

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'', ``Linux Libertine'', or ``Free Serif'' OpenType fonts.

1 Language Switch

The declaration \selectlanguage switches between languages.

Τί φήις; Ιδών ἐνθέδε παῖδ' ἐλευθέρων τὰς πλησίου Νύμφας στεφανοῦσαν, Σώστρατε, ἐρῶν ἀπῆλθες εὐθύς;

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 in Greek text parts, input via the Latin transcription defined in LGR is not possible.¹

Φίλων τοῦ TeX (ΕΦΤ) -- Friends (Fílwn) of TeX.²

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. μαΐστρος → ΜΑΪΣΤΡΟΣ.

Tonos and dasia mark a *hiatus* (break-up of a diphthong) if placed on the first vowel of a diphthong ((άι, áν, éι, áι, óν, ēι). A dialytika must be placed on the second vowel if they are dropped. This does not work (yet?) with Unicode literals (AI, AY, EI, AI, AY, EI). (See section «hiatus» below for a test with LICR macros.)

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

¹The *xunicode* package provides with the *tipa* emulation an example how this could be achieved if really required.

²Compare the printout to the similar example in test-greek.pdf.

3.1 Greek and Coptic

Characters of the Greek and Coptic Unicode Block:

' ; ' "Α·ΕΗΙΟΥΓΩΙΑΒΓΔΕΖΗΘΙΚΛΜΝΞΟΠΡΣΤΥΦΧΨΩΪΫQCFԴ
άέήίύαβγδεζηθικλμνξοπρςտυֆչպօչս՛

MakeUppercase:

' ; ' "Α·ΕΗΙΟΥΓΩΙΑΒΓΔԵԶՀԹԻԿԼՄՆՅՕՊՐՍՏՒՓԽՎՈՒՅQCFՔ
ԱԵՒՅԱԲԳԴԵԶՀԹԻԿԼՄՆՅՕՊՐՍՏՒՓԽՎՈՒՅՕՎՈՉFՀ՛

Letters upcased, diacritics except dialytika dropped. OK.

Դ (Sampi) ↠ K (Kappa) and ՚ (sampi) ↠ P (Rho) is a bug in xgreek-fixes.def from the polyglossia package.

MakeLowercase:

' ; ' "ά·έάίօնաβγδεզηթիկլմնչօպրստվչպաւնօշՔ
άέήինաբգդեզհթիկլմնչօպրստվչպաւնօշՔ՛

The lowercase of Σ is σ (GREEK SMALL LETTER SIGMA).³ The lowercase of Ζ (GREEK LETTER STIGMA) is զ.

3.2 Greek extended

Characters of the Greek extended Unicode block:

ἀ ἀ ἄ ἄ ἅ ἅ ἆ ἆ Ἀ Ἀ Ἁ Ἁ Ἄ Ἄ Ἅ Ἅ
ἐ ἐ ἃ ἃ ἔ ἔ ἕ ἕ Ἐ Ἐ Ἑ Ἑ Ἒ Ἒ ἒ ἒ
ἡ ἡ ἄ ἄ ἅ ἅ ἆ ἆ Ἂ Ἂ Ἃ Ἃ Ἄ Ἄ Ἅ Ἅ
ἰ ἰ ἵ ἵ ἶ ἶ ἷ ἷ Ἰ Ἰ ἵ ἵ ἴ ἴ ἵ ἵ
օ ὁ ὁ ὁ ὁ ὁ ὁ ὁ ὁ ὁ ὁ ὁ ὁ ὁ ὁ ὁ
ὐ ὑ ὑ ὑ ὑ ὑ ὑ ὑ ὑ ὑ ὑ ὑ ὑ ὑ ὑ
ώ ὠ ὠ ὠ ὠ ὠ ὠ ὠ ὠ ὠ ὠ ὠ ὠ ὠ ὠ
ὰ ᄂ ᄂ ᄂ ᄂ ᄂ ᄂ ᄂ ᄂ ᄂ ᄂ ᄂ ᄂ ᄂ ᄂ
ὲ ᄂ ᄂ ᄂ ᄂ ᄂ ᄂ ᄂ ᄂ ᄂ ᄂ ᄂ ᄂ ᄂ ᄂ
ὴ ᄂ ᄂ ᄂ ᄂ ᄂ ᄂ ᄂ ᄂ ᄂ ᄂ ᄂ ᄂ ᄂ
ং ং ং ং ং ং ং ং ং ং ং ং ং ং ং
ঃ ঃ ঃ ঃ ঃ ঃ ঃ ঃ ঃ ঃ ঃ ঃ ঃ ঃ
ঁ ঁ ঁ ঁ ঁ ঁ ঁ ঁ ঁ ঁ ঁ ঁ ঁ
ঁ ঁ ঁ ঁ ঁ ঁ ঁ ঁ ঁ ঁ ঁ ঁ ঁ
ঁ ঁ ঁ ঁ ঁ ঁ ঁ ঁ ঁ ঁ ঁ ঁ
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ঁ ঁ ঁ ঁ ঁ ঁ ঁ ঁ
ঁ ঁ ঁ ঁ ঁ ঁ

