The `hyph-utf8` package and hyphenation with TEX

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Abstract:
In 2008 all the existing hyphenation patterns from TEX distributions have been collected in a single package `hyph-utf8`, converted into UTF-8 encoding and adapted for use in different TEX engines. The patterns can be used directly by Unicode-aware engines such as LuaTEX and XETEX, and there is a mechanism to convert the patterns to the appropriate 8-bit encoding when used with pTEX, pdfTEX or Knuth's TEX.

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1 Using hyphenation patterns

1.1 Plain TEX

In engines that support ε-TEX you can select the desired hyphenation patterns with:

```
\uselanguage{langname}
```

where `langname` is the string identifying a particular hyphenation file in `language.def` (see Section 2).

1.2 LATEX

1.2.1 LATEX with Babel

You can switch the language in LATEX with:

```
\usepackage[languagename]{babel}
```

In 8-bit engines you also need to make sure that you load the proper font encoding which supports all the characters used in the language of your choice, for example:

```
\usepackage[T1]{fontenc}
```

N.B.: You can use Babel with any TEX engine, however it has never been properly adapted to work well with Unicode engines. If you are using XETEX it is advisable to use Polyglossia instead.

1.2.2 LATEX with Polyglossia

Polyglossia should be the preferred choice when using XeLATEX. It doesn't support LuaLATEX yet, but it is planned to extend it in future.

```
\usepackage{polyglossia}
\setmainlanguage[optional settings]{langname}
\setotherlanguages{otherlangname}

\begin[optional settings]{otherlangname} ... \end{otherlangname}
```

See Polyglossia manual for extensive list of options.

1.2.3 Low-level commands

Since Babel's `hyphen.cfg` is built into the LATEX format, hyphenation patterns can be used without even loading Babel or Polyglossia. At the low-level this simply corresponds to defining

```
\language=\l@<langname>
```

The user command is supposed to be

```
\hyphenrules{langname}
```

or

```
\begin{hyphenrules}{langname} ... \end{hyphenrules}.
```

and *should* work with any flavour of LaTeX, however we couldn't make it work.

1.3 ConTeXt

ConTeXt doesn't load patterns for all the language that `hyph-utf8` provides. If you miss any language, please contact the mailing list. The general syntax for supported languages is the following:

```
% language of the main document
\mainlanguage[language]

% to switch to another language locally
{\language[otherlanguage] language of some short fragment}
```

You can use full language name or the two-letter language code.

1.3.1 ConTeXt MkII

When using ConTeXt MkII the EC/T1 font encoding is used by default already, but you might need to change the encoding when using Polish, languages written in Cyrillic scripts, etc. For example:

```
\usetypescript[iwona][qx]
\setupbodyfont[iwona]
\mainlanguage[polish]
```

ConTeXt loads hyphenation patterns in several encodings. The Czech or Slovak patterns can be used with both EC and IL2 font encoding for example. The right hyphenation patterns will be chosen based on current font encoding.

1.4 Some advanced examples

1.4.1 Example for Polyglossia

```
\usepackage{polyglossia}
% the language used for main document
\setmainlanguage{asturian}
% American English with extended hyphenation patterns
\setotherlanguage[variant=usmax]{english}
% German with experimental patterns "ngerman-x-latest"
\setotherlanguage[spelling=new,latesthyphen=true]{german}
\setotherlanguages{spanish,catalan,french}

\begin{document}

Long Asturian text ... (Hyphenation for Asturian is not available,
but polyglossia automatically falls back on Catalan for now,
which seems to be a reasonable choice.)

\begin{german}
Deutscher Text ... (with the hyphenation patterns selected above:
"ngerman-x-latest")
\end{german}

\begin[script=fraktur,spelling=old]{german}
Deutſcher Text ... (set in Fraktur, with traditional hyphenation).
\end{german}

\end{document}
```

2 List of supported languages

English		
-	**english**	usenglish, USenglish, american
en-us	usenglishmax	
en-gb	ukenglish	british, UKenglish
Afrikaans		
af	afrikaans	
Ancientgreek		
grc	ancientgreek	
grc-x-ibycus	ibycus	
Arabic		
ar	arabic	
Armenian		
hy	armenian	
Assamese		
as	assamese	
Basque		
eu	basque	
Belarusian		
be	belarusian	
Bengali		
bn	bengali	
Bulgarian		
bg	bulgarian	
Catalan		
ca	catalan	
Chinese		
zh-latn-pinyin	pinyin	
Church Slavonic		
cu	churchslavonic	
Coptic		
cop	coptic	
Croatian		
hr	croatian	
Czech		
cs	czech	
Danish		
da	danish	
Dutch		
nl	dutch	
Esperanto		
eo	esperanto	
Estonian		
et	estonian	
Ethiopic		
mul-ethi	ethiopic	amharic, geez
Farsi		
fa	farsi	persian
Finnish		
fi	finnish	
French		
fr	french	patois, francais
Friulan		
fur	friulan	
Galician		
gl	galician	
Georgian		
ka	georgian	
German		
de-1901	german	
de-1996	ngerman	
de-ch-1901	swissgerman	
Greek		
el-monoton	monogreek	
el-polyton	greek	polygreek
Gujarati		
gu	gujarati	
Hindi		
hi	hindi	
Hungarian		
hu	hungarian	
Icelandic		
is	icelandic	
Indonesian		
id	indonesian	
Interlingua		
ia	interlingua	
Irish		
ga	irish	
Italian		
it	italian	
Kannada		
kn	kannada	
Kurmanji		
kmr	kurmanji	
Latin		
la	latin	
la-x-classic	classiclatin	
la-x-liturgic	liturgicallatin	
Latvian		
lv	latvian	
Lithuanian		
lt	lithuanian	
Malayalam		
ml	malayalam	

Marathi		
mr	marathi	
Mongolian		
mn-cyrl	mongolian	
mn-cyrl-x-lmc	mongolianlmc	
Norwegian		
nb	bokmal	norwegian, norsk
nn	nynorsk	
Occitan		
oc	occitan	
Oriya		
or	oriya	
Panjabi		
pa	panjabi	
Polish		
pl	polish	
Piedmontese		
pms	piedmontese	
Portuguese		
pt	portuguese	portuges
Romanian		
ro	romanian	
Romansh		
rm	romansh	
Russian		
ru	russian	
Sanskrit		
sa	sanskrit	
Serbian		
sr-latn	serbian	
sr-cyrl	serbianc	
Slovak		
sk	slovak	
Slovenian		
sl	slovenian	slovene
Spanish		
es	spanish	espanol
Swedish		
sv	swedish	
Tamil		
ta	tamil	
Telugu		
te	telugu	
Thai		
th	thai	
Turkish		
tr	turkish	
Turkmen		
tk	turkmen	
Ukrainian		
uk	ukrainian	
Uppersorbian		
hsb	uppersorbian	
Welsh		
cy	welsh	

Babel defines a few more synonyms (which consequently only work in LaTeX):

english	canadian
british	australian, newzealand
german	austrian
ngerman	naustrian
portuguese	brazilian, brazil