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

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Title: Proposal to encode additional Cyrillic characters in the BMP of the UCS

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Date: 2007-01-09
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**1. Introduction.** This document requests the addition of a number of Cyrillic characters to be added to the UCS. It also requests clarification in the Unicode Standard of four existing characters. This is a large proposal. While all of the characters are either Cyrillic characters (plus a couple which are used with the Cyrillic script), they are used by different communities. Some are used for non-Slavic minority languages and others are used for early Slavic philology and linguistics, while others are used in more recent ecclesiastical contexts. We considered the possibility of dividing the proposal into several proposals, but since this proposal involves changes to glyphs in the main Cyrillic block, adds a character to the main Cyrillic block, adds 16 characters to the Cyrillic Supplement block, adds 10 characters to the new Cyrillic Extended-A block currently under ballot, creates two entirely new Cyrillic blocks with 55 and 26 characters respectively, as well as adding two characters to the Supplementary Punctuation block, it seemed best for reviewers to keep everything together in one document.

2. Rehabilitation of existing characters. Four characters already encoded require clarification.

**CYRILLIC LETTER OMEGA WITH TITLO** (U+047C and U+047D) should have the reference glyphs changed from O and  $\circlearrowright$  to the glyphs given below, with three notes added:

0470 W CIKILLIC CAFITAL LETTER OMEDA WITH HILD	047C	Ĉ	CYRILLIC CAPITAL LETTER OMEGA WITH TITLO
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047D CYRILLIC SMALL LETTER OMEGA WITH TITLO

= cyrillic "beautiful omega"

- · despite its character name, this letter does not have a titlo
- · this character is not decomposable into a base with diacritics

**CYRILLIC LETTER UK** (U+0478 and U+0479) should have its reference glyphs changed to the glyphs given below, with three notes added:

- 0478 0y CYRILLIC CAPITAL LETTER UK
   0479 0y CYRILLIC SMALL LETTER UK

   this character has ambiguous glyph representation and should not be used
  - for "digraph uk" use U+043E and U+0443
  - for "monograph uk" use U+A6CB

**2. Additional letters for Mordvin, Kurdish, Aleut, and Chuvash.** Twelve of these characters are encoded in ISO 10754; the two additions for Aleut are used in ecclesiastical texts in Aleut, and are attested with both Grazhdanka and Slavonic letterforms.

LHA JXJX, RHA Kpx, and YAE Ææ are used in early orthographies of Mordvin for voiceless [1], [r], and [jæ] respectively. These were encoded in ISO 10754:1996 at positions 5A, 4A, 73, 63, 7E, and 6E respectively. They are not typographic ligatures. See Figures 1, 2, 3.

**Q**A Qq is used in Kurdish Cyrillic orthography and in early Abkhaz orthographies to represent [q]. These were encoded in ISO 10754:1996 at positions 56 and 46. In ISO 10754, as well as in early Abkhaz orthography, the glyph of the capital looks like an enlarged small q or like a reversed capital P. This variation is unknown for the Latin progenitor of the Cyrillic letter. See Figures 4, 5, 6, 7, 8, 9, 10, 37, 38a, 38c, 39c.

WE Ww is used in Kurdish Cyrillic orthography to represent [w]. These were encoded in ISO 10754:1996 at positions 78 and 68. The letter WE derives from the Latin letter W. It does not exhibit non-Latin shape behaviour (as QA does), but it does have non-Latin sorting behaviour (it comes between Cyrillic *Q* and I and not between Latin v and x). The argument ("when does an alphabetic adoption become naturalized?") is an old one, but the arguments against Cyrillic WE are weak. Kurdish Cyrillic makes use of 14 Cyrillic letters which are identical with Latin originals (Aa, Ee, Oo, Öö, Qq, Ww, and  $\exists \vartheta$ ), so why should two of these be considered "unnaturalized"? Since Kurdish is written in both Latin and Cyrillic alphabets, a multilingual wordlist cannot sort Kurdish correctly because Latin w cannot be in two places at the same time. By sorting, we mean ordinary plain-text sorting, for instance of files in a directory. Expecting Kurdish users to have recourse to special language-and-script tagging software for these two letters alone is simply not a credible defence for the retention of the unification. Continued unification of w with we will also likely mean that Russian Kurds will be unable to make use of IDN, as script mixing of Latin and Cyrillic is certainly to be frowned upon; the addition of wE will not make spoofability any worse than a, e, o,  $\ddot{o}$ , and  $\ddot{a}$  already do or than q will. The UTC and WG2 have also already ignored other cloneables: COMBINING CYRILLIC LETTER O and COMBINING CYRILLIC LETTER HA were not unified with their Latin lookalikes U+0366 or U+036F. This disunification is long overdue. (Indeed it is the last of the pernicious unhelpful unifications from the late 1980s.) See Figures 4, 5, 6, 7, 8, 9, 10.

ALEUT KA KK is used in Aleut Cyrillic orthography to represent [q]. See Figures 11, 12, 13.

EL WITH MIDDLE HOOK ЈЪљ and EN WITH MIDDLE HOOK Њњ were used in Jakovlev's Chuvash orthography which was used from 1873–1938 to represent [l<sup>i</sup>] and [n<sup>i</sup>] respectively. These were encoded in ISO 10754:1996 at positions 59, 49, 5E, and 4E. See Figure 14.

**3. Additional letters for Early Slavic.** A large number of letters are needed to support editions of early Slavic manuscripts, or the more recent Slavonic ecclesiastical tradition. A number of these characters were previously reviewed by the UTC, in document L2/06-359. These are coloured light orange in the code chart on pages 46 and 50; on the names lists for those pages the names of those previously seen are given in *italics*. In the list here, each character appearing in L2/06-359 is identified and its name in that document is given.

**ZEMLYA** Zz is the earliest form of a letter which represents [z]. It is used alongside 33 ZE in 16th- and 17th century alphabets. See Figures 15,17, 20, 24, 30, 40. *In L2/06-369, this character was named EARLY ZE*.

**DZELO Zz** is the earliest form of a letter which represents [dz]. It is used alongside Ss DZE which originally derives from Greek stigma, particularly in manuscripts which use the latter as a numeral. See Figure 24. In L2/06-369, this character was named DZELO.

**REVERSED DZE** Zz is a common character, especially in early South Slavonic manuscripts and inscriptions, and particularly when used as a numeral. It co-occurs with Ss, for example in the manuscripts NBKM 880 and RGB Sevast'janov 17; in the former Zz is also found. See Figure 22. *In L2/06-369, this character was named REVERSED DZE*.

**IOTA** lu has been used in scholarly literature since the nineteenth century to transcribe Glagolitic  $\mathfrak{B}_{\mathfrak{R}}$ . See Figure 23. *In L2/06-369, this character was named IOTA*.

**DJERV**  $\mathbb{A}_{\mathbb{A}}$  is the Old Cyrillic letter for the voiced palatal affricate, used particularly in the Bosnian manuscript tradition and in early Bosnian printings, where it also serves to indicate palatal *l* and *n*, by analogy with Italian *gl*, *gn*. The glyph is the ancestor of U+040B and U+045B Th, but the two characters do not correspond either phonetically or etymologically. U+0402 and U+0452 Tb was in turn derived from Th in 1819. DJERV cannot be unified with  $\mathfrak{h}$  because the latter corresponds to it only partially, and besides, the two are sorted differently:  $\mathfrak{A}$  comes between  $\mathfrak{A}$  and  $\mathfrak{K}$ , while  $\mathfrak{h}$  comes between  $\mathfrak{A}$  and e. If this character is added, the note in the Unicode Standard at U+045B "= Old Cyrillic derv" should be deleted. See Figure 21. *In L2/06-369, this character was named DJERV*.

**MONOGRAPH UK** && was incorrectly unified with Cyrillic Yy; these two letters are not the same either historically or functionally. It is not unusual to find manuscripts using both y and & (see Figure 15). Both historically and in modern Church Slavonic, y is also used as a numeral, but & is only used as a letter: the two are therefore not interchangeable. Old Cyrillic & originated as a ligated form of oy, but cannot be unified with it as the two quickly diverged in usage. They are distinguished by orthographical conventions going back many centuries and formalized in modern Church Slavonic; according to these rules, the substitution of either y or oy for & is an error, and all three characters are required for proper Church Slavonic typesetting. See Figures 11, 12, 13, 15, 16, 17, 18, 20, 25, 27, 30. In L2/06-369, this character was named MONOGRAPH UK.

**BROAD OMEGA** CD $\omega$  is found alongside Ww in most sixteenth- and seventeenth-century alphabets and is most frequently used with a distinctive supralinear element (in most typefaces unique to this character) for the vocative particle "O!". However, in some alphabets (e.g. the 1631, 1653 and 1692 Primers) it appears without any supralinear element, and in the 1648 grammar is used to correspond to Greek  $\omega$  in proper names derived from Greek, in which function it may take the same diacritics as the other vowel characters (cf. on f.93v in the paradigm of Jonah, vocative  $\hat{\omega}$  i $\omega$ H $\sigma$ , locative  $\hat{w}$  TOME i $\omega$ H $\sigma$ ). This indicates that it is the body of the letter that is distinctive, not the supralinear element, and  $\hat{\omega}$  is not to be regarded as w + diacritic. See Figures 17, 20. In L2/06-369, this character was named BROAD OMEGA.

**NEUTRAL YER b**<sub>b</sub> is used in transcribing documents where it is impossible to tell the difference between **b**<sub>b</sub> and **b**<sub>b</sub> (a common situation in late medieval Russian archival materials). See Figure 27. *In L2/06-369, this character was named UNDIFFERENTIATED JER*.

**YERU WITH BACK YER**  $\overleftarrow{}$  **Ы** $\overleftarrow{}$  **Ы** $\overleftarrow{}$  is found alongside  $\overleftarrow{}$  **Ы** $\overleftarrow{}$  in important manuscripts, such as the Dobrejšo Gospels. The ability to make the distinction between  $\overleftarrow{}$  and  $\overleftarrow{}$  is of great importance to palaeography, and essential for a comprehensive palaeographic description of Cyrillic sources. See Figures 26, 40. *In L2/06-369, this character was named YERY (FORM WITH BACK JER).* 

**IOTIFIED YAT** IBIB occurs in certain early Cyrillic texts, in which it is used contrastively with B. See Figure 40. *In L2/06-369, this character was named IOTIFIED YAT*.

**REVERSED YU** Olor appears in some early Middle Bulgarian manuscripts and inscriptions, and has palaeographic and phonological significance. It is uncertain whether it has a common origin with Юю. See Figures 22, 30. *In L2/06-369, this character was named REVERSED YU*.

**IOTIFIED** A IAA occurs regularly from the earliest times to modern Church Slavonic. It is not to be unified with  $\Re$  (which is a variant of  $A_A$ ), which is used as a distinct character alongside it in early

modern Bulgarian. See Figures 15, 16, 17, 25, 26, 32. In L2/06-369, this character was named IOTIFIED A.

**CLOSED LITTLE YUS** AA is found in Old Church Slavonic and Middle Bulgarian manuscripts, and may be used contrastively with AA: in the Codex Supraslensis, for example, A represents ję and A represents  $\varphi$ . See Figure 32. *In L2/06-369, this character was named CLOSED LITTLE JUS*.

**BLENDED YUS** 孫孫 is found in certain Middle Bulgarian manuscripts where it replaces (and eliminates) both 孫孫 and AA. To encode it as if it were equivalent to either of them would be misleading, and a distinct character is therefore required. See Figures 30, 31. *In L2/06-369, this character was named BLENDED JUS*.

**IOTIFIED CLOSED LITTLE YUS** HAIA sometimes represents the pre-jotated vowel, in manuscripts following an orthographical system where AA represents the corresponding non-jotated vowel, IA The IOTATED CLOSED LITTLE YUS is found on the Preslav ceramic inscription, according to Andrej Bojadžiev, cited in Birnbaum 1996. See Figure 52. *In L2/06-369, this character was named IOTIFIED CLOSED LITTLE JUS*.

**YN**  $\Lambda_{\Lambda}$  is a standard character in Rumanian Cyrillic, both manuscript and printed. See Figure 18. *In L2*/06-369, *this character was named YN*.

**EARLY YUS** Aa is shaped like an inverted V with a shorter diagonal stroke running from the midpoint of one of the main diagonals to the centre of the baseline. The direction of slant of this short diagonal stroke is not significant. In South Slavonic monuments, EARLY YUS is ambiguous and may represent either etymological front or back nasal vowels, so it cannot be unified with BIG YUS or LITTLE YUS. The EARLY YUS is similar to some of the medievalist characters proposed in N3027 and N3122. Some scholars would not use the character, but others require it—as stated in N3027—to capture the *character set* used in the manuscripts under scrutiny". See Figure 53.

**SOFT DE** Дт, **SOFT EL** Лл, and **SOFT EM** Мм are palatalized consonants which can also be represented as a base character with U+0484  $\hat{}$ , so, for instance, земля *zemlja* 'winter' may be written земля or земля. Fused forms of these are attested, along with U+04A4 and U+04A5 Нн which is used for *soft en* as well as *eng*. The character SOFT EM is attested in Гольшенко 1987 (listed in Birnbaum 1996), but we have not been able to scan this for this proposal. See Figure 36.

**MONOCULAR O**  $\Theta_{\Theta}$ , **BINOCULAR O**  $\Theta_{\Theta}$ , **DOUBLE MONOCULAR O**  $\Theta_{\Theta}$ , and **MULTIOCULAR O**  $\circledast$  are used in words which are based on the root for 'eye'. The first is used when the wordform is singular, as  $\Theta_{KO}$ ; the second and third are used in the root for 'eye' when the wordform is dual, as  $\Theta_{YM}$ ,  $\Theta_{YM}$ ; and the last in the epithet 'many-eyed' as in *cepaфumu много* @umiu 'many-eyed seraphim'. It has no upper-case form. See Figures 34, 41, 42, 55.

**4. Additional combining characters and marks for Early Slavic.** A number of combining characters are needed to support editions of early Slavic manuscripts, or the more recent Slavonic ecclesiastical tradition.

Combining cyrillic letter A  $a^{a}$ , combining cyrillic letter ie  $b^{a}$ , combining cyrillic letter djerv  $a^{b}$ , combining cyrillic letter monograph uk  $b^{a}$ , combining cyrillic letter yat  $b^{b}$ , combining cyrillic letter yat  $b^{b}$ , combining cyrillic letter yat  $b^{b}$ , combining cyrillic letter yu  $b^{b}$ , combining cyrillic letter iotified a  $b^{b}$ , combining cyrillic letter iotified big yus  $b^{b}$  are used in manuscripts in abbreviations of various kinds. See Figures 43, 44, 45, 46, 47, 48, 49, 50. This proposal lacks an example of combining cyrillic big yus.

**COMBINING CYRILLIC TEN MILLIONS SIGN** and **COMBINING CYRILLIC HUNDRED MILLIONS SIGN** and **COMBINING CYRILLIC THOUSAND MILLIONS SIGN** and **COMBINING CYRILLIC THOUSAND MILLIONS SIGN** and **COMBINING** CYRILLIC TEN MILLIONS SIGN and COMBINING CYRILLIC TEN MILLIONS SIGN and COMBINING CYRILLIC HUNDRED MILLIONS SIGN.

