

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

**Doc Type: Working Group Document****Title: Proposal for encoding the Old Permic script in the SMP of the UCS****Source: UC Berkeley Script Encoding Initiative (Universal Scripts Project)****Authors: Michael Everson****Status: Liaison Contribution****Action: For consideration by JTC1/SC2/WG2 and UTC****Replaces: N1687 (1998-01-18), N1947 (1999-01-29)****Date: 2012-01-24****1. Introduction.**

The Old Permic script was devised in the 14th century by Russian missionary Stefan of Perm (*fl.* 1373–1395), and was used to write the Uralic languages Komi and Komi-Permyak. Its model was based on the Greek and Cyrillic alphabets (as can be seen from the order of the letters) but many of the glyphs were taken from the “Tamga signs”, used in indigenous Komi religious practices; in this way Stefan made a link between traditional signs, which had much to do with the self-identity of the Komi, and Christian traditions. In addition to writing Komi, the script was used cryptographically to write Russian, since it was unknown to most readers of Russian; this explains a number of the extensions made at the end of the alphabet.

**2. Processing.** Old Permic is a simple, caseless, alphabetic script, read from left to right in horizontal lines running from top to bottom. Several combining diacritics are attested in use in Old Permic. In the table, Ѡ EF U+1036B and ꝛ HA U+1036C are given with glyphs which are not the most commonly found ones. More common representation of the corresponding phonetic entities makes use of combining characters: ꝛ is represented by U+1035F ꝛ PEEL + ¨ and ꝛ̇ is represented by U+103FA ꝛ KOKE + ¨. Note the similarity of Ѡ and ꝛ to Greek ω and χ. Five combining characters may be found with Old Permic characters: COMBINING DIAERESIS, COMBINING DOT ABOVE, COMBINING BREVE, COMBINING COMMA ABOVE, and COMBINING THREE DOTS ABOVE (providing that U+20DB can be used with letters; otherwise a new combining character should be added). The use of diacritical marks is peculiar in Old Permic. Sometimes it appears that the diacritic is semantically null, analogous to the use of a breve in German handwriting (especially the angular handwritten script Fraktur) over lower-case *u* to differentiate it from *n* (that is, where *ũ* is not really supposed to be *u* + *breve* and would not be so encoded in text). Sometimes, particularly in word-initial position, vowel quality or consonant palatalization may be marked, apparently indifferently, by these diacritics. There may be more information on this in Lytkin 1952 but the Russian is slow going for me. Characters like COMBINING CYRILLIC TITLO may be used, e.g. to indicate abbreviation or numeric use of a character (see sample texts below).

**3. Script name.** Stipa calls the script “Permisch”; Pillu uses the terms “vanapermi”, “древнепермский”, and “Old-Permian” in Estonian, Russian, and English respectively. Haarmann calls it “Abur” and “Altsyryänisch” (= ‘Old Komi’); “Abur” is a name derived from the names of the first two characters AN and BUR (so ꝛν-ϕꝛν is equivalent to *άλφα-βήτα* and *αζ-βυκι*). “Old Permic” is consistent with other script names in the UCS, as well as consistent with Pillu’s terminology.

**4. Character names and repertoire.** The names used for the characters here are based on the names given in Lytkin 1952. The name SHCHOOI is not attested but has been modeled on SHOOI on the analogy of Russian SHA and SHCHA.

**5. Numerals.** Script-specific numerals are not known. Letters of the alphabet can be marked with CYRILLIC COMBINING TITLO to indicate numeric use.

**6. Punctuation.** In the manuscript spaces are used to separate words; a middle dot, a separating colon, and a sort of apostrophe can be seen. No script-specific punctuation is used in Old Permic.

**7. Ordering.** Alphabetical ordering is a little bit erratic in the sources, especially toward the end of the alphabet. This proposal follows the order 1–34 given in Lytkin 1952, where 1–24 are primary letters and 25–34 are supplementary (see Figure 1 below). Four characters are considered to be subordinate in the order to another character. Thus Lytkin gives U+10365 Ѡ SHOOI the value 22 and evidently U+10366 ѡ SHCHOOI is “22a”; similarly we have U+10367 Ѣ YRY “23” and U+10368 Ѥ YERU “23a”, U+10369 Ѭ O “24” and U+1036A ѭ OO “24a”, and U+10374 Ѯ YA “34” and U+10375 ѯ IA “34a”. These “subordinate” letters correspond to U+0449 ѣ SHCHA, U+044B ѥ YERU, U+0461 ѿ OMEGA, and U+0467 Ѡ LITTLE YUS. They should not be considered subordinate in ordering, however. The ordering of Old Permic letters is as in the code chart, with each letter having a primary weight.

