |          |
| 43       | 44        | 45                   | 46                   |           |           |          |           |          |          |
| 𐬲        | 𐬳         | 𐬴 𐬵                  | 𐬶                    |           |           |          |           |          |          |
| <i>y</i> | <i>γ</i>  | <i>v</i>             | <i>r</i>             |           |           |          |           |          |          |
| 47       | 48        | 49                   | 50                   | 51        | 52        |          |           |          |          |
| 𐬷        | 𐬸         | 𐬹                    | 𐬺                    | 𐬻         | 𐬼         |          |           |          |          |
| <i>s</i> | <i>z</i>  | <i>š</i>             | <i>ž</i>             | <i>ṧ</i> | <i>ž̇</i> |          |           |          |          |
| 53       |           |                      |                      |           |           |          |           |          |          |
| 𐬽 𐬾      |           |                      |                      |           |           |          |           |          |          |
| <i>h</i> |           |                      |                      |           |           |          |           |          |          |

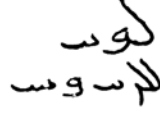
**Figure 2.** Avestan alphabet according to Hoffmann & Forssman 1996.

|  |                               |   |
|--|-------------------------------|---|
| gl [gil]                                       | گل، لجن                       |  |
|  | [ gäl.gā. gāll. gālln ] gilln | فارسی میانه: gil، بازند: gilln  |
| <sup>pp</sup><br>Hau. 219, Mäck. 36, Junk. 119 | <sup>pd</sup>                 | <sup>f</sup>  |

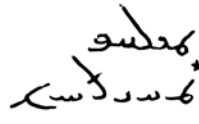
**Figure 3a.** Example in the second line (the first is Pahlavi) of doubled LETTER LE in گیلن *gilln* from Oryan 1999. The double bar does not appear to have significance. Oryan ligates in his handwriting, and uses the stroke form 𐭪 rather than the ring form 𐭫.

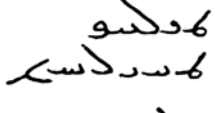
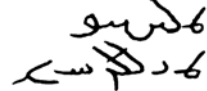
|              |    |   |
|--------------|----|---|
| hlws/xraōs   | نی |  |
| LKA / llnaka | نی |  |

**Figure 3b.** Example in the fourth line of doubled LETTER LE in لیلنک *llnakā* from Oryan 1999.

|   |                                   |   |
|---|-----------------------------------|---|
| LKA[būm]  | بوم، سرزمین، قلمرو خاکی،<br>ولایت |  |
| آرامی باستان، آرامی امپراطوری، ماندایی: arqā، صورت کهن تر:<br>ar'ā، نبطی، پالمیری: r'ē، آرامی کتاب مقدس: ʿāraq=ʿāraṣ سریانی:<br>r'ē، بازند: [lakā] llnakā |                                   |   |
| <sup>f</sup><br>Gese.1083, Nyb.41, 62, Junk.107   | <sup>f</sup>                      |   |

**Figure 3c.** Example in the second line of doubled LETTER RE used for [l] in ریلنک *rrnakā* from Oryan 1999.

|  |               |   |
|--|---------------|---|
| MYLA -k [namak]  | نمک           |  |
| عبری: melah = عبری نو، آرامی، سریانی: milḥā، آرامی باستان، آرامی<br>امپراطوری، پالمیری، آرامی کتاب مقدس، آرامی یهودی، فلسطینی<br>مسیحی، ماندایی: milḥā برای milā > milḥā، مقایسه شود با ماندایی<br>mišā > mišā = روغن، عبری: ملح، بازند: mailāy [mālai].<br>[mailāi. m(a)illnāy] |               |   |
| <sup>f</sup><br>Nyb. 48, 87, Hau. 153, 159, Gese. 571, Sm. 276, Dro. 266, 270,<br>Junk.115   | <sup>pp</sup> | <sup>s</sup> <sup>m</sup>   |

|                 |    |   |
|-----------------|----|---|
| MYLA- k/ mailāy | نی |  |
| MYLA-k/mailāy   | نی |  |

**Figure 3d.** Example in the second line of a single LETTER LE in ریلنک *mailāy* from Oryan 1999. Compare ریلنک *mairāy* in the fourth line and ریلنک *millnāy* in the sixth.