**COMBINING CYRILLIC POKRYTIE** is optionally used with combining Cyrillic letters (letter-titlos) to indicate abbreviation. Because of its unique shape it is not possible to unify this character with, for example, U+0311 COMBINING INVERTED BREVE ABOVE. The already-encoded U+0483 combining cyrillic titlo is also used to indicate abbreviations, but is not used with the letter titlos. See Figures 19, 35, 49.

**COMBINING CYRILLIC VZMET** is optionally used with Cyrillic letters and with combining Cyrillic letters (letter-titlos) to indicate abbreviation. Because of its unique shape it is not possible to unify this character with, for example, U+0311 COMBINING INVERTED BREVE ABOVE. The already-encoded U+0483 combining cyrillic titlo is also used to indicate abbreviations, but is not used with the letter titlos. See Figure 36.

**COMBINING CYRILLIC KAVYKA**  $\stackrel{\scriptstyle{\sim}}{}$  is used to indicate an alternative reading to only part of a word, as in Figure 29, where the feminine ending in the margin is substituted for the masculine ending in the text. In this case the COMBINING KAVYKA is placed directly over the relevant letters. Note that COMBINING KAVYKA is typographically as well as functionally distinct from U+0306 COMBINING BREVE, which is visible in MÁJÅAÄ, the penultimate word of the example in Figure 29. In L2/06-369, this character was named COMBINING CYRILLIC KAVYKA.

**CYRILLIC KAVYKA** is used on either side of a word or passage of text to indicate a substitution or alternative reading, usually indicated in the margin likewise between two *kavyki*. Functionally this is similar to the use of U+2E02 LEFT SUBSTITUTION BRACKET and U+2E03 RIGHT SUBSTITUTION BRACKET, although the brackets are visually different. There is no difference between a KAVYKA used at the beginning of a word or phrase and a KAVYKA at the end. See Figures 28, 29. In L2/06-369, this character was named CYRILLIC KAVYKA

**COMBINING CYRILLIC PAYEROK** *i* is frequent from the earliest period, originally to replace an omitted yer, later also to break up consonant clusters. See Figure 54.

**CYRILLIC PAYEROK** ' is the spacing equivalent of the COMBINING CYRILLIC PAYEROK, used to replace an omitted yer, later also to break up consonant clusters. See Figure 19.

**SLAVONIC ASTERISK**  $\ddagger$  is a punctuation star used in ecclesiastical printing. It is a spacing character, but often kerns very closely over punctuation like COMMA, FULLSTOP, AND COLON. See Figure 35.

**VERTICAL TILDE** ' is the spacing form of U+033E COMBINING VERTICAL TILDE, which represents the Cyrillic *yerik*, a character which functions similarly to the PAYEROK. We recommend the following notes be added to the Unicode Standard names list: For U+033E, add "used for combining Cyrillic yerik"; for VERTICAL TILDE, add "used for Cyrillic yerik"; both should have cross-references to the two *payeroks*. See Figures 19, 33. *In L2/06-369, this character was named PAEROK*.

**5. Additional letters for Abkhaz.** Abkhaz has been studied scientifically since the mid-19th century. The first alphabet for Abkhaz was devised by P. K. Uslar in 1862, based on the Bzyb dialect. This orthography was used for textbooks and religious material until 1928, when a Latin alphabet was devised for Abkhaz by Soviet authorities. M. R. Zapadskij was the first to put Uslar's handwritten alphabet into type, which was used until "the Translation Committee" further refined the alphabet; the examples from the translation of the four gospels in Figures 38a, 38c, and 38d are in this latter orthography. Most of the Cyrillic characters used in these early alphabets are already encoded. Figure 39 shows the Zapadskij and

Translation Committee alphabets, and the unique characters missing from the UCS from each of those alphabets is proposed here.

**DZWE** SS is used in early orthographies for Abkhaz to represent [dz<sup>w</sup>]. See Figures 38c, 39b.

**ZHWE 3K** is used in early orthographies for Abkhaz to represent  $[3^w]$ . The character is a fusion of a Cyrillic ZE to the base of the letter ZHE. It is not a divisible ligature. See Figures 38a, 38c, 39a.

**CCHE**  $\Psi\Psi$  is used in early orthographies for Abkhaz to represent [t $\int$ :]. The character is a double Cyrillic CHE. It is not a divisible ligature. See Figure 39b.

**DZZE** Дд is used in Uslar's orthography for Abkhaz to represent [dz]. The character is a fusion of a tiny Cyrillic ZE to the base of the letter DE. It is not a divisible ligature. See Figure 39b.

**TE WITH MIDDLE HOOK** T<sub>b</sub>T<sub>b</sub> is used in early orthographies for Abkhaz to represent [t]. It is also used in Jakovlev's orthography for Chuvash to represent [t<sup>i</sup>]. It is not related to either Serbian Tb or Th. See Figures 14, 38a, 38c, 39c.

TWE Tt is used in early orthographies for Abkhaz to represent [t<sup>w</sup>]. See Figures 37, 38a, 38c, 39c.

TSWE IJIJ is used in early orthographies for Abkhaz to represent [ts<sup>w</sup>]. See Figures 37, 38a, 38c, 39d.

**TSSE** T<sub>T</sub> is used in early orthographies for Abkhaz to represent [ts<sup>j</sup>]. The character is a fusion of a tiny Cyrillic ES to the base of the letter TE. It is not a divisible ligature. See Figure 39d.

**TCHE**  $\P$  is used in early orthographies for Abkhaz to represent [t $\int$ ]. The character is a fusion of the topbar of Cyrillic TE to the letter CHE. It is not a divisible ligature. See Figures 38c, 39e.

HWE fin is used in early orthographies for Abkhaz to represent [h<sup>w</sup>]. See Figures 38a, 38c, 39e.

**SHWE** IIIIII is used in early orthographies for Abkhaz to represent  $[\int_{\infty}^{\infty}]$ . See Figures 38a, 38c, 39e.

6. Unicode Character Properties. Character properties are proposed here.

0487;COMBINING CYRILLIC POKRYTIE;Mn;230;NSM;;;;;N;;;;;

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0514;CYRILLIC CAPITAL LETTER LHA;Lu;0;L;;;;;N;;;;0515;
0515;CYRILLIC SMALL LETTER LHA;L1;0;L;;;;;N;;;0514;;0514
0516;CYRILLIC CAPITAL LETTER RHA;Lu;0;L;;;;;N;;;;0517;
0517;CYRILLIC SMALL LETTER RHA;L1;0;L;;;;;N;;;0516;;0516
0518;CYRILLIC CAPITAL LETTER YAE;Lu;0;L;;;;;N;;;;0519;
0519;CYRILLIC SMALL LETTER YAE;L1;0;L;;;;N;;;0518;;0518
051A;CYRILLIC CAPITAL LETTER QA;Lu;0;L;;;;;N;;;;051B;
051B;CYRILLIC SMALL LETTER QA;Ll;0;L;;;;N;;;051A;;051A
051C;CYRILLIC CAPITAL LETTER WE;Lu;0;L;;;;;N;;;;051D;
051D;CYRILLIC SMALL LETTER WE;Ll;0;L;;;;N;;;051C;;051C
051E;CYRILLIC CAPITAL LETTER ALEUT KA;Lu;0;L;;;;;N;;;;051F;
051F;CYRILLIC SMALL LETTER ALEUT KA;Ll;0;L;;;;N;;;051E;;051E
0520;CYRILLIC CAPITAL LETTER EL WITH MIDDLE HOOK;Lu;0;L;;;;;N;;;;0521;
0521;CYRILLIC SMALL LETTER EL WITH MIDDLE HOOK;Ll;0;L;;;;N;;;0520;;0520
0522;CYRILLIC CAPITAL LETTER EN WITH MIDDLE HOOK;Lu;0;L;;;;;N;;;;0523;
0523;CYRILLIC SMALL LETTER EN WITH MIDDLE HOOK;Ll;0;L;;;;;N;;;0522;;0522
2DF6;COMBINING CYRILLIC LETTER A;Mn;230;NSM;;;;;N;;;;
2DF7;COMBINING CYRILLIC LETTER IE;Mn;230;NSM;;;;;N;;;;;
2DF8;COMBINING CYRILLIC LETTER DJERV;Mn;230;NSM;;;;;N;;;;;
2DF9;COMBINING CYRILLIC LETTER MONOGRAPH UK;Mn;230;NSM;;;;;N;;;;
2DFA; COMBINING CYRILLIC LETTER YAT; Mn; 230; NSM; ;; ;; N; ;; ;;
2DFB;COMBINING CYRILLIC LETTER YU;Mn;230;NSM;;;;;N;;;;;
2DFC; COMBINING CYRILLIC LETTER IOTIFIED A; Mn; 230; NSM;;;;; N;;;;;
2DFD; COMBINING CYRILLIC LETTER LITTLE YUS; Mn; 230; NSM; ;; ;; N; ;; ;;
2DFE;COMBINING CYRILLIC LETTER BUG YUS;Mn;230;NSM;;;;;N;;;;;
2DFF;COMBINING CYRILLIC LETTER IOTIFIED BIG YUS;Mn;230;NSM;;;;;;N;;;;;
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2E3A; SLAVONIC ASTERISK; Po;0;0N;;;;;N;;;; 2E3B;VERTICAL TILDE;Lm;0;ON;;;;;N;;yerik;;; A6C0;CYRILLIC CAPITAL LETTER ZEMLYA;Lu;0;L;;;;N;;;;A6C1; A6C1;CYRILLIC SMALL LETTER ZEMLYA;Ll;0;L;;;;;N;;;A6C0;;A6C0 A6C2;CYRILLIC CAPITAL LETTER DZELO;Lu;0;L;;;;;N;;;;A6C3; A6C3;CYRILLIC SMALL LETTER DZELO;L1;0;L;;;;;N;;;A6C2;;A6C2 A6C4;CYRILLIC CAPITAL LETTER REVERSED DZE;Lu;0;L;;;;;N;;;;A6C5; A6C5;CYRILLIC SMALL LETTER REVERSED DZE;L1;0;L;;;;N;;;A6C4;;A6C4 A6C6;CYRILLIC CAPITAL LETTER IOTA;Lu;0;L;;;;N;;;;A6C7; A6C7;CYRILLIC SMALL LETTER IOTA;Ll;0;L;;;;N;;;A6C6;;A6C6 A6C8;CYRILLIC CAPITAL LETTER DJERV;Lu;0;L;;;;N;;;;A6C9; A6C9;CYRILLIC SMALL LETTER DJERV;L1;0;L;;;;N;;;A6C8;;A6C8 A6CA;CYRILLIC CAPITAL LETTER MONOGRAPH UK;Lu;0;L;;;;;N;;;;A6CB; A6CB;CYRILLIC SMALL LETTER MONOGRAPH UK;Ll;0;L;;;;N;;;A6CA;;A6CA A6CC;CYRILLIC CAPITAL LETTER BROAD OMEGA;Lu;0;L;;;;N;;;;A6CD; A6CD;CYRILLIC SMALL LETTER BROAD OMEGA;Ll;0;L;;;;N;;;A6CC;;A6CC A6CE;CYRILLIC CAPITAL LETTER NEUTRAL YER;Lu;0;L;;;;;N;;;;A6CF; A6CF;CYRILLIC SMALL LETTER NEUTRAL YER;Ll;0;L;;;;N;;;A6CE;;A6CE A6D0;CYRILLIC CAPITAL LETTER YERU WITH BACK YER;Lu;0;L;;;;N;;;;A6D1; A6D1;CYRILLIC SMALL LETTER YERU WITH BACK YER;Ll;0;L;;;;;N;;;A6D0;;A6D0 A6D2;CYRILLIC CAPITAL LETTER IOTIFIED YAT;Lu;0;L;;;;;N;;;;A6D3; A6D3;CYRILLIC SMALL LETTER IOTIFIED YAT;Ll;0;L;;;;N;;;A6D2;;A6D2 A6D4;CYRILLIC CAPITAL LETTER REVERSED YU;Lu;0;L;;;;;N;;;;A6D5; A6D5;CYRILLIC SMALL LETTER REVERSED YU;L1;0;L;;;;N;;;A6D4;;A6D4 A6D6;CYRILLIC CAPITAL LETTER IOTIFIED A;Lu;0;L;;;;;N;;;;A6D7; A6D7;CYRILLIC SMALL LETTER IOTIFIED A;Ll;0;L;;;;N;;;A6D6;;A6D6 A6D8;CYRILLIC CAPITAL LETTER CLOSED LITTLE YUS;Lu;0;L;;;;N;;;A6D9; A6D9;CYRILLIC SMALL LETTER CLOSED LITTLE YUS;Ll;0;L;;;;N;;;A6D8;;A6D8 A6DA;CYRILLIC CAPITAL LETTER BLENDED YUS;Lu;0;L;;;;;N;;;;A6DB; A6DB;CYRILLIC SMALL LETTER BLENDED YUS;L1;0;L;;;;N;;;A6DA;;A6DA A6DC;CYRILLIC CAPITAL LETTER IOTIFIED CLOSED LITTLE YUS;Lu;0;L;;;;N;;;;A6DD; A6DD;CYRILLIC SMALL LETTER IOTIFIED CLOSED LITTLE YUS;L1;0;L;;;;N;;;A6DC;;A6DC A6DE;CYRILLIC CAPITAL LETTER YN;Lu;0;L;;;;;N;;;;A6DF; A6DF;CYRILLIC SMALL LETTER YN;L1;0;L;;;;N;;;A6DE;;A6DE A6E0;CYRILLIC CAPITAL LETTER EARLY YUS;Lu;0;L;;;;;N;;;;A6E1; A6E1;CYRILLIC SMALL LETTER EARLY YUS;L1;0;L;;;;;N;;;A6E0;;A6E0 A6E2;CYRILLIC CAPITAL LETTER SOFT DE;Lu;0;L;;;;N;;;;A6E3; A6E3;CYRILLIC SMALL LETTER SOFT DE;L1;0;L;;;;N;;;A6E2;;A6E2 A6E4;CYRILLIC CAPITAL LETTER SOFT EL;Lu;0;L;;;;N;;;;A6E5; A6E5;CYRILLIC SMALL LETTER SOFT EL;L1;0;L;;;;N;;;A6E4;;A6E4 A6E6;CYRILLIC CAPITAL LETTER SOFT EM;Lu;0;L;;;;N;;;;A6E7; A6E7;CYRILLIC SMALL LETTER SOFT EM;Ll;0;L;;;;;N;;;A6E6;;A6E6 A6E8;CYRILLIC CAPITAL LETTER MONOCULAR O;Lu;0;L;;;;;N;;;;A6E9; A6E9;CYRILLIC SMALL LETTER MONOCULAR O;Ll;0;L;;;;N;;;A6E8;;A6E8 A6EA;CYRILLIC CAPITAL LETTER BINOCULAR O;Lu;0;L;;;;;N;;;;A6EB; A6EB;CYRILLIC SMALL LETTER BINOCULAR O;L1;0;L;;;;;N;;;A6EA;;A6EA A6EC;CYRILLIC CAPITAL LETTER DOUBLE MONOCULAR O;Lu;0;L;;;;;N;;;;A6ED; A6ED;CYRILLIC SMALL LETTER DOUBLE MONOCULAR 0;L1;0;L;;;;;N;;;A6EC;;A6EC A6EE;CYRILLIC LETTER MULTIOCULAR O;Lo;0;L;;;;N;;;; A6EF;COMBINING CYRILLIC VZMET;Mn;230;NSM;;;;;N;;;;; A6F0;COMBINING CYRILLIC TEN MILLIONS SIGN;Me;0;NSM;;;;;N;;;;; A6F1;COMBINING CYRILLIC HUNDRED MILLIONS SIGN;Me;0;NSM;;;;;N;;;;; A6F2; COMBINING CYRILLIC THOUSAND MILLIONS SIGN; Me; 0; NSM; ;; ;; N; ;; ;; A6FC; COMBINING CYRILLIC KAVYKA; Mn; 230; NSM; ;; ;; ;N; ;; ;; A6FD; COMBINING CYRILLIC PAYEROK; Mn; 232; NSM; ;; ;; N; ;; ;; A6FE;CYRILLIC KAVYKA;Lm;0;ON;;;;;N;;;;; A6FF;CYRILLIC PAYEROK;Lm;0;ON;;;;;N;;;;; A8E0;CYRILLIC CAPITAL LETTER DWE;Lu;0;L;;;;;N;;;;A8E1; A8E1;CYRILLIC SMALL LETTER DWE;L1;0;L;;;;N;;;A8E0;;A8E0 A8E2;CYRILLIC CAPITAL LETTER DZWE;Lu;0;L;;;;N;;;;A8E3; A8E3;CYRILLIC SMALL LETTER DZWE;L1;0;L;;;;N;;;A8E2;;A8E2 A8E4;CYRILLIC CAPITAL LETTER ZHWE;Lu;0;L;;;;N;;;;A8E5; A8E5;CYRILLIC SMALL LETTER ZHWE;L1;0;L;;;;N;;;A8E4;;A8E4 A8E6;CYRILLIC CAPITAL LETTER CCHE;Lu;0;L;;;;N;;;;A8E7; A8E7;CYRILLIC SMALL LETTER CCHE;Ll;0;L;;;;;N;;;A8E6;;A8E6 A8E8;CYRILLIC CAPITAL LETTER DZZE;Lu;0;L;;;;;N;;;;A8E9; A8E9;CYRILLIC SMALL LETTER DZZE;L1;0;L;;;;N;;;A8E8;;A8E8 A8EA;CYRILLIC CAPITAL LETTER TE WITH MIDDLE HOOK;Lu;0;L;;;;N;;;;A8EB; A8EB;CYRILLIC SMALL LETTER TE WITH MIDDLE HOOK;Ll;0;L;;;;N;;;A8EA;;A8EA A8EC;CYRILLIC CAPITAL LETTER TWE;Lu;0;L;;;;;N;;;;A8ED; A8ED;CYRILLIC SMALL LETTER TWE;L1;0;L;;;;N;;;A8EC;;A8EC A8EE;CYRILLIC CAPITAL LETTER TSWE;Lu;0;L;;;;;N;;;;A8EF; A8EF;CYRILLIC SMALL LETTER TSWE;Ll;0;L;;;;N;;;A8EE;;A8EE A8F0;CYRILLIC CAPITAL LETTER TSSE;Lu;0;L;;;;N;;;;A8F1; A8F1;CYRILLIC SMALL LETTER TSSE;L1;0;L;;;;N;;;A8F0;;A8F0 A8F2;CYRILLIC CAPITAL LETTER TCHE;Lu;0;L;;;;;N;;;;A8F3; A8F3;CYRILLIC SMALL LETTER TCHE;L1;0;L;;;;;N;;;A8F2;;A8F2 A8F4;CYRILLIC CAPITAL LETTER HWE;Lu;0;L;;;;;N;;;;A8F5; A8F5;CYRILLIC SMALL LETTER HWE;L1;0;L;;;;N;;;A8F4;;A8F4 A8F6;CYRILLIC CAPITAL LETTER SHWE;Lu;0;L;;;;;N;;;;A8F7; A8F7;CYRILLIC SMALL LETTER SHWE;Ll;0;L;;;;N;;;A8F6;;A8F6

