2011-05-08

Universal Multiple-Octet Coded Character Set International Organization for Standardization Organisation Internationale de Normalisation

Международная организация по стандартизации

Doc Type: Working Group Document

Title: Mapping between Hungarian Runic proposals in N3697 and N4007

Source: Michael Everson and André Szabolcs Szelp

Status: Individual Contribution

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

Date: 2011-05-08 Replaces: N3532

- **1. Introduction.** This document compares the repertoire in N3697 (written by Michael Everson and André Szabolcs Szelp) with the repertoire in N4007 written by Gábor Hosszú. This document replaces N3532 (2008-11-02) which compared N3531, N3527, and N3526.
- **2. Agreement.** The first thing to be noted is that *most* of the basic characters are *agreed* between N3697 and N4007. This repertoire has been stable for a long time, and should be considered for balloting. The character names and ordering should be as they are in N3697; the rationale for this will be discussed below.
- **3. Disagreement.** Where N3697 and N4007 do not agree, it appears that it is because Gábor Hosszú has not correctly applied the character/glyph model in his analysis of the script. He proposes new characters which are clearly glyph variants of other characters, and which in our view should not be encoded.
- **3.1. Glyph variants.** The following characters should not be encoded, because they are glyph variants of other characters.
- N4007 proposes to encode & "F" and a new & "DIAGONAL F", but gives no evidence of them contrasting in source documents. We believe the latter to be a glyph variant of & EF. The assertion that & EF derived from Greek Θ and that & "DIAGONAL F" derived from Glagolitic is made without supporting evidence (such as any Hungarian Runic text written alongside either Greek *or* Glagolitic).
- N4007 proposes to encode ◊ "K" and a new ◊ "TRIANGULAR K", but gives no evidence of them contrasting in source documents. We believe the latter to be a glyph variant of ◊ EK.
- N4007 proposes to encode 3 "o" and a new 1 "CIRCLE ENDED o", but gives no evidence of them contrasting in source documents. We thought at first that the latter must be a glyph variant of 3 o, but the evidence presented (Figure 2-1 of N4007) shows this character to be a word-separating colon.
- N4007 proposes to encode & "EMP" with additional characters & "MB", & "NB", and & "TPRU", but gives no evidence of them contrasting in source documents. We believe these to be glyph variants of & EMP. As stated in N3697:

The characters \mathfrak{M} and \mathfrak{D} are treated as different characters because of evidence of contrastive use (Telegdi's *Rudimenta* and others later) and by evidence of their history, but the glyphs \mathfrak{M} , \mathfrak{D} and \mathfrak{D} are recognized as variants of \mathfrak{D} .

• N4007 proposes to encode \mathbb{Y} "zs" and a new \mathbb{V} "sch", but gives no evidence of them contrasting in source documents. Given Portsalmi's list β Es Λ [\int], sch EsCH \mathbb{V} , and s Es \mathbb{I} [s]), it is clear that \mathbb{V} is a

- glyph variant of Υ EZS [3]. Note too that in the Nikolsburg abecedarium Υ EZS is transliterated *efch* (with a long s).
- N4007 proposes to encode \(\cdot \) "ENT" and a new \(\cdot \) "ANT", but gives no evidence of them contrasting in source documents. We believe the latter to be a glyph variant of \(\cdot \) ENT.
- **3.2. Falsely-identified characters.** The following characters should not be encoded, because neither has been correctly identified.
- N4007 proposes to encode a new character \(\bigvert \) [\(\gamma \)] (evidently EGH), but the evidence gien seems to be a mistranslation. The text most likely reads \(\mathbb{M} \) \(\mathbb{M} \) \(\mathbb{M} \) H. I \(\text{NX} \) MHŁ J: RTN KVT M\(\mathbb{H}^a \text{Ly J} : \(\mathbb{R} \) \(\mathbb{T}^a \) K\(\mathbb{N}^c \) \(\mathbb{T} \) \(\mathbb{M} \) \(
- N4007 proposes to encode a new character 1 [β] (evidently EBH), but the evidence given is not sufficient for evaluation. Figure 2-3 of N4007 goes not give a transliteration or translation of the text, which very fragmentary. In fact the inscription is taken from the badly-weathered outer wall of a church. Evidently the suggestion is that there is a word $stni\beta$ or $stnd\beta$ given in that text, but there is no reason given for accepting the reading [β] there, and the letter is just as likely to be β ECS or β EZ if not a weathered β EV.
- **3.3. Ligatures.** Section 4.7 of N4007 acknowledges the use of ligatures in Hungarian Runic. Because a ligature of \(\delta\) ED and \(\forall\) EZS would normally be rendered as \(\forall\), it would be a mistake to encode \(\forall\) EDZS as a character on its own, because this would introduce multiple spellings for [d3] in Hungarian Runic text. These letters should not be encoded, because they are ligatures of other characters.
- N4007 proposes to encode a new character № DZ, but this is a ligature of ∤ ED and № EZ and should not be treated differently from any other ligature.
- N4007 proposes to encode a new character ¥ DZS, but this is a ligature of ∤ ED and ♥ EZS and should not be treated differently from any other ligature.
- N4007 proposes to encode a new character \(\text{\Omega} \), but this is a ligature of \(\text{\Omega} \) EK and \(\text{\MEV} \) and should not be treated differently from any other ligature.
- N4007 proposes to encode a new character M/M w, but this is a ligature of M EK and M EV and should not be treated differently from any other ligature.
- N4007 proposes to encode a new character Ø/♦ x, but this is a ligature of ♦ EK and I ESZ and should not be treated differently from any other ligature.
- N4007 proposes to encode a new character †/1 Y, but this is a ligature of 1 EJ and † I and should not be treated differently from any other ligature.
- N4007 proposes to encode a new character ₹ NAP, but this is a ligature of) EN and 1 EP and should not be treated differently from any other ligature.
- **3.4.** Numbers. Four new numbers have been proposed; we do not believe that the first three of these should be encoded, and are doubtful about the fourth.
- N4007 proposes to encode new characters | Two, | THREE, and | FOUR, but does not give a rationale for this. Since XX TWENTY and XXX THIRTY are composed of multiples of X TEN, why should | Two, | THREE, and | FOUR not be composed of multiples of | ONE? The numbers | Two, | THREE, and | FOUR should not be encoded as they can be represented by sequences.
- N4007 proposes to encode a new character ¥ FIVE HUNDRED. This is the *only* character in N4007 which has no mapping to the character set proposed in N3697. About this character, N3527 (the predecessor of N4007) said: "Earlier the Rovas researcher Atilla Koricsánszky stated in his book that the character of the FIVE HUNDRED had to exist, however there are not known any historical relic of this. In 2008 Tamás Rumi derived a glyph ¥ from the other Rovas numerals that was accepted by the Committee of the Community of the Szekler-Hungarian Rovas Writers in its meeting in August 28th, 2008,

