

Babel support for the German language (new orthography)

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Abstract

This manual documents the babel language definition file `ngermanb.ldf` for German (new orthography). The file is part of the babel-german bundle.

1 Aim and usage

The file `ngermanb.ldf` provides the babel package with all language definition macros (language specific strings and settings) for the German language, including the Austrian and Swiss varieties of German. Furthermore, it assures that the correct hyphenation patterns for the respective language or variety are used.¹ The file adheres to the reformed (1996 ff.) orthography. For traditional (1901–1996) German orthography support, please refer to the complementary `germanb.ldf` file.

In order to use the language definitions provided here, you need to use the babel package and pass the respective language name as an option, either of

- `\usepackage[ngerman]{babel}`
- `\usepackage[naustrian]{babel}`
- `\usepackage[nswissgerman]{babel}`

Please consult the babel manual [2] for details.

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¹The file `ngermanb.ldf` started as a re-implementation of the package `ngerman.sty` by Bernd Raichle (cf. [4]), which itself builds on `german.sty`, originally developed by Hubert Partl (cf. [3]) and later maintained by Bernd Raichle as well. The re-implementation was done by Johannes Braams.

2 Shorthands

For all three varieties of German, the character " is made active in order to provide some shorthand macros. The shorthands provide access to some frequently used special characters as well as some further possibilities to control hyphenation, to break lines and to deal with ligatures. Table 1 provides an overview of the shorthands that are provided by `ngermanb.ldf`.

"a	umlaut ä (shorthand for \ "a). Similar shorthands are available for all other lower- and uppercase vowels (umlauts: "a, "o, "u, "A, "O, "U, as well as tremata: "e, "i, "E, "I).
"s	German ß (shorthand for \ss{ }).
"z	German ß (shorthand for \ss{ }).
"S	SS (\uppercase{ "s}, since ß must be written as SS in uppercase writing).
"Z	SZ (\uppercase{ "z}). An alternative to "S common in traditional spelling, where ß could also be written as SZ instead of SS in uppercase writing. Note that, with reformed orthography, the SZ variant has been deprecated in favour of SS only.
"	disable ligature at this position (e.g. Auf" lage).
"-	an additional breakpoint that does still allow for hyphenation at the breakpoints preset in the hyphenation patterns (as opposed to \-).
" "	a breakpoint that does not output a hyphen sign if the line break is performed (useful for compound words with hyphen, e.g. (Un-) ""Sinn).
"~	a compound word mark without a breakpoint. Useful for cases such as bergauf und "~ab.
"=	a compound word mark with a breakpoint, allowing for hyphenation at the other points preset in the hyphenation patterns (as opposed to plain -).
"‘	German left double quotes (i.e. „).
"’	German right double quotes (i.e. “).
"<	French/Swiss left double quotes (i.e. «).
">	French/Swiss right double quotes (i.e. »).

Table 1: The extra definitions made by `ngermanb.ldf`

Table 2 lists some macros for quotation marks that might be used as an alternative to the quotation mark shorthands provided by `ngermanb.ldf`.

<code>\glqq</code>	German left double quotes (i. e. „).
<code>\grqq</code>	German right double quotes (i. e. “).
<code>\glq</code>	German left single quotes (i. e. ,).
<code>\grq</code>	German right single quotes (i. e. ‘).
<code>\flqq</code>	French/Swiss left double quotes (i. e. «).
<code>\frqq</code>	French/Swiss right double quotes (i. e. »).
<code>\flq</code>	French/Swiss left single quotes (i. e. <).
<code>\frq</code>	French/Swiss right single quotes (i. e. >).
<code>\dq</code>	the original quotation mark character (i. e. ").

