

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

Matthias Buch-Kromann      Morten Gylling-Jørgensen  
Lotte Jelsbech Knudsen      Iørn Korzen  
Henrik Høeg Müller

Center for Research and Innovation in Translation and Translation Technology  
Dept. of International Language Studies and Computational Linguistics  
Copenhagen Business School

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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>

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<sup>1</sup><http://spreadsheets.google.com/ccc?key=0ArjTKYTQS1lWcnNUWGGJrX3lZTkxDc3QxYmlqWlRXQ1E&hl=en>

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# Chapter 1

## 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`; it has  
isa super immediate super type `super` and is defined in row 12 in the spreadsheet. When describing a  
[12] 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.

## Chapter 2

# Top-level relations: ANY

ANY: directed relation  
DIM: dimension  
DIM:LEVEL: dimension: linguistic level  
DIM:TYPE: dimension: relation type  
+: segment concatenation  
IDIOM: idiomatic relation  
PRIM: primary dependency relation  
ADJ: adjunct relation  
COMP: complement relation  
SEC: secondary dependency relation  
fill: licensed filler

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

**ANY** *Directed relation.* An arbitrary directed relation between two tokens. The arrow goes from  
[4] parent (head, governor, nucleus) to child (dependent, satellite).

Subtypes: DIM RULE TOPICS.

**DIM** *Dimension* (long: DIMENSION). A dimension in the hierarchy. Eg, linguistic level and relation  
isa ANY type.

[5] Subtypes: DIM:LEVEL DIM:TYPE.

**DIM:LEVEL** *Dimension: linguistic level.* Dimension specifying the linguistic level of the relation. The  
isa DIM classification of relations into linguistic levels is slightly arbitrary (there will be borderline  
[6] cases where there is no single natural classification), and does not carry any deep linguistic  
significance. It is more a question about linguistic convention and research tradition than  
about any deep underlying difference between relations.

Subtypes: ALIGN ANA DISC MORPH SEM SYN.

**DIM:TYPE** *Dimension: relation type.* Dimension specifying the type of the relation.

isa DIM Subtypes: + IDIOM PRIM SEC fill.

[7]

+ *Segment concatenation* (long: CONCATENATION). A concatenation relation between two ad-  
isa DIM:TYPE jacent segments. This relation is used if an indecomposable lexeme has mistakenly been seg-  
[31] mented into two segments. Lexicalized complex expressions are instead marked as IDIOM  
relations with the ”#” suffix.

Related types: IDIOM.



**IDIOM** *Idiomatic relation*. An idiomatic relation. Ie, a relation between tokens in a complex lexical-  
 isa DIM:TYPE ized expression that form a single lexical unit.  
 [32] Subtypes: PRIM”#”.

**PRIM** *Primary dependency relation* (long: PRIMARY). A primary dependency relation. Ie, a relation  
 isa DIM:TYPE which specifies the primary head (the governor) of a token (the dependent).  
 [24] Subtypes: ADJ COMP.

**ADJ** *Adjunct relation* (long: ADJUNCT). A primary adjunct relation. The relation is licensed by the  
 isa PRIM adjunct, ie, the lexical entry of the adjunct specifies the permissible adjunct frames for the  
 [26] adjunct (ie, the permissible adjunct roles and the restrictions on the governor, eg, with respect  
 to word class). In the compositional semantics, the adjunct acts as functor with the governor  
 as argument.

Subtypes: DISCOTHER DISCPRAG DISCSEM SYNADJ.

**COMP** *Complement relation* (long: COMPLEMENT). A primary complement relation. The relation is  
 isa PRIM licensed by the governor, ie, the lexical entry of the governor specifies the complement frames  
 [25] that it allows (the complement frame specifies the permissible complement roles, and the  
 lexical restrictions on the complements, eg, with respect to word class). In the compositional  
 semantics, the complements act as arguments with the governor as functor.

Subtypes: ”@”adverb SYNCOMP.

**SEC** *Secondary dependency relation* (long: SECONDARY). A secondary dependency relation. Eg, the  
 isa DIM:TYPE secondary dependency relation in filler-gap constructions such as relatives without a relative  
 [27] pronoun (the relativized noun is a secondary dependent of the relative verb), raising and  
 control constructions, and elliptic coordinations.

Subtypes: ”[”PRIM”]” ”[”SEM”]”.

**fill** *Licensed filler*. A relation from a filler licenser to a phonetically empty filler that it licenses.  
 isa DIM:TYPE Filler relations are never annotated explicitly in the CDT annotation, but play an important  
 [29] role in the underlying linguistic theory, Discontinuous Grammar. In DG, a ”filler” is a pho-  
 netically empty constituent which is licensed lexically by a ”filler licenser” lexeme (eg, the  
 relative verb in a relative construction acts as filler licenser for a filler that essentially pro-  
 vides a copy of the relativized noun, and in control constructions, the controlling verb passes  
 on a copy of the controlled complement to the subordinate verb).

## Chapter 3

# Syntactic relations: SYNTAX

SYN: syntax level

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

**SYN** *Syntax level* (long: SYNTAX). A relation at the syntactic level. I.e., a relation between two segments within a sentence, but not within a single word.  
isa DIM:LEVEL  
[16] Subtypes: SYNADJ SYNCOMP.

### 3.1 Complement relations: SYNCOMP

SYNCOMP: syntactic complement

@space: valency-bound location/direction adverbial

@time: valency-bound time adverbial

aobj: adjectival object

avobj: adverbial object

dobj: direct object

fobj: filler object

gobj: genitive object

iobj: indirect object

nobj: nominal object

numa: additive numeral complement

numm: multiplicative numeral complement

part: verbal particle

pobj: prepositional object

possd: possessed complement

possr: possessor complement

pred: predicative

predo: object predicative

preds: subject predicative

qobj: quotational object

robj: reflexive object

subj: subject

expl: expletive subject

vobj: verbal object

Figure 3.2: The relations matching SYNCOMP.

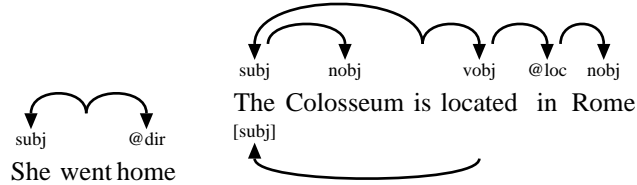
**SYNCOMP** *Syntactic complement*. A syntactic complement role. Complements are lexically licensed by  
isa COMP SYN  
[75]



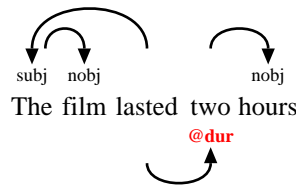
their governors. In the functor-argument structure, they act as functors with the complements as arguments.

Subtypes: @space @time aobj avobj dobj fobj gobj iobj nobj numa numm part pobj possd possr pred qobj robj subj vobj.

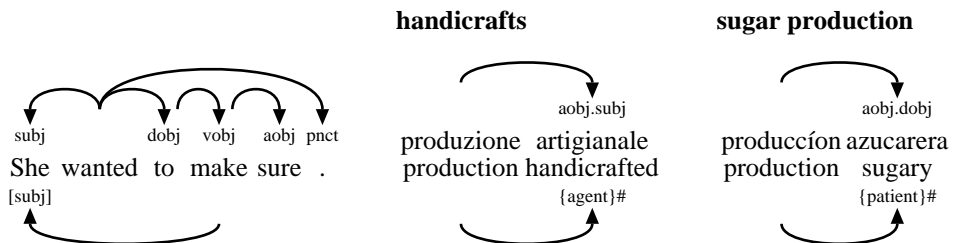
**@space** *Valency-bound location/direction adverbial.*  
isa SYNCOMP Related types: dir loc.  
[84]



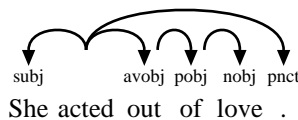
**@time** *Valency-bound time adverbial.* A valency bound time expression. Formerly analyzed as locative object, but we have decided to provide a general mechanism (@) for converting adverbial relations into valency-bound relations.  
[100] Related types: cont dur ext hab prec succ.



**aobj** *Adjectival object.* If the adverbial object is part of a NP which nucleus is deverbal, the following annotation possibilities are available: aobj.subj{SEMROLE} aobj.dobj{SEMROLE} aobj.pobj{SEMROLE} aobj.iobj{SEMROLE} The relevant semantic roles in this context are agent, patient, recipient, experient, location.  
[91] Related types: avobj.  
Confusion<sub>9</sub>: attr<sub>44%</sub> aobj<sub>33%</sub> man<sub>11%</sub> nobj<sub>11%</sub> .



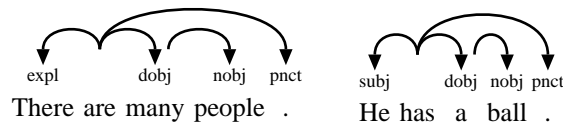
**avobj** *Adverbial object.*  
isa SYNCOMP Related types: aobj part.  
[92] Confusion<sub>4</sub>: quant<sub>50%</sub> loc<sub>25%</sub> avobj<sub>25%</sub> .



**dobj** *Direct object*. A direct object relation. In languages with case, the direct object is typically accusative-marked.

[80] Related types: iobj robj.

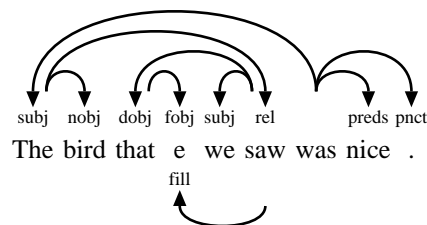
Confusion<sub>93</sub>: dobj<sub>86%</sub> pobj<sub>4%</sub> nobj<sub>2%</sub> preds<sub>2%</sub> iobj<sub>2%</sub> pred<sub>1%</sub> dir<sub>1%</sub> pnct<sub>1%</sub>.



**fobj** *Filler object*. Filler objects are never annotated explicitly in the CDT annotation. In Discontinuous Grammar, a "filler" is a phonetically empty constituent which is licensed lexically

[93] by a "filler licenser" lexeme (eg, the relative verb in a relative construction acts as filler licenser for a filler that essentially provides a copy of the relativized noun). A "filler object" is reserved for the special case where a particular word (eg, a relative pronoun) must consume a filler (eg, the filler created by the relative verb). That is, most of the constructions which include a "ref" relation in the CDT involve the use of a filler object in the detailed theoretical account in Discontinuous Grammar.

Related types: fill ref.

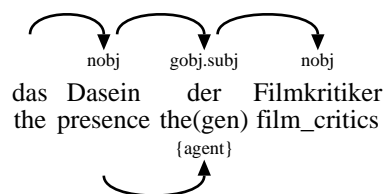


**gobj** *Genitive object*. If the genitive object is part of a NP which nucleus is deverbal, the following annotation possibilities are available: gobj.subj{SEMROLE} gobj.dobj{SEMROLE} gobj.pobj{SEMROLE}

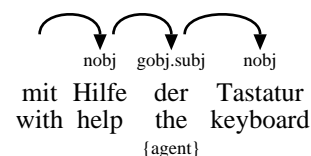
[82] gobj.iobj{SEMROLE} The relevant semantic roles in this context are agent, patient, recipient, experient, location.

Related types: SEMROLE attrg.

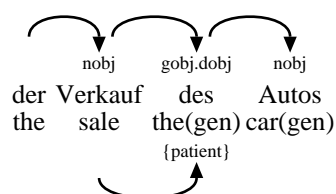
#### the presence of film critics



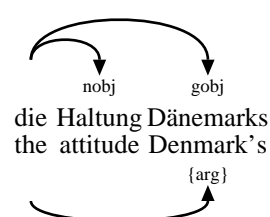
#### with help from the keyboard



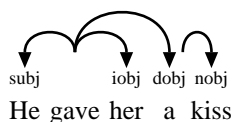
#### the sale of the car



#### Denmark's attitude

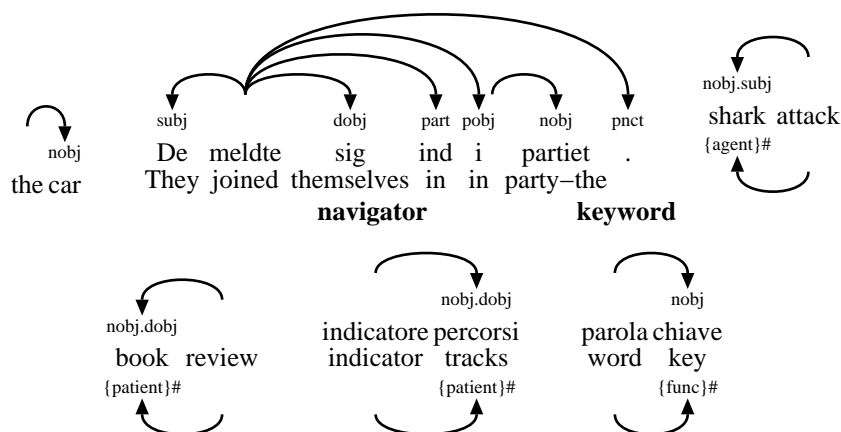


**iobj** *Indirect object.*  
 isa SYNCOMP Related types: dobj.  
 [83] Confusion<sub>2</sub>: dobj<sub>100%</sub> .

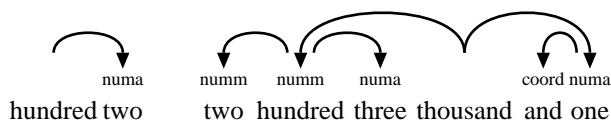


**nobj** *Nominal object.* If the nominal object is part of a NP which nucleus is deverbal, the following annotation possibilities are available: nobj.subj{SEMROLE} nobj.dobj{SEMROLE} nobj.pobj{SEMROLE} nobj.iobj{SEMROLE} The relevant semantic roles in this context are agent, patient, recipient, experient, location.  
 Confusion<sub>488</sub>: nobj<sub>92%</sub> attr<sub>1%</sub> name<sub>1%</sub> pobj<sub>1%</sub> title<sub>1%</sub> vobj<sub>1%</sub> time<sub>0%</sub> dobj<sub>0%</sub> subj<sub>0%</sub> possd<sub>0%</sub> conj<sub>0%</sub> aobj<sub>0%</sub> pnct<sub>0%</sub> quant<sub>0%</sub> preds<sub>0%</sub> loc<sub>0%</sub> modp<sub>0%</sub> .

**They joined the party.**



**numa** *Additive numeral complement.* An additive numeral complement relation. Numerals license one additive and one numeral complement, both optional. The numerical value associated with the expression is the value  $M * N + A$ , where M is the numerical value of the multiplicative complement, A is the numerical value of the additive complement, and N is the numerical value associated with the lexical numeral itself. Eg, "two hundred four" has value " $2 * 100 + 4$ ", "two hundred four thousand" has value " $(2 * 100 + 4) * 1000$ ", and "two hundred four thousand and twenty three" has value " $(2 * 100 + 4) * 1000 + (20 + (3))$ ".  
 Related types: numm.

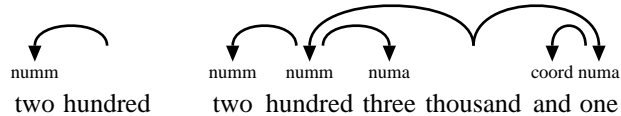


**numm** *Multiplicative numeral complement.* An multiplicative numeral complement relation. Numerals license one additive and one numeral complement, both optional. The numerical value associated with the expression is the value  $M * N + A$ , where M is the numerical value of the multiplicative complement, A is the numerical value of the additive complement, and N is

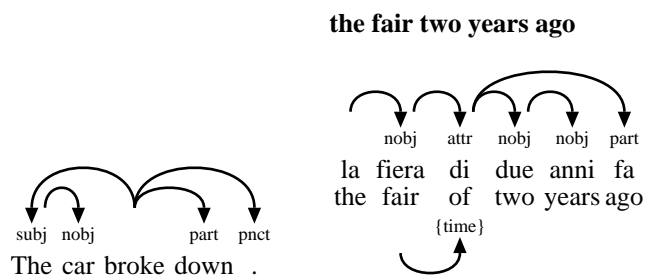
the numerical value associated with the lexical numeral itself. Eg, "two hundred four" has value " $2 * 100 + 4$ ", "two hundred four thousand" has value " $(2 * 100 + 4) * 1000$ ", and "two hundred four thousand and twenty three" has value " $(2 * 100 + 4) * 1000 + (20 + (3))$ ".

Related types: numa.

Confusion<sub>1</sub>: numm<sub>100%</sub> .



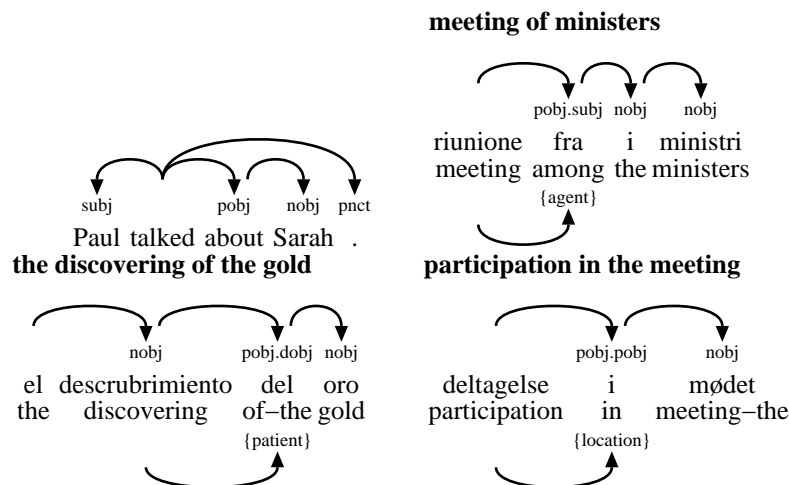
**part** *Verbal particle.* Verbal particle.  
isa SYNCOMP Related types: avobj.  
[96] Confusion<sub>3</sub>: part<sub>67%</sub> dir<sub>33%</sub> .



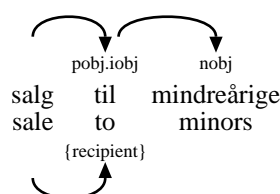
**pobj** *Prepositional object.* A prepositional object relation. The governor may be a verb, noun, adjective, adverbial, or another preposition. The preposition is analyzed as the head of the prepositional object itself. If the prepositional object is part of a deverbal NP (ie, an NP where the nucleus is derived from a verb), the CDT annotation specifies the underlying role of the NP within the PP by adding a "." followed by the underlying role to the relation, e.g., "pobj.subj" (the NP in the PP would act as subject in the underlying V), "pobj.dobj", "pobj.pobj", and "pobj.iobj"; in these cases, the semantic role "{SEMROLE}" must be annotated as well (the most relevant semantic roles in this context are "agent", "patient", "recipient", "experient", "location").

Related types: SEMROLE avobj.

Confusion<sub>109</sub>: pobj<sub>55%</sub> attr<sub>20%</sub> dir<sub>6%</sub> nobj<sub>5%</sub> dobj<sub>4%</sub> source<sub>3%</sub> goal<sub>3%</sub> loc<sub>2%</sub> man<sub>1%</sub> other<sub>1%</sub> inst<sub>1%</sub> cause<sub>1%</sub> .



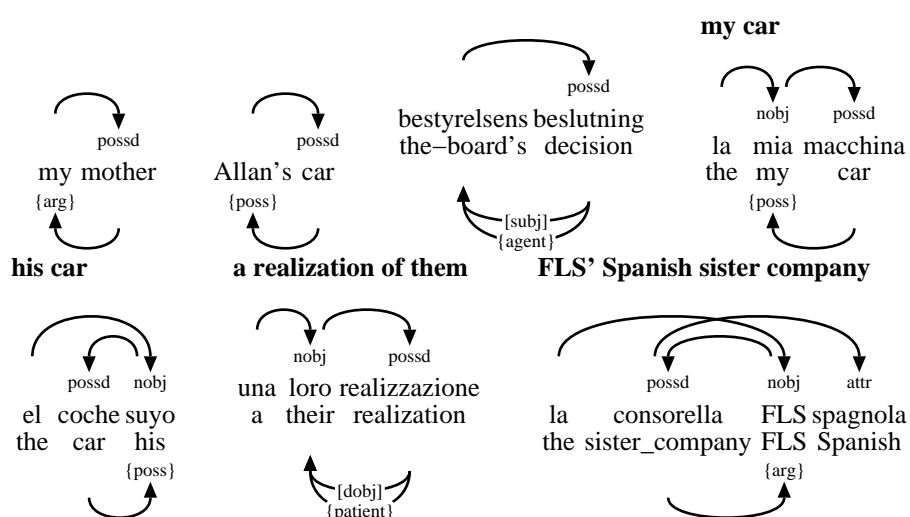
# sale to minors



**possd** *Possessed complement.* The possessed complement in a possessive construction. Possession is understood in a syntactic sense as any construction with a clitic genitive marker, not necessarily as possession in a narrow semantic sense. A better name may be chosen for this relation in the future.

Related types: "{\$PRIM}" SEMROLE poss possr.

Confusion<sub>30</sub>: possd<sub>90%</sub> nobj<sub>7%</sub> attr<sub>3%</sub> .



