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Title: **Preliminary proposal for encoding the Old Hungarian script in the UCS**
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This document replaces N2134 (1999-10-02), N1638 (1997-09-18), and contains the proposal summary form.

1. Introduction. The Old Hungarian script is a runiform script used to write the Hungarian language. In Hungarian it is called *rovásírás* 'incised script', from *rovás* 'incision' and *írás* 'writing, script'. Various sources call it "Old Hungarian" or "Hungarian Runic" where *runic* refers to the script's runiform character and does not indicate direct descent from the Germanic runes (though Old Hungarian and the *Fuþark* are distant cousins). Old Hungarian is thought to derive ultimately from the Old Turkic script used in Central Asia, and appears to have been brought by the Székely Magyars to what is now Hungary in 895 CE. Owing to its link with the Old Turkic script, Old Hungarian must have been developed around the 8th century CE; it is first mentioned in a written account in the late 13th century. The first surviving alphabetical listing dates to about 1483. Short inscriptions are attested from the 12–13th centuries; some inscriptions are said to have been written as early as the 10th century, though there is no consensus on the accuracy of this dating. The historical corpus is relatively small, beginning with the short stone-carved inscriptions, and leading to a corpus of early "scholarly" work from the late humanist period, and subsequently to a body of material where the script was used as a decorative or as a "secret" cipher script.

Old Hungarian came to the attention of scientists (linguists, cultural anthropologists, archaeologists, and historians) and became the object of interest of serious scholarly work (in the modern sense of the word) at the end of the 19th to the first third of the 20th century. Research on Old Hungarian was cut short by the Second World War and by the cultural politics of the Communist era in Hungary, but beginning with the last third of the 20th century the script began to receive more attention—this time from the general public. Popular but often (very) unscientific works began to be published, and the script began to gain popularity, particularly in circles interested in folklore and Hungarian traditional culture. These popularizing "textbooks" about the Old Hungarian script feature some non-traditional additions to the character repertoire, based on attempts by their authors to map the old script to the modern Latin orthography of Hungarian—each trying to impart his vision of the revived script to their audience.

The modern corpus (modern defined as beginning with the 20th century) has seen a huge increase in the last two decades, the script being used by traditionalists and enthusiasts. Some of these uses are simply decorative, but a number of books, magazines, and teaching materials including folklore story-books for children have been published. Very recently the script has been adopted by esoteric gurus and mystical groups, which propagate fictitious "ancient" religions (for example, a variety of shamanism called *Arvisura* *'truth-telling') and by politically radical right-wing groups. (Similar use has been made of the Germanic runes in mystical or right-wing contexts.)

1.1. Primary sources. Our knowledge of historic Old Hungarian script, its structure and usage is based on three main sources, the conclusion of these being confirmed by less relevant shorter inscriptions. The three most important sources are the *Alphabet of Nikolsburg* (prior to 1483), the *Runic Calendar of Marsigli,* also known as the Bologna manuscript (1690 copy of a 15th-century source), and the *Rudimenta* by János Telegdi (original 1598, contemporary copies). Telegdi's manuscript is an "early scholarly work", and is demonstratably a compilation or copy which is corrupted in several ways, such as the form of the letter *u*, the misinterpretation of an earlier medieval abbreviation *tp̃rg* as "tpru" rather than the correct *temperius*, 'earlier', etc. Nevertheless, Telegdi is in many respects very valuable and we take it as a primary source, though not uncritically. Two more minor sources worth mentioning are the Istanbul Inscription (inscribed 1515, copied between 1553–1555) and the Inscription of Csíkszentmiklós (inscribed 1501, copied 1749 and 1751). Some less significant findings complete the list.

The oldest sources can be grouped into two separate categories which are usually characterised by age (younger/older), but which could represent areal influence alike. The main difference between the two groups being the characters used for the phonemes /ø/ *ö* and /y/ *ü*. Group one (to which the Nikolsburg and the Bologna source belongs) represents /ø/ by ⸡, the sign inherited from the Old Turkic Ⲏ *ö*, and uses an innovative sign ⵝ for /y/. Group two (including the Rudimenta, Istanbul, and Csíkszentmiklós inscriptions) use the Turkic-derived character with the glyph ꜣ for /y/ and use ꓘ, a character derived from ⵊ /e/, for /ø/. This is not surprising, as /ø/ is the youngest vowel in the Hungarian vowel system, developing on the one hand from /y/ > /ø/ by increasing openness (a tendency of linguistic change 13–15th c.) and by labialization of /e/ > /ø/ (14–16th c.).

1.2. Revivalist usage. Revivalists on the 20th century have all attempted to extend the historic alphabet so that it corresponds better to modern Hungarian orthography. The most evident lack was the absence of differentiation between short and long vowels, and the lack of letters to represent the sounds *dz* /dz/ and *dzs* /dʒ/. Each of the Revivalist schools either devised new glyphs for the length distinction or made use of historical glyph variants by assigning them distinctive meanings. None of the Revivalist schools bothered with *dz* and *dzs* which they all write as digraphs (ᛞᛏ *d+z* and ᛉᛏ *d+zs*, reading from right to left). Regarding vowel length, however, the major Revivalist schools chose different characters to make the distinctiontion: they are different enough not be be seen as mere glyph variants of the same character, but rather as "different orthographies". Encoding them *as such* for modern usage is, in our view, conter-productive in terms of future data and corpus consistency and also in concept with regard to the character/glyph model. What we have done, accordingly, is to start with character support for the historical primary materials, and then—in consultation with Revivalists from several schools—to add support for Revivalist use in an agreed compromise.

