

The bicaption package*

Axel Sommerfeldt

<https://gitlab.com/axelsommerfeldt/caption>

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Abstract

This package supports the typesetting of bilingual captions.

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*This package has version number v1.3.

1 Loading the package

`\usepackage` This package will be loaded by

```
\usepackage[options]{bication} .
```

The options for the `bication` package are the same ones as for the `caption` package and specify settings which are used for the second language *additionally*. In fact

```
\usepackage[options]{bication}
```

is identical to

```
\usepackage{bication}  
\captionsetup[bi-second]{options} .
```

When used with the `babel` or `polyglossia` package, the `bication` package should be loaded *after* it, so the main language will be set automatically. See [section 7](#) for details.

2 Setting options

`\captionsetup` The command

```
\captionsetup[bi]{options}
```

does setup options which will be used for bilanguage captions *additionally* to the ones which are setup for the specific floating environment.

```
\captionsetup[bi-first]{options}
```

does setup options which will be used for the *first* heading of the bilanguage captions *additionally* to the ones which are setup for the specific floating environment and the ones which are setup by `\captionsetup[bi]{...}`.

```
\captionsetup[bi-second]{options}
```

does setup options which will be used for the *second* heading of the bilanguage captions *additionally* to the ones which are setup for the specific floating environment and the ones which are setup by `\captionsetup[bi]{...}`.

Options specified with `\usepackage[...]{bication}` and `\captionsetup[bi...]{...}` will override the ones specified by `\captionsetup{...}` and `\captionsetup[figure]{...}` (same for ‘table’). So finally we have the following order how settings for bilingual captions are applied:

1. Global settings (`\usepackage[...]{caption}` and `\captionsetup{...}`)
2. Environmental settings (`\captionsetup[figure -or- table]{...}`)
3. Local settings (`\captionsetup{...}` inside `figure` or `table` environment)

4. Custom ‘bi’ settings (`\captionsetup[bi]{...}`)
5. Custom ‘bi-first’ resp. ‘bi-second’ settings (`\usepackage[...]{bication}` and `\captionsetup[bi-first]{...}` resp. `\captionsetup[bi-second]{...}`)

An example:

```
\usepackage[labelsep=quad,indentation=10pt]{caption}
\usepackage[labelfont=bf]{bication}
\captionsetup[table]{labelfont=it,position=top}
```

causes the second heading of the bilingual caption inside `table` environments to be typeset with the settings

```
labelsep=quad,indentation=10pt,position=top,labelfont=bf.
```

To limit `bi`, `bi-first`, or `bi-second` options to specific environments one can use multiple optional arguments for `\captionsetup`, e.g.:

```
\captionsetup[figure][bi-first][<options>]
```

will limit the settings to the first heading of `figure` environments only. Please note that the environment name (`figure`, `table`, ...) has to be specified as first optional argument while the bilingual selection (`bi`, `bi-first`, or `bi-second`) as second one.

3 Additional options

These options are available additional to the ones offered by the `caption` package:

`lang=` Sets the language of the caption, e.g.

```
\usepackage[lang=english]{bication}
```

will typeset the second caption of bilingual captions in English. (The language will be set with `\selectcaptionlanguage` internally, see [section 7](#) for details.)

`bi-lang=` Causes a selection of the headings of bilingual captions.

```
\captionsetup{bi-lang=both}
```

will cause that both caption headings are being typeset. (This is the default.)

```
\captionsetup{bi-lang=first}
```

will cause that only the *first* heading is being typeset, and

```
\captionsetup{bi-lang=second}
```

will cause that only the *second* heading is being typeset.

`bi-slc=` `\captionsetup{bi-slc=bool}`
 switches the common single-line-check on or off, i.e. when switched on only a single check will be done for both captions, and the result will affect both captions afterwards. So if only one caption is longer than a single line, both captions will be treated as if they are longer than a single line, even if the second one isn't. (The default is on.)

`bi-swap=` `\captionsetup{bi-swap}`
 will swap the primary and secondary language, making the first language the second one and vice versa. (The default is false.)

New feature
 v1.3

`bi-separator=` `\captionsetup{bi-separator=name}`
 will select a separator between first and second bilingual caption. You could choose one of the following: 'none' (which is the default one and could also be addressed as 'default'), 'smallskip', 'medskip', 'largeskip', or a self-defined one using

DeclareBiCaptionSeparator

`\DeclareBiCaptionSeparator{name}{code}`

Examples:

`\captionsetup{bi-separator=smallskip}`

will put a `\smallskip` between the two bilingual captions.

