# The inventory of linguistic relations used in the Copenhagen Dependency Treebanks

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#### Abstract

This manual describes the inventory of linguistic relations used in the Copenhagen Dependency Treebanks, a set of parallel treebanks for Danish, English, German, Italian, and Spanish annotated with respect to syntax, morphology, discourse, coreference, and translational equivalence. The manual is generated automatically from the CDT project's online relation spreadsheet.<sup>1</sup>

<sup>1</sup>http://spreadsheets.google.com/ccc?key=0ArjTKYTQS1lWcnNUWGJrX3lZTkxDc3QxYmlqWlRXQ1E&hl=

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#### Introduction

This manual describes the relations used in the Copenhagen Dependency Treebanks. The relations are ordered in a hierarchy, where each relation may have zero or more immediate super types, and zero or more immediate subtypes. The relations are presented in detail in the following chapters, grouped by linguistic level and general relation type. Every time a relation is introduced, its name is written in the left margin, with an indication of its immediate super types and the row in the online CDT spreadsheet in which the relation was defined. An example is shown below.

**relation** The notation in the left margin indicates that we now describe the relation relation; is super it has immediate super type super and is defined in row 12 in the spreadsheet. When [12] describing a relation, we also lists its other properties, if relevant, including its:

- long name: we use short names in the annotation for brevity, but long names are sometimes more descriptive, so we provide these as an alias for the short relation name:
- deprecated names: when renaming relations, the old name is listed as a deprecated name for backwards compatibility, but it should be avoided in future annotation:
- immediate subtypes: the relation names that have been specified as the immediate subtypes of the relation;
- related types: lists the relations that are closely related to this relation, in some way or another, and which you might want to consult for clarification or additional information;
- examples: small annotated text examples that illustrate how the relation is used;

In PDF versions of this document, relation names are clickable so that you can navigate through the relation hierarchy by clicking on the relation names.

# **Top-level relations: ANY**

Figure 2.1: The relations matching ANY-SYNTAX-MORPHOLOGY-DISCOURSE-ANAPHORA-SEMANTICS-ALIGNMENT-RULE.

3.1

## Syntactic relations: SYNTAX

Figure 3.1: The relations matching SYNTAX-SYNCOMP-SYNADJ.

Complement relations: SYNCOMP

Figure 3.2: The relations matching SYNCOMP.

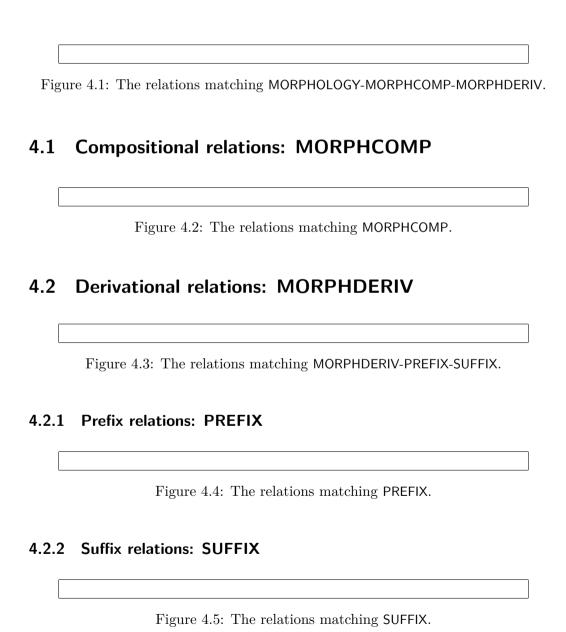
#### 3.2 Adverbial adjunct relations: ADVERB

Figure 3.3: The relations matching ADVERB.

#### 3.3 Other adjunct relations: SYNADJ

Figure 3.4: The relations matching SYNADJ-ADVERB.

# Morphological relations: MORPHOLOGY



### Discourse relations: DISCOURSE

Figure 5.1: The relations matching  ${\tt DISCOURSE-DISCFUNC-DISCSEM}.$ 

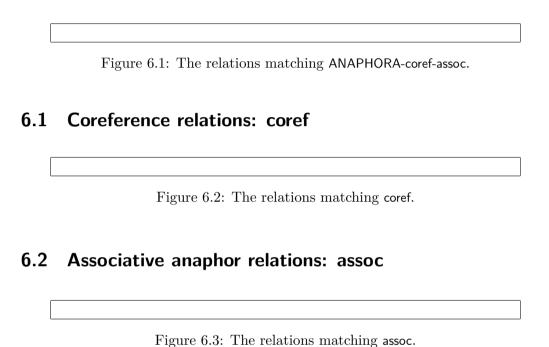
#### 5.1 Functional relations: DISCFUNC

Figure 5.2: The relations matching DISCFUNC.

#### 5.2 Semantic relations: DISCSEM

Figure 5.3: The relations matching DISCSEM.

## **Anaphor relations: ANAPHORA**



#### Semantic relations: SEMANTICS



Figure 7.2: The relations matching QUALIA.

#### 7.2 Thematic role relations: SEMROLE

Figure 7.3: The relations matching SEMROLE.

# Word alignment relations: ALIGN

Figure 8.1: The relations matching ALIGN.

# Rule schemata for complex relations: RULE

Figure 9.1: The relations matching RULE.

# Relations misplaced outside the ANY hierarchy

Figure 10.1: The relations matching -ANY.

# Appendix A

## **Overview tables**

The	${\bf relations\ matching\ ANY-SYNTAX-MORPHOLOGY-DISCOURSE-ANAPHORAL SEMANTICS-ALIGNMENT-RULE.}$
	The relations matching SYNTAX-SYNCOMP-SYNADJ.
	G The state of the
	The relations matching SYNCOMP.
	The relations matching ADVERB.
	The relations matching SYNADJ-ADVERB.
	The relations matching MORPHOLOGY-MORPHCOMP-MORPHDERIV.

	The relations matching MORPHDERIV-PREFIX-SUFFIX.
	The relations matching PREFIX.
	The relations matching SUFFIX.
,	The relations matching DISCOURSE-DISCFUNC-DISCSEM.
	The relations matching DISCFUNC.
	The relations matching DISCSEM.
	The relations matching ANAPHORA-coref-assoc.
	The relations matching coref.
	The relations matching assoc.
	The relations matching SEMANTICS-QUALIA-SEMROLE.

The relations matching QUALIA.
The relations matching SEMROLE.
The relations matching ALIGN.
The relations matching RULE.
The relations matching -ANY.

# Appendix B

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