Budapest." We do not believe that there are *historical* grounds to encode this particular unattested character. (As a matter of authenticity, it can be noted that the \mathbb{Y} glyph bears the *only* true horizontal stroke in the repertoire.) We would *prefer* that the recent invention \mathbb{Y} FIVE HUNDRED not be encoded.

3.5 Characters in N3697 but missing from N4007. Two characters missing from N4007 are well-attested and should be encoded.

N4007 omits two characters from N3697: U+10C9D \gtrless Hungarian Runic Capital Letter nikolsburg oe and U+10CDD \gtrless Hungarian Runic small letter nikolsburg oe. This seems to be an oversight, since it is clear that there were two early traditions of representing \ddot{o} and \ddot{u} in Hungarian Runic. The Nikolsburg/Bologna tradition represents \ddot{o} by \gtrless , which derived from Old Turkic $\ifmmode N$ $\ifmmode O$ $\ifmmode N$ \ifm

- **3.6. Punctuation characters.** Two of the nine punctuation characters proposed in N4007 should be encoded, but the others should not be.
- N4007 proposes to encode two new characters, REVERSED COMMA and DOUBLE LOW-REVERSED-9 QUOTATION MARK. These characters were also proposed in N3664 and should be encoded.
- N4007 proposes to encode a new character, = EQUALS MARK-LIKE HYPHEN. A similar character has been proposed by the German National Body in N3983. WG2 and UTC should take this into account when making a decision about N3983.
- N4007 proposes to encode a new character, = DOUBLE COMMA-LIKE HYPHEN. It is difficult to determine the validity of this proposed character because the hand-written example in Figure 2-10 of N4007 is un-transliterated and, indeed hand-written. It is our view that the = EQUALS MARK-LIKE HYPHEN would be the most appropriate way to represent this: there is no need to have two double-hyphens for Hungarian Runic
- N4007 proposes to encode three new characters, * WORD SEPARATOR CROSS, * DOUBLE CROSS FULL STOP, and * END OF MESSAGE MARK. The examples given, a chart in a scouting manual from 2001 and a wooden carving from 2009, are probably not sufficient to give grounds for WG2 and the UTC to opt to encode these as punctuation characters.
- N4007 proposes to encode two new characters, § BEGINNING MARK RIGHT and § BEGINNING MARK RIGHT. The examples given do not seem to be plain text, and seem to be "individual hapaxes" used by one person.
- N4007 proposes to encode a new character, DUPLICATING MARK. The examples given are not sufficient to correctly identify either the shape or the use of this character. An account of the widespreadness of usage of the character is needed, and transliterations of text showing how the character is used are also needed. It is likely that an existing character, such as U+0301 COMBINING ACUTE ACCENT or U+1DC4 COMBINING MACRON ACUTE, should be used for this.
- **4. Mapping.** In the comparison list given below, character names from N3697 are given in Roman type; character names from N4007 are given in *italic type*. For the lower-case letters, mappings are also given to the minimal set proposed by Gábor Bakonyi in N3526.

```
10C80
        4 HUNGARIAN RUNIC CAPITAL LETTER A
 1xx00
            SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER A
        4 HUNGARIAN RUNIC CAPITAL LETTER AA
10C81
 1xx01
           SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER AA
        X HUNGARIAN RUNIC CAPITAL LETTER EB
10C82
 1xx02
            SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER B
        \mathfrak X Hungarian runic capital letter amb
10C83
 1xx30
            SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER AMB
```

```
SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER C
 1xx03
1xx3C
         SZEKELY-HUNGARTAN ROVAS CAPTTAL LETTER ENC
10C86 N HUNGARIAN RUNIC CAPITAL LETTER ECS
        SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER CS
 1xx04
10C87 ∤ HUNGARIAN RUNIC CAPITAL LETTER ED
 1xx05
         SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER D
10C88 X HUNGARIAN RUNIC CAPITAL LETTER AND
 1xx31
         SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER AND
1xx08
         SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER E
1xx0A
         SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER CLOSE E
10C8B > HUNGARIAN RUNIC CAPITAL LETTER EE
 1xx09
        SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER EE
      ♦ HUNGARIAN RUNIC CAPITAL LETTER EF
10C8C
        SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER F
 1xx0B
         SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER DIAGONAL F (glyph variant)
 1xx3D
1xx0C
        SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER G
1xx0D
         SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER GY
10C8F X HUNGARIAN RUNIC CAPITAL LETTER EH
 1xx0E
         SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER H
10C90 | HUNGARIAN RUNIC CAPITAL LETTER I
 1xx0F
         SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER I
10C91 1 HUNGARIAN RUNIC CAPITAL LETTER II
 1xx10
         SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER II
10C92 1 HUNGARIAN RUNIC CAPITAL LETTER EJ
        SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER J
 1xx11
10C93 ♦ HUNGARIAN RUNIC CAPITAL LETTER EK
 1xx12 SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER K
 1xx3F
         SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER TRIANGULAR K (qlyph variant)
10C94 1 HUNGARIAN RUNIC CAPITAL LETTER AK
 1xx13
         SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER OPEN K
1xx3A
         SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER UNK
1xx14
         SZEKELY-HUNGARTAN ROVAS CAPTTAL LETTER L
10C97 Ø HUNGARIAN RUNIC CAPITAL LETTER ELY
        SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER LY
1xx16
         SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER M
10C99 ) HUNGARIAN RUNIC CAPITAL LETTER EN
 1xx17
        SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER N
10C9A D HUNGARIAN RUNIC CAPITAL LETTER ENY
 1xx18
        SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER NY
1xx19
        SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER O
 1xx40
         SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER CIRCLE ENDED O (glyph variant)
SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER OO
 1xx1A
10C9D \rightarrow HUNGARIAN RUNIC CAPITAL LETTER NIKOLSBURG OE
10C9E K HUNGARIAN RUNIC CAPITAL LETTER RUDIMENTA OE
 1xx1B
        SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER OE
10C9F > HUNGARIAN RUNIC CAPITAL LETTER OEE
 1xx1C
         SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER OEE
10CAO | HUNGARIAN RUNIC CAPITAL LETTER EP
 1xx1D
        SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER P
```

```
10CA1 🌣 HUNGARIAN RUNIC CAPITAL LETTER EMP
       SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER EMP
 1xx33
         SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER MB (glyph variant)
 1xx35
 1xx37
         SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER NB (glyph variant)
 1xx38
          SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER TPRU (qlyph variant)
10CA2 M HUNGARIAN RUNIC CAPITAL LETTER ER
 1xx1F
         SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER R
 1xx43
           SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER GH UU (misidentified character)
10CA3 / HUNGARIAN RUNIC CAPITAL LETTER SHORT ER
 1xx41
           SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER SHORT R
1xx20
         SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER S
10CA5 | HUNGARIAN RUNIC CAPITAL LETTER ESZ
          SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER SZ
10CA6 Y HUNGARIAN RUNIC CAPITAL LETTER ET
 1xx22
         SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER T
10CA7 THUNGARIAN RUNIC CAPITAL LETTER ENT
        SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER ANT
 1xx32
 1xx34
           SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER ENT (glyph variant)
10CA8 X HUNGARIAN RUNIC CAPITAL LETTER ETY
 1xx23
          SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER TY
10CA9 X HUNGARIAN RUNIC CAPITAL LETTER NIKOLSBURG ETY
 1xx3E
          SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER CH
10CAA M HUNGARIAN RUNIC CAPITAL LETTER U
 1xx24
          SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER U
10CAB M HUNGARIAN RUNIC CAPITAL LETTER UU
 1xx25
         SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER UU
10CAC X HUNGARIAN RUNIC CAPITAL LETTER NIKOLSBURG UE
 1xx28
         SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER CLOSE UEE
          SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER CLOSE UE (glyph variant)
 1xx26
10CAD 4 HUNGARIAN RUNIC CAPITAL LETTER RUDIMENTA UE
        SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER OPEN UE
 1xx27
 1xx29
           SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER OPEN UEE (glyph variant)
10CAE M HUNGARIAN RUNIC CAPITAL LETTER EV
         SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER V
10CAF ∅ HUNGARIAN RUNIC CAPITAL LETTER EZ
 1xx2E
          SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER Z
10CB0 Y HUNGARIAN RUNIC CAPITAL LETTER EZS
         SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER ZS
 1xx2F
          SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER SCH (glyph variant)
 1xx42
SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER TPRUS
1xx3B
         SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER US
10CC0 | HUNGARIAN RUNIC SMALL LETTER A
       SZEKELY-HUNGARIAN ROVAS SMALL LETTER A
 1xx50
 xx00
           Native Hungarian Letter A
10CC1
       4 HUNGARIAN RUNIC SMALL LETTER AA
 1xx51
          SZEKELY-HUNGARIAN ROVAS SMALL LETTER AA
10CC2 X HUNGARIAN RUNIC SMALL LETTER EB
 1xx52
           SZEKELY-HUNGARIAN ROVAS SMALL LETTER B
 xx01
           Native Hungarian Letter eB
10CC3
     XX HUNGARIAN RUNIC SMALL LETTER AMB
           SZEKELY-HUNGARIAN ROVAS SMALL LETTER AMB
 1xx80
10CC4 ↑ HUNGARIAN RUNIC SMALL LETTER EC
         SZEKELY-HUNGARIAN ROVAS SMALL LETTER C
 xx02
          Native Hungarian Letter eC
1xx8C
           SZEKELY-HUNGARIAN ROVAS SMALL LETTER ENC
 xx14
           Native Hungarian Letter eNC
```

