

Babel support for the German language (pre-1996 orthography)

Johannes Braams Bernd Raichle Walter Schmidt
Jürgen Spitzmüller*

v2.12 (2020/07/21)

Abstract

This manual documents babel language support for German (pre-1996 orthography), including support for the Austrian and Swiss (standard) varieties of German. The manual is part of the babel-german bundle.

1 Aim and usage

The babel ‘language definition file’ `germanb.ldf` documented in this manual provides the babel package with all language specific strings, settings and commands needed for writing German texts, including texts in the Austrian and Swiss (standard) varieties of German, in *traditional (1901–1996) spelling*.¹ As for support for contemporary (‘reformed’, i. e., post-1996) German orthography, please refer to the complementary **manual for the `ngermanb.ldf` language definition file**. The ‘language definition file’ also assures that the correct hyphenation patterns for the respective language or variety are used (see sec. 3 for details).

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

- `\usepackage[german]{babel}`
- `\usepackage[austrian]{babel}`
- `\usepackage[swissgerman]{babel}`
- `\usepackage[swissgerman.toss]{babel}`²

New feature
in v. 2.10!

Using multiple varieties in parallel is possible; consult the babel manual [2] for details.

* Current maintainer. Please report issues via <https://github.com/jspitz/babel-german>.

¹The file `germanb.ldf` started as a re-implementation of the package `german.sty` (v. 2.5b), which was originally developed by Hubert Partl (cf. [5]) and later maintained by Bernd Raichle (cf. [6]). Johannes Braams did the initial re-implementation.

²See sec. 4 on the `toss` modifier.

2 Shorthands

For all three varieties of German, the character " is made active in order to provide some shorthand macros. Some of these shorthands address a peculiarity of pre-1996 German spelling: consonantal character combinations that change in the context of hyphenations. Other shorthands are provided for frequently used special characters as well as for better control of hyphenation, line breaks and ligatures.

Table 1 provides an overview of the shorthands that are provided by `babel-german` for `german`, `austrian` and `swissgerman`.

Table 1: Shorthands provided by `germanb.ldf`

"a	Umlaut ⟨ä⟩ (shorthand for <code>\"a</code>). Similar shorthands are available for all other lower- and uppercase vowels (umlauts: "a, "o, "u, "A, "O, "U; tremata: "e, "i, "E, "I).	
"s	German ⟨ß⟩ (shorthand for <code>\ss{}</code>); but cf. sec. 4.	
"z	German ⟨ß⟩ (shorthand for <code>\ss{}</code>). The difference to "s is the uppercase version; but cf. sec. 4.	
"ck	⟨ck⟩, hyphenated as ⟨k-k⟩.	
"ff	⟨ff⟩, hyphenated as ⟨ff-f⟩; this is also implemented for ⟨l⟩, ⟨m⟩, ⟨n⟩, ⟨p⟩, ⟨r⟩ and ⟨t⟩. Please refer to sec. 4 for why this does not include ⟨s⟩.	
"S	<code>\uppercase{"s}</code> , typeset as ⟨SS⟩ (⟨ß⟩ must be written as ⟨SS⟩ [or ⟨SZ⟩, see below] in uppercase writing).	
"Z	<code>\uppercase{"z}</code> , typeset as ⟨SZ⟩ (⟨ß⟩ must be written as ⟨SZ⟩ [or ⟨SS⟩, see above] in uppercase writing).	
"	Disable ligature at this position (e. g., at morpheme boundaries, as in <code>Auf" l age</code>).	
"-	An additional breakpoint that does still allow for hyphenation at the breakpoints preset in the hyphenation patterns (as opposed to <code>\-</code>).	
"=	An explicit hyphen with a breakpoint, allowing for hyphenation at the other points preset in the hyphenation patterns (as opposed to plain <code>-</code>); useful for long compounds such as <code>IT"=Dienstleisterinnen</code> .	
"~	An explicit hyphen without a breakpoint. Useful for cases where the hyphen should stick at the following syllable, e. g., <code>bergauf und "~ab</code> .	
""	A breakpoint that does not output a hyphen if the line break is performed (consider parenthetical extensions as in <code>(pseudo"~)"wissenschaftlich</code>).	
New feature in v. 2.9!	"/	A slash that allows for a linebreak. As opposed to <code>\slash{}</code> , hyphenation at the breakpoints preset in the hyphenation patterns is still allowed.
"'	German left double quotes ⟨„⟩.	
"'	German right double quotes ⟨”⟩.	
"<	French/Swiss left double quotes ⟨«⟩.	
">	French/Swiss right double quotes ⟨»⟩.	

