0. Preliminaries. Unifon was developed as a set of Latin extensions to assist in the acquisition of English-language literacy. It was also used as a practical orthography for the Hupa, Yurok, Tolowa, and Karok languages. This document proposes only to encode those characters required for modern English use; the other characters require further study.

1. Introduction to Unifon. Unifon was developed as an auxiliary “phonetic” alphabet designed to facilitate access to literacy to English-speaking children, by presenting to them a writing system that worked by sound. Tests showed that children were able to learn to read rather quickly using this system, and, having made that breakthrough, were able to transition to traditional English orthography relatively easily. Unifon was developed in the 1950s by Dr John R. Malone, an economist and newspaper equipment consultant who became interested in phonetic writing while consulting with the Bendix Corporation, which was interested in questions of aviation communication. That work was abandoned when the International Air Transport Association selected English as the language of international airline communications in 1957. But Malone’s interest in phonetic writing resurfaced when his young son complained about difficulties learning to read. From about 1960 to the 1980s, Margaret S. Ratz used Unifon to teach first-graders at Principia College in Elsah, Illinois. A variety of teaching materials exist using Unifon. From the 1974 to his death in 1993 John M. Culkin, a specialist in media studies, also promoted Unifon. Also significant is the use made of Unifon in the 1970s and 1980s to write Native American languages. Unifon was adapted principally by Tom Parsons of Humboldt State University to provide a practical orthography for several the Hupa, Yurok, Tolowa, and Karok languages. These orthographies were used for a number of years and although other orthographies are used for these languages now, many valuable documents using Unifon exist which should be able to take advantage of UCS encoding.

2. Structure. Unifon is set of extensions to the Latin script. Much Unifon text is written in ALL CAPITAL LETTERS, but the system as developed and described permits the use of casing pairs; when casing is used, the lower-case forms are conventionally (that is, always) written in SMALL CAPITAL LETTERS. Unifon uses 40 characters when used for writing English; a number of additional characters were used for the Native American languages, and a few characters were used in earlier versions of Unifon but were later replaced by other characters.

3. Encoding model. Because of the considerable overlap between many Unifon letters and the Latin script, Unifon should be treated as a set of extensions to the Latin script. Most Unifon characters can and should be unified with existing Latin characters. As noted above, when Unifon is used as a
casing script, it is always intended to be displayed as styled text, that is, in small-caps. This has some implications for the design of lower-case letters for the code charts, but that should not be particularly problematic if standard design principles are applied.

4. Unifon characters as used for English. The 40-letter alphabet presently used for English is as follows.

![40-letter alphabet](image)

4.1 Unifon letters unified with existing characters. Of the 40 letters used in the modern Unifon alphabet for English, 24 of them—60%—can be unified with existing letters. Note that none of the small-cap letters shown below are encoded modifier letters: they are small-caps styled forms of ordinary small letters.

