The \texttt{xltxtra} package

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1 Introduction

This document describes the \texttt{xltxtra} package. It implements some odds-and-ends features and improved functionality for broken or sub-standard \LaTeX{} methods when using the \texttt{XeLaTeX} format.

1.1 Usage

Easy: \texttt{\usepackage{xltxtra}}. This package automatically loads the following packages: fixltx2e, metalogo, unicode, fontspec.
There are some package options to disable various functionality that could clash with other things:

**no-sscript** Swaps the definitions of \textsuperscript{} and \textsubscript{} with their respective starred versions, as described in section §2.1.

**no-logos** Disables the redefinition of \TeX{}, etc. described in section §2.2, but *does* still define the \XeTeX{} and \XeLaTeX{} logo commands.

# 2 Features

## 2.1 \textsuperscript{} and \textsubscript{}

These two macros have been redefined to take advantage, if possible, of actual superior or inferior glyphs in the main document font. This is very important for high-quality typesetting — compare this first example to the third; yes, they are the same font.

\begin{verbatim}
\textsuperscript{}  \textsubscript{}
\end{verbatim}

\textsuperscript{} \textsubscript{}

But will fall back on ‘faked’ ones if they don’t exist: (this is Didot)

\begin{verbatim}
\textsuperscript{}  \textsubscript{}
\end{verbatim}

\textsuperscript{} \textsubscript{}

The original definitions are available in starred versions of the commands:

\begin{verbatim}
\textsuperscript{}*  \textsubscript{}*
\end{verbatim}

\textsuperscript{}* \textsubscript{}*

But beware fonts lacking the full repertoire: (this is Adobe Jenson Pro)

\begin{verbatim}
\textsuperscript{}  \textsubscript{}
\end{verbatim}

\textsuperscript{} \textsubscript{}

The [no-sscript] package option will swap the definitions of the starred and non-starred versions of the commands described above if the new definitions are undesirable.

The macros \realsubscript{}, \realsuperscript{}, \fakesubscript{}, and \fakesuperscript{} may be used to access the ‘new’ and ‘old’ functionalities regardless of the [no-sscript] package option.

This functionality is achieved through loading the realscripts package.
2.2 Logos

This part of the package essentially exists to define the \TeX, \XeTeX, and \LaTeX logos, which need to be tuned according to the font that is used. Originally I had some hard-coded definitions in here, but Andrew Moschou’s \texttt{metalogo} package now provides a much more flexible and useful interface to a variety of \TeX-related logos.

Here are some examples. The default:

\begin{verbatim}
\TeX \XeTeX \LaTeX \XeLaTeX
\end{verbatim}

Notice that it’s a bit tight when not using Computer Modern, for which the logos were designed:

\begin{verbatim}
\usefont{OT1}{cmr}{m}{n}
\TeX \XeTeX \LaTeX \XeLaTeX
\end{verbatim}

These logos, ideally, should be hand-tuned for each font that they’re used in. Please refer to the \texttt{metalogo} documentation for more information.

The [no-logos] package option will not redefine \TeX or \LaTeX but will still define \TeXXeXe and \LaTeXXeXe.

2.3 Vulgar fractions

The \texttt{vfrac} command for setting ‘vulgar’ fractions based on AAT or OpenType font features. Not really recommended for many purposes, depending on your text, but it’s a good example of how to program such things using \texttt{fontspec}.

\begin{verbatim}
\fontspec{Skia}
AAT: \texttt{vfrac{123}{456}}
\end{verbatim}

\begin{verbatim}
\fontspec{Warnock Pro}
ICU: \texttt{vfrac{123}{456}}
\end{verbatim}

(This can also be achieved in regular \LaTeX with either the \texttt{nicefrac} or \texttt{xfrac} package.)

Only use it when you know it will work; no warnings are given if the font doesn’t support the necessary features.

2.4 Named glyphs

Along the way somewhere, \XeTeX added support for selecting glyphs from a TrueType-based OpenType font based on their internal glyph name. Jonathan Kew posted the following definition as a nice interface to it.

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2.5 The \showhyphens command

The default definition doesn’t work in Xe\TeX. A new version, written by Jonathan Kew, is included in this package that does work. Minor differences with the original: the showing of hyphens in the console output will be marked with explanatory text. Also, multiple words, separated by commas, will end up in separate instances of ‘showing hyphens’.
File I

The `xltxtra` package

This is the package implementation.

