LaTeX

A LaTeX Tour, part 3: mfnfss, psnfss and babel*

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1 Introduction

This third installment of my tour covers three more distributions that are supported via the standard LaTeX bug report mechanism described in Part 1. The mfnfss distribution provides LaTeX support for some popular Metafont produced fonts, that do not otherwise have any LaTeX interface. The psnfss distribution consists of LaTeX packages giving access to PostScript fonts. The third distribution in this part of the tour is babel, which provides LaTeX with multi-lingual capabilities.

2 The Mfnfss Distribution

The mfnfss distribution is something of a 'collecting point' for files in the distribution that have not got anywhere else to go.

2.1 Font Packages

These packages provide LaTeX interfaces to some publicly available fonts. They do *not* provide the fonts themselves, which are available from the `fonts` tree in the standard CTAN archives.

`pandora` The 'Pandora' family of fonts designed by Nazneen N. Billawala is an alternative to the standard 'Computer Modern' fonts of Knuth. The family consists of a full range of text fonts, including sans-serif and slanted.

`oldgerm` The old German fonts designed by Yannis Haralambous. There are three styles of text font, Schwabacher, Fraktur and Gothic. (The terms 'Fraktur' and 'Gothic' tend to be used interchangeably by English speaking mathematicians such as the present author, but the fonts in this collection have clearly distinguishable styles.)

There is also a font of 'initials', highly ornate uppercase letters, suitable for use as the first letter of a section. If you wish to use this in 'drop caps' style you may also want to use one of the contributed packages available on CTAN such as drop, or dropping, that automate the setting of a suitable paragraph shape and inserting the initial letter at the correct size.[1]

2.2 T1 Encoded 'Concrete' Fonts

Note: The following two files require the old release 1.1 of the dc fonts. Walter Schmidt very recently (March 1997) released a test version of a set of 'Concrete' fonts based on the new ec font base. The LaTeX support for these new fonts is available from `macros/latex/contrib/supported/ccfonts`. Once this release is stable, the following files will probably be removed from the mfnfss distribution.

`dccr.mf` Metafont source file used by the output files from `dccrstd.tex` to generate Concrete Roman fonts in T1 encoding.

`dccrstd.tex` TeX file used in the generation of Concrete Roman fonts in T1 encoding. It will produce a number of `.mf` files corresponding to Concrete Roman fonts in different sizes. By modifying the table inside this file further Metafont driver files can be generated. The `.fd` files for the Concrete Roman fonts can be produced with `cmextra.ins` which is part of the LaTeX base distribution.

3 The Psnfss Distribution

With the release of LaTeX 2_ε, LaTeX gained inbuilt support for the use of alternative font families in documents, and in particular for the use of scalable font formats such as Type 1 (PostScript) or TrueType.

The collection of packages, coordinated by Sebastian Rahtz, known as psnfss offers convenient interfaces to most of the more common font sets.

Most of the files here relate to font files renamed to a consistent naming scheme, promoted and maintained by Karl Berry. This encodes the font vendor, and details of the font such as its weight, style and encoding into a compact name that usually fits in the eight letter filenames used by some common filesystems. More information about the font naming scheme can be found on CTAN in `info/fontname`. It should be noted however that the packages themselves, such as the times package, do *not* depend on any particular font naming convention. LaTeX isolates packages from the details of the external font files by the use of '`fd`' (Font Descriptor) files which map the LaTeX 'NFSS' model of fonts to the external font metric files.

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* Przedruk z TUGboat, 1997 #1. DziŚkujemy autorowi i redakcji za zgodŚ na publikacjŚ (*Red.*).

[1] The `fd` files provided here load the original `yinit` font. The CTAN archives also contain '`yinitas`', a modified version of this font.

In principle, there is no real need for packages to load text fonts into LaTeX. For example, once the font metrics and font descriptor files for Times Roman (which is ptm in the Karl Berry Naming Scheme) are installed, then one could in principle switch to Times Roman in a LaTeX document by simply specifying `\fontfamily{ptm}\selectfont`. Normally one would instead want to assign the new font to one of the 'default' LaTeX families, Roman, as used by `\rmfamily`, Sans Serif (`\sffamily`) and Typewriter or Monospace (`\ttfamily`).