<table>
<thead>
<tr>
<th>Letter name</th>
<th>Capital</th>
<th>small</th>
<th>SMALL-CAP</th>
<th>Unifon</th>
</tr>
</thead>
<tbody>
<tr>
<td>LATIN LETTER A</td>
<td>A</td>
<td>a</td>
<td>A</td>
<td>[æ]</td>
</tr>
<tr>
<td>LATIN LETTER TURNED V</td>
<td>Α</td>
<td>Α</td>
<td>Α</td>
<td>[o]</td>
</tr>
<tr>
<td>LATIN LETTER B</td>
<td>B</td>
<td>b</td>
<td>B</td>
<td>[b]</td>
</tr>
<tr>
<td>LATIN LETTER C WITH STROKE</td>
<td>C</td>
<td>ç</td>
<td>C</td>
<td>[tʃ]</td>
</tr>
<tr>
<td>LATIN LETTER D</td>
<td>D</td>
<td>d</td>
<td>D</td>
<td>[d]</td>
</tr>
<tr>
<td>LATIN LETTER E</td>
<td>E</td>
<td>e</td>
<td>E</td>
<td>[ɛ]</td>
</tr>
<tr>
<td>LATIN LETTER F</td>
<td>F</td>
<td>f</td>
<td>F</td>
<td>[f]</td>
</tr>
<tr>
<td>LATIN LETTER G</td>
<td>G</td>
<td>g</td>
<td>G</td>
<td>[ɡ]</td>
</tr>
<tr>
<td>LATIN LETTER H</td>
<td>H</td>
<td>h</td>
<td>H</td>
<td>[h]</td>
</tr>
<tr>
<td>LATIN LETTER J</td>
<td>J</td>
<td>j</td>
<td>J</td>
<td>[dʒ]</td>
</tr>
<tr>
<td>LATIN LETTER K</td>
<td>K</td>
<td>k</td>
<td>K</td>
<td>[k]</td>
</tr>
<tr>
<td>LATIN LETTER L</td>
<td>L</td>
<td>l</td>
<td>L</td>
<td>[l]</td>
</tr>
<tr>
<td>LATIN LETTER M</td>
<td>M</td>
<td>m</td>
<td>M</td>
<td>[m]</td>
</tr>
<tr>
<td>LATIN LETTER N</td>
<td>N</td>
<td>n</td>
<td>N</td>
<td>[n]</td>
</tr>
<tr>
<td>LATIN LETTER O</td>
<td>O</td>
<td>o</td>
<td>O</td>
<td>[ɔ]</td>
</tr>
<tr>
<td>LATIN LETTER P</td>
<td>P</td>
<td>p</td>
<td>P</td>
<td>[p]</td>
</tr>
<tr>
<td>LATIN LETTER R</td>
<td>R</td>
<td>r</td>
<td>R</td>
<td>[r]</td>
</tr>
<tr>
<td>LATIN LETTER S</td>
<td>S</td>
<td>s</td>
<td>S</td>
<td>[s]</td>
</tr>
<tr>
<td>LATIN LETTER T</td>
<td>T</td>
<td>t</td>
<td>T</td>
<td>[t]</td>
</tr>
<tr>
<td>LATIN LETTER U</td>
<td>U</td>
<td>u</td>
<td>U</td>
<td>[ʌ]</td>
</tr>
<tr>
<td>LATIN LETTER V</td>
<td>V</td>
<td>v</td>
<td>V</td>
<td>[v]</td>
</tr>
<tr>
<td>LATIN LETTER W</td>
<td>W</td>
<td>w</td>
<td>W</td>
<td>[w]</td>
</tr>
<tr>
<td>LATIN LETTER Y</td>
<td>Y</td>
<td>y</td>
<td>Y</td>
<td>[j]</td>
</tr>
<tr>
<td>LATIN LETTER Z WITH STROKE</td>
<td>Z</td>
<td>z</td>
<td>Z</td>
<td>[ʒ]</td>
</tr>
</tbody>
</table>

4.2. New characters for Unifon. A number of Unifon letters should be added in order to support Unifon as presently used to represent the English language. See Figures 4 and 5.

<table>
<thead>
<tr>
<th>Letter name</th>
<th>Capital</th>
<th>small</th>
<th>SMALL-CAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>LATIN LETTER CLOSED TURNED V</td>
<td>Δ</td>
<td>Δ</td>
<td>Δ</td>
</tr>
<tr>
<td>LATIN LETTER SMALL CAPITAL I WITH STROKE</td>
<td>Ε</td>
<td>i</td>
<td>Ε</td>
</tr>
<tr>
<td>LATIN LETTER TURNED-E R</td>
<td>R</td>
<td>θ</td>
<td>R</td>
</tr>
<tr>
<td>LATIN LETTER SMALL CAPITAL I</td>
<td>Ε</td>
<td>i</td>
<td>Ε</td>
</tr>
</tbody>
</table>
5. Discussion of individual characters. The characters listed below are quested for encoding here. Comments are given where relevant; code positions and annotations are as suggested for encoding.