`\DeclareBiCaptionSeparator{hrule}{\hrule}`
`\captionsetup{bi-separator=hrule}`

will draw a horizontal line between the two bilingual captions.

`\DeclareBiCaptionSeparator{3pt}{\vspace{3pt}}`
`\captionsetup{bi-separator=3pt}`

will put 3pt vertical space between the two bilingual captions.

4 The `\bicaption` commands

`\bicaption` Bilingual captions will be typeset by

`\bicaption[list entry #1]{heading #1}`
`[list entry #2]{heading #2}`
`\bicaption*{heading #1}{heading #2}`

The `\label` should be placed either after this command, or inside the first heading.

`\bicaptionbox` Bilingual caption boxes will be typeset by

`\bicaptionbox[list entry #1]{heading #1}`
`[list entry #2]{heading #2}`
`[width][inner-pos]{contents}`
`\bicaptionbox*{heading #1}{heading #2}`
`[width][inner-pos]{contents}`

The `\label` should be placed inside the first heading.

(For a description of the optional parameters `\width` and `\inner-pos` please take a look at the caption package documentation, `\captionbox`.)

If the `subcaption` package is loaded, these commands are available additionally:

`\bisubcaption` Bilingual sub-captions will be typeset by

```
\bisubcaption[\list entry #1]{\heading #1}
                [\list entry #2]{\heading #2}
\bisubcaption*{\heading #1}{\heading #2}
```

The `\label` should be placed either after this command, or inside the first heading.

`\bisubcaptionbox` Bilingual sub-caption boxes will be typeset by

```
\bisubcaptionbox[\list entry #1]{\heading #1}
                [\list entry #2]{\heading #2}
                [\width][\inner-pos]{\contents}
\bisubcaptionbox*{\heading #1}{\heading #2}
                [\width][\inner-pos]{\contents}
```

The `\label` should be placed inside the first heading.

(For a description of the optional parameters `\width` and `\inner-pos` please take a look at the subcaption package documentation, `\subcaptionbox`.)

5 A sample document

```
\documentclass[english,ngerman]{article}
\usepackage{selinput}
\SelectInputMappings{adieresis={ä},germandbls={ß}}

\usepackage{babel}
\usepackage[lang=english,font=it]{bicaption}
\usepackage[format=hang]{subcaption}

\begin{document}

\begin{figure}[!htb]
  \centering
  \bisubcaptionbox
    {Teilabbildung A\label{fig:test:A}}
    {Subfigure A}[0.4\textwidth]{IMAGE}%
  \quad
  \bisubcaptionbox
    {Teilabbildung langer Titel B\label{fig:test:B}}
    {Subfigure long title B}[0.4\textwidth]{IMAGE}%
  \bicaption{Deutscher Titel}{English Title}
  \label{fig:test}
\end{figure}
```

```

\captionsetup{bi-lang=both}

\begin{figure}[!htb]
  \centering
  \bisubcaptionbox[A]
    {Und eine gaaaanz lange Caption: Teilabbildung A}
    {Subfigure A}[0.4\textwidth]{IMAGE}%
  \quad
  \bisubcaptionbox[B]
    {Teilabbildung B}
    {Subfigure B}[0.4\textwidth]{IMAGE}%
  \bicaption[Abbildungsverzeichnistitel]
    {Und eine noch viel viel viel
     längere deutsche Beschriftung: Deutscher Titel}
    {Short English heading}
\end{figure}

\captionsetup{bi-slc=0}

\begin{figure}[!htb]
  \centering
  \bisubcaptionbox[A]
    {Und eine gaaaanz lange Caption: Teilabbildung A}
    {Subfigure A}[0.4\textwidth]{IMAGE}%
  \quad
  \bisubcaptionbox[B]
    {Teilabbildung B}
    {Subfigure B}[0.4\textwidth]{IMAGE}%
  \bicaption[Abbildungsverzeichnistitel]
    {Und eine noch viel viel viel
     längere deutsche Beschriftung: Deutscher Titel}
    {Short English heading}
\end{figure}

\captionsetup{slc=0}

\begin{figure}[!htb]
  \centering
  \bisubcaptionbox[A]
    {Und eine gaaaanz lange Caption: Teilabbildung A}
    {Subfigure A}[0.4\textwidth]{IMAGE}%
  \quad
  \bisubcaptionbox[B]
    {Teilabbildung B}
    {Subfigure B}[0.4\textwidth]{IMAGE}%
  \bicaption[Abbildungsverzeichnistitel]
    {Und eine noch viel viel viel
     längere deutsche Beschriftung: Deutscher Titel}
    {Short English heading}

