

The bicaption package*

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Abstract

This package supports the typesetting of bilingual captions.

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*This package has version number v1.2.

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`

```
\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[...]{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:

<code>language=</code>	<code>lang=</code>	<p>Sets the language of the caption, e.g.</p> <pre>\usepackage[lang=english]{bication}</pre> <p>will typeset the second caption of bilingual captions in English. (The language will be set with <code>\selectcaptionlanguage</code> internally, see section 7 for details.)</p>
<code>bi-lang=</code>	<code>bi-lang=</code>	<p>Causes a selection of the headings of bilingual captions.</p> <pre>\captionsetup{bi-lang=both}</pre> <p>will cause that both caption headings are being typeset. (This is the default.)</p> <pre>\captionsetup{bi-lang=first}</pre> <p>will cause that only the <i>first</i> heading is being typeset, and</p> <pre>\captionsetup{bi-lang=second}</pre> <p>will cause that only the <i>second</i> heading is being typeset.</p>

`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=`

`\captionsetup{bi-swap}`

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

```
\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]{bicipation}
\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}%
  \bicipation{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}%
  \bicipation[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}

```

IMAGE
(a) Teilabbildung A
(a) Subfigure A

IMAGE
(b) Teilabbildung langer Titel B
(b) Subfigure long title B

Abbildung 1: Deutscher Titel
Figure 1: English Title

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

IMAGE
(b) Teilabbildung B
(b) Subfigure B

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

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

IMAGE
(b) Teilabbildung B
(b) Subfigure B

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

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

IMAGE
(b) Teilabbildung B
(b) Subfigure B

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+= $\langle$ list type extension $\rangle$ 
```

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 \langle list type \rangle 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]{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:

New feature
v1.1

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

For setting the language of the caption `\selectcaptionlanguage` will be `\@firstoftwo`, for setting the language of the list entry `\selectcaptionlanguage` 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.

`\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

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

```
\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)}
```

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”.