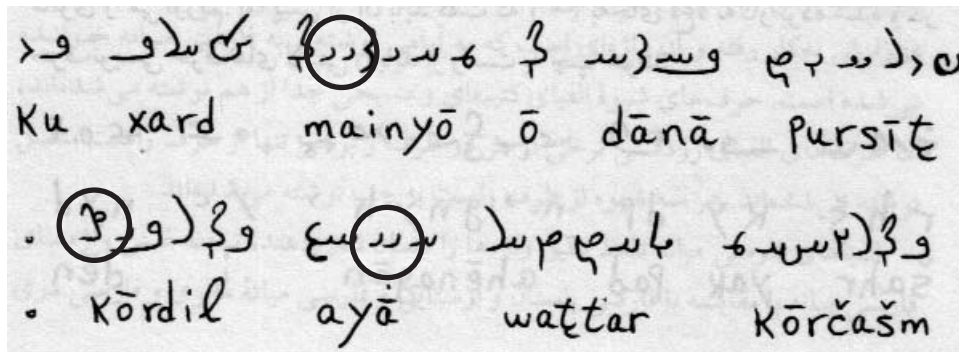


Figure 6. Handwritten sample of Avestan text with transliteration from Abolghassemi 1995, showing 𐬨 for *l* as well as 𐬯 *ii* transliterated as *y*.

جدول III. الفباى اوستايى يا «دين ديبرى»\*

حرفهاى الفبا

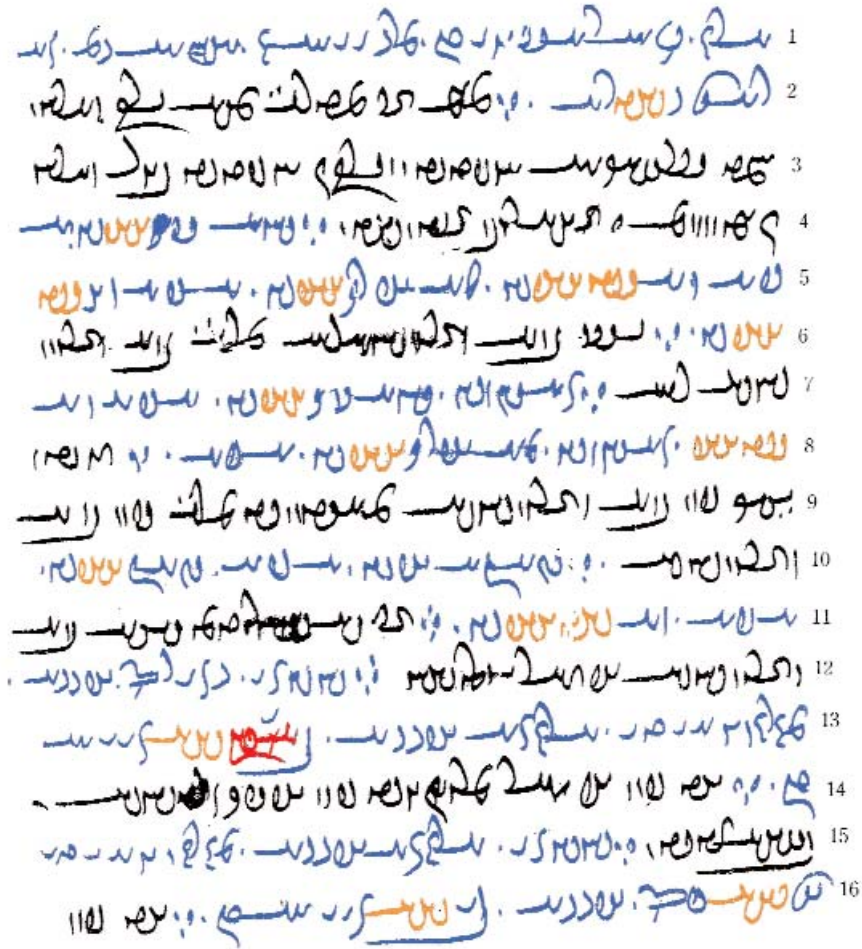
|      |      |      |      |                          |      |      |      |      |
|------|------|------|------|--------------------------|------|------|------|------|
| 1 𐬀  | 2 𐬁  | 3 𐬂  | 4 𐬃  | 5 𐬄                      | 6 𐬅  | 7 𐬆  | 8 𐬇  | 9 𐬈  |
| 10 𐬉 | 11 𐬊 | 12 𐬋 | 13 𐬌 | 14 𐬍                     | 15 𐬎 | 16 𐬏 | 17 𐬐 | 18 𐬑 |
| 19 𐬒 | 20 𐬓 | 21 𐬔 | 22 𐬕 | 23 𐬖                     | 24 𐬗 | 25 𐬘 | 26 𐬙 | 27 𐬚 |
| 28 𐬛 | 29 𐬜 | 30 𐬝 | 31 𐬞 | 32 𐬟                     | 33 𐬠 | 34 𐬡 | 35 𐬢 | 36 𐬣 |
| 37 𐬤 | 38 𐬥 | 39 𐬦 | 40 𐬧 | 41 𐬨                     | 42 𐬩 | 43 𐬪 | 44 𐬫 | 45 𐬬 |
| 46 𐬭 | 47 𐬮 | 48 𐬯 | 49 𐬰 | نویسه‌هاى بیوسته — 𐬱 𐬲 𐬳 |      |      |      |      |

Figure 7. Avestan alphabet from Adib-Soltani 2000, showing 𐬥 *ii* and 𐬮 *uu*. Also shown are the ligatures ša 𐬱, šc 𐬲, and 𐬳 št.