```

```
\end{figure}

\end{document}
```

<p>IMAGE</p> <p>(a) Teilabbildung A</p> <p>(a) <i>Subfigure A</i></p>	<p>IMAGE</p> <p>(b) Teilabbildung langer Titel B</p> <p>(b) <i>Subfigure long title B</i></p>
---	---

Abbildung 1: Deutscher Titel
Figure 1: English Title

<p>IMAGE</p> <p>(a) Und eine gaaaanz lange Caption: Teilabbildung A</p> <p>(a) <i>Subfigure A</i></p>	<p>IMAGE</p> <p>(b) Teilabbildung B</p> <p>(b) <i>Subfigure B</i></p>
---	---

Abbildung 2: Und eine noch viel viel viel längere deutsche Beschriftung: Deutscher Titel
Figure 2: Short English heading

<p>IMAGE</p> <p>(a) Und eine gaaaanz lange Caption: Teilabbildung A</p> <p>(a) <i>Subfigure A</i></p>	<p>IMAGE</p> <p>(b) Teilabbildung B</p> <p>(b) <i>Subfigure B</i></p>
---	---

Abbildung 3: Und eine noch viel viel viel längere deutsche Beschriftung: Deutscher Titel
Figure 3: Short English heading

<p>IMAGE</p> <p>(a) Und eine gaaaanz lange Caption: Teilabbildung A</p> <p>(a) <i>Subfigure A</i></p>	<p>IMAGE</p> <p>(b) Teilabbildung B</p> <p>(b) <i>Subfigure B</i></p>
---	---

Abbildung 4: Und eine noch viel viel viel längere deutsche Beschriftung: Deutscher Titel
Figure 4: Short English heading

6 Customising lists

`list=` As default both caption texts will be insert into the List of Figures resp. List of Tables. To suppress the second entry just pass the option `list=off` to the `bicaption` package, e.g.:

```
\usepackage[lang=english,...,list=off]{bicaption}
```

`listtype+=` Another option is separating the lists. For that purpose the option

```
listtype+=⟨list type extension⟩
```

can be used to tell the `bicaption` package to use a different list for the second caption text. The given value will be appended to the current environment type; for example with `listtype+=X` the list entries will be put into the list responsible for the types `figureX` (= `figure + X`), `tableX` (= `table + X`) etc.

Such a *list type* can be defined using `\DeclareFloatingEnvironment` offered by the `newfloat` package, but some document classes or other packages offer macros for defining new floating environment types (and their corresponding lists) as well.

A sample document:

```
\documentclass[a4paper]{article}

% Use "ngerman" as 1st language, "english" as 2nd one
\usepackage[english,ngerman]{babel}

% Load the bicaption package with 2nd language set to
% "english", and list type "figureEng" resp. "tableEng"
\usepackage[lang=english,listtype+=Eng]{bicaption}

\usepackage{newfloat}
% Define the new floating environment type "figureEng"
\DeclareFloatingEnvironment[fileext=lof2]{figureEng}
    [Figure][List of Figures]
% Define the new floating environment type "tableEng"
\DeclareFloatingEnvironment[fileext=lot2]{tableEng}
    [Table][List of Tables]

\begin{document}
\listoffigures      % typeset "Abbildungsverzeichnis"
\listoffigureEnges % typeset "List of Figures"

\begin{figure}
  \centering
  A placeholder for an image or whatever
  \bicaption{Deutscher Text}{English text}
\end{figure}

\end{document}
```

