

Greek support for Babel with XeTeX/LuaTeX

The babel option “greek” activates the support for the Greek language defined in the file “greek.ldf” (source “greek.dtx”).

Typesetting Greek texts requires a font containing Greek letters. With the XeTeX or LuaTeX engines, the user should ensure that the chosen font contains the required glyphs (the default Latin Modern fonts miss them). Examples for suitable fonts are the “Deja Vu” or the “Linux Libertine” OpenType fonts.

1 Language Switch

The declaration `\selectlanguage` switches between languages.

Ὁ Σύλλογος Ἑλλήνων Φίλων τοῦ TeX, γνωστός καὶ ὡς «Ἑλληνες Φίλοι τοῦ TeX» (ΕΦΤ γιὰ συντομία) ἀποτελεῖ τὴν ἐπίσημη Τοπικὴ Ὀμάδα τοῦ TeX ἢ τὸ ἐλληνικὸ TeX LUG (Local Users Group).

The macro `\foreignlanguage` sets its second argument in the specified language. This is intended for short text parts like Βιβλιοθήκη.

2 Font Encoding

In Greek text parts, the font encoding is automatically set to LGR if an 8-bit TeX engine is used. With XeTeX or LuaTeX, the macros `\greektext` and `\textgreek` don’t change the font encoding. Latin characters can be used also in Greek text parts. Input via the Latin transcription defined in LGR is not possible.

Φίλων τοῦ TeX (ΕΦΤ) – Friends (Filwn) of TeX.

Enumerated lists use Greek characters/numerals in the second and fourth level. This requires support for Greek LICR macros in XeTeX/LuaTeX (currently missing).

1. ← 1

3 MakeUppercase, MakeLowercase

Capital Greek letters have diacritics (except the dialytika and sub-iota) to the left (instead of above) and drop them in uppercase, e.g. μαῖστρος \mapsto ΜΑΪΣΤΡΟΣ.

Tonos and dasia mark a *hiatus* (break-up of a diphthong) if placed on the first vowel of a diphthong ((*ái*, *áv*, *éi*, *ǎi*, *ǎv*, *ěi*). A dialytika must be placed on the second vowel if they are dropped: (AI, AY, EI, AI, AY, EI). This does not work (yet?) with XeTeX/LuaTeX.

There are several alternative styles for the capitalized sub-iota.

The following subsections test MakeUppercase and MakeLowercase with all characters defined in lgrenc.dfu:

3.1 Greek and Coptic

Characters of the Greek and Coptic Unicode Block:

ⲁⲃⲅⲇⲉⲛⲏⲓⲕⲗⲙⲛⲟⲡⲣⲥⲧⲩⲫⲭⲱⲰⲱⲚⲛⲟⲩⲥⲦⲑ
ⲁⲉⲓⲧⲁⲃⲅⲇⲉⲛⲏⲓⲕⲗⲙⲛⲟⲡⲣⲥⲧⲩⲫⲭⲱⲰⲱⲚⲛⲟⲩⲥⲦⲑ

MakeUppercase:

Α·ΕΗΙΟΥΩΙΑΒΓΔΕΖΗΘΙΚΑΜΝΞΟΠΡΣΤΥΦΧΨΩΪΫΟΣΦΚ
ΑΕΗΙΫΑΒΓΔΕΖΗΘΙΚΑΜΝΞΟΠΡΣΣΤΥΦΧΨΩΪΫΟΥΩΟΣΦΖΡ

Letters upcased, diacritics except dialytika dropped. OK.

Υ (Sampi) \mapsto K (Kappa) and $\var�$ (sampi) \mapsto P (Rho) seems a bug (in Xe/LuaTeX or xgreek?).

MakeLowercase:

‘,;’ ἄ·ἐ·ἀ·ιού·ώ·ἰ·α·β·γ·δ·ε·ζ·η·θ·ικ·λ·μ·ν·ξ·ο·π·ρ·σ·τ·υ·φ·χ·ψ·ω·ῖ·ὀ·ύ·ό·ω·ρ·ς·
ἀ·ἐ·ή·ῖ·ἰ·α·β·γ·δ·ε·ζ·η·θ·ικ·λ·μ·ν·ξ·ο·π·ρ·ς·σ·τ·υ·φ·χ·ψ·ω·ῖ·ὀ·ύ·ό·ω·ρ·ς·

The lowercase of Σ is σ (GREEK SMALL LETTER SIGMA, with LGR, it is `\textautosigma`).
The lowercase of GREEK LETTER STIGMA ς is ς .

3.2 Greek extended

MakeUppercase:

A A A A A A A A A A A A A A A A A A
 E E E E E E E E E E E E E E E E E E
 H H H H H H H H H H H H H H H H H H
 I I I I I I I I I I I I I I I I I I
 O O O O O O O O O O O O O O O O
 Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y
 Ω Ω Ω Ω Ω Ω Ω Ω Ω Ω Ω Ω Ω Ω Ω Ω
 A A E E H H I I O O Y Y Ω Ω
 A₁ A₁ A₁ A₁ A₁ A₁ A₁ A₁ A₁ A₁ A₁ A₁ A₁ A₁ A₁ A₁
 H₁ H₁ H₁ H₁ H₁ H₁ H₁ H₁ H₁ H₁ H₁ H₁ H₁ H₁ H₁ H₁ H₁
 Ω₁ Ω₁ Ω₁ Ω₁ Ω₁ Ω₁ Ω₁ Ω₁ Ω₁ Ω₁ Ω₁ Ω₁ Ω₁ Ω₁ Ω₁ Ω₁ Ω₁
 Ä Ä A₁ A₁ A₁ A₁ A₁ Ä Ä A A A₁ ' I '
 ~ " H₁ H₁ H₁ H H₁ E E H H H₁ " " "
 İ İ İ İ İ İ İ İ İ İ " " "
 Ÿ Ÿ Ÿ Ÿ P P Y Ÿ Ÿ Ÿ Ÿ Y Y P " " "
 Ω₁ Ω₁ Ω₁ Ω Ω₁ O O Ω Ω Ω₁ ' ' '

MakeLowercase:

ā á â ã ä å æ ç è é ê ë
 ħ ḥ ṡ ṣ ṭ ṫ ṽ Ṽ Ṿ ṿ
 ı İ ï ĩ ī Ĳ ĳ Ĵ ĵ Ķ ķ
 ŏ ó ô õ ö ø ő ô õ ö ő
 ù ú û ü ý ž ž ž ž ž ž ž ž

[illegible]

4 Babel Strings

Babel defines macros for several autogenerated strings so that they may appear in the chosen language. babel-greek uses LICR macro in order to let the string macros work independent of the font encoding.

This requires support for Greek LICR macros in XeTeX/LuaTeX (currently missing).