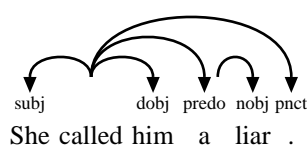
**possr** *Possessor complement.* NO LONGER IN USE  
The possessor complement in a possessive construction. Possession is understood in a syntactic sense as any construction with a clitic genitive marker, not necessarily as possession in a narrow semantic sense. A better name may be chosen for this relation in the future.

Related types: poss possd.

N/A

**pred** *Predicative.*  
Subtypes: predp preds.  
Related types: predp preds.

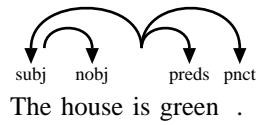
**predo** *Object predicative.*  
Related types: preds.  
Confusion<sub>1</sub>: dobj<sub>100%</sub> .



**preds** *Subject predicative.*

isa pred Related types: pred.

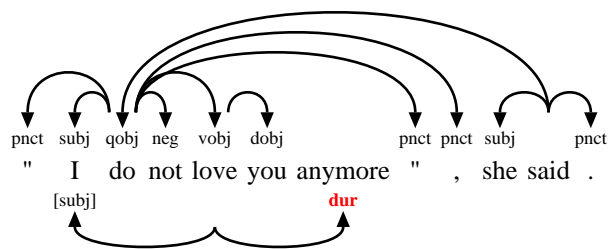
[86] Confusion<sub>43</sub>: preds<sub>86%</sub> dobj<sub>5%</sub> nobj<sub>2%</sub> loc<sub>2%</sub> inst<sub>2%</sub> resem<sub>2%</sub> .



**qobj** *Quotational object.* A phrase or discourse segment functioning as directly quoted speech, typically by an attribution verb. Indirect speech is analyzed as "dobj" or "nobj".

[99] Related types: xpl.

Confusion<sub>5</sub>: qobj<sub>100%</sub> .

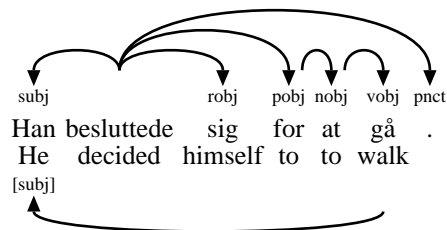


**robj** *Reflexive object.*

isa SYNCOMP Related types: dobj.

[89]

**He decided to walk.**



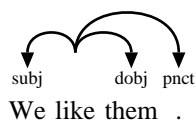
**subj** *Subject.* A subject relation. In languages with case, subjects are usually nominative-marked. Agent-roles are often encoded as subjects, but not necessarily so (eg, in passive constructions).

[78]

Subtypes: expl.

Related types: expl.

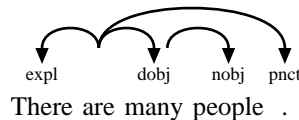
Confusion<sub>171</sub>: subj<sub>98%</sub> nobj<sub>1%</sub> correl<sub>1%</sub> attr<sub>1%</sub> .



**expl** *Expletive subject*. An expletive subject relation. The expletive subject is typically a situational place adverbial like "there" or time adverbial like "now", and is only possible for verbs that support the expletive alternation. The expletive alternation applies to all verbs that do not have a direct object (this observation, due to Richard Hudson, can be used as a test to distinguish between direct and indirect objects in verbs that take a single object). The alternation creates a new lexicalization of the verb by demoting the original subject to the vacant direct object role (with the restriction that only indefinites are allowed in this direct object role), and letting the subject role be filled by a situational place or time adverbial.

Related types: subj.

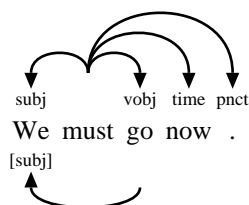
Confusion<sub>4</sub>: expl100% .



**vobj** *Verbal object*.

isa SYNCOMP Related types: ["\$PRIM"] .

[88] Confusion<sub>116</sub>: vobj96% nobj3% conj1% relr1% .



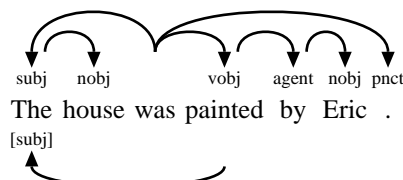
## 3.2 Adverbial adjunct relations: ADVERB

**ADVERB** *Adverbial*. V/N/P->adverbial

isa SYNADJ Subtypes: agent cause conc concom cond cons exem man neg other prg quant resem source space time.

**agent** *Agent adverbial*. The passivized agent in passives.

isa ADVERB Confusion<sub>1</sub>: agent100% .



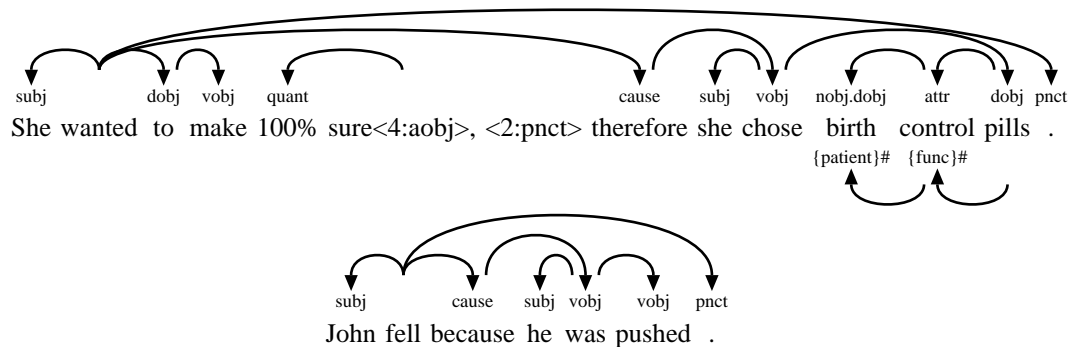
**cause** *Causation adverbial*. Causation adverbial. Describes why the event occurred.

isa ADVERB Subtypes: goal.

[157] Confusion<sub>6</sub>: cause33% attr33% pobj17% cons17% .

ADVERB: adverbial  
 agent: agent adverbial  
 cause: causation adverbial  
   goal: goal adverbial  
 conc: concession adverbial  
 concom:  
 cond: condition adverbial  
 cons: consequence adverbial  
 exem: example adverbial  
 man: manner adverbial  
   accom: companionship adverbial  
   inst: instrument adverbial  
 neg: negation adverbial  
 other: other adverbial  
 prg: pragmatic adverbial  
   discmark: sentence-initial discourse marker  
   epi: epistemic adverbial  
   eval: evaluation adverbial  
   focal: focalizer adverbial  
   scene: pragmatic condition and structural adverbial  
     add: additive adverbial  
     contr: contrast adverbial  
     elab: elaboration adverbial  
 quant: degree adverbial  
 resem: comparison adverbial  
 source: source attribution adverbial  
 space: space adverbial  
   dir: direction adverbial  
   loc: location adverbial  
 time: time adverbial  
 iter: habituality adverbial

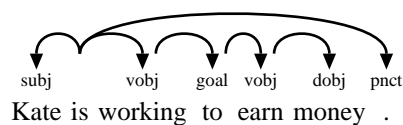
Figure 3.3: The relations matching ADVERB.



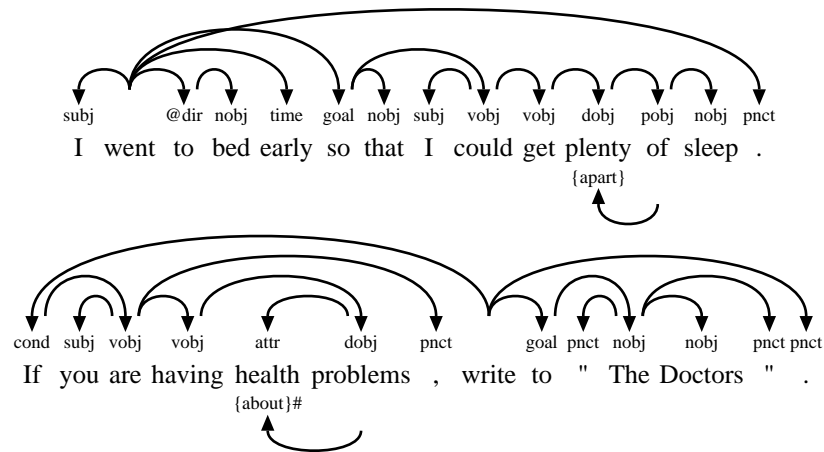
**goal** *Goal adverbial* (deprecated ben). Describes the intended goal of the event/action. Also used in connection with free datives.

[158] Related types: reas.

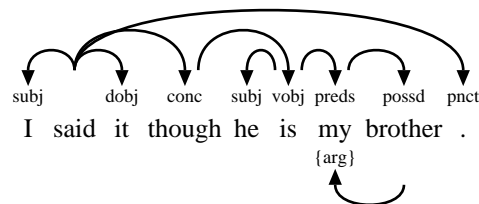
Confusion<sub>9</sub>: goal<sub>44%</sub> pobj<sub>33%</sub> man<sub>11%</sub> scene<sub>11%</sub> .





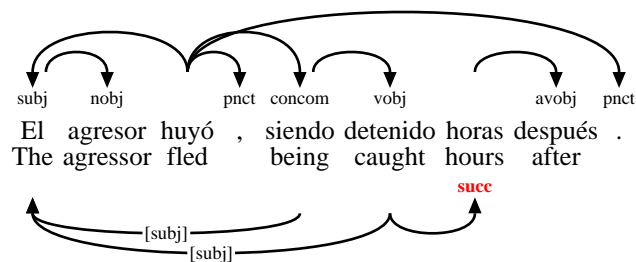


**conc** *Concession adverbial*. Describes the concession of the event/action.  
 isa ADVERB Confusion<sub>3</sub>: contr<sub>67%</sub> conc<sub>33%</sub> .  
 [161]

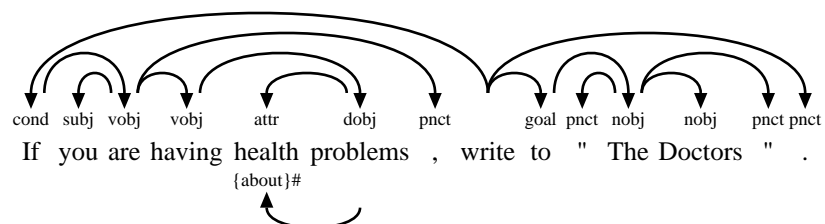


**concom** . Gerunds in Romance  
 isa ADVERB Related types: vobj.  
 [165]

**The agressor fled and/but got caught hours later.**

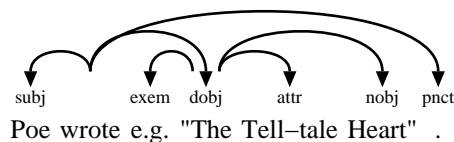


**cond** *Condition adverbial*. Describes the condition of the event/action.  
 isa ADVERB Related types: pcond.  
 [160] Confusion<sub>2</sub>: cond<sub>100%</sub> .

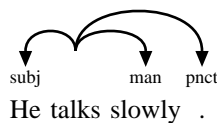


**cons** *Consequence adverbial*. Describes the consequence of the event/action.  
 isa ADVERB Related types: xtop.  
 [159] Confusion<sub>3</sub>: cons<sub>67%</sub> cause<sub>33%</sub> .

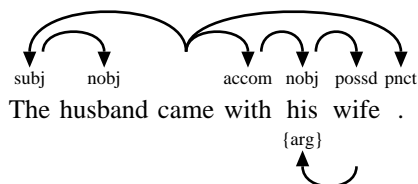
**exem** *Example adverbial* (long: exemplification, deprecated ex). Exemplification; subordinated the object which is added to a list.  
 isa ADVERB  
 [164] Confusion<sub>3</sub>: exem<sub>100%</sub> .



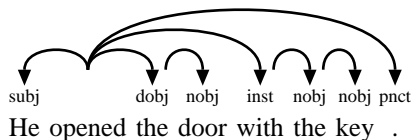
**man** *Manner adverbial*. The way things are done  
 isa ADVERB Subtypes: accom inst.  
 [154] Related types: fpredo.  
 Confusion<sub>30</sub>: man<sub>43%</sub> accom<sub>10%</sub> epi<sub>7%</sub> time<sub>7%</sub> other<sub>7%</sub> quant<sub>7%</sub> source<sub>3%</sub> attr<sub>3%</sub> goal<sub>3%</sub> aobj<sub>3%</sub> eval<sub>3%</sub> pobj<sub>3%</sub> .



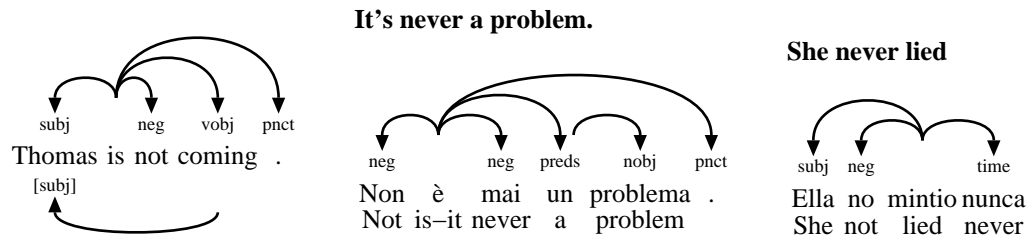
**accom** *Companionship adverbial* (deprecated comp). Companionship  
 isa man Related types: man.  
 [155] Confusion<sub>5</sub>: man<sub>60%</sub> accom<sub>40%</sub> .



**inst** *Instrument adverbial*. Instrument/means  
 isa man Related types: man.  
 [156] Confusion<sub>9</sub>: inst<sub>44%</sub> loc<sub>11%</sub> scene<sub>11%</sub> preds<sub>11%</sub> attr<sub>11%</sub> pobj<sub>11%</sub> .



**neg** *Negation adverbial*. Negation of a verbal  
 isa ADVERB Confusion<sub>14</sub>: neg<sub>93%</sub> coord<sub>7%</sub> .  
 [168]



**other** *Other adverbial*.

isa ADVERB Confusion<sub>9</sub>: loc<sub>33%</sub> man<sub>22%</sub> other<sub>11%</sub> focal<sub>11%</sub> attr<sub>11%</sub> pobj<sub>11%</sub> .  
[169]

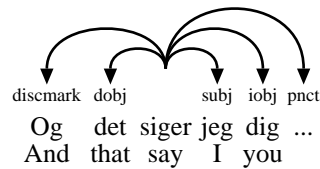
**prg** *Pragmatic adverbial* (long: pragmatic). Sentence level.

isa ADVERB Subtypes: discmark epi eval focal scene.  
[140]

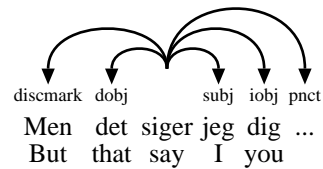
**discmark** *Sentence-initial discourse marker* (long: discoursemarker). Discourse marker

isa prg Related types: coord.  
[145] Confusion<sub>4</sub>: contr<sub>75%</sub> add<sub>25%</sub> .

**And I'm telling you...**

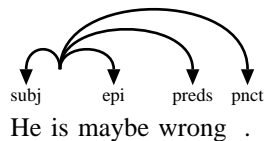


**But I'm telling you...**



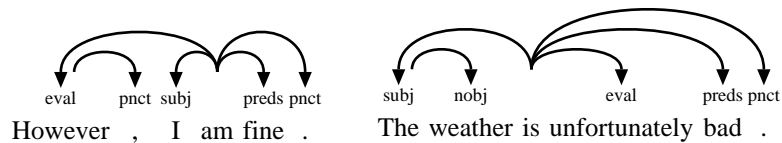
**epi** *Epistemic adverbial* (long: epistemic). Regarding the level of truth in the expression

isa prg Related types: eval.  
[143] Confusion<sub>5</sub>: epi<sub>60%</sub> man<sub>40%</sub> .



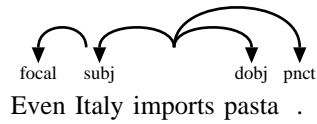
**eval** *Evaluation adverbial* (long: evaluation, deprecated evalatt). Evaluating and attitude adverbials

isa prg Related types: epi.  
[144] Confusion<sub>9</sub>: eval<sub>67%</sub> quant<sub>22%</sub> man<sub>11%</sub> .

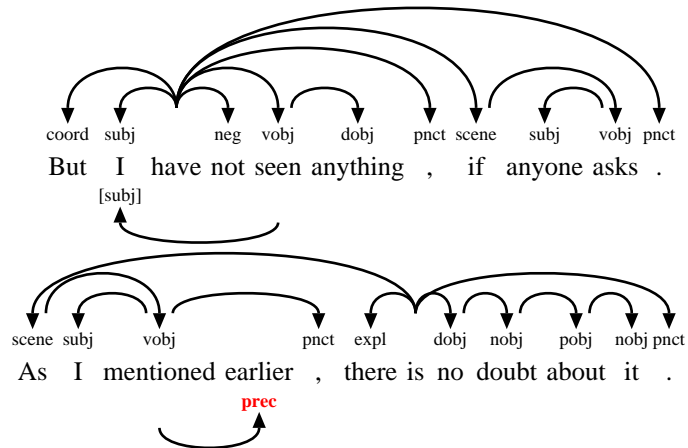


**focal** *Focalizer adverbial* (long: focalizator). Focalization of a noun

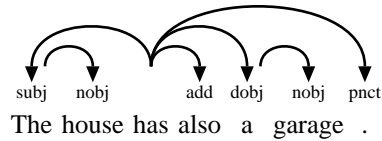
isa prg Related types: quant.  
[141] Confusion<sub>7</sub>: focal<sub>43%</sub> other<sub>14%</sub> correl<sub>14%</sub> loc<sub>14%</sub> attr<sub>14%</sub> .



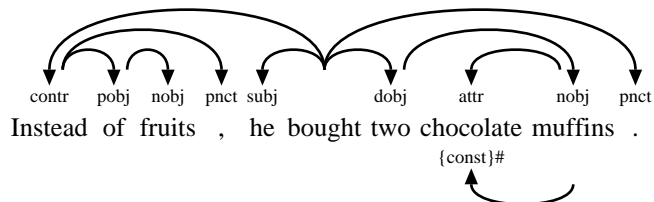
**scene** *Pragmatic condition and structural adverbial* (deprecated prgcondpcondbgstruct). Setting the  
 isa prg scene  
 [142] Subtypes: add contr elab.  
 Related types: cond.  
 Confusion<sub>3</sub>: goal<sub>33%</sub> time<sub>33%</sub> inst<sub>33%</sub> .



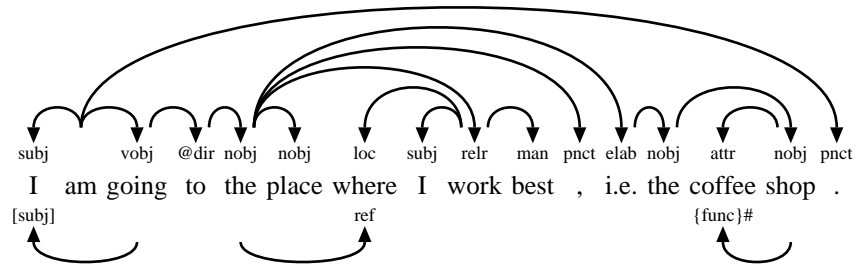
**add** *Additive adverbial* (long: additive). Additive information  
 isa scene Confusion<sub>11</sub>: add<sub>91%</sub> discmark<sub>9%</sub> .  
 [148]



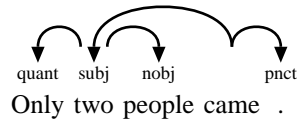
**contr** *Contrast adverbial* (long: contrast). Opposition  
 isa scene Related types: struct.  
 [146] Confusion<sub>7</sub>: discmark<sub>43%</sub> conc<sub>29%</sub> coord<sub>29%</sub> .



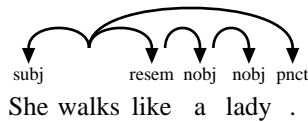
**elab** *Elaboration adverbial* (long: elaboration). More detailed description  
 isa scene  
 [147]



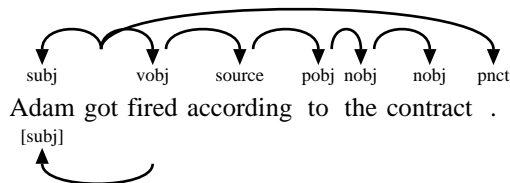
**quant** *Degree adverbial* (long: quantification, deprecated degr). Modifies the object or verbal by degree  
 isa ADVERB Related types: focal.  
 [166] Confusion<sub>35</sub>: quant<sub>77%</sub> man<sub>6%</sub> avobj<sub>6%</sub> eval<sub>6%</sub> nobj<sub>3%</sub> time<sub>3%</sub> .



**resem** *Comparison adverbial* (deprecated comparecomp). Comparison  
 isa ADVERB Confusion<sub>1</sub>: preds<sub>100%</sub> .  
 [162]

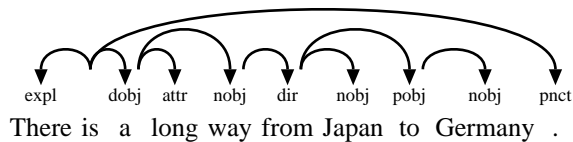


**source** *Source attribution adverbial*. Reference/source  
 isa ADVERB Confusion<sub>4</sub>: pobj<sub>75%</sub> man<sub>25%</sub> .  
 [163]



**space** *Space adverbial*. Space adverbials  
 isa ADVERB Subtypes: dir loc.  
 [151]

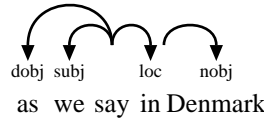
**dir** *Direction adverbial*. Movement from one place to another; direction  
 isa space Related types: loc.  
 [153] Confusion<sub>15</sub>: pobj<sub>40%</sub> dir<sub>33%</sub> loc<sub>13%</sub> part<sub>7%</sub> dobj<sub>7%</sub> .