Table 2 lists some `babel` macros for quotation marks that might be used as an alternative to the quotation mark shorthands listed above.

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

<code>\glqq</code>	German left double quotes <code>«</code> .
<code>\grqq</code>	German right double quotes <code>»</code> .
<code>\glq</code>	German left single quotes <code>‘</code> .
<code>\grq</code>	German right single quotes <code>’</code> .
<code>\flqq</code>	French/Swiss left double quotes <code>«</code> .
<code>\frqq</code>	French/Swiss right double quotes <code>»</code> .
<code>\flq</code>	French/Swiss left single quotes <code>‘</code> .
<code>\frq</code>	French/Swiss right single quotes <code>’</code> .
<code>\dq</code>	The straight quotation mark character <code>"</code> .

3 Hyphenation patterns

The question which hyphenation patterns are used by Babel in case of the varieties of German needs some elaboration. There is a set of established hyphenation patterns for pre- and post-1996 German orthography that has been available with \TeX distributions for a long time (currently, these are shipped in form of the `dehypht` and `dehypnh` files). These patterns, though, have many flaws (they produce wrong hyphenations, and not much is known about their construction). Therefore, a group of people developed completely new patterns that do much better, the so-called ‘experimental’ new hyphenation patterns of German, distributed in the `dehypht-exptl` package [3]. As opposed to the old patterns, the new ones undergo constant improvement. The price for this, however, is that hyphenation and thus the typeset document is subject to change with, and only due to, pattern updates.

Modern engines (i. e., `xetex` and `luatex`) have already embraced those new patterns, i. e., they are activated on these engines by default. The classic \TeX engines (`tex/pdftex`), however, haven’t: they continue to use the old patterns. The reason for this is one of \TeX ’s quality standards: refrain, if ever possible, from changing the output of user’s documents in the wake of software updates. An exception is (pre-1996) Swiss Standard German: here, the classic engines use the ‘experimental’ patterns by default (since there were no patterns available previously anyway).

So you need to explicitly activate the new patterns for a given document (except for `swissgerman`) with the classic engines, should you want to use them instead of the old ones. With Babel, this can be done quite easily by means of the `hyphsubst` [4] package:

```
\usepackage[german=german-x-latest]{hyphsubst}
\usepackage[german]{babel}
```

Since `austrian` uses the same patterns as `german`, the given `hyphsubst` option activates the new patterns for this variety as well; but note that `hyphsubst` must be loaded before `babel` (please refer to [3] and [4] for details).

If you only want to use experimental patterns for one variety, you can do like so:

```
\usepackage{hyphsubst}
\usepackage[german,austrian]{babel}
\HyphSubstLet{austrian}{german-x-latest}
```

4 Variety-specific options

New feature
in v. 2.10!

In Swiss (and Liechtensteinian) German writing, the use of ⟨ß⟩ is rather uncommon. Swiss writers would normally use ⟨ss⟩ where German or Austrian writers use the ⟨ß⟩ character (e. g., *Buße* vs. *Busse*). When texts (or names) from other German speaking areas are quoted, however, the spelling and hence the ⟨ß⟩ is often maintained (particularly in scholarly writing where the spelling of quoted text is not supposed to be touched).

We assume that Swiss writers will normally input ⟨ss⟩ directly when they mean ⟨ss⟩, and we assume furthermore that the ⟨ß⟩-related shorthands "s and "z are useful also for Swiss writers when they actually need ⟨ß⟩, the more so since the ⟨ß⟩ is not as directly accessible on Swiss keyboards as it is on German and Austrian ones. On the other hand, there might be occasions where writers want to transfer a text from German or Austrian Standard into Swiss Standard German and adapt the spelling on the fly, i. e., transform all ⟨ß⟩ into ⟨ss⟩.

