

ABSTRACT

The package crefthe provides a command `\crefthe` parallel to cleveref's `\cref` for handling definite articles properly (especially for the article contractions in some European languages).

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The motivation

1 By default, with cleveref's `\cref` to reference theorem-like environments, the names do not  
2 contain definite articles. While this might be acceptable for English, it is certainly not good  
3 enough for languages such as French, Italian, Portuguese, Spanish, etc. – in these cases there  
4 shall be grammatical errors and would give you a strong feeling that it is machine-generated.  
5 However, even if we manually add the definite articles to the names, there would still be  
6 other problems. As an example, if we define the French names to be:

```
\crefname{theorem}{le théorème}{les théorèmes}  
\crefname{proposition}{la proposition}{les propositions}
```

7 then when one writes (which means “*We can deduce this from ...*”)

```
On peut le déduire de \cref{thm1,thm2,prop3}.
```

8 the result would be:

On peut le déduire **de les** théorèmes 1 et 2 et **la** proposition 3.

9 which is wrong, as the correct result should be:

On peut le déduire **des** théorèmes 1 et 2 et **de la** proposition 3.

10 `\cref` cannot handle such cases automatically — that is when `\crefthe` comes into play.

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The usage

2.1 | How to load it?

11 Simply load the package with:

```
\usepackage{crefthe}
```

#### TIP

- Since `crefthe` uses `cleveref` internally, it should usually be placed at the last of your preamble, and notably, after `varioref` and `hyperref`.
- To handle article contractions correctly, `\crefthe` shall detect the current language, thus you need to use packages such as `babel` or `polyglossia` to set your languages, and use commands like `\selectlanguage` to select them appropriately.

## 2.2 | How to use it ?

Before everything, you need to define the names, which can be done with `\crefthename`. Its syntax is similar to `\crefname`, but now you can specify the definite articles, for example:

```
\crefthename{theorem}[le]{théorème}[les]{théorèmes}
```

Then you can use the command `\crefthe` as follows:

- `\crefthe[⟨prep⟩]{⟨labels⟩}`
  - This will pass the preposition `⟨prep⟩` to the definite articles that follows. Its behavior depends on the current language (for example, in Spanish, `⟨prep⟩` is passed only to the first definite article, while in French it is passed to everyone).
- `\crefthe- [⟨prep⟩]{⟨labels⟩}` and `\crefthe+ [⟨prep⟩]{⟨labels⟩}`
  - In case the automatic version does not meet your needs, here are two manual ones. The `-` version passes the preposition `⟨prep⟩` only to the first definite article, while the `+` version passes `⟨prep⟩` to every definite article.

#### TIP

There is also a starred version `\crefthe*` for generating the same referencing text but without creating hyperlinks.

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### Example

Let us come back to the example at the beginning, now you can do this:

```
\crefthename{theorem}[le]{théorème}[les]{théorèmes}
\crefthename{proposition}[la]{proposition}[les]{propositions}
```

And the sentence shall be written as:

```
On peut le déduire \crefthe[de]{thm1,thm2,prop3}.
```

which would result in (provided that you have done `\selectlanguage{french}`):

On peut le déduire **des** théorèmes 1 et 2 et **de la** proposition 3.

Voilà !

### Regarding the cases

The commands also have corresponding uppercased version: `\Crefthename` and `\Crefthe`, similar to `cleveref`'s `\Crefname` and `\Cref`, reserved for use at the beginning of a sentence. `\Crefthe` can handle case changing automatically: for example, with `\Crefthe [À]{thm1, thm2, prop3}`, you will get something like

**Aux théorèmes 1 et 2 et à la proposition 3**

Of course you will have to define the `\Crefthenames` separately, for example as:

```
\Crefthename{theorem}[Le]{théorème}[Les]{théorèmes}
\Crefthename{proposition}[La]{proposition}[Les]{propositions}
```

### Relationship with cleveref

`crefthe` loads `cleveref` automatically and pass all the options to it. All its commands, used without optional arguments, degenerate to those in `cleveref`. For example, `\crefthe{...}` is the same as `\cref{...}`, and `\crefthename` is the same as `\crefname` if the definite articles are not specified. That said, you can safely use the command `\crefthe` everywhere in your document without causing extra trouble.

### For multi-language documents

To place hyperlinks at the right place, `\crefthename` touches the corresponding `\crefformat` internally, which makes it language-dependent. If you are writing multi-language documents, you may like to consider putting `\crefthename` inside your language configuration so as to reset it each time you select a new language.

### Known issues

- `crefthe` currently only works for French, Italian, Portuguese (European and Brazilian) and Spanish, certainly more would be added to this list.
- The current mechanism does not work for German. However, the author has planed to adopt a more refined approach in later versions in order to support the various situations in German.
- For now, the automatic case changing mechanism only works properly under Unicode based engines. If you are using pdf $\text{\LaTeX}$  or typing accented letters with text commands, `\Crefthe` will not work as expected.
- The names of theorem-like environments are not provided — for the moment you need to define them all by yourself. However, users are encouraged to use the [ProjLib](#) toolkit, which already handles everything for you.