## 8. Unicode Character Properties

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10350;OLD PERMIC LETTER AN;Lo;0;L;;;;N;;;;;
10351;OLD PERMIC LETTER BUR;Lo;0;L;;;;N;;;;;
10352;OLD PERMIC LETTER GAI;Lo;0;L;;;;N;;;;;
10353;OLD PERMIC LETTER DOI;Lo;0;L;;;;N;;;;;
10354;OLD PERMIC LETTER E;Lo;0;L;;;;N;;;;;
10355;OLD PERMIC LETTER ZHOI;Lo;0;L;;;;N;;;;;
10356;OLD PERMIC LETTER DZHOI;Lo;0;L;;;;N;;;;;
10357;OLD PERMIC LETTER ZATA;Lo;0;L;;;;N;;;;;
10358;OLD PERMIC LETTER DZITA;Lo;0;L;;;;N;;;;;
10359;OLD PERMIC LETTER I;Lo;0;L;;;;N;;;;;
1035A;OLD PERMIC LETTER KOKE;Lo;0;L;;;;N;;;;;
1035B;OLD PERMIC LETTER LEI;Lo;0;L;;;;N;;;;;
1035C;OLD PERMIC LETTER MENOE;Lo;0;L;;;;N;;;;;
1035D;OLD PERMIC LETTER NENOE;Lo;0;L;;;;N;;;;;
1035E;OLD PERMIC LETTER VOOI;Lo;0;L;;;;N;;;;;
1035F;OLD PERMIC LETTER PEEI;Lo;0;L;;;;N;;;;;
10360;OLD PERMIC LETTER REI;Lo;0;L;;;;N;;;;;
10361;OLD PERMIC LETTER SII;Lo;0;L;;;;N;;;;;
10362;OLD PERMIC LETTER TAI;Lo;0;L;;;;N;;;;;
10363;OLD PERMIC LETTER U;Lo;0;L;;;;N;;;;;
10364;OLD PERMIC LETTER CHERY;Lo;0;L;;;;N;;;;;
10365;OLD PERMIC LETTER SHOOI;Lo;0;L;;;;N;;;;;
10366;OLD PERMIC LETTER SHCHOOI;Lo;0;L;;;;N;;;;;
10367;OLD PERMIC LETTER YRY;Lo;0;L;;;;N;;;;;
10368;OLD PERMIC LETTER YERU;Lo;0;L;;;;N;;;;;
10369;OLD PERMIC LETTER O;Lo;0;L;;;;N;;;;;
1036A;OLD PERMIC LETTER OO;Lo;0;L;;;;N;;;;;
1036B;OLD PERMIC LETTER EF;Lo;0;L;;;;N;;;;;
1036C;OLD PERMIC LETTER HA;Lo;0;L;;;;N;;;;;
1036D;OLD PERMIC LETTER TSIU;Lo;0;L;;;;N;;;;;
1036E;OLD PERMIC LETTER VER;Lo;0;L;;;;N;;;;;
1036F;OLD PERMIC LETTER YER;Lo;0;L;;;;N;;;;;
10370;OLD PERMIC LETTER YERI;Lo;0;L;;;;N;;;;;
10371;OLD PERMIC LETTER YAT;Lo;0;L;;;;N;;;;;
10372;OLD PERMIC LETTER IE;Lo;0;L;;;;N;;;;;
10373;OLD PERMIC LETTER YU;Lo;0;L;;;;N;;;;;
10374;OLD PERMIC LETTER YA;Lo;0;L;;;;N;;;;;
10374;OLD PERMIC LETTER IA;Lo;0;L;;;;N;;;;;







































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## 9. Bibliography

















































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0	 10350	 10360	 10370
1	 10351	 10361	 10371
2	 10352	 10362	 10372
3	 10353	 10363	 10373
4	 10354	 10364	 10374
5	 10355	 10365	 10375
6	 10356	 10366	
7	 10357	 10367	
8	 10358	 10368	
9	 10359	 10369	
A	 1035A	 1036A	
B	 1035B	 1036B	
C	 1035C	 1036C	
D	 1035D	 1036D	
E	 1035E	 1036E	
F	 1035F	 1036F	

Letters

- 10350  OLD PERMIC LETTER AN
- 10351  OLD PERMIC LETTER BUR
- 10352  OLD PERMIC LETTER GAI
- 10353  OLD PERMIC LETTER DOI
- 10354  OLD PERMIC LETTER E
- 10355  OLD PERMIC LETTER ZHOI
- 10356  OLD PERMIC LETTER DZHOI
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- 1035F  OLD PERMIC LETTER PEEI
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- 10361  OLD PERMIC LETTER SII
- 10362  OLD PERMIC LETTER SII
- 10363  OLD PERMIC LETTER U
- 10364  OLD PERMIC LETTER CHERY
- 10365  OLD PERMIC LETTER SHOOI
- 10366  OLD PERMIC LETTER SHCHOOI
- 10367  OLD PERMIC LETTER YRY
- 10368  OLD PERMIC LETTER YRY
- 10369  OLD PERMIC LETTER YERU
- 1036A  OLD PERMIC LETTER YERU
- 1036B  OLD PERMIC LETTER O
- 1036C  OLD PERMIC LETTER OO
- 1036D  OLD PERMIC LETTER OO
- 1036E  OLD PERMIC LETTER EF
- 1036F  OLD PERMIC LETTER HA
- 10370  OLD PERMIC LETTER HA
- 10371  OLD PERMIC LETTER TSIU
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- 10373  OLD PERMIC LETTER VER
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- 10378  OLD PERMIC LETTER YER
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- 1037A  OLD PERMIC LETTER YER
- 1037B  OLD PERMIC LETTER YER
- 1037C  OLD PERMIC LETTER YER
- 1037D  OLD PERMIC LETTER YER
- 1037E  OLD PERMIC LETTER YER
- 1037F  OLD PERMIC LETTER YER