**loc** *Location adverbial*. Location

isa space Related types: dir.

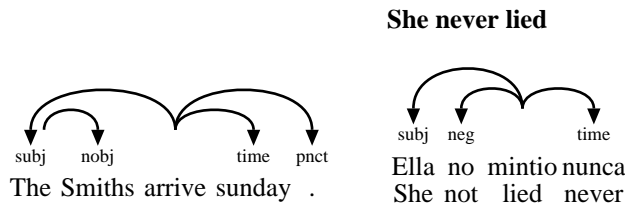
[152] Confusion<sub>45</sub>: loc<sub>71%</sub> other<sub>7%</sub> dir<sub>4%</sub> pobj<sub>4%</sub> nobj<sub>2%</sub> preds<sub>2%</sub> avobj<sub>2%</sub> focal<sub>2%</sub> attr<sub>2%</sub> inst<sub>2%</sub> .



**time** *Time adverbial*. Time relating adverbials

isa ADVERB Subtypes: iter.

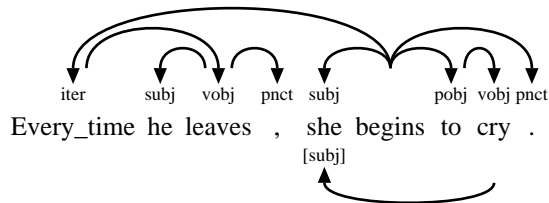
[149] Confusion<sub>36</sub>: time<sub>72%</sub> iter<sub>6%</sub> man<sub>6%</sub> nobj<sub>6%</sub> attr<sub>6%</sub> scene<sub>3%</sub> quant<sub>3%</sub> .



**iter** *Habituality adverb* (deprecated hab). Habitual; repeated habit

isa time Related types: dur ext.

[150] Confusion<sub>2</sub>: time<sub>100%</sub> .



### 3.3 Other adjunct relations: SYNADJ

**SYNADJ** *Syntactic adjunct*. A syntactic adjunct role. Adjuncts license their governors. In the functor-argument structure, they act as modifiers (ie, functors) which as their argument take the governor along with its complements and lower-scoped adjuncts.

[76]

Subtypes: ADVERB GAP app attr attrg conj coord correl fpred mod name pnct rel voc xtop.

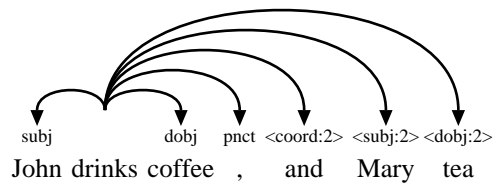
**GAP** *Gapping dependent* (long: GAPPING). A relation between a gapping dependent in a secondary conjunct and the head of the first conjunct. In gapping coordinations, the secondary conjuncts have an elided head, so the remaining material in the secondary conjuncts is instead analyzed as gapping dependents of the head of the first conjunct. In the final CDT annotation, the annotation of gapping dependents will eventually be used to insert a phonetically empty head for the gapped conjuncts, and the gapping dependents will be attached to this gapped head.

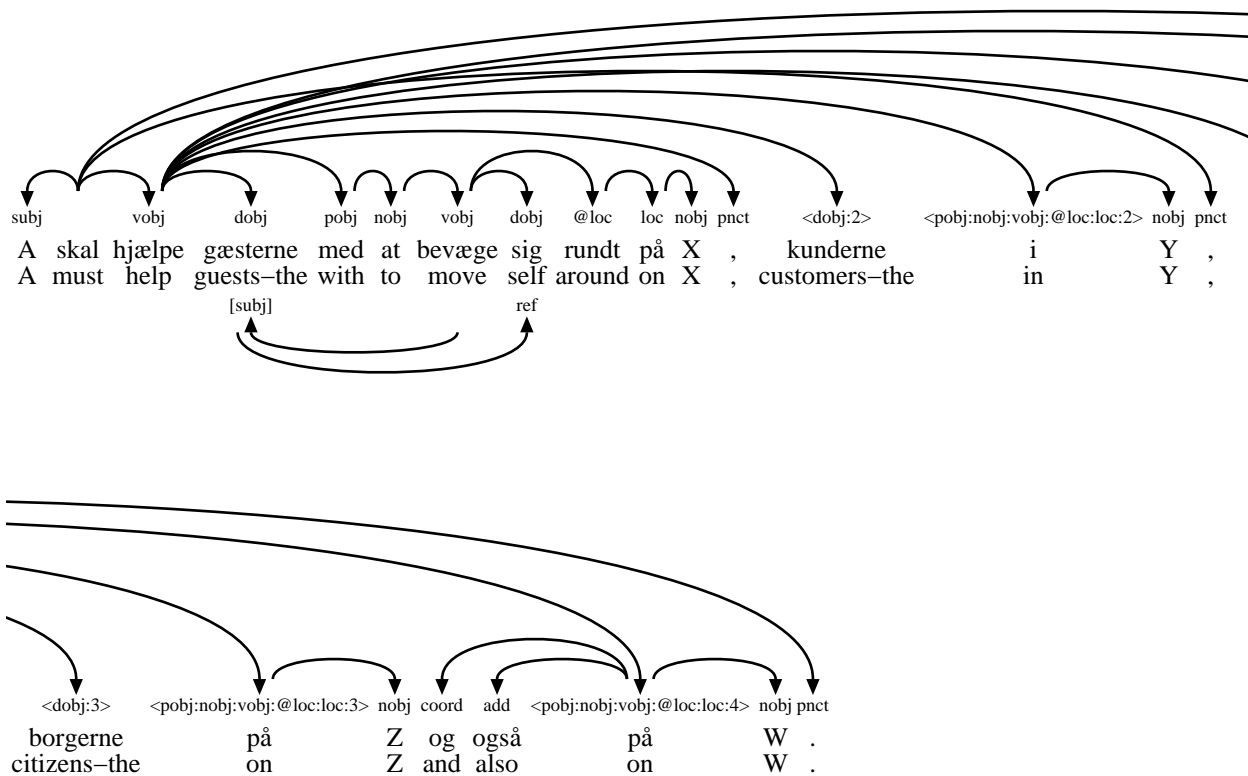
[28]

Subtypes: "<"PRIM..."INTEGER">".

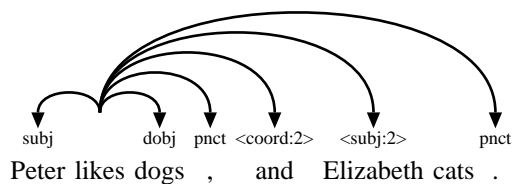
SYNADJ: syntactic adjunct  
 GAP: gapping dependent  
 "<"PRIM..."INTEGER">": gapping dependent  
 app: apposition  
   appa: parenthetic apposition (comma)  
   xpl: explication  
   appr: restrictive apposition (no comma)  
 attr: attributive  
 attrg: genitive attributive  
 conj: conjunct relation  
 coord: coordinator relation  
 correl: correlative coordinator relation  
 fpred: free predicative  
   fpredo: free direct-object predicative  
   fpreds: free subject predicative  
 mod: modifier/adverbial  
   modp: parenthetic modifier  
 name: part of name  
   namef: first name  
   namel: last name  
   title: person title  
 pnct: punctuation  
 rel: relative clause  
   relelab: elaborating relative clause  
   relpa: parenthetic relative clause  
   relr: restrictive relative clause  
 voc: vocative  
 xtop: external topic with resuming pronoun

Figure 3.4: The relations matching SYNADJ-ADVERB.





"<PRIM...":INTEGER">" *Gapping dependent*. First conjunct->gapping dependent  
 isa GAP RULE  
 [351]



**app** *Apposition*. An appositional relation between two phrases, typically NPs. The head of the first NP in the apposition is always analyzed as the head of the second NP.

[114] Subtypes: appa appr.

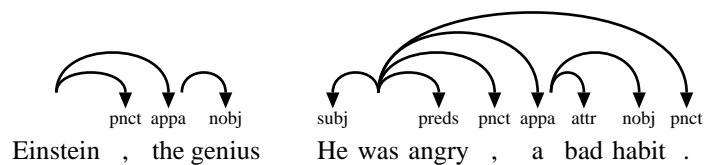
Related types: appa appr.

**appa** *Parenthetical apposition (comma)*.

isa app Subtypes: xpl.

[115] Related types: appr xpl.

Confusion<sub>5</sub>: appa<sub>100%</sub> .

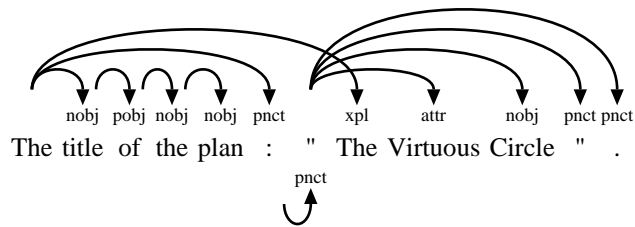


**xpl** *Explication*. Explication of an NP or VP.

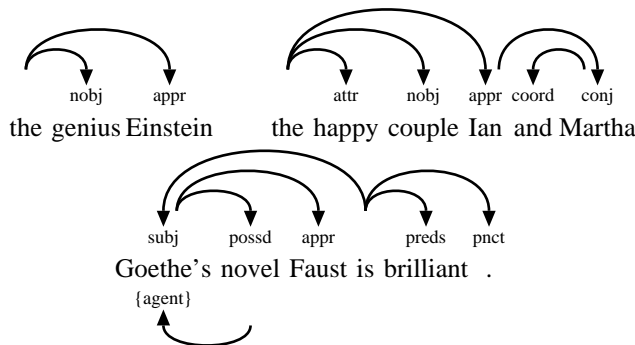
isa appa Related types: qobj.

[128] Confusion<sub>2</sub>: xpl<sub>100%</sub> .



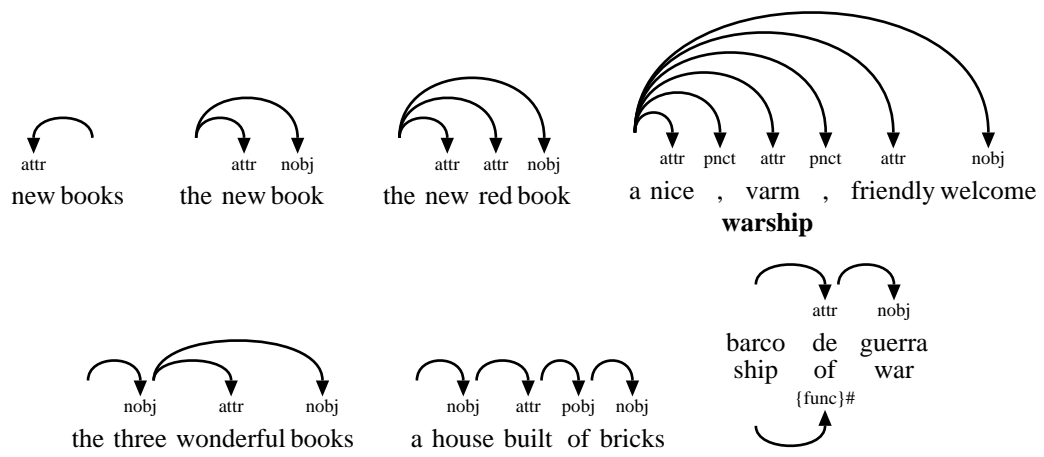


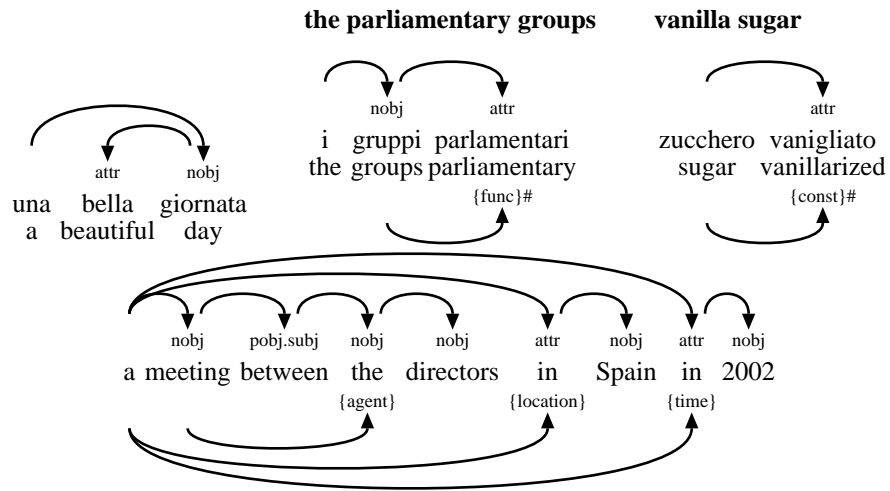
**appr** *Restrictive apposition (no comma).*  
 isa app Related types: appa.  
 [116] Confusion<sub>5</sub>: appr<sub>100%</sub> .



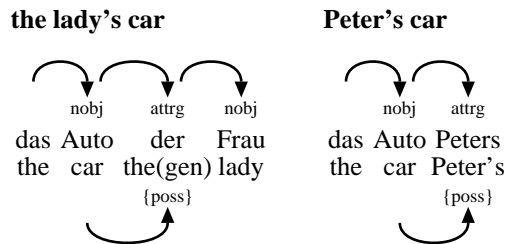
**attr** *Attributive* (deprecated attrdatrr). An attributive relation, typically between an adjective and a noun/determiner. In Germanic languages, adjectives are assumed to modify the determiner (because of the strong/weak congruence between determiner and adjective), or the noun if no determiner is present; in Romance languages, adjectives are assumed to modify the noun even if there is a determiner, and the determiner is only analyzed as the head if no noun is present (eg, in partitive constructions). The only exception to this rule is when the adjective and the noun form a compound, in which case the adjective is always analyzed as a "attr#" dependent of the lexical noun in both Germanic and Romance languages, even if a determiner is present.

Related types: SEMROLE attrg pobj.  
 Confusion<sub>245</sub>: attr<sub>81%</sub> pobj<sub>9%</sub> nobj<sub>2%</sub> aobj<sub>2%</sub> conj<sub>1%</sub> time<sub>1%</sub> cause<sub>1%</sub> focal<sub>0%</sub> name<sub>0%</sub> possd<sub>0%</sub> subj<sub>0%</sub> man<sub>0%</sub> loc<sub>0%</sub> other<sub>0%</sub> inst<sub>0%</sub> modp<sub>0%</sub> .

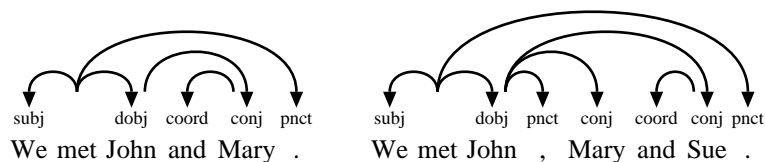




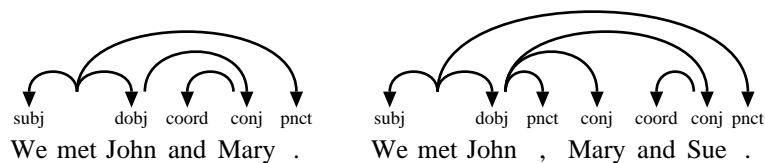
**attrg** *Genitive attributive.*  
 isa SYNADJ Related types: SEMROLE gobj.  
 [113]



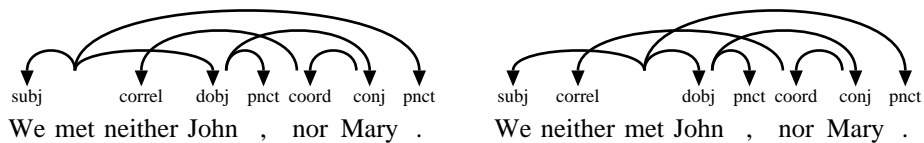
**conj** *Conjunct relation.* A dependency relation relating the conjuncts in a coordination. Secondary conjuncts are analyzed as "conj"-dependents of the first conjunct. Coordinators are analyzed as dependents of the secondary conjuncts.  
 [104]  
 Related types: coord correl.  
 Confusion<sub>93</sub>: conj<sub>96%</sub> attr<sub>2%</sub> nobj<sub>1%</sub> vobj<sub>1%</sub> .



**coord** *Coordinator relation.* A dependency relation between a coordinating conjunction and a secondary conjunct. The coordinator is analyzed as a dependent of the secondary conjunct. Secondary conjuncts are in turn analyzed as "conj"-dependents of the first conjunct.  
 [105]  
 Related types: conj correl discmark.  
 Confusion<sub>66</sub>: coord<sub>95%</sub> contr<sub>3%</sub> neg<sub>2%</sub> .



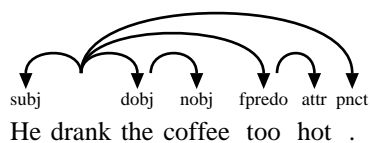
**correl** *Correlative coordinator relation.*  
 isa SYNADJ Related types: conj coord.  
 [106] Confusion<sub>4</sub>: correl<sub>50%</sub> focal<sub>25%</sub> subj<sub>25%</sub> .



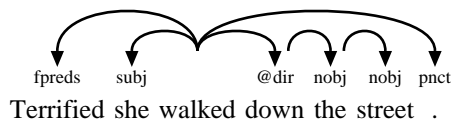
**fpred** *Free predicative.*  
 isa SYNADJ Subtypes: fpredo fpreds.  
 [109] Related types: fpredo fpreds.

V->free predicative

**fpredo** *Free direct-object predicative.*  
 isa fpred Related types: fpreds man.  
 [111]



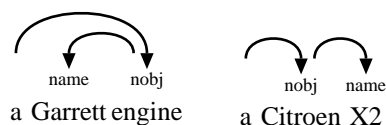
**fpreds** *Free subject predicative.*  
 isa fpred Related types: fpredo.  
 [110]



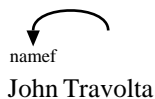
**mod** *Modifier/adverbial.* Deprecated name for adverbials  
 isa SYNADJ Subtypes: modp.  
 [134]

**modp** *Parenthetic modifier.* Deprecated name for parenthetic modifiers  
 isa mod Related types: {elab}.  
 [136] Confusion<sub>3</sub>: nobj<sub>33%</sub> attr<sub>33%</sub> modp<sub>33%</sub> .

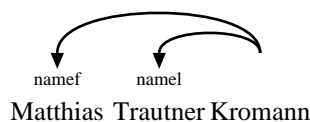
**name** *Part of name.* Part of a name.  
 isa SYNADJ Subtypes: namef namel title.  
 [122] Confusion<sub>17</sub>: name<sub>65%</sub> nobj<sub>29%</sub> attr<sub>6%</sub> .



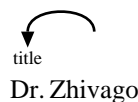
**namef** *First name.* A first name.  
 isa name Related types: namef title.  
 [123] Confusion<sub>21</sub>: namef<sub>100%</sub> .



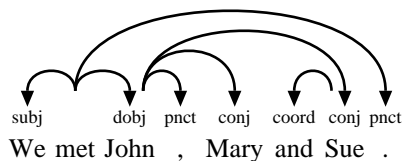
**namel** *Last name.* A second last name  
 isa name Related types: namef title.  
 [124] Confusion<sub>4</sub>: namef<sub>100%</sub> .



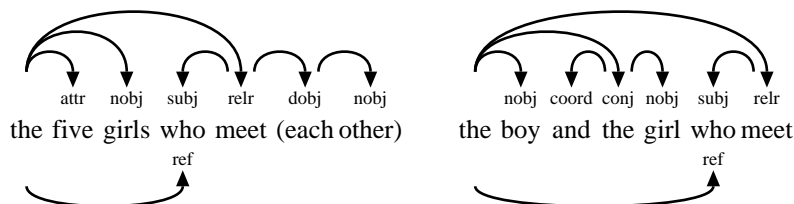
**title** *Person title.* A title in a name. If the title is determined by an article, eg. the director  
 isa name Smith, the title must be annotated as "nobj" and the name as "appr".  
 [125] Related types: namef namef.  
 Confusion<sub>6</sub>: nobj<sub>50%</sub> title<sub>50%</sub> .