Table 2: Alternative commands for quotation marks (provided by babel)

3 Implementation

3.1 General settings

If `ngermanb.ldf` is read via the babel option `ngermanb`, we make it behave as if `ngerman` was specified.

```

1 \def\bbl@tempa{ngermanb}
2 \ifx\CurrentOption\bbl@tempa
3   \def\CurrentOption{ngerman}
4 \fi

```

The macro `\LdfInit` takes care of preventing that this file is loaded more than once, checking the category code of the @ sign, etc.

```

5 \LdfInit\CurrentOption{captions\CurrentOption}

```

If `ngermanb.ldf` is read as an option, i.e., by the `\usepackage` command, `ngerman` will be an ‘unknown’ language, so we have to make it known. We check for the existence of `\l@ngerman` to see whether we have to do something here.

```

6 \ifx\l@ngerman\@undefined
7   \@nopatterns{ngerman}
8   \adddialect\l@ngerman0
9 \fi

```

We set `naustrian` and `nswissgerman` as dialects of `ngerman`, since they use the same hyphenation patterns than `ngerman`.

```

10 \adddialect\l@naustrian\l@ngerman
11 \adddialect\l@nswissgerman\l@ngerman

```

3.2 Language-specific strings (captions)

The next step consists of defining macros that provide language specific strings and settings.

`\captionsgerman` The macro `\captionsgerman` defines all strings used in the four standard document classes provided with L^AT_EX for German.

```

12 \@namedef{captionsgerman}{%
13   \def\prefacename{Vorwort}%
14   \def\refname{Literatur}%
15   \def\abstractname{Zusammenfassung}%
16   \def\bibname{Literaturverzeichnis}%
17   \def\chaptername{Kapitel}%
18   \def\appendixname{Anhang}%
19   \def\contentsname{Inhaltsverzeichnis}%    % oder nur: Inhalt
20   \def\listfigurename{Abbildungsverzeichnis}%
21   \def\listtablename{Tabellenverzeichnis}%
22   \def\indexname{Index}%
23   \def\figurename{Abbildung}%
24   \def\tablename{Tabelle}%                % oder: Tafel
25   \def\partname{Teil}%
26   \def\enclname{Anlage(n)}%
27   \def\ccname{Verteiler}%                % oder: Kopien an
28   \def\headtoname{An}%
29   \def\pagename{Seite}%
30   \def\seename{siehe}%
31   \def\alsoname{siehe auch}%
32   \def\proofname{Beweis}%
33   \def\glossaryname{Glossar}%
34 }

```

`\captionснаustrian` The macro `\captionснаustrian` builds on `\captionsgerman`, but redefines some strings following Austrian conventions (for the respective variants, cf. [1]).

```

35 \@namedef{captionснаustrian}{%
36   \@nameuse{captionsgerman}
37   \def\enclname{Beilage(n)}%
38 }

```

`\captionсnswissgerman` The macro `\captionсnswissgerman` builds on `\captionsgerman`, but redefines some strings following Swiss conventions (for the respective variants, cf. [1]).

```

39 \@namedef{captionсnswissgerman}{%
40   \@nameuse{captionsgerman}
41   \def\enclname{Beilage(n)}%
42 }

```

3.3 Date localizations

`\datengerman` The macro `\datengerman` redefines the command `\today` to produce German dates.

```

43 \def\month@ngerman{\ifcase\month\or
44   Januar\or Februar\or M\arz\or April\or Mai\or Juni\or
45   Juli\or August\or September\or Oktober\or November\or Dezember\fi}
46 \def\datengerman{\def\today{\number\day.\simonth@ngerman
47   \space\number\year}}

```

`\datenswissgerman` The macro `\datenswissgerman` does the same for Swiss German dates. The result is identical to German.

```

48 \def\datenswissgerman{\def\today{\number\day.\simonth@ngerman
49   \space\number\year}}

```

`\datenaustrian` The macro `\datenaustrian` redefines the command `\today` to produce Austrian versions of the German dates. Here, the naming of January („Jänner“) differs from the other German varieties.

```

50 \def\datenaustrian{\def\today{\number\day.\simonth
51   J\"anner\else \month@ngerman\fi \space\number\year}}

```

3.4 Extras

`\extrasngerman` The macros `\extrasngerman`, `\extrasnaustrian` and `\extrasnswissgerman`, respectively, will perform all the extra definitions needed for the German language or the respective variety. The macro `\noextrasngerman` is used to cancel the actions of `\extrasngerman`. `\noextrasnaustrian` and `\noextrasnswissgerman` behave analogously.