10CC6 M HUNGARIAN RUNIC SMALL LETTER ECS SZEKELY-HUNGARIAN ROVAS SMALL LETTER CS 1xx54 xx03 Native Hungarian Letter eCs 10CC7 \dagger HUNGARIAN RUNIC SMALL LETTER ED 1xx55 SZEKELY-HUNGARIAN ROVAS SMALL LETTER D xx04 Native Hungarian Letter eD 10CC8 X HUNGARIAN RUNIC SMALL LETTER AND 1xx81 SZEKELY-HUNGARIAN ROVAS SMALL LETTER AND xx15 Native Hungarian Letter eND 1xx58 SZEKELY-HUNGARIAN ROVAS SMALL LETTER E xx05 Native Hungarian Letter E SZEKELY-HUNGARIAN ROVAS SMALL LETTER CLOSE E 10CCB > HUNGARIAN RUNIC SMALL LETTER EE 1xx59 SZEKELY-HUNGARIAN ROVAS SMALL LETTER EE Native Hungarian Letter El xx06 10CCC 🔅 HUNGARIAN RUNIC SMALL LETTER EF SZEKELY-HUNGARIAN ROVAS SMALL LETTER F 1xx5B1xx8D SZEKELY-HUNGARIAN ROVAS SMALL LETTER DIAGONAL F (glyph variant) xx07 Native Hungarian Letter eF 10CCD $\,$ $\,$ $\,$ $\,$ HUNGARIAN RUNIC SMALL LETTER EG 1xx5C SZEKELY-HUNGARIAN ROVAS SMALL LETTER G xx08 Native Hungarian Letter eG 1xx5D SZEKELY-HUNGARIAN ROVAS SMALL LETTER GY xx09 Native Hungarian Letter eGy 10CCF X HUNGARIAN RUNIC SMALL LETTER EH SZEKELY-HUNGARIAN ROVAS SMALL LETTER H 1xx5ExxOANative Hungarian Letter eH 10CD0 | HUNGARIAN RUNIC SMALL LETTER I SZEKELY-HUNGARIAN ROVAS SMALL LETTER I 1xx5Fxx0B Native Hungarian Letter I 10CD1 1 HUNGARIAN RUNIC SMALL LETTER II 1xx60 SZEKELY-HUNGARIAN ROVAS SMALL LETTER II 10CD2 1 HUNGARIAN RUNIC SMALL LETTER EJ 1xx61 SZEKELY-HUNGARIAN ROVAS SMALL LETTER J Native Hungarian Letter eJ xx0C SZEKELY-HUNGARIAN ROVAS SMALL LETTER K 1xx62 1xx8F SZEKELY-HUNGARIAN ROVAS SMALL LETTER TRIANGULAR K xx0D Native Hungarian Letter eK 10CD4 1 HUNGARIAN RUNIC SMALL LETTER AK 1xx63 SZEKELY-HUNGARIAN ROVAS SMALL LETTER OPEN K xx0F Native Hungarian Letter aK 10CD5 X HUNGARIAN RUNIC SMALL LETTER UNK 1xx8A SZEKELY-HUNGARIAN ROVAS SMALL LETTER UNK xx16 Native Hungarian Letter uNK SZEKELY-HUNGARIAN ROVAS SMALL LETTER L 1xx64 xx0F Native Hungarian Letter eL 10CD7 Ø HUNGARIAN RUNIC SMALL LETTER ELY 1xx65 SZEKELY-HUNGARIAN ROVAS SMALL LETTER LY xx10 Native Hungarian Letter eLy 1xx66 SZEKELY-HUNGARIAN ROVAS SMALL LETTER M xx11 Native Hungarian Letter eM 10CD9) HUNGARIAN RUNIC SMALL LETTER EN 1xx67 SZEKELY-HUNGARIAN ROVAS SMALL LETTER N xx13 Native Hungarian Letter eN 1xx68 SZEKELY-HUNGARIAN ROVAS SMALL LETTER NY xx18 Native Hungarian Letter eNy

```
SZEKELY-HUNGARIAN ROVAS SMALL LETTER O
 1xx69
 1xx90
           SZEKELY-HUNGARIAN ROVAS SMALL LETTER CIRCLE ENDED O (qlyph variant)
 xx19
           Native Hungarian Letter O
SZEKELY-HUNGARIAN ROVAS SMALL LETTER OO
10CDE K HUNGARIAN RUNIC SMALL LETTER RUDIMENTA OE
 1xx6B
          SZEKELY-HUNGARIAN ROVAS SMALL LETTER OE
10CDF > HUNGARIAN RUNIC SMALL LETTER OEE
