

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 ?

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

---

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

---

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

- 4 • `\crefthe[⟨prep⟩]{⟨labels⟩}`  
5 – This will pass the preposition `⟨prep⟩` to the definite articles that follows. Its behavior  
6 depends on the current language (for example, in Spanish, `⟨prep⟩` is passed only to the  
7 first definite article, while in French it is passed to everyone).
- 8 • `\crefthe- [⟨prep⟩]{⟨labels⟩}` and `\crefthe+ [⟨prep⟩]{⟨labels⟩}`  
9 – In case the automatic version does not meet your needs, here are two manual ones.  
10 The `-` version passes the preposition `⟨prep⟩` only to the first definite article, while the `+`  
11 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

- 12 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}
```

---

- 13 And the sentence shall be written as:

---

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

---

- 14 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.
```

- 15 Voilà !

Regarding the cases

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

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

5 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

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

For multi-language documents

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

Known issues

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