(210) Das Awesta-Alphabet

|   | Zeichen | Lautwert |    | Zeichen | Lautwert  |    | Zeichen | Lautwert |    | Zeichen | Lautwert |    | Zeichen | Lautwert |
|---|---------|----------|----|---------|-----------|----|---------|----------|----|---------|----------|----|---------|----------|
| 1 | 𐬀       | a        | 10 | 𐬊       | ā (nasal) | 19 | 𐬑       | č        | 28 | 𐬗       | f        | 37 | 𐬙       | v        |
| 2 | 𐬁       | ā        | 11 | 𐬋       | i         | 20 | 𐬌       | ǰ        | 29 | 𐬘       | w        | 38 | 𐬥       | v        |
| 3 | 𐬂       | e        | 12 | 𐬍       | ē         | 21 | 𐬎       | t        | 30 | 𐬙       | η        | 39 | 𐬦       | r        |
| 4 | 𐬃       | ē        | 13 | 𐬏       | u         | 22 | 𐬐       | d        | 31 | 𐬚       | ñ        | 40 | 𐬧       | s        |
| 5 | 𐬄       | ə        | 14 | 𐬑       | ū         | 23 | 𐬒       | ḃ        | 32 | 𐬛       | n        | 41 | 𐬨       | z        |
| 6 | 𐬅       | ā        | 15 | 𐬓       | k         | 24 | 𐬔       | ḃ        | 33 | 𐬜       | n, m     | 42 | 𐬩       | š        |
| 7 | 𐬆       | o        | 16 | 𐬕       | g         | 25 | 𐬖       | t        | 34 | 𐬝       | m        | 43 | 𐬪       | š        |
| 8 | 𐬇       | ō        | 17 | 𐬗       | h         | 26 | 𐬘       | p        | 35 | 𐬞       | y        | 44 | 𐬫       | š        |
| 9 | 𐬈       | á        | 18 | 𐬙       | γ         | 27 | 𐬚       | b        | 36 | 𐬟       | y        | 45 | 𐬬       | ž        |
|   |         |          |    |         |           |    |         |          |    |         |          |    | 𐬱       | ša       |
|   |         |          |    |         |           |    |         |          |    |         |          |    | 𐬲       | šc       |
|   |         |          |    |         |           |    |         |          |    |         |          |    | 𐬳       | št       |

Figure 8. Avestan alphabet from Haarmann 1990, showing 𐬥 *ii* and 𐬮 *uu*. Also shown are the ligatures ša 𐬱, šc 𐬲, and 𐬳 št.



(コペンハーゲン大学図書館所蔵 K1 (330 葉表) - Vidēvdāt 21.2~3)

**Figure 9.** Manuscript of the Avestan *Vidēvāt* text from Kōno *et al.* 2001. The blue text is in Avestan script with the ligatures  $\text{𐬀𐬀}$  *št*,  $\text{𐬀𐬀}$  *ah*, and  $\text{𐬀𐬀}$  *ša* marked in orange. The remaining text in black is Pahlavi script, with Aramaic and Middle Persian spellings. An error, scratched-out by the scribe, is shown in red in line 13.

1. [baēuu]arə.vāras.ciṭ mruiiā ašāum za-
2. raθuštra .: MDM ZK mtlg MYA l-LK w'l'n'
3. AMT slyškyh 'wptyt'W l-LK-c 'wptyt bywl w'l'n
4. -c YMRRRWN'-m. z 'hlwb' zltwšt .: yaskahe a-
5. panaštahe mahrkahe apanašt-
6. ahe .: ysk BRA OZLWNšnyh l'y mlg BRA OZLWN-
7. šnyh l'y .: jaene-yaskahe apana-
8. štah jaene.mahrkahe apa. .: znyt'
9. ysk PWN BRA OZLWNšnyh MHYTWNyt nlg PWN BRA
10. OZLWNšnyh gaḍahe apa.gaḍahe
11. apa.naštahe .: ZK g'd' LWTE g'd' BRA
12. OZLWNšnyh 'pz'l Y OLEš'n .: yezi uzirō.-huua
13. mərəncaiti arəzahuuā baēišaziīā-
14. t .: HT PWN 'pz'l mlncynyt PWN 'pyck wltšnyh
15. nyš'zynyt .: yezi arəzahuuā mərəncaiti
16. xšapō.huua bišaziīāt .: HT PWN