10. Figures.

Основное буквое	Дополнит.	Надпись букв	Основное значение букв	XV в. Надпись на Тр. по стелу СКВ.	XV в. Надп. на Сош. по св. Писка.	Нач. XV в. Мин.	XV в. Церк.	XV в. (1485г.) 597	XV в. Библ. Унд.	Библ. 30. XV в.	XV в. Амф.	1474г. Философ.	XV-XVI вв. ОЛДП	Нач. XVI в. Мон.	XVI-XVII вв. Фр.	XVII в. (1510г.) Номоканон			
																Канон.	Азб.	Служеб.	
1		ан	a	᳚᳚᳚᳚	Z Z T	z	z z z z z z z z	z z z	z z z z		z z		z z z z z z				z z z	z	z
2		бур	б	ФФ	ФФФФ	ффф	ф ф ф	ф	Ф Ф		ф ф		Ф					Ф	Ф
3		гау	г	ГГГГ	ГГГГ	г	Г Г Г Г	Г	Г Г Г Г Г Г		Г		Г Г Г					Г	Г
4		доу	д	Λ Λ Λ	Λ Λ Λ	λ	λ λ λ λ λ λ	λ λ λ	λ λ λ λ λ λ λ λ		λ λ		λ				λ	λ	λ
5		э	э	УУУУУ	УУУ	у	у у у у у у	у у у	у у у у у у у у		у у		у у					у у	у
6		жод	ж	П	П	п	п п п	п	п п		п							п	п
7		жоу	ж	Ш															
8		зота	з	О			о о	о	о о о о		о о		о				о о	о	о
9		зута	з	И															
10		ь	у, ъ	ГГГ	ГГГГ	г	г г г г г г г г	г г г г	г г г г г г г г		г		г г г г				г г г	г	г
11		кака	к	А А А	А А А		а а а а	а а а	а а а		а а						а а а а	а	а
12		лау	л	УУУУУ	УУУ	у	у у у	у	У У У		У У		У У У				У У У	У	У
13		маню	м	УУУУУ	УУУУУ	у	у у у у у у	у	у у у у у у		у						у у у	у	у
14		наню	н	УУУУУ	У	у	у у у у у у	у у у у у у у у	у у у у у у у у		у у						у у у	у	у
15		ою	о	ТТТ	ТТТ	т							ТТТТТТТ					т	т
16		поу	п	УУУ	УУУ	у	у у у	у у	у у у у		у у		у у у у				у у	у	у
17		рау	р	УУУУ	УУУ	у	у у у у	у у	у у у у у		у у		у у				у у	у	у
18		сау	с	УУУУ	УУУУ	у	у у у у у у	у у	у у у у у у		у у		у у				у у	у	у
19		тау	т	ТТТТТТ	ТТТ	т	т т т т т т т т	т т	т т т т т т		т т		т т т				т т т	т	т
20		у	у(о)	НННН	ННН	н	н н н н н н н н	н н	н н н н н н н н		н н		н н н				н н	н	н
25		?	ф						ф ф										
26		?	х				х х х х х	х	х		х		х						
27		цо	ц																
28		воу	в(у)	ХХ	ХХ	х	х х х х х х х х	х х	х х х х х		х						х	х	х
21		чару	ч	УУУ	УУУ	у	у у у	у	у у у у		у у		у у				у у	у	у
22		шоу	ш	РРР	РРР	р	р р р	р р р	р р р р		р р						р р	р	р
29		?	ь				ь ь ь ь ь	ь ь ь	ь ь ь ь										
23		бирю	б	УУУУ	УУУУ	у	у у у у	у у	у у у у у		у у						у у	у	у
30		?	б						б б										
31		яту	џ	ББББ	ББББ	б	б б б б б	б	б б б б				б б				б б	б	б
32			џ						џ џ										
33		ю	у						у у										
34		я	џ						џ џ										
24		о	о, џ	ААА	ААА	а	а а а а а а а а	а а	а а а а а а а а		а а		а а				а а а	а	а

Figure 1a. The first part of a table from Lytkin 1952, showing glyph variants of Old Permic characters. Note columns 1 and 2 which give ordering of primary (1–24) and secondary (25–34) characters.