The support for PostScript fonts is split into two. The CTAN `fonts/psfonts` area contains material that is mainly automatically generated from the Adobe font metric files that are distributed with all Type 1 fonts. This includes the font metrics themselves, the Font Descriptor files, the 'map' files used to make fonts known to the dvips driver, and some basic packages to declare single fonts to LaTeX. This is supplemented in `macros/latex/packages/psnfss` by the 'hand written' packages of the psnfss collection that load popular *combinations* of font families, or deal with mathematics.

This section refers at various points to PostScript or Type 1 fonts, but in fact the TeX support for these fonts applies equally well to True Type, or other scalable formats. As long as TeX has access to the font metrics, the font format does not matter (to TeX; it matters to the driver you use to print the DVI file).

3.1 Psfonts

The CTAN psfonts area primarily contains the font metric and LaTeX font descriptor files, organised by font vendor, as outlined below. The basic format of the file structure is the same for each font family, so only the top level directories are given here, except for the Adobe Times family, which is further expanded as an example.

3.1.1 Font Vendors

The font subdirectories of `fonts/psfonts` are:

- `adobe` Fonts sold by Adobe, or built into PostScript devices.
- `bh` Fonts designed by Bigelow and Holmes, these are mainly sold through Y&Y.
- `bitstrea` Bitstream fonts.
- `monotype` Monotype fonts.
- `textures` Textures Fonts for the Blue Sky Research Macintosh TeX implementation.
- `urw` Fonts distributed by URW.
- `xadobe` Adobe 'expert' font sets.
- `xmonotype` Monotype 'expert' font sets.

Each of the vendor directories contains subdirectories corresponding to the font families supported by the psfonts distribution. (Using the tools provided one can generate TeX support files for most other text fonts, the selection here is really just a set of examples.)

The subdirectories of the adobe directory are:

- `agaramon` Adobe's rendition of a Garamond serif Roman family. (Commercial.)
- `avantgar` Avant Garde sans serif (built into most PostScript devices).
- `baskervi` Baskerville, a commercially available serifed Roman family.
- `bembo` Bembo, a commercially available serifed Roman family.
- `bookman` Bookman (built into most PostScript devices).
- `centaur` Centaur, a commercially available serifed Roman family.
- `courier` Courier (built into all PostScript devices).
- `garamond` Garamond 3. Another Garamond serif Roman family. (Commercial.)
- `gillsans` Gill Sans, a commercially available sans serif family.
- `helvetic` Helvetica (built into all PostScript devices).
- `nbaskerv` ITC New Baskerville, another variant on the Baskerville theme. (Commercial.)
- `ncntrsbk` New Century Schoolbook (built into most PostScript devices).
- `optima` Optima, a commercially available sans serif family.
- `palatino` Palatino serifed Roman family (built into most PostScript devices).
- `symbol` Symbol (built into all PostScript devices).
- `times` Times Roman (built into all PostScript devices).
- `univers` Univers, a commercially available sans serif family.
- `utopia` Utopia, a commercially available serifed Roman family.
- `zapfchan` ITC Zapf Chancery. A script font built into most PostScript devices.
- `zapfding` ITC Zapf Dingbats. A symbol font built into most PostScript devices.

All the directories corresponding to a font family look essentially the same, each with the following subdirectories.

- `dvips` Contains the 'map' file for the dvips driver program. This file can be appended to `psfonts.map` or used via a configuration file to tell dvips where to find the specified fonts.

A suitable configuration file is included in the directory.

Other drivers will need similar information, but perhaps in a different format.

`tex` This directory contains the font descriptor files which must be placed in the input path for LaTeX, so that LaTeX has available the information about the available fonts. For some font families this directory would also contain a LaTeX package that assigns the fonts to one of the standard LaTeX font families, such as `\sffamily`. Some packages, such as times, are not distributed here as they would clash with the packages distributed as part of psnfss, as described below.

`tfm` The font metrics, in 'tfm' format. These files contain all the information about letter sizes, ligatures, and kerning that TeX needs to typeset text.

There are several files, as each font in the original family is made available in several encodings, the two main ones being the 'Classic' TeX encoding used by Computer Modern. This is known as OT1 in LaTeX, and as '7t' in the Karl Berry font naming scheme used here. Similarly the files with names ending in '8t' relate to fonts encoded to the eight bit 'Cork' encoding, known as T1 in LaTeX.