\[\text{T} \quad \text{A7AE} \quad \text{LATIN CAPITAL LETTER SMALL CAPITAL I} \]
\[\times \quad 026A \quad \text{LATIN LETTER SMALL CAPITAL I} \]
\[\bullet \quad \text{used in Unifon and Gabonese orthographies} \]

5.1. LATIN LETTER SMALL CAPITAL I is U+026A; this is the capital for it. It represents [i] and is also used in several Kulango language publications from Bondounkou, where Ɪ/ɪ contrasts with I/i. This example (from Psalm 118) comes from Ɪ de bî dalî bitëse, p 10:

Alleluya!

\[\text{ɪ kpe Yego bo gyasole, gyigaleti hî kyere, gyigaleti bo korigyo tuben haa ti-î. Izrael bo yogconyag, ì dw-ke: bo korigyo tuben haa ti-î.} \]

Note should be made of the confusability of I/i and Ɪ/ɪ, though it is clear that in fonts they should be quite distinct. In a sans-serif font even where I/i (Arial) is written Ɪ/ɪ (Andale Mono), the upper case of SMALL CAPITAL I should have longer T-like horizontals: Ɪ/I, similar to the example given above in Kulango.

\[\text{T} \quad \text{A7AF} \quad \text{LATIN CAPITAL LETTER SMALL CAPITAL I WITH STROKE} \]
\[\times \quad 1D7B \quad \text{LATIN SMALL CAPITAL LETTER I WITH STROKE} \]

5.2. LATIN LETTER SMALL CAPITAL I WITH STROKE. In N4262 it was suggested that the ligature was of ş and e, rather than of ş and e, since the intended sound is ee [i:].

\[\text{∞} \neq \text{∞} \]

Given the discussion about SMALL CAPITAL I above, however, it is likely that a unification with U+1D7B LATIN SMALL CAPITAL LETTER I WITH STROKE would be more advantageous in the context of the UCS, since its glyph behaviour would have to be the same as U+A7AE as discussed above.
5.3. LATIN LETTER CLOSED TURNED V. Although this character looks superficially like a capital Greek delta Δ, in origin it is clearly a vowel (it represents [eɪ]), and should best be analysed either as a CLOSED TURNED V, or a CLOSED A WITHOUT HORIZONTAL MIDBAR. Unification with the Greek letter would be undesirable due to the script property. If it were really desired to save a code point, one could unify the lower case here with δ U+1E9F LATIN SMALL LETTER DELTA (which otherwise has no capital), though the default sort for that character would be after ำ U+A771 LATIN SMALL LETTER DUM and before LATIN LETTER E (which would not be particularly desirable).

5.4. LATIN LETTER TURNED-E R. In N4262 it was suggested that one option of encoding this would be by unifying it with LATIN LETTER SCHWA WITH HOOK, adding the capital letter of the already-encoded ɚ. But strictly speaking, since Ǝ TURNED E and Ə SCHWA are distinct, one might expect a case pair Ǝ for SCHWA WITH HOOK. It seems preferable to encode TURNED-E R R; regarding the lower case, the form chosen here, avoiding the rhotic hook, seems more accurate and distinctive than the others proposed previously in N4262 (shown here for comparison):

5.5. LATIN LETTER I WITH STROKE AND BASELINE. This character is best encoded following the glyph logic of И and І above; it represents [aɪ].

5.6. LATIN LETTER REVERSED N WITH BENT RIGHT LEG. While this character is somewhat reminiscent of LATIN LETTER ENG, and is used to indicate the velar nasal [ŋ], it is clear from the earliest glyphs used for it that it was based upon a modified reversed N with an angled right leg—not upon a regular N with a kind of tail, as eng proper is.

It would be a pretty bad idea to add this glyph as a variant of the letter presently used by both the Sami or the African traditions, since one may be fairly certain that this glyph would be rejected by both communities. For Unifon, the character should be encoded explicitly.
5.7. LATIN LETTER O WITH BASELINE. This character, which represents [ou], is related to other “long” vowels with baselines, namely Δ [ei], Ё [ai], and Ъ [ju].