**punct** *Punctuation.*  
 isa SYNADJ Confusion<sub>275</sub>: punct<sub>99%</sub> nobj<sub>0%</sub> dobj<sub>0%</sub> .  
 [107]



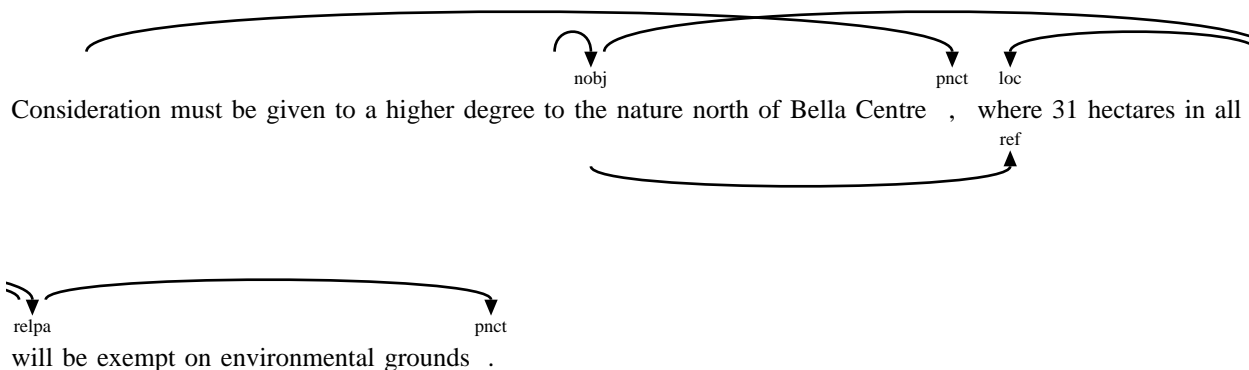
**rel** *Relative clause.* A relation between a relative clause and a relativized NP/VP. The finite verb  
 isa SYNADJ in the relative clause is analyzed as a "rel" dependent of the head of the relativized NP/VP  
 [117] (ie, the determiner if present, otherwise the noun). If there is a relative pronoun, it receives  
 an incoming "ref" arrow from the head of the relativized NP/VP; otherwise, the head of the  
 relativized NP/VP must function as a secondary dependent of some word within the relative  
 clause (often the relative verb itself).  
 Subtypes: relelab relpa relr.  
 Related types: relelab relpa relr.



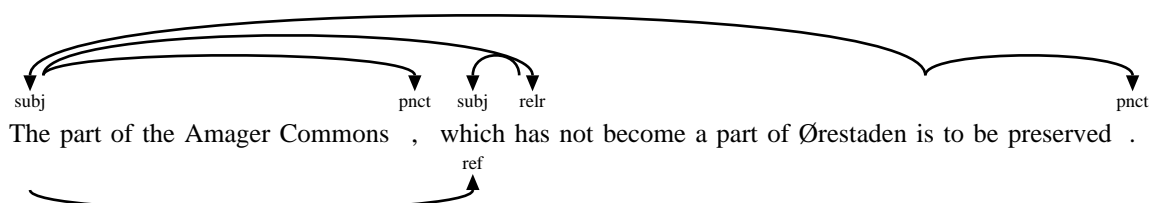
**relelab** *Elaborating relative clause.* Ledsætning med sætningsantecedent i hovedsætning; da: hvilket,  
 isa rel it: il che, cosa che  
 [120] Related types: relpa relr.

V->V

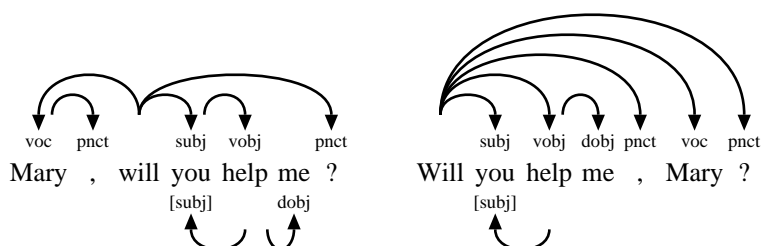
**relpa** *Parenthetic relative clause.*  
 isa rel Related types: relelab relr.  
 [119] Confusion<sub>11</sub>: relr<sub>64%</sub> relpa<sub>36%</sub> .



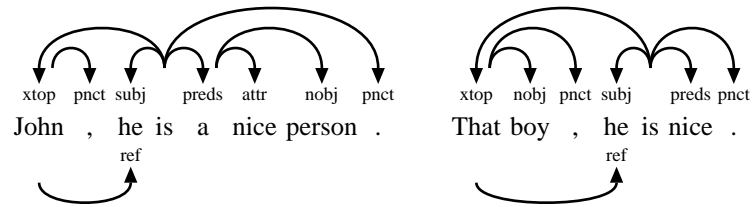
**relr** *Restrictive relative clause.*  
 isa rel Related types: relelab relpa.  
 [118] Confusion<sub>23</sub>: relr<sub>65%</sub> relpa<sub>30%</sub> vobj<sub>4%</sub> .



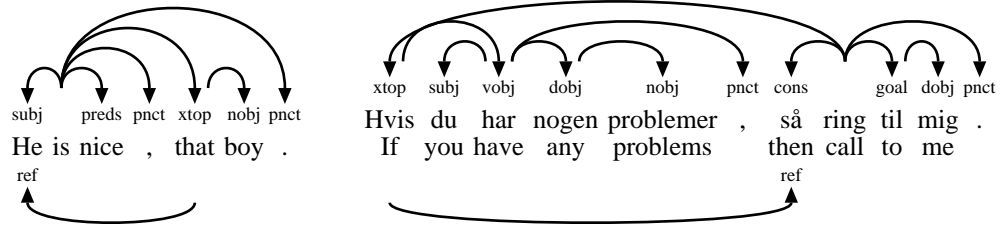
**voc** *Vocative.* Vocative specification. The person to whom the statement is directed.  
 isa SYNADJ  
 [127]



**xtop** *External topic with resuming pronoun.* An external topic is a sentence-initial NP whose only  
 isa SYNADJ function is to provide the antecedent for a pronoun later in the sentence. Eg in "John, he is a  
 [121] nice person". Here "John" is the "xtop" of "is", and "he" is the subject of "is".  
 Related types: cons ref xtop.



**If you are having any problems, call me.**



## Chapter 4

# Morphological relations: MORPHOLOGY

MORPH: morphology level  
"\$"PRIM: morphology specification  
Figure 4.1: The relations matching MORPHOLOGY-MORPHCOMP-MORPHDERIV-TOPICS.

**MORPH** *Morphology level* (long: MORPHOLOGY). A relation at the morphological level. Ie, a relation between two word segments within a single word.  
isa DIM:LEVEL  
[15] Subtypes: "\$"PRIM MORPHCOMP MORPHDERIV.

**"\$"PRIM** *Morphology specification.*  
isa MORPH RULE  
[354]

### 4.1 Compositional relations: MORPHCOMP

MORPHCOMP: compositional semantic relations  
\$ABOUT: noun-noun compound (about)  
\$AGENT:MC: noun-noun compound (agentive)  
\$CONST: noun-noun compound (constitutive)  
\$EVAL: noun-noun compound (evaluative)  
\$FUNC: noun-noun compound (function)  
\$LOC: noun-noun compound (position)  
\$OTHER: noun-noun compound (other)  
\$POSS: noun-noun compound (possession)  
\$RESEM: noun-noun compound (resemblance)  
\$SOURCE: noun-noun compound (origin)  
\$TIME:MC: noun-noun compound (time)  
Figure 4.2: The relations matching MORPHCOMP.

**MORPHCOMP** *Compositional semantic relations.* A semantic relation is created between two (or more) elements which could potentially be used as stems. (A compound contains at least two roots.)  
isa MORPH  
[254] Subtypes: \$ABOUT \$AGENT:MC \$CONST \$EVAL \$FUNC \$LOC \$OTHER \$POSS \$RESEM \$SOURCE \$TIME:MC.

**\$ABOUT** *Noun-noun compound (about).* Non-head has an aboutness meaning wrt. head.  
isa MORPHCOMP  
[341]

(theme: skattelov 'tax law' = lov –[skat]te/ABOUT)

**§AGENT:MC** *Noun-noun compound (agentive)*. Non-head has an agentive meaning wrt. head.  
isa MORPHCOMP  
[333]

(agent: politikontrol 'police control' = kontrol –politi/AGENT)

**§CONST** *Noun-noun compound (constitutive)*. Non-head has a constitutive meaning wrt. head.  
isa MORPHCOMP  
[332]

(constitutive: træbord 'wooden table' = bord –træ/CONST)

**§EVAL** *Noun-noun compound (evaluative)*. Non-head has an evaluative meaning wrt. head.  
isa MORPHCOMP  
[339]

coche de lujo 'luksusbil'

**§FUNC** *Noun-noun compound (function)*. Non-head has a functional meaning wrt. head.  
isa MORPHCOMP  
[335]

(function: krigsskib 'war ship' = skib –[krig]s/FUNC)

**§LOC** *Noun-noun compound (position)*. Non-head has a locative meaning wrt. head.  
isa MORPHCOMP  
[337]

(position: loftlampe 'ceiling lamp' = lampe –loft/POS)

**§OTHER** *Noun-noun compound (other)*. If in doubt about the meaning relation between head and non-head.  
isa MORPHCOMP  
[342]

**§POSS** *Noun-noun compound (possession)*. Non-head has a possessive meaning wrt. head.  
isa MORPHCOMP  
[336]

(possession: politibil = bil –politi/POSS)

**§RESEM** *Noun-noun compound (resemblance)*. Denotations of head and non-head resemble each other.  
isa MORPHCOMP  
[340]

silla de tijeras 'saksestol' [klapstol], válvula de mariposa 'sommerfugleventil'

**§SOURCE** *Noun-noun compound (origin)*. Non-head has a meaning of origin wrt. head.  
isa MORPHCOMP  
[334]

(origin: rørsukker 'cane sugar' = sukker –rør/ORIGIN)

**§TIME:MC** *Noun-noun compound (time)*. Non-head has a temporal meaning wrt. head.  
isa MORPHCOMP  
[338]

(time: oktoberregn 'October rain' = regn –oktober/TIME)



MORPHDERIV: derivational semantic relations

Figure 4.3: The relations matching MORPHDERIV-PREFIX-SUFFIX.

PREFIX: semantic relations appearing with prefixes

- \$AGENT: agentive
- \$ITER: iteration
- \$MOD: modification
  - \$MOD:eval: evaluation
  - \$MOD:qual: qualification
  - \$MOD:quant: quantification
- \$NEG: negation
  - \$NEG:contr: contrast
  - \$NEG:priv: privation
  - \$NEG:rev: reversion
- \$PRE:other: other prefix relation
- \$SPACE: space
  - \$SPACE:dir: direction
  - \$SPACE:loc: location
  - \$SPACE:source: source
- \$TELIC: telic
- \$TIME: time
  - \$TIME:post: temporal succession
  - \$TIME:pre: temporal precedence
- \$TRANS: transitivity

Figure 4.4: The relations matching PREFIX.

## 4.2 Derivational relations: MORPHDERIV

**MORPHDERIV** *Derivational semantic relations.* A semantic relation is created between a base and an affix  
isa MORPH Subtypes: PREFIX SUFFIX.  
[253]

### 4.2.1 Prefix relations: PREFIX

**PREFIX** *Semantic relations appearing with prefixes.* A semantic relation is created between a base and a prefix.  
isa MORPHDERIV  
[256] Subtypes: \$AGENT \$ITER \$MOD \$NEG \$PRE:other \$SPACE \$TELIC \$TIME \$TRANS.

**\$AGENT** *Agentive* (deprecated ASPEC:cause+reflex). Prefix conveys agentive action.  
isa PREFIX  
[272] (causative: acallar 'silence' = callar –a/AGENT)

**\$ITER** *Iteration* (deprecated ASPEC:iter). Prefix conveys iteration.  
isa PREFIX  
[271] (iterative: redefine = define –re/ITER)

**\$MOD** *Modification.* Prefix conveys modification in a broad sense.  
isa PREFIX Subtypes: \$MOD:eval \$MOD:qual \$MOD:quant.  
[275]

**\$MOD:eval** *Evaluation* (deprecated MOD:man). Prefix conveys evaluation  
isa \$MOD  
[277]

(manner: maleducado = educado –mal/MOD:eval)

**\$MOD:qual** *Qualification* (deprecated MOD:qual+MOD:rel+GRAD:qual). Prefix conveys qualification.  
isa \$MOD  
[278]

(qualification: paleochristian = christian –paleo/MOD:qual)

**\$MOD:quant** *Quantification* (deprecated MOD:cuant+GRAD:size). Prefix conveys quantification.  
isa \$MOD  
[276]

(quantification: multicultural = cultural –multi/MOD:quant)

**\$NEG** *Negation*. Prefix conveys negation in a broad sense.  
isa PREFIX  
[267]

Subtypes: \$NEG:contr \$NEG:priv \$NEG:rev.

**\$NEG:contr** *Contrast* (deprecated NEG:oppo). Prefix conveys contrast.  
isa \$NEG  
[268]

(opposition: antihero = hero –anti/NEG:contr)

**\$NEG:priv** *Privation*. Prefix conveys privation.  
isa \$NEG  
[269]

(privation: desalt = salt –de/NEG:priv)

**\$NEG:rev** *Reversion* (deprecated ASPEC:rev). Prefix conveys reversion.  
isa \$NEG  
[270]

(reversion: deactivate = activate –de/NEG:rev)

**\$PRE:other** *Other prefix relation*. If in doubt about the meaning conveyed by the prefix  
isa PREFIX

**\$SPACE** *Space* (deprecated LOC). Prefix expresses space in a broad sense.  
isa PREFIX  
[259]

Subtypes: \$SPACE:dir \$SPACE:loc \$SPACE:source.

**\$SPACE:dir** *Direction* (deprecated LOC:dir). Prefix expresses direction.  
isa \$SPACE  
[261]

(direction/origin: deverbal = verbal –de/SPACE:dir)

**\$SPACE:loc** *Location* (deprecated LOC:pos). Prefix expresses location.  
isa \$SPACE  
[260]

(position: intramural = mural –intra/SPACE:pos)

**\$SPACE:source** *Source* (deprecated LOC:proce). Prefix conveys source.  
isa \$SPACE  
[262]

(origin: extraer: = traer –ex/SPACE:source)

**\$TELIC** *Telic* (deprecated ASPEC:term+resul). Prefix conveys termination or result.  
 isa PREFIX  
 [273]

(terminative: oplåse 'open' = låse –op/TELIC)

**\$TIME** *Time*. Prefix conveys time in a broad sense.  
 isa PREFIX  
 [264]

Subtypes: \$TIME:post \$TIME:pre.

**\$TIME:post** *Temporal succession* (deprecated TIME:succ). Prefix conveys succession.  
 isa \$TIME  
 [266]

(temporal succession: postmodernism = modernism –post/TIME:post)

**\$TIME:pre** *Temporal precedence* (deprecated TIME:prec). Prefix conveys precedence.  
 isa \$TIME  
 [265]

(temporal precedence: prehistorical = historical –pre/TIME:pre)

**\$TRANS** *Transitivity*. Prefix conveys transitivity.  
 isa PREFIX  
 [274]

(transitivising: påsejle 'collide': sejle –på/TRANS)

## 4.2.2 Suffix relations: SUFFIX

**SUFFIX** *Semantic relations appearing with suffixes*. A semantic relation is created between a base  
 isa MORPHDERIV and a suffix.  
 [257]

Subtypes: \$AUG \$DENUM \$DER \$DERan:qual \$DERna \$DERnn \$DERv \$DIMIN \$PEJ.

**\$AUG** *Augmentation*. Suffix conveys augmentation.  
 isa SUFFIX  
 [280]

(augmentative: perrazo 'big dog' = perro +azo/AUG)

**\$DENUM** *Adjective-numeral derivation*. Suffix creates denumeral adjectives in a broad sense.  
 isa SUFFIX  
 [328]

Subtypes: \$DENUM:apart \$DENUM:ord \$DENUM:quant.

**\$DENUM:apart** *Adjective-partitive derivation* (deprecated DENUM:part). Suffix creates partitive numerals.  
 isa \$DENUM  
 [330]

"kardinal=doce – partitiv=doceavo" 'tolv/tolvtedel'

**\$DENUM:ord** *Adjective-ordinal derivation*. Suffix creates ordinals.  
 isa \$DENUM  
 [329]

"kardinal=dos – ordinal=segundo" 'to/anden'

SUFFIX: semantic relations appearing with suffixes  
 \$AUG: augmentation  
 \$DENUM: adjective-numeral derivation  
 \$DENUM:apart: adjective-partitive derivation  
 \$DENUM:ord: adjective-ordinal derivation  
 \$DENUM:quant: adjective-multiplicative derivation  
 \$DER: verb derivation  
 \$DERadvv: adverb-verb derivation  
 \$DERav: adjective-verb derivation  
 \$DERnv: noun-verb derivation  
 \$DERvn:agent: verb-noun derivation (agent)  
 \$DERvn:core: verb-noun derivation (core)  
 \$DERvn:exper: verb-noun derivation (experiencer)  
 \$DERvn:inst: verb-noun derivation (instrument)  
 \$DERvn:loc: verb-noun derivation (location)  
 \$DERvn:other: verb-noun derivation (other)  
 \$DERvn:patient: verb-noun derivation (patient)  
 \$DERvn:recip: verb-noun derivation (recipient)  
 \$DERva: verb-adjective derivation  
 \$DERva:act: verb-adjective derivation (active)  
 \$DERva:act.disp: verb-adjective derivation (pure)  
 \$DERva:act.epi: verb-adjective derivation (disposition)  
 \$DERva:pas: verb-adjective derivation (potentiality)  
 \$DERva:pas.deon: verb-adjective derivation (passive potentiality)  
 \$DERva:pas.epi: verb-adjective derivation (passive participles)  
 \$DERva:pas.part: verb-adjective derivation (passive)  
 \$DERvn: verb-noun derivation  
 \$DERvv: verb-verb derivation  
 \$DERan:qual: adjective derivation  
 \$DERna: noun-adjective derivation  
 \$DERna:deono: noun-adjective derivation (naming)  
 \$DERna:deono.pers: noun-adjective derivation (naming persons)  
 \$DERna:deono.place: noun-adjective derivation (naming places)  
 \$DERna:disp: noun-adjective derivation (disposition)  
 \$DERna:other: noun-adjective derivation (other)  
 \$DERna:poss: noun-adjective derivation (possession)  
 \$DERna:rel: noun-adjective derivation (relational)  
 \$DERna:rel.norm: noun-adjective derivation (normal)  
 \$DERna:resem: noun-adjective derivation (resemblance)  
 \$DERna:telic: noun-adjective derivation (effect)  
 \$DERnn: noun-noun derivation  
 \$DERnn:agent: noun-noun derivation (agent)  
 \$DERnn:assoc: noun-noun derivation (association)  
 \$DERnn:capac: noun-noun derivation (capacity)  
 \$DERnn:cont: noun-noun derivation (container)  
 \$DERnn:loc: noun-noun derivation (location)  
 \$DERnn:other: noun-noun derivation (other)  
 \$DERnn:quant: noun-noun derivation (quantification)  
 \$DERnn:telic: noun-noun derivation (telic)  
 \$DERnn:time: noun-noun derivation (time)  
 \$DERv:  
 \$DIMIN: diminution  
 \$PEJ: pejoration

Figure 4.5: The relations matching SUFFIX.

**\$DENUM:quant** *Adjective-multiplicative derivation.* Suffix creates multiplicative numerals.  
 isa \$DENUM  
 [331] "kardinal=cinco – multiplikativ=quíntuplo" 'fem/femdobbelte'

**\$DER** *Verb derivation.* Suffix triggers a derivation  
 isa SUFFIX  
 [283] Subtypes: \$DERadvv \$DERav \$DERnv \$DERva \$DERvn \$DERvv.

**\$DERadvv** *Adverb-verb derivation.* Suffix triggers a derivation from an adverb to a verb  
 isa \$DER

**\$DERav** *Adjective-verb derivation* (deprecated \$DER:av). Suffix triggers a derivation from an adjective to a verb.  
 isa \$DER  
 [285]

(adjective->verb derivation: darken = dark +en/\$DERav)

**\$DERnv** *Noun-verb derivation* (deprecated \$DER:nvPRED). Suffix triggers a derivation from a noun to a verb.  
 isa \$DER  
 [284] Subtypes: \$DERvn:agent \$DERvn:core \$DERvn:exper \$DERvn:inst \$DERvn:loc \$DERvn:other \$DERvn:patient \$DERvn:recip.

(noun->verb derivation: salar 'to salt' = sal +ar/\$DERnv)

**\$DERvn:agent** *Verb-noun derivation (agent).* Suffix creates deverbal nouns absorbing the agent role.  
 isa \$DERnv  
 [289]

(agent derivation: singer = sing +er/\$DERvn:agent)

**\$DERvn:core** *Verb-noun derivation (core).* Suffix creates deverbal nouns expressing a nominalized version of the situation denoted by the original verb.  
 isa \$DERnv  
 [291]

(core derivation: exploitation = exploit@V +ation/\$DERvn:core)

**\$DERvn:exper** *Verb-noun derivation (experiencer).* Suffix creates deverbal nouns absorbing the experiencer role.  
 isa \$DERnv  
 [290]

(experiencer derivation: admirer = admire +r/\$DERvn:exper)

**\$DERvn:inst** *Verb-noun derivation (instrument).* Suffix creates deverbal nouns expressing the instrument related to the meaning of the original noun.  
 isa \$DERnv  
 [295]

(instrument derivation: exprimidor 'saftpresser' = exprimir +dor/\$DERvn:inst)

**\$DERvn:loc** *Verb-noun derivation (location).* Suffix creates deverbal nouns expressing the location related to the meaning of the original noun.  
 isa \$DERnv  
 [294]

(locative derivation: comedor 'spisestue' = comer +dor/\$DERnv:loc)

**\$DERvn:other** *Verb-noun derivation (other)*. If in doubt about the meaning conveyed by the suffix

isa \$DERnv

**\$DERvn:patient** *Verb-noun derivation (patient)*. Suffix creates deverbal nouns absorbing the patient role.

isa \$DERnv

[292]

(result derivation: hallazgo 'fund' = hallar +azgo/\$DERnv:result)

**\$DERvn:recip** *Verb-noun derivation (recipient)*. Suffix creates deverbal nouns absorbing the recipient role

isa \$DERnv

[293]

(recipient derivation: beneficiario 'den begunstigede' = beneficiar +ario/\$DERnv:recip)

**\$DERva** *Verb-adjective derivation (deprecated \$DERV)*. Suffix creates deverbal adjectives in a broad sense.

isa \$DER

[309]

Subtypes: \$DERva:act \$DERva:pas \$DERva:pas.part.