\ProvidesPackage{xltxtra} [2010/09/20 v0.5e Improvements for the "XeLaTeX" format]

Not for \LaTeXe

\RequirePackage{ifluatex}
\ifluatex
\PackageWarningNoLine{xltxtra}{XLTXTRA IS TO BE USED ONLY UNDER XETEX. LOAD FONTSPEC DIRECTLY, INSTEAD.}\fi

\RequirePackage{fontspec}[2010/05/14 v2.0]
\expandafter\endinput

Required packages

\RequirePackage{ifxetex}
\RequireXeTeX
\RequirePackage{fontspec}[2010/05/14 v2.0]
\RequirePackage{realscripts}

Option processing

\newif\if@xxt@noscript@
\newif\if@xxt@nologos@
\DeclareOption{no-script}{\@xxt@noscript@true}
\DeclareOption{no-logos}{\@xxt@nologos@true}
\ProcessOptions*

3 Logos

The \TeX-related logos people insist upon using need to be tuned on a per-font basis. This package calls upon Andrew Moschou’s package `metalogo` for this purpose. To tune the logos to each font, use the commands `\setlogokern`, `\setlogodrop`, etc. Refer to `mathspec`’s documentation for further details.
\TeX\ Xe\TeX\ \LaTeX\ \Xe\LaTeX\ \LaTeX\e

\RequirePackage{metalogo}

The [no-logos] package option might be in effect, in which case \TeX, \LaTeX\ and \LaTeXe\ should keep their original definitions (which were saved by metalogo).

\if@xxt@nologos@
  \let\TeX\original@TeX
  \let\LaTeX\original@LaTeX
  \let\LaTeXe\original@LaTeXe
  \fi

This macro is now deprecated. It is recommended to use the commands from metalogo.

\newcommand*{\TeX@logo@spacing}[6]{%
  \PackageWarning{xltex}{% 
    Use of \protect\TeX@logo@spacing\space is deprecated, \MessageBreak 
    recommend to use commands from package 'metalogo' instead}%
  \setlogokern{Te}{#1}\%
  \setlogokern{eT}{#1}\%
  \setlogokern{eX}{#2}\%
  \setlogokern{Xe}{#2}\%
  \setlogodrop{#3}\%
  \setlogokern{La}{#4}\%
  \setlogokern{aT}{#5}\%
  \setlogokern{eL}{#6}}

4 Subscript and superscript

These commands are either defined to create fake or real sub-/super-scripts if they are starred or not, respectively. This swaps if the [no-sscript] package option is in effect. Text subscripts:

\textsubscript
\textsubscript*
\textsuperscript
\textsuperscript*
5 Assorted commands

Assorted commands

\textfractop#1: Numerator
\textfractop#2: Denominator

No error checking is done to ensure that the font actually has the necessary features. Requires the xunicode package for \textfractop{solidus}.

\ExplSyntaxOn
\newcommand*\vfrac[2]{
  \fontspec_if_fontspec_font:TF
  {
    \fontspec_if_opentype:TF
    {
      \addfontfeature{VerticalPosition=Numerator}#1
      \textfractop
      \addfontfeature{VerticalPosition=Denominator}#2
    }
  }
  {
    \addfontfeature{VerticalPosition=Superior}#1
    \textfractop
    \addfontfeature{VerticalPosition=Inferior}#2
  }
}
\ExplSyntaxOff

\namedglyph

\namedglyph #1: Name of the font glyph to be typeset
\newcommand\namedglyph[1]{
  \@tempcnta=\XeTeXglyphindex "#1"\relax
  \ifnum\@tempcnta>0
    \XeTeXglyph\@tempcnta
  \else
    \xxt@namedglyph@fallback{#1}
  \fi
}
\xxt@namedglyph@fallback

Redefine this macro to change how glyph names that aren’t found get typeset.

\newcommand\xxt@namedglyph@fallback[1][#1]

\showhyphens

This macro is entirely due to Jonathan Kew. I wish I knew how to write these sorts of things.

\newbox\xxt@tempbox
\def\showhyphens#1{%
   \typeout{^^J***********************
   \string\showhyphens:
   ***********************}
   \@for\@ii:=#1\do{\xxt@showhyphens{\@ii}}%
   \typeout{^^J***********************%
   ***********************^^J}}%
\def\xxt@showhyphens#1{%
   \setbox\@tempboxa=\vbox{%
      \hsize1sp
      \hbadness10000
      \hfuzz\maxdimen
      \everypar={}
      \leftskip\z@\rightskip\leftskip
      \pretolerance\m@ne\nointent\hskip\z@ #1\par
      \global\setbox\xxt@tempboxa=\hbox{\xxt@sh@cat}%
   }
   \setbox\@tempboxa=\hbox to \maxdimen{\unhbox\xxt@tempboxa}%
   \def\xxt@sh@cat{\unskip\unpenalty
   \setbox\@tempboxa=\lastbox
   \unless\ifvoid\@tempboxa
   \global\setbox\xxt@tempboxa=\hbox{%
      \unhbox\@tempboxa
      \unskip
      \unhbox\xxt@tempboxa}%
   \expandafter\xxt@sh@cat
   \fi}