2  
 3

Printed text of the Avestan *Vidēvāt* text given in Figure 9 from Geldner 2003. The blue text is in Avestan script with the ligatures  $\text{𐬀𐬎}$  *št* marked in orange. Compare this with Figure 9, where the ligatures  $\text{𐬀𐬎}$  *ah* and  $\text{𐬀𐬎}$  *ša* are used; these ligatures are not used in Geldner's edition, because Geldner does not prefer the  $\text{𐬀𐬎}$  *ah* ligature, and because in this text he used  $\text{𐬀𐬎}$  *ša* not  $\text{𐬀𐬎}$  *ša* so the second ligature does not apply. These are shown in purple so they can be compared with Figure 9. The Pahlavi text from the original is not represented.

**Figure 10.** Printed text of the Avestan *Vidēvāt* text given in Figure 9 from Geldner 2003. The blue text is in Avestan script with the ligatures  $\text{𐬀𐬎}$  *št* marked in orange. Compare this with Figure 9, where the ligatures  $\text{𐬀𐬎}$  *ah* and  $\text{𐬀𐬎}$  *ša* are used; these ligatures are not used in Geldner's edition, because Geldner does not prefer the  $\text{𐬀𐬎}$  *ah* ligature, and because in this text he used  $\text{𐬀𐬎}$  *ša* not  $\text{𐬀𐬎}$  *ša* so the second ligature does not apply. These are shown in purple so they can be compared with Figure 9. The Pahlavi text from the original is not represented.



**Figure 11.** Example from Pietraszewski 1858 showing AVESTAN LETTER LE. The TURNED END OF SECTION is also represented

۱۳۲۳ سال گلدنرد در سال ۱۳۲۵ بقول گلدنرد در سال ۱۳۲۳  
 بدست هیربد مهربان کیخسرو مهربان اسفندیار مهربان مرزبان بهرام نوشته شده است  
 الحال در کوینهاگ موجود است  
 A SPECIMEN OF THE OLDEST MANUSCRIPT OF THE YASNA, K5, COPENHAGEN LIBRARY

Figure 12. Sample from one of the earliest Yasna manuscripts, from Poure Davoud 1927.

# AWESTISCH

| Zeichen | Lautwert | Bemerkungen                                   | Zeichen   | Lautwert       | Bemerkungen  |
|---------|----------|---|---|----------------|--|
| ⌘       | a        | Besser o.                                     | ⌘   | p              |  |
| ⌘       | ā        | Besser ō.                                     | ⌘   | f              | Abart d. vorigen.  |
| ⌘       | i        |   | ⌘   | b              | Besser β.  |
| ⌘       | ī        |   | ⌘   | w              | Ursprünglich Ligatur.                                    |
| ⌘       | y        | Inlautsform.                                  | ⌘   | n              |  |
| ⌘       | y        | Anlautsform.                                  | ⌘   | n              | Ursprünglich Ligatur.                                    |
| ⌘       | u        |   | ⌘   | m              |  |
| ⌘       | ū        |   | ⌘   | r              |  |
| ⌘       | v        | Inlautsform.                                  | ⌘   | s              |  |
| ⌘       | v        | Anlautsform.                                  | ⌘   | š              |  |
| ⌘       | o        |   | ⌘   | š              | Verlesen, ursprünglich Ligatur u ā r.                    |
| ⌘       | ō        |   | ⌘   | š              | š, besonders vory, ursprünglich Ligatur šy, šk.          |
| ⌘       | ə        | } Besser o, u.                                | ⌘   | z              |  |
| ⌘       | ō        |   |   |                |  |
| ⌘       | ṛ        | } Verlesen, gleich dem vorigen Zeichen, o, u. | <b>Ligaturen,</b><br>d. h. noch in den Handschriften mit dem Wert mehrerer Buchstaben verwendete Zeichen. |                |  |
| ⌘       | k        |   |   |                |  |
| ⌘       | γ        | Ältere Form des vorigen.                      | ⌘   | ah             | Besser oā.   |
| ⌘       | χ        |   | ⌘   | ā              | = ā + ə.   |
| ⌘       | h        | Abart des vorigen.                            | ⌘   | a              | Besser on, un, mißbräuchlich auch für ō vor m verwendet. |
| ⌘       | g        | Besser γ, ursprünglich Ligatur γ + u.         | ⌘   | ā              | Mißdeutet aus Ligatur o + i.                             |
| ⌘       | č (tš)   |   | ⌘   | e              | } Ligatur y + o.   |
| ⌘       | ĵ        | Besser ž, ältere Form d. vorigen.             | ⌘   | ē              |  |
| ⌘       | ž        | Ursprünglich Ligatur.                         | ⌘   | x <sup>v</sup> | Besser χ + v.  |
| ⌘       | t        |   | ⌘   | h <sup>v</sup> | Ältere Form des vorigen.                                 |
| ⌘       | t        | Ältere Form des vorigen.                      | ⌘   | hm             |  |
| ⌘       | š        | } Abarten des š.                              | ⌘   | št             |  |
| ⌘       | š        |   |   | ⌘              | šč   |
| ⌘       | d        | Besser đ.                                     | ⌘   | ša             | Besser šo.   |