5.8. LATIN LETTER O WITH VERTICAL BAR. This character, which represents [ʊ], is probably derived conceptually from a ligature, similar to ꟎ ꟏ LATIN LETTER OO. It is, however, different from that ligature, and should be encoded separately.

5.9. LATIN LETTER O WITH LOW VERTICAL BAR. This character represents [ɑʊ].

5.10. LATIN LETTER O WITH HIGH VERTICAL BAR. This character represents [oɪ].

5.11. LATIN LETTER S WITH STROKE. Alongside the already-encoded Ꚅ ꚅ LATIN LETTER S WITH STROKE, which Unifon uses for [tʃ], this character is used to represent [ʃ].

5.12. LATIN LETTER THE. The origin of this character, which represents [θ], is slightly obscure, though it is most likely based simply on Latin capital H, since there is always a hard right-angle to the right part of the glyph. There is also always a rightward-facing angled hook on the left ascender:
5.13. **LATIN LETTER DHE.** This character represents [ð] and is in origin a ligature of Latin T and h. Although it looks superficially like a CYRILLIC CAPITAL LETTER TSHE θ, that character has a completely different origin (it was introduced in the 1818 Serbian dictionary of Vuk Stefanović Karadžić, on the basis of the old Cyrillic letter djerv ξ). The left-hand bar of the T on the Unifon DHE is also quite short (θ), mirroring that on the ascender of the Unifon THE (θ). The lower case of Cyrillic θ is h, which is confusable with Latin H WITH STROKE H h, used in Maltese. For Unifon, a ligature of t and h (θ) has been used for the lower-case θ, in keeping with the true derivation of the character, and helping to prevent confusability with the Maltese letter.

5.14. **LATIN LETTER U WITH BASELINE.** This character, which represents [uː], is related to other “long” vowels with baselines, namely Δ [ɛi], ξ [æi], and Ω [ou].

5.15. **LATIN LETTER CLOSED U.** This character, which represents [ju], is also used in Swedish dialectology, where it represents a sound similar to [ɛ] (Lundell 1929).

![Table of Vowels](image_url)
5.16. LATIN LETTER REVERSED Z. This character, which represents [ʒ] (in Unifon Z represents [z]), is simply a reversed z. Interestingly, this letterform was also used for [ʒ] in the Phonotypic Alphabet No. 7 devised by Pitman. (Alphabets 8 and 9 replaced Ʃ with a reversed Sigma Ʋ, and the 1847 Alphabet used that with a lower case ezh Ʊ ʒ.)


7. Acknowledgements. This project was made possible in part by a grant from the U.S. National Endowment for the Humanities, which funded the Universal Scripts Project (part of the Script Encoding Initiative at UC Berkeley) in respect of the Unifon encoding. Any views, findings, conclusions or recommendations expressed in this publication do not necessarily reflect those of the National Endowment for the Humanities.
Figures.

**Figure 1.** Example of the final version of Unifon. The alphabet given is: AΔΔΔBŒDEİFGHIJKLMNΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩstitial
Figure 3a. Article from the Chicago Sunday Sun-Times, dated 1960-05-29, discussing Unifon.
Figure 3b. Article from the Chicago Sunday Sun-Times, dated 1960-05-29, discussing Unifon.