2. Structure. Old Hungarian is an alphabetic script written primarily from right to left. As in Old Turkic, Old Hungarian consonants traditionally bore an inherent vowel which—unlike other Semitic scripts—implied a potential vowel to be spoken before the consonant, the base vowel being an implied /e/. Unlike Old Turkic, Old Hungarian did not have a systematic palatal/velar implied vowel distinction in its consonants, and evidence suggests that when the Magyars borrowed the Old Turkic alphabet, they took over letters only from the palatal series, apart from Old Hungarian ◊ *ek* and ⸜ *ak*, which appear to derive from Old Turkic ◁ *iq* and ⼓ *aq* respectively. Vowel signs were written in final position (where no vowel could have been implied), where the vowels were long, and for disambiguation. At later phases the practice of inherent-/e/ orthography fell into disuse, with all vowels being written.

Revived Hungarian does enjoy a fair amount of current use however. The husband-and-wife team Gábor Szakács and Klára Friedrich are activists who travel throughout Hungary and in the Hungarian-speaking areas of neighbouring countries, teaching Old Hungarian and training teachers at summer-schools,

winter-schools, and other cultural events. International competitions have been held for nearly a decade, with tens of thousands of children participating in a variety of activities, including creative writing in Old Hungarian and calligraphy.

3. True ligatures. In traditional manuscripts a rather large set of ligatures is employed. These ligatures are optional and should be invoked either with OpenType features or by specifically requesting them from a font with the use of U+200D ᴢᴇʀᴏ ᴡɪᴅᴛʜ ᴊᴏɪɴᴇʀ. The list below (reading from right to left) is not exhaustive, but it is based on the characters supported in the 8-bit fonts made by Gábor Hosszú and Győző Libisch:

ab	=	b	+	a			←
ad	=	d	+	a			←
al	=	l	+	a			←
ar	=	r	+	a			←
ár	=	r	+	á			←
att	=	t	+	t	+	a	←
ba	=	a	+	b			←
be	=	e	+	b			←
bi	=	i	+	b			←
bo	=	o	+	b			←
bt	=	t	+	b			←
cek	=	ᵉk	+	c			←
cak	=	ᵃk	+	c			←
csa	=	a	+	cs			←
csin	=	n	+	i	+	cs	←
du	=	u	+	d			←
ga	=	a	+	g			←
ge	=	e	+	g			←
gi	=	i	+	g			←
go	=	o	+	g			←
ha	=	a	+	h			←
he	=	e	+	h			←
hi	=	i	+	h			←
ho	=	o	+	h			←
írt	=	t	+	r	+	í	←
it	=	t	+	i			←
ít	=	t	+	í			←
la	=	a	+	l			←
lá	=	á	+	l			←
le	=	e	+	l			←
lo	=	o	+	l			←
lt	=	t	+	l			←
na	=	a	+	n			←
nc	=	c	+	n			←
nd	=	d	+	n			←
ngy	=	gy	+	n			←
ni	=	i	+	n			←
nk	=	ᵉk	+	n			←
np	=	p	+	n			←
nt	=	t	+	n			←

or ⟨⟩	=	*r* ⟨⟩	+	*o* ⟨⟩		←
ra ⟨⟩	=	*a* ⟨⟩	+	*r* ⟨⟩		←
re ⟨⟩	=	*e* ⟨⟩	+	*r* ⟨⟩		←
ri ⟨⟩	=	*i* ⟨⟩	+	*r* ⟨⟩		←
ro ⟨⟩	=	*o* ⟨⟩	+	*r* ⟨⟩		←
rt ⟨⟩	=	*t* ⟨⟩	+	*r* ⟨⟩		←
ru ⟨⟩	=	*u* ⟨⟩	+	*r* ⟨⟩		←
sa ⟨⟩	=	*a* ⟨⟩	+	*s* ⟨⟩		←
se ⟨⟩	=	*e* ⟨⟩	+	*s* ⟨⟩		←
si ⟨⟩	=	*i* ⟨⟩	+	*s* ⟨⟩		←
sk ⟨⟩	=	*ᵉk* ⟨⟩	+	*s* ⟨⟩		←
sm ⟨⟩	=	*m* ⟨⟩	+	*s* ⟨⟩		←
so ⟨⟩	=	*o* ⟨⟩	+	*s* ⟨⟩		←
sp ⟨⟩	=	*p* ⟨⟩	+	*s* ⟨⟩		←
st ⟨⟩	=	*t* ⟨⟩	+	*s* ⟨⟩		←
szt ⟨⟩	=	*t* ⟨⟩	+	*sz* ⟨⟩		←
ti ⟨⟩	=	*i* ⟨⟩	+	*t* ⟨⟩		←
tya ⟨⟩	=	*a* ⟨⟩	+	*ty* ⟨⟩		←
ul ⟨⟩	=	*l* ⟨⟩	+	*u* ⟨⟩		←
um ⟨⟩	=	*m* ⟨⟩	+	*u* ⟨⟩		←
ur ⟨⟩	=	*r* ⟨⟩	+	*u* ⟨⟩		←
va ⟨⟩	=	*a* ⟨⟩	+	*v* ⟨⟩		←
var ⟨⟩	=	*r* ⟨⟩	+	*a* ⟨⟩ + *v* ⟨⟩		←
vár ⟨⟩	=	*r* ⟨⟩	+	*á* ⟨⟩ + *v* ⟨⟩		←
vm ⟨⟩	=	*m* ⟨⟩	+	*v* ⟨⟩		←
za ⟨⟩	=	*a* ⟨⟩	+	*z* ⟨⟩		←
zr ⟨⟩	=	*r* ⟨⟩	+	*z* ⟨⟩		←
zt ⟨⟩	=	*t* ⟨⟩	+	*z* ⟨⟩		←