For this special case, we provide an option to make the ⟨ß⟩-related shorthands "s and "z expand to the respective digraphs³, ⟨ss⟩ and ⟨sz⟩, rather than to ⟨ß⟩. This is not the default behavior with `swissgerman` since, as mentioned, there are situations when the ⟨ß⟩ is (and has to be) used in Swiss writing, and normally, no shorthand is needed to input (or output) two simple ⟨s⟩ characters. You can opt-in (and out) digraphical expansion of "s and "z on a global and local level:

- To globally switch on the digraphical expansion, use the Babel modifier `toss` (read: 'to ⟨ss⟩') with `swissgerman`. I. e., pass `swissgerman.toss` (rather than `swissgerman`) as babel option.
- To switch on the digraphical expansion only locally, you can use the boolean switch `\tosstrue`. Likewise, `\tossfalse` switches off (both locally and globally set) digraphical expansion.

Both these changes result in the following deviant behavior of two shorthands:

"s Expands to digraph ⟨ss⟩
"z Expands to digraph ⟨sz⟩

One further note related to the use of ⟨ss⟩ in Swiss Standard German. As opposed to other consonantal letters, the ⟨s⟩ is excluded from the three consonant rule (*Dreikonsonantenregel*) of traditional German spelling which prescribes that one of three identical consonants has to be omitted if a vowel follows the three consonants (i. e., *Schiffahrt*, not *Schiffahrt*), except if the word is hyphenated (*Schiff-fahrt*); the shorthands "ff etc. account for that. This does not apply to ⟨s⟩! In that case, always all three consonants are spelled out (e. g., *Kongresssaal*, not *Kongressaal*). This is why we don't provide a shorthand for the ⟨sss⟩ case.

³In graphematics, the term *digraph* denotes two characters that make a functional pair (which means, depending on the theoretical assumptions: they represent a single sound or they are semantically distinctive).

5 Implementation

5.1 General settings

First, we define some helper macros that help us to identify later on which variety of German we are currently dealing with.

```
1 \def\bbl@opt@german{german}
2 \def\bbl@opt@germanb{germanb}
3 \def\bbl@opt@austrian{austrian}
4 \def\bbl@opt@swissgerman{swissgerman}
```

If `germanb. ldf` is read via the deprecated babel option `germanb`, we make it behave as if `german` was specified.

```
5 \ifx\CurrentOption\bbl@opt@germanb
6   \def\CurrentOption{german}
7   \ifx\l@german\undefined
8     \nopatterns{German (trad. orthography)}
9     \adddialect\l@german0
10  \fi
11  \let\l@germanb\l@german
12  \AtBeginDocument{%
13    \let\captionsgermanb\captionsgerman
14    \let\dategermanb\dategerman
15    \let\extrasgermanb\extrasgerman
16    \let\noextrasgermanb\noextrasgerman
17  }
18 \fi
```

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

```
19 \LdfInit\CurrentOption{captions\CurrentOption}
```

If `germanb. ldf` is read as an option, i.e. via `\usepackage` command, `german` could be an ‘unknown’ language, so we have to make it known. We check for the existence of `\l@german` and issue a warning if it is unknown.

```
20 \ifx\l@german\undefined
21   \nopatterns{German (trad. orthography)}
22   \adddialect\l@german0
23 \fi
```

We set `austrian` as a dialect of `german`, since the Austrian variety uses the same hyphenation patterns as Germany’s Standard German. If no German patterns are found, we issue a warning.

```
24 \ifx\CurrentOption\bbl@opt@austrian
25   \ifx\l@german\undefined
26     \nopatterns{German (trad. orthography), needed by Austrian (trad. orthography)}
27     \adddialect\l@austrian0
28   \else
29     \adddialect\l@austrian\l@german
30   \fi
31 \fi
```

For the Swiss variety, we attempt to load the specific swissgerman hyphenation patterns and fall back to german if those are not available. If no patterns are found, we issue a warning.

```

32 \ifx\CurrentOption\bb\opt@swissgerman
33 \ifx\l@swissgerman\undefined
34 \ifx\l@german\undefined
35 \nopatterns{Swiss Standard German (trad. orthography) and German (trad. orthography)}
36 \adddialect\l@swissgerman0
37 \else
38 \nopatterns{Swiss Standard German (trad. orthography)}
39 \adddialect\l@swissgerman\l@german
40 \fi
41 \fi
42 \fi

