

The `realscripts` package

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1 Introduction

OpenType fonts provide the possibility of using specially-drawn glyphs for subscript and superscript text. \LaTeX by default simply uses a smaller font size, which is acceptable if the font has optical sizes. Most fonts don't, however.

If you are using the `fontspec` package¹ to select OpenType fonts (or other sorts of fonts with the necessary font features), then loading this package will provide versions of the `\textsuperscript` and `\textsubscript` commands that take advantage of the OpenType font features.

2 Technical details

Starred versions of the original commands are provided (e.g., `\textsubscript*`) for cases where the new commands are not appropriate. The functionality of the starred and non-starred commands can also be accessed using the macros `\realsubscript`, `\realsuperscript`, `\fakesubscript`, and `\fakesuperscript`, in case another package (or you wish to) redefine the original `\text...` commands.

This package will also patch the default \LaTeX footnote mechanism to use `\textsuperscript` automatically. You may change the font used to typeset the footnote numbers (by default it is the `\normalfont`) by redefining `\footnotemarkfont`; e.g.:

```
\renewcommand\footnotemarkfont{\font switch}
```

and users of KOMA-Script may use instead

```
\setfkomafont{footnotelabel}{\font switch}
```

where `\font switch` is a command such as `\sffamily` or a `fontspec` font defined with `\newfontfamily`.

Beware of other packages, however, that change the footnote mechanism. (Usually by redefining `\makefnmark`. I can often work around or work with such packages to `realscripts` cooperates gracefully with them; please report any conflicts to me.

¹The `fontspec` package requires \XeTeX or \LuaTeX .

3 Examples

Here is an example using the ‘Skia’ font of Mac OS X: (surrounded by ‘A’ and ‘Z’ for visual context)

<code>\textsuperscript</code>	A abcdefghijklmnopqrstuvwxyz1234567890 Z
<code>\textsubscript</code>	A abcdefghijklmnopqrstuvwxyz1234567890 Z

The original definitions are available in starred versions of the commands: (compare this example to that above to see why using these features is often desirable)

<code>\textsuperscript*</code>	A abcdefghijklmnopqrstuvwxyz1234567890 Z
<code>\textsubscript*</code>	A abcdefghijklmnopqrstuvwxyz1234567890 Z

When the glyphs are not available the commands will fall back on the standard technique of scaling down the text font: (this is Mac OS X’s ‘Didot’)

<code>\textsuperscript</code>	A abcdefghijklmnopqrstuvwxyz1234567890 Z
<code>\textsubscript</code>	A abcdefghijklmnopqrstuvwxyz1234567890 Z

But beware fonts that contain the necessary font features but lack the full repertoire of glyphs: (this is ‘Adobe Jenson Pro’)

<code>\textsuperscript</code>	A abcdefghijklmnopqrstuvwxyz ¹²³⁴⁵⁶⁷⁸⁹⁰ Z
<code>\textsubscript</code>	A abcdefghijklmnopqrstuvwxyz ₁₂₃₄₅₆₇₈₉₀ Z

File I

Implementation of realscripts

This is the package implementation. If you're only interested in the footnote re-definition, skip ahead to Section 4 on page 4.

```
1 \RequirePackage{fontspec}[2010/05/14 v2.0]
2 \ExplSyntaxOn

\fake subscript The old ('fake') methods. Because \textsubscript is not defined in LATEX 2ε,
\fake superscript we either define it from scratch along with \textsuperscript (for consistency),
or if it's already defined just use whatever definition is currently active (e.g., if
fixltx2e is loaded).

3 \cs_if_exist:NTF \textsubscript
4 {
5   \cs_set_eq:NN \fake subscript \textsubscript
6   \cs_set_eq:NN \fake superscript \textsuperscript
7 }
8 {
9   \DeclareDocumentCommand \fake subscript {m} {
10     \@textsubscript{\selectfont#1}
11   }
12   \DeclareDocumentCommand \fake superscript {m} {
13     \@textsuperscript{\selectfont#1}
14   }
15 }

\textsubscript These commands are either defined to create fake or real sub-/super-scripts if they
\textsubscript* are starred or not, respectively.
\textsuperscript
\textsuperscript*

16 \DeclareDocumentCommand \textsubscript {s} {
17   \IfBooleanTF #1 \fake subscript \real subscript
18 }
19 \DeclareDocumentCommand \textsuperscript {s} {
20   \IfBooleanTF #1 \fake superscript \real superscript
21 }

\real subscript The new subscript command to use rich font features if possible.

22 \DeclareDocumentCommand \real subscript {m} {
23   \fontspec_if_fontspec_font:TF {
24     \fontspec_if_opentype:TF
25     { \fontspec_if_feature:nTF {+subs}
26       { {\addfontfeature{VerticalPosition=Inferior}#1} }
27     }
28   }
29 }
```

```

27      { \fontspec_if_feature:nTF {+sinf}
28        { {\addfontfeature{VerticalPosition=ScientificInferior}#1} }
29        { \fakesubscript{#1} }
30      }
31    }

```

ATSUI fonts:

```

32    { \fontspec_if_aat_feature:nnTF {10} {2}
33      { {\addfontfeature{VerticalPosition=Inferior}#1} }
34      { \fakesubscript{#1} }
35    }
36  }

```

Non-fontspec fonts:

```

37    { \fakesubscript{#1} }
38  }

```

`\realsuperscript` The new superscript command to use rich font features if possible.

```

39 \DeclareDocumentCommand \realsuperscript {m} {
40   \fontspec_if_fontspec_font:TF
41   {

```

OpenType fonts:

```

42     \fontspec_if_opentype:TF
43     { \fontspec_if_feature:nTF {+sup}
44       { {\addfontfeature{VerticalPosition=Superior}#1} }
45       { \fakesuperscript{#1} }
46     }

```

ATSUI fonts:

```

47     { \fontspec_if_aat_feature:nnTF {10} {1}
48       { {\addfontfeature{VerticalPosition=Superior}#1} }
49       { \fakesuperscript{#1} }
50     }
51   }

```

Non-fontspec fonts:

```

52     { \fakesuperscript{#1} }
53   }

```

4 Patching footnotes

`\@makefnmark` This is the command used to typeset the ‘footnote mark’. Feel free to redefine it as necessary for your own purposes.

```

54 \cs_set:Npn \@makefnmark {
55   \mbox{\footnotemarkfont\textsuperscript{\@thefnmark}}
56 }

```

We define a `\footnotemarkfont` that is used to style the number used for the footnote, which by default is simply `\normalfont` (following $\text{\LaTeX}2_\epsilon$'s default). If `KOMA-Script` is being used, we use their hook for the footnotemark font instead.

```
57 \cs_if_exist:NTF \ftntm@font
58 {
59   \cs_new:Npn \footnotemarkfont {\ftntm@font}
60 }
61 {
62   \cs_new:Npn \footnotemarkfont {\normalfont}
63 }
```

Fin.