XVII. (1510e)			Списки азбуки XVI-XVII веков										Предлагаемые первичные		Начертания истинных букв																						
Номоканон			Перушка		III гр.				IV группа																												
Кылд.	Лзб.	Слети	У Кар.		Ар.	Пб1	Пб2	Кал	Кал2	У Кар.	УСВ.	Сун.	УСун.	Усmb.	устав	сборн.	по Брокгаузу		палеогр.	Мин.	Об. Петр.	Спа (Романт)	Музыкальн.	Музыкальн.	Музыкальн.	Музыкальн.	Соврем.	Соврем.	нобанн.	Русские начертания XIV-XV вв. (Пустынский)	Древнерусские начертания (Лаврентий) XVI в.						
			осн.	вар.													уиц	уиз														Соврем.	Соврем.				
а	α	α	α	α	α	α	α	α	α	α	α	α	α	α	α	α	α	α	α	α	α	α	α	α	α	α	α	α	α	α	α	α					
б	β	β	β	β	β	β	β	β	β	β	β	β	β	β	β	β	β	β	β	β	β	β	β	β	β	β	β	β	β	β	β	β	β				
в	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ				
г	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ				
д	ε	ε	ε	ε	ε	ε	ε	ε	ε	ε	ε	ε	ε	ε	ε	ε	ε	ε	ε	ε	ε	ε	ε	ε	ε	ε	ε	ε	ε	ε	ε	ε	ε	ε			
е	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ		
ж	η	η	η	η	η	η	η	η	η	η	η	η	η	η	η	η	η	η	η	η	η	η	η	η	η	η	η	η	η	η	η	η	η	η	η		
з	θ	θ	θ	θ	θ	θ	θ	θ	θ	θ	θ	θ	θ	θ	θ	θ	θ	θ	θ	θ	θ	θ	θ	θ	θ	θ	θ	θ	θ	θ	θ	θ	θ	θ	θ		
и	ι	ι	ι	ι	ι	ι	ι	ι	ι	ι	ι	ι	ι	ι	ι	ι	ι	ι	ι	ι	ι	ι	ι	ι	ι	ι	ι	ι	ι	ι	ι	ι	ι	ι	ι	ι	
к	κ	κ	κ	κ	κ	κ	κ	κ	κ	κ	κ	κ	κ	κ	κ	κ	κ	κ	κ	κ	κ	κ	κ	κ	κ	κ	κ	κ	κ	κ	κ	κ	κ	κ	κ	κ	
л	λ	λ	λ	λ	λ	λ	λ	λ	λ	λ	λ	λ	λ	λ	λ	λ	λ	λ	λ	λ	λ	λ	λ	λ	λ	λ	λ	λ	λ	λ	λ	λ	λ	λ	λ	λ	
м	μ	μ	μ	μ	μ	μ	μ	μ	μ	μ	μ	μ	μ	μ	μ	μ	μ	μ	μ	μ	μ	μ	μ	μ	μ	μ	μ	μ	μ	μ	μ	μ	μ	μ	μ	μ	
н	ν	ν	ν	ν	ν	ν	ν	ν	ν	ν	ν	ν	ν	ν	ν	ν	ν	ν	ν	ν	ν	ν	ν	ν	ν	ν	ν	ν	ν	ν	ν	ν	ν	ν	ν	ν	ν
п	ξ	ξ	ξ	ξ	ξ	ξ	ξ	ξ	ξ	ξ	ξ	ξ	ξ	ξ	ξ	ξ	ξ	ξ	ξ	ξ	ξ	ξ	ξ	ξ	ξ	ξ	ξ	ξ	ξ	ξ	ξ	ξ	ξ	ξ	ξ	ξ	ξ
р	ρ	ρ	ρ	ρ	ρ	ρ	ρ	ρ	ρ	ρ	ρ	ρ	ρ	ρ	ρ	ρ	ρ	ρ	ρ	ρ	ρ	ρ	ρ	ρ	ρ	ρ	ρ	ρ	ρ	ρ	ρ	ρ	ρ	ρ	ρ	ρ	ρ
с	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ
т	τ	τ	τ	τ	τ	τ	τ	τ	τ	τ	τ	τ	τ	τ	τ	τ	τ	τ	τ	τ	τ	τ	τ	τ	τ	τ	τ	τ	τ	τ	τ	τ	τ	τ	τ	τ	τ
у	υ	υ	υ	υ	υ	υ	υ	υ	υ	υ	υ	υ	υ	υ	υ	υ	υ	υ	υ	υ	υ	υ	υ	υ	υ	υ	υ	υ	υ	υ	υ	υ	υ	υ	υ	υ	υ
ф	φ	φ	φ	φ	φ	φ	φ	φ	φ	φ	φ	φ	φ	φ	φ	φ	φ	φ	φ	φ	φ	φ	φ	φ	φ	φ	φ	φ	φ	φ	φ	φ	φ	φ	φ	φ	φ
х	χ	χ	χ	χ	χ	χ	χ	χ	χ	χ	χ	χ	χ	χ	χ	χ	χ	χ	χ	χ	χ	χ	χ	χ	χ	χ	χ	χ	χ	χ	χ	χ	χ	χ	χ	χ	χ
ц	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ
ш	ω	ω	ω	ω	ω	ω	ω	ω	ω	ω	ω	ω	ω	ω	ω	ω	ω	ω	ω	ω	ω	ω	ω	ω	ω	ω	ω	ω	ω	ω	ω	ω	ω	ω	ω	ω	ω
щ	ϖ	ϖ	ϖ	ϖ	ϖ	ϖ	ϖ	ϖ	ϖ	ϖ	ϖ	ϖ	ϖ	ϖ	ϖ	ϖ	ϖ	ϖ	ϖ	ϖ	ϖ	ϖ	ϖ	ϖ	ϖ	ϖ	ϖ	ϖ	ϖ	ϖ	ϖ	ϖ	ϖ	ϖ	ϖ	ϖ	ϖ
ъ	ϗ	ϗ	ϗ	ϗ	ϗ	ϗ	ϗ	ϗ	ϗ	ϗ	ϗ	ϗ	ϗ	ϗ	ϗ	ϗ	ϗ	ϗ	ϗ	ϗ	ϗ	ϗ	ϗ	ϗ	ϗ	ϗ	ϗ	ϗ	ϗ	ϗ	ϗ	ϗ	ϗ	ϗ	ϗ	ϗ	ϗ
ы	Ϙ	Ϙ	Ϙ	Ϙ	Ϙ	Ϙ	Ϙ	Ϙ	Ϙ	Ϙ	Ϙ	Ϙ	Ϙ	Ϙ	Ϙ	Ϙ	Ϙ	Ϙ	Ϙ	Ϙ	Ϙ	Ϙ	Ϙ	Ϙ	Ϙ	Ϙ	Ϙ	Ϙ	Ϙ	Ϙ	Ϙ	Ϙ	Ϙ	Ϙ	Ϙ	Ϙ	Ϙ
э	ϙ	ϙ	ϙ	ϙ	ϙ	ϙ	ϙ	ϙ	ϙ	ϙ	ϙ	ϙ	ϙ	ϙ	ϙ	ϙ	ϙ	ϙ	ϙ	ϙ	ϙ	ϙ	ϙ	ϙ	ϙ	ϙ	ϙ	ϙ	ϙ	ϙ	ϙ	ϙ	ϙ	ϙ	ϙ	ϙ	ϙ
ю	Ϛ	Ϛ	Ϛ	Ϛ	Ϛ	Ϛ	Ϛ	Ϛ	Ϛ	Ϛ	Ϛ	Ϛ	Ϛ	Ϛ	Ϛ	Ϛ	Ϛ	Ϛ	Ϛ	Ϛ	Ϛ	Ϛ	Ϛ	Ϛ	Ϛ	Ϛ	Ϛ	Ϛ	Ϛ	Ϛ	Ϛ	Ϛ	Ϛ	Ϛ	Ϛ	Ϛ	Ϛ
я	ϛ	ϛ	ϛ	ϛ	ϛ	ϛ	ϛ	ϛ	ϛ	ϛ	ϛ	ϛ	ϛ	ϛ	ϛ	ϛ	ϛ	ϛ	ϛ	ϛ	ϛ	ϛ	ϛ	ϛ	ϛ	ϛ	ϛ	ϛ	ϛ	ϛ	ϛ	ϛ	ϛ	ϛ	ϛ	ϛ	ϛ