`vf` The virtual fonts. Most (but not all) drivers handle the re-encoding of the original fonts to the encodings that TeX expects by means of the virtual font mechanism. Some special fonts, such as Zapf Dingbats are not re-encoded, and so do not have a `vf` directory.

There is one very important thing to note about the above list. *There are no fonts!* Almost all of the `fonts/psfonts` area of CTAN is concerned with providing mechanisms for using fonts that you have obtained *elsewhere*. The fonts may be built in to your printer, or may be purchased separately. There are a few freely available Type 1 fonts. In such cases there will be an additional directory, `type1`, which contains the font files (normally in 'pfb' format).

3.1.2 Standard PostScript Fonts

In addition to the above directories, the psfonts area contains two zip files. If you need the files and have not got unzip (or pkunzip or winzip or…) then you can get a copy of unzip from the CTAN support area.

`lw35nfss` This zip archive expands to the subset of the `psfonts/adobe` tree that corresponds to the 'Standard 35' PostScript fonts as used in Adobe Laserwriter printers. If you are only interested in using fonts built into your printer, and not in using downloaded fonts, then just get this file rather than the large collection of metrics in `psfonts/adobe`.

`lw35pk` This zip archive contains bitmap fonts for the 'Standard PostScript fonts' in the usual PK format understood by most dvi drivers. This enables documents using Type 1 fonts to be previewed with dvi previewers that can not use outline font formats. (For example xdvi or the emtex drivers).

3.1.3 Tools and Extra Packages

There are a few remaining directories in psfonts.

`ts1` The LaTeX textcomp package and related utilities for accessing fonts in the 'text companion' encoding known as TS1 in LaTeX. These include the TC fonts that are distributed with the EC fonts, and suitably re-encoded fonts from the standard Type 1 font sets. This encoding contains many non alphabetic symbols that should match the current text font (rather than the math font). It includes currency symbols, superior digits, dagger signs, etc.

`mathcomp` A contributed package for using the text companion fonts in math mode.

`tools` The source for the scripts and utilities used for generating all these files.

3.2 Standard Psnfss Packages

By contrast to the packages and font descriptor files in the psfonts distribution, the psnfss distribution contains 'hand written' files. These are either used to set up popular *combinations* of the 'standard' fonts, or load alternative font sets for mathematics. Due to the nature of mathematics fonts, these latter packages are typically much more complicated internally than the one or two line packages that load text fonts. For the user, however, this complexity should not be apparent.

The first set of packages (all generated from the source file `psfonts.dtx`) load combinations of the Basic Adobe PostScript font set into LaTeX.

`times` As one might guess, this declares Times Roman as `\rmfamily`. For mainly historical reasons, this package also declares Helvetica as `\sffamily` and Courier as `\ttfamily`, so effectively ensuring that all text (but not mathematics) is set in the basic PostScript font set.

This is a convenience for the user who wants to replace all the text fonts by references to the basic Adobe fonts. It is an advantage to do this if you want to produce device independent and small PostScript documents for distribution. The disadvantage is that Times Roman, Helvetica and Courier, despite being the 'standard PostScript combination' look particularly horrible if placed next to each other at the same nominal size, as done by this package. Helvetica has a much larger 'x-height' (the height of the lower case letters) than Times Roman, so if sans serif and Roman text are mixed in-line, then the sans serif looks much too big. (This is not so much of a problem if the sans serif is only used for headings.) Courier is just too 'wide' when placed alongside Times Roman, which is a particularly compact font.

To partially compensate for these problems, the pslatex package (written by me, but currently distributed as a contributed package, not part of the core LaTeX distribution) is an alternative to the times package. It loads Helvetica scaled by 90% and loads Courier by way of a virtual font that condenses it by scaling the horizontal direction (only) by 85%. pslatex also contains a copy of the mathptm package (see below) so installs a Times-Italic based font set for use in mathematics.

`palatino` Declares Palatino as `\rmfamily`, and Helvetica and Courier as `\sffamily` and `\ttfamily`.

`helvet` Declares Helvetica as `\sffamily`. (Does not change the other families.)

`avant` Declares Avant Garde as `\sffamily`. (Does not change the other families.)

`newcent` Declares New Century Schoolbook as `\rmfamily`, Avant Garde as `\sffamily` and Courier as `\ttfamily`.