4. Homorganic nasals. In Old Hungarian there are several characters which represent a plosives or affricates preceded by their homorganic nasals. These characters are most probably an inheritance from Old Tukic script, which has the signs ☺ *nt* and ⟩ *nč*; it appears that when taking over the script from the Turkic-speaking users, the Magyars extended this systematically. These letters are found in the alphabetical listing of Nikolsburg, and contrast with the true ligatures (see §3 above). It is our view—published here for the first time—that they were devised by doubling and sometimes reversing or turning the base consonant: *amb* ⟨⟩ deriving from ⟨⟩ *bb*; *enc* ⟨⟩ deriving from ⟨⟩ *cc*; *and* ⟨⟩ deriving from ⟨⟩ *dd*; *unk* ⟨⟩ deriving from ⟨⟩ *ᵃkᵃk*; *emp* ⟨⟩ deriving from ⟨⟩ *pp*; and *ent* ⟨⟩ (earlier ⟨⟩) deriving from ⟨⟩ *tt*. Note, however, that these are not productive ligatures, and that the normal ligatures are formed as described in above: *nc* ⟨⟩ is a ligature of ⟨⟩ *n+c* (Bologna); *nd* ⟨⟩ is a ligature of ⟨⟩ *n+d* (Telegdi); *nk* ⟨⟩ is a ligature of ⟨⟩ *n+ᵉk* (not ⟨⟩ *ᵃk*) (Bologna); and *nt* ⟨⟩ is a ligature of ⟨⟩ *n+t* (Telegdi, Bologna). (Standard ligatures for *mb* ⟨⟩ and *mp* ⟨⟩ are not known.)

5. Directionality. The primary direction of writing is right-to-left, though some modern users have used left-to-right directionality. Old Hungarian is encoded as strong right-to-left script; directional overrides can be used where necessary. When the direction of characters is changed, they are mirrored, like Old Italic and other scripts.

6. Punctuation. A variety of word dividers is employed more or less regularly. Traditional texts use word spacing, or separate words with a single or double dot more or less indescriminately Modern users punctuate Old Hungarian with U+0020 SPACE. In modern use, U+2E31 · WORD SEPARATOR MIDDLE DOT,

U+204F ⁏ REVERSED SEMICOLON, U+205A ⁚ TWO DOT PUNCTUATION, and U+205E ⁞ VERTICAL FOUR DOTS are found. Also used by Revivalists are two characters which have not yet been encoded, proposed here as:

U+2E32 ⸲ REVERSED COMMA
　　→ U+002C , COMMA
　　→ U+060C ، ARABIC COMMA

U+2E33 ⸳⸳ DOUBLE LOW-REVERSED-9 QUOTATION MARK
　　→ U+201E „ DOUBLE LOW-9 QUOTATION MARK

7. Names and ordering. Character names follow the usual naming conventions: AA represents *á*, EE represents *é*, II represents *í*, OO represents *ó*, UU represents *ú*, OEE represents *ő*, and UEE represents *ű*. The order of the characters in sorting is as follows:

$$\text{🝔}\,a \ll \text{🝔}\,á < \text{X}\,b < \text{XX}\,mb < ↑\,c < ↥\,nc < \text{⋈}\,cs < ✝\,d < \text{X}\,nd < ⟩\,e \ll ⟩\,ë \ll ⟩\,é <$$
$$⊘\,f < \text{Λ}\,g < ‡\,gy < \text{✕}\,h < ↑\,i \ll ↑\,í < ⇂\,j < ◇\,ek < ⇃\,ak < \text{X}\,nk < \text{Λ̱}\,l < ◊\,ly < ⅃\,m <$$
$$⟩\,n < \text{D}\,ny < ⟩\,o \ll ⟩\,ó < ⟩\,^{nikol}ö \ll \text{K}\,^{rudim}ö \ll \text{⋊}\,ő < ⅃\,p < \text{⟰}\,mp < \text{И}\,r \ll ´\,^{short}r <$$
$$\text{Λ}\,s < ⎮\,sz < \text{Y}\,t < \text{↑}\,nt \ll \text{❆}\,^{nikol}nt < \text{X}\,ty \ll \text{X}\,^{nikol}ty < \text{Ⱶ}\,u \ll \text{Ⱶ}\,ú < \text{XX}\,^{nikol}ü \ll \text{Ч}\,^{rudim}ü <$$
$$\text{M}\,v < \text{Ⱶ}\,z < \text{Y}\,zs < ◊\,us$$

8. Issue: Numbers. These numbers are part of a tally system which was widely used throughout Hungary until the 19th century. Although they do not occur in traditional Old Hungarian manuscripts, since the twentieth century they have been used regularly with Old Hungarian and are now strongly associated with them. Old Hungarian numbers are built up from elements, as shown below. The system is laid out below: further research is required to determine how these should be encoded, and where in the UCS they should go.

1	Ɪ	1 ←	11	IX	1 + 10 ←
2	‖	1 + 1 ←	12	IIX	1 + 1 + 10 ←
3	‖Ɪ	1 + 1 + 1 ←	13	IIIX	1 + 1 + 1 + 10 ←
4	‖‖	1 + 1 + 1 + 1 ←	14	IIIIX	1 + 1 + 1 + 1 + 10 ←
5	V	5 ←	15	VX	2 + 3 + 10 ←
6	IV	1 + 5 ←	16	IVX	3 + 3 + 10 ←
7	IIV	1 + 1 + 5 ←	17	IIVX	1 + 3 + 3 + 10 ←
8	IIIV	1 + 1 + 1 + 5 ←	18	IIIVX	2 + 3 + 3 + 10 ←
9	IIIIV	1 + 1 + 1 + 1 + 5 ←	19	IIIIVX	3 + 3 + 3 + 10 ←
10	X	10 ←	100	Ӿ	100 + 1 ←
20	XX	10 + 10 ←	200	ӾII	100 + 1 + 1 ←
30	XXX	10 + 10 + 10 ←	300	ӾIII	100 + 1 + 1 + 1 ←
40	XXXX	10 + 10 + 10 + 10 ←	400	ӾIIII	100 + 1 + 1 + 1 + 1 ←
50	Ѵ	50 ←	500	ӾV	100 + 5 ←
60	XѴ	10 + 50 ←	600	ӾIV	100 + 1 + 5 ←
70	XXѴ	10 + 10 + 50 ←	700	ӾIIV	100 + 1 + 2 + 5 ←
80	XXXѴ	10 + 10 + 10 + 50 ←	800	ӾIIIV	100 + 1 + 1 + 1 + 5 ←
90	XXXXѴ	10 + 10 + 10 + 10 + 50 ←	900	ӾIIIIV	100 + 1 + 1 + 1 + 1 + 5 ←
3000	⋇III	1000 + 1 + 1 + 1 ←	30000	⋇XXX	1000 + 10 + 10 + 10 ←

