

# On LATIN SMALL LETTER TURNED O OPEN-O and LATIN SMALL LETTER TURNED O OPEN-O WITH STROKE

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The two characters U+AB43 LATIN SMALL LETTER TURNED O OPEN-O and U+AB44 LATIN SMALL LETTER TURNED O OPEN-O WITH STROKE were proposed for encoding in *Revised proposal to encode “Teuthonista” phonetic characters in the UCS*, N4081, L2/11-202, as part of a set of phonetic transcriptions symbols which were or are used in German dialectology and phonetic descriptions. Their character names and representative glyphs are based on one example from Bremer 1898 showing Bremer 1893 phonetic transcription symbols and their equivalent new symbols which Bremer started using before 1895.

However, the character names and representative glyphs do not correspond to the description of how these symbols are formed found in Bremer 1893. The shapes seen in Bremer 1898 were identified and encoded in Unicode as a turned o open attached to an *o* for U+AB43 and an *ø* for U+AB44. But Bremer 1893 describes these as ligatures formed of *a*, with *o* for the first and with *ø* for the second. Since Bremer uses italic symbols, it is not clear if *a* is strictly a cursive *a* or not, especially given he distinguishes cursive *a* from slanted *a* in Bremer 1898.

If the identity of the characters and their representative glyphs were to be changed to match Bremer's 1893 description, then U+AB43 LATIN SMALL LETTER TURNED O OPEN-O would be a duplicate of U+A735 LATIN SMALL LETTER AO if it is built from Latin *a*. Alternatively, given Bremer 1898's barred *a* is encoded as barred alpha, U+AB43 could be built from Latin alpha. Such a script a ligature with *o* seems to be used in Nordic phonetic transcriptions (Dania, Swedish dialecta alphabet) as they distinguish an *a-e* ligature symbol from a script *a-e* ligature symbol.

The representative glyphs should be either replaced with Latin *a* ligatures with *o* and *ø* or Latin alpha ligatures with *o* and *ø*.

The following glyphs are recommended.

## Option 1 with Latin *a*

ææ

## Option 2 with Latin alpha

œœ

## Bremer's symbols description

Bremer describes how the symbols he uses are composed in Bremer 1893, *Deutsche Phonetik*, page 202.

**Sollte in einer Mundart noch eine weitere Stufe vorkommen, die als ein *e*-, *o*- oder *ö*-artig gefärbtes *a* empfunden wird, so gebrauche man die Ligaturen von *a* und *e*, *o*, *ö*. Statt *ö* und *ü* empfehlen sich einfache Buchstaben ohne diakritische Zeichen: *ø* und *y*. Überweites *ö* = *ø*.**

Bremer 1893, p. 202. showing a description of U+AB43 LATIN SMALL LETTER TURNED O OPEN-O and U+AB44 LATIN SMALL LETTER TURNED O OPEN-O WITH STROKE.

That is:

Sollte in einer Mundart noch eine weitere Stufe vorkommen, die als ein *e*-, *o*- oder *ö*-artig gefärbtes *a* empfunden wird, so gebrauche man die Ligaturen von *a* und *e*, *o*, *ö*. Statt *ö* und *ü* empfehlen sich einfache Buchstaben ohne diakritischen Zeichen: *ø* und *y*. Überweites *ö* = *ø*.

Here is a translation:

“Should there be another level in a dialect which is perceived as an *e*-, *o*- or *ö*-like colored *a*, then use the ligatures of *a* and *e*, *o*, *ö*. Instead of *ö* and *ü* we recommend simple letters without diacritical marks: *ø* and *y*. Wide *ö* = *ø*.”

Given this paragraph, these symbols are formed as ligatures of: *a* with *e*, *a* with *o*, and *a* with *ø*.

In Bremer 1893, Otto Bremer only uses some of those symbols once in a phonetic transcription sample with the *a* with *e* ligature and the *a* with *o* ligature, on page 208. The glyph of the *a-o* ligature is similar to that seen in Bremer 1898.

## 6. Textprobe.

§ 218. Als Probe der vorgeschlagenen Schrift möge die erste Strophe der »Zueignung« in bühnendeutscher Aussprache wiedergegeben werden. Die (freilich unzulänglichen) Zeichen für den Tonfall haben nur relative Geltung innerhalb jedes einzelnen Taktes. Sie gelten zumeist für die ganze Silbe, an deren Ende sie gesetzt sind.

*Dər mór gən kām. || es. šóǰ̃ tən zəi'nə trítə. |*  
*Dən. læi'zən. šl:āf | dər. miχ. ge.l:ind um·fiηk. ||*  
*Das iχ̃ | ər.v:áxt || couš. mæi.nər. šd̃i.lən hỳ'tə. |*  
*Dən. bérk' hi.nóuf' | mit. fri:šər zé:lə. g̃iηk. ||*  
*Iχ̃ fró'itə miχ̃ | bæi' æi'nəm jé'dən šrítə. |*  
*Dər. nó:i'en. b.l'ú'm.ə. | d̃i' fol' tróp'fən. h̃iηk. ||*  
*Dər. jú:η:ə. ták' | ər.hóp' ziχ̃. mit. ənt.sýkən. ||*  
*Unt. á l'əs vār ər.kβikt | míχ̃ tsü: ər.kβi'kən ||*

Bremer 1893, p. 208. showing U+AB43 LATIN SMALL LETTER TURNED O OPEN-O with same glyph as in Bremer 1898.