`bookman` Declares Bookman Roman as `\rmfamily`, Avant Garde as `\sffamily` and Courier as `\ttfamily`.

`chancery` Declares Zapf Chancery as `\rmfamily`.

The above packages only affect *text* fonts, not mathematics. `psfonts.dtx` contains one special package, written by Alan Jeffrey, which does affect the math setup.

`mathptm` This package uses a set of virtual files that use various built in or freely available fonts to make a set of fonts suitable for replacing the standard Computer Modern Math fonts. In the current release, bold fonts (and so the LaTeX `\boldmath` command) are not supported. The pslatex package referred to above contains an essentially verbatim copy of mathptm.

One may use mathptm as an example of the coding needed to make virtual fonts for mathematics based on other text italic fonts. How successful this will be depends to a certain extent how visually compatible are the symbols that are gathered from the various 'real' fonts that are used by the virtual math fonts. There are often good reasons for making such fonts (the main one being that documents using freely available fonts may be more easily placed on the Web in PostScript form), however the result is never likely to be as good as using fonts that have symbols that are *designed* to be visually compatible. For mathematics use within TeX, that currently restricts use to Computer Modern, or the commercial MathTime or Lucida Bright font sets described below.

The `psfonts.dtx` source file contains one other package:

`pifont` This declares the Zapf Dingbats font which contains an assorted mixture of symbols, and also defines new user level commands to access these symbols. See the package documentation, or *The LaTeX Companion* for details.

3.3 Freely Available Type 1 Text Fonts

The next set of packages are contributed by Peter Dyballa. In fact these are just one-line packages loading the appropriate font. Most of the code is in the `fd` files which are generated from the same source file.

`charter` Defines `\rmfamily` to use Bitstream Charter.

`nimbus` Declares URW Nimbus Roman-Regular and URW Nimbus Sans-Regular as `\rmfamily` and `\sffamily`. These are essentially free clones of Times Roman and Helvetica.

`utopia` Defines `\rmfamily` to use Adobe Utopia-Regular.

3.4 Commercial Text Fonts

The following packages are generated from the source file `adobe.dtx`. They are a rather random selection from the large catalogue of fonts sold by Adobe.

`garamond` Garamond as `\rmfamily`, Optima as `\sffamily` and Courier as `\ttfamily`.

`basker` Baskerville as `\rmfamily`.

`mtimes` Monotype[2] Times as `\rmfamily`.

`bembo` Bembo as `\rmfamily`, Optima as `\sffamily` and the ever popular Courier as `\ttfamily`.

3.5 Adobe Lucida

The following two packages relate to the original Lucida font set, designed by Bigelow and Holmes

[2] Not sure why this is generated from *adobe* source file.

and sold by Adobe. They are generated from the alucida.dtx source file.

lucid Declares Lucida Roman and Lucida Sans as the Roman and sans serif families, and Adobe Courier again as the monospaced font.

lucmath Lucida has a matching set of mathematics fonts suitable for TEX use. This package makes the required definitions to make these known to LATEX.

3.6 Lucida Bright

A newer and more extensive Lucida family, also designed by Bigelow and Holmes but in this case sold by Y&Y, is known as 'Lucida Bright' and 'Lucida New Math'. The LATEX support described here was written by Sebastian Rahtz and myself.

lucidabr.dtx This package (replacing the earlier lucidbrb and lucidbry packages) changes the LATEX defaults for both text and mathematics to use the Lucida Bright and Lucida New Math font collections. It has numerous options to control different aspects of the package and to control which of the fonts to use. (Lucida Bright contains several font families, including 'fax' and 'casual' etc, as well as variant forms of the math italic alphabet.)
The LATEX package and the font descriptor files for the math fonts are generated from this source file. The font descriptor files for the Lucida text fonts in the standard LATEX encodings are available from the psfonts area (in the bh) directory, after Bigelow and Holmes, the creators of these fonts.
The TEX support and font metrics are freely available, but the fonts themselves must be purchased separately.

lucidabr.ins LATEX installation file for Lucida Bright using the standardised 'Karl Berry' font names.

lucidabr.yy Alternative installation file. Use this instead of lucidabr.ins if you plan to install the fonts with their original font names, as sold by Y&Y. (In this case you do *not* need the fd files from the psfonts area.)

lucidabr.txt Introduction and installation guide for this package.