9. Issue: Casing. In general it can be said that casing is not a part of the traditional Old Hungarian script, although title-casing is clearly evidenced in the text ⟨𐲥𐲙𐲪𐲗𐲦 𐲤𐲪𐲐𐲥𐲦𐲞𐲙⟩ *In Rodolfvm Caesarem* from the 1604 manuscript by István Szamosközi. One may presume that it was on the basis of this precedent that Gábor Szakács and Klára Friedrich introduced casing in 2004 in the proceedings of the national Old Hungarian student competition. In Friedrich and Szakács 2005, however, they said: "*Kis és nagybetűt külön nem jelölünk.*" 'We do not distinguish upper and lower case.' Nevertheless in subsequent publications by them and by others, case is increasingly and regularly in evidence. As in Deseret, the case distinction in Old Hungarian is one of size. If we should encode case, it will double the size of the repertoire. There is space enough for it; our view is that it is anachrononistic but that if it is to be encoded, it should be encoded now, with the rest of the script.

10. Issue: Encoding plane. A number of requests have been made to consider encoding Old Hungarian in the BMP rather than in the SMP, because of the contemporary use made culturally as described above. There is available space on the BMP at U+0840..U+087F. If the resolution of the issue of casing is to include upper- and lower-case pairs, the only convenient place to encode Old Hungarian would be on the SMP, since only on the SMP there enough contiguous RTL space to do so.

11. Unicode Character Properties.

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10C80;OLD HUNGARIAN LETTER A;Lo;0;R;;;;;N;;;;;
10C81;OLD HUNGARIAN LETTER EB;Lo;0;R;;;;;N;;;;;
10C82;OLD HUNGARIAN LETTER AMB;Lo;0;R;;;;;N;;;;;
10C83;OLD HUNGARIAN LETTER EC;Lo;0;R;;;;;N;;;;;
10C84;OLD HUNGARIAN LETTER ENC;Lo;0;R;;;;;N;;;;;
10C85;OLD HUNGARIAN LETTER ECS;Lo;0;R;;;;;N;;;;;
10C86;OLD HUNGARIAN LETTER ED;Lo;0;R;;;;;N;;;;;
10C87;OLD HUNGARIAN LETTER AND;Lo;0;R;;;;;N;;;;;
10C88;OLD HUNGARIAN LETTER E;Lo;0;R;;;;;N;;;;;
10C89;OLD HUNGARIAN LETTER EE;Lo;0;R;;;;;N;;;;;
10C8A;OLD HUNGARIAN LETTER EF;Lo;0;R;;;;;N;;;;;
10C8B;OLD HUNGARIAN LETTER EG;Lo;0;R;;;;;N;;;;;
10C8C;OLD HUNGARIAN LETTER EGY;Lo;0;R;;;;;N;;;;;
10C8D;OLD HUNGARIAN LETTER EH;Lo;0;R;;;;;N;;;;;
10C8E;OLD HUNGARIAN LETTER I;Lo;0;R;;;;;N;;;;;
10C8F;OLD HUNGARIAN LETTER EJ;Lo;0;R;;;;;N;;;;;
10C90;OLD HUNGARIAN LETTER EK;Lo;0;R;;;;;N;;;;;
10C91;OLD HUNGARIAN LETTER AK;Lo;0;R;;;;;N;;;;;
10C92;OLD HUNGARIAN LETTER UNK;Lo;0;R;;;;;N;;;;;
10C93;OLD HUNGARIAN LETTER EL;Lo;0;R;;;;;N;;;;;
10C94;OLD HUNGARIAN LETTER ELY;Lo;0;R;;;;;N;;;;;
10C95;OLD HUNGARIAN LETTER EM;Lo;0;R;;;;;N;;;;;
10C96;OLD HUNGARIAN LETTER EN;Lo;0;R;;;;;N;;;;;
10C97;OLD HUNGARIAN LETTER ENY;Lo;0;R;;;;;N;;;;;
10C98;OLD HUNGARIAN LETTER O;Lo;0;R;;;;;N;;;;;
10C99;OLD HUNGARIAN LETTER NIKOLSBERG OE;Lo;0;R;;;;;N;;;;;
10C9A;OLD HUNGARIAN LETTER RUDIMENTA OE;Lo;0;R;;;;;N;;;;;
10C9B;OLD HUNGARIAN LETTER EP;Lo;0;R;;;;;N;;;;;
10C9C;OLD HUNGARIAN LETTER EMP;Lo;0;R;;;;;N;;;;;
10C9D;OLD HUNGARIAN LETTER ER;Lo;0;R;;;;;N;;;;;
10C9E;OLD HUNGARIAN LETTER SHORT ER;Lo;0;R;;;;;N;;;;;
10C9F;OLD HUNGARIAN LETTER ES;Lo;0;R;;;;;N;;;;;
10CA0;OLD HUNGARIAN LETTER ESZ;Lo;0;R;;;;;N;;;;;
10CA1;OLD HUNGARIAN LETTER ET;Lo;0;R;;;;;N;;;;;
10CA2;OLD HUNGARIAN LETTER ENT;Lo;0;R;;;;;N;;;;;
10CA3;OLD HUNGARIAN LETTER NIKOLSBERG ENT;Lo;0;R;;;;;N;;;;;
10CA4;OLD HUNGARIAN LETTER ETY;Lo;0;R;;;;;N;;;;;
10CA5;OLD HUNGARIAN LETTER NIKOLSBERG ETY;Lo;0;R;;;;;N;;;;;
10CA6;OLD HUNGARIAN LETTER U;Lo;0;R;;;;;N;;;;;
10CA7;OLD HUNGARIAN LETTER NIKOLSBERG UE;Lo;0;R;;;;;N;;;;;
10CA8;OLD HUNGARIAN LETTER RUDIMENTA UE;Lo;0;R;;;;;N;;;;;
10CA9;OLD HUNGARIAN LETTER EV;Lo;0;R;;;;;N;;;;;
10CAA;OLD HUNGARIAN LETTER EZ;Lo;0;R;;;;;N;;;;;
10CAB;OLD HUNGARIAN LETTER EZS;Lo;0;R;;;;;N;;;;;
10CAC;OLD HUNGARIAN LETTER US;Lo;0;R;;;;;N;;;;;
10CAD;OLD HUNGARIAN LETTER AA;Lo;0;R;;;;;N;;;;;
10CAE;OLD HUNGARIAN LETTER CLOSE E;Lo;0;R;;;;;N;;;;;
10CAF;OLD HUNGARIAN LETTER II;Lo;0;R;;;;;N;;;;;
10CB0;OLD HUNGARIAN LETTER OO;Lo;0;R;;;;;N;;;;;
10CB1;OLD HUNGARIAN LETTER OEE;Lo;0;R;;;;;N;;;;;
10CB2;OLD HUNGARIAN LETTER UU;Lo;0;R;;;;;N;;;;;
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	10C8	10C9	10CA	10CB
0	10C80	10C90	10CA0	10CB0
1	10C81	10C91	10CA1	10CB1
2	10C82	10C92	10CA2	10CB2
3	10C83	10C93	10CA3	
4	10C84	10C94	10CA4	
5	10C85	10C95	10CA5	
6	10C86	10C96	10CA6	
7	10C87	10C97	10CA7	
8	10C88	10C98	10CA8	
9	10C89	10C99	10CA9	
A	10C8A	10C9A	10CAA	
B	10C8B	10C9B	10CAB	
C	10C8C	10C9C	10CAC	
D	10C8D	10C9D	10CAD	
E	10C8E	10C9E	10CAE	
F	10C8F	10C9F	10CAF	