          SZEKELY-HUNGARIAN ROVAS SMALL LETTER OEE
 1xx6C
10CEO 1 HUNGARIAN RUNIC SMALL LETTER EP
          SZEKELY-HUNGARIAN ROVAS SMALL LETTER P
 xx1B
           Native Hungarian Letter eP
10CE1 🌣 HUNGARIAN RUNIC SMALL LETTER EMP
         SZEKELY-HUNGARIAN ROVAS SMALL LETTER EMP
 1xx83
         SZEKELY-HUNGARIAN ROVAS SMALL LETTER MB (glyph variant)
SZEKELY-HUNGARIAN ROVAS SMALL LETTER NB (glyph variant)
 1xx85
 1xx87
 1xx88
         SZEKELY-HUNGARIAN ROVAS SMALL LETTER TPRU (glyph variant)
 xx12
          Native Hungarian Letter eMB
10CE2 H HUNGARIAN RUNIC SMALL LETTER ER
 1xx6F
         SZEKELY-HUNGARIAN ROVAS SMALL LETTER R
 1xx93
           SZEKELY-HUNGARIAN ROVAS SMALL LETTER GH UU (misidentified character)
 xx1D
           Native Hungarian Letter eR
10CE3 / HUNGARIAN RUNIC SMALL LETTER SHORT ER
 1xx91
           SZEKELY-HUNGARIAN ROVAS SMALL LETTER SHORT R
10CE4 \( \Lambda \) HUNGARIAN RUNIC SMALL LETTER ES
 1xx70
          SZEKELY-HUNGARIAN ROVAS SMALL LETTER S
 xx1F
           Native Hungarian Letter eS
10CE5 | HUNGARIAN RUNIC SMALL LETTER ESZ
 1xx71 SZEKELY-HUNGARIAN ROVAS SMALL LETTER SZ
 xx20
           Native Hungarian Letter eSz
10CE6 | HUNGARIAN RUNIC SMALL LETTER ET
 1xx72
          SZEKELY-HUNGARIAN ROVAS SMALL LETTER T
 xx21
          Native Hungarian Letter eT
10CE7 THUNGARIAN RUNIC SMALL LETTER ENT
 1xx82
         SZEKELY-HUNGARIAN ROVAS SMALL LETTER ANT
 1xx84
           SZEKELY-HUNGARIAN ROVAS SMALL LETTER ENT (glyph variant)
 xx17
           Native Hungarian Letter eNT
10CE8 % HUNGARIAN RUNIC SMALL LETTER ETY
 1xx73
         SZEKELY-HUNGARIAN ROVAS SMALL LETTER TY
           Native Hungarian Letter eTy
 xx22
10CE9 X HUNGARIAN RUNIC SMALL LETTER NIKOLSBURG ETY
 1xx8E
          SZEKELY-HUNGARIAN ROVAS SMALL LETTER CH
 xx23
           Native Hungarian Letter aTyaTy
10CEA M HUNGARIAN RUNIC SMALL LETTER U
 1xx74
          SZEKELY-HUNGARIAN ROVAS SMALL LETTER U
 xx24
           Native Hungarian Letter U
10CEB W HUNGARIAN RUNIC SMALL LETTER UU
 1xx75
           SZEKELY-HUNGARIAN ROVAS SMALL LETTER UU
10CEC X HUNGARIAN RUNIC SMALL LETTER NIKOLSBURG UE
 1xx78
          SZEKELY-HUNGARIAN ROVAS SMALL LETTER CLOSE UEE
 1xx76
           SZEKELY-HUNGARIAN ROVAS SMALL LETTER CLOSE UE (glyph variant)
 xx1A
           Native Hungarian Letter OE
10CED 4 HUNGARIAN RUNIC SMALL LETTER RUDIMENTA UE
          SZEKELY-HUNGARIAN ROVAS SMALL LETTER OPEN UE
 1xx79
            SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER OPEN UEE (glyph variant)
 xx25
           Native Hungarian Letter UE
10CEE M HUNGARIAN RUNIC SMALL LETTER EV
           SZEKELY-HUNGARIAN ROVAS SMALL LETTER V
 1xx7A
```