**7. Ordering.** The first paragraph here shows the current order of Cyrillic characters according to the Common Tailorable Template. The second paragraph shows, in red the Slavic characters proposed here, and in cyan the non-Slavic characters proposed.

$$a < \ddot{a} ~ ~\ddot{$$

### 8. Bibliography.

- Allworth, Edward. 1971. *Nationalities of the Soviet East: publications and writing systems*. New York and London: Columbia University Press.
- Birnbaum, David J. 1996. "Standardizing characters, glyphs, and SGML entities for encoding early Cyrllic writing", in *Computer Standards & Interfaces* 18, pp. 201-252.
- Hassanpour, Amir. 1992. Nationalism and language in Kurdistan, 1918–1985. San Francisco: Mellen Research University Press.
- Бакаев, Ч. Х. (Чәркәзе Бәк'о). 1957. *Курдско-русский словарь = Хәбәрнама кöрманщи-р'уси*. Москва: Государственное издательство инностранных и национальбых словарей.
- Барсов, Н. 1901. *Іоан-Вельденьне шкайстънь ёнь-куля. = Оть Іоанна святоеіе евангеліе*. Мокшънь кяльс кепедіец Пшяняряень поп Н. Барсов. Гельсингфорсъ: Изданіе Британскаго и Иностраннаго Библіейскаго Общества.

Берон, Петър Хаджиберович. 1824. Буквар с различни поучения.

- Бгажба, Х. С. 1964. *Бзыбский диалект абхазского языка: исследование и тексты*. Тбилиси: Издательство Акедемии Наук Грузинской ССР.
- Бондяков, Н. 1925. *Васенцэ аськолкс: мокшонь пьессат.* Моску: С. С. Р. Союзста ломатнень кучкастонь книгнь ноляма.

Геров, Найден. 1904. Рѣчникъ на блъгарскый языкъ. Vol. 5. Пловдив.

- Гиляревский, Р. С. & В. С. Гривнин. 1964. Определитель языков мира по письменностям. Москва: Наука.
- Гольшенко, В. С. 1987. *Мягкость согласных в языке восточных славян XI-XII вв*. Москва: Наука. Златоуст, Иоанн. 1614. *О священстве*. Львов.
- Иванова, Т. А. 1977. Старославянский язык. Москва: Высшая школа.
- Іевангеліа цқа. 1912. Інақуіту Іісус Хрістос іевангеліа цқа: Матфеі, Маркозvi, Лукаі, Іоаннvi ірvqнуğy. Қарт Тифлисъ: Типографія Канцеляріи Намъстника Е. И. В. на Кавказъ. 1912.
- Карский, Е. Ф. 1979. Славянская кирилловская палеография. Москва: Наука. (Reprint of 1928 edition, Ленинград: Издательство академии наук СССР).

- Котков, С. И. & Н. И. Тарабасова. 1965. *Памятники русского народно-разговорного языка XVII столетия*. Москва: Наука.
- Кöрдо, Q. 1956. Граматика зьмане к'öрди (сәр зараве кöрманщи): Бона к'омед V–VI. Ереван: haйпетусманкhpaт.
- Курдоев, К. К. 1957. Грамматика курдского языка (курманджи): фонетика, морфология. Москва: Академия Наук СССР.
- Курдоев, К. К. (Q. Kurdo). 1960. *Курдско-русский словарь = Ferhanga Kurdî-rûsî*. Москва: Государственное издательство инностранных и национальбых словарей.

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	040	041	042	043	044	045	046	047
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## TABLE 11 - Row 04: CYRILLIC

## TABLE 11 - Row 04: CYRILLIC

hex	Name		he
00	CYRILLIC CAPITAL LETTER IE WITH GRAVE		5
01 02	CYRILLIC CAPITAL LETTER IO CYRILLIC CAPITAL LETTER DJE (Serbocroatian)		5/ 5
03	CYRILLIC CAPITAL LETTER GJE		50
04 05	CYRILLIC CAPITAL LETTER UKRAINIAN IE CYRILLIC CAPITAL LETTER DZE		5l 5l
06	CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I		51
07 08	CYRILLIC CAPITAL LETTER YI (Ukrainian) CYRILLIC CAPITAL LETTER JE		60 6
09	CYRILLIC CAPITAL LETTER LJE		6
0A	CYRILLIC CAPITAL LETTER NJE		6
0B 0C	CYRILLIC CAPITAL LETTER TSHE (Serbocroatian) CYRILLIC CAPITAL LETTER KJE		64 65
0D	CYRILLIC CAPITAL LETTER I WITH GRAVE		6
0E 0F	CYRILLIC CAPITAL LETTER SHORT U (Byelorussian)		6
10	CYRILLIC CAPITAL LETTER A		69
11 12	CYRILLIC CAPITAL LETTER BE CYRILLIC CAPITAL LETTER VE		6/ 6l
13	CYRILLIC CAPITAL LETTER GHE		60
14 15	CYRILLIC CAPITAL LETTER DE CYRILLIC CAPITAL LETTER IE		61 61
16	CYRILLIC CAPITAL LETTER ZHE		6
17	CYRILLIC CAPITAL LETTER ZE		70
18 19	CYRILLIC CAPITAL LETTER I CYRILLIC CAPITAL LETTER SHORT I		7
1A	CYRILLIC CAPITAL LETTER KA		73
1B 1C	CYRILLIC CAPITAL LETTER EL CYRILLIC CAPITAL LETTER EM		74 75
1D	CYRILLIC CAPITAL LETTER EN		7
1E 1F	CYRILLIC CAPITAL LETTER O CYRILLIC CAPITAL LETTER PE		7
20	CYRILLIC CAPITAL LETTER ER		
21 22	CYRILLIC CAPITAL LETTER ES CYRILLIC CAPITAL LETTER TE		78
23	CYRILLIC CAPITAL LETTER U		7/
24 25	CYRILLIC CAPITAL LETTER EF CYRILLIC CAPITAL LETTER HA		71
26	CYRILLIC CAPITAL LETTER TSE		7[
27 28	CYRILLIC CAPITAL LETTER CHE CYRILLIC CAPITAL LETTER SHA		71 71
29	CYRILLIC CAPITAL LETTER SHCHA		,,
2A 2B	CYRILLIC CAPITAL LETTER HARD SIGN CYRILLIC CAPITAL LETTER YERU		
2C	CYRILLIC CAPITAL LETTER SOFT SIGN		
2D 2E	CYRILLIC CAPITAL LETTER E CYRILLIC CAPITAL LETTER YU		
2F	CYRILLIC CAPITAL LETTER YA		
30 31	CYRILLIC SMALL LETTER A CYRILLIC SMALL LETTER BE		
32	CYRILLIC SMALL LETTER VE		
33 34	CYRILLIC SMALL LETTER GHE CYRILLIC SMALL LETTER DE		
35	CYRILLIC SMALL LETTER IE		
36	CYRILLIC SMALL LETTER ZHE		
37 38	CYRILLIC SMALL LETTER ZE CYRILLIC SMALL LETTER I		
39	CYRILLIC SMALL LETTER SHORT I		
3A 3B	CYRILLIC SMALL LETTER KA CYRILLIC SMALL LETTER EL		
3C	CYRILLIC SMALL LETTER EM CYRILLIC SMALL LETTER EN		
3D 3E	CYRILLIC SMALL LETTER O		
3F	CYRILLIC SMALL LETTER PE		
40 41	CYRILLIC SMALL LETTER ER CYRILLIC SMALL LETTER ES		
42	CYRILLIC SMALL LETTER TE		
43 44	CYRILLIC SMALL LETTER U CYRILLIC SMALL LETTER EF		
45	CYRILLIC SMALL LETTER HA		
46 47	CYRILLIC SMALL LETTER TSE CYRILLIC SMALL LETTER CHE		
48	CYRILLIC SMALL LETTER SHA		
49 4A	CYRILLIC SMALL LETTER SHCHA CYRILLIC SMALL LETTER HARD SIGN		
4B	CYRILLIC SMALL LETTER YERU		
4C	CYRILLIC SMALL LETTER SOFT SIGN		
4D 4E	CYRILLIC SMALL LETTER E CYRILLIC SMALL LETTER YU		
4F	CYRILLIC SMALL LETTER YA		
50 51	CYRILLIC SMALL LETTER IE WITH GRAVE CYRILLIC SMALL LETTER IO		
52	CYRILLIC SMALL LETTER DJE (Serbocroatian)		
53 54	CYRILLIC SMALL LETTER GJE CYRILLIC SMALL LETTER UKRAINIAN IE		
55	CYRILLIC SMALL LETTER DZE		
56 57	CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I CYRILLIC SMALL LETTER YI (Ukrainian)		
57 58	CYRILLIC SMALL LETTER FI (Okrainian) CYRILLIC SMALL LETTER JE		
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00 au		Plan	

hex	Name
59 5A 5B 5C 5D 5E 5G 61 62 63 64 66 66 66 66 67 71 72 73 74 76 77 77 77 77 77 77 77 77 77 77 77 77	CYRILLIC SMALL LETTER IJE CYRILLIC SMALL LETTER TSHE (Serbocroatian) CYRILLIC SMALL LETTER TSHE (Serbocroatian) CYRILLIC SMALL LETTER SHORT U (Byelorussian) CYRILLIC SMALL LETTER SHORT U (Byelorussian) CYRILLIC SMALL LETTER OTHER DATE CYRILLIC SMALL LETTER OTHER AT CYRILLIC SMALL LETTER OTHER DE CYRILLIC SMALL LETTER IOTHER DE CYRILLIC CAPITAL LETTER IOTHER DE CYRILLIC SMALL LETTER IOTHER DI UTTLE YUS CYRILLIC CAPITAL LETTER IOTHER DI UTTLE YUS CYRILLIC SMALL LETTER IOTHER DI UTTLE YUS CYRILLIC CAPITAL LETTER BIG YUS CYRILLIC CAPITAL LETTER FISI CYRILLIC CAPITAL LETTER TOTHER CYRILLIC CAPITAL LETTER TON CYRILLIC CAPITAL LETTER ONEGA WITH TITLO CYRILLIC CAPITAL LETTER ONEGA WITH TITLO CYRILLIC SMALL LETTER ON THE CON CYRILLIC SMALL LETTER CON CYRILLIC SMALL LETTER CON CYRILIC SMALL LETTER CON CYRILLIC SMALL LETTER CON C

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## TABLE 12 - Row 04: CYRILLIC