Traditional alphabet

10C80	Მ	OLD HUNGARIAN LETTER A
10C81	X	OLD HUNGARIAN LETTER EB
10C82	ᚇ	OLD HUNGARIAN LETTER AMB
10C83	↑	OLD HUNGARIAN LETTER EC
10C84	↕	OLD HUNGARIAN LETTER ENC
10C85	Ი	OLD HUNGARIAN LETTER ECS
10C86	�	OLD HUNGARIAN LETTER ED
10C87	X	OLD HUNGARIAN LETTER AND
10C88	Ɜ	OLD HUNGARIAN LETTER E
10C89	Ꮰ	OLD HUNGARIAN LETTER EE
10C8A	◊	OLD HUNGARIAN LETTER EF
10C8B	Λ	OLD HUNGARIAN LETTER EG
10C8C	‡	OLD HUNGARIAN LETTER EGY
10C8D	ⵝ	OLD HUNGARIAN LETTER EH

> sometimes used in traditional Old Hungarian for e
> → 10CAE ⵝ old hungarian letter close e

10C8E	↑	OLD HUNGARIAN LETTER I
10C8F	ᚋ	OLD HUNGARIAN LETTER EJ
10C90	◊	OLD HUNGARIAN LETTER EK
10C91	↥	OLD HUNGARIAN LETTER AK
10C92	X	OLD HUNGARIAN LETTER UNK
10C93	ⴥ	OLD HUNGARIAN LETTER EL
10C94	◊	OLD HUNGARIAN LETTER ELY
10C95	ᚔ	OLD HUNGARIAN LETTER EM
10C96	⟩	OLD HUNGARIAN LETTER EN
10C97	�	OLD HUNGARIAN LETTER ENY
10C98	Ɔ	OLD HUNGARIAN LETTER O
10C99	ᘰ	OLD HUNGARIAN LETTER NIKOLSBURG OE
10C9A	ⱪ	OLD HUNGARIAN LETTER RUDIMENTA OE

> used in Revived Old Hungarian for oe

10C9B	ᚔ	OLD HUNGARIAN LETTER EP
10C9C	ⱳ	OLD HUNGARIAN LETTER EMP
10C9D	Ⴗ	OLD HUNGARIAN LETTER ER
10C9E	ˊ	OLD HUNGARIAN LETTER SHORT ER
10C9F	Λ	OLD HUNGARIAN LETTER ES
10CA0	ǀ	OLD HUNGARIAN LETTER ESZ
10CA1	Ꮖ	OLD HUNGARIAN LETTER ET
10CA2	Ƴ	OLD HUNGARIAN LETTER ENT
10CA3	ⱬ	OLD HUNGARIAN LETTER NIKOLSBURG ENT
10CA4	X	OLD HUNGARIAN LETTER ETY
10CA5	X	OLD HUNGARIAN LETTER NIKOLSBURG ETY
10CA6	Ⴋ	OLD HUNGARIAN LETTER U
10CA7	ⵊ	OLD HUNGARIAN LETTER NIKOLSBURG UE

> used in Revived Old Hungarian for uee

10CA8	ᚽ	OLD HUNGARIAN LETTER RUDIMENTA UE

> used in Revived Old Hungarian for ue

10CA9	Ⴘ	OLD HUNGARIAN LETTER EV
10CAA	ᚸ	OLD HUNGARIAN LETTER EZ
10CAB	Ƴ	OLD HUNGARIAN LETTER EZS
10CAC	◊	OLD HUNGARIAN LETTER US