Figure 4. Example of an early version of Unifon (the alphabet as in Figure 1) set using upper- and lower-case. The alphabet given is: AÄBCYDEFGH+ÅJKLMNØØØØØPRSTØTØUVWVYWX; several letters (ØΩØØØ) do not appear in the text.
Figure 5. Example from Carroll [2014; in press], showing Unifon in a casing orthography. Carroll’s English original likewise writes “DRINK ME” in all caps.
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Additions for UPA

Egyptological additions

Mayanist additions

Medievalist additions

Insular and Celtist letters
### Additions for Lithuanian dialectology

- \( \text{A794} \) \( \text{c} \) LATIN SMALL LETTER C WITH PALATAL HOOK

### Letters for Middle Vietnamese

- \( \text{A796} \) \( \text{B} \) LATIN CAPITAL LETTER B WITH FLOURISH
  - \( \text{01B1} \) \( \text{f} \) latin capital letter f with hook
- \( \text{A797} \) \( \text{b} \) LATIN SMALL LETTER B WITH FLOURISH
  - old Ewography
  - also used in German dialectology

### Archaic letters for Ewe

- \( \text{A798} \) \( \text{f} \) LATIN CAPITAL LETTER F WITH STROKE
- \( \text{A799} \) \( \text{f} \) LATIN SMALL LETTER F WITH STROKE
- \( \text{A79A} \) \( \text{a} \) LATIN CAPITAL LETTER VOLAPUK AE
- \( \text{A79B} \) \( \text{a} \) LATIN SMALL LETTER VOLAPUK AE
- \( \text{A79C} \) \( \text{u} \) LATIN CAPITAL LETTER VOLAPUK OE
- \( \text{A79D} \) \( \text{u} \) LATIN SMALL LETTER VOLAPUK OE
- \( \text{A79E} \) \( \text{u} \) LATIN CAPITAL LETTER VOLAPUK UE
- \( \text{A79F} \) \( \text{u} \) LATIN SMALL LETTER VOLAPUK UE

### Archaic letters for Volapük

- \( \text{LATIN CAPITAL LETTER SMALL CAPITAL I} \) \( \text{r} \) LATIN SMALL LETTER R WITH OBlique STROKE
- \( \text{LATIN SMALL LETTER S WITH OBlique STROKE} \) \( \text{t} \)
- \( \text{LATIN SMALL LETTER T WITH OBlique STROKE} \) \( \text{u} \)
- \( \text{LATIN SMALL LETTER U WITH OBlique STROKE} \) \( \text{v} \)
- \( \text{LATIN SMALL LETTER S WITH DIAGONAL STROKE} \) \( \text{w} \)
- \( \text{LATIN SMALL LETTER T WITH DIAGONAL STROKE} \) \( \text{x} \)
- \( \text{LATIN SMALL LETTER T WITH OBlique STROKE} \) \( \text{y} \)
- \( \text{LATIN SMALL LETTER R WITH OBlique STROKE} \) \( \text{z} \)
- \( \text{LATIN SMALL LETTER R WITH OBlique STROKE} \) \( \text{A} \)
- \( \text{LATIN SMALL LETTER S WITH OBlique STROKE} \) \( \text{B} \)
- \( \text{LATIN SMALL LETTER S WITH DIAGONAL STROKE} \) \( \text{C} \)
- \( \text{LATIN SMALL LETTER T WITH DIAGONAL STROKE} \) \( \text{D} \)
- \( \text{LATIN SMALL LETTER T WITH OBlique STROKE} \) \( \text{E} \)
- \( \text{LATIN SMALL LETTER S WITH DIAGONAL STROKE} \) \( \text{F} \)
- \( \text{LATIN SMALL LETTER T WITH OBlique STROKE} \) \( \text{G} \)
- \( \text{LATIN SMALL LETTER T WITH OBlique STROKE} \) \( \text{H} \)
- \( \text{LATIN SMALL LETTER S WITH OBlique STROKE} \) \( \text{I} \)
- \( \text{LATIN SMALL LETTER T WITH OBlique STROKE} \) \( \text{J} \)
- \( \text{LATIN SMALL LETTER S WITH OBlique STROKE} \) \( \text{K} \)
- \( \text{LATIN SMALL LETTER T WITH OBlique STROKE} \) \( \text{L} \)
- \( \text{LATIN SMALL LETTER S WITH OBlique STROKE} \) \( \text{M} \)
- \( \text{LATIN SMALL LETTER T WITH OBlique STROKE} \) \( \text{N} \)
- \( \text{LATIN SMALL LETTER S WITH OBlique STROKE} \) \( \text{O} \)
- \( \text{LATIN SMALL LETTER T WITH OBlique STROKE} \) \( \text{P} \)
- \( \text{LATIN SMALL LETTER S WITH OBlique STROKE} \) \( \text{Q} \)
- \( \text{LATIN SMALL LETTER T WITH OBlique STROKE} \) \( \text{R} \)
- \( \text{LATIN SMALL LETTER S WITH OBlique STROKE} \) \( \text{S} \)
- \( \text{LATIN SMALL LETTER T WITH OBlique STROKE} \) \( \text{T} \)
- \( \text{LATIN SMALL LETTER S WITH OBlique STROKE} \) \( \text{U} \)
- \( \text{LATIN SMALL LETTER T WITH OBlique STROKE} \) \( \text{V} \)
- \( \text{LATIN SMALL LETTER S WITH OBlique STROKE} \) \( \text{W} \)
- \( \text{LATIN SMALL LETTER T WITH OBlique STROKE} \) \( \text{X} \)
- \( \text{LATIN SMALL LETTER S WITH OBlique STROKE} \) \( \text{Y} \)
- \( \text{LATIN SMALL LETTER T WITH OBlique STROKE} \) \( \text{Z} \)