## TABLE 12 - Row 04: CYRILLIC

hex	Name
80 81	CYRILLIC CAPITAL LETTER KOPPA CYRILLIC SMALL LETTER KOPPA
82	CYRILLIC THOUSANDS SIGN
83 84	COMBINING CYRILLIC TITLO COMBINING CYRILLIC PALATALIZATION
85	COMBINING CYRILLIC DASIA PNEUMATA
86 87	COMBINING CYRILLIC PSILI PNEUMATA COMBINING CYRILLIC POKRYTIE
88	COMBINING CYRILLIC HUNDRED THOUSANDS SIGN
89 8A	COMBINING CYRILLIC MILLIONS SIGN CYRILLIC CAPITAL LETTER SHORT I WITH TAIL
8B	CYRILLIC SMALL LETTER SHORT I WITH TAIL
8C 8D	CYRILLIC CAPITAL LETTER SEMISOFT SIGN CYRILLIC SMALL LETTER SEMISOFT SIGN
8E	CYRILLIC CAPITAL LETTER ER WITH TICK
8F 90	CYRILLIC SMALL LETTER ER WITH TICK CYRILLIC CAPITAL LETTER GHE WITH UPTURN
91	CYRILLIC SMALL LETTER GHE WITH UPTURN
92 93	CYRILLIC CAPITAL LETTER GHE WITH STROKE
94	CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK
95 96	CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER
90	CYRILLIC SMALL LETTER ZHE WITH DESCENDER
98	CYRILLIC CAPITAL LETTER ZE WITH DESCENDER
99 9A	CYRILLIC SMALL LETTER ZE WITH DESCENDER
9B	CYRILLIC SMALL LETTER KA WITH DESCENDER
9C 9D	CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE
9E	CYRILLIC CAPITAL LETTER KA WITH STROKE
9F A0	CYRILLIC SMALL LETTER KA WITH STROKE CYRILLIC CAPITAL LETTER BASHKIR KA
A1	CYRILLIC SMALL LETTER BASHKIR KA
A2 A3	CYRILLIC CAPITAL LETTER EN WITH DESCENDER CYRILLIC SMALL LETTER EN WITH DESCENDER
A4	CYRILLIC CAPITAL LIGATURE EN GHE
A5 A6	CYRILLIC SMALL LIGATURE EN GHE CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK
A7	(Abkhasian) CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK
	(Abkhasian)
A8 A9	CYRILLIC CAPITAL LETTER ABKHASIAN HA
AS	CYRILLIC CAPITAL LETTER ES WITH DESCENDER
AB AC	CYRILLIC SMALL LETTER ES WITH DESCENDER CYRILLIC CAPITAL LETTER TE WITH DESCENDER
AD	CYRILLIC SMALL LETTER TE WITH DESCENDER
AE AF	CYRILLIC CAPITAL LETTER STRAIGHT U CYRILLIC SMALL LETTER STRAIGHT U
B0	CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE
B1 B2	CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE CYRILLIC CAPITAL LETTER HA WITH DESCENDER
B3	CYRILLIC SMALL LETTER HA WITH DESCENDER
B4 B5	CYRILLIC CAPITAL LIGATURE TE TSE (Abkhasian) CYRILLIC SMALL LIGATURE TE TSE (Abkhasian)
B6	CYRILLIC CAPITAL LETTER CHE WITH DESCENDER
B7 B8	CYRILLIC SMALL LETTER CHE WITH DESCENDER CYRILLIC CAPITAL LETTER CHE WITH VERTICAL
	STROKE
B9 BA	CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE
BB	CYRILLIC SMALL LETTER SHHA
BC BD	CYRILLIC CAPITAL LETTER ABKHASIAN CHE CYRILLIC SMALL LETTER ABKHASIAN CHE
BE	CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH
BF	DESCENDER CYRILLIC SMALL LETTER ABKHASIAN CHE WITH
	DESCENDER
C0 C1	CYRILLIC LETTER PALOCHKA CYRILLIC CAPITAL LETTER ZHE WITH BREVE
C2	CYRILLIC SMALL LETTER ZHE WITH BREVE
C3 C4	CYRILLIC CAPITAL LETTER KA WITH HOOK CYRILLIC SMALL LETTER KA WITH HOOK
C5	CYRILLIC CAPITAL LETTER EL WITH TAIL
C6 C7	CYRILLIC SMALL LETTER EL WITH TAIL CYRILLIC CAPITAL LETTER EN WITH HOOK
C8	CYRILLIC SMALL LETTER EN WITH HOOK
C9 CA	CYRILLIC CAPITAL LETTER EN WITH TAIL
CB	CYRILLIC CAPITAL LETTER KHAKASSIAN CHE
CC CD	CYRILLIC SMALL LETTER KHAKASSIAN CHE CYRILLIC CAPITAL LETTER EM WITH TAIL
CE	CYRILLIC SMALL LETTER EM WITH TAIL
CF D0	CYRILLIC SMALL LETTER PALOCHKA CYRILLIC CAPITAL LETTER A WITH BREVE
D1	CYRILLIC SMALL LETTER A WITH BREVE
D2 D3	CYRILLIC CAPITAL LETTER A WITH DIAERESIS CYRILLIC SMALL LETTER A WITH DIAERESIS
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D4       CYRILLIC CAPITAL LIGATURE A IE         D5       CYRILLIC SMALL LIGATURE A IE         D6       CYRILLIC SMALL LETTER IE WITH BREVE         D7       CYRILLIC SMALL LETTER SCHWA         D9       CYRILLIC SMALL LETTER SCHWA         D4       CYRILLIC SMALL LETTER SCHWA         D5       CYRILLIC SMALL LETTER SCHWA         D6       CYRILLIC SMALL LETTER ZE WITH DIAERESIS         D6       CYRILLIC SMALL LETTER ZE WITH DIAERESIS         D6       CYRILLIC SMALL LETTER ABKHASIAN DZE         D7       CYRILLIC SMALL LETTER ABKHASIAN DZE         D6       CYRILLIC SMALL LETTER WITH DIAERESIS         D6       CYRILLIC SMALL LETTER VITH DIAERESIS         D6       CYRILLIC SMALL LETTER VITH DIAERESIS         D7       CYRILLIC SMALL LETTER VITH DIAERESIS         D7       CYRILLIC SMALL LETTER BARED O         CA       CYRILLIC SMALL LETTER BARED O         CA       CYRILLIC SMALL LETTER WITH DIAERESIS         D7       CYRILLIC SMALL LETTER WITH DIAERESIS         D7       CYRILLIC SMALL LETTER BARED O         CA       CYRILLIC SMALL LETTER WITH MORERESIS	hex	Name
	D5 66 7 89 A B C D E F E E E E E E E E E E E E E E E E E	CYRILLIC SMALL LIGATURE A IE CYRILLIC SMALL LETTER IE WITH BREVE CYRILLIC SMALL LETTER IE WITH BREVE CYRILLIC SMALL LETTER SCHWA CYRILLIC SMALL LETTER SCHWA CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS CYRILLIC SMALL LETTER ZE WITH DIAERESIS CYRILLIC CAPITAL LETTER ABKHASIAN DZE CYRILLIC SMALL LETTER ABKHASIAN DZE CYRILLIC CAPITAL LETTER ABKHASIAN DZE CYRILLIC SMALL LETTER I WITH DIAERESIS CYRILLIC SMALL LETTER I WITH MACRON CYRILLIC SMALL LETTER I WITH DIAERESIS CYRILLIC SMALL LETTER I WITH DIAERESIS CYRILLIC CAPITAL LETTER I WITH DIAERESIS CYRILLIC CAPITAL LETTER O WITH DIAERESIS CYRILLIC CAPITAL LETTER O WITH DIAERESIS CYRILLIC CAPITAL LETTER BARRED O CYRILLIC CAPITAL LETTER BARRED O CYRILLIC CAPITAL LETTER BARRED O CYRILLIC SMALL LETTER BARRED O CYRILLIC CAPITAL LETTER WITH DIAERESIS CYRILLIC CAPITAL LETTER TO WITH DIAERESIS CYRILLIC CAPITAL LETTER U WITH DIAERESIS CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS CYRILLIC CAPITAL LETTER GHE WITH DIAERESIS CYRILLIC CAPITAL LETTER ANTH HOOK CYRILLIC CAPITA

	050	051	052
0	d	3	Љ
1	d	3	Љ
2	ф	IJ	Нĵ
3	d	IJ	Њ
4	$\mathcal{F}$	JX	
5	$\Im$	JX	
6	ર્	R	
7	પ	px	
8	Л	Æ	
9	Л	æ	
A	H	Q	
В	H	q	
С	G	W	
D	G	W	
E	T	K	
F	Ծ	K	

## TABLE 13 - Row 05: CYRILLIC SUPPLEMENT

<b>TABLE 13</b> -	Row 05:	<b>CYRILLIC</b>	SUPPLEMENT
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hex	Name	hex	Name
00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F 10 11 12 13 14 15 16 17 18 19 1A 1B 1C 1D 1E 17 22 23 24 25 26 27 28 22A 22D 22E 2F	CYRILLIC CAPITAL LETTER KOMI DE CYRILLIC CAPITAL LETTER KOMI DJE CYRILLIC SAMALL LETTER KOMI JJE CYRILLIC SAMALL LETTER KOMI JJE CYRILLIC CAPITAL LETTER REVERSED ZE CYRILLIC CAPITAL LETTER RA CYRILLIC CAPITAL LETTER RA CYRILLIC CAPITAL LETTER RA CYRILLIC SAMALL LETTER RA CYRILLIC CAPITAL LETTER RA CYRILLIC CAPITAL LETTER RA CYRILLIC SAMALL LETTER RA CYRILLIC SAMALL LETTER RA CYRILLIC CAPITAL LETTER AD CYRILLIC SAMALL AD CYRILLIC SAMALL LETTER AD CYRILLIC SAMALL LETTER AD CYRILLIC SAMALL LETTER AD CYRILLIC SAMALL AD CYRILLIC SAMALL LETTER AD CYRILLIC SAMALL AD CYRILLIC SAMALL AD CYRILIC SAMALL AD CYRILIC SAMALL AD CYRILLIC SAMALL AD CYRILIC SAMALL AD CYRICAN AD CYRILIC SAMALL AD CYRICAN AD CYRICAN AD CYRICAN AD CYRICAN AD CYRICAN AD CYRICAN AD CYRICAN AD CYRICAN		
oup 00		Plane 00	Row

## TABLE XX - Row 2D: CYRILLIC EXTENDED-A

	2DE	2DF
0	б ()	Ц С
1	B ()	<b>Ч</b> ())
2	Г ()	
3	л С	
4	<b>Ж</b>	<b>O</b>
5	3 (	СТ ©
6	K ∢∷:	a ்
7	л ()	e O
8	M	<b>⊼</b> ⇔
9	H ()	ँ
A	<b>0</b>	Ъ
В	п С	Ю
С	<b>p</b>	<b>на</b> 
D	c O	A
Е	T O	<b>Ж</b> О
F	X	Ж С

	2DE	2DF
0	a O	c ())
1	б	<b>С</b> Г ()
2	B	T
3	Г ()	ँ
4	л С	X ()
5	e	ц О
6	ж	<b>Ч</b> ()
7	3 ()	
8	<b>۸</b>	Щ О
9	K	Ф
A	л ©	<b>Ю</b> ()
В	M	на С
С	H	<b>A</b>
D	<b>0</b>	<b>Ж</b> 
Е	ँ	Ъ Ш Ш
F	p	<b>0</b>

2DE

2DF

Green characters shown here are already in PDAM 4. The table on the right shows an improved rearrangement of the chart, which would put all these in alphabetical order.

## **TABLE XX - Row 2D: CYRILLIC EXTENDED-A**

	hex	Name		hex	Name
Gr	E0 E1 E2 E3 E4 E6 E7 E8 E9 EA EC ED EE F0 F1 F2 F3 F4 F6 F7 F8 F7 F8 F7 F8 F7 F8 F7 F8 F7 F7 F7 F8 F7 F7 F7 F7 F7 F7 F7 F7 F7 F7 F7 F7 F7	COMBINING CYRILLIC LETTER BE COMBINING CYRILLIC LETTER A COMBINING CYRILLIC LETTER ZE COMBINING CYRILLIC LETTER EA COMBINING CYRILLIC LETTER EA COMBINING CYRILLIC LETTER EN COMBINING CYRILLIC LETTER EN COMBINING CYRILLIC LETTER FA COMBINING CYRILLIC LETTER TS COMBINING CYRILLIC LETTER SHA COMBINING CYRILLIC LETTER DJERY COMBINING CYRILLIC LETTER DJERY COMBINING CYRILLIC LETTER DJERY COMBINING CYRILLIC LETTER INTIFIED A COMBINING CYRILLIC LETTER INTIFIED A COMBI	Pla	E0 E1 E2 E3 E4 E6 E7 E8 EA ECDEEF F7 F3 F4 F6 F7 F8 F7 F8 F7 F7 F7 F7 F7 F7 F7 F7 F7 F7 F7 F7 F7	COMBINING CYRILLIC LETTER A COMBINING CYRILLIC LETTER BE COMBINING CYRILLIC LETTER JHE COMBINING CYRILLIC LETTER ZHE COMBINING CYRILLIC LETTER ZHE COMBINING CYRILLIC LETTER ZHE COMBINING CYRILLIC LETTER EN COMBINING CYRILLIC LETTER EN COMBINING CYRILLIC LETTER FE COMBINING CYRILLIC LETTER TE COMBINING CYRILLIC LETTER TE COMBINING CYRILLIC LETTER THA COMBINING CYRILLIC LETTER THA COMBINING CYRILLIC LETTER THA COMBINING CYRILLIC LETTER SHC COMBINING CYRILIC LETTER SHC COMBINING CYRIC CHARTER SHC COMBINING CYRIC CHARTER SHC COMBINING CYRIC SHC COMBIN CHARTER SHC COMBIN CHARTER SHC COMBIN CHART

	A6C	A6D	A6E	A6F
0	Z	Ы	Л	x.×.x x: .:x x:x:x
1	Z	Ъ	Л	
2	Z	ΙЪ	Д	∃m=
3	Z	ľБ	Д	
4	S	Ю	Л	
5	S	Ю	Л	
6	l	Ы	М	
7	l	њ	М	
8	¥	Α	0	
9	Å	А	Θ	
A	y	Ä	$\odot$	
В	8	Ä	$\odot$	
С	СЭ	Ю	$\odot$	ॅ
D	ω	Ю	00	ঁ
Е	Ъ	$\mathbf{\Lambda}$		)
F	Ъ	♪		ч