**Figure 1b.** The second part of a table from Lytkin 1952, showing glyph variants of Old Permic characters. Note that the first three columns from the Nomokanon 1510 are repeated from Part 1 of the table.

0P ZB VMA GI T̄YHTFUVU WTV: ΦΥΤΙ ΗΛΗ  
 ΩΛΥΖΥΛΗΔ ΖΛΥΗΖΥΗ ΠΛΙΝΙΣΤΥΛΟΝΩΛΥΛΥ ΖΥΛΥ  
 ΣΗΥ ΡΛΖΑ ΣΤΙΤΙ ΚΛΟΖΥΡΤ̄ ΥΝΤΥ ΤΥ ΤΕΣΣΙΖΥ  
 ΖΥΛΛΩΤ ΤΥΝΥΛΥΡΥΝΥΛ. ΕΤΥΖΑΟΖΥΠΥΤ̄ΥΙΖΑ  
 ΗΖΡΥΤΥΗΠΥΝΖΥΗ ΤΥΠΥΛΥ ΙΥΝΥΡΥ ΠΥΤΥ  
 ΦΖΥΡΥΛΥ Α ΠΥΡΥΤΥ ΥΠ̄ ΟΥΜΥ ΝΥΖ ΥΤΑΙ ΜΥΣΗ  
 ΥΛΕΥ. Σ̄ ΗΥΙΡΑ. ΞΥΡΥΥΤΥ ΔΗΥΝΥΠΥΝΥΝΥ ΔΥΡ  
 ῙΤ̄ ΑΥΤΣΥΝΖΥΛ — ΔΛΥΤΥΖΥΝΖΥΛ. ΠΑ ΝΥΛ  
 ΜΥΛ ΤΥΙ ΜΥΤ̄ ΪΤΟΠΥΝΥΝΥΝΥΤ=ΜΥΣΥΖΥΛ.  
 ΝΥΠΥΡΥΝΥΝΥΤΑΣΖΑ/ ΠΗΤΥΠΥ — ΔΗΛΥ ΡΥΤ. ΠΥΣ  
 ΝΥΗ ΖΥ ΜΥΠΥΔΑΪΠΥΤ̄ΥΝΖΥΛΤΥ ΜΥΦΥΝΥΤ — ΪΣ ΝΥ  
 ΗΟΤΥΚΦΗΟΪΝΥΠΥΝΥΔΑ Δ ΝΥ ΠΥΡΥΤ̄ΥΝΥΝΥΛ  
 ΣΚΥΝΑΤΥΤΥΡΥΤ/ ΖΑ ΟΥΠΥΝΥ Φ̄ΥΨΖΥ Τ̄ΔΟΝΥ  
 ΖΟΝΥΝ ΗΖΡΥΠ̄Η ΔΥΪΜΥΛΟ ΖΥ ΙΝΔΙ ΗΥΤΥ  
 ΖΥΝ ΪΡΥΝ ΦΗΝΥΛΥΝΥΤΥ ΠΥΝΥΝΥΝΥΡΥΤ̄Υ.  
 ΔΑΥΡΥΖΥΛ̄ / <sup>dyrcia</sup> ΦΟΟΤΥΣΗ ΝΥΠΥ ΝΥΔ ΗΔ Δ" ΔΠΥ  
 Δ" ΖΥΤΥΛΥΜΦΥΤΥ ΝΥ ΜΥΣ ΝΥΡΥ ΤΥΝΖΥ  
 Σ Α ΝΥΖΗΠΥΝΥΝΥΝΥΝΥ . ῡ

Figure 2. Old Permic inscription on the icon "Troitsy". The text is the beginning of a story about Abraham and Sarah (Genesis 18:1–8), from Lytkin 1952.

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. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.

Figure 3. Скворцовский's transcription of the Old Permic inscription on the icon "Troitsy" from Lytkin 1952. Linebreaks here were to get a 40cm by 5cm text to fit on an A4 sheet.



Наше воспроизведение\*

сэс'<sup>5</sup> вѣлмѳсс'ис<sup>6</sup> йэн аврамлу  
мамбри тупу дорын, пукыс'лу  
сылу ѳз'ѳс<sup>10</sup> вѳз'ын ч'ѳмлѳн<sup>6</sup>  
сылѳн луншѳрѳ.