### Additional for Unifon

- \( \text{A7AE} \) \( \text{I} \) LATIN CAPITAL LETTER SMALL CAPITAL I WITH STROKE
- \( \text{A7AF} \) \( \text{I} \) LATIN CAPITAL LETTER SMALL CAPITAL I WITH STROKE

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### Letters for Americanist orthographies

- **A7B0 Ɦ**: LATIN CAPITAL LETTER TURNED K  
  - lowercase is 029E Ɦ
- **A7B1 Ɦ**: LATIN CAPITAL LETTER TURNED T  
  - lowercase is 0287 Ɦ  
  - also used in Unifon

### Letter for African languages

- **A7B2 Ɦ**: LATIN CAPITAL LETTER J WITH CROSSED TAIL  
  - lowercase is 0126 ħ

### Letter for German dialectology

- **A7B3 Ɦ**: LATIN CAPITAL LETTER CHI  
  - lowercase is A853 Ɦ

### Letters for African languages

- **A7B4 Ɦ**: LATIN CAPITAL LETTER BETA
- **A7B5 Ɦ**: LATIN SMALL LETTER BETA
- **A7B6 Ɦ**: LATIN CAPITAL LETTER OMEGA
- **A7B7 Ɦ**: LATIN SMALL LETTER OMEGA

### Additions for Unifon

- **A7BA Ʇ**: LATIN CAPITAL LETTER CLOSED TURNED V
- **A7BB Ʇ**: LATIN SMALL LETTER CLOSED TURNED V
- **A7BC Ʇ**: LATIN CAPITAL LETTER TURNED-E R
- **A7BD Ʇ**: LATIN SMALL LETTER TURNED-E R
- **A7BE Ʇ**: LATIN CAPITAL LETTER I WITH STROKE AND BASELINE
- **A7BF Ʇ**: LATIN SMALL LETTER I WITH STROKE AND BASELINE
- **A7C0 Ʇ**: LATIN CAPITAL LETTER REVERSED N WITH BENT RIGHT LEG
- **A7C1 Ʇ**: LATIN SMALL LETTER REVERSED N WITH BENT RIGHT LEG
- **A7C2 Ʇ**: LATIN CAPITAL LETTER O WITH BASELINE
- **A7C3 Ʇ**: LATIN SMALL LETTER O WITH BASELINE
- **A7C4 Ʇ**: LATIN CAPITAL LETTER O WITH VERTICAL BAR
- **A7C5 Ʇ**: LATIN SMALL LETTER O WITH VERTICAL BAR
- **A7C6 Ʇ**: LATIN CAPITAL LETTER O WITH LOW VERTICAL BAR
- **A7C7 Ʇ**: LATIN SMALL LETTER O WITH LOW VERTICAL BAR
- **A7C8 Ʇ**: LATIN CAPITAL LETTER O WITH HIGH VERTICAL BAR
- **A7C9 Ʇ**: LATIN SMALL LETTER O WITH HIGH VERTICAL BAR
- **A7CA Ʇ**: LATIN CAPITAL LETTER S WITH STROKE
- **A7CB Ʇ**: LATIN SMALL LETTER S WITH STROKE
- **A7CC Ʇ**: LATIN CAPITAL LETTER THE
- **A7CD Ʇ**: LATIN SMALL LETTER THE
- **A7CE Ʇ**: LATIN CAPITAL LETTER DHE
- **A7CF Ʇ**: LATIN SMALL LETTER DHE
- **A7D0 Ʇ**: LATIN CAPITAL LETTER U WITH BASELINE
- **A7D1 Ʇ**: LATIN SMALL LETTER U WITH BASELINE
- **A7D2 Ʇ**: LATIN CAPITAL LETTER CLOSED U
- **A7D3 Ʇ**: LATIN SMALL LETTER CLOSED U
- **A7D4 Ʇ**: LATIN CAPITAL LETTER REVERSED Z
- **A7D5 Ʇ**: LATIN SMALL LETTER REVERSED Z