# TABLE XX - Row A6: CYRILLIC EXTENDED-B

hex	Name	hex	Name
C0 C1 C2 C3 C4 5 C6 C7 8 CABCCDEF D0 D1 D3 D4 5 D6 D7 8 D9 DABCDDEF E1 2 S3 4 5 E6 7 8 9 A BCCDEF C0 D1 D3 D4 5 D6 D7 8 D9 DABCDDEF E1 2 S3 4 5 E7 F7 F7 F7 F7 F7 F7 F7 F7 F7 F7 F7 F7 F7	CYRILLIC CAPITAL LETTER ZEMLYA CYRILLIC CAPITAL LETTER DZELO CYRILLIC CAPITAL LETTER DZELO CYRILLIC CAPITAL LETTER DZELO CYRILLIC CAPITAL LETTER REVERSED DZE CYRILLIC CAPITAL LETTER DEVEN CYRILLIC CAPITAL LETTER DIORA CYRILLIC CAPITAL LETTER DONOGRAPH UK CYRILLIC CAPITAL LETTER BROAD OMEGA CYRILLIC CAPITAL LETTER BROAD OMEGA CYRILLIC CAPITAL LETTER BROAD OMEGA CYRILLIC SMALL LETTER BROAD OMEGA CYRILLIC SMALL LETTER BROAD OMEGA CYRILLIC SMALL LETTER REVERSED YU CYRILLIC SMALL LETTER REVERSED YU CYRILLIC SMALL LETTER SETTER VENTRAL YER CYRILLIC SMALL LETTER REVERSED YU CYRILLIC SMALL LETTER BLENDED YUS CYRILLIC SMALL LETTER BLENDED YUS CYRILLIC SMALL LETTER DOTIFIED CASED LITTLE YUS CYRILLIC SMALL LETTER BLENDED YUS CYRILLIC CAPITAL LETTER BLENDED YUS CYRILLIC SMALL LETTER BLENDED YUS CYRILLIC CAPITAL LETTER BLENDED YUS CYRILLIC CAPITAL LETTER BLENDED YUS CYRILLIC CAPITAL LETTER BLENDED YUS CYRILLIC CAPITAL LETTER SOFT EL CYRILLIC CAPITAL LETTER SOFT EL CYRILLIC CAPITAL LETTER SOFT EL CYRILLIC CAPITAL LETTER BUNCCULAR O CYRILLIC CAPITAL LETTER BUNCCULAR O CY		
roup 00		Plane 00	Bow

# A8E A8F Д Ţ 0 Д 1 Ţ S Ч 2 S 3 Ч Ж h 4 h 5 Ж Ч Щ 6 7 щ Ш Д 8 9 Д Ђ А В Ђ J С D τ IJ Е F IJ

## TABLE XX - Row A8: CYRILLIC EXTENDED-C

hex	Name	hex	Name
E0 E1 E2 E3 E4 E5 E6 E7 E8 EA ECDEE EF0 F1 F2 F3 F4 F6 F7 F8 F7 F6 F7 F7 F7 F7 F7 F7 F7 F7 F7 F7 F7 F7 F7	CYBILLIC CAPITAL LETTER DWE CYBILLC SMALL LETTER DWE CYBILLC CAPITAL LETTER DWE CYBILLC CAPITAL LETTER DWE CYBILLC CAPITAL LETTER DWE CYBILLC CAPITAL LETTER COHE CYBILLC CAPITAL LETTER TEWE CYBILLC CAPITAL LETTER TEWITH MIDDLE HOOK CYBILLC CAPITAL LETTER TEWITH MIDDLE HOOK CYBILLC CAPITAL LETTER TWE CYBILLC CAPITAL LETTER TSWE CYBILLC CAPITAL LETTER THE CYBILLC CAPITAL LETTER SSE CYBILLC SMALL LETTER THE CYBILLC SMALL LETTER SSE CYBILLC CAPITAL LETTER SSE CYBILLC CAPITAL LETTER SSE CYBILLC CAPITAL LETTER SSE CYBILLC SMALL LETTER SSE CYBILS SMALL SSE CYBILS SSE CY	Plane 00	Βαν

# TABLE XX - Row A8: CYRILLIC EXTENDED-C

G = 00 P = 00

	2E0	2E1	2E2	2E3	2E4	2E5	2E6	2E7
0	Г							
1	Ŀ							
2	٢	)						
3	٦	·/.						
4	ſ	<						
5	ો	$\nearrow$						
6	Т	÷						
7	Т	"						
8	ſ	i						
9	S	W						
А	٢			τ¢				
В				\$				
С		$\mathbf{X}$						
D	1	/						
Е								
F								

## TABLE xx - Row 2E: SUPPLEMENTARY PUNCTUATION

## TABLE XXX - Row 2E: SUPPLEMENTARY PUNCTUATION

0         REGIT AND E SUBSTITUTION MARKER B         SP         The pation shall not be used B           01         REGIT AND E SUBSTITUTION MARKER B         SP         The pation shall not be used B           01         REGIT ONTED SUBSTITUTION MARKER B         SP         The pation shall not be used B           02         LEFT SUBSTITUTION MARKET B         SP         The pation shall not be used B           03         REGIT ONTED SUBSTITUTION MARKET B         SP         The pation shall not be used B           04         REGIT ONTED SUBSTITUTION MARKET B         SP         The pation shall not be used B           04         REGIT ONTED SUBSTITUTION MARKET B         SP         The pation shall not be used B           05         REGIT FORMERSON DIFFACET B         SP         The pation shall not be used B           04         REGIT FORMERSON DIFFACET B         SP         The pation shall not be used B           04         REGIT FORMERSON DIFFACET B         SP         The pation shall not be used B         The pation shall not be used B           05         REGIT FORMERSON DIFFACET B         SP         The pation shall not be used B         The	hex	Name	hex	Name
57 (This position shall not be used)	00 01 02 03 04 06 07 08 00 00 00 00 00 00 00 00 00 00 00 00	RIGHT ANGLE SUBSTITUTION MARKER RIGHT ANGLE DOTTED SUBSTITUTION MARKER LEFT SUBSTITUTION BRACKET RIGHT DUTED SUBSTITUTION BRACKET RIGHT DOTTED SUBSTITUTION BRACKET RAISED DOTTED SUBSTITUTION BRACKET RAISED DOTTED SUBSTITUTION BRACKET RAISED DOTTED SUBSTITUTION BRACKET RAISED SOUTED INTERPOLATION MARKER LEFT TRANSPOSITION BRACKET RIGHT DOTTED SUBSTION BRACKET RIGHT DOTTED INTERPOLATION MARKER LEFT TRANSPOSITION BRACKET RIGHT PAISED OMISSION BRACKET RIGHT PAISED OMISSION BRACKET RIGHT FAISED OMISSION BRACKET RIGHT FAISED OMISSION BRACKET DOTTED AFAAGRAPHOS FORKED PARAGRAPHOS REVERSED FORKED PARAGRAPHOS HYPODIASTOLE DOTTED RIGHT-POINTING ANGLE DOUTED RIGHT-POINTING ANGLE DOUBLE OBLIQUE HYPHEN INVERTED INTERROBANG PALM BRANCH (This position shall not be used) (This position shall n	59 5A 5B 5C 5D 5E 5F 60 61 62 63 64 65 66 67 68 66 67 68 66 66 66 67 68 66 60 66 67 71 72 73 74 75 77 78 79 78 77 77 77 77 77 77	(This position shall not be used) (This
Group 00 Plane 00 Row 2	58	(This position shall not be used)		

# Figures

аф учфтродозь. (Стэй моркш ваксста). Эх, деяйалэй, укольгяда... (Сембэ стякшнихть). Мезевок лие аф няя, эряви. Ну, аф ламос коданга кырьдеда. Тон, деяй, тят аварьчнэ. Мон саян.

Корпа атэ. Кода, цёрай, тисак, нать тяфтак эряви. Илык коданга тяса тиеньттяма,—тон тоса коданга улхьт, шумбра, шумбраста сак куду курбконэ.

Председателсь. Эрь, Петэ, коданга тон пажалыста эряскатт. Мон молян нингэ лядыксиёнь ширева якан. Прощайте мзярс. (Лиси).

Карпа баба. (Мешоксь кэцонза). Вога тяса понкст, панархть, пракстанят. Кшенэ путонь. лэтфтаса мезэ нингэ эряви. Нэк пэк вышкста быхкать. Пиделёнь-панелёнь мезьнявок мархт...

**Figure 1.** Sample from Бондяков 1925, showing letters LHA and RHA. Typographically, the former is based on HA with an EL extension, and the latter is ER with a HA extension.

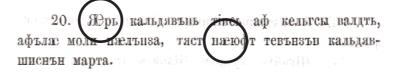


Figure 2. Sample from Барсов 1901, showing the letter YAE.

6) яе = среднему изъ я + е: пряе, ужяель куяе; сяели, сяень, пяели.

**Figure 3.** Sample from Eapcob 1901, showing the letter YAE and describing its sound as being between YA and IE (evidently [jæ]).

#### әлйфба

Aa—II.	33- <b>2</b>	∏n−¶	<u>հս</u> _ <b>Հ</b>	
Бб— Р	Ин-р	П'п'— Ф	5m—2f	U.
BB4,	Йй — 8	Рр – <b>Р</b>	Ч <b>ч</b> — <b>2</b>	Цррш – аббат. ЦрршБшյг- аббабав, дербав.
Гг—Գ	<u>Кк</u> —կ	P'p' - A	ԿოՃ	игрилијг - акоасан, дероан. Игријици — аббати.
Г'г' <b>—Ղ</b>	К <b>к'—</b> • <b>Р</b>	Cc -II	111ա—2	Աբեռացիա -– абер'асна. Աբևազ абхаз.
ДдԳ	Лл—Ц	Tr-8	Щщ— <b>Я</b>	Աբխազի — абхази.
Ee—b	Мм Մ	Т'т' <b>Ф</b>	Ьь₽	Աբիսագիա — Абхазна. Աբոնեմենտ — абонемент.
	HңՆ	<b>Դ</b> ո−Սր	Ээ - <b>I;</b>	Աբոնենտ аболент.
. 9'a' ∫ <sup>ແ</sup> '	Oo—0	Фф <b>Ъ</b>	Jun-PU	Црнги - аборт, зар'о бор хwэ- кърын, зар'о бэркърын.
Жж—4	Öö <b>—∗∙fi</b>	Xx—W	Ww Mu	Иривцини - абсолут, о'йани.
				Reuningunhad acconymum.

**Figure 4.** Sample from Hassanpour 1992, showing Kurdish QA and WE in an Armenian-Kurdish dictionary published in Erevan in 1957.

11) Әгәр (һәгәр): әгәр щамера дьгәри, һәрә мала мир Сөндин, әгәр дьхwәзи һәри мала мәри өфата, һәрә мала Qәрә Таждин, Ъқан у Әрфан, ле әгәр хьраба дьгәри, һәрә шала Бәкое Әwai. (Ф. К. 299).

12) Чь кё: чь кё мьн дазанщ дькьр, мьн дьда дийа-хwэ (КЗК 94): чь кё һатийә сәре жың, быра нәе сәре кәлде чь кё расти тә һат, быдә бәр хwә бажо.

(3) Һәрке: һәрке тö ньзани, тö хызани, һәрке һун бен, әме арикарийа wә бықын; һәрке әw досте һәвып, әwe бы дости жи бь һәвра дәрбас бықын.

14) Кэнге: кэнге пьшик нә ль малә, дә́waтa мышканә; кәнге тә ани, әзе бъдьм тә; кәнге мә һәв дит, мә һәвра то

15. Wəxye (кö): wəxтe (кö) әз һатьм гöнд, мьн тö дити; w хте тö дьхәбьти, мьн ль тә дьньһери; wəxтe баран бари, әм ль мерге бун.

16. Чахе: чахе нав шуна щинава тен хәбьтандыне, чама ходанфел, һьнге пьртька «е» сәр wанда зедә дьбә (Q.К.)94).

Figure 5. Sample from Köpgo 1956, showing QA and WE used .in a reader for the 5th and 6th class.

#### АЛФАВИТ

В 1929 г. курды, проживающие в СССР, получили письменность; был создан алфавит на основе латинской графики с добавлением знака ь. В 1945 г. курды СССР перешли на повый алфавит на основе русской графики с добавлением чстырёх знаков: ә, h, q, w. Кроме того над некоторыми буквами с правой стороны стали ставить знак ', который означает добавочную артикуляцию<sup>1</sup>.

на основе русской графики	на основе латвиской графики	на основе русской графики	на основе латинской графики
а	а	u	· p
б	b	п,	p
в	v	р	г
г	g	p*	r [r]
r'	q	с	s
д	d	т	t
e	e	т'	t
a	a	y.	u
ə'	5'	ф	f
ж	Ŧ	х	x
3	Z.	h	h
и	i	h'	h
й	j	ч	с
к	к	ч'	c
к'	қ	щ	ç
л.	1	ш	ş
м	m	L.	-
н	n	9	q
0	0	w	w)
ö	ö		

Figure 6. Sample from Бакаев 1957, showing Latin Q and w alongside Cyrillic QA and WE, in columns labelled, literally, "Latin graphics" and "Russian graphics" respectively; we use the terms "Cyrillic characters" and "Latin characters" today. The text above states that in 1945 Kurds in the USSR adopted a new alphabet based on "Russian graphics" with the addition of four characters: Эә, hh, Qq, and Ww. All of these ultimately derive from the Latin script, but were naturalized Cyrillic characters 61 years ago. Other Cyrillic characters used in Kurdish with identical Latin counterparts are Aa, Ee, Oo, and Öö.

гіп лизоблюдничать. подхалимст-	(сесенка).
вовать.	kůzkirin [кузкырын] и. д. ж.
kûtik (Кутык) юк. презрённый,	a) сгорбливание; б) сгиба́ние; на-
nóдлый.	гиба́ние.
kût-kût [Кут-Кут] юк. кусками.	kwa [к̃wa] юк. см. ka I.
kût û kur [Кут у кöр] см. кет-	kwanê [к̃waне] юк. см. ka-
kur.	nê.
kûvî [Куви] 1. l) горный;	kwexa [к̃wäxa] юк. см. ka-
2) дикий; неприручённый; пугли-	xwe.
вый; нелюдимый; ~ bûn стать	kwîner [к <sup>w</sup> инар] ж. l) биухоль;
диким, дичать; ~ kirin сдёлать	2) нары́в; чи́рей.
диким, нелюдимым; 3) перен. бур-	kwînêr [к <sup>w</sup> инер] см. kwîner.
ный; песдёржанный; бёшеный;	kwînêr [к <sup>w</sup> инер] юк. см. kor I.
2. ж. сёрна.	kwîsî [к <sup>w</sup> иси] юк. см. kûsî.
(	5
qab I [qa6] l) ж. коробка;	qab II [qaб] 1. м. развра́тник;
футля́р; 2) ж. ножны́; 3) ж. ко-	jina — развра́тница; проститут
ло́дка (для обуви и т. п.); 4) ж.	ка; 2. yê — распу́тный (о мужчине).
тех. форма (для отливки); 5) юк.	qaban [qaбaн] м. каба́н; бо́ров;
посу́да.	ди́кий каба́н, вепрь.

**Figure 7.** Sample from Курдоев 1960, showing Latin Q and w alongside Cyrillic QA and WE. This is a dictionary of Kurdish in a Latin orthography; here, the phonetic re-spelling is given for Russian-speaking readers in Cyrillic transcription, as in **kwîsî** [кwиси] and **qaban** [qaбaH].

$\Lambda lphabet$	Transliteration	Alphabet	Transliteration
Λа	a	Φφ	f
Бб	b	Хх	kh
Вв	v	Чч	$^{\rm ch}$
Гг	g	чч	$\mathbf{ch}^{i}$
Г' г'	g'	Шш	sh
Дд	d	Щщ	j
Ее	e	Ьъ	ï
Жж	zh	Ээ	ë
Зз	z	h հ	h
Ии	i	$\mathbf{h}^{\prime}$ $\mathbf{h}^{\prime}$	h'
Йй	у	Qq	q
Кк	k	W w	w
К' к'	k'	<del>)</del> 9	ä
Лл	1		
Мм	m		
IIн	n		
Оo	0		
Öö	ö		
Пп	р		usacv, Alfavity iazykov
П' п'	p'	"Nauka," 19	SR (Moscow:1zdatel'stvo 965), pp. 26–28; N. A.
Cc	8		1., Osnovnye protsessy urnogo razvitila iranskikh
Тт	t	i iberiisko-ka	wkazskikh iazykov zdateľstvo "Nauka,"
Т' т'	ť	1969), pp. 1.	
Уу	u	ALLWORTH: NAT	TIONALITIES OF SOVIET EAST

Figure 8. Sample from Allworth 1971, showing the Kurdish Cyrillic alphabet and its Latin transliteration. The following letters are identical between Latin and Cyrillic: Aa, Ee, Oo, Öö, Qq, Ww, and Əə (though Allworth transliterates the last as Ää).