xx26

Native Hungarian Letter eV

```
M HUNGARIAN RUNIC SMALL LETTER EZ
10CEF
  1xx7E
                      SZEKELY-HUNGARIAN ROVAS SMALL LETTER Z
                      Native Hungarian Letter eZ
  xx27
10CF0
              Y HUNGARIAN RUNIC SMALL LETTER EZS
                      SZEKELY-HUNGARIAN ROVAS SMALL LETTER ZS
  1xx7F
  1xx92
                      SZEKELY-HUNGARIAN ROVAS SMALL LETTER SCH (glyph variant)
  xx28
                      Native Hungarian Letter eZs
10CF1

₩ HUNGARIAN RUNIC SMALL LETTER ENT-SHAPED SIGN

                      SZEKELY-HUNGARIAN ROVAS SMALL LETTER TPRUS
  1xx89
  xx1C
                      Native Hungarian Letter TPRUS
10CF2
              DESCRIPTION OF THE PROPERTY O
                      SZEKELY-HUNGARIAN ROVAS SMALL LETTER US
  1xx8B
  xx1F
                      Native Hungarian Letter uS
10CFA
             I HUNGARIAN RUNIC NUMBER ONE
                     ROVAS NUMBER ONE
  1xx96
  xx29
                      Native Hungarian Numeral One
10CFB
              V HUNGARIAN RUNIC NUMBER FIVE
                     ROVAS NUMBER FIVE
  1xx9A
                      Native Hungarian Numeral Five
  xx2A
10CFC
              X HUNGARIAN RUNIC NUMBER TEN
  1xx9B
                     ROVAS NUMBER TEN
                      Native Hungarian Numeral Ten
  xx2B
10CFD
              V HUNGARIAN RUNIC NUMBER FIFTY
                     ROVAS NUMBER FIFTY
   1xx9C
                      Native Hungarian Numeral Fifty
  xx2C
10CFE
              X HUNGARIAN RUNIC NUMBER ONE HUNDRED
                     ROVAS NUMBER ONE HUNDRED
   1xx9D
  xx2D
                      Native Hungarian Numeral Hundred
10CFF
              ₩ HUNGARIAN RUNIC NUMBER ONE THOUSAND
                      ROVAS NUMBER ONE THOUSAND
  1xx9F
  xx2E
                      Native Hungarian Numeral Thousand
                      SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER OPEN V
  1xx44
              SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER DZ (ligature D-Z)
  1xx06
              ¥ 10C96 (ł ED) + 200D (ZWJ) + 10CBB (Ÿ EZS)
                     SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER DZS (ligature D-Zs)
   1xx07
              M 10CA0 (◊ EK) + 200D (ZWJ) + 10CB9 (M EV)
                     SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER Q (ligature K-V)
  1xx1E
              M 10CB9 (M EV) + 200D (ZWJ) + 10CB9 (M EV)
                   SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER W (ligature V-V; glyph M devised 2008-08-28)
   1xx2B
              SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER X (ligature K-Sz; glyph 🎙 devised 2008-10-04)
  1xx2C
              1 10C9F (1 EJ) + 200D (ZWJ) + 10C9E (1 I)
  1xx2D
                     SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER Y (ligature J-I)
              ₹ 10CA6 () EN) + 200D (ZWJ) + 10CAB (1 EP)
                     SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER NAP (ligature N-P)
  1xx36
                      SZEKELY-HUNGARIAN ROVAS SMALL LETTER OPEN V
   1xx94
              1xx56
                      SZEKELY-HUNGARIAN ROVAS SMALL LETTER DZ (ligature d-z)
              ¥ 10CC9 (1 ED) + 200D (ZWJ) + 10CEE (1 EZS)
                     SZEKELY-HUNGARIAN ROVAS SMALL LETTER DZS (ligature d-zs)
   1xx57

    ↑ 10CD3 (◇ EK) + 200D (ZWJ) + 10CEC (M EV)

                    SZEKELY-HUNGARIAN ROVAS SMALL LETTER Q (ligature k-v)
  1xx6E
             M 10CEC (M EV) + 200D (ZWJ) + 10CEC (M EV)
  1xx7B
                    SZEKELY-HUNGARIAN ROVAS SMALL LETTER W (ligature v-v; glyph ⋈ devised 2008-08-28)
              1xx7C
                     SZEKELY-HUNGARIAN ROVAS SMALL LETTER X (ligature k-sz; glyph N devised 2008-10-04)
```

```
† 10CD2 (1 EJ) + 200D (ZWJ) + 10CD1 († I)
1xx7D
         SZEKELY-HUNGARIAN ROVAS SMALL LETTER Y (ligature j-i)
—— → 10CD9 ( EN) + 200D (ZWJ) + 10CDE ( EP)
1xx86
         SZEKELY-HUNGARIAN ROVAS SMALL LETTER NAP (ligature n-p)
     X = 1000 (A) + 2000 (ZWJ) + 10001 (X EB)
      ll 10CFA (l ONE) + 10CFA (l ONE)
         ROVAS NUMBER FOUR
1xx97
  — III 10CFA (I ONE) + 10CFA (I ONE) + 10CFA (I ONE)
1xx98
         ROVAS NUMBER FOUR
 -- | | 10CFA (| ONE) + 10CFA (| ONE) + 10CFA (| ONE) + 10CFA (| ONE)
1xx99
         ROVAS NUMBER FOUR
  __ ¥ _
          ROVAS NUMBER FIVE HUNDRED
1xx9F
```

- **5. Recommendations.** A comparison of Figures 2 and 3 below will make clear that the majority of characters requested in both N3697 and N4007 are the same. These (coloured in green) should be encoded, along with the two NIKOLSBURG OE characters.
- **5.1. Script name.** It is clear that the author of N4007 prefers the name SZEKELY-HUNGARIAN ROVAS for the name of the script. The authors of N3531 preferred the name OLD HUNGARIAN. Evidently there was no reconciling these two positions, and at the Dublin meeting of WG2, the authors of both proposals were asked to adopt the compromise script name HUNGARIAN RUNIC. This was done in N3697, but not done in N4007. Since it is clear that there will not be consensus to adopt the non-English name ROVAS, and since it is clear that the Hungarian representative dislikes the name OLD HUNGARIAN despite the obvious parallels with OLD ITALIC and OLD TURKIC—the compromise name HUNGARIAN RUNIC should be used.
- **5.2. Character names.** N4007 does not use character names, but Latin transliteration names. The Hungarian sources In N3697, Figure 2 gives the character names from the Bologna manuscript:

a en ec ed e f eg eh i eg ek l m n o ep r esz s et u eö es ei ecz encz ent eczk end ez eö enb est eti elj ak onj