```

5.2 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 \LaTeX for German. This is an internal macro that is inherited and modified by the following macros for the respective language varieties.

```

43 \@namedef{@captionsgerman}{%
44 \def\prefacename{Vorwort}%
45 \def\refname{Literatur}%
46 \def\abstractname{Zusammenfassung}%
47 \def\bibname{Literaturverzeichnis}%
48 \def\chaptername{Kapitel}%
49 \def\appendixname{Anhang}%
50 \def\contentsname{Inhaltsverzeichnis}%
51 \def\listfigurename{Abbildungsverzeichnis}%
52 \def\listtablename{Tabellenverzeichnis}%
53 \def\indexname{Index}%
54 \def\figurename{Abbildung}%
55 \def\tablename{Tabelle}%
56 \def\partname{Teil}%
57 \def\enclname{Anlage(n)}%
58 \def\ccname{Verteiler}%
59 \def\headtoname{An}%
60 \def\pagename{Seite}%
61 \def\seename{siehe}%
62 \def\alsoname{siehe auch}%
63 \def\proofname{Beweis}%
64 \def\glossaryname{Glossar}%
65 }

```

`\captionsgerman` The macro `\captionsgerman` is identical to `\@captionsgerman`, but only defined if `german` is requested.

```

66 \ifx\CurrentOption\bbl@opt@german
67   \@namedef{captionsgerman}{%
68     \@nameuse{@captionsgerman}%
69   }
70 \fi

```

`\captionsaustrian` The macro `\captionsaustrian` builds on `\@captionsgerman`, but redefines some strings following Austrian conventions (for the respective variants, cf. [1]). It is only defined if `austrian` is requested.

```

71 \ifx\CurrentOption\bbl@opt@austrian
72   \@namedef{captionsaustrian}{%
73     \@nameuse{@captionsgerman}%
74     \def\enclname{Beilage(n)}%
75   }
76 \fi

```

`\captionsswissgerman` The macro `\captionsswissgerman` builds on `\@captionsgerman`, but redefines some strings following Swiss conventions (for the respective variants, cf. [1]). It is only defined if `swissgerman` is requested.

```

77 \ifx\CurrentOption\bbl@opt@swissgerman
78   \@namedef{captionsswissgerman}{%
79     \@nameuse{@captionsgerman}%
80     \def\enclname{Beilage(n)}%
81   }
82 \fi

```

5.3 Date localizations

`\month@german` The macro `\month@german` defines German month names for all varieties.

```

83 \def\month@german{\ifcase\month\or
84   Januar\or Februar\or M\ "arz\or April\or Mai\or Juni\or
85   Juli\or August\or September\or Oktober\or November\or Dezember\fi}

```

`\dategerman` The macro `\dategerman` redefines the command `\today` to produce German dates. It is only defined if `german` is requested.

```

86 \ifx\CurrentOption\bbl@opt@german
87   \def\dategerman{\def\today{\number\day.~\month@german
88     \space\number\year}}
89 \fi

```

`\dateswissgerman` The macro `\dateswissgerman` does the same for Swiss Standard German dates. It is only defined if `swissgerman` is requested. The result is identical to German.

```

90 \ifx\CurrentOption\bbl@opt@swissgerman
91   \def\dateswissgerman{\def\today{\number\day.~\month@german
92     \space\number\year}}
93 \fi

```

`\dateaustrian` The macro `\dateaustrian` redefines the command `\today` to produce Austrian versions of the German dates. Here, the naming of January („Jänner“) differs from the other German varieties. The macro is only defined if `austrian` is requested.

```

94 \ifx\CurrentOption\bbl@opt@austrian
95   \def\dateaustrian{\def\today{\number\day.-\ifnum1=\month
96     J\"anner\else \month@german\fi \space\number\year}}
97 \fi

```

5.4 Extras

`\extrasgerman` The macros `\extrasgerman`, `\extrasaustrian` and `\extrasswissgerman`, respectively, will perform all the extra definitions needed for the German language or the respective variety. The macro `\noextrasgerman` is used to cancel the actions of `\extrasgerman`.
`\extrasaustrian` `\noextrasaustrian` and `\noextrasswissgerman` behave analogously.