Сопоставление графем курдского алфавита 1945 г. с применявшимися для выражения тех же звуков курдского языка графемами арабской письменности, а также с алфавитами, принятыми при издании курдских текстов латинским шриф-том, дает следующую картину. - c - -

y	потребляе	мых в к	урдской п	исьменн	ости
№№ пп.	Курдский алфавит 1945 г. (на основе русской графики)	Латинизи- рованный курдский алфавит 1927 г.	Алфавит, выработан- ный общест- вом "Хавар" в Сирии	Латинизи- рованный алфавит курдов Ирака	Курдский алфавит (на основе арабской графики)
1	2	3	4	5	6
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	а ч ч ч ч ч ч ч ч ч ч ч ч ч ч ч ч ч ч ч	a b c e d e a f g g h ħ i b j k k l l m n o p	a b ç ç d ê e, ə f g x h h i i y k k l l m n o	a b ch ch c d ê e e f g h h h i, iy i, y g q k, kh l lh m n o	ہ تے تھ تے تھ تے تھ
26	n	р Р	р р	p p,ph	پ ب
<sup>1</sup> Произ	носится как	1	h		
· · ·			4	5	6
27 28 29 30 31 32 33 34 35 36 37 38 39 40	$ \begin{pmatrix} q \\ p \\ p \\ c \\ w \\ m \\ m \\ y \\ e \\ w \\ x \\ o \\ s \\ m \end{pmatrix} $	q r s s t t u v w x y z z z	q r,rr s t t û v w x u z j	q r rh s sh t th u v w x ö z z, zh	ة مى مى شى قور بط وو م و ز ز

Таблица алфавитов, употребляемых в

Figure 9. Sample from KypgoeB 1957, showing the Kurdish alphabet of 1945 (with "Russian graphics"), the Latinized Kurdish alphabet of 1927, the Latin alphabet devised by the "Xavar" society in Sirin, the Latinized alphabet of Iranian Kurds, and the Kurdish alphabet (with "Arabic graphics"). Latin Q and W are used alongside Cyrillic QA and WE. Here, as in Figure 6, the author identifies the letters as Russian, that is, as Cyrillic.

## курдский

Щарәке бәрф, баран у ба һәвр'а к'әтн һ'бщәте, чька к'и жь waнa зорә. Баране гот: "Әз гьшка зортьрьм. һәр дәра дьбарьм. Кәсәк бь мьн нькарә". Ба гот: "Qә жи на, ә'мре тә кьнә. Дьбарн у зу тейи бьр'ине, зу жи дьмьч'ьqи. Е зор әзьм, wәки ч'ьл у ч'йар'а дьбәзьм, хwә ль һәр дәрар'а дьгһиньм". Бәрфе гот: "Ә'мре тә жи кьнә. Зу тей бьр'ине, кәс тә дәрнахә, чька к'бда чуйи. Йа зор диса әзьм, дьбарьм, рудьним, h әрдәра сьпи дькьм". Ба гот: "Лә wәки әз бем, го тöе жь бәр мьн к'öда хьлаз би".

h'ощәта waнa we he гәләки бык'ьшанда, hәрге бь waнар'a ро дәрнәк'әта; әwe п'әнще xwә зәр-зәрьданд; дынйа пер'а к'әийа: "Баран, бәрф у ба ида hәр йәк аликида мына бубун".

#### Алфавит

Аа, Бб, Вв, Гг. Г'г', Дд, Ее, да, З'д', Жж, Зз, Ии, Йй, Кк. к'к', Лл. Мм, Нн, Оо, Оö, Пп, П'п', Рр, Р'р', Сс, Тт, Г'т', Уу, Фф Хх, hh, h'h', Чч, Ч'ч', Шш, Щщ, Ьь, Эз Qq, Ww.

Отличительными признаками служат буквы q (Q), w(W), не употребляющиеся в настоящее время в других языках с русским письмом. Имеются также дополнительные буквы ә, ö, h. Часто встречается апостроф (') после букв г, ә, к, п, р, т, h, ч. В алфавите отсутствуют буквы ё, ц, ъ, ы, ю, я.

Прежде использовалось арабское письмо с допол-

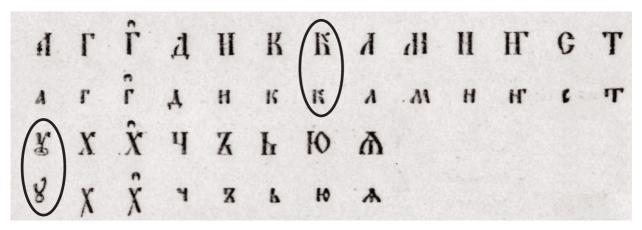
## нительными буквами: پ چ گ ڨ ڵ

армянское письмо с дополнительной буквой m; латинское письмо с дополнительными буквами

с, с, э, э, ћ, қ, q, ş, ţ, R, z, ь. Курды, проживающие за рубежом, пользуются латинским и арабским письмом (см. раздел "Языки народов Азии и Океании").

В СССР курдский язык распространен в Армянской ССР, Грузинской ССР, Азербайджанской ССР и частично в Средней Азии. На нем говорит в СССР около 50 тыс. человек. Принадлежит к иранской группе индоевропейских языков. 15

Figure 10. Sample from Гиляревский & Гривнин 1964, showing Cyrillic QA and WE.



**Figure 11.** Sample from the alphabet page of an 1893 Aleut Primer, showing ALEUT KA and MONOGRAPH UK.

Тиня KKKH SHX . l'8cn8 HZ 1181 THITZ SHSKSKHMHHTZ A AFHHR A) AFSTSHX HMHHR алакагния Амаганя снгнм\_ K8FALAKZ 6)0 R) АГ8ГАНАХТУННЗ, HMHHX AMAFANZ HHHMZ F) KS. FAHR AKAH 8HB, AMAFAHR

Figure 12. Sample of the first of the 10 Commandments in Aleut, showing ALEUT KA and MONOGRAPH UK.



**Figure 13.** Sample from another Aleut alphabet page, showing ALEUT KA and MONOGRAPH UK in both Slavonic and Graždanka font styles.

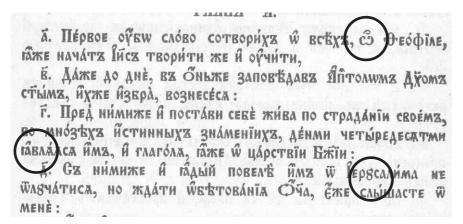
Алфавит

Ай, Бб, Вв, Гг, Дл, Ее, Ёё, Ӗё, Жж, Зз, Ин, Йй Лл, Мм, Нн, Оо, Пп, Рр, Сс, Çç, Тт, Уу, Ўў, Фф, ци, Чч, Шш, Щщ, ъ, ыы, ь, Ээ, Юю, Яя.
Отличительным признаком служат все дополнительбуквы алфавита (ă, ё, ç, ў),
скольку они не встречаются в других письменностях усской графикой.
до 40-х годов ХХ в. употреблялись также дополнивные буквы "Э, Њ, Ъ, <sup>\*</sup>.
Чувашский хык — 9 ык основного населения Чувашй АССР; на нем говорит более 1,45 млн. человек. Относится к тюркским языкам.

**Figure 14.** Sample from Гиляревский & Гривнин 1964, showing EL WITH MIDDLE HOOK, EN WITH MIDDLE HOOK, and TE WITH MIDDLE HOOK.



**Figure 15.** Sample from a 1574 Primer, showing ZEMLYA alongside ZE, MONOGRAPH UK alongside digraph UK, and IOTIFIED A.



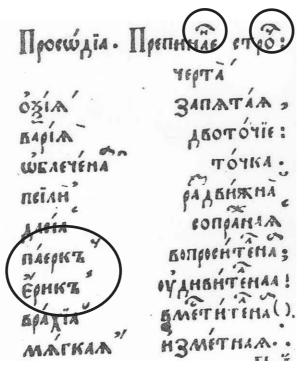
**Figure 16.** Sample from a modern edition of the Acts of the Apostles, showing the *beautiful omega*, MONOGRAPH UK and IOTIFIED A.



Figure 17. Sample from a 1631 Primer, showing MONOGRAPH UK, IOTIFIED A, ZEMLYA, and BROAD OMEGA.

ATUASHA CUN AAAATt 10 OMHSAG 43 ШН . 17 ZYHT X ПЛЕЛНАЛБА ĸ OMAHDINA . JE IEM THIN YTTAHAA OMMIKE MAS **小**林雪出来#TH#雪 HTL AND HUNG

**Figure 18.** Sample from *Kapme ромънѣск*а *де двъцатУра* (*Carte românească de învățătură*), Iași 1646, showing MONOGRAPH UK and the special Romanian letter YN.



**Figure 19.** Sample from a 1631 Primer, showing *payerok* (*naepкъ*) and *yerik* (*epuкъ*). The character U+033E NON-SPACING VERTICAL TILDE was encoded to represent the *yerik*, but the *yerik* can be spacing as well as non-spacing. In order to accommodate the needs of Slavicists, three characters are proposed: a spacing VERTICAL TILDE for the *yerik*, as well as COMBINING CYRILLIC PAYEROK and CYRILLIC PAYEROK. The character COMBINING CYRILLIC POKRYTIE is also shown in this example.

далеце оный декоторой , ала далеко ваше Weimi POR OUTER WHOBIT ATTHEM MIENO (11254 HANTH ) HABIAMIA FAMIBAAA . HHOTT BHATAMIE ITO , HAJAGIATE , HIEMOMS JAKPACTMISUS HACTIPES , H Ономо жабрако, чижейн крелевской насвой лице BRAAAAHTIMS TEPCOHS , MAAIMIS HETGIATE , ABO ивыла поровный . во што запоровна стеринам? Beifeibamuta. 34กเมกล์ห้ ริง Mibuma นี้นุ้งอเล การห้ שיווי איואין א אימוו זי אושון אווו ג אווו איווי אי повть Соднакта же пришедши впамать , же Омольным мовить твоен , нихто авы незано Авабалта , же міцта вжі а внедистатко выпілны נה אודה נחדה ועא יעאאאיארוווה או שושאה אל הנו אא HTSTHUBITI MUVICEA EMOBIE IV KJAWACTTIE , RE IV אואואה דווגים אבאזיץ נווא בנוחואאאודוים . אוא במ א א דוו נושום חואו האועהאל אשם אדע אולואא אסא

Figure 20. Sample showing ZEMLYA, MONOGRAPH UK, and BROAD OMEGA.

Ο Γ Λ Ε « Я Λ Ο **JXXOINO** W NOVETKA, H CHAPXE KHOTE VOURVANCKOTA. ю, нразрежено 8 петнансст 3 AHAAE азгодора, абсто и печесет авана, алити свылан поглапнтих. Svaluen mers Meysom , a faero-UHM SVENHKOM Нетомачено из нетка Нталнамскога,8 Сл ониски. SHMETYHEX. KH По Нар 8 лны мн липрар88 марцариомиз спетога Нарка. Інеранце . ncerne W

Figure 21. Sample from *Ogledalo duhovno*, Venice 1628, showing DJERV.

55 10 HEAFTECAO UTCTOTOOHYN ГАА. H. П. 0. Г. LL P BNHT HOY YENHUH . NAOY MER ELE GIAYALA TOPAHIO YT AD00DA0 ODAH SHEMLINEA O TA 6 CO TA PÀ NHM LCAHAML TANA BEA HAPOIXHAND TAAL YPAHMENHON TOTOPALOYAABAENHOBBAASh E H MALA ETTHNELETHAME CONTAESUCHTA

Figure 22. Sample from Hrvatska Akademija Znanosti i Umjetnosti in Zagreb (IV d.107), showing REVERSED DZE and REVERSED YU.

#### Мариинское евангелие

I въ третии день бракъ быстъ въ кану такиленсции. с бъ мати исва тоу. Зъванъ же быстъ и исв. с оученици его но БРАКЪ. 1 NELOCTABЪШЮ ВИНОУ. ГЛА МАТИ КЕЛКЪ NEMOY. ВИНУ NE ИМЖТЪ. ГЛА ЕИ ИСЪ. ЧТО ЕСТЪ МЬНВ И ТЕБВ ЖЕНО. НЕ ОУ приде година мой. гла мати его слоугамъ. еже аште глетъ вамъ сътворите. Б же тоу водоносъ кам вих шесть лежаштъ. по очиштемию июденскоу. въмистлшть по дывима ли тремъ мърамъ. гла имъ исъ. наплъните водоносы воды. е наплъниша на до връда. р гла имъ. почръпѣте нынѣ и принесѣте ар'хитриклинова. с принѣса. ѣко же въкоуси архитриклинъ вина бывъшааго ото воды. с не вѣдѣаше отъкждоу естъ. а слоугы вначах почръпъшен водж. пригласи жениха архитриклияъ. і гла емоу. въсткъ члекъ пртяжде доброе вино полагаатъ. оупинять са тогда тачее. ты же съблюде доброе егд вино доссли. сътвори начатока ЗМАМЕНИЕМЪ ИСЪ. ВЪ КАНА галилеисции. 1 ин славж свою. 1 выроваша во нь оученици его. (Иоанн, II, 1-11)

Figure 23. Sample a passage from the Codex Marianus from Иванова 1977, showing numerous examples of CYRILLIC IOTA.

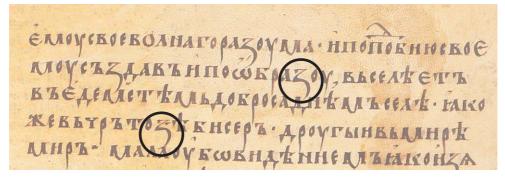


Figure 24. Sample of a text in the Vatican Library (Vat. Slav. 2, f.8), showing ZEMLYA and DZELO.

12 *28>	<b>****</b> 13
I. I.	
	ЗИІКЛМНО
Π Γ С Τ Ο <sup>γ</sup> (Χ) Φ Χ	<b>ФИЧШИР</b>
b to b co th a ž	
а Б Б Г Д В Ж З З Н Ї Ф Х СЭТ Ц Ч Ш Џ Ъ Ы Ь Б	КАМНО́ПРСТО́Х Ю СЭПА́А́Ž́У́ӨVЏ.
а к к г д е ж 5 3 н ї ф х шт ц ч ш щ ч ы к	
аф 8 в X т џ в с v г щ н а 3 ы л w н ь к	, W
аеніо 8 су ы таю ш	a a v.
ввгджэзклмнпр	стфхцяшиў фду.
Ъ.	

