

The **philokalia** package

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Abstract

This document describes the functionality of the **philokalia** package, which have been designed to ease the use of the Philokalia-Regular OpenType font with \LaTeX , as well as the OpenType features of the Philokalia-Regular font.

1 Introduction

The **philokalia** package has been designed to ease the use of the Philokalia-Regular (henceforward it will specified simply as the font) OpenType font with \LaTeX . The package provides two options: **global** and **local**. When the package is used with the **global** option, which is the default option, the font is made the main font of the entire document, while when the package is used with the **local** option, it just provides the commands `\textphlk` and `\phkl`. The first command takes one argument which is typeset using the font. The second command makes the font the main font of current environment, local scope, or the rest of the document. The complete package provides the following \LaTeX files:

<code>driver</code>	produce the documentation
<code>philokalia</code>	the package itself
<code>EU1pkl</code>	The Philokalia font shapes

2 About The Font

The font started as a project to digitize the typeface used to typeset the Philokalia books. For information regarding these books, the reader should visit either the following URL:

<http://orthodoxwiki.org/Philokalia>

or enter the word *philokalia* in the Amazon.com search box. The project was carried out by Apostolos Syropoulos and Ioannis Gamvets. Initially, the project

was part of Ioannis Gamvetas's diploma thesis, but the resulting Opetype font is not part of this thesis work and it was developed by this author. The original thesis work was to develop Type 1 fonts and tools to typeset portions of the Philokalia books with Omega. Since, the original thesis work has not been completed yet (!), the idea of releasing an OpenType font emerged quite naturally. The font contains only Greek letters but it can be used to typeset any Greek text. However, since the shapes of the letters are not that obvious, here is a ``translation''-table:

α	α	β	β	γ	γ	δ	δ	ε	ε
ζ	ζ	η	η	θ	θ	ι	ι	κ	κ
λ	λ	μ	μ	ν	ν	ξ	ξ	ο	ο
π	π	ρ	ρ	σ	σ	ς	ς	τ	τ
υ	υ	φ	φ	χ	χ	ψ	ψ	ω	ω

One of the interesting aspect of this font is that accents are placed *after* capital letters (see the sample below). Another interesting aspect of the font is the great number of ligatures it provides. In fact, it provides more than 40 *historical* ligatures plus two *contextual* ligatures. When typing κι and these letters are not part of a word, then one gets the Ϛ symbol, which is the Greek ampersand. The same ligature can be obtained if we substitute *iota* with *iota with varia*. The table below shows all the ligatures provided by the font:

λλ	λλ	αμ'	άν	ερ	εν	γδ	γάρ	κτ	κατὰ
μν	μετὰ	σπ	στί	σθ	σθ	σχ	σχ	τν	τῶν
ρσ	χρ	κθ	καί	σσ	σσ	δθ	δία	δν	εν
δν	εν	δν	εν	ς	ου	ς	ού	ον	οῦ
ς	οῦ	ς	οῦ	δν	εν	αι	αι	αι	α
αι	αι	αι	αι	αι	αι	αυ	αυ	αι	ει
ει	ει	ει	ει	ει	ει	ρι	ρι	ρι	ρι
ρι	ρ	ιν	ην	ιν	ην	ιν	ν	ιν	ην
ων	ων	ων	υν	Λ	-	ς	στ		

Notice that in order to get the Λ symbol one has to type a tonos and then a hyphen. This symbol has been used by the ancient Greek mathematician Diophantus to denote the minus sign. This symbol was not in the original Philokalia font, but it has been included here for reasons of completeness. Future releases of the font may contain some more mathematical symbols. In case, someone wants only to use this symbol, she can use the \dminus command.

These ligatures really honor content and most of them are really rare in the sense that are not used in modern Greek typography. We provide a short passage from Aristotle's treatise *The Poetics* typeset with the font so that readers can appreciate the beauty of these ligatures:

1. Περὶ ποιητικῆς αὐτῆς τε καὶ τῆς εἰδῶς αὐτῆς, ἥν τινα δυνάμει ἕκα-
στον ἔχει, καὶ πῶς δεῖ συνίστασθαι τοὺς μύθους εἰ μέλλει καλῶς εἶναι ἢ ποιή-
σις, ἔτι δὲ ἐκ πρόσω καὶ ποίωσις ἐστὶ μορφή, ὁμοίως δὲ καὶ περὶ τῆς ἄλλου

ὅσα τῆς αὐτῆς ἐστὶ μεθόδῳ, λέγωμεν ἀρξάμενοι κατὰ φύσιν πρῶτον ἀπὸ τῆς πρώτου.