MakeUppercase:

Α Α Α Α Α Α Α Α Α Α Α Α
Ε Ε Ε Ε Ε Ε Ε Ε Ε
Η Η Η Η Η Η Η Η Η
Ι Ι Ι Ι Ι Ι Ι Ι Ι
Ο Ο Ο Ο Ο Ο Ο Ο

³With LGR, it is \textautosigma.

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
 A A E E H H I I O O Y Y Ω Ω
 Aι
 Hι
 Ωι
 Ă Ā Aι Aι Aι A A Ă Ā A A Aι 'Ι'
 ~ " Hι Hι Hι Hι E E H H Hι " " ?
 Ī ī ī ī ī ī ī ī ī ī ī ī ī ī
 Ÿ Ÿ Ÿ Ÿ P P Y Ÿ Ÿ Ÿ Ÿ Y Y P ^ ^
 Ωι Ωι Ωι Ωι Ωι Ω Ω Ω Ω Ωι '

MakeLowercase:

4 LICR Macros

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

Until automatically done by *euenc* for EU1 and EU2 font encodings, the recommended way to load Greek L1CR definitions is via the *textalpha* or *alphabeta* packages provided with *greek-fontenc* since version 0.10.

If the (experimental) file `greek-euenc.def` from the package `greek-fontenc` exists, it is used to define L^IC_R macros for Greek symbols ($\alpha \dots \Omega$) and diacritics (i, i, H, ...).

4.1 Hiatus

The «hiatus» feature works with macro input:

ἀνλος ↔ ΑΪΛΟΣ, ἀνλος ↔ ΑΪΛΟΣ, μάινα ↔ ΜΑΪΝΑ, κέικι↔ ΚΕΪΚ, ἀυπνία ↔ ΑΪ-ΠΝΙΑ.

4.2 Captions

Πρόλογος, Άναφορές, Περίληψη, Βιβλιογραφία, Κεφάλαιο, Παράρτημα, Περιεχόμενα, Κατάλογος Σχημάτων, Κατάλογος Πινάκων, Εύρετήριο, Σχῆμα, Πίνακας, Μέρος, Συνημμένα, Κοινοποίηση, Πρὸς, Σελίδα, βλέπε επίσης, Άποδειξη, Γλωσσάρι,

4.3 Months

13 Ιανουαρίου 2013
13 Φεβρουαρίου 2013
13 Μαρτίου 2013
13 Απριλίου 2013
13 Μαΐου 2013
13 Ιουνίου 2013
13 Ιουλίου 2013
13 Αύγουστου 2013
13 Σεπτεμβρίου 2013
13 Οκτωβρίου 2013
13 Νοεμβρίου 2013
13 Δεκεμβρίου 2013

5 Greek Numerals

See greek.pdf for the formation rules of Greek numerals. Some examples:

α', β', γ', δ', ε', ζ', η', θ', ι', υ', ρ', κ', τμε', φ', αϙοζ', βιγ',
Α', Β', Γ', Δ', Ε', Ζ', Η', Θ', Ι', ΙΑ', ΙΒ', Κ', ΤΜΕ', Φ', ΑϘΩΖ', ΒΙΓ',

Enumerated lists use Greek characters/numerals in the second and fourth level.

1. item 1
 - (α') item 1.1
 - i. item 1.1.1
 - A'. item 1.1.1.1
 - B'. item 1.1.1.2
 - ii. item 1.1.2