Die Awesta-Typen sind Eigentum der Göttinger Gesellschaft der Wissenschaften und von der Universitätsdruckerei Kaestner in Göttingen zur Verfügung gestellt worden.

**Allgemeines.** Awesta, ungenau auch Zend oder Zendawesta genannt, ist die Bezeichnung für die heilige Literatur der Parsen, der Anhänger Zoroasters (Zarathustras). Die Sprache dieses Religionsstifters, dessen Leben nicht später als 1000 v. Chr. angesetzt werden darf, ist ein ostiranischer Dialekt, der bald ausstarb. Die ältesten Teile des Awesta gehen auf Zoroaster selbst oder seine nächste Umgebung zurück. Das übrige, sogen. jüngere Awesta ist erst später, z. T. in mittelpersischer Zeit, entstanden. Überliefert wurde das Awesta in Persien, also in Westiran, wo die Zoroasterlehre bis zum Eindringen des Islam Staatsreligion war. Unsere handschriftliche Überlieferung geht nicht über das Jahr 1200 n. Chr. rückwärts hinaus.

Das Awestaalphabet ist gegen 400 n. Chr. aus einem zeichenärmeren Alphabet semitischen Ursprungs umgeschrieben worden, dessen kursive Form im Pehlewialphabet (siehe dort) vorliegt. Durch Differenzierung der vorhandenen Buchstaben führte man einerseits besondere Vokalzeichen ein und suchte andererseits auch dem Konsonantenreichtum der Sprache gerechter zu werden. Das führte indes zu vielen Irrtümern, da die Schreiber selbst Mittelpersisch sprachen und jene alte ostiranische Sprache nicht mehr verstanden. Schriftgeschichtlich interessant ist die immer mehr zunehmende Verwendung von Ligaturen, die man später fälschlich als einfache Zeichen las und schrieb.

Die Awestaschrift wird von rechts nach links gelesen; eine feste Silbentrennung besteht in den Handschriften nicht.

**Interpunktion.**  
 ○ Worttrenner.  
 ○○ am Ende eines Satzes.

**Literatur.**  
 H. Reichelt, Awestisches Elementarbuch. Heidelberg: Winter 1909, aber ohne genügende Berücksichtigung der Schriftgeschichte.

Figure 13. Avestan alphabet in the font catalogue of the Reichsdruckerei, 1924.

ALPHABET AVESTIQUE.

| FIGURES. | VALEUR.   | FIGURES. | VALEUR.       | FIGURES. | VALEUR.                   | FIGURES. | VALEUR.   |
|----------|-----------|----------|---------------|----------|---------------------------|----------|-----------|
| 𐬀        | a         | 𐬁        | āo , à        | 𐬂        | ð (ð spirant)             | 𐬑        | y médian  |
| 𐬃        | ä         | 𐬃        | a̅ (a nasal)  | 𐬄        | p                         | 𐬒        | v init.   |
| 𐬄        | i         | 𐬄        | k             | 𐬅        | f                         | 𐬓        | v médian  |
| 𐬅        | ī         | 𐬅        | x (h spirant) | 𐬆        | h                         | 𐬔        | r         |
| 𐬆        | u         | 𐬆        | g             | 𐬇        | w                         | 𐬕        | s         |
| 𐬇        | ū         | 𐬇        | γ (g spirant) | 𐬈        | n                         | 𐬖        | z         |
| 𐬈        | e muet, ə | 𐬈        | č             | 𐬉        | ñ (nas. gutt.)            | 𐬗        | š         |
| 𐬉        | e muet, ē | 𐬉        | j             | 𐬊        | n' (n mouillé)            | 𐬘        | š         |
| 𐬊        | e         | 𐬊        | t             | 𐬋        | m                         | 𐬙        | ž         |
| 𐬋        | ē         | 𐬋        | θ (t spirant) | 𐬌        | n et m devant<br>consonne | 𐬚        | h         |
| 𐬌        | o         | 𐬌        | t (t final)   | 𐬍        | y init.                   | 𐬛        | h' palata |
| 𐬍        | ō         | 𐬍        | d             | 𐬎        |                           | 𐬜        | x'        |