**\$DERva:act** *Verb-adjective derivation (active)* (deprecated DEVERB:act.pure). Suffix creates active adjectives.

isa \$DERva

[310]

Subtypes: \$DERva:act.disp \$DERva:act.epi.

**\$DERva:act.disp** *Verb-adjective derivation (pure)* (deprecated DEVERB:act.disp). Suffix creates active adjectives with the meaning aspect "pure".

isa \$DERva:act

[311]

"que V" (conmoverdor – "que conmueve" 'gribende/der griber')

**\$DERva:act.epi** *Verb-adjective derivation (disposition)* (deprecated DEVERB:act.poten). Suffix creates active adjectives with the meaning aspect "disposition".

isa \$DERva:act

[312]

"que suele V, que tiende a V" (adulón – "que suele adular, que tiende a adular" 'smigre/som plejer eller har

tendens til at være krybende

**\$DERva:pas** *Verb-adjective derivation (potentiality)* (deprecated DEVERB:pas). Suffix creates active adjectives with the meaning aspect "potentiality".

isa \$DERva

[313]

Subtypes: \$DERva:pas.deon \$DERva:pas.epi.

(deverbal adjective: transportable = transport +able/\$DERva:pas.epi)

**§DERva:pas.deon** *Verb-adjective derivation (passive potentiality)* (deprecated DEVERB:pas.deon). Suffix creates passive adjectives with the meaning aspect "potentiality".  
 isa §DERva:pas [316]

"que puede {ser PP/Vse}" (transportable – "máquina que puede {ser transportada/transportarse}

'transportabel/maskine som kan blive transporteret/transporteres

**§DERva:pas.epi** *Verb-adjective derivation (passive participles)* (deprecated DEVERB:pas.poten). Suffix creates passive adjectives with the form of participles.  
 isa §DERva:pas [315]

"que {ha sido/está/es} PP" (comprado – "hombre que {ha sido/está/es} comprado 'mand som er blevet/er/bliver

købt"

**§DERva:pas.part** *Verb-adjective derivation (passive)* (deprecated DEVERB:pas.part). Suffix creates passive adjectives.  
 isa §DERva [314]

**§DERvn** *Verb-noun derivation* (deprecated PREDDEVERBN). Suffix creates deverbal nouns in a broad sense.  
 isa §DER [288]

**§DERvv** *Verb-verb derivation* (deprecated §DER:vv). Suffix triggers a derivation from a verb to another verb.  
 isa §DER [286]

(verb->verb derivation: adormecer 'lull to sleep' = dormir →+[a][ecer]/§DERvv)

**§DERan:qual** *Adjective derivation* (deprecated QUAL). Suffix creates deadjectival nouns.  
 isa SUFFIX [297]

(deadjectival noun: bitterness = bitter +ness/§DERan:qual)

**§DERna** *Noun-adjective derivation* (deprecated DENOM). Suffix creates denominal adjectives in a broad sense.  
 isa SUFFIX [317]

Subtypes: §DERna:deono §DERna:disp §DERna:other §DERna:poss §DERna:rel §DERna:resem §DERna:telic.

**§DERna:deono** *Noun-adjective derivation (naming)* (deprecated DENOM:rel.deono). Suffix creates relational adjectives with the meaning of "naming".  
 isa §DERna [320]

Subtypes: §DERna:deono.pers §DERna:deono.place.

**§DERna:deono.pers** *Noun-adjective derivation (naming persons)* (deprecated DENOM:rel.deono.pers). Suffix creates relational adjectives with the meaning of "naming" persons.  
 isa §DERna:deono [321]

Cervantino 'som har at gøre med Cervantes'

**§DERna:deono.place** *Noun-adjective derivation (naming places)* (deprecated DENOM:rel.deono.place). Suffix creates relational adjectives with the meaning of "naming" of places.  
isa §DERna:deono [322]

Madrileño 'som har at gøre med/kommer fra Madrid'

**§DERna:disp** *Noun-adjective derivation (disposition)* (deprecated DENOM:disp). Suffix creates denominal adjectives that express disposition.  
isa §DERna [325]

"que tiene afición por N" (mujeriego – "que afición por las mujeres" 'kvindeglad/som er glad for kvinder')

**§DERna:other** *Noun-adjective derivation (other)* (deprecated DENOM:other). If in doubt about the meaning conveyed by the suffix  
isa §DERna [327]

**§DERna:poss** *Noun-adjective derivation (possession)* (deprecated DENOM:poss). Suffix creates denominal adjectives that express possession.  
isa §DERna [324]

"que posee/tiene/lleva N" (barbudo – "que lleva barba" 'skægget/som bærer skæg')

**§DERna:rel** *Noun-adjective derivation (relational)* (deprecated DENOM:rel). Suffix creates denominal adjectives with a relational meaning.  
isa §DERna [318]  
Subtypes: §DERna:rel.norm.

**§DERna:rel.norm** *Noun-adjective derivation (normal)* (deprecated DENOM:rel.norm). Suffix creates relational adjectives with a "normal" meaning aspect.  
isa §DERna:rel [319]

(denominal adjective: presidential = president +ial/DENOM:rel.norm)

**§DERna:resem** *Noun-adjective derivation (resemblance)* (deprecated DENOM:resem). Suffix creates denominal adjectives that express resemblance.  
isa §DERna [323]

"que se parece a N" (sanchopancesco – "que se parece a Sancho Panza" 'sanchopanzask/som ligner Sancho Panza')

**§DERna:telic** *Noun-adjective derivation (effect)* (deprecated DENOM:eff). Suffix creates denominal adjectives that express an effect.  
isa §DERna [326]

"que causa simpatía" (simpático – "que causa simpatía" 'sympatisk/som vækker sympati')



**\$DERnn** *Noun-noun derivation* (deprecated NOPRED). Suffix creates non-predicative nouns (from other nouns) in a broad sense.  
 isa SUFFIX  
 [298] Subtypes: \$DERnn:agent \$DERnn:assoc \$DERnn:capac \$DERnn:cont \$DERnn:loc \$DERnn:other \$DERnn:quant \$DERnn:telic \$DERnn:time.

**\$DERnn:agent** *Noun-noun derivation (agent)* (deprecated NOPRED:agent). Suffix creates non-predicative nouns expressing an agent role.  
 isa \$DERnn  
 [299]

(agent derivation: miller = mill +er/\$DERnn:agent)

**\$DERnn:assoc** *Noun-noun derivation (association)* (deprecated NOPRED:script). Suffix creates non-predicative nouns expressing a script/notion related to the original noun.  
 isa \$DERnn  
 [306]

(script derivation: pontaje 'brobetaling' = puente +aje/\$DERnn:assoc)

**\$DERnn:capac** *Noun-noun derivation (capacity)* (deprecated NOPRED:capac). Suffix creates non-predicative nouns expressing a capacity.  
 isa \$DERnn  
 [304]

(capacity derivation: cestada 'kurvfuld' = cesta +ada/\$DERnn:capac)

**\$DERnn:cont** *Noun-noun derivation (container)* (deprecated NOPRED:cont). Suffix creates non-predicative nouns expressing a container.  
 isa \$DERnn  
 [301]

(container derivation: azucarero 'sugar bowl' = azucar +ero/\$DERnn:cont)

**\$DERnn:loc** *Noun-noun derivation (location)* (deprecated NOPRED:loc). Suffix creates non-predicative nouns expressing a location.  
 isa \$DERnn  
 [305]

(locative derivation: arenal 'sandet strækning' = arena +al/\$DERnn:loc)

**\$DERnn:other** *Noun-noun derivation (other)* (deprecated NOPRED:other). If in doubt about the meaning conveyed by the suffix  
 isa \$DERnn  
 [307]

**\$DERnn:quant** *Noun-noun derivation (quantification)* (deprecated NOPRED:set). Suffix creates non-predicative nouns expressing a quantification.  
 isa \$DERnn  
 [303]

(set derivation: perrada 'hundekobbel' = perro +ada/\$DERnn:quant)

**\$DERnn:telic** *Noun-noun derivation (telic)* (deprecated NOPRED:result). Suffix creates non-predicative nouns expressing a telic result.  
 isa \$DERnn  
 [300]

(result derivation: puñalada 'knivstik' = puñal +ada/\$DERnn:telic)

**\$DERnn:time** *Noun-noun derivation (time)* (deprecated NOPRED:temp). Suffix creates non-predicative nouns  
 isa \$DERnn expressing a temporal aspect.  
 [302]

(temporal derivation: temporada 'tidsrum/sæson' = tiempo +ada/\$DERnn:time)

**\$DERv** (deprecated DEVERB).  
 isa SUFFIX

**\$DIM** *Diminution*. Suffix conveys diminution.  
 isa SUFFIX  
 [281]

(diminutive: viejecito 'little old man' = viejo +ecito/DIM)

**\$PEJ** *Pejoration*. Suffix conveys a pejorative sense.  
 isa SUFFIX  
 [282]

(pejorative: vinacho 'bad vine' = vino +acho/PEJ)

## Chapter 5

# Discourse relations: DISCOURSE

DISC: discourse level  
"α"PRIM: discourse specification  
DISCOTHER:  
JOINT: no clear relation  
REP: repaired  
SCENE: scene

Figure 5.1: The relations matching DISCOURSE-DISCFUNC-DISCSEM-TOPICS.

**DISC** *Discourse level* (long: DISCOURSE). A relation at the discourse level. Ie, a relation between segments in different sentences or clauses.

isa DIM:LEVEL [17]  
Subtypes: "α"PRIM DISCOTHER DISCPRAG DISCSEM.

**"α"PRIM** *Discourse specification*. A primary syntactic relation that has been used as a discourse relation for stylistic purposes.

[353]

**DISCOTHER** .

isa ADJ DISC Subtypes: JOINT REP SCENE.  
[201]

**JOINT** *No clear relation*. The dependent text segment adds a completely new content without any clear discourse relation to the governing segment

isa DISCOTHER [251]  
Confusion<sub>2</sub>: JOINT<sub>100%</sub> .

**REP** *Repaired* (deprecated STRUCT:rep). Dependent text segment is interrupted and unfinished and "repaired" by the following and governing text segments, which completes it

isa DISCOTHER [250]

**SCENE** *Scene* (deprecated STRUCT:prepPREP). Dependent text segment expresses the scene of the following and governing text, e.g. headings, titles

isa DISCOTHER [249]  
Confusion<sub>4</sub>: SCENE<sub>100%</sub> .

### 5.1 Functional relations: DISCFUNC

**DISCPRAG** *Pragmatic and illocutionary discourse relations* (deprecated DISCFUNC). The dependent text segment expresses a change in speech act or pragmatic function (speaker's intention) wrt the governing segment; the label indicates the speech act or function of the dependent segment;

isa ADJ DISC [200]

DISCPRAG: pragmatic and illocutionary discourse relations

ANSW: answer

CONSOL: consolidation

CONSOL:inst: instrumental

CONSOL:motiv: motivation

CONSOL:source: justification

DIREC: directive act

EXPR: expressive act

INTACT: interactional signals

INTACT:attn: attention

INTACT:inter: interruption

QUEST: question

Figure 5.2: The relations matching DISCFUNC.

regarding speaker's intentions and speech acts we consider the narrating asserting speech act as our default value.

Subtypes: ANSW CONSOL DIREC EXPR INTACT QUEST.

**ANSW** *Answer*. Governing text segment contains question or problem, dependent text segment answer or solution  
isa DISCPRAG [238] Confusion<sub>1</sub>: ANSW<sub>100%</sub> .

**CONSOL** *Consolidation* (deprecated SUPPORT?).  
isa DISCPRAG Subtypes: CONSOL:inst CONSOL:motiv CONSOL:source.  
[244]

**CONSOL:inst** *Instrumental* (deprecated CONSOL:enab). S is instrumental in helping reader or recipient to carry out the action mentioned in N; frequent in directive texts  
isa CONSOL [246]

**CONSOL:motiv** *Motivation*. S motivates reader or recipient to carry out the action mentioned in N  
isa CONSOL Confusion<sub>1</sub>: AGENTIVE:expl<sub>100%</sub> .  
[247]

**CONSOL:source** *Justification* (deprecated JUSTCONSOL:just). S expresses a source that justifies N wrt its content (reason for mentioning it or sim.) thereby strengthening it argumentatively  
isa CONSOL [245] Typical connectives: [da] Fordi, Eftersom.  
Confusion<sub>1</sub>: CONJ:elab<sub>100%</sub> .

**DIREC** *Directive act*. Dependent text segment contains an order, command or request  
isa DISCPRAG [239]

e.g. imperatives

**EXPR** *Expressive act*. Dependent text segment contains an expression of the speaker's attitudes or emotions, e.g. congratulations, excuses or thanks  
isa DISCPRAG [240]

[en] I'm sorry!; My condolences!

**INTACT** *Interactional signals*.  
isa DISCPRAG Subtypes: INTACT:attn INTACT:inter.  
[241]

**INTACT:attn** *Attention*. S contains an attention signal  
isa INTACT [242]

[da] Ja; Nă; OK; [it] Sì; Beh; [en] Yeah, Oh, Really?

**INTACT:inter** *Interruption.* S contains an interruption signal  
 isa INTACT  
 [243]

[da] Jamen; [it] Ma; [en] But... But

**QUEST** *Question .* The dependent text segment contains a question with or without an answer  
 isa DISCPRAG  
 [237]

## 5.2 Semantic relations: DISCSEM

DISCSEM: semantic discourse relations  
 AGENTIVE: cause relation (discourse)  
   AGENTIVE:expl: explanation relation in discourse  
   AGENTIVE:reas: reason relation (discourse)  
   AGENTIVE:subj: subjective cause  
 CONC: concession  
 COND: condition  
 CONJ: conjunction  
   CONJ:add: conjunction, addition  
   CONJ:elab: conjunction, elaboration  
   CONJ:seq: sequence  
 CONST: constitutive elaboration  
   CONST:apart: part of relation  
   CONST:elab: elaboration  
   CONST:exem: exemplification  
   CONST:rest: restatement  
 CONTR: contrast  
   CONTR:dir: direct contrast  
   CONTR:subj: subjective contrast  
 DISJ: disjunction  
   DISJ:dir: direct disjunction  
   DISJ:subj: subjective disjunction  
 FORMAL: formal description  
   FORMAL:descr: neutral description  
   FORMAL:eval: positive/negative evaluation  
 TELIC: consequence/result/conclusion relation (discourse)  
   TELIC:cons.dir: direct, physical consequence, result  
   TELIC:cons.sbj: pragmatic/personal conclusion, deduction  
   TELIC:goal: goal relation (discourse)  
 TIME: temporal relation  
   TIME:cont: contemporaneity  
   TIME:post: temporal succession  
   TIME:pre: temporal precedence

Figure 5.3: The relations matching DISCSEM.

**DISCSEM** *Semantic discourse relations.* The relations hold between the propositions of the governing and dependent text segments and are defined in semantic terms; relations are mono- or multi-nuclear; the four “prg”-subtypes express changes of speech act like the DISCPRAG, however the semantic relations are so dominant that they should determine the main type of the relation  
 [199]

Subtypes: AGENTIVE CONC COND CONJ CONST CONTR DISJ FORMAL TELIC TIME.

**AGENTIVE** *Cause relation (discourse).* S expresses "bringing about" or cause in a broad sense

isa DISCSEM  
[203] Subtypes: AGENTIVE:expl AGENTIVE:reas AGENTIVE:sbj.

**AGENTIVE:expl** *Explanation relation in discourse.* An explanation relation. The satellite explains the nucleus.

isa AGENTIVE  
[204] The relation is more general and elaborating than "reason".

Typical connectives: [da] Nemlig; [it] Infatti; [en] In fact, Indeed.

Related types: reason.

Confusion<sub>6</sub>: CONJ:add<sub>33%</sub> AGENTIVE:expl<sub>33%</sub> CONSOL:motiv<sub>17%</sub> vobj<sub>17%</sub> .

**AGENTIVE:reas** *Reason relation (discourse).* S expresses a specific and concrete reason

isa AGENTIVE  
[205] Typical connectives: [da] Fordi, Eftersom; [en] Since, Because.

**AGENTIVE:sbj** *Subjective cause.* The speaker uses the cause as a subjective/personal argument to support a claim

isa AGENTIVE  
[206] Typical connectives: Because, In fact, Indeed.

**CONC** *Concession.* S admits or acknowledges a fact wrt N, which may however not have the expected consequence or effect

isa DISCSEM  
[219] Confusion<sub>2</sub>: CONJ:add<sub>50%</sub> CONC<sub>50%</sub> .

**COND** *Condition.*

isa DISCSEM

**CONJ** *Conjunction.* Dependent text segment elaborates and expands knowledge of governing text segment or adds a new subject somehow related to it

isa DISCSEM  
[226] Subtypes: CONJ:add CONJ:elab CONJ:seq.

**CONJ:add** *Conjunction, addition.* Dependent text segment adds a new subject somehow related to the governing text segment; in cases of uncertainty between add and elab we do not specify the subtype

isa CONJ

[227]

Confusion<sub>39</sub>: CONJ:add<sub>40%</sub> CONJ:elab<sub>29%</sub> CONTR:sbj<sub>5%</sub> AGENTIVE:expl<sub>5%</sub> conj<sub>4%</sub> rel<sub>3%</sub> TELIC:cons.sbj<sub>3%</sub> time<sub>3%</sub> TELIC:cons.dir<sub>3%</sub> CONST:exem<sub>3%</sub> CONC<sub>3%</sub> qobj<sub>2%</sub> .

**CONJ:elab** *Conjunction, elaboration* (deprecated ELAB:spec,ELAB:exp,CONST:elab). Dependent text segment elaborates and expands knowledge of governing text segment; in cases of uncertainty between add and elab we do not specify the subtype

isa CONJ

[228]

Confusion<sub>27</sub>: CONJ:add<sub>42%</sub> CONJ:elab<sub>41%</sub> CONST:rest<sub>5%</sub> FORMAL:descr<sub>4%</sub> CONSOL:source<sub>4%</sub> qobj<sub>2%</sub> xpl<sub>2%</sub> .

**CONJ:seq** *Sequence.* Dependent text segment is part of list or sequence linked to governing text segment as e.g. in recipes, sport results etc.

isa CONJ

[229]

**CONST** *Constitutive elaboration.* S adds more details on N or parts of N

isa DISCSEM  
[211] Subtypes: CONST:apart CONST:elab CONST:exem CONST:rest.

**CONST:apart** *Part of relation.* S is a part of N

isa CONST

[214]

Typical connectives: [da] Herunder, Heri.

**CONST:elab** *Elaboration* (deprecated ELAB:spec,ELAB:exp). S elaborates and expands knowledge of N; may be difficult to distinguish from CONJ

isa CONST

[213]

Typical connectives: [it] Cioè.

Related types: CONJ.

**CONST:exem** *Exemplification*. S gives examples of elements or phenomena mentioned in N

isa CONST Typical connectives: [en] For example.

[212] Confusion<sub>1</sub>: CONJ:add<sub>100%</sub> .

**CONST:rest** *Restatement*. S states N again in a different way

isa CONST Typical connectives: [da] Dvs.; [it] Ossia, In altre parole, Cioè; [en] In other words, Or.

[215] Confusion<sub>4</sub>: CONST:rest<sub>50%</sub> CONJ:elab<sub>33%</sub> xpl<sub>17%</sub> .

**CONTR** *Contrast*.

isa DISCSEM Subtypes: CONTR:dir CONTR:subj.

[230] Confusion<sub>1</sub>: CONTR:subj<sub>50%</sub> conj<sub>50%</sub> .

**CONTR:dir** *Direct contrast*. The contrast lies between the governing and dependent text segment

isa CONTR Typical connectives: [da] Men, Derimod.

[231] Confusion<sub>2</sub>: expl<sub>50%</sub> CONTR:dir<sub>50%</sub> .

**CONTR:subj** *Subjective contrast* (deprecated CONTR:prg). The contrast lies between an explicit and a subjectively inferred text segment

isa CONTR

[232] Typical connectives: [da] Men.

Confusion<sub>10</sub>: conj<sub>40%</sub> CONTR:subj<sub>25%</sub> CONJ:add<sub>20%</sub> coord<sub>10%</sub> CONTR<sub>5%</sub> .

**DISJ** *Disjunction*.

isa DISCSEM Typical connectives: [da] Eller.

[233] Subtypes: DISJ:dir DISJ:subj.

**DISJ:dir** *Direct disjunction*. The disjunction lies between the governing and dependent text segment

isa DISJ

**DISJ:subj** *Subjective disjunction* (deprecated DISJ:prg). The disjunction lies between the dependent and a subjectively inferred text segment

isa DISJ

[235]

**FORMAL** *Formal description*. S describes N, N may be a first-order or second-order entity

isa DISCSEM Subtypes: FORMAL:descr FORMAL:eval.