Extensions for modern Hungarian

10CAD	Მ	OLD HUNGARIAN LETTER AA

10CAE	ⵝ	OLD HUNGARIAN LETTER CLOSE E
10CAF	↑	OLD HUNGARIAN LETTER II
10CB0	ᚴ	OLD HUNGARIAN LETTER OO
10CB1	ⱬ	OLD HUNGARIAN LETTER OEE
10CB2	Ⴟ	OLD HUNGARIAN LETTER UU
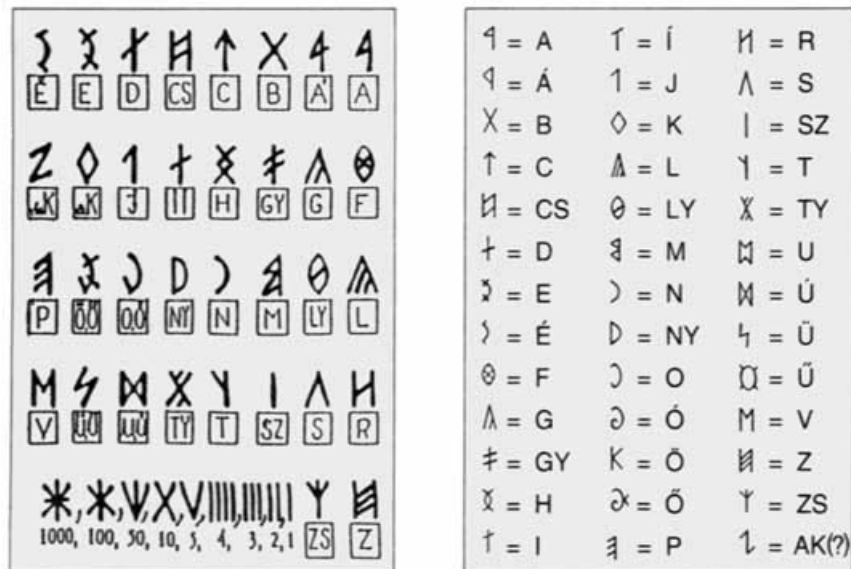
Figures

Figure 1. Two Old Hungarian alphabet charts. On the left, the Revivalist alphabet of Adorján Magyar; on the right, the Revivalist alphabet of Sándor Forrai.

sor-szám	hangérték	betűjel	sor-szám	hangérték	betűjel
1.	a, á	ꓫ ꓫ Ʌ	18.	m	ꓕ
2.	b	X	19.	n	ꓛ
3.	c	↑	20.	ny	D
4.	cs	ꓧ	21.	o, ó	ꓛ
5.	d	+	22.	ö, ő	⊗X K Z Z
6.	e, é	ꓫ	23.	p	ꓱ ꓱ
7.	f	⊗	24.	r	H И H
8.	g	Ʌ	25.	s	Λ
9.	gy	ꓕ	26.	sz	I
10.	h	ꓫ	27.	t	Y
11.	h (ch)	ꓫ	28.	ty	X X
12.	i, í	ꓕ	29.	u, ú	ꓨ ꓨ
13.	j	ꓩ	30.	ü, ű	� � ꓫ
14.	k	◇	31.	v	M
15.	k (szóvégi)	ꓩ	32.	z	ꓯ
16.	l	ꓥ	33.	zs	Ψ Ψ
17.	ly	⊙ ⊘			

1. táblázat.

A székely ábécé (Németh Gyula nyomán)

Figure 2. Chart showing Old Hungarian letters and some variants.

Ordo	Potestas	Nomen	Figura		Ordo	Potestas	Nomen	Figura
1.	a	a	4		17.	m	em	ꝑ
2.	b	eb	X		18.	n	en	⊃
3.	c	etz	ꝑ		19.	ny	eny	Ꝝ
4.	ts	eta	↑ ⌀		20.	o	o	ꝺ
5.	d	ed	+		21.	ð	eð	X
6.	e	e	Ɣ ⟩		22.	p	ep	ꝝ
7.	f	ef	θ		23.	r	er	H
8.	gh	egh	Λ		24.	β	es	Λ
9.	gy	egy	=		25.	sch	esch	Ѵ
10.	h	ah	ꝗ		26.	s	es	I
11.	i	i	Y		27.	t	et	y
12.	j	ej	ꝗ		28.	ty	ety	✷
13.	k	ek	◇		29.	v	ev	∞
14.	k	ak	⟨		30.	°u	°uv	M
15.	l	el	⌒		31.	u	ov	И
16.	ly	ely	⊙		32.	z	ez	B̲

Rovásírásos ábécé a gyulafehérvári református kollégiumban 1655-ből

Figure 3. Old Hungarian chart.

46. Alkoss minél több szót a következő betűkből: 4, 4, �, ↑, ⋀, ◇, 4, ꝗ, ꝺ, X, H, Λ, Y, M. (legalább 60 szó készíthető), és írd be a gyakorló füzetedbe!

47. Melyik a kakukktojás? Karikázd be!

Figure 4. Sample text in Old Hungarian. Note the use of U+204F ⁏ reversed semicolon and the proposed U+2E32 ⸲ reversed comma, alongside the ordinary U+002C , comma above in Latin text. Since U+002C is used in Hebrew text with no mirroring, U+2E32 should be encoded for generic use as here in Old Hungarian.