For all German varieties, the character " is made active. This is done once, later on its definition may vary.

```

52 \initiate@active@char{"}
53 \@namedef{extras\CurrentOption}{%
54   \languageshorthands{ngerman}}
55 \expandafter\addto\csname extras\CurrentOption\endcsname{%
56   \bbl@activate{"}}

```

Turn the shorthands off again outside of German.

```

57 \expandafter\addto\csname noextras\CurrentOption\endcsname{%
58   \bbl@deactivate{"}}

```

In order for \TeX to be able to hyphenate German words which contain ‘ß’ (in the OT1 position ^Y) we have to give the character a nonzero `\lccode` (see Appendix H, the \TeX book).

```

59 \expandafter\addto\csname extras\CurrentOption\endcsname{%
60   \babel@savevariable{\lccode25}%
61   \lccode25=25}

```

The umlaut accent macro `\` is changed to lower the umlaut dots. The redefinition is done with the help of `\umlautlow`.

```

62 \expandafter\addto\csname extras\CurrentOption\endcsname{%
63   \babel@save\"umlautlow}

```

```

64 \expandafter\addto\csname noextras\CurrentOption\endcsname{%
65   \umlauthigh}

```

The current version of the ‘new’ German hyphenation patterns (dehyphn.tex) is to be used with \lefthyphenmin and \righthyphenmin set to 2.

```

66 \providehyphenmins{\CurrentOption}{\tw@\tw@}

```

For German texts we need to assure that \frenchspacing is turned on.

```

67 \expandafter\addto\csname extras\CurrentOption\endcsname{%
68   \bbl@frenchspacing}
69 \expandafter\addto\csname noextras\CurrentOption\endcsname{%
70   \bbl@nonfrenchspacing}

```

3.5 Active characters, macros & shorthands

The following code is necessary because we need an extra active character. This character is then used as indicated in table 1.

In order to be able to define the function of ", we first define a couple of ‘support’ macros.

\dq We save the original double quotation mark character in \dq to keep it available, the math accent \" can now be typed as \".

```

71 \begingroup \catcode\"12
72 \def\x{\endgroup
73   \def\@SS{\mathchar"7019 }
74   \def\dq{"}}
75 \x

```

Now we can define the doublequote shorthands: the umlauts,

```

76 \declare@shorthand{ngerman}{a}{\textormath{"a}\allowhyphens}{\ddot a}}
77 \declare@shorthand{ngerman}{o}{\textormath{"o}\allowhyphens}{\ddot o}}
78 \declare@shorthand{ngerman}{u}{\textormath{"u}\allowhyphens}{\ddot u}}
79 \declare@shorthand{ngerman}{A}{\textormath{"A}\allowhyphens}{\ddot A}}
80 \declare@shorthand{ngerman}{O}{\textormath{"O}\allowhyphens}{\ddot O}}
81 \declare@shorthand{ngerman}{U}{\textormath{"U}\allowhyphens}{\ddot U}}

```

tremata,

```

82 \declare@shorthand{ngerman}{e}{\textormath{"e}{\ddot e}}
83 \declare@shorthand{ngerman}{E}{\textormath{"E}{\ddot E}}
84 \declare@shorthand{ngerman}{i}{\textormath{"i}{\ddot i}}%
85   {\ddot \imath}}
86 \declare@shorthand{ngerman}{I}{\textormath{"I}{\ddot I}}

```

German ß,

```

87 \declare@shorthand{ngerman}{s}{\textormath{\ss}{\@SS{}}}
88 \declare@shorthand{ngerman}{S}{\SS}
89 \declare@shorthand{ngerman}{z}{\textormath{\ss}{\@SS{}}}
90 \declare@shorthand{ngerman}{Z}{\SZ}