LIGATURES.

|    |     |    |     |    |     |    |    |
|----|-----|----|-----|----|-----|----|----|
| 𐬚𐬛 | dat | 𐬛𐬚 | dā  | 𐬛𐬚 | bð  | 𐬛𐬚 | zd |
| 𐬚𐬛 | dāt | 𐬛𐬚 | dū  | 𐬛𐬚 | bāð | 𐬛𐬚 | zb |
| 𐬛𐬚 | dād | 𐬛𐬚 | duy | 𐬛𐬚 | bā  | 𐬛𐬚 | št |
| 𐬛𐬚 | dād | 𐬛𐬚 | bd  | 𐬛𐬚 | bū  | 𐬛𐬚 | hm |

TEXTE AVESTIQUE AVEC TRANSCRIPTION LETTRE À LETTRE.

𐬀𐬁𐬃𐬅𐬆𐬇𐬉𐬊𐬍𐬎𐬑𐬒𐬓𐬔𐬕𐬖𐬗𐬘𐬙𐬚𐬛𐬜𐬞𐬟  
amat ips ōy bi e anām n ōy bi e a a č a h su ā dzam ō ruh a tō arm ta ā  
𐬀𐬁𐬃𐬅𐬆𐬇𐬉𐬊𐬍𐬎𐬑𐬒𐬓𐬔𐬕𐬖𐬗𐬘𐬙𐬚𐬛𐬜𐬞𐬟  
a č anav ā h a č amoah a č a t š a t a č amsərab a č mərət ā art š ułaraz  
𐬀𐬁𐬃𐬅𐬆𐬇𐬉𐬊𐬍𐬎𐬑𐬒𐬓𐬔𐬕𐬖𐬗𐬘𐬙𐬚𐬛𐬜𐬞𐬟  
ōy ti ā d ā n a θ a y e h a nəy an m nəy arab mət s i r i a č a h su  
𐬀𐬁𐬃𐬅𐬆𐬇𐬉𐬊𐬍𐬎𐬑𐬒𐬓𐬔𐬕𐬖𐬗𐬘𐬙𐬚𐬛𐬜𐬞𐬟  
a č it i e y ri a x a č it i e y ri a b i ā y ti ā d

(Vendidad, V, 40.)

Figure 14. Avestan alphabet with numerous ligatures given in Fossey 1948. Most of the ligatures shown here are “kerning” ligatures formed by the interaction of swash tails. One of the four “standard” ligatures, 𐬛𐬚 št, is also shown. In the sample text, however, the ligature is not used.

۱. ۲. ۳. ۴. ۵. ۶. ۷. ۸.  
 ۱. ۲. ۳. ۴. ۵. ۶. ۷. ۸.  
 ۱. ۲. ۳. ۴. ۵. ۶. ۷. ۸.  
 ۱. ۲. ۳. ۴. ۵. ۶. ۷. ۸.  
 ۱. ۲. ۳. ۴. ۵. ۶. ۷. ۸.  
 ۱. ۲. ۳. ۴. ۵. ۶. ۷. ۸.  
 ۱. ۲. ۳. ۴. ۵. ۶. ۷. ۸.  
 ۱. ۲. ۳. ۴. ۵. ۶. ۷. ۸.

**Figure 15.** Passage of Avestan text from Geldner 1880 showing FULL STOP (with fletched arrow) alongside AVESTAN SEPARATION POINTS.

۱. ۲. ۳. ۴. ۵. ۶. ۷. ۸.  
 ۱. ۲. ۳. ۴. ۵. ۶. ۷. ۸.  
 ۱. ۲. ۳. ۴. ۵. ۶. ۷. ۸.  
 ۱. ۲. ۳. ۴. ۵. ۶. ۷. ۸.  
 ۱. ۲. ۳. ۴. ۵. ۶. ۷. ۸.  
 ۱. ۲. ۳. ۴. ۵. ۶. ۷. ۸.  
 ۱. ۲. ۳. ۴. ۵. ۶. ۷. ۸.  
 ۱. ۲. ۳. ۴. ۵. ۶. ۷. ۸.

**Figure 16.** Passage of Avestan text from Geldner 1880 showing AVESTAN COLON (centre) alongside AVESTAN END OF SENTENCE (top and bottom).