A different approach is using one list for both languages, but with different formatting. Since the caption package does not offer options and commands for customising the format of the lists, one needs an additional package for this purpose, for example the `titletoc` package:

```
\documentclass[a4paper]{article}

% Use "ngerman" as 1st language, "english" as 2nd one
\usepackage[english,ngerman]{babel}

% Load the bicaption package with 2nd language set to
% "english", and list type "figure2" resp. "table2"
```



```

\usepackage[lang=english,listtype+=2]{b-caption}

% We load the titletoc package for customizing lists
% Note: Loading titletoc should be done prior
% defining additional floating environments with
% \DeclareFloatingEnvironment
\usepackage{titletoc}

\usepackage{newfloat}
% Define the new floating environment type "figure2"
% Use the same file extension as for "figure" (.lof) here
\DeclareFloatingEnvironment[fileext=lof]{figure2}
% Define the new floating environment type "table2"
% Use the same file extension as for "table" (.lot) here
\DeclareFloatingEnvironment[fileext=lot]{table2}

% We use the titletoc package for customizing "figure2"
% which is appropriate for the second language captions
\titlecontents{figure2}[3.8em]
  {} % no above code
  {} % empty numbered entry format
  {} % empty numberless entry format
  {} % empty filler page format

\begin{document}
\renewcommand\listfigurename
  {Abbildungsverzeichnis / List of Figures}
\listoffigures

\begin{figure}
\centering
A placeholder for an image or whatever
\caption{Deutscher Text}{English text}
\end{figure}

\end{document}

```

7 Language Selection

For language selection the `b-caption` package uses two macros internally:

`\captionmainlanguage` `\captionmainlanguage` contains the main language, e.g. `english` or `german`. If not set prior to loading the `b-caption` package, the `b-caption` package will try to obtain this setting from the `babel` or `polyglossia` package.

So if you are using either `babel` or `polyglossia`, and want to adopt the main language setting from it, then just load the `b-caption` package *after* it, and simply forget about the `\captionmainlanguage` stuff.

Otherwise one can either define `\captionmainlanguage` prior to loading the `b-caption` package, e.g.:

```
\newcommand\captionmainlanguage{french}
\usepackage[options]{bcaption}
```

Or one can specify the main language via `\captionsetup` after loading the `bcaption` package, e.g.:

```
\usepackage[options]{bcaption}
\captionsetup[bi-first]{lang=french}
```

When not using the `babel` or `polyglossia` package both approaches will have exactly the same effect. But when using the `babel` or `polyglossia` package, and one want to specify the main caption language manually, the first approach is preferable since defining `\captionmainlanguage` will suppress the automatic detection mechanism.

`\selectcaptionlanguage` `\selectcaptionlanguage` will be used internally to select the language:

New feature
v1.1

```
\selectcaptionlanguage{font-or-list-entry}{language}
```

For setting the language of the caption `<font-or-list-entry>` will be `\@firstoftwo`, for setting the language of the list entry `<font-or-list-entry>` will be `\@secondoftwo`.¹ It defaults to `\select@language (caption)` resp. `\selectlanguage (list entry)` offered by the `babel` and `polyglossia` package:

```
\providecommand*\selectcaptionlanguage[2]{%
#1{\select@language}{\selectlanguage}{#2}}
```

If you need to alter this, just either define `\selectcaptionlanguage` prior loading the `bcaption` package, or redefine it afterwards.

`\DeclareCaptionLangOption`

New feature
v1.2

For internal implementation reasons the selection of language will be done delayed, i.e. not done immediately at `lang=<language>`. So if you do

```
\captionsetup[bi-second]{lang=ngerman, labelsep=quad}
```

the language `ngerman` will only be stored internally, and the label separator will be set to `quad` afterwards. Some time later, right before the caption is actually typeset, the language will be set to `ngerman`.

Usually this is no problem, but think of options which will be overwritten by the language selection, or options which act on the language currently set, for example

```
\captionsetup[bi-second]{lang=ngerman, name=Bild} .
```

`lang=ngerman` changes the environment name to “Abbildung”, and `name=Bild` changes the environment name to “Bild”. One would expect that the name is finally “Bild”, but because of the delayed nature of `lang=ngerman` it will be “Abbildung” instead, at least if we don’t take action about this.

For that reason the command

```
\DeclareCaptionLangOption{caption option name}
```

¹`\@firstoftwo` and `\@secondoftwo` are defined in the \LaTeX kernel and simply pick either the 1st or 2nd argument.

is offered. Options handled this way will be applied twice if used after the `lang=` option, when the option is actually used, and right after the language is selected.

```
\DeclareCaptionLangOption{name}
```

will be done by the `bicaption` package automatically, since the environment name will usually be overwritten by a language selection. So actually

```
\captionsetup[bi-second]{lang=ngerman,name=Bild}
```

will give the expected result, i.e. the environment name is typeset as “Bild”.