3.7 MathTime

The MathTime fonts are produced by Michael Spivak 'TEXplorators'. They are sold by Y&Y. The LATEX support was written by Frank Mittelbach and myself.

mathtime.dtx The mathtime package is mainly concerned with mathematics setup, although it selects Times, Helvetica and Courier as the text fonts if they have not already been set by another package. The MathTime mathematics fonts are specially designed to match Times Roman, but blend quite well with other text fonts that are of a similar weight. Computer Modern mathematics tends to look very 'light' if used with font families other than Computer Modern. The package has several options to control the font choices made.

mtfonts.fdd The source for the font descriptor files for MathTime mathematics fonts.

mathtime.ins Installation file. Note that this file may be edited in a couple of places depending on whether or not you have the extended 'MathTime Plus' font set which includes bold math support.

mathtime.txt Introduction and installation guide for this package.

3.8 Documentation and Other Files

readme.txt General introduction.

psnfss2e.tex User level documentation on the use of these packages.

test0.tex Testing accents and other encoding specific commands are working correctly using PostScript fonts.

test1.tex Test document that uses most of the 'Standard 35' fonts.

pitest.tex Test of the pifont package.

mathtest.tex Test of the mathptm package.

makefile Unix 'make' utility to automate installation of the packages.

allpspk Unix script that makes a test document using a specified font family and then uses dvips and its associated scripts to generate 'pk' versions of the fonts.

makepk Unix script that calls allpspk on some common fonts.

3.9 Psnfssx

Recently the psnfss collection has aquired a close cousin, psnfssx, distributed as a contributed package from macros/latex/contrib/supported/psnfssx. This contains some lesser used or nonstandard packages, related to PostScript support. Of particular interest might be the ly1 files (contributed by myself) in that directory which provide the LATEX support for the 'texnansi' encoding promoted by Y&Y by way of an LY1 option to the fontinst package.

This psnfssx collection also contains some obsolete versions of packages formerly in psnfss; this material is provided for historical interest only. Use at own risk!

4 The Babel Distribution

The babel package is distributed from latex/packages/babel and is supported via the LaTeX bug reporting address, but has origins predating the current LaTeX release. As well as supporting LaTeX it contains support for plain TeX (and formats such as AMSTeX or eplain that are based on plain). Primarily babel is the work of Johannes Braams, with contributions for specific language files by numerous people.

Babel consists of a 'kernel' that extends LaTeX with a mechanism for switching between specified languages. Part of this kernel (related to hyphenation) must be loaded when the LaTeX format is made to get the full benefit of hyphenation tables for multiple languages. For each language, or related group of languages, supported by babel there exists a language-specific code file. This will offer translations of the fixed text strings used in the standard LaTeX classes, such as 'Table of Contents', 'Figure', etc., and may also offer language-specific 'shorthands' that make typing common constructs easier (for example the german option provides the construct '"ff' to produce 'ff' that would hyphenate to 'ff-f' if it fell at the end of a line). The language file may also modify the typesetting to support the normal conventions of that language. For example the french option modifies the spacing around punctuation marks in text.

4.1 Babel Kernel

`babel.sty` The main interface to babel. The user specifies all languages to be used in a document as options to this package, the last option specified is the default language for the document. So for example

```
\usepackage[french,german]{babel}
```

would enable the use of French and German conventions within the document, with the default language being German.

`hyphen.cfg` The standard LaTeX interface to hyphenation. When the LaTeX format is being made, this file is input if it exists, to setup the required hyphenation patterns. In the base LaTeX distribution there is no such file, and so a default action is taken which loads the original TeX patterns for American English. The babel distribution provides this configuration file (generated from `babel.dtx`) which defines some core functionality, and then reads `language.dat` to specify which hyphenation files to load.

`language.dat` This file must be edited to specify which language hyphenation files to load, and the name of the external file which contains the hyphenation table for each such language (and optionally a second external file, typically containing hypenation exceptions). Note that hyphenation files *must* be specified here, and so loaded when the format is made. This is a restriction of the underlying TeX system. Documents using other languages not specified here may still be processed, and babel will translate any fixed text strings, but it will not be able to correctly hyphenate that language. A default hyphenation will be used (most likely English).

`switch.def` This file is also generated from the same `babel.dtx` source. If babel is used as a package but was not used when the format was made, then the core functionality normally provided by `hyphen.cfg` will not be present. The package will detect this, and so input this file to provide the necessary definitions.

