# The bicaption package[*]

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https://github.com/axelsommerfeldt/latex-caption

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**Abstract**

This package supports the typesetting of bilangual captions.

# Contents

[*]This package has version number v1.1-158, last revised 2016/03/27.

# 1 Loading the package

\usepackage  This package will be loaded by

> \usepackage[⟨*options*⟩]{bicaption}  .

The options for the bicaption 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*⟩]{bicaption}

is identical to

> \usepackage{bicaption}
> \captionsetup[bi-second]{⟨*options*⟩}  .

When used with the babel or polyglossia package, the bicaption package should be loaded *after* it, so the main language will be set automatically. See section 7 for details.

# 2 Setting options

\captionsetup

> \captionsetup[bi]{⟨*options*⟩}

do 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*⟩}

do 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*⟩}

do 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[...]{bicaption} 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[...]{bicaption}` and `\captionsetup[bi-first]{...}` resp. `\captionsetup[bi-second]{...}`)

An example:

```
\usepackage[labelsep=quad,indention=10pt]{caption}
\usepackage[labelfont=bf]{bicaption}
\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,indention=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 has to be specified as first optional argument while the bilingual selection as second one.

## 3   Additional options

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

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

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

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=`  `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-singlelinecheck=` | `bi-slc=` | 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=` | `bi-swap=` | |

<div align="center">

`\captionsetup{bi-swap}`

</div>

will swap the primary and secondary language, making the first language the second one and vice versa. (The default is `false`.)

## 4 The `\bicaption` commands

`\bicaption`   Bilingual captions will be typeset by

<div align="center">

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

</div>

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

`\bicaptionbox`   Bilingual caption boxes will be typeset by

<div align="center">

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

</div>

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

<div align="center">

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

</div>

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

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

<div align="center">

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

</div>

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}%
  \qquad
  \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}%
  \qquad
  \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}%
```

```
    \qquad
    \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}%
    \qquad
    \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}
```

IMAGE                                IMAGE
(a) Teilabbildung A              (b) Teilabbildung langer Titel B
*(a) Subfigure A*                 *(b) Subfigure long title B*

Abbildung 1: Deutscher Titel
*Figure 1: English Title*

IMAGE                                IMAGE
(a) Und eine gaaaanz lange Caption:     (b) Teilabbildung B
Teilabbildung A                      *(b) Subfigure B*
*(a) Subfigure A*

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

IMAGE                                IMAGE
(a) Und eine gaaaanz lange Caption:     (b) Teilabbildung B
Teilabbildung A                      *(b) Subfigure B*
*(a) Subfigure A*

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

IMAGE                                IMAGE
(a) Und eine gaaaanz lange Caption:     (b) Teilabbildung B
Teilabbildung A                      *(b) Subfigure B*
*(a) Subfigure A*

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 need 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]{bicaption}

% 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
  \bicaption{Deutscher Text}{English text}
\end{figure}

\end{document}
```

# 7 Language Selection

For language selection the bicaption package uses two macros internally:

\captionmainlanguage      `\captionmainlanguage` contains the main language, e.g. `english` or `german`. If not set prior to loading the bicaption package, the bicaption 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 bicaption package *after* it, and simply forget about the `\captionmainlanguage` stuff.

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

```
\newcommand\captionmainlanguage{french}
\usepackage[⟨options⟩]{bicaption}
```

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

```
\usepackage[⟨options⟩]{bicaption}
\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:

```
\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 bicaption package, or redefine it afterwards.

Please note that all of this will only be relevant if the `lang=` option will be used. Otherwise `\selectcaptionlanguage` won't be used by the bicaption package at all.

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