Figure 25. Sample from EepoH 1824, showing MONOGRAPH UK and IOTIFIED A.

Благодарение на голѣмы-ты жрьтвы, които почитаема-та Госпожа Мариа Н. Герова принесе, рѣчникъ-тъ можа да излѣзе докрай въ духа и начрьтание-то, което покойный-тъ му авторъ баше нарядилъ. Съ тѣзи си жрътвы Госпека Мариа Н. Герова въздигнж несъкрушимъ памятникъ на чекойныа зи съпругъ и изплъни най-добросъвѣстно задлъжениата, които той имеще камъ народа си, а та сама заслужи най-голѣмж хвалж и благодарность.

Figure 26. Sample from FepoB 1904, showing IOTIFIED A and YERU WITH BACK YER.

## А. И. БЕЗОБРАЗОВ АЛЕКСЕЮ МАТВЕЕВИЧУ

| л. 537 | Приятел мои гсдрь и добродеи Аледии Ма|твеевичь здравствуи о Хрсте на веки і пребы|ваи во всяких радостях и с теми кто теби прия|телю моему всякого добра желает и здоровя | твоего остерегает<sup>1</sup> Пожалуи прикажи ко мне писат о своемъ здорове а я слышат про

твое | здоровье всегда желател1 |

Челом гсдрь бью | за пъремъного твою къ бе<sup>2</sup> милосьт ито по съвоемо милосеръдо му милосьтивому вомотърнью<sup>3</sup> учнил.<sup>4</sup> мие въ людехъ указъ и я за тъвою къ се бе милосьтъ вечьнои тебе<sup>5</sup> работникъ<sup>6</sup> | И о техъ гсдрь людех, посълалъ я людише къ своихъ зъ гсдревою грамотою уди ви милосьтъ гсдрь мон нада мъною | дан мне милосьтъ свою на веки по мънить учини меня себе вечьны мъ работъникомъ<sup>7</sup> | И я послал для тех<sup>5</sup> отлък людеи люди шек своих а с ними послал я<sup>9</sup> пожалуи приятел | ми уди и надо мною млстъ свою пошли для | тех моих беглых людеи пристава і пожа луи<sup>10</sup>

А семъ писав вечнои твои работник Андрюшка Бѣзо|бразов со бпрошениемъ челомъ бью не пре|зри приятел мои ббогова моево прошения | к себѣ водше

Моск. ст., стб. 599, л. 537

1-1 Написано на левом поле, вставка; далее зачеркнуто челомъ гсдрь быю за премногую твою к сејбѣ млсть что жалуеш (далее буква не читается) ом крстьяннишек | нишх і впред \$ тебя о том же млсти про|шу пожалуи буди к ним млсрдъ; далее почерком А. И. Безобразова. <sup>2</sup> Так в ркп. <sup>3</sup> Так в ркп., милосътивом\$ вомотъренью

Figure 27. Sample from Kotkob & Tapaбacoba 1965, showing NEUTRAL YER and MONOGRAPH UK.

Предетожтель: Рцемя но во Гдн помилон, трижды. வூடி் <u>Млтвам</u>н нашн **T'**2337

Figure 28. Sample from the Horologion, Moscow 1980, showing CYRILLIC KAVYKA.

Очкы мні блёдноль, очкы Окажномв: เส้เหม ครั้นเร простнра́ю KZ thi мойми другими, н CLERK W проливаю, но ннктоже

**Figure 29.** Sample the Euchologion, Moscow 1980, showing COMBINING CYRILLIC KAVYKA alongside COMBINING BREVE; to the right the spacing CYRILLIC KAVYKA can be seen.

AETL MARENAN HEA: NE: ATTAN LIX:2 TAT WANHTA ICO(ATE ЭПАВАТ: ИАН ТААНН ПОТА ARAG HN5137 THIAL EME MNOM BETROROHHBIT A BALLEAUSEBEKOPATALA ALDANAHT AHIBEI THIABBAHRA 707 I OI I NA NIH ... 582 (ARONHIC APHITAPE AONT CONALBEINAONHA NADTO HAL ADIA NAVATNHEZA MOBEATING AB TOLAHU HALTGANNEDABYHT H: WAANTERE IX TIOHAOYAMABBA HAT TALIZANE STARS TOHH TRATHS 11 AYHNA KUSHAHK HHINK

Figure 30. Sample from NBKM 880, showing ZEMLYA, MONOGRAPH UK, REVERSED YU and BLENDED YUS.



Figure 31. Sample from BL Add. MS 39628, showing BLENDED YUS.

H KESSCA 0 6 YEPAAPO HKKK \* YULIROHY A. NANAPHIAHTIKCA. CABH AB & / KICA BILLHAI'AH OTBT 0

Figure 32. Sample from Codex Supraslensis, showing IOTIFIED A, LITTLE YUS, and CLOSED LITTLE YUS.

# въблгоприетнень со въсть, иженастрацо нъсор Аттвое на со

**Figure 33.** Sample from Athos, Mone Zographou, III6.6, f.61v, showing the spacing *yerik*, proposed for encoding as VERTICAL TILDE.

нуъ, како шенръша. Очкы мнъ, кто дасть бчима мойма слезы. 1. 754 ї главть моен видоу, да са плачю и женисть своёмъ дна н нищь, да беспрестани рыдаю в'довьства свое, да прим сточю w спратства ча свойхть! очвы мить, кого к рыданию моёмоу призокоу на помищь, кто ми пособитъ плакатися, кти ми слезы WTPE, КТW МИ ПЛАЧЬ ОУТОЛИТЬ, КТW МИ ПЕЧАЛЬ OVT BUNTЬ! епкпа ли скоего призовоу на оуткшенте, томв бю дана была ΤΑΚΑ ΒΛΡΤΑ, Ι ΤΟΤΆ ΗΜΑЩΕ ΤΔΚΟΥ ΒΛΡΤΑ, ΟΛΟΒΟ ΟΥΤΕΙΜΕΝΙΑ, ΕΧΕ оут тилати печалным и съкроущеным срщемъ, изліа бы см. рече, влёть въ очествуъ его, но шваче очже нъсть его, не слышо бш глса ёго въ цокви, очетич ёго мшлчаніемъ затвористася, очета έγό με γλιότь, ở έже μзλιάςα βλήτь βλάμαα έμου, Όλεττλα πρό гла его оулийлие, изыкъ его преста глати, оучение же пресяклю, тсто́чникъ оуче́ніа преса́че, и река преси́хла, шскоу у пооуче́ніе 1. 755. В' Перминскижо бы лица его в' церкви, не вижоу бчію) его в' церкви, Эчи цркки увы! бшли изею тъло црковное тоудоке «части, разболешаса вылезийю чада црковнай, не соущог

**Figure 34.** Sample from the life of St Stephen of Perm (creator of the Old Permic script), showing BINOCULAR O.

птенеця бышнагы гнезда агглыкагы; ніколае треблженне зовешн прнены ка бгу и всеха наск, нже ва нужныха бедаха н некушенінха; н нзбавлаещн матьами твонми.

Сщённых Одежды красотУ, дёлтельнымн содёлаля бей добродётелми свётлёйшУю, бче бгоносе. тёмже намя сщеннодёйстьУеши дикная, слабныхя чУде́ся сщеннодётель, ютыхя избавлал ны. Невидимыхя добрюты прохода, стра́ешнУю бнУ разУмёля би лавУ стыхе, сте. тёмже намя нёнал словеса, цёноживотныхя бныхя виденій габлаеши, сщённёншій бче. Нако во сиё предсталя бей слеочести. вомУ цёю, й оудники бче Ш смёрти избавная бей, молиса непрестанно, тако

Figure 35. Sample from the Life of St Nicholas, showing SLAVONIC ASTERISK alongside COMBINING CYRILLIC POKRYTIE and COMBINING CYRILLIC TITLO.

Из рассмотрения всего сказанного о надстрочных значках можно видеть, что только в немногих случаях они действительно указывали на некоторые звуковые явления и, следовательно, были живой особенностью. Несомненно, на живую черту, именно: на мязкость созласных р. л. н. к. г. х (а, может быть, и некоторых других) указывают следующие значки: а) , с большою последовательностью выдержанный в Супрасльской рукописи; напр., сь йный, глагояд, горжштнных, кела, аггель, рахинль; то же в лествице XII в. (б. Рум. муз. № 198); б) в Хиландарских листках, сборн. Святосл. 1073 г., Мстиславовом ев., Галицком ев. 1143 г., Выголексинском сборн. XII—XIII в. (б. Рум. муз. № 1832) и некоторых других памятниках мягкость сагласных обозначается посредством приниски к ним особого значка 1 ( л. н.) Примеры: приємлай, одолати, талаштиных Хиландар. листки и др., ляди, съ ичими, жилъ 9, болене 10 б, оставление 43 б сбори. Святосл. 1073 - кланашеса гла Далецк. ев., ти 26, болин 11, люблю 25 б и даже иждено 106 Мстисл. ев., въждилахъ 166 б Выгол. сборн. (Р. Ф. В. XII, 95), яю, пона устав с кондакар. XI-XII в. (Типогр. б. № 285, л. 87). Смягченные w и к встречаются даже в Луцком ев. XIV в. (Соболевский. «Очерки», 41). В других позднейших памятниках к = м:

Figure 36. Sample from Karskij 1972, showing SOFT EL, EN GHE, and SOFT DE, as well as COMBINING CYRILLIC VZMET.



Figure 37. Sample shield of the Abkhaz SSR, showing TSWE, TWE, QA, and SHWE. The text reads:АПРОЛЕТА̀РЦА АҬ́ѴЛАӃУА ЗЕЃѴ РҼ́Ѵ ІДОУ ЩҼЕІДѴЩКѴЛ!In mixed case this is: Апролета̀рца ат́vлаӄуа зеѓv ре́v iqoy, щееідvщкvл!In modern orthography: Апролетарцәа атәылақуа зегьы ре́ы иҟоу, шәееидышәкыл!

9. Шиўпа абас: Жоан h'Аб, іцкаxàait yxi3; 10. laàiair yҧchapà; iqaлàair yryaҧxapà, xax аэкоан адну еіцш цада адунеі аёгу. 11. Ача зда hxyарђам ihaђ hapa exa 12. Еřhазнуж hapà hayanyya, hapà htv кукуду ішурзуннажуа еіцш; 13. Паталаумгалан hapa ацутбушара, haтацнурха hapa ангара. Уара ацсhapei амчі адуреі цумкруда іўмоуп азу. Амін.

**Figure 38a.** Sample from *Iева̀нгеліа цқа*, 1912 (the Four Gospels in Abkhaz), showing HWE, ZHWE, QA, TE WITH MIDDLE HOOK, TWE, SHWE, and TSWE.

9 Шәныҳәа абас: Жәюан икоу Ҳаб, ицқьахааит ухиз.

10 Иааиаит Упсҳара; икалааит угуапҳара, ҳаҳь ажәюан акны еипш цака адунеи аҿгьы.

11 Ача ада ҳхуарҭам иҳаҭ ҳара ехьа.

12 Егьҳазныжь ҳара ҳауалқуа, ҳара ҳтәы зықуқуоу ишырзнҳажьуа еипш;

13 Ҳагьалаумгалан ҳара ацәыгьҵышәара, ҳагьацәнырҳа ҳара ацәгьара. Уара Аҵсҳареи амчи адуреи ҵымкрыда иумоуп азы. Амин.

Figure 38b. Sample from *The Gospels of Mathew, Mark, Luke and John in Abkhaz Language*, Christian Publishing House, 1998, showing the text of Figure 38a in modern orthography.

16

17 Уара уанучгууа, уху (азеђун) ахшу, уёг (уа,) 18. Ушучгууа ауаа ідмурбакуа, у'Аб маза ідоу іёу уааірацу; у'Абгу амаза збуа іуіђан аргама.

19. Ісізүжумгалан шху азү ахазуна адгіл аёу, афі ажаўцсі іахуурхууа, аўучцаўу іахцуржаауа стахурзууа:

20. Ісій і жгала ахазуна шху азу ажоан аёў, аогу ажавчаг іахурзувумхууа, авуундагу іахцрумжаауа сгахурумзууа.

21. Ізбан акузар, шулазуна ахудоу шугуйу уа ідазаашт.

22. Ацеіж азу лашурбагас іqoy аблоуп. Убас, убла цўазар, уцеіж шеібакуу лашахуудіт.

23. Убла рахумзар, уцейк шеібакуу лашцахуудіт. Убас, алашара ўлоу лашцаразар, нас алашцара зеіцшрдузеі?

24. Аўт ілшуом Ф-анцак румац аура, ізбан акузар, ма аў діцумузаашт, агі бала дібалашт, ма аў ізу ігу шуўзаашт, агі діцаашалашт. Анцеі маммонеі румац шзеіцууом.

25. Убрі азі ішаспоіт: шамеічанан шуцсі ішфарузеі ізкжрузеі па, шисіж азіс апшанцарузоп па. Афат ацкіс апсі еінамі, ашцаті ацкіс апсіж

26. Щурпынут жоант ацсаануа: уръ егла-

**Figure 38c.** Sample from *Iева̀нгеліа цқа*, 1912 (the Four Gospels in Abkhaz), showing те with Middle HOOK, DZWE, QA, ZHWE, SHWE, TSWE, TCHE, HWE, and TWE.

43. Лаҧш-ҕуҕуала д@аlxyaҧшvн убрlсаађ ддууундент.

—44. Еřièiĥт: ahhài а∫řѷ акѷ ідумћан; уцанѷ аҧшаф учирба, інаг уахѝцӄахаз азѷ Моісѐі ііћаз, ірзѝшаразхаразх.

45. Данціўля, зегі іреіпуа далагиент дзукуцаз, убруг адніт Інсус аргама акэлак дзаламлуа ддалиент; ацпіракуа рах даляни дудан. Зегінцарант Іара ізаауан.

Figure 38d. Sample from Iebàhzenia uğa, 1912 (the Four Gospels in Abkhaz), showing DWE.

	12000	Y	10 m	MOTY				- 8-
1.54	1	Π		IV	V	VI.	VII	VIII
1 - 2	a	a	a	a	a	5.	a	a
4. 2.	0	б	б	b	b	3	б	b
, 3.	6	В	В	v	v	3	В	v
4.	2	Γ	Г	g	g	8	Г	g
5.	[zj]	[rj]	ř	g	g	[32]	[гь]	g
6.	[ry]	[ <b>гу</b> ]	[ <b>ry</b> ]	80	[gu]	[37]	Г°	g°
7.	24	ř	F	ğ	01	R	Ę	Y
8	[zj]	[ <b>r</b> j]	Ť	ğ,	[011]	[me]	[гь]	r
9	[zy]	[ry]	[5y]	, the	[01U]	[mu]	Γ°	γ°
10,	9	Д	д	d	d	to	,Д	d
· 11.	d' (	,丸,	Д	ď	đ	[00]	,Д <sup>°</sup>	ď°.
12.	e	e.	e	е	e	3	е	е
13.	ж	ж	236	j	Z	$[\mathfrak{I}_{\mathfrak{A}}]$	ж	Ž۶
.14.	[жј]	[ <b>ж</b> ј]	ж	J	L .	5	[mb]	ž
15.	31C	эн.	341	p	j	[10]	ж°	ž°
16.	sic.	3K	Ŭ	þ	-		3°	Z°
	1. 1. 1. 1. 1.	7-1 2 1	10.18.12		196			-16

**Figure 39a.** Sample from Бгажба 1964, showing eight different transcription systems for Abkhaz. Shown here are the letters DWE (two glyph variants) and ZHWE.