[216]

**FORMAL:descr** *Neutral description* (deprecated DESCR:qual). S expresses an objective and/or neutral description of N

isa FORMAL

[217] Confusion<sub>1</sub>: CONJ:elab<sub>100%</sub> .

**FORMAL:eval** *Positive/negative evaluation* (deprecated DESCR:eval). S expresses a personal and/or subjective positive or negative description of N

isa FORMAL

[218]

**TELIC** *Consequence/result/conclusion relation (discourse)*. S expresses purpose, function or consequence wrt N

isa DISCSEM

[207] Subtypes: TELIC:cons.dir TELIC:cons.subj TELIC:goal.

**TELIC:cons.dir** *Direct, physical consequence, result* (deprecated TELIC:dir). Physical, objectively observed consequence or result

isa TELIC

[209] Typical connectives: [da] Derfor, Af den grund.

Confusion<sub>3</sub>: TELIC:cons.dir<sub>44%</sub> CONJ:add<sub>33%</sub> vobj<sub>22%</sub> .

- TELIC:cons.sbj** *Pragmatic/personal conclusion, deduction* (deprecated TELIC:subj). Subjective conclusion or deduction on behalf of the speaker  
 isa TELIC  
 [210] Typical connectives: [da] Derfor, Af den grund.  
 Confusion<sub>4</sub>: TELIC:cons.sbj<sub>75%</sub> CONJ:add<sub>25%</sub> .
- TELIC:goal** *Goal relation (discourse)*. S expresses goal, purpose, aim  
 isa TELIC  
 [208] Typical connectives: [da] For (at).
- TIME** *Temporal relation* (deprecated CIRCUM). There is a clear temporal relation between N and S  
 isa DISCSEM  
 [221] Subtypes: TIME:cont TIME:post TIME:pre.
- TIME:cont** *Contemporaneity*. S is contemporary with N (now includes abolished TIME:dur)  
 isa TIME  
 [222] Typical connectives: [da] Samtidig, Mens, Så længe, Da.
- TIME:post** *Temporal succession* (deprecated TIME:succ). S succeeds N  
 isa TIME  
 [224] Typical connectives: [en] Later, Some time afterwards.
- TIME:pre** *Temporal precedence* (deprecated TIME:prec). S precedes N  
 isa TIME  
 [223] Typical connectives: [en] Earlier, Some days before.



## Chapter 6

# Anaphor relations: ANAPHORA

ANA: anaphoric level

anaphor:

Figure 6.1: The relations matching ANAPHORA-coref-assoc-TOPICS.

**ANA** *Anaphoric level* (long: ANAPHORA). An anaphoric relation. Ie, a relation between an anaphor (pronoun, definite description, etc.) and an antecedent which either is a coreferent, or which provides access to a coreferent via its qualia structure. The relation goes from antecedent to anaphor.

Subtypes: anaphor.

**anaphor** . This section concerns anaphors as well as cataphors; cataphors may by and large express the same relations with their postcedents as anaphors with their antecedents; the relations are therefore labelled identically and will be distinguished solely by the edge direction: from left to right (anaphors) or from right to left (cataphors); because of their much higher frequency, we shall limit ourselves to examples of anaphors

Subtypes: assoc coref.

## 6.1 Coreference relations: coref

coref: coreference

coref-iden: coreferential NP with lexical identity

coref-res: resumptive anaphor

coref-res.prg: pragmatic coreference

coref-var: coreferential NP with lexical variety

ref: syntactically determined coreference

Figure 6.2: The relations matching coref.

**coref** *Coreference*. Anaphor denotes same entity as antecedent; all coreferential pronouns are labelled this way

Subtypes: coref-iden coref-res coref-var ref.

**coref-iden** *Coreferential NP with lexical identity* (deprecated coref-id).

isa coref

[184]

(antecedent->anaphor) a car -> the car // a yellow car -> the yellow car

**coref-res** *Resumptive anaphor* (deprecated now includes coref-res.cause).

isa coref Subtypes: coref-res.prg.

[186] Confusion<sub>1</sub>: coref-res<sub>100%</sub> .

**coref-res.prg** *Pragmatic coreference*. Takes up a statement and evaluates it with respect to speech act; I will

isa coref-res be there tomorrow -> the threat / promise / warning / statement

[187]

**coref-var** *Coreferential NP with lexical variety*.

isa coref

[185]

a car -> the vehicle // a yellow car -> the car

**ref** *Syntactically determined coreference*. Syntactically determined coreference (eg, relative pro-

isa coref nouns, external topics)

[183] Confusion<sub>38</sub>: ref<sub>100%</sub> .

antecedent->anaphor

## 6.2 Associative anaphor relations: assoc

assoc: associative anaphor

"assoc-"QUALIA: associative anaphor wrt. qualia

assoc-agentive: associative anaphor (agentive)

assoc-const: associative anaphor (constitutive)

assoc-formal: associative anaphor (formal)

assoc-formal.loc: associative locative anaphor

assoc-telic: associative anaphor (telic)

Figure 6.3: The relations matching assoc.

**assoc** *Associative anaphor*. Anaphor denotes entity which is associated with antecedent

isa anaphor Subtypes: "assoc-"QUALIA assoc-agentive assoc-const assoc-formal assoc-telic.  
[189]

**"assoc-"QUALIA** *Associative anaphor wrt. qualia*. Anaphor denotes entity which is associated with antecedent

isa RULE assoc

[190]

**assoc-agentive** *Associative anaphor (agentive)* (deprecated assoc-agent?). Anaphor is associated with antecedent

isa assoc wrt its agentive qualia (creator, factory, producer, author, etc.)

[192]

a car -> the factory; a piece of music -> the composer

**assoc-const** *Associative anaphor (constitutive)* (deprecated assoc-loc?). Anaphor is associated with antecedent

isa assoc wrt its constitutive qualia (parts, material, etc.)

[191]

ex. a car → the wheels, the numberplate, the driver's seat; a hotel → the kitchen; a bunch of flowers → the

roses; a couple → the man; the Italian partitive "ne", ex. some wine → ne vuoi (un po')?

**assoc-formal** *Associative anaphor (formal)*. Anaphor is associated with antecedent wrt its formal qualia  
isa assoc (shape, dimension, colour, etc.)  
[193] Subtypes: assoc-formal.loc.

a car → the size, the colour; a building → the height

**assoc-formal.loc** *Associative locative anaphor*. The anaphor is located in the antecedent  
isa assoc-formal  
[194]

a village → the church, the inn, the train station

**assoc-telic** *Associative anaphor (telic)* (deprecated assoc-scope?). Anaphor is associated with antecedent  
isa assoc wrt its telic qualia (purpose, function, etc.)  
[195]

a car → the driver, the passengers; a hotel → the guests, the receptionist

## Chapter 7

# Semantic relations: SEMANTICS

SEM: semantic level

Figure 7.1: The relations matching SEMANTICS-QUALIA-SEMROLE-TOPICS.

**SEM** *Semantic level* (long: SEMANTICS). A relation at the semantic level. Ie, a relation between functors, arguments, and modifiers.  
isa DIM:LEVEL  
[18] Subtypes: QUALIA SEMROLE.

### 7.1 Qualia relations: QUALIA

QUALIA: qualia roles

const: constitutive qualia

formal: formal qualia

agentive: agentive qualia

location: location qualia

resemblance: resemblance wrt. qualia role

”QUALIA: resemblance wrt. \$qualia relation

telic: telic qualia

about: about qualia

Figure 7.2: The relations matching QUALIA.

**QUALIA** *Qualia roles*. A semantic qualia role. Ie, a relation that links a lexeme to a particular role associated with that lexeme. Eg, ”music” to the act of ”composing” (agentive), ”performing” (telic), etc.  
isa SEM  
[33] Subtypes: const formal resemblance telic.

**const** *Constitutive qualia*. Relates to material or part-whole qualia  
isa QUALIA  
[40]

N->P.material/part

**formal** *Formal qualia*. A qualia role that relates a lexeme to a hyperonym (super type) wrt. form, dimension, quality, shape, size, etc.  
isa QUALIA  
[37] Subtypes: agentive location.

**agentive** *Agentive qualia.* A qualia role that relates a lexeme to its agentive qualia, ie, the act that made it come into being.  
 isa formal [38]

N→P.agent

**location** *Location qualia.* A qualia role that relates a lexeme to its location qualia.  
 isa formal

**resemblance** *Resemblance wrt. qualia role.* Resemblance wrt. some qualia role  
 isa QUALIA [39]  
 Subtypes: ""QUALIA.  
 [43]

N→P.resem

**""QUALIA** *Resemblance wrt. \$qualia relation.*  
 isa RULE resemblance

**telic** *Telic qualia.* Relates to purpose qualia  
 isa QUALIA [40]  
 Subtypes: about.  
 [41]

**about** *About qualia.* Relates to hyponym (subtype)  
 isa telic  
 [42]

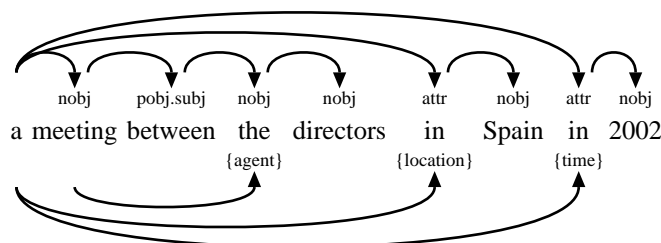
## 7.2 Thematic role relations: SEMROLE

SEMROLE:

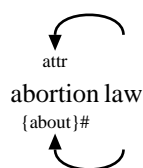
{about}:  
 {agent}: An object or a person that performs an action  
 {apart}:  
 {arg}:  
 {cause}:  
 {class}:  
 {const}:  
 {elab}:  
 {eval}:  
 {experiencer}: The receiver of an emotion or a physical impact  
 {form}:  
 {func}:  
 {goal}:  
 {iden}:  
 {location}: The location where something is situated or happens  
 {loc}:  
 {other}: No specific semantic role  
 {patient}: An object or a person that is the subject of the action or the one who is located somewhere  
 {poss}:  
 {quant}:  
 {recipient}: The receiver of something  
 {resem}:  
 {source}:  
 {time}:  
 Figure 7.3: The relations matching SEMROLE.

**SEMROLE** . A semantic relation. All the relations of the semantic roles run under the text line. The  
 isa SEM syntactic relation that runs over the text line is determined by the word class of the lemma  
 [47] in question. In NP constructions, the syntactic head of an adjunct is assumed to also act as  
 the semantic head of the adjunct, ie, the semantic relation mirrors the syntactic relation in  
 this respect.

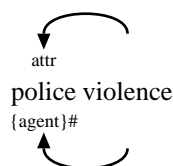
Subtypes: {about} {agent} {apart} {arg} {cause} {class} {const} {elab} {eval} {experiencer} {form} {func} {goal} {iden}  
 {location} {loc} {other} {patient} {poss} {quant} {recipient} {resem} {source} {time}.



**{about}** . Used in noun phrases where the satellite indicates the content or genre of the nucleus.  
 isa SEMROLE Confusion13: {arg}31% {about}31% {patient}15% {func}15% {loc}8% .  
 [61]

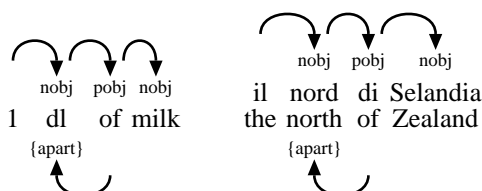


**{agent}** *An object or a person that performs an action.* Used in noun phrases where there the satellite  
 isa SEMROLE is the person or object that performs the volitional action indicated by the nucleus. An object  
 [50] or a person that performs an action. Used in noun phrases where there is a deverbal relation  
 between the nucleus and the satellite. Often realized as a subject.  
 Confusion17: {agent}35% {arg}29% {experiencer}18% {loc}6% {patient}6% {source}6% .



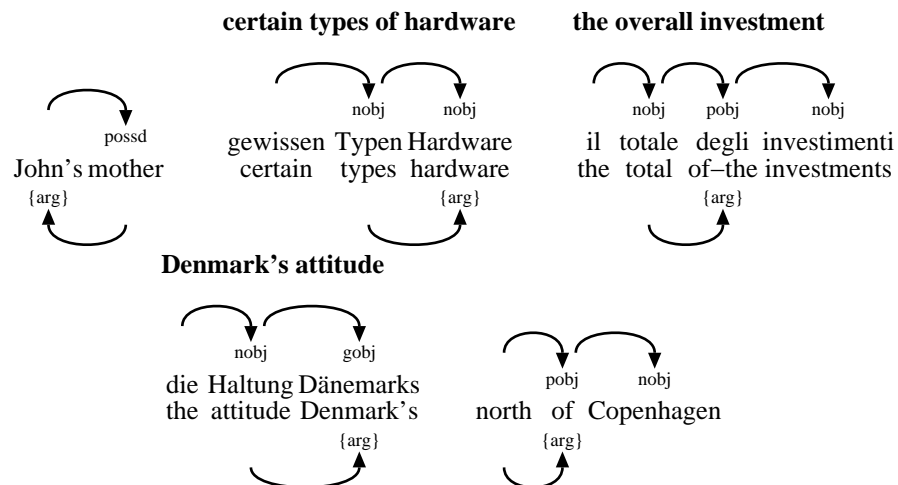
**{apart}** . Used in noun phrases where the satellite represents an arbitrary part of the nucleus. Please  
 isa SEMROLE note that the semantic relation goes from the satellite to the nucleus in opposition to the main  
 [62] part of the other semantic roles.  
 Confusion7: {apart}71% {loc}14% {const}14% .

#### Northern Zealand



**{arg}** . Used in noun phrases where there is a deadjectival relation or another similiar relationship between the nucleus and the satellite.

[67] Confusion<sub>56</sub>: {arg}34% {func}14% {const}11% {agent}9% {source}9% {about}7% {patient}7% {loc}4% {other}4% {poss}2% .



**{cause}** . Used in noun phrases where the satellite is the person or object that performs the non-volitional action indicated by the nucleus.

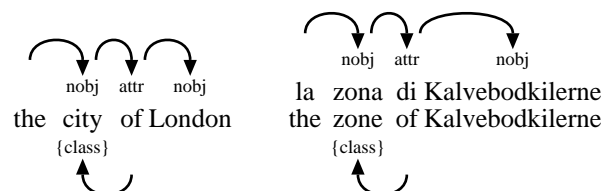
[53]

ildebrand sultedød

**{class}** . Used in noun phrases where the satellite indicates the super type or classification of the nucleus. This is in opposition to the identity relation which denotates the opposit relationship between the two units. Please note that the semantic relation goes from the satellite to the nucleus in opposition to the main part of the other semantic roles.

Related types: {iden}.

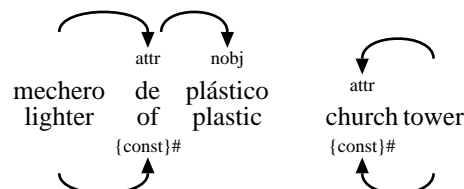
Confusion<sub>1</sub>: {const}100% .



**{const}** . Used in noun phrases where the satellite represents a part, material or essential constituent of the nucleus.

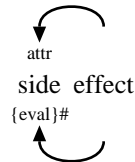
[49] Confusion<sub>20</sub>: {const}35% {arg}30% {form}10% {apart}5% {loc}5% {class}5% {func}5% {source}5% .

plastic lighter



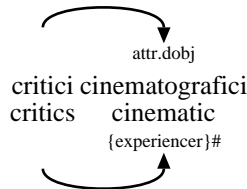
**{elab}** . Often used together with parenthetical modifiers  
 isa SEMROLE Related types: modp.  
 [48] Confusion<sub>2</sub>: {loc}<sub>50%</sub> {elab}<sub>50%</sub> .

**{eval}** . Used in noun phrases where there is a descriptive relation between the nucleus and the satellite. The relation is often a subjective description from the writer who either evaluates the relationship in a positive or negative manner.  
 [59] Confusion<sub>1</sub>: {eval}<sub>100%</sub> .



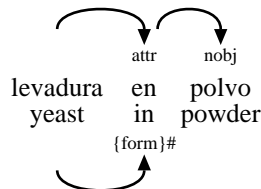
**{experiencer}** *The receiver of an emotion or a physical impact.* Used in noun phrases where there is a deverbal relation between the nucleus and the satellite. Often realized as a direct object  
 [70] Confusion<sub>4</sub>: {agent}<sub>75%</sub> {patient}<sub>25%</sub> .

#### film critics

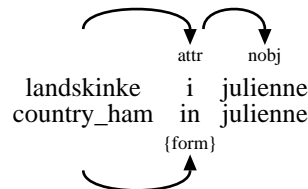


**{form}** . Used in noun phrases where the satellite indicates the shape or form of the nucleus.  
 isa SEMROLE Confusion<sub>2</sub>: {const}<sub>100%</sub> .  
 [65]

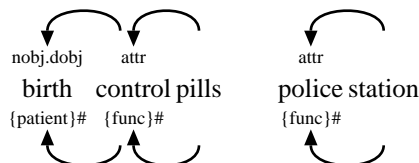
#### baking powder



#### country ham in julienne strips



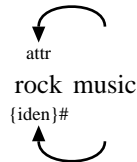
**{func}** . Used in noun phrases where the satellite determinates the function of the nucleus.  
 isa SEMROLE Confusion<sub>33</sub>: {func}<sub>48%</sub> {arg}<sub>24%</sub> {loc}<sub>9%</sub> {about}<sub>6%</sub> {const}<sub>3%</sub> {patient}<sub>3%</sub> {iden}<sub>3%</sub> {other}<sub>3%</sub> .  
 [55]



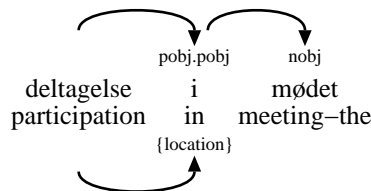


**{goal}** . Used in noun phrases where the satellite determinates the goal or the intention for which the nucleus is destined.  
isa SEMROLE [54]

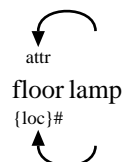
**{iden}** . Used in noun phrases where the satellite indicates the identity of the nucleus. In this case it is also possible to equate the satellite to the nucleus i.e. that the nucleus represents the super type of the satellite.  
isa SEMROLE [66]  
Related types: {class}.  
Confusion<sub>1</sub>: {func}<sub>100%</sub> .



**{location}** *The location where something is situated or happens.* Used in noun phrases where there is a deverbal relation between the nucleus and the satellite. Often realized as a prepositional object  
isa SEMROLE [72]  
Confusion<sub>1</sub>: {loc}<sub>100%</sub> .



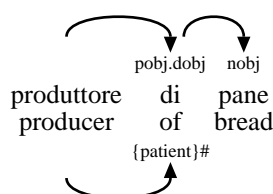
**{loc}** (deprecated {pos}). Used in noun phrases where the satellite indicates the location of the position or the location of nucleus.  
isa SEMROLE [57]  
Confusion<sub>31</sub>: {loc}<sub>58%</sub> {func}<sub>10%</sub> {arg}<sub>6%</sub> {const}<sub>3%</sub> {location}<sub>3%</sub> {agent}<sub>3%</sub> {elab}<sub>3%</sub> {apart}<sub>3%</sub> {recipient}<sub>3%</sub> {about}<sub>3%</sub> {poss}<sub>3%</sub> .



**{other}** *No specific semantic role.* Used when none of the other semantic roles are suitable or when in doubt.  
isa SEMROLE [73]  
Confusion<sub>4</sub>: {arg}<sub>50%</sub> {time}<sub>25%</sub> {func}<sub>25%</sub> .

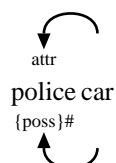
**{patient}** *An object or a person that is the subject of the action or the one who is located somewhere.* Used in noun phrases where there is a deverbal relation between the nucleus and the satellite.  
isa SEMROLE [69]  
Often realized as a direct object  
Confusion<sub>21</sub>: {patient}<sub>57%</sub> {arg}<sub>19%</sub> {about}<sub>10%</sub> {func}<sub>5%</sub> {experiencer}<sub>5%</sub> {agent}<sub>5%</sub> .

### bread producer



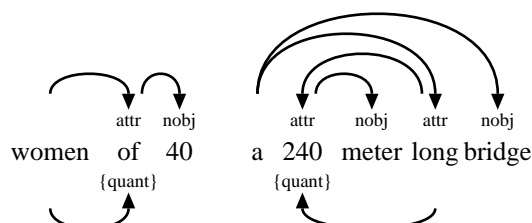
**{poss}** . Used in noun phrases where there is a possession relation between the nucleus and the satellite. Often the satellite is the owner or possessor of the nucleus.

[56] Confusion<sub>8</sub>: {poss}<sub>75%</sub> {loc}<sub>13%</sub> {arg}<sub>13%</sub> .



**{quant}** . Used in noun phrases where the satellite indicates the quantity in numbers or another countable unit of the nucleus.

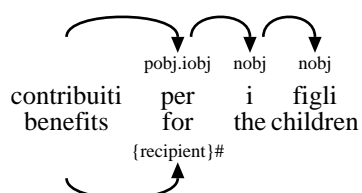
[64] Confusion<sub>1</sub>: {quant}<sub>100%</sub> .