## Bremer's symbols in Unicode

The two characters U+AB43 LATIN SMALL LETTER TURNED O OPEN-O and U+AB44 LATIN SMALL LETTER TURNED O OPEN-O WITH STROKE and have their representative glyphs based on a single example in N4031 and N4081 taken from Bremer 1898, page 6.

<b>Mein bisheriges</b>	ě e € œ,	ǒ o ɔ oo,	ě θ ɛ ɔ
<b>ersetze ich jetzt durch</b>	e € œ a,	o ɔ œ a,	θ ɛ œ a
<b>und ebenso die Längen</b>	é ē ē ā,	ó ô õ ō,	ê ê ẽ ǣ
<b>durch</b>	ē ē ā ā,	ō õ ǫ ā,	ē ẽ ǣ ā

Bremer 1898, p. 6, showing a table with Otto Bremer's old phonetic symbols and the new phonetic symbols that replace them.

The first and third lines of the first table show the 1893 initial symbols, the second and fourth lines show the new symbols that replaced them.

Note that each line is divided in 3 sets of 4 symbols each. In each set from 1893, the last symbol is a

ligature of two other symbols, specifically a (or  $\alpha$ ) and the second symbol in the set. For example:

- $\alpha e$  is formed of  $a$  and  $e$ ,
- $\alpha o$  is formed of  $a$  and  $o$ ,
- $\alpha \emptyset$  is formed of  $a$  and  $\emptyset$ .

In the proposal N4081, L2/11-202, the ligature shapes were interpreted as seen with an opening at the top of the left part of the ligatures, making them ligatures of turned o open with  $e$ ,  $o$  and  $\emptyset$ .

## Latin $\alpha$ , $a$ , or Latin alpha, $\alpha$ ?

As Bremer only uses symbols in italic, it is not clear if these symbols should be formed from a Latin  $a$  or a Latin alpha.

### Option 1 with Latin $a$ :

If the identity of U+AB43 LATIN SMALL LETTER TURNED O OPEN-O was changed to be a ligature letter formed of U+0061 LATIN SMALL LETTER A, then it would be a duplicate of U+A735 LATIN SMALL LETTER AO without canonical or compatibility equivalence.

Following that description, here are Bremer's initial ligature symbols:

$a + e$	$\alpha e$
$a + o$	$\alpha o$ (duplicate of U+A735 $\alpha o$ )
$a + \emptyset$	$\alpha \emptyset$

### Option 2 with Latin alpha:

Given that the encoded characters that are used for Bremer 1898 transcription have some distinction between letter  $a$  and Latin alpha  $\alpha$ , where letter  $a$  is a slanted- $a$  and Latin alpha is a script- $a$ , namely U+0061 LATIN SMALL LETTER A, U+2C65 LATIN SMALL LETTER A WITH STROKE and U+AB30 LATIN SMALL LETTER BARRED ALPHA, that distinction could be applied to all of Bremer's symbols, including Bremer 1893 symbols. Note: U+AB30 was encoded with the Teuthonista proposal.

Following that description, here are Bremer's ligature symbols:

$\alpha + e$	(non encoded alpha-e)
$\alpha + o$	$\alpha o$
$\alpha + \emptyset$	$\alpha \emptyset$

This could be useful to maintain to avoid duplication between  $\alpha o$  U+AB43 LATIN SMALL LETTER TURNED O OPEN-O and  $\alpha o$  U+A735 LATIN SMALL LETTER AO.

A new LATIN SMALL LETTER ALPHA-E could be encoded for Bremer's symbol, or for other transcription systems distinguishing it from LATIN SMALL LETTER AE, such as the Dania transcription or the Swedish dialectal alphabet. This is out of scope for this document.



# Proposed notes in Unicode charts and NameList

The Unicode charts for Latin Extended-E (Range: AB30–AB6F) should be updated with the following notes:

## Option 1 with Latin a:

A735 LATIN SMALL LETTER AO  
x (latin small letter turned o open-o - AB43)  
AB43 LATIN SMALL LETTER TURNED O OPEN-O  
= a-o  
x (latin small letter ao - A735)  
AB44 LATIN SMALL LETTER TURNED O OPEN-O  
= a-o with stroke

## Option 2 with Latin alpha

A735 LATIN SMALL LETTER AO  
x (latin small letter turned o open-o - AB43)  
AB43 LATIN SMALL LETTER TURNED O OPEN-O  
= alpha-o  
x (latin small letter ao - A735)  
AB44 LATIN SMALL LETTER TURNED O OPEN-O  
= alpha-o with stroke

## References

- Otto Bremer, *Deutsche Phonetik*, Leipzig, Breitkoff und Härtel, coll. « Sammlung kurzer Grammatiken deutscher Mundarten » (no 1), 1893. <https://archive.org/details/deutschephoneti00bremgoog>
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- *Unicode Technical Note #27* <http://www.unicode.org/notes/tn27/>