Punctuation is a weak point in the manuscripts. They have various signs of punctuation, indeed, but they have no system of punctuation. I had to devise a system for myself, based upon the signs that are found: thus, ∴ is a colon, ∵ semicolon or period, ∙ denotes the close of a paragraph or the end of a sentence, ∘ a greater division, ∘∘ the end of a chapter. In texts with Pahlavî and Sanskrit translation, this version takes the place of punctuation. The text is cut up by the translation into sentences of varied length, sometimes of only one or two words. For the most part, however, the explanation is inserted at an actual break in the sentence. It is only in the rarest instances that the manuscripts vary in this traditional division of the sentence.<sup>1</sup> In the sâda-texts, on the contrary, the text runs along without break until the first large division, with a mark of punctuation thrown in only here and there.<sup>2</sup> A general exception is made in the Gâthâs, where the close of the strophe is regularly denoted by the star. Where the translation was wanting I was therefore often thrown upon my own resources as regards punctuation. In that case the punctuation may be regarded in doubtful instances simply as subjective. In the Vendidâd I have adhered almost absolutely to the division of sentences by the Pahlavî translation, and have indicated the same either by a larger point (.), or by ∵ where the sentence ends. I regret that I did not do this consistently also in the Yasna; although even there the larger point for the most part denotes a division by the translation.<sup>3</sup> Sometimes, however, I have departed from

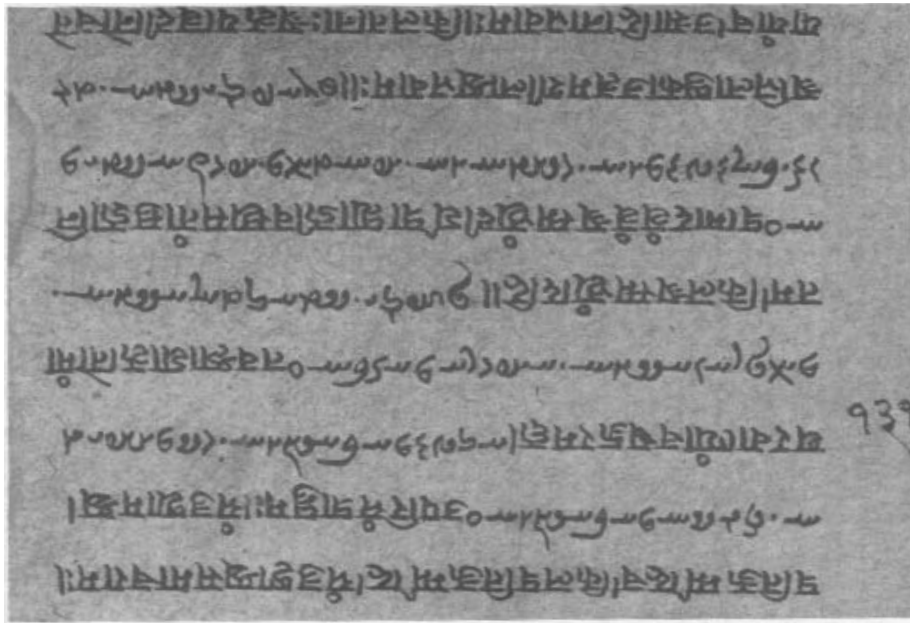
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<sup>1</sup> Examples are found in Y. 20 and 21.

<sup>2</sup> More frequent in the Persian Vd. sâdas as an after-effect of the P.V.