Figure 4 gives the names from the Rudimenta:

a eb ecs ecsi ed e ef egg egi ah i ei ek ak el eli em en eni o o ep er es esz et eti v w eu ez ess

Figure 5 gives the names from the Nikolsburg abecedarium, 1483:

```
a eb ecz encz eczk ecź encź ed and eÿ e ef egh eg eng athÿ echech eh i ac vnc
l elÿ em en enÿ nÿe o ep emp ek r efch f eth enth v we eĕ w s ez ezt eſt 9
```

Many modern sources also follow the inherited pattern of prefixing the letter's sound with *e*- in order to form its name. (Note that those letters which do not get an *e*- in Bologna and Nikolsburg are those which are in Latin pronounced with an *e*- before (rather than after) them, as [e]f, [e]l, [e]m, [e]r, [e]s).) Since the native sources clearly use this means of *naming* the letters, and since the normal practice in the UCS is to use *names* rather than Latin transliterations for character names, the names as given in N3697 should be used.

- **5.3.** Code chart order. The code chart order in N3697 follows the recommended sorting order. This order follows the traditional order of the main letters, and inserts the homorganic nasal consonants next to the characters from which they were derived, as noted in §5 of N3697:
 - **5. Homorganic nasals.** In Old Hungarian there are several characters which represent plosives or affricates preceded by their homorganic nasals. The introduction of dedicated

characters for such phoneme combinations parallelled Old Turkic \mathfrak{S} *nt* and \mathfrak{S} *nč*; but the designers of the Old Hungarian script were inspired by features in their own language to extend this systematically. Most of these letters are found in the alphabetical listing of Nikolsburg and some in later sources. They contrast with the true ligatures (see §6 below). It is our view that these were devised by doubling and sometimes reversing or turning the base consonant:

 \mathfrak{X} amb deriving from XX bb; \updownarrow enc deriving from \updownarrow cc; \curlywedge and deriving from \nleftrightarrow dd; \curlywedge unk deriving from \gimel $^ak^ak$; \updownarrow emp deriving from \Lsh pp; \uparrow ent deriving from \urcorner tt (the downstrokes distinguish Υ ent from Υ ezs)....

$$\P a << \P \acute{a} < X b < X mb < \uparrow c < \uparrow nc < \Pi cs < \dagger d < X nd < J e << J \acute{e} << J \acute{e} < J$$

This pattern was established in the Nikolsburg abecedarium, where \uparrow EC precedes \updownarrow ENC, \nmid ED precedes \curlywedge AND, \updownarrow AK precedes \updownarrow UNK, \updownarrow EP precedes \updownarrow EMP, and \Lsh ET precedes \updownarrow ENT. The character \beth AMB is not found in Nikolsburg, but in the Rudimenta it contrasts with \beth EMP. The character \beth *emp* has several glyph variants: \beth (glossed in error as *tpru* in Rudimenta), \beth (called ENB in Bologna manuscript), \beth .

As homorganic nasal consonants, these characters have some rationale and utility. Unfortunately, this use has not been widely understood by researchers, including János Telegdi (fl. 1598). Of Υ ant (ENT), $\mathfrak X$ tpru (EMP) and $\mathfrak X$ amb (AMB) he writes: "Praeter has sunt quaedam syllabae reptilium formas referentes, quae non sunt ex certis characteribus conflatae", or 'In addition they [the Székely people] have some insect–like syllabic signs not composed of real letters.' His calling them "insect-like" has led many modern researchers to call these "bug characters" and in N4007 we see "reptilium" mis-translated as 'reptilian'. But $\mathfrak X$ emp and $\mathfrak X$ and $\mathfrak A$ and $\mathfrak A$ all derive from $\mathfrak A$ pp. Their "insect-like" appearance has nothing to do with their identity as letters. There is no such thing as a "bug character".

In any case, the recommendation here is for the code chart order in N3697 to be retained in the UCS encoding of Hungarian Runic.

Figures

A vargyasi rovásfelirat mészgődőr ásáskor került elő 1994- ben, a román kori és késő gótikus templomok romjai közelében faragott kőtőmbőmbőkkel együtt kerül elő. Egykori funkciójáról a mai napíg vitatkoznak. Tartják: szobortalapzatnak, keresztelő medencének, szenteltvíz tartónak és más célt szolgáló tárgynak. Anyaga homokkő. Ennek a peremére faragták a rovás jegyeket amelynek több megfejtését is közötte a szakirodalom. A két legelterjedtebb szemlélet alapján "M^IH^ÁLyJ: IRT^ÁnKÖVET" vagy "Mihály Isten szentje " a lenne a helyes megfejtés. Keletkezését a XII-XIV.- századíra teszik a különböző vizsgálatok. Tény viszont , hogy időrendben a homoródkarácsonyfalvi rovásíráshoz áll a legközelebb. A református templom megépítése után kerül vissza az "alszegi templomban", az Úr asztalába beépítve.

Figure 1. Picture of the stone christening basin from Vargyas, with discussion in Hungarian. the text is read (by János Ráduly) as "M¹H⁴LyJ:¹RT⁴NK˚V°T". Compare the drawing and transliteration "¹MÉ FIOY T⁶ N°KVT" depicted in Figure 2-1 in N4007.