ви<sup>5</sup>'ис авраам ас с'инйасѳн и  
ад<sup>5</sup>'ис ас с'инмѳн: вѳз'з'а 3 вѳрѳс  
сулалѳ мадыд сылыс';

ад<sup>5</sup>'ымыс' пышйис вѳз'з'а нылу  
ас ч'ѳмлѳн ѳйыс<sup>17</sup> дорыс' и  
йурбыртис муѳз'.

и шиис: мз (мѳзѳсѳ) йѳнмѳ  
бара-ѳ ад<sup>5</sup>'им кѳ мѳдалсѳ тѳ  
вѳз'ад, ас вѳрид вылти ин мун.

мѳд вайс'ас ва мыс'кыныс  
пѳдѳс тийан и сайкѳдч'адныд ту-  
пу дынын и вайс'аснис<sup>20</sup> н'ан'йас<sup>22</sup>,  
мѳд с'ѳйадныд сѳс' мунадныд ту  
туйѳ, кодудлыс' кѳжидныд ас вѳр  
ордѳ. и шиисныс: сиз' уѳзал, ку<sup>5</sup>'ик  
шин.

и пышйис аврам сара ордѳ  
ч'ѳмйѳ и шиис: тѳрмѳдс'и, лой  
3 тас'ти сѳстѳм пыс' и уѳзал  
3 кѳлдѳм н'ан'.

пышйи авраам мѳсйѳс ордѳ,  
кутис ч'ѳл ѳшѳс, бурѳс, и с'ѳтис  
сийѳ вѳрлы, и рѳгыд дас'тис.

и бос'тис вый, ма, йѳл, кук,  
кѳдѳс дас'тис и пугтис ны вѳз'ын;  
и с'ѳисныс; ач'ыс виз'ис ны вѳз'ын  
тупу дынын.

Наше чтение\*

1\* Сэ(ш) вѣлмос(ш)ис<sup>7</sup> иэн  
аурамлу<sup>8</sup> мамбри тупу дорын  
пукышлу<sup>9</sup> сылу ѳ(с'о)с у(ѳ)з'ын  
чѳмлѳн сылон луншо(ро)<sup>11</sup>/ви<sup>5</sup>'ис  
аураам<sup>12</sup> ѳ(с) (ш)ин(и)а(сон) й<sup>13</sup>  
ѳ(д)з'ис ѳс (ш)инмон (уѳ)з'з'а<sup>14</sup>

2. Г̄ верос сулало (м)атыд сы-  
лыш/ад<sup>5</sup>'ы мыш<sup>15</sup> пышиис уѳз'з'а  
нылу<sup>9</sup> ѳс<sup>16</sup> чѳмлѳн ѳйис д(о)рыш  
и<sup>13</sup> иврбыртис<sup>8</sup> муѳ(з')/й<sup>13</sup> шиис  
мз иѳнмо (ба)ра о ад<sup>5</sup>'им ко мѳ-  
дал (сѳ)<sup>18</sup> тѳ

3. уѳз'ад ѳ(с) уѳрид<sup>19</sup> уылти  
йн мун/мѳд уаиша(с) у(а) (мыш'к)ы-  
ныс п(ѳ)дос тийан. й<sup>13</sup> сай(к)од-  
(ча)дныд<sup>21</sup> (т)упу ды(ны)н (и)  
у(а)ишаснис<sup>19</sup> н(а)ниас м(ѳ)д шѳи-  
адныд сѳш мунад(н)ыд

4. ту<sup>23</sup> туио (кѳ)дудлыш  
кѳжидн(ы)д<sup>24</sup> а(с) уѳр ордо й<sup>25</sup>  
шийсныс сиз' уѳзал куз'(ик)<sup>26</sup>  
(ш)и(й)н/и пы(ш)иис аурам сара  
ордо (ч)ѳмио и шийс тѳрмѳдши<sup>27</sup>  
лои

5. г ташти (со)стом пыш<sup>28</sup> й  
уѳзал Г̄ колдом нан/пышйи  
аураам мосиос ѳрдо (к)утис чол  
ѳшѳс бурѳс й шѳтис сиио уѳрлу<sup>9</sup>  
й рѳгыд<sup>29</sup> даштис/й<sup>10</sup>

6. бо(ш)ти(с) у(ы) м(а) иол  
кук к(ѳ)дос(с) д(ашт)ис и пугтис  
ны уѳз'ын й шѳисныс (ачыс)  
в(и<sup>5</sup>)ис ны уѳз'ын тупу д(ы)н(ын).

Figure 4. Lytkin's Cyrillic transcription of the Old Permic inscription on the icon "Troitsy". On the left ("our reproduction") is the normalized Komi text; on the right ("our reading") is the literal transcription, with additions and corrections in parentheses.