```

German and French/Swiss quotation marks,

```
91 \declare@shorthand{\ngerman}{" '}{\glqq}
92 \declare@shorthand{\ngerman}{" '}{\grqq}
93 \declare@shorthand{\ngerman}{"<}{\flqq}
94 \declare@shorthand{\ngerman}{">}{\frqq}
```

and some additional commands (hyphenation and ligature control):

```
95 \declare@shorthand{\ngerman}{"-}{\nobreak\-\bbl@allowhyphens}
96 \declare@shorthand{\ngerman}{"|}{%
97   \textormath{\penalty\M\discretionary{-}{-}{\kern.03em}%
98     \allowhyphens}{}}
99 \declare@shorthand{\ngerman}{""}{\hskip\z@skip}
100 \declare@shorthand{\ngerman}{"\sim}{\textormath{\leavevmode\hbox{-}{-}{-}}}
101 \declare@shorthand{\ngerman}{"=}{\penalty\M-\hskip\z@skip}
```

\mdqon All that's left to do now is to define a couple of commands for reasons of
\mdqoff compatibility with `german.sty`.

```
102 \def\mdqon{\shorthandon{}}
103 \def\mdqoff{\shorthandoff{}}
```

The macro `\ldf@finish` takes care of looking for a configuration file, setting the main language to be switched on at `\begin{document}` and resetting the category code of `@` to its original value.

```
104 \ldf@finish\CurrentOption
```

3.6 `naustrian.ldf`, `ngerman.ldf` and `nswissgerman.ldf`

Babel expects a `<lang>.ldf` file for each `<lang>`. So we create portmanteau ldf files for `naustrian`, `ngerman` and `nswissgerman`.² These files themselves only load `ngermanb.ldf`, which does the real work:

```
105 \input ngermanb.ldf\relax
```

²For some `naustrian` and `ngerman`, this is not strictly necessary, since `babel` provides aliases for these languages (pointing to `ngermanb`). However, since `babel` does not officially support these aliases anymore after the language definition files have been separated from the core, we provide the whole range of ldf files for the sake of completeness.

Change History

ngermanb-2.6f	nswissgerman. 1
General: Renamed from germanb.ldf; language names changed from german and austrian to ngerman and naustrian. 1	Generate portmanteau files naustrian.ldf, ngerman.ldf and nswissgerman.ldf. 7
ngermanb-2.6j	Revised naustrian support. ... 1
\noextrasnswissgerman: Deacti- vate shorthands outside of Ger- man 5	Revised documentation: Turn the babel manual chapter into a self-enclosed manual. 1
ngermanb-2.6k	\captionsngerman: Changed \enclname in naustrian to <i>Beilage(n)</i> 4
\captionsngerman: Added \glossaryname 4	Split \captionsngerman from \captionsnaustrian and \captionsnswissgerman. 4
\noextrasnswissgerman: Now use \providehyphenmins to pro- vide a default value 6	\datenswissgerman: Added \datenswissgerman. 5
ngermanb-2.6m	\noextrasnswissgerman: Added \extrasnswissgerman and \noextrasnswissgerman. 5
\noextrasnswissgerman: Turn frenchspacing on, as in german.sty 6	Deactivate shorthands also outside of naustrian and nswissgerman. 5
ngermanb-2.6n	Do not use \@namedef when \noextras is already defined and should not be overwritten. 6
\captionsngerman: Corrected typo \captionnsgerman 4	
ngermanb-2.7	
General: Added support for variety	

References

- [1] Ammon, Ulrich et al.: *Variantenwörterbuch des Deutschen. Die Standardsprache in Österreich, der Schweiz und Deutschland sowie in Liechtenstein, Luxemburg, Ostbelgien und Südtirol*. Berlin, New York: De Gruyter.
- [2] Braams, Johannes and Bezos, Javier: *Babel*. <http://mirrors.ctan.org/macros/latex/required/babel/base/babel.pdf>.
- [3] Partl, Hubert: *German T_EX, TUGboat* 9 (1988) #1, p. 70–72.
- [4] Raichle, Bernd: *Kurzbeschreibung german.sty und ngerman.sty (Version 2.5)*. <http://mirrors.ctan.org/language/german/gerdoc.pdf>.