4.2 Language-Specific Files

The implementation of the language-specific code for each language within babel is contained in files with extension '`.ldf`' (language definition files). These are not directly input by the user, but specified as options to the babel package. Normally the option name is the same as the file name, except where noted below. Some similar languages or dialects are supported by the same external file, and some options are available in more than one name; such aliases are noted in parentheses in the list below.

Most languages also have a file with extension `.sty`; however this is just offered for compatibility with older versions of Babel and of LaTeX, or for use with plain TeX based formats. In normal LaTeX usage only the `.ldf` file is used.

`bahasa` Support for the Bahasa language.

`basque` Support for the Basque language.[3]

`breton` Support for the Breton language.

`catalan` Support for the Catalan language.

`croatian` Support for the Croatian language.

`czech` Support for the Czech language.

`danish` Support for the Danish language.

`dutch` The dutch and afrikaans options.

`english` The american (USenglish) and british (UKenglish) options. The option english refers to either British or American English, depending on the local installation.

`esperant` The esperanto option.

[3] Not in the current release, planned for babel 3.7.

estonian Support for the Estonian language.

finnish Support for the Finnish language.

frenchb Support for the French language (the corresponding options are french (frenchb) or francais. If the french option is used then french.ldf will be used (from the GUTenburg french package) if it is available.

galician Support for the Galician language.

germanb The austrian and german (germanb) options.

kannada Support for the Indian language, Kannada.[3]

irish Support for the Irish Gaelic language.

italian Support for the Italian language.

lsorbian The lowersorbian option.

magyar The magyar (hungarian) options.

norsk Support for the Norwegian languages with options norsk, nynorsk.

polish Support for the Polish language.

portuges The brazil (brazilian) and portuges (portuguese) options.

romanian Support for the Romanian language.

sanskrit Support for the Sanskrit language, transliterated to latin script.[3]

scottish Support for the Scottish Gaelic language.

slovak Support for the Slovakian language.

slovene Support for the Slovenian language.

spanish Support for the Spanish language.

swedish Support for the Swedish language.

turkish Support for the Turkish language.

usorbian The uppersorbian option.

welsh Support for the Welsh language

Babel version 3.6 sees the welcome (re)introduction of support for non-latin scripts. It is probably fair to say that this support is still more experimental than the support for latin scripts. One problem, not directly under babel 'control', is that the TEX encodings for Greek and Cyrillic (corresponding to T1 for European Latin scripts) have not yet been finalised or agreed. Currently babel uses two 'locally defined' encodings, LWN and LGR.

greek The greek option, which utilises the 'kd' Greek fonts.

russianb The russian option, which utilises the 'LH' fonts.

ukranian Support for the Ukranian language.[3]

Two separate packages are currently in preparation which will be distributed, together with suitable fonts and hypenation tables, from CTAN. These will extend babel with options for the Ethiopian and Ukrainian languages.

4.3 Compatibility Files

The distribution contains the following two source files which generate files which enable the use of babel with formats based on plain TEX (and also the old LATEX 2.09 release).

bbcompat The source for compatibility mode files. Most languages are provided with a 'package' with extension .sty. This just inputs the corresponding language definition file and should never be needed using the normal LATEX interface.

bbplain The source for the plain.def file allowing the use of babel with plain TEX.

4.4 Installation Script and Font Descriptor Files

babel.ins Unpacks the babel distribution from the documented source files

cyrillic.fdd Font descriptor files for Cyrillic fonts in 'LCY' encoding.

greek.fdd Font descriptor files for Greek fonts in 'LGR' encoding.

4.5 Documentation

4.5.1 ASCII Text Files

00readme.txt The distribution guide.

install.txt How to install Babel.

install.mac How to install Babel with OZTEX.

CyrillicFonts.txt Further notes on the Cyrillic installation.

GreekFonts.txt Further notes on the Greek installation.

4.5.2 TEX Documents

tb1202 The source of the original article that appeared in TUGboat, Volume 12 (1991), No. 2.

tb1401 The source of an update article that appeared in in TUGboat, Volume 14 (1993), No. 1.

tb1604 The source of an update article that never appeared in TUGboat, but was presented at EuroTEX 1995, Arnhem.

4.6 Example File

language.skeleton An example file that can be used to build new language definition files from scratch.

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