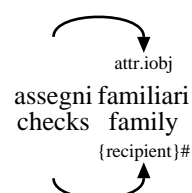
**{recipient}** *The receiver of something.* Used in noun phrases where there is a deverbal relation between the nucleus and the satellite. Often realized as an indirect object

[71] Confusion<sub>1</sub>: {loc}<sub>100%</sub> .

### child benefits



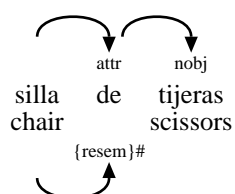
### child maintenance



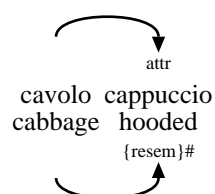
**{resem}** . Used in noun phrases where there is a resemblance between the nucleus and the satellite.

[60]

### folding chair

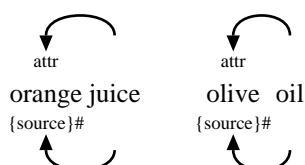


### spring cabbage



**{source}** (deprecated {origin}). Used in noun phrases where the satellite is the source from which the nucleus derives or is deduced.

[52] Confusion<sub>21</sub>: {source}<sub>57%</sub> {arg}<sub>24%</sub> {time}<sub>10%</sub> {const}<sub>5%</sub> {agent}<sub>5%</sub> .



**{time}** . Used in noun phrases where the satellite indicates some kind of temporal aspect of the nucleus.

[58] Confusion<sub>11</sub>: {time}<sub>73%</sub> {source}<sub>18%</sub> {other}<sub>9%</sub> .



## Chapter 8

# Word alignment relations: ALIGN

ALIGN: alignment level

"": unlabeled word alignment

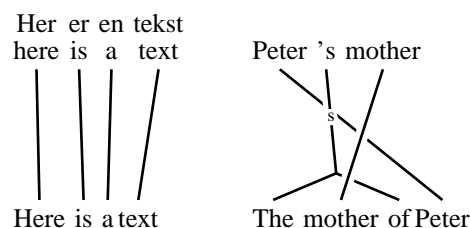
f: fuzzy word alignment

Figure 8.1: The relations matching ALIGN-TOPICS.

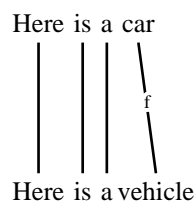
**ALIGN** *Alignment level* (long: ALIGNMENT). A relation at the word alignment level. Ie, an alignment relation that expresses a translational equivalence between two sets of words (and their iated phrases), either in terms of form or meaning. Null alignments - ie, a set of words in one text which does not correspond to any set of words in the other text - are encoded as a set of words that is aligned to itself.

Subtypes: "" f.

"" *Unlabeled word alignment* (long: align). An unlabeled word alignment is represented as a word alignment where the label is an empty string. It is used to represent the default word alignment, where there is full translational equivalence between the two sets of words.



**f** *Fuzzy word alignment* (long: fuzzy). A semantically fuzzy word alignment.



## Chapter 9

# Rule schemata for complex relations: RULE

RULE: relation rule  
 "ANY": disambiguation  
 "DISC": down-head in attribution  
 "<PRIM...:INTEGER>": gapping dependent  
 "@adverb": valency-bound adverbial  
 "[PRIM]": pattern for secondary syntactic dependency relation formed from primary syntactic dependency relation  
 "assoc-QUALIA": associative anaphor wrt. qualia  
 "{SEM}": pattern for secondary semantic dependency relation formed from primary semantic dependency relation  
 "QUALIA": resemblance wrt. \$qualia relation  
 "PRIM": discourse specification  
 "§PRIM": morphology specification  
 ANY"&ANY: both-and relation  
 ANY|ANY: either-or relation  
 DISC": down-dependent in attribution  
 PRIM#": pattern for idiomatic primary dependency  
 PRIM"/CONNECTOR: explicit connector  
 PRIM"/("CONNECTOR)": implicit connector  
 PRIM"/ATTRINTEGER: attribution  
 PRIM{"THEM}": pattern for primary dependency relation with thematic role

Figure 9.1: The relations matching RULE-TOPICS.

**RULE** *Relation rule.* Rule for specifying complex relations.

isa ANY Subtypes: "ANY" "DISC" "<PRIM...:INTEGER>" "@adverb" "[PRIM]" "assoc-QUALIA" "{SEM}" "QUALIA"  
 [8] "PRIM" "§PRIM" ANY"&ANY ANY|ANY DISC" PRIM# PRIM"/CONNECTOR PRIM"/("CONNECTOR)"  
 PRIM"/ATTRINTEGER PRIM{"THEM"}.

"ANY" *Disambiguation.*

isa RULE

"DISC" *Down-head in attribution.* The head in the relation is one step further down in the attribution

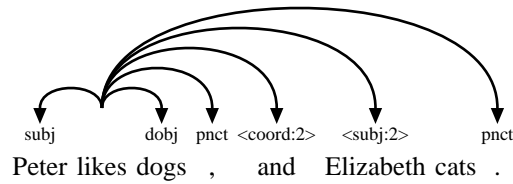
isa RULE chain

[363]

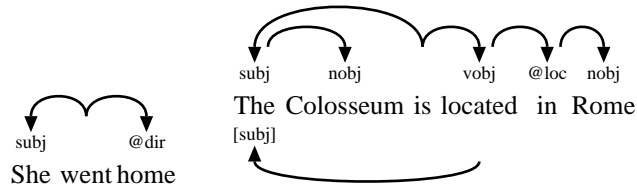
"<PRIM...:INTEGER>" *Gapping dependent.* First conjunct->gapping dependent

isa GAP RULE

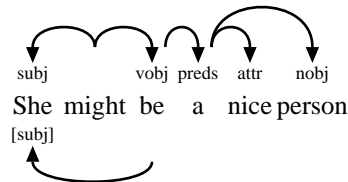
[351]



**"@adverb"** *Valency-bound adverbial.* A complement relation which can be interpreted as an obligatory, valency-bound adverbial relation.  
 isa COMP RULE  
 [365] Related types: cont dir dur ext hab loc prec succ time.



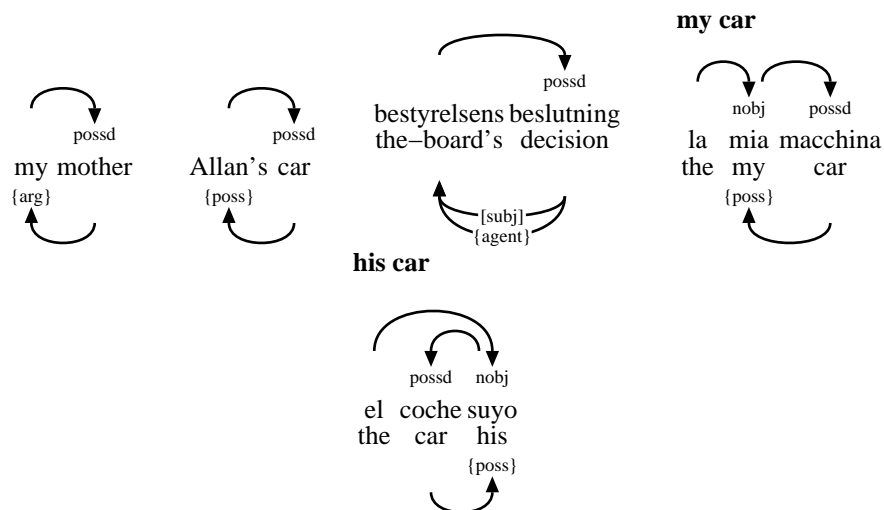
**"["PRIM"]"** *Pattern for secondary syntactic dependency relation formed from primary syntactic dependency relation.* Governor->secondary syntactic dependent; \$PRIM must be non-secondary  
 isa RULE SEC  
 [349] Related types: {"\$PRIM"}.



**"assoc-QUALIA"** *Associative anaphor wrt. qualia.* Anaphor denotes entity which is associated with antecedent  
 isa RULE assoc  
 [190]

**"{"SEM"}"** *Pattern for secondary semantic dependency relation formed from primary semantic dependency relation.* Governor->secondary semantic dependent; \$PRIM must be non-secondary  
 isa RULE SEC  
 [350]

Related types: {"\$PRIM"}.



**QUALIA** *Resemblance wrt. \$qualia relation.*  
 isa RULE resemblance

**PRIM** *Discourse specification. A primary syntactic relation that has been used as a discourse relation for stylistic purposes.*  
 isa DISC RULE  
 [353]

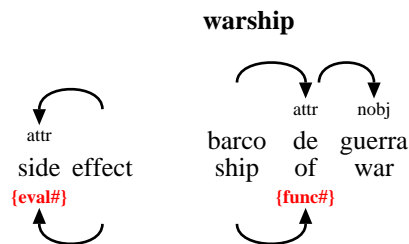
**PRIM** *Morphology specification.*  
 isa MORPH RULE

**ANY** **&** **ANY** *Both-and relation. Both relations hold*  
 isa RULE

**ANY** **|** **ANY** *Either-or relation. One of the relations holds*  
 isa RULE

**DISC** *Down-dependent in attribution. The dependent in the relation is one step further down in the attribution chain*  
 isa RULE  
 [364]

**PRIM** **#** *Pattern for idiomatic primary dependency. Head->dependent within idiom*  
 isa IDIOM RULE  
 [347]

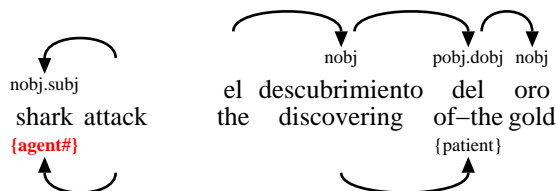


**PRIM** **/** **CONNECTOR** *Explicit connector. The discourse relation has explicit connector \$CONNECTOR*  
 isa RULE

**PRIM** **/** **(** **CONNECTOR** **)** *Implicit connector. The discourse relation has implicit connector \$CONNECTOR*  
 isa RULE

**PRIM** **/** **ATTR** **INTEGER** *Attribution. Specifies the person to whom the utterance is attributed (ATTR or ATTR1, ATTR2, ... when there is more than one person)*  
 isa RULE  
 [352]

**PRIM** **{** **THEM** **}** *Pattern for primary dependency relation with thematic role. \$PRIM must be non-thematic; the thematic roles can be agent, patient, recipient, experient, location.*  
 isa RULE  
 [348]



## Chapter 10

# Relations misplaced outside the ANY hierarchy

MISPLACED: misplaced relation  
Figure 10.1: The relations matching -ANY.

**MISPLACED** *Misplaced relation.* A relation is misplaced if it fails to have ANY as a transitive super type.  
[9] This should never happen, and the problem must be corrected if a misplaced relation shows up here.



# Chapter 11

## Annotation topics:: TOPICS

TOPICS: annotation topics  
%ALIGN: Alignment constructions  
%DISC: Discourse constructions  
%MORPH: Morphological constructions  
%SEM: Semantic constructions  
%SYN: Syntactic constructions  
%SYN:NP: Complex NP constructions  
%SYN:NP:CP: Compounds  
%SYN:NP:GEN: Genitive NP constructions  
%SYN:NP:MOD: NP-modifiers  
%SYN:NP:MOD:ADJ: Adjectives modifying a NP construction  
%SYN:NP:MOD:ADV: Adverbial modifying a NP construction  
%SYN:NP:RELN: NP constructions with relational nouns  
%SYN:NP:VRN: NP constructions with verb-related nouns  
%SYN:VP: VP constructions

Figure 11.1: The relations matching TOPICS-DIM.

**TOPICS** *Annotation topics.* A detailed description of the annotation of specific constructions, as an aid in the interpretation and annotation of the treebanks.  
isa ANY  
[10] Subtypes: %ALIGN %DISC %MORPH %SEM %SYN.

**%ALIGN** *Alignment constructions.*  
isa TOPICS  
**%DISC** *Discourse constructions.*  
isa TOPICS  
**%MORPH** *Morphological constructions.*  
isa TOPICS  
**%SEM** *Semantic constructions.*  
isa TOPICS  
**%SYN** *Syntactic constructions.*  
isa TOPICS Subtypes: %SYN:NP %SYN:VP.  
[376]

**%SYN:NP** *Complex NP constructions.* A detailed description of how different complex NP constructions are annotated. En general, all complex NP constructions have a syntactic as well a semantic annotation.  
isa %SYN  
[381] Subtypes: %SYN:NP:CP %SYN:NP:GEN %SYN:NP:MOD %SYN:NP:RELN %SYN:NP:VRN.

example1      example2

**%SYN:NP:CP** *Compounds.*

isa %SYN:NP

**%SYN:NP:GEN** *Genitive NP constructions.* In genitive constructions (X's Y) the dependent (Y) is always annotated as "possd" in the syntactic annotation. In the semantic annotation X is analysed as the dependent and the semantic relation annotated depends on the type of noun or entity represented by Y. The "s" functions as a determiner, thus attributives are annotated as dependents to the X, with the exception of compounds of the type [Adj. ø N]# (Lotte's green card) Genitive constructions with verb-related nouns: Genitive constructions with relational nouns: Other genitive constructions:

isa %SYN:NP

[388]

**%SYN:NP:MOD** *NP-modifiers.*

isa %SYN:NP Subtypes: %SYN:NP:MOD:ADJ %SYN:NP:MOD:ADV aobj attr.

[382]

**%SYN:NP:MOD:ADJ** *Adjectives modifying a NP construction.* Adjectives modifying a NP construction are annotated using the syntactic label "attr" when the adjective functions as a syntactic adjunct, or "aobj" when the adjective modifies a verb-related or relational noun. In the analysis of Germanic languages, the adjective is analysed as a dependent of the pronoun where it is present, and as a dependent of the noun otherwise, whereas in the analysis of Romanic languages the adjective is always analysed as a dependent of the noun. However, when forming part of a compound of the type [Adj. ø N#] (e.g. "high school") the adjective is always analysed as dependent on the noun. In the case of relational adjectives, the semantic relation between the noun and adjective is also annotated. In the semantic annotation, the adjective is always analysed as a dependent of the noun.

isa %SYN:NP:MOD

[383]

**%SYN:NP:MOD:ADV** *Adverbial modifying a NP construction.*

isa %SYN:NP:MOD

**%SYN:NP:REL** *NP constructions with relational nouns.*

isa %SYN:NP

**%SYN:NP:VRN** *NP constructions with verb-related nouns.*

isa %SYN:NP

**%SYN:VP** *VP constructions.*

isa %SYN

[391]

# Appendix A

## Overview tables

The tables in this section lists all the relations in the Copenhagen Dependency Treebanks, repeated from the preceding sections.

ANY: directed relation
DIM: dimension
DIM:LEVEL: dimension: linguistic level
DIM:TYPE: dimension: relation type
+: segment concatenation
IDIOM: idiomatic relation
PRIM: primary dependency relation
ADJ: adjunct relation
COMP: complement relation
SEC: secondary dependency relation
fill: licensed filler

The relations matching ANY-TOPICS-SYNTAX-MORPHOLOGY-DISCOURSE-ANAPHORA-SEMANTICS-ALIGNMENT-RULE.

SYN: syntax level
-------------------

The relations matching SYNTAX-SYNCOMP-SYNADJ-TOPICS.

---

SYNCOMP: syntactic complement  
@space: valency-bound location/direction adverbial  
@time: valency-bound time adverbial  
aobj: adjectival object  
avobj: adverbial object  
dobj: direct object  
fobj: filler object  
gobj: genitive object  
iobj: indirect object  
nobj: nominal object  
numa: additive numeral complement  
numm: multiplicative numeral complement  
part: verbal particle  
pobj: prepositional object  
possd: possessed complement  
possr: possessor complement  
pred: predicative  
    predo: object predicative  
    preds: subject predicative  
qobj: quotational object  
robj: reflexive object  
subj: subject  
    expl: expletive subject  
vobj: verbal object

The relations matching SYNCOMP.

---

ADVERB: adverbial  
     agent: agent adverbial  
     cause: causation adverbial  
         goal: goal adverbial  
     conc: concession adverbial  
     concom:  
     cond: condition adverbial  
     cons: consequence adverbial  
     exem: example adverbial  
     man: manner adverbial  
         accom: companionship adverbial  
         inst: instrument adverbial  
     neg: negation adverbial  
     other: other adverbial  
     prg: pragmatic adverbial  
         discmark: sentence-initial discourse marker  
         epi: epistemic adverbial  
         eval: evaluation adverbial  
         focal: focalizer adverbial  
         scene: pragmatic condition and structural adverbial  
             add: additive adverbial  
             contr: contrast adverbial  
             elab: elaboration adverbial  
     quant: degree adverbial  
     resem: comparison adverbial  
     source: source attribution adverbial  
     space: space adverbial  
         dir: direction adverbial  
         loc: location adverbial  
     time: time adverbial  
         iter: habituality adverb

The relations matching ADVERB.

---

SYNADJ: syntactic adjunct  
 GAP: gapping dependent  
     "<"PRIM..."INTEGER">": gapping dependent  
 app: apposition  
     appa: parenthetic apposition (comma)  
     xpl: explication  
     appr: restrictive apposition (no comma)  
 attr: attributive  
 attrg: genitive attributive  
 conj: conjunct relation  
 coord: coordinator relation  
 correl: correlative coordinator relation  
 fpred: free predicative  
     fpredo: free direct-object predicative  
     fpreds: free subject predicative  
 mod: modifier/adverbial  
     modp: parenthetic modifier  
 name: part of name  
     namef: first name  
     namel: last name  
     title: person title  
 pnct: punctuation  
 rel: relative clause  
     relelab: elaborating relative clause  
     relpa: parenthetic relative clause  
     relr: restrictive relative clause  
 voc: vocative  
 xtop: external topic with resuming pronoun

The relations matching SYNADJ-ADVERB.

MORPH: morphology level  
     "§"PRIM: morphology specification

The relations matching MORPHOLOGY-MORPHCOMP-MORPHDERIV-TOPICS.

MORPHCOMP: compositional semantic relations  
 \$ABOUT: noun-noun compound (about)  
 \$AGENT:MC: noun-noun compound (agentive)  
 \$CONST: noun-noun compound (constitutive)  
 \$EVAL: noun-noun compound (evaluative)  
 \$FUNC: noun-noun compound (function)  
 \$LOC: noun-noun compound (position)  
 \$OTHER: noun-noun compound (other)  
 \$POSS: noun-noun compound (possession)  
 \$RESEM: noun-noun compound (resemblance)  
 \$SOURCE: noun-noun compound (origin)  
 \$TIME:MC: noun-noun compound (time)

The relations matching MORPHCOMP.

MORPHDERIV: derivational semantic relations

The relations matching MORPHDERIV-PREFIX-SUFFIX.

PREFIX: semantic relations appearing with prefixes  
 \$AGENT: agentive  
 \$ITER: iteration  
 \$MOD: modification  
 \$MOD:eval: evaluation  
 \$MOD:qual: qualification  
 \$MOD:quant: quantification  
 \$NEG: negation  
 \$NEG:contr: contrast  
 \$NEG:priv: privation  
 \$NEG:rev: reversion  
 \$PRE:other: other prefix relation  
 \$SPACE: space  
 \$SPACE:dir: direction  
 \$SPACE:loc: location  
 \$SPACE:source: source  
 \$TELIC: telic  
 \$TIME: time  
 \$TIME:post: temporal succession  
 \$TIME:pre: temporal precedence  
 \$TRANS: transitivity

The relations matching PREFIX.

SUFFIX: semantic relations appearing with suffixes

- \$AUG: augmentation
- \$DENUM: adjective-numeral derivation
  - \$DENUM:apart: adjective-partitive derivation
  - \$DENUM:ord: adjective-ordinal derivation
  - \$DENUM:quant: adjective-multiplicative derivation
- \$DER: verb derivation
  - \$DERadvv: adverb-verb derivation
  - \$DERav: adjective-verb derivation
  - \$DERnv: noun-verb derivation
    - \$DERvn:agent: verb-noun derivation (agent)
    - \$DERvn:core: verb-noun derivation (core)
    - \$DERvn:exper: verb-noun derivation (experiencer)
    - \$DERvn:inst: verb-noun derivation (instrument)
    - \$DERvn:loc: verb-noun derivation (location)
    - \$DERvn:other: verb-noun derivation (other)
    - \$DERvn:patient: verb-noun derivation (patient)
    - \$DERvn:recip: verb-noun derivation (recipient)
  - \$DERva: verb-adjective derivation
    - \$DERva:act: verb-adjective derivation (active)
      - \$DERva:act.disp: verb-adjective derivation (pure)
      - \$DERva:act.epi: verb-adjective derivation (disposition)
    - \$DERva:pas: verb-adjective derivation (potentiality)
      - \$DERva:pas.deon: verb-adjective derivation (passive potentiality)
      - \$DERva:pas.epi: verb-adjective derivation (passive participles)
    - \$DERva:pas.part: verb-adjective derivation (passive)
  - \$DERvn: verb-noun derivation
  - \$DERvv: verb-verb derivation
- \$DERan:qual: adjective derivation
- \$DERna: noun-adjective derivation
  - \$DERna:deono: noun-adjective derivation (naming)
    - \$DERna:deono.pers: noun-adjective derivation (naming persons)
    - \$DERna:deono.place: noun-adjective derivation (naming places)
  - \$DERna:disp: noun-adjective derivation (disposition)
  - \$DERna:other: noun-adjective derivation (other)
  - \$DERna:poss: noun-adjective derivation (possession)
  - \$DERna:rel: noun-adjective derivation (relational)
    - \$DERna:rel.norm: noun-adjective derivation (normal)
  - \$DERna:resem: noun-adjective derivation (resemblance)
  - \$DERna:telic: noun-adjective derivation (effect)
- \$DERnn: noun-noun derivation
  - \$DERnn:agent: noun-noun derivation (agent)
  - \$DERnn:assoc: noun-noun derivation (association)
  - \$DERnn:capac: noun-noun derivation (capacity)
  - \$DERnn:cont: noun-noun derivation (container)
  - \$DERnn:loc: noun-noun derivation (location)
  - \$DERnn:other: noun-noun derivation (other)
  - \$DERnn:quant: noun-noun derivation (quantification)
  - \$DERnn:telic: noun-noun derivation (telic)
  - \$DERnn:time: noun-noun derivation (time)
- \$DERv:
- \$DIMIN: diminution
- \$PEJ: pejoration



The relations matching SUFFIX.