Ἐποποιία δὲ καὶ ἡ τῆς τραγωδίας ποίησις ἔστι δὲ κωμωδία καὶ ἡ διθυραμβοποιητικὴ καὶ τῆς αὐλητικῆς ἡ πλείστη καὶ κιθαριστικῆς πάσαι τυγχάνουσιν ὅσαι μιμήσας τὸ σωόλογον· ὁμοφώνῃσι δὲ ἀλλήλων τρισὶν, ἢ γὰρ τῷ ἐν ἑτέροις μιμεῖσθαι ἢ τῷ ἑτέρα ἢ τῷ ἑτέρως καὶ μὴ τὸν αὐτὸν τρόπον.

Ὡς περ γὰρ καὶ ἡρώμασι καὶ οὐκίστοις πολλὰ μιμοῦνται τιμὲς ἀπεικάζοντες (οἱ μὲν [20] διὰ τέχνης οἱ δὲ διὰ σωηθείας), ἕτεροι δὲ διὰ τῆς φωνῆς, οὕτω καὶ ταῖς εἰρημέναις τέχναις ἅπασαι μὲν ποιοῦνται τὴν μίμησιν ἐν ῥυθμῷ καὶ λόγῳ καὶ ἀρμοσίᾳ, τούτοις δ' ἢ χωρὶς ἢ μεμιγμένοις· οἷον ἀρμοσίᾳ μὲν καὶ ῥυθμῷ ἡρώμεναι μόρον ἢ τε αὐλητικὴ καὶ ἡ κιθαριστικὴ καὶ εἴ τιμὲς [25] ἑτέρα τυγχάνουσιν ὅσαι τοιαῦτα τὴν δυνάμιν, οἷον ἡ τῆς συνέγγων, αὐτῷ δὲ τῷ ῥυθμῷ [μιμοῦνται] χωρὶς ἀρμοσίας ἢ τῆς ὀρχησῶν (καὶ γὰρ ὅτι διὰ τῆς οὐκιστικῆς ῥυθμῶν μιμοῦνται καὶ ἡθὺς καὶ πάθη καὶ πράξεις).

3 The package philokalìa

The code of the philokalìa package is really very simple. First, we specify what has to be done when the package is invoked with the corresponding option and then load some required packages.

```

1 <*philokalìa>
2 \DeclareOption{global}{%
3   \renewcommand{\rmdefault}{plk}%
4 }
5 \DeclareOption{local}{%
6   \def\phkl{\fontfamily{plk}\selectfont}%
7   \newcommand{\textphkl}[1]{\{\phkl #1\}}%
8 }
9 \ExecuteOptions{global}
10 \ProcessOptions
11 \RequirePackage{fontspec}
12 \RequirePackage{xunicode}
13 \RequirePackage{xltextra}

```

The command `\dminus` provides access to the glyph that represents Diophantus minus sign.

```

14 \def\dminus{\fontfamily{plk}\selectfont\char"0185}
15 </philokalìa>

```

4 The Font Definition File

Since there is only one font shape, there is not much work to do: we just need to specify the available font properties:

```

16 <*EU1plk>
17 \DeclareFontFamily{EU1}{plk}{}
18 \DeclareFontShape{EU1}{plk}{m}{n}%
19     {<-> " [Philokalia-Regular] /ICU:script=grek,+hlig,+clig:mapping=tex-text"}{
20 }

```

And here we define the default substitutions:

```

21 \DeclareFontShape{EU1}{plk}{m}{sl}{<-> ssub * plk/m/n}{}
22 \DeclareFontShape{EU1}{plk}{m}{it}{<-> ssub * plk/m/sl}{}
23 \DeclareFontShape{EU1}{plk}{m}{sc}{<-> ssub * plk/m/n}{}
24 \DeclareFontShape{EU1}{plk}{b}{n}{<-> ssub * plk/m/n}{}
25 \DeclareFontShape{EU1}{plk}{b}{sl}{<-> ssub * plk/m/n}{}
26 \DeclareFontShape{EU1}{plk}{b}{it}{<-> ssub * plk/m/n}{}
27 \DeclareFontShape{EU1}{plk}{bx}{n}{<-> ssub * plk/b/n}{}
28 \DeclareFontShape{EU1}{plk}{bx}{it}{<-> ssub * plk/b/sl}{}
29 \DeclareFontShape{EU1}{plk}{bx}{sl}{<-> ssub * plk/b/sl}{}
30 </EU1plk>

```

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