Bgažba describes the dolumns in this table as follows:

I. The (handwritten) alphabet of Uslar.

II. The printed form of Uslar's alphabet with additions and alterations by M. R. Zapadskij.

III is the alphabet of the Translation Committee.

IV. The analytical (Yaphetidological) alphabet of Marr.

V. The Latinizing alphabet of N. F. Jakovlev.

VI. The alphabet on the basis of Georgian characters.

VII. Transcription on the basis of the modern Abkhaz alphabet, used in the monograph of Kh. S. Bgažba

"The Bzyb dialect of the Abkhaz language"

VIII. Suitable Latin transcription marks, used for linguistic purposes.

	I	II	111	IV	V	VI	VII	עני
- 17.	-	-	Ų	ď	g	352	ц	ž
18	ty	11	Щ	elen, >D	q	R	[HP]	ž
19.	÷e	(uy)	œ	j	φ	[ß&]	·e	čr
20.	ĕ	ų	φ°	ţ	P	] de 13	ę	čr
21.	3	з	3	Z	Z		3	Z
22.	-	-	-	Z,			3`	Z
23	3	(A3)	3	z, ď	3	d	3	3
24	_	$\subseteq$	ā	ď,	-		3	3
25.	f	S	$(\mathbb{S})$	ď	Ţ	[do]	3°	30
26.	i	i.	i	i	i	ຸດ	И	i
27.	j	j		У	и Х.		Й	j
28.	15	ĸ	к	k	k,	3	К	ķ
29	[ĸj]	[ĸj]	ĸ	Fe,	[K,I]	[32]	[Kb]	ķ
30.	[rsy]	[ĸy]	[ky]	ho	[k,u]	5	К°	ķ٥
31,	K.	Ķ	Ķ	q	k	C. J	K,	k
32.	[15j]·	[kj]	Ķ	q.	[ki]	[72]	[ңь]	ĸ

Figure 39b. Sample from Бгажба 1964, showing CCHE, DZZE, and DZWE.

	1	11	111	11	V	VI	VII	VIII	
33.	[Ky]	[ky]	[ђу]	q	[ĸu]	[]]	қ°	Ko	1000
34.	9	q	(q)	k	q	y	k	q	
35.	[qj]	[qj]	ğ	k	[q1]	[92]	[kb]	q	
36	[qy]	[qy]	[qy]	ko	[qu]	[ၝဤ]	ħ°	q°	
37.	л	Л	л	l	l	m	Л	l	
38.	м	М	M	m	m	9	М	m	
<b>3</b> 9.	H	н	H	n	n	6	Н	n	
40.	C	0	0	0	0	m	0	0	
41.	n	п	п	p	p	રે	Π}	ı P	
42.	nz	ñ	гђ	ф	р	3	ђ	p	
43.	p	р	р	r	r	3769	р	r	
44.	c	с	с	s	s	L;	с	s	
45.	G.	ç		S,			C'	s'	
46	m	т	T	t	ţ	8	Т	ţ	
47.	m,	ŕ	$\overline{\mathbf{F}}$	Ð	t	0	î Ţ	t	
. 48.	τ	τ	$\overline{c}$	J	Ъ	[တ၀]	τ°	ť°.	

Figure 39c. Sample from Бгажба 1964, showing QA, TE WITH MIDDLE HOOK, and TWE.

					10cmp				······
		J	11	<i>Ⅲ</i> ·	I IV!!	V	VI	VII	
	49.	ř	чř	ř	ť	<u>የ</u>	[ <b>ල</b> ං]	Т <sup>о</sup>	ţ
	50,	y	У	У	u	u	g.	У	u
	51.	-	- 1	-	w	-	. —	ў	w
11	52.	gb	ф	ф	f	f	ழி	ф	f
	53.	x	х	x	ġ	X	5	X	X
	54,	[xj]	[xj]	x	ġ	[XI ]	[62]	[Xb]	x
	55.	[xy]	[xy]	[xy]	ġ	[xu]	[by]	X°	X°.
	56.	oc	x	-	ġ	-		Ŷ	Х.
	51.	[ży]	[xy]		ئې d		1	Χ°.	Χ°
	58.	Ц	Ц	Ц	Ì	С	3	Ц	С
	59.	ly.	ц	-	Å	-	_	Ц′	C'
	60.	y	Ц	(IJ)	Ŷ	J	$[\mathcal{G}_{0}]$	Ц°	C°
	6/.	ÿ	Ц	ц	AL.	Ţ	[Fo]	Щo	ǰ
Ĩ	62.	P	Ц	Щ	ť	ç	F	ΤĮ,	ċ
•	63.	F	T	-	·+-5			ТЦ,'	Ċ,
•	64	. r	y	ч	ý	Ч	B	ц	č.

Figure 39d. Sample from Бгажба 1964, showing TSWE and TSSE.

				Marp				
	I	Ш	III -	IV	V	V7	VII .	VIII
) 65.	f	ų	('U	ţ	ų	Cer	Ч	ě
66.	ĥ	.h	h	ħ	h	S	Х,	h
67.	ĥ	ĥ	(h)	ħ	ħ	[30]	X,°	h°
68	ш	ш	ш	ш	Ş	ြီစီ	ш	Šr
69.	ü	ш	ш	щ	ſ	GO	[шь]	š
<i>70</i> .	щ	Щ	(IJ)	ШÞ	f	[do]	щ°	š°
<b>7</b> 1.	ů,	Щ.	Щ	Щ	-	-	C°	S°
72,	Ø	. O	Q.	₩.	У	3	©.	ω°
73.	r	v	v	9	9	2	Ы	Э
. 74.	-	5	(-1)	$- \left( - \frac{\lambda_{ij}}{\lambda_{ij}} \right)$		0	0	0
75.				Ŧ	I	R	Ь	- <b>1</b>
76	- 1	- 1	- 1			য	-	ಶ
77.		-	_	2,**	-	-	-	g6(€)
7 <i>8</i> .	-	,	÷	-	-	-	-	۶
		1						

Figure 39e. Sample from Бгажба 1964, showing TCHE, HWE, and SHWE.

TTACOT PII-b TEAL **LCA** HE FW KL T TL E CAO b н LY.HHELL A KA AVP ЬН sca. T Ы ROPXECY. HU БA T енжден T E

**Figure 40.** Sample from the Izbornik of 1073, showing YAT alongside IOTIFIED YAT. Also shown is YERU WITH BACK YER and ZEMLYA.

## 000000

Figure 41. Sample from Карский 1979, showing two variants of BINOCULAR O, and three variants of DOUBLE MONOCULAR O.

orpdanmannia untin.

**Figure 42.** Sample from Карский 1979, showing MULTIOCULAR 0 in the phrase *серафими много читій* 'many-eyed seraphim'.

b) Undolskijsche Blätter (cyr., s. 4).

(mc. 5, 24) в ма· \*\*\*\*д\*\*аша ісоу наридъ многъ и оутн тахж и· (25) и се жена етера въ точение кръви | лътъ двъ на десате имжщи · (26) и многи пострадовъши · отъ многъ крачъ ·

Figure 43. Sample from Карский 1979, showing COMBINING CYRILLIC LETTER A.

Auferweckung des Lazarus: Ev. Joh. 11, 1-45 (bl. 81a).

Figure 44. Sample from Kapcкий 1979, showing COMBINING CYRILLIC LETTER IOTIFIED A.

**Figure 45.** Sample from Kapcкий 1979, showing COMBINING CYRILLIC LETTER YAT and COMBINING CYRILLIC LETTER DJERV (here shown with a TSHE glyph, but it must be DJERV as the word is еванлелию *evangeliie*).

вь | на тк сна ха его: — | (3) растръртята жяты іхть | с оттертъякить отть насть | нго іхть : | (4) живты на бсуть посм'ветть | са емоу і тъ поржгаетть са <sup>імть</sup> : | (5) тъгда възглетть къ німть | гитевомъ своімть:

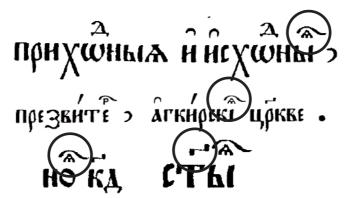
Figure 46. Sample from Карский 1979, showing COMBINING CYRILLIC LETTER IE.

1. Gebet für einen Fieberkranken, Euch. 45a, 16-46a, 18.  $\widehat{A}$   $\widehat{A}$   $\widehat{M}$   $\widehat{M}$ (Euch. 45a, 16) NO HA RCK TPACO TPACABULE

Figure 47. Sample from Kapcкий 1979, showing COMBINING CYRILLIC LETTER IOTIFIED BIG YUS.



Figure 48. Sample from a Bulgarian manuscript, showing COMBINING CYRILLIC LETTER MONOGRAPH UK.



**Figure 49.** Sample from "Ustav o molitve domašnej", published by the Preobraženskij Događelnyj Dom in Moscow in the early 20th century, showing COMBINING CYRILLIC LETTER LITTLE YUS, as well as COMBINING CYRILLIC POKRYTIE alongside COMBINING CYRILLIC TITLO.

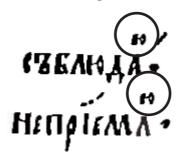


Figure 50. Sample from Карский 1979, showing COMBINING CYRILLIC LETTER YU.

тыса тма (а). деса темь легіонъ (а). деса легіоновъ лефрь

цеса лефровъ. вброн. как. десатъ воронбвъ. колода аминь». В некоторых уткописях при обозначении леодров пишутся не пахочные круги, а круги из запятатх ;;, ворон обозначается крестиками \*a;, колоды обозначались тобками a.<sup>1</sup> В некоторых рукописях Новгородской Софийской библиотеки встречается еще тма тем, или десять колод: -u. все эти хитрые способы обозначения чисел, однако, сравнительно позднего времени. В хронографе 1494 г. (л. 416) встречается численный знак для ста тысяч изби Ю им<sup>х</sup> дне<sup>и</sup> єдине<sup>и</sup>:  $\infty$  (i) (ii); то же в Амартоле читается; тем й и и (т.-е. 580,000), так что оба эти кружка надобно читать: пять легеоновъ и осмь тем.

Figure 51. Sample from Kapcкий 1979, showing COMBINING CYRILLIC TEN MILLIONS SIGN, COMBINING CYRILLIC HUNDRED MILLIONS SIGN, and COMBINING CYRILLIC THOUSAND MILLIONS SIGN.

Кроме отмеченных двух начертаний в памятниках югославянского письма, еще встречается △, напр., в Супрасльской рукописи, Слуцкой псалтыря, Саввиной книге, Хиландарских листках, Мирославовом ев., Слепченском апостоле, паримейнике Григоровича, минейном листке Григоровича (6. Рум. муз. № 1727), евангелии Сречковича XIII в. («Starine» XXIX, 98), ев. XIII в. собрания Уварова (№ 38), отрывках XIV в. Белгр. н. б. (Сперанск., 41) и нек. др. Это а обыкновенно употребляется после согласных, в смысле а (Супр. рук., Слуцк. пс., изредка Савв. кн.); в Хиландарских листках — наоборот а вм. м, а в Македонском листке XI века а единственный знак для а и м. В Каралсебеш. окт. XIII в. есть йотованное м: приматт) (Сборник ОРЯС, т. 67, ст. Сырку). В Саввиной книге раз всяро кнось ь (ср. на снимке № 5): мь 101 б.

Figure 52. Sample from Карский 1979, showing CYRILLIC LETTER IOTIFIED CLOSED LITTLE YUS.

Памятники югославянские еще знают АиА (ср. на снимке № 2 и 4) в роли а, а иногда и ж, напр., в Боянском ев. XII—XIII в.: сгод., илакаах́А 2 л. систематически вм. ж в Македонском апостоле XII—XIII в.: сл., глаголаще, покажа пола (Archiv f. sl. Phil.» Х, 110), в Путнан. ев. XIV в., повидимому, своеобразно написан а, так что получилось как бы а: гонахуть, изганала и др. (Калужняцкий, табл. 3); такое написание можно

Figure 53. Sample from Карский 1979, showing CYRILLIC LETTER EARLY YUS.

Аншила Сипта инправления - Дша бо Єгда Єдиното Обезверамитнем поноужденна бждениз, ва сезболь сние шпадаєтта, и инже кроппенма повиинтаем Сливента прочес, инже прещеньми преклан беттем, ин багод Байми подвижента . но мийго горшіа града Онаго бываєтта, найже по мийго горшіа града Онаго бываєтта, найже ти, Обегдита дига глаше: Эрака балан никовіс ти, Обегдита дига воба бало бываєтта, найже каго потреба разама Пантара. и тмами сочега, кай права кате бо в недомыслытиво в землюти я мишен.

Figure 54. Sample from Златоуст 1614, showing COMBINING CYRILLIC PAYEROK.

око («Описание» Востокова, 799]). При употреблении слова око во множественном числе о часто удваивалось, при чем точки ставились либо в обенх частях такого о, либо в одной (ср. на снимке №№ 3,4,5), примеры: апостол 1495 г. (б. Рум. муз № 9), Путнян. ен: о́очи псалт. б. Рум. муз № 335; еще удвоенное о в собою отрывки XIV века Белгр. (Сперан-

**Figure 55.** Sample from Kapcкий 1979, showing BINOCULAR O, DOUBLE BINOCULAR O, and MONOCULAR O. In this sample, two MONOCULAR Os are shown alongside DOUBLE BINOCULAR O: өко, өөчи, бочи, собою.

#### **A. Administrative** 1. Title

Proposal to encode additional Cyrillic characters 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

2007-01-09

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)

No.

1b. Proposed name of script

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

Yes and also new blocks

1d. Name of the existing block

Cyrillic, Cyrillic Supplementary, Cyrillic Extended-A, Cyrillic Extended-B, Cyrillic Extended-C, Supplementary Punctuation

2. Number of characters in proposal

108 (1, 16, 10, 55, 24, 2).

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 A.

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, some of the characters have. See N3184.

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?

David Birnbaum (University of Pittsburgh), Ralph Cleminson (University of Portsmouth), Ivan Derzhanski (Bulgarian Academy of Sciences), Vladislav Dorosh (irmologion.ru), Alexej Kryukov (Moscow State University), Sorin Paliga (University of Bucharest), Klaas Ruppel (Research Institute for the Languages of Finland)

2c. If YES, available relevant documents

**Co-authors** 

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

Slavicists, Uralicists, Turkicists, Caucasianists, and other scholars and people interested in Slavonic ecclesiastics.

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

## Used historically and liturgically.

4b. Reference

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

Yes.

## 5b. If YES, where?

## Scholarly and religious publications.

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

Yes.

6b. If YES, is a rationale provided?

Yes.

## 6c. If YES, reference

## $\label{eq:cordance} Accordance with the Roadmap. Keep with other Cyrillic characters.$

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

#### See discussion at QA and WE.

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?