DISC: discourse level  
"α"PRIM: discourse specification  
DISCOTHER:  
JOINT: no clear relation  
REP: repaired  
SCENE: scene

The relations matching DISCOURSE-DISCFUNC-DISCSEM-TOPICS.

DISCPRAG: pragmatic and illocutionary discourse relations  
ANSW: answer  
CONSOL: consolidation  
CONSOL:inst: instrumental  
CONSOL:motiv: motivation  
CONSOL:source: justification  
DIREC: directive act  
EXPR: expressive act  
INTACT: interactional signals  
INTACT:attn: attention  
INTACT:inter: interruption  
QUEST: question

The relations matching DISCFUNC.

---

DISCSEM: semantic discourse relations  
   AGENTIVE: cause relation (discourse)  
     AGENTIVE:expl: explanation relation in discourse  
     AGENTIVE:reas: reason relation (discourse)  
     AGENTIVE:subj: subjective cause  
   CONC: concession  
   COND: condition  
   CONJ: conjunction  
     CONJ:add: conjunction, addition  
     CONJ:elab: conjunction, elaboration  
     CONJ:seq: sequence  
   CONST: constitutive elaboration  
     CONST:apart: part of relation  
     CONST:elab: elaboration  
     CONST:exem: exemplification  
     CONST:rest: restatement  
   CONTR: contrast  
     CONTR:dir: direct contrast  
     CONTR:subj: subjective contrast  
   DISJ: disjunction  
     DISJ:dir: direct disjunction  
     DISJ:subj: subjective disjunction  
   FORMAL: formal description  
     FORMAL:descr: neutral description  
     FORMAL:eval: positive/negative evaluation  
   TELIC: consequence/result/conclusion relation (discourse)  
     TELIC:cons.dir: direct, physical consequence, result  
     TELIC:cons.sbj: pragmatic/personal conclusion, deduction  
     TELIC:goal: goal relation (discourse)  
   TIME: temporal relation  
     TIME:cont: contemporaneity  
     TIME:post: temporal succession  
     TIME:pre: temporal precedence

The relations matching DISCSEM.

ANA: anaphoric level  
 anaphor:

The relations matching ANAPHORA-coref-assoc-TOPICS.

coref: coreference  
   coref-iden: coreferential NP with lexical identity  
   coref-res: resumptive anaphor  
     coref-res.prg: pragmatic coreference  
   coref-var: coreferential NP with lexical variety  
   ref: syntactically determined coreference

The relations matching coref.

assoc: associative anaphor  
"assoc-"QUALIA: associative anaphor wrt. qualia  
assoc-agentive: associative anaphor (agentive)  
assoc-const: associative anaphor (constitutive)  
assoc-formal: associative anaphor (formal)  
    assoc-formal.loc: associative locative anaphor  
assoc-telic: associative anaphor (telic)

The relations matching assoc.

SEM: semantic level

The relations matching SEMANTICS-QUALIA-SEMROLE-TOPICS.

QUALIA: qualia roles  
const: constitutive qualia  
formal: formal qualia  
    agentive: agentive qualia  
    location: location qualia  
resemblance: resemblance wrt. qualia role  
    ""QUALIA: resemblance wrt. \$qualia relation  
telic: telic qualia  
    about: about qualia

The relations matching QUALIA.

---

SEMROLE:

{about}:

{agent}: An object or a person that performs an action

{apart}:

{arg}:

{cause}:

{class}:

{const}:

{elab}:

{eval}:

{experiencer}: The receiver of an emotion or a physical impact

{form}:

{func}:

{goal}:

{iden}:

{location}: The location where something is situated or happens

{loc}:

{other}: No specific semantic role

{patient}: An object or a person that is the subject of the action or the one who is located somewhere

{poss}:

{quant}:

{recipient}: The receiver of something

{resem}:

{source}:

{time}:

The relations matching SEMROLE.

ALIGN: alignment level

”: unlabeled word alignment

f: fuzzy word alignment

The relations matching ALIGN-TOPICS.

RULE: relation rule  
 "ANY": disambiguation  
 "DISC": down-head in attribution  
 "<PRIM...INTEGER>": gapping dependent  
 "@adverb": valency-bound adverbial  
 "[PRIM]": pattern for secondary syntactic dependency relation formed from primary syntactic dependency relation  
 "assoc-QUALIA": associative anaphor wrt. qualia  
 "{SEM}": pattern for secondary semantic dependency relation formed from primary semantic dependency relation  
 "QUALIA": resemblance wrt. \$qualia relation  
 "PRIM": discourse specification  
 "§PRIM": morphology specification  
 ANY"&ANY: both-and relation  
 ANY"|ANY: either-or relation  
 DISC"\*": down-dependent in attribution  
 PRIM"#": pattern for idiomatic primary dependency  
 PRIM"/CONNECTOR: explicit connector  
 PRIM"/("CONNECTOR)": implicit connector  
 PRIM"/ATTRINTEGER: attribution  
 PRIM{"THEM}": pattern for primary dependency relation with thematic role

The relations matching RULE-TOPICS.

MISPLACED: misplaced relation

The relations matching -ANY.

## Appendix B

# Agreement and confusion tables

In the following tables, the columns are interpreted as follows:

- *Relation name R*: the name of the relation.
- *Agreement A*: the estimated level of agreement, defined as the probability that another annotator assigns the same label to the relation (this number may be inaccurate if  $N$  is small).
- *Relation count N*: the number of distinct multiply annotated tokens in the corpus that were annotated with the relation by at least one annotator.
- *Confusion table*: the relations that other annotators used, with a percentage that indicates the probability that each relation was used by the other annotator instead of  $R$ .

### B.1 Confusion table: syntax

R	A	N	Confusion list
xpl	100%	2	xpl <sub>100%</sub>
qobj	100%	5	qobj <sub>100%</sub>
numm	100%	1	numm <sub>100%</sub>
namel	100%	4	namel <sub>100%</sub>
namef	100%	21	namef <sub>100%</sub>
expl	100%	4	expl <sub>100%</sub>
exem	100%	3	exem <sub>100%</sub>
cond	100%	2	cond <sub>100%</sub>
appr	100%	5	appr <sub>100%</sub>
appa	100%	5	appa <sub>100%</sub>
agent	100%	1	agent <sub>100%</sub>
pnct	99%	275	pnct <sub>99%</sub> nobj <sub>0%</sub> dobj <sub>0%</sub>
subj	98%	171	subj <sub>98%</sub> nobj <sub>1%</sub> correl <sub>1%</sub> attr <sub>1%</sub>
vobj	96%	116	vobj <sub>96%</sub> nobj <sub>3%</sub> conj <sub>1%</sub> relr <sub>1%</sub>
conj	96%	93	conj <sub>96%</sub> attr <sub>2%</sub> nobj <sub>1%</sub> vobj <sub>1%</sub>
coord	95%	66	coord <sub>95%</sub> contr <sub>3%</sub> neg <sub>2%</sub>
neg	93%	14	neg <sub>93%</sub> coord <sub>7%</sub>
nobj	92%	488	nobj <sub>92%</sub> attr <sub>1%</sub> name <sub>1%</sub> pobj <sub>1%</sub> title <sub>1%</sub> vobj <sub>1%</sub> time <sub>0%</sub> dobj <sub>0%</sub> subj <sub>0%</sub> possd <sub>0%</sub> conj <sub>0%</sub> aobj <sub>0%</sub> pnct <sub>0%</sub> quant <sub>0%</sub> preds <sub>0%</sub> loc <sub>0%</sub> modp <sub>0%</sub>

add	91%	11	add <sub>91%</sub> discmark <sub>9%</sub>
possd	90%	30	possd <sub>90%</sub> nobj <sub>7%</sub> attr <sub>3%</sub>
preds	86%	43	preds <sub>86%</sub> dobj <sub>5%</sub> nobj <sub>2%</sub> loc <sub>2%</sub> inst <sub>2%</sub> resem <sub>2%</sub>
dobj	86%	93	dobj <sub>86%</sub> pobj <sub>4%</sub> nobj <sub>2%</sub> preds <sub>2%</sub> iobj <sub>2%</sub> predo <sub>1%</sub> dir <sub>1%</sub> pnct <sub>1%</sub>
attr	81%	245	attr <sub>81%</sub> pobj <sub>9%</sub> nobj <sub>2%</sub> aobj <sub>2%</sub> conj <sub>1%</sub> time <sub>1%</sub> cause <sub>1%</sub> focal <sub>0%</sub> name <sub>0%</sub> possd <sub>0%</sub> subj <sub>0%</sub> man <sub>0%</sub> loc <sub>0%</sub> other <sub>0%</sub> inst <sub>0%</sub> modp <sub>0%</sub>
quant	77%	35	quant <sub>77%</sub> man <sub>6%</sub> avobj <sub>6%</sub> eval <sub>6%</sub> nobj <sub>3%</sub> time <sub>3%</sub>
time	72%	36	time <sub>72%</sub> iter <sub>6%</sub> man <sub>6%</sub> nobj <sub>6%</sub> attr <sub>6%</sub> scene <sub>3%</sub> quant <sub>3%</sub>
loc	71%	45	loc <sub>71%</sub> other <sub>7%</sub> dir <sub>4%</sub> pobj <sub>4%</sub> nobj <sub>2%</sub> preds <sub>2%</sub> avobj <sub>2%</sub> focal <sub>2%</sub> attr <sub>2%</sub> inst <sub>2%</sub>
part	67%	3	part <sub>67%</sub> dir <sub>33%</sub>
eval	67%	9	eval <sub>67%</sub> quant <sub>22%</sub> man <sub>11%</sub>
cons	67%	3	cons <sub>67%</sub> cause <sub>33%</sub>
relr	65%	23	relr <sub>65%</sub> relpa <sub>30%</sub> vobj <sub>4%</sub>
name	65%	17	name <sub>65%</sub> nobj <sub>29%</sub> attr <sub>6%</sub>
epi	60%	5	epi <sub>60%</sub> man <sub>40%</sub>
pobj	55%	109	pobj <sub>55%</sub> attr <sub>20%</sub> dir <sub>6%</sub> nobj <sub>5%</sub> dobj <sub>4%</sub> source <sub>3%</sub> goal <sub>3%</sub> loc <sub>2%</sub> man <sub>1%</sub> other <sub>1%</sub> inst <sub>1%</sub> cause <sub>1%</sub>
title	50%	6	nobj <sub>50%</sub> title <sub>50%</sub>
correl	50%	4	correl <sub>50%</sub> focal <sub>25%</sub> subj <sub>25%</sub>
inst	44%	9	inst <sub>44%</sub> loc <sub>11%</sub> scene <sub>11%</sub> preds <sub>11%</sub> attr <sub>11%</sub> pobj <sub>11%</sub>
goal	44%	9	goal <sub>44%</sub> pobj <sub>33%</sub> man <sub>11%</sub> scene <sub>11%</sub>
man	43%	30	man <sub>43%</sub> accom <sub>10%</sub> epi <sub>7%</sub> time <sub>7%</sub> other <sub>7%</sub> quant <sub>7%</sub> source <sub>3%</sub> attr <sub>3%</sub> goal <sub>3%</sub> aobj <sub>3%</sub> eval <sub>3%</sub> pobj <sub>3%</sub>
focal	43%	7	focal <sub>43%</sub> other <sub>14%</sub> correl <sub>14%</sub> loc <sub>14%</sub> attr <sub>14%</sub>
accom	40%	5	man <sub>60%</sub> accom <sub>40%</sub>
relpa	36%	11	relr <sub>64%</sub> relpa <sub>36%</sub>
modp	33%	3	nobj <sub>33%</sub> attr <sub>33%</sub> modp <sub>33%</sub>
dir	33%	15	pobj <sub>40%</sub> dir <sub>33%</sub> loc <sub>13%</sub> part <sub>7%</sub> dobj <sub>7%</sub>
conc	33%	3	contr <sub>67%</sub> conc <sub>33%</sub>
cause	33%	6	cause <sub>33%</sub> attr <sub>33%</sub> pobj <sub>17%</sub> cons <sub>17%</sub>
aobj	33%	9	attr <sub>44%</sub> aobj <sub>33%</sub> man <sub>11%</sub> nobj <sub>11%</sub>
avobj	25%	4	quant <sub>50%</sub> loc <sub>25%</sub> avobj <sub>25%</sub>
other	11%	9	loc <sub>33%</sub> man <sub>22%</sub> other <sub>11%</sub> focal <sub>11%</sub> attr <sub>11%</sub> pobj <sub>11%</sub>
source	0%	4	pobj <sub>75%</sub> man <sub>25%</sub>
scene	0%	3	goal <sub>33%</sub> time <sub>33%</sub> inst <sub>33%</sub>
resem	0%	1	preds <sub>100%</sub>
predo	0%	1	dobj <sub>100%</sub>
iter	0%	2	time <sub>100%</sub>
iobj	0%	2	dobj <sub>100%</sub>
discmark	0%	4	contr <sub>75%</sub> add <sub>25%</sub>
contr	0%	7	discmark <sub>43%</sub> conc <sub>29%</sub> coord <sub>29%</sub>
TOTAL	84%	2137	

## B.2 Confusion table: semantics

R	A	N	Confusion list
quant	100%	1	quant <sub>100%</sub>

eval	100%	1	eval <sub>100%</sub>
poss	75%	8	poss <sub>75%</sub> loc <sub>13%</sub> arg <sub>13%</sub>
time	73%	11	time <sub>73%</sub> source <sub>18%</sub> other <sub>9%</sub>
apart	71%	7	apart <sub>71%</sub> loc <sub>14%</sub> const <sub>14%</sub>
loc	58%	31	loc <sub>58%</sub> func <sub>10%</sub> arg <sub>6%</sub> const <sub>3%</sub> location <sub>3%</sub> agent <sub>3%</sub> elab <sub>3%</sub> apart <sub>3%</sub> recipient <sub>3%</sub> about <sub>3%</sub> poss <sub>3%</sub>
source	57%	21	source <sub>57%</sub> arg <sub>24%</sub> time <sub>10%</sub> const <sub>5%</sub> agent <sub>5%</sub>
patient	57%	21	patient <sub>57%</sub> arg <sub>19%</sub> about <sub>10%</sub> func <sub>5%</sub> experiencer <sub>5%</sub> agent <sub>5%</sub>
elab	50%	2	loc <sub>50%</sub> elab <sub>50%</sub>
func	48%	33	func <sub>48%</sub> arg <sub>24%</sub> loc <sub>9%</sub> about <sub>6%</sub> const <sub>3%</sub> patient <sub>3%</sub> iden <sub>3%</sub> other <sub>3%</sub>
const	35%	20	const <sub>35%</sub> arg <sub>30%</sub> form <sub>10%</sub> apart <sub>5%</sub> loc <sub>5%</sub> class <sub>5%</sub> func <sub>5%</sub> source <sub>5%</sub>
agent	35%	17	agent <sub>35%</sub> arg <sub>29%</sub> experiencer <sub>18%</sub> loc <sub>6%</sub> patient <sub>6%</sub> source <sub>6%</sub>
arg	34%	56	arg <sub>34%</sub> func <sub>14%</sub> const <sub>11%</sub> agent <sub>9%</sub> source <sub>9%</sub> about <sub>7%</sub> patient <sub>7%</sub> loc <sub>4%</sub> other <sub>4%</sub> poss <sub>2%</sub>
about	31%	13	arg <sub>31%</sub> about <sub>31%</sub> patient <sub>15%</sub> func <sub>15%</sub> loc <sub>8%</sub>
recipient	0%	1	loc <sub>100%</sub>
other	0%	4	arg <sub>50%</sub> time <sub>25%</sub> func <sub>25%</sub>
location	0%	1	loc <sub>100%</sub>
iden	0%	1	func <sub>100%</sub>
form	0%	2	const <sub>100%</sub>
experiencer	0%	4	agent <sub>75%</sub> patient <sub>25%</sub>
class	0%	1	const <sub>100%</sub>
TOTAL	45%	256	

### B.3 Confusion table: discourse

R	A	N	Confusion list
SCENE	100%	4	SCENE <sub>100%</sub>
JOINT	100%	2	JOINT <sub>100%</sub>
ANSW	100%	1	ANSW <sub>100%</sub>
TELIC:cons.sbj	75%	4	TELIC:cons.sbj <sub>75%</sub> CONJ:add <sub>25%</sub>
CONTR:dir	50%	2	expl <sub>50%</sub> CONTR:dir <sub>50%</sub>
CONTR	50%	1	CONTR:subj <sub>50%</sub> conj <sub>50%</sub>
CONST:rest	50%	4	CONST:rest <sub>50%</sub> CONJ:elab <sub>33%</sub> xpl <sub>17%</sub>
CONC	50%	2	CONJ:add <sub>50%</sub> CONC <sub>50%</sub>
TELIC:cons.dir	44%	3	TELIC:cons.dir <sub>44%</sub> CONJ:add <sub>33%</sub> vobj <sub>22%</sub>
CONJ:elab	41%	27	CONJ:add <sub>42%</sub> CONJ:elab <sub>41%</sub> CONST:rest <sub>5%</sub> FOR- MAL:descr <sub>4%</sub> CONSOL:source <sub>4%</sub> qobj <sub>2%</sub> xpl <sub>2%</sub>
CONJ:add	40%	39	CONJ:add <sub>40%</sub> CONJ:elab <sub>29%</sub> CONTR:subj <sub>5%</sub> AGEN- TIVE:expl <sub>5%</sub> conj <sub>4%</sub> rel <sub>3%</sub> TELIC:cons.sbj <sub>3%</sub> time <sub>3%</sub> TELIC:cons.dir <sub>3%</sub> CONST:exem <sub>3%</sub> CONC <sub>3%</sub> qobj <sub>2%</sub>
AGENTIVE:expl	33%	6	CONJ:add <sub>33%</sub> AGENTIVE:expl <sub>33%</sub> CONSOL:motiv <sub>17%</sub> vobj <sub>17%</sub>
CONTR:subj	25%	10	conj <sub>40%</sub> CONTR:subj <sub>25%</sub> CONJ:add <sub>20%</sub> coord <sub>10%</sub> CONTR <sub>5%</sub>
xpl CONJ:elab	0%	1	xpl <sub>100%</sub>
FORMAL:descr	0%	1	CONJ:elab <sub>100%</sub>



CONST:exem	0%	1	CONJ:add <sub>100%</sub>
CONSOL:source	0%	1	CONJ:elab <sub>100%</sub>
CONSOL:motiv	0%	1	AGENTIVE:expl <sub>100%</sub>
TOTAL	42%	110	

## B.4 Confusion table: anaphora

R	A	N	Confusion list
ref	100%	38	ref <sub>100%</sub>
coref-res	100%	1	coref-res <sub>100%</sub>
TOTAL	100%	39	

## B.5 Confusion table: morphology

R	A	N	Confusion list
---	---	---	----------------

## B.6 Confusion table: alignment

R	A	N	Confusion list
---	---	---	----------------

## Appendix C

# Annotation status

### C.1 All texts

	alignment	discourse	morphology	postag	syntax
none	1016	2099	2226		971
auto				1775	75
outdated-final	536				941
first	45	20	85		70
discussed	178	193	1		181
final				537	74

### C.2 da texts

	discourse	morphology	postag	syntax
none	440	473		
auto				
outdated-final				503
first	12	63		21
discussed	85	1		6
final			537	7

### C.3 de texts

	discourse	morphology	postag	syntax
none	405	413		346
auto			413	
outdated-final				
first	8			38
discussed				6
final				23

### C.4 en texts

	discourse	morphology	postag	syntax
none	536	536		
auto			536	75
outdated-final				438

first	10
discussed	7
final	6

## C.5 es texts

	discourse	morphology	postag	syntax
none	388	393		343
auto			413	
outdated-final				
first		20		1
discussed	25			65
final				4

## C.6 it texts

	discourse	morphology	postag	syntax
none	330	411		282
auto			413	
outdated-final				
first		2		
discussed	83			97
final				34

## C.7 da-de texts

	alignment
none	368
auto	
outdated-final	
first	45
discussed	
final	

## C.8 da-en texts

	alignment
none	
auto	
outdated-final	536
first	
discussed	
final	

## C.9 da-es texts

	alignment
none	332

auto	
outdated-final	
first	
discussed	81
final	

## C.10 da-it texts

	alignment	
none	316	
auto		
outdated-final		
first		
discussed	97	
final		

# Appendix D

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