`\noextrasswissgerman` First, the character " is declared active for all German varieties. This is done once, later on its definition may vary.

```

98 \initiate@active@char{"}

```

Depending on the option with which the language definition file has been loaded, the macro `\extrasgerman`, `\extrasaustrian` or `\extrasswissgerman` is defined. Each of those is identical: they load the shorthands defined below and activate the " character.

```

99 \@namedef{extras\CurrentOption}{%
100   \languageshorthands{german}}
101 \expandafter\addto\csname extras\CurrentOption\endcsname{%
102   \bbl@activate{"}}

```

`toss` For Swiss Standard German, we allow optionally to expand the ⟨ß⟩-related shorthands the Swiss way, i. e. as ⟨ss⟩ (globally, if the modifier `toss` is used or locally if `\tosstrue`).

```

\tosstrue
\tossfalse
103 \newif\iftoss\tossfalse
104 \newif\ifbbl@toss\bbl@tossfalse
105 \ifx\bbl@mod@swissgerman\undefined\else
106   \@expandtwoargs\in@{,toss,}{,\bbl@mod@swissgerman,}
107   \ifin@
108     \tosstrue
109   \fi
110   \addto\extrasswissgerman{%
111     \iftoss\bbl@tosstrue\else\bbl@tossfalse\fi}
112 \fi

```

Next, again depending on the option with which the language definition file has been loaded, the macro `\noextrasgerman`, `\noextrasaustrian` or `\noextrasswissgerman` is defined. These deactivate the " character and thus turn the shorthands off again outside of the respective variety.

```

113 \expandafter\addto\csname noextras\CurrentOption\endcsname{%
114   \bbl@deactivate{"}}
115 \ifx\CurrentOption\bbl@opt@swissgerman
116   \addto\noextrasswissgerman{\bbl@tossfalse}
117 \fi

```


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).

```
118 \expandafter\addto\csname extras\CurrentOption\endcsname{%
119   \babel@savevariable{\lccode25}%
120   \lccode25=25}
```

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

```
121 \expandafter\addto\csname extras\CurrentOption\endcsname{%
122   \babel@save"\umlautlow}
```

```
123 \expandafter\addto\csname noextras\CurrentOption\endcsname{%
124   \umlauthigh}
```

The German hyphenation patterns can be used with `\lefthyphenmin` and `\righthyphenmin` set to 2.

```
125 \providehyphenmins{\CurrentOption}{\tw@\tw@}
```

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

```
126 \expandafter\addto\csname extras\CurrentOption\endcsname{%
127   \bbl@frenchspacing}
128 \expandafter\addto\csname noextras\CurrentOption\endcsname{%
129   \bbl@nonfrenchspacing}
```

5.5 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 `"`.

Furthermore, we define some helper macros for contextual $\langle\beta\rangle$ handling.

```
130 \begingroup \catcode'\ "12
131 \def\x{\endgroup
132   \def\dq{"}
133   \def\@SS{\mathchar"7019 }
134   \def\bbl@ss{\ifbbl@toss ss\else\textormath{\ss}{\@SS}}\fi}
135   \def\bbl@SS{SS}
136   \def\bbl@sz{\ifbbl@toss sz\else\textormath{\ss}{\@SS}}\fi}
137   \def\bbl@SZ{SZ}
138 }
139 \x
```

Since we need to add special cases for `hyperref` which needs `hyperref`’s `\texorpdfstring`, we provide a dummy command for the case that `hyperref` is not loaded.

```
140 \providecommand\texorpdfstring[2]{#1}
```

Now we can define the doublequote shorthands: the umlauts,

```
141 \declare@shorthand{german}{"a"}{\textormath{"{a}\bbl@allowhyphens}{\ddot a}}
142 \declare@shorthand{german}{"o"}{\textormath{"{o}\bbl@allowhyphens}{\ddot o}}
143 \declare@shorthand{german}{"u"}{\textormath{"{u}\bbl@allowhyphens}{\ddot u}}
144 \declare@shorthand{german}{"A"}{\textormath{"{A}\bbl@allowhyphens}{\ddot A}}
145 \declare@shorthand{german}{"O"}{\textormath{"{O}\bbl@allowhyphens}{\ddot O}}
146 \declare@shorthand{german}{"U"}{\textormath{"{U}\bbl@allowhyphens}{\ddot U}}
```

tremata,

```
147 \declare@shorthand{german}{"e"}{\textormath{"{e}{\ddot e}}
148 \declare@shorthand{german}{"E"}{\textormath{"{E}{\ddot E}}
149 \declare@shorthand{german}{"i"}{\textormath{"{i}{\ddot i}}%
150         {\ddot\imath}}
151 \declare@shorthand{german}{"I"}{\textormath{"{I}{\ddot I}}
```