1. Meixner Ildikó: Nyuszi Nyiszi

[Sample text in Old Hungarian script]

Figure 5. Sample text in Old Hungarian. Note the use of the proposed U+2E32 ⸲ REVERSED COMMA and of the proposed U+2E33 ⸳⸳ DOUBLE LOW-REVERSED-9 QUOTATION MARK.
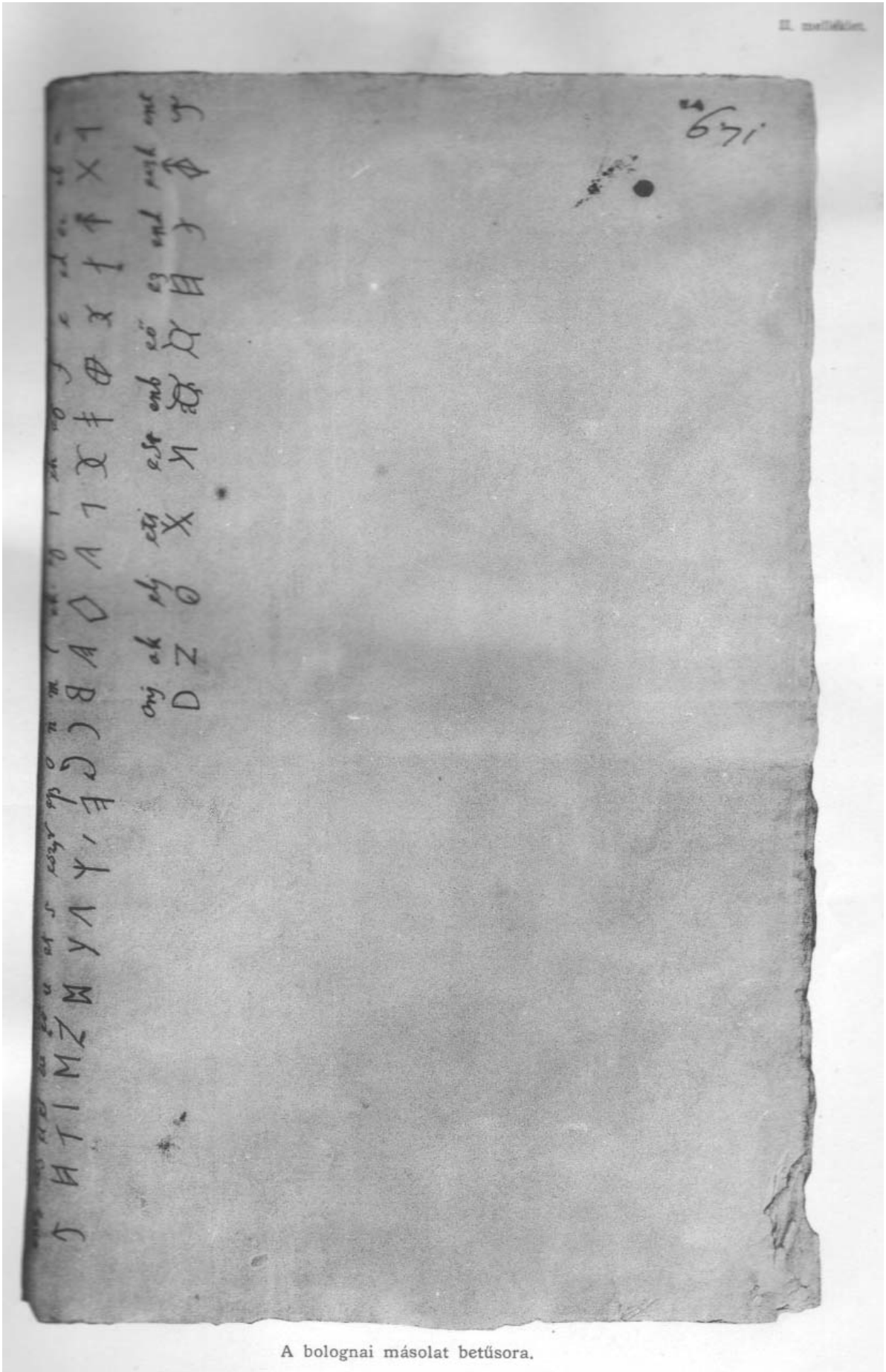
**Figure 6.** Abecedarium from the Bologna manuscript.

A Rudimenta első lapja.

Figure 7. Alphabet and discussion from the manuscript *Rudimenta Priscae Hunnorum linguae*.
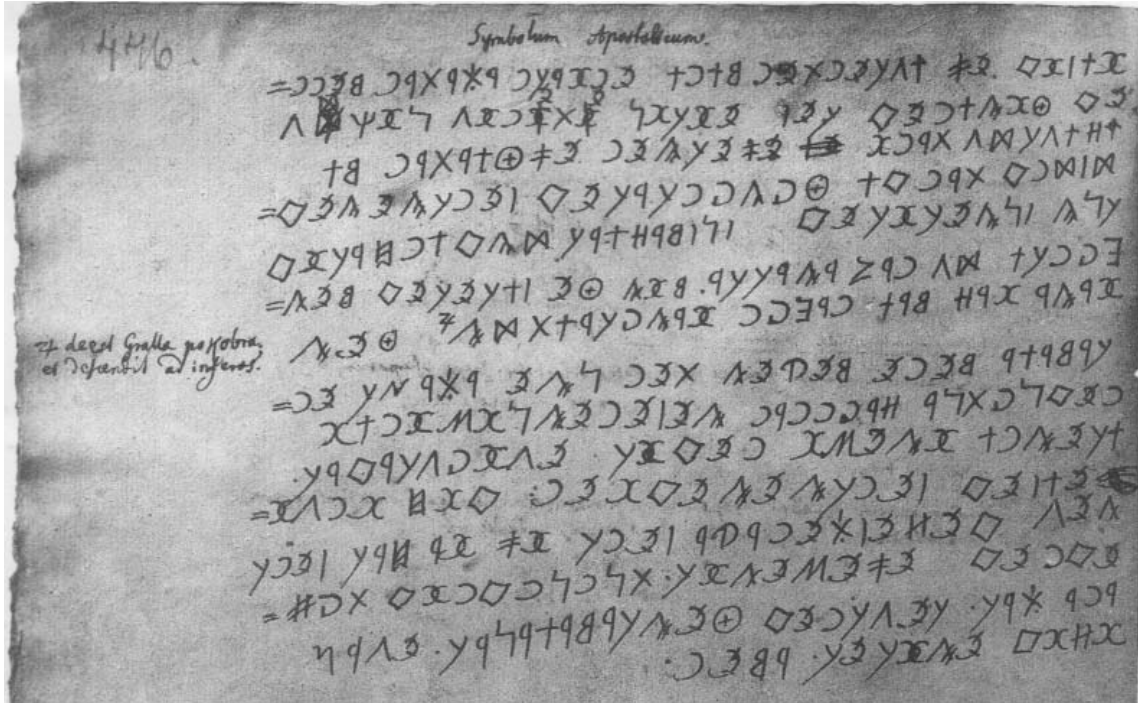
Figure 8. Text From the *Rudimenta*. The text reads:

HISzËK EGʏ ISTENBEN MINI ENHATN ATʏABAN MENN⹀
EK FÖLDNEK TER ËHTÖÜ ËBEN ËS JËZSUS
CzRISTUS BANÖ EGʏETLEN EGʏ FIABAN MI
URUNK BAN KI FOGONTATEK SzENTLELEK⹀
TÜL SzÜLETÈTEK SzÜSzMARIATUL KINZATËK
PONTI US NAQ ALATTA · MËG FE SzITETEK MEG⹀
HALA ÖAR MAD NAPON HALOTAIBUL* FEL⹀
TAMADA MENE MENʏEG BEN ÜLE ATʏA *IS*T EN⹀
NEKJOBJA RAONNAN LESzENELJÖVÈNDÖ
ITELNI ÈLEVÈ NEKÈT ESHOSTAKAT ·
EISzEK SzENTLELEKÖEN : KÖZ ÖNSÈ⹀
GES LETESzTʏEN ANʏA SzENT ÈGʏ HA ZAT SzENT
EKNEK EGʏESSEGÈT · BÜNÜNKNEK BOCs⹀
ANA TʏÁT · TESTNEK FELTAMADAÜAT ES A[Z?]
ÖRÖK ÉLÈTET · AMEN ·

Figure 9. The Nikolsberg abecedarium.

Az 1998 és 2005 közötti versenyeken első helyezést elért tanulók:

Feik Tamás, Vavra Gabriella, Koncz Klára, Katona Előd, Léczfalvi András, Balogh Emese, Bálint Ágnes, Tóth Gergely, Varga Tímea, Kozma Annamária, Horváth Bálint, Tasnádi Márton, Takács Dóra, Tokár Beáta, Soós Alexandra, Hegedűs Levente, Vass Lőrinc, Pápai Enikő, Szohánszky Réka, Szilágyi Enikő, Tokár Ingrid, Fábián Csilla, Gáspár János, Nagy Adrienn, Béres Klaudia, Jordán Anikó, Ádám Zita, Pál Beáta Mária, Gráczl Szilvia, Lénárth Ádám, Kartosonto Károly, Molnár Erzsébet, Csillag Katalin, Kormos Krisztián, Illés Gábor.

Figure 10. List of the names of the student winners of Old Hungarian alphabet contests which took place from 1998-2005, showing case used in each of their names.

116. Szamosközi István Rudolf császár ellen írott verse 1604-ből

Figure 11. The text ꙄꙄꝹꙆꙆꙄꝹ ꙄꙏꙄꙆꙏꙆ ꙏꝉ *In Rodolfvm Caesarem* in titlecase, from the 1604 manuscript by István Szamosközi

Hangertek	Török csoport			Középtenger-melléki csoport				Phöniciai-sémi csoport		
	Magyar	Ó-török	Runa	Ó-görög	Latin	Etrusk	Pelasg	Moabi	Sidoni	Arami
1 a,á										
2 b										
3 cz										
4 cs										
5 d										
6 e,é										
7 f.										
v,f										
8 g										
9 gy										
10 h										
11 i										
12 j										
13 ly										
14 -k-										
15 k-k										
16 l										
17 m										
18 n										
19 ny										
20 o										
21 ö										
22 p										
23 r										
24 s										
25 sz										
26 t										
27 ty										
28 u										
29 ü										
30 v										
31 z										
32 zs										

Figure 12. Chart showing the relations of the Old Hungarian alphabet with other scripts, from Forrai 1994 (based on Sebestyén Gyula's table).

A. Administrative

1. Title

Preliminary proposal for encoding the Old Hungarian script in the UCS

2. Requester's name

Michael Everson and André Szabolcs Szelp.

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

Individual contribution.

4. Submission date

2008-08-04

5. Requester's reference (if applicable)

6. Choose one of the following:

6a. This is a complete proposal

No.

6b. More information will be provided later

Yes.

B. Technical – General

1. Choose one of the following:

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

Yes.

1b. Proposed name of script

Old Hungarian.

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

51.

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. N1638 (1997-09-18) and N2134 (1999-10-02) discussed Old Hungarian previously.

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?

Gábor Bakonyi, Klára Friedrich, Gábor Hosszú, Ádam Joó, Győző Libisch, Gábor Szakács, László Sipos, András Tisza.

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?

Historical and contemporary cultural use by Hungarians.

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

Rare but pervasive.

4b. Reference

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

Yes.

5b. If YES, where?

In Hungary.

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

It would be possible to encode Old Hungarian in either the BMP or the SMP.

6b. If YES, is a rationale provided?

Yes.

6c. If YES, reference

Contemporary use argues for BMP encoding; the possibility that the script should be considered casing would make the SMP a more logical place to encode the script.

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

Yes.

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

No.

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

8c. If YES, reference

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

No.

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

9c. If YES, reference

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

No.

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

10c. If YES, reference

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

No.

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

11c. If YES, reference

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

No.

11e. If YES, reference

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

No.

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

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

No.

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