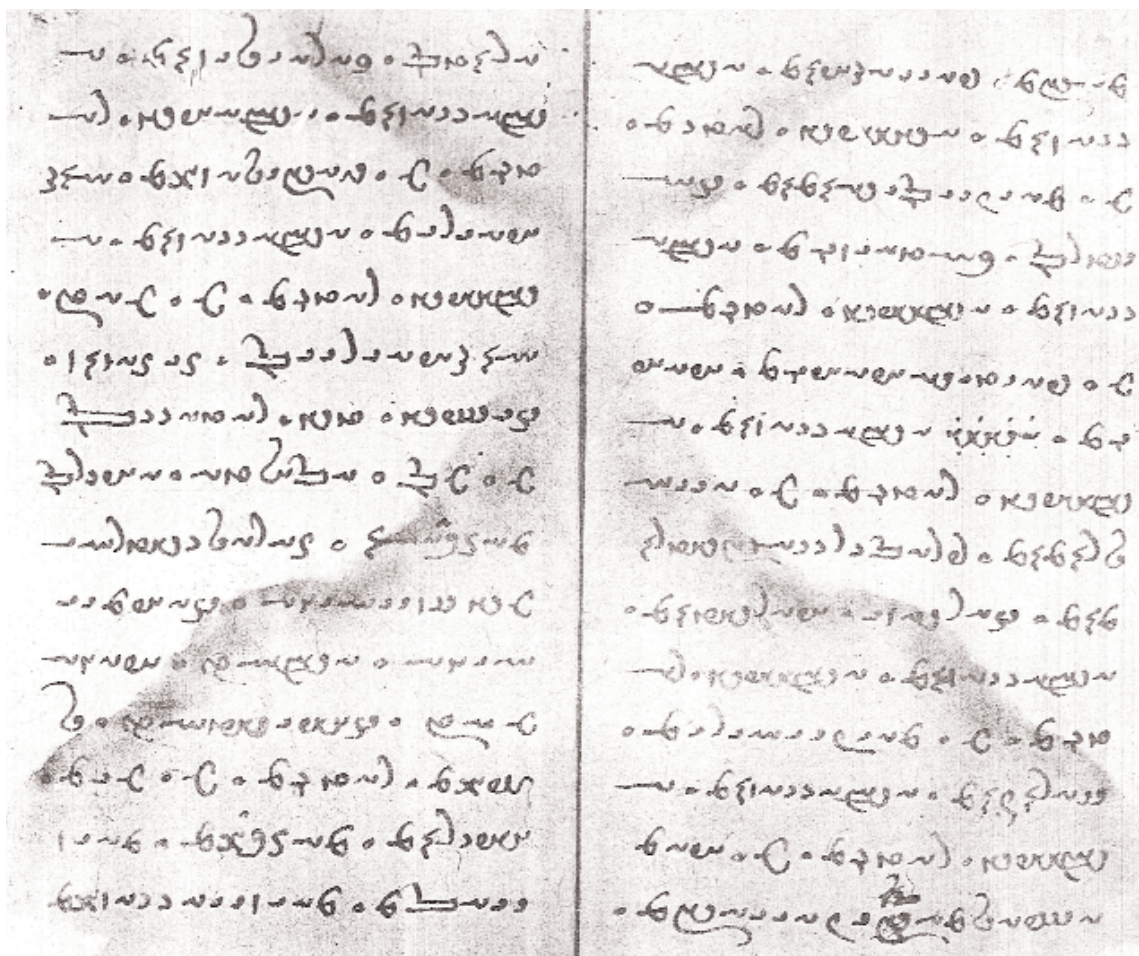
<sup>3</sup> The heavy point which was introduced by Westergaard has not,

**Figure 17.** Passage from Geldner's 1880 grammar discussing his systematic use of ∵ *Avestan colon*, ∵∵ *Avestan semicolon*, ∙∵ *Avestan end of sentence*, and ∘∘ *Avestan end of section*, as well as his use of sentence-final FULL STOP, to be distinguished from the AVESTAN SEPARATION POINT.



۶ صفحہ ای از یسنا عمراء با ترجمہ سنسکرت

**Figure 18.** Passage of Avestan and Sanskrit text from Rashed Mohassel 2003. The text is interesting, because either the Avestan or the Sanskrit is inverted so that both have the same directionality. The Avestan text uses ligature *st* and ligature *ah*. The RING POINT is seen here marking the end of a line of Avestan before text shifts to Devanagari. See N3193R for the RING POINT.



**Figure 19.** Sample of an Avestan Yasna manuscript Manuscript K7, fol 29v showing the use of the RING POINT. Taken from <http://avesta.org/gifs/samples.htm>. See N3193R for the RING POINT.

## A. Administrative

1. Title

**Proposal to encode the Avestan script in the BMP of the UCS**

2. Requester's name

**UC Berkeley Script Encoding Initiative (Universal Scripts Project)**

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

**Liaison contribution.**

4. Submission date

**2007-03-22**

5. Requester's reference (if applicable)

6. Choose one of the following:

6a. This is a complete proposal

**Yes.**

6b. More information will be provided later

**No.**

## 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

**Avestan.**

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

**61.**

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.

**Yes. See N2556, N1684.**

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?

**Hassan Rezaei Baghbidi (Department of Linguistics, University of Tehran), Hossein Masoumi Hamedani (Iranian Academy of Persian Language and Literature), Ali Reza Mohazab, Jost Gippert (TITUS Projekt), Desmond Durkin-Meisterernst, Günter Schweiger**

2c. If YES, available relevant documents

**<http://titus.fkdig1.uni-frankfurt.de/unicode/iranian/3tagung.htm>**

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

**Zoroastrians, Iranianists and other scholars.**

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

**Used liturgically and by scholars.**

4b. Reference

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

**Yes.**

5b. If YES, where?

**Religious and scholarly 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)?

**No.**

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?

**Yes.**

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

**Yes.**

10c. If YES, reference

**Discussion of similarities to other punctuation is found in N3193.**

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?