### Additions for Extended IPA

- **A7F8 Ʇ**: MODIFIER LETTER CAPITAL H WITH STROKE  
  - faucalized
  - \( \approx \); \( \text{o} \)
- **A7F9 Ꞻ**: MODIFIER LETTER SMALL LIGATURE OE  
  - labialized: open-rounded
  - \( \approx \); \( \text{o} \)

### Addition for UPA

- **A7FA Ʇ**: LATIN LETTER SMALL CAPITAL TURNED M

### Ancient Roman epigraphic letters

- **A7FB Ʇ**: LATIN EPIGRAPHIC LETTER REVERSED F
- **A7FC Ʇ**: LATIN EPIGRAPHIC LETTER REVERSED P
- **A7FD Ʇ**: LATIN EPIGRAPHIC LETTER INVERTED M
- **A7FE Ʇ**: LATIN EPIGRAPHIC LETTER I LONGA
- **A7FF Ʇ**: LATIN EPIGRAPHIC LETTER ARCHAIC M

### Additional letter

- **A7F7 ꞷ**: LATIN EPIGRAPHIC LETTER SIDEWAYS I  
  - Celtic inscriptions
A. Administrative
1. Title
Revised proposal to encode Unifon characters in the UCS.
2. Requester’s name
Michael Everson
3. Requester type (Member body/Liaison/Individual contribution)
Liaison contribution.
4. Submission date
2014-02-24
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)
No.
1b. The proposal is for addition of character(s) to an existing block
Yes.
1c. Name of the existing block
Latin Extended D.
2. Number of characters in proposal
30.
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.
4. Is a repertoire including character names provided?
Yes.
4a. If YES, are the names in accordance with the "character naming guidelines"
Yes.
4b. Are the character shapes attached in a legible form suitable for review?
Yes.
5. Fonts related:
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, Fontlab and Fontographer.
6. References:
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. Special encoding issue: 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. Additional Information: 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.
See above.

C. Technical - Justification
1. Has this proposal for addition of character(s) been submitted before? If YES explain
No.
2. 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.
2a. 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?
Linguists, teachers, educationists.
4a. The context of use for the proposed characters (type of use; common or rare)
Relatively rare.
4b. Reference
5a. Are the proposed characters in current use by the user community?
   Yes.
5b. If YES, where?
   Chiefly in the US.
6. After giving due considerations to the principles in the P&P document must the proposed characters be entirely in the BMP?
   If possible, yes.
6a. If YES, is a rationale provided?
   Keep with other Latin letters.
6b. If YES, reference
7. Should the proposed characters be kept together in a contiguous range (rather than being scattered)?
   Not necessarily.
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?
   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?