	1xx0	1xx1	1xx2	1xx3	1xx4	1xx5	1xx6	1xx7	1xx8	1xx9	1 [1Dx
0	4 1xx00	1 1xx10	↑ 1xx20	XX 1xx30] 1xx40	4 1xx50	1 1xx60	∧ 1xx70	XX 1xx80	1 1xx90		x	1Dxx
1	√ 1xx01	1 1xx11	 1xx21	¥ 1xx31	/ 1xx41	4 1xx51	1 1xx61	 1xx71	¥ 1xx81	/ 1xx91			2Ex
2	X 1xx02	♦ 1xx12	۲ 1xx22	1xx32	∀ 1xx42	X 1xx52	♦ 1xx62	Υ 1xx72	Ϋ́ 1xx82	₩ 1xx92		0	2Ex0
3	↑ 1xx03	1 1xx13	X 1xx23	☼ 1xx33	N 1xx43	↑ 1xx53	1 1xx63	Х 1xx73	Ø: 1xx83	N 1xx93		1	2Ex1
4		/∆ 1xx14	X 1xx24	↑ 1xx34	1 1xx44	И 1xx54	<u>м</u> 1xx64	\ 1xx74	Υ 1xx84	1 1xx94		2	2Ex2
5	+ 1xx05	0 1xx15	M 1xx25	Q: 1xx35	1xx45	† 1xx55	0 1xx65	M 1xx75	O 1xx85	1xx95	-	4	2Ex3
6		1xx16);(1xx26	€ 1xx36	1xx46	∦ 1xx56	1 1xx66):(1xx76	€ 1xx86	 1xx96		5	2Ex4 * 2Ex5
7	¥ 1xx07) 1xx17	4 1xx27	(X) 1xx37	1xx47	* 1xx57) 1xx67	Ч 1xx77	10 1xx87	 1xx97		6	2Ex6
8	3 1xx08	D 1xx18	Ω 1xx28	1xx38	1xx48	≱ 1xx58	D 1xx68	¤ 1xx78	1xx88	 1xx98		7	3 2Ex7
9) 1xx09) 1xx19	5 1xx29	₩ 1xx39	1xx49	> 1xx59) 1xx69	5 1 xx 79	≇ 1 xx 89	 1 xx 99		8	ž 2Ex8
A	X 1xx0A	J lxx1A	M 1xx2A	X 1xx3A	1xx4A	X 1xx5A	1 1xx6A	M 1xx7A	X 1xx8A	V 1xx9A			
В	⊗ 1xx0B	k lxx1B	⊠ 1xx2B	0 1xx3B	lxx4B	⊗ 1xx5B	k 1xx6B	⋈ 1 xx 7B	Ф 1xx8B	X 1xx9B			
С	λ 1xx0C	↓ lxx1C	 1xx2C	↑ 1xx3C	1xx4C	Λ 1xx5C	↓ 1xx6C	 	↑ 1xx8C	¥ 1xx9C			
D	‡ lxx0D	a lxx1D	1 1xx2D	0 1xx3D	1xx4D	‡ 1xx5D	a 1xx6D	∤ 1xx7D	0 1xx8D	∦ 1xx9D			
Е	X 1xx0E	 1xx1E	∥ 1xx2E	X 1xx3E	1xx4E	× 1xx5E	A 1xx6E	∥ 1xx7E	⅓ 1xx8E	<u>¥</u> 1xx9E			
F	† 1xx0F	И 1xx1F	Y 1xx2F	∆ 1xx3F	1xx4F	† 1xx5F	И 1xx6F	Y 1xx7F	∆ 1xx8F	∦ 1 xx 9F			

Figure 2. The characters requested in N4007.

The characters coloured green should be encoded.

The characters coloured blue are glyph variants and should *not* be encoded.

The characters coloured purple are ligatures or sequences and should *not* be encoded.

The characters coloured red are not properly supported should *not* be encoded.

The characters coloured orange should be decided on by the UTC and WG2.

	10C8	10C9	10CA	10CB	10CC	10CD	10CE	10CF
0	10080	10090	10CA0	10CB0	4	† 10CD0	10CE0	Υ 10CF0
1	10081	10091	10CA1		4	1	10CE1	₩ 10CF1
2	Χ	1	И	0	Χ	1	И	0
3	10C82	10092	/	10CB2	10CC2	\Q	10CE2	10CF2
4	10C83	10093	10CA3		10003	10003	10CE3	
5	10084	10094	10CA4		10004	10CD4	10CE4	
6	10085	10 00 5	10CA5		10CC5	10CD5	10CE5	
7	1008	10 0296	10CA6		10006	10CD6	10CE6	
8	10087	10097	10CA7		100007	10CD7	10CE7	
9	10C88 3)	10CA8		10CC8 2	10008	10CE8	
Α	10089	10099	10CA9		10009	10CD9	10CE9	1
В	1008A	10C9A	10CAA		100CA	10CDA	10CEA	10CFA
С	10C8B	10098	10CAB		10CCB	10008	10CEB	10CFB
D	10080	10090	10CAC		10000	100000	10ŒC	100FC
	10080	10C9D	10CAD		10000	1000D	10ŒD	10 OFD
Е	1008E	10096	10CAE		10CCE	10CDE	10CEE	10CFE
F	10C8F	10C9F	10CAF		10CCF) 10CDF	10CEF	10CFF

Figure 3. The characters requested in 3697.

The characters coloured green should be encoded.

The characters coloured yellow were omitted in N4007 and should be encoded.