ԵՍ[՛] ՃԵՆՈՒԵ[՛]ՆԵ ԴՄՆ ԸՐԾԸՆԻՐ ՎԸՆՈՒԾԴ ՔՐԼՐ  
 ԿՈՓՄՆ ԼՐԸՄԻՐ ԵՄԻՐ ՈՒ[Մ]Ե Ր[Վ]ՄՈՆ ԵՄՈՒՄՆ ԵՄԻՄՆ  
 ԿՐՆԻՐ[ՓՈ] ՃԴՈՒԵ ԸՐԾԸԸՎ Ճ[Ե] [՛]ԴՆ[Դ]Ը[ԵՈՆ] Դ Ը[՛]ՎՈՒԵ ԸԵ [՛]-  
 ԴՆՈՒՄ ՐՎՈՒԸ Վ ՃՎՓՈՒԵ ԵՐԼԸԼՈ [Վ]ԸՓՄԿ ԵՄԻՄԻ ԸԿՄՈՒ  
 ՎՄԻ ԼՄԻԴԴԵ ՄՎՈՒԸ ՆՄԻՐ ԸԵ ԵՄՈՒՄՆ ՈՒՄԵ Կ[Ո]ՓՄԻ Դ ԴՃԾ-  
 ՎՄՓՓԴԵ ՎՐՈ[Ո] Դ ԴԴԵ ՎՈ ԴՄՆՈՒ [ՎԸ]ՓԸ Ո ԸԿԿՈՒ ԸՈ Վ-  
 ՎԿԸԼ [Ե՛] ՓՎ ՄՎՈՒԸ Ը[Ե] ՐՎՓԿ ՐՄԼՓԴ ԴՆ ՎՐՆ ՎՎԿ  
 ՐԸԴԻԸ[Ե] Ր[Ը] [ՎՄԻԸ]ՄՆՄԵ Լ[Վ]ԿՈՒ ՓԴԴԸՆ. Դ ԵԸԴ[Ը]ՈԿ[ՅԸ]ԿՆ-  
 ՄԿ [Փ]ՐԼՐ ԿՄ[ՆՄ]Ն [Դ] Ր[Ը]ԴԻԸԵՆԴԵ Ն[Ը]ՆԴԸԵ Վ[Վ]Կ ԻՎԿԸԿ-  
 ՆՄԿ ԵՎԻ ՎՐՆԸԿ[Վ]ՄԿ ՓՐ ՓՐԴՈ [ԸՎ]ԿՐԿԼՄԻ ԸԵՎԿԿ-  
 Ն[Մ]Կ Ը[Ե] ՐՎՓ ՈՓԿՈ Դ ԴԴԴՆՄԵ ԵՐՈ ՐՄԸԼ ԸՐՈ[ԴԸ] [՛]Դ[Դ]Վ Դ Լ-  
 Մ[՛]ԴԴԵ ԸՐԾԸՎ ԵԸՓԸ ՈՓԿՈ [Յ]ՎՈՐՈ Դ ԴԴԴ ՓՎՓՎՈԿ-  
 ԴԴԼՈՐ Վ ՓԸԻՓԴ [Ե՛]ԵՓՈՒ ԼՄԻ Դ ԴՐՄԸԼ Վ ԸՈԿԿ-  
 ՈՒ ՎԸՆ ԼՄԻԴԴ ԸՐԾԸԸՎ ՎՈՒԴՈՒ ՈՓԿՈ [Ը]ՐՓԴԵ  
 ԵՈԼ ՈՒՄՆ ՎՐՓՈՒ Դ ԻՎՓԴԵ ԵԴԴՈ ՐՎՓԼՐ Դ ՓԵՆՄ-  
 Կ ԿԸԻՓԴԵ Դ ՎՈ[՛]ՓԴ[Ե] Ր[ՄԴ] Վ[Ը] ԴՈԼ ԸՐԸ Ը[Վ]ԿՈՒ[Ե]  
 Կ[ԸԻՓ]ՆԵ Դ ԼՐՆՓԴԵ ՆՄ ՐՎՄՈՆ Դ ԻՎԴԵՆՄԵ  
 [ԸՅՄԵ] Ճ[ԴՈ]Ն ՆՄ ՄՎՄՈՆ ՓՐԼՐ Կ[Մ]Վ[ՄՆ].

**Figure 5.** My typeset version of Lytkin’s Cyrillic literal transcription of the Old Permic inscription on the icon “Troitsy”. The linebreaks in the text above are the same as those of the text in Figure 3 (hyphens have been added at line-final word breaks). Diacritical marks and brackets are given in red here. Note the use of COMBINING DOT ABOVE, COMBINING DIAERESIS, COMBINING COMMA ABOVE, and CYRILLIC COMBINING TITLO.

18 ԵՍ ԻՅ ԵԲԼՆՈՒԵՔՈՒ ԴՍՆ ԸՏՐԸՆԻՐ ՆԸՆՈՒՑԴ ՓՐԼՐ ԿՈՐՄՆ,  
ԿՐԸՄՔԻՐ ԵՄԻՐ Ո՞՞Ե ՔՈՍՄՆ ԵՄՆՈ՞՞Ն ԵՄԼՈ՞՞Ն ԿՐՆ ՔՈ՞՞ՐՈ՞՞:

<sup>2</sup>ՃԴՈՒԵ ԸՏՐԸԸՆՈ ԸԵ ԻԴՆԴԵՆՈ՞՞Ն Դ ԸԿՈՒԵ ԸԵ ԻԴՆՆՈ՞՞Ն: ՃՈՍԸ 3  
ՃՏՈ՞՞Ե ԵՐԼԸԼՈ՞՞ ՆԸԿՄԿ ԵՄԼՄՔ; ԸԿՍՄՄՄՄՔ ԼՄՔԴԴԵ ՃՈՍԸ ՆՄԻՐ  
ԸԵ ԵՄՆՈ՞՞Ն Ո՞՞ՄԵ ԿՈՐՄՔ Դ ԴՐՑՆՄՑՓԵՐԵ ՆՐՈ՞՞:

<sup>3</sup>Դ ՔԴԴԵ: “ՆՍ (ՆՍՁՈ՞՞Ն) ԴՍՆՎՈ՞՞ ՆԸՐԸ-Ո՞ ԸԿՈՒՄ ԸՈ՞ ՆՍԿԸԼՈ՞՞  
ՓՍ ՃՈՍԸԿ ԸԵ ՃՏՐԴԿ ՃՄԼՓԴԴՆ ՆՐՆ:

<sup>4</sup>“ՆՍԿ ԸԸԴՔԸԵ ԸԸ ՆՄՔԸՄՆՄԵ ԼՎԿՈ՞՞ ՓԴԴԸՆ Դ  
ԵԸԴԸՈ՞՞ՅԸԿՆՄԿ ՓՐԼՐ ԿՄՆՄՆ Դ ՃԸԴՔԸԵՆԴԵ ՎԸՎԴԸ, ՆՍԿ  
ԻՎԴԸԿՆՄԿ ԵՍ ԻՐՆԸԿՆՄԿ ՓՐ ՓՐԴՈ՞՞, ԸՎԿՐԿԼՄՔ  
ԸԵՎԿՆՄԿ ԸԵ ՃՏՐ ՈՐԿՈ՞՞:” Դ ՔԴԴԵՆՄԵ: “ԵՐՐՁԸԼ, ԸՐՈՒԸ ՔԴԴՆ:”

<sup>6</sup>Դ ԼՄՔԴԴԵ ԸՏՐԸՆՈ ԵԸՐԸ ՈՐԿՈ՞՞ ԵՄՆՈ՞՞Ն Դ ՔԴԴԵ: “ՓՍՑՆՈ՞՞ԿՔԴ,  
ԼՈ՞՞ 3 ՓԸՔՓԴ ԵՈ՞՞ՓՈ՞՞ ԼՄՔ Դ ՐՁԸԼ 3 ԸՈ՞՞ԿՈ՞՞Ն ՎԸՆ!”

<sup>7</sup>ԼՄՔԴԴ ԸՏՐԸԸՆՈ ՆՈ՞՞ԵՆՈ՞՞ ՈՐԿՈ՞՞, ԸՐՓԵՐԵ ԵՈ՞՞ ԻՔՈ՞՞Ն, ՆՐՑՈ՞՞, Դ  
ՔՍՓԵՐԵ ԵԴՈ՞՞ ՃՏՐԼՄ, Դ ՑԵՆՄԿ ԿԸՔՓԵՐԵ:

<sup>8</sup>Դ ՆՈՒՔՓԵՐԵ ՃՄԴ, ՆԸ, ԴՈ՞՞Լ, ԸՐԸ, ԸՎԿՈ՞՞ ԿԸՔՓԵՐԵ Դ ԿՐՆՓԵՐԵ ՆՄ  
ՔՈՍՄՆ; Դ ԻՎԴԵՆՄԵ; ԸԵՄԵ ՃԴՈՒԵ ՆՄ ՃՈՍՄՆ ՓՐԼՐ ԿՄՆՄՆ:

**Figure 6.** My typeset version of Lytkin’s Cyrillic normalized transcription of the Old Permic inscription on the icon “Troitsy”. It is possible that this is the first time that a text in this script has ever been typeset with fonts. Linebreaks, punctuation, and numbering follow normal biblical editorial practice. Diacritical marks and punctuation are given in red here. Note the use of COMBINING DOT ABOVE, COMBINING DIAERESIS, COMBINING COMMA ABOVE, and CYRILLIC COMBINING TITLO.

## A. Administrative

1. Title

**Final proposal for encoding the Caucasian Albanian script in the SMP of the UCS**

2. Requester's name

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

**Author: Michael Everson**

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

**Liaison contribution.**

4. Submission date

**2012-01-24**

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

**Old Permic.**

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

**38.**

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 E.**

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 to the Project Editor of 10646 for publishing the standard?

**Michael Everson.**

5b. Identify the party granting a license for use of the font by the editors (include address, e-mail, ftp-site, etc.).

**Michael Everson.**

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

**Yes.**

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

**Yes.**

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

**Yes.**

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

**See above.**

## C. Technical – Justification

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

**No.**

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

**Yes.**

2b. If YES, with whom?

**There has been contact with a major centre for Uralic studies, Kotimaisten kielten tutkimuskeskus, Helsinki. There has been no contact in the Komi Republic. An earlier version of the proposal was circulated on [ura-list@helsinki.fi](mailto:ura-list@helsinki.fi). The principle authors of some of the materials used to prepare the proposal (chiefly Lytkin 1952 and Stipa 1961), are deceased.**

2c. If YES, available relevant documents

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

**Scholars and Komi language enthusiasts.**

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

**Old Permic was used chiefly to write Komi texts, but a number of Russian texts are also found in Old Permic script.**

4b. Reference

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

**Yes.**

5b. If YES, where?

**Marginal internet use (some fonts).**

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

**No.**

6b. If YES, is a rationale provided?

6c. If YES, reference

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

**Yes.**

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

**No.**

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

8c. If YES, reference

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

**No.**

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

9c. If YES, reference

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

**No; though this is a Greek-derived script like Coptic, Cyrillic, Armenian, Georgian, and Gothic.**

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

**Yes.**

10c. If YES, reference

**§2 above.**

11a. Does the proposal include use of combining characters and/or use of composite sequences?

**Yes.**

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

**No.**

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?