German ß,

```
152 \declare@shorthand{german}{"s"}{\bbl@ss}
153 \declare@shorthand{german}{"S"}{\bbl@SS}
154 \declare@shorthand{german}{"z"}{\bbl@sz}
155 \declare@shorthand{german}{"Z"}{\bbl@SZ}
```

German and French/Swiss quotation marks,

```
156 \declare@shorthand{german}{"´"}{\glqq}
157 \declare@shorthand{german}{"´"}{\grqq}
158 \declare@shorthand{german}{"<"}{\flqq}
159 \declare@shorthand{german}{">"}{\frqq}
```

discretionary commands

```
160 \declare@shorthand{german}{"c"}{\textormath{\bbl@disc ck}{c}}
161 \declare@shorthand{german}{"C"}{\textormath{\bbl@disc CK}{C}}
162 \declare@shorthand{german}{"F"}{\textormath{\bbl@disc F{FF}}{F}}
163 \declare@shorthand{german}{"l"}{\textormath{\bbl@disc l{ll}}{l}}
164 \declare@shorthand{german}{"L"}{\textormath{\bbl@disc L{LL}}{L}}
165 \declare@shorthand{german}{"m"}{\textormath{\bbl@disc m{mm}}{m}}
166 \declare@shorthand{german}{"M"}{\textormath{\bbl@disc M{MM}}{M}}
167 \declare@shorthand{german}{"n"}{\textormath{\bbl@disc n{nn}}{n}}
168 \declare@shorthand{german}{"N"}{\textormath{\bbl@disc N{NN}}{N}}
169 \declare@shorthand{german}{"p"}{\textormath{\bbl@disc p{pp}}{p}}
170 \declare@shorthand{german}{"P"}{\textormath{\bbl@disc P{PP}}{P}}
171 \declare@shorthand{german}{"r"}{\textormath{\bbl@disc r{rr}}{r}}
172 \declare@shorthand{german}{"R"}{\textormath{\bbl@disc R{RR}}{R}}
173 \declare@shorthand{german}{"t"}{\textormath{\bbl@disc t{tt}}{t}}
174 \declare@shorthand{german}{"T"}{\textormath{\bbl@disc T{TT}}{T}}
```

(we need to treat "f a bit differently in order to preserve the ff-ligature)

```
175 \declare@shorthand{german}{"f"}{%
176   \texorpdfstring{\textormath{\bbl@discff}{f}}% TeX string
177   {f}% PDF string
178 }
179 \def\bbl@discff{\penalty\@M
180   \afterassignment\bbl@insertff \let\bbl@nextff= }
```

```

181 \def\bbl@insertfff{%
182   \if f\bbl@nextfff
183     \expandafter\@firstoftwo\else\expandafter\@secondoftwo\fi
184   {\relax\discretionary{ff-}{f}{ff}\bbl@allowhyphens}{f\bbl@nextfff}}
185 \let\bbl@nextfff=f

```

and some additional commands (hyphenation, line breaking and ligature control):

```

186 \declare@shorthand{german}{"-}{\nobreak\-\bbl@allowhyphens}
187 \declare@shorthand{german}{"}{|}{%
188   \texorpdfstring{\textormath{\penalty\@M\discretionary{-}{-}{\kern.03em}\bbl@allowhyphens}{}}% TeX string
189   }% PDF string
190 }
191 \declare@shorthand{german}{""}{\hskip\z@skip}
192 \declare@shorthand{german}{"-~}{%
193   \texorpdfstring{\textormath{\leavevmode\hbox{-}}{-}}% tex string
194   }-% PDF string
195 }
196 \declare@shorthand{german}{"="}{\penalty\@M-\hskip\z@skip}
197 \declare@shorthand{german}{"/}{\textormath
198   {\bbl@allowhyphens\discretionary{/}{/}{\bbl@allowhyphens}}

```

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

```

\ck 199 \def\mdqon{\shorthandon{""}}
200 \def\mdqoff{\shorthandoff{""}}
201 \def\ck{\bbl@allowhyphens\discretionary{k-}{k}{ck}\bbl@allowhyphens}

```

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.

```
202 \ldf@finish\CurrentOption
```

5.6 austrian.ldf, german.ldf and swissgerman.ldf

Babel expects a `<lang>.ldf` file for each `<lang>`. So we create portmanteau ldf files for `austrian`, `german` and `swissgerman`.⁴ These files themselves only load `germanb.ldf`, which does the real work:

```
203 \input germanb.ldf\relax
```

⁴For `austrian` and `german`, this is not strictly necessary, since babel provides aliases for these languages (pointing to `germanb`). 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

Version 1.0a	Version 2.2a
General: Incorporated Nico's	General: Renamed babel.sty in
comments 1	babel.com 1
Version 1.0b	Version 2.2d
General: fixed typo in definition for	General: Removed use of
austrian language found by	\@ifundefined 5
Werenfried Spit nspit@fys.ruu.nl . 1	Version 2.3
Version 1.0c	General: Rewritten parts of the code to
General: Fixed some typos 1	use the new features of babel
Version 1.1	version 3.1 1
\noextrasgerman: Added \dieresis . . . 8	Version 2.3e
General: When using PostScript fonts	\@captionsgerman: Added
with the Adobe fontencoding, the	\prefacename, \seename and
dieresis-accent is located	\alsoname 6
elsewhere, modified germanb 1	\month@german: Added \month@german . 7
Version 1.1a	General: Added \save@sf@q macro and
General: Modified the documentation	rewrote all quote macros to use it . 9
somewhat 1	Added warning, if no german
Version 2.0	patterns loaded 5
General: Modified for babel 3.0 1	Brought up-to-date with german.tex
Now use \adddialect for austrian . . . 5	v2.3e (plus some bug fixes) [br] . . . 1
Now use \adddialect if language	Version 2.3h
undefined 5	General: moved definition of
Version 2.0a	\allowhyphens, \set@low@box and
General: Removed some problems in	\save@sf@q to babel.com 9
change log 1	Version 2.4
Version 2.0b	\@captionsgerman: \headpagename
\extrasgerman: added some comment	should be \pagename 6
chars to prevent white space 8	Version 2.5
\noextrasgerman: added some	General: Update or L ^A T _E X 2 _ε 1
comment chars to prevent white	Version 2.5c
space 8	General: Now use \@nopatterns to
Version 2.1	produce the warning 5
General: Removed bug found by van	Removed the use of \filedate and
der Meer 1	moved the identification after the
Version 2.2	loading of babel.def 1
\@captionsgerman: \pagename should	Version 2.6a
be \headpagename 6	\noextrasgerman: All the code to
Removed \global definitions 6	handle the active double quote has
\extrasgerman: Save all redefined	been moved to babel.def 9
macros 8	Removed \3 as it is no longer in
\noextrasgerman: Try to restore	germanb.ldf 9
everything to its former state 8	use \germanhyphenmins to store the
General: Removed global assignments,	correct values 9
brought uptodate with german.tex	General: \umlautlow and \umlauthigh
v2.3d 1	moved to glyphs.dtx, as well as

\newumlaut (now \lower@umlaut . . . 9	Version 2.6j
Moved all quotation characters to	\@captionsgerman: Added
glyphs.dtx 9	\glossaryname 6
Moved the identification to the top	\noextrasgerman: Now use
of the file 1	\providehyphenmins to provide a
Rewrote the code that handles the	default value 9
active double quote character 1	Version 2.6k
Use \ddot instead of \@MATHUMLAUT . 9	\noextrasgerman: Turn frenchspacing
Version 2.6b	on, as in german.sty 9
\@captionsgerman: Added \proofname	Version 2.6l
for AMS- \TeX 6	General: Making germanb behave like
Version 2.6c	german needs some more work
\noextrasgerman: Use decimal number	besides defining \CurrentOption . . 5
instead of hat-notation as the hat	Version 2.6m
may be activated 9	General: Corrected a typo 5
General: added the \allowhyphens . . 10	Version 2.7
Moved \german@dq@disc to	\@captionsgerman: Changed \enclname
babel.def, calling it \bbl@disc 9	in austrian to <i>Beilage(n)</i> 6
Version 2.6d	Split \captionsgerman from
\@captionsgerman: Construct control	\captionsaustrian and
sequence on the fly 6	\captionsswissgerman. 6
\noextrasgerman: Construct control	\dateswissgerman: Added
sequence \extrasgerman or	\dateswissgerman. 7
\extrasaustrian on the fly 8	\extrasswissgerman: Added
General: Moved the definition of	\extrasswissgerman. 8
\atcatcode right to the beginning. . 1	\noextrasgerman: Deactivate
Now use \ldf@finish to wrap up . 11	shorthands also outside of
Now use \LdfInit to perform initial	austrian and swissgerman. 8
checks 5	Do not use \@namedef when
Replaced \undefined with	\noextras is already defined and
\@undefined and \empty with	should not be overwritten. 9
\@empty for consistency with \TeX . 1	\noextrasswissgerman: Added
Version 2.6f	\noextrasswissgerman. 8
\ck: Now use \shorthandon and	General: Added support for variety
\shorthandoff 11	swissgerman. 1
\dateaustrian: use \def instead of	Generate portmanteau files
\edef 8	austrian.ldf, german.ldf and
Use \edef to define \today to save	swissgerman.ldf. 11
memory 8	Revised austrian support. 1
\dategerman: use \def instead of \edef 7	Revised documentation: Turn the
Use \edef to define \today to save	babel manual chapter into a
memory 7	self-enclosed manual. 1
General: Copied the coding for "f	Version 2.7b
from german.dtx version 2.5d . . . 10	General: Do not warn about missing
use \SS instead of SS, removed	swissgerman patterns if
braces after \ss 10	swissgerman is not loaded 6
Version 2.6i	Version 2.8
\noextrasgerman: Deactivate	\@captionsgerman: Define
shorthands outside of German. . . . 8	trans-variational base captions

which are loaded and modified by the varieties	6	Do not attempt to load <code>\l@austrian</code> , which does not exist	5
<code>\captionsaustrian</code> : Only define <code>\captionsaustrian</code> if austrian is requested.	7	Version 2.10 <code>\noextrasgerman</code> : Implement boolean switch <code>\tosstrue/\tossfalse</code> to customize $\langle\beta\rangle$ -related shorthands in Swiss Standard German context.	8
<code>\captionsgerman</code> : Only define <code>\captionsgerman</code> if german is requested.	6	Implement modifier <code>toss</code> to customize $\langle\beta\rangle$ -related shorthands in Swiss Standard German context.	8
<code>\captionsswissgerman</code> : Only define <code>\captionsswissgerman</code> if swissgerman is requested.	7	General: Add helper macros to identify the current option.	5
<code>\dateaustrian</code> : Only define <code>\dateaustrian</code> if austrian is requested.	8	Improvements to the manual	1
<code>\dategerman</code> : Only define <code>\dategerman</code> if german is requested.	7	Version 2.11 General: Fix old hyphenation regression introduced with babel 3.7 (2002) in a number of shorthands (change of meaning of <code>\allowhyphens</code> vs. <code>\bbl@allowhyphens</code>)	11
<code>\dateswissgerman</code> : Only define <code>\dateswissgerman</code> if swissgerman is requested.	7	Version 2.12 General: Properly handle shorthands in hyperref pdf strings	9
General: Only add Austrian dialect if austrian is loaded	5		
Version 2.9 General: Add <code>/</code> shortcut for breakable slash (taken from <code>dutch.ldf</code>)	11		

References

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- [4] Heiko Oberdiek: *hyphsubst – Substitute hyphenation patterns*. <https://ctan.org/pkg/hyphsubst>.
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- [7] Manuel Pégourié-Gonnard et al.: *hyph-utf8 – Hyphenation patterns expressed in UTF-8*. <https://ctan.org/pkg/hyph-utf8>.