

# Greek diacritics with standard accent macros

Günter Milde

28th February 2020

The font encoding definition file `lgrenc.def` defines LICR macros for all non-ASCII characters in the LGR font encoding. Greek accent macros have names starting with `\acc` followed by the Greek accent name as used in the Unicode standard (e.g. `\acctonos`). The standard symbol accents `\' \' \~` behave according to Greek typography if used in the LGR font encoding.

The *textalpha* or *alphabetalpha* packages define the symbol macros `\<` and `\>` as alias for the breathings (Dasia and Psili).<sup>1</sup> With these packages, all Greek diacritics can be input as backslash followed by the LGR transliteration.<sup>2</sup>

The example in `babel/contrib/greek/usage.pdf`:

Τί φής; Ἰδὼν ἐνθῆδε παῖδ' ἐλευθέραν τὰς πλησίον Νύμφας στεφανοῦσαν, Σώστρατε, ἐρῶν  
ἀπῆλθες εὐθύς;

can be input as

```
T\'i f\'hic? \<Id\'wn \>enj\'ede pa\~id\'\'  
\>eleuj\'eran t\'ac plhs\'ion N\'umfac stefano\~usan,  
S\'wstrate, \>er\~wn \'ap\~hljec e\>uj\'uc?
```

Improvements over the ligature-based approach in LGR:

- Accents can be placed on any character:<sup>3</sup> ᾳ ῥ ῖ ΰ ῥ ῖ ῥ ῖ
  - Kerning is preserved
- |                  | roman | italic       | cbleipzig    |
|------------------|-------|--------------|--------------|
| accent macro:    | αὐτός | <i>αὐτός</i> | <i>auťos</i> |
| transliteration: | αὐτός | <i>auťos</i> | <i>auťos</i> |

Like in any font encoding, kerning only works with pre-composed glyphs:  
 $A\tilde{\Upsilon}A \neq A\tilde{\Upsilon}A$ ,  $AVA \neq A\tilde{\Upsilon}A$ .

- Compatible with `hyperref` (see `greekhyperref.pdf`).
- Following Greek typesetting convention, diacritics (except the dialytika) are placed to the left of capital letters and dropped by `\MakeUppercase`:

άντροπος  $\mapsto$  ANTPOΠOΣ, ἄντροπος  $\mapsto$  ANTPOΠOΣ,  
Αχιλλέας  $\mapsto$  AXIΛΛEΑΣ, Ἀχιλλεύς  $\mapsto$  AXIΛΛEΥΣ.

The dialytika is printed even in cases where it's not needed in lowercase:

άλος  $\mapsto$  AŦΛOΣ, ἄλος  $\mapsto$  AŦΛOΣ, μάινα  $\mapsto$  MAŦNA,  
κέικ  $\mapsto$  KEŦK, ἄπνία  $\mapsto$  AŦΠNIA.

<sup>1</sup>The definition of the macros `\<` and `\>` was moved from the font definition file `greek-fontenc.def` to `textalpha.sty` in order to avoid clashes with local definitions of this macros in documents using the LGR font encoding via *fontenc* or *babel*.

<sup>2</sup>This makes it easy to follow the advice in *teubner-doc*: “typeset your paper with the regular accent vowel ligatures and [...] substitute them in the final revision with the accented vowel macros only in those instances where the lack of kerning is disturbing”.

<sup>3</sup>In *babel-greek* versions < 1.4, Babel's *polutonikogreek* option re-defined `\~` (even for Latin with `\textlatin`). This document reverted the *babel* definition in the preamble to make the tilde/perispomeni-accent work as usual in both, English (νῖϖō nīñō) and Greek.

Composite diacritics can be specified as named macro, backslash + LGR transliteration, or combined accent macros, e.g.  $\tilde{\alpha}$  can be written as

`\accpsiliperispomeni{a}`, `\~>a`, `\>~a`, `\~\>{a}`, or `\~\>a`.

However, braces in composite accents (`\~{\>a}`, `\~{>a}`, or `\~{\>{a}}`) lead to errors.

`\MakeUppercase` works with most input variants but fails with a tilde in a document which does **not** define the `greek` or `polutonikogreek` language with Babel (which fixes the ucode for characters used in the LGR transliteration). Combining “symbol macros” (`\>\~`) or reversing the order (`\~>`) is safe.

Accent macros can start with `\a` instead of `\` when the short form is redefined, e.g. inside a *tabbing* environment. This also works for the new-defined Dasia and Psili shortcuts (`\a<` and `\a>`):

Τί φής; Τί φής;  
